PARE PROJECT NO. 10196.00

FINAL REPORT

Marine Inland Transport Routes

Bristol, Rhode Island

APRIL 1, 2011

PARE CORPORATION

MARINE INLAND TRANSPORT ROUTES

Bristol, Rhode Island

April 1, 2011

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INTRODUCTION

Introduction

Bristol has long been a boat building community and is home to numerous world-renowned marine manufacturers 'Marine Trades'. As the availability of waterfront real estate continues to diminish, it is no longer feasible for boat building and other marine industries to operate on the waterfront in Bristol. As the industry continues to trend towards a network of specialty companies supportive of each other, efficient transportation for large products between companies and to the waterfront is critical. The Marine Inland Transport Routes project represents an opportunity for the Town of Bristol to improve the transportation infrastructure necessary to aid inland marine trade facilities in accessing the waterfront and each other's facilities.

Bristol Comprehensive Plan Update

The Comprehensive Plan acknowledges the significance of the Marine Trades Industry in Bristol as strong and growing, comprised of boat builders, boating supply manufacturers, and related businesses such as boat brokers and yacht designers. The Plan particularly cites recent industry expansion within the East Bay Industrial Park with the addition of C & C Fiberglass, Goetz Manufacturing and Hall Spars. The Comprehensive Plan also acknowledges the Town's desire to support these businesses, and economic development overall, through improved transportation infrastructure.

The Marine Inland Transport Routes project specifically supports and/or implements action items of the 2009 Comprehensive Plan update:

Economic Development Element

- ED 25: Create a special 'Boat Transport Route' to the waterfront through the Franklin Street, Bayview Avenue neighborhoods, including access to the Wood Street entrance to BIP. The proposed Boat Transport Route should include access through Broadcommon Road, and Ballou Boulevard, the East Bay Industrial Park, to the waterfront. This will include relocation or raising the height of utility lines, and adjustments to turning radii within designated streets.

Marine Inland Transport Routes Coordination

The Town of Bristol convened a Steering Committee comprised of marine manufacturers, residents/business owners, and various Town Officials and Board members. The Bristol Department of Community Development Director served as the Chair for this Committee, and the primary point of contact. A series of three (3) Committee meetings were conducted at critical stages in the development of the project. Meeting notes are presented in Appendix A. Representatives of Bristol Marine worked with the Town of Bristol in developing the grant application for this project, offering to develop and conduct the survey of marine industries as part of the data collection process.

Marine Inland Transport Route Report

Pare Corporation and Mapping & Planning Services prepared the Marine Inland Transport Routes Report under the direction of the Bristol Department of Community Development Director. This report serves as a guide to implement transportation infrastructure improvements to support the Marine Trade Industry in Bristol, and economic development overall. The plan includes the following sections:

Section 1: Existing Conditions

- Survey of Marine-Related Businesses
- Base Map/Field Review
- Boat Transport Observations
- Traffic Data
- Utility Coordination

Section 2: Route Identification

- Development of Route Map
- Report
- Conceptual Plans/Cost Estimates

Section 3: Implementation

- Final Design
- Revisions to Town Ordinances
- Final Utility Coordination
- Funding Opportunities
- Town Council Presentation

SECTION 1

Existing Conditions

Survey of Marine-Related Businesses

In collaboration with the Town and the Project Steering Committee, representatives of Bristol Marine developed and conducted an independent survey of the marine-related businesses to gather information related to the current needs and potential growth of businesses. Constraints and challenges business owners face were also identified.

Of the 18 businesses polled, 16 responded. The 16 responses and summary of survey results are presented in Appendix B. A summary of the information provided in survey responses follows below:

- Most access the waterfront at Bristol Marine (11), followed by Independence Park (8). Other access points include State Street (5), Portsmouth/Newport (1), Museum Waterfront (1) and Colt State Park (1).
- Restrictions experienced along most routes include height (trees, wires, and signals), turning radii at intersections and width.
- Typical clearances needed include height (20' – 15'), Width (15' – 10'), Length (60'), and Turning Radius (40').
- Transports in general are moderately difficult to coordinate, cost less $1,000 or less, and occur 3-5 times per year.
- Majority of businesses felt they were limited by what they could transport over the roads in Bristol.
- Almost half of the respondents felt they have lost business due to difficulty accessing the Bristol waterfront.
- Coordination of moving products over the road was considered moderately difficult.
- Moving products during off hours was mostly considered acceptable.
- Closing roads and implementing parking bans was considered desirable.

Base Map/Field Review

The Town of Bristol provided a preliminary Transport Routes Map to the Project Team. Pare Corporation conducted a field review of the identified routes to verify existing constraints and to inventory existing conditions. Information obtained included the following:

- Right-of-Way of the roadways.
- Roadway data including pavement widths, number of travel lanes, turning lanes, widths of lanes, shoulder widths, on-street parking, parking restrictions and turning radii at intersections.
- Vertical constraints including restrictions due to overhead utilities, traffic signal equipment, and vegetation

The project area was divided into 3 maps for ease of reading/presentation (North, South and West Sectors). Representative maps have been included following the written descriptions and include detailed descriptions of existing conditions for each roadway segment.

North Sector (Ballou Boulevard, Broadcommon Road, Gooding Avenue, Metacom Avenue, Chestnut Street, Hope Street)

- Broadcommon Road/Industrial Park are the primary destinations as 8 marine related businesses are in operation on those roadways.
- Hope Street has vertical clearance concerns (18'-30') throughout due to service wires and tree overhangs. Shoulders have minimum width (1'-3').
- Gooding Avenue/Broadcommon Road/Ballou Boulevard has no existing constraints. Gooding Avenue/Metacom Avenue intersection had recent reconfiguration/improvements.
- Chestnut Street has yellow caution light center of roadway (at school) 20' clearance.
- Metacom Avenue has vertical clearance concerns (18'-30') throughout, and no shoulders (residential service wires cross the roadway throughout).
- Chestnut Street/Metacom Avenue intersection has significant clearance issues due to low overhead wires, spanwire signals. These signal heads can be moved during a transport.

South Sector (Hope Street, Metacom Avenue, Franklin Street, Thames Street)

- Eastern end of Franklin Street is the primary destination as 6 marine related businesses are in operation on this roadway.
- Metacom Avenue/Annawamscutt intersection has mast arm signals that have vertical restrictions. Truck/trailer needs to utilize center of roadway thus temporarily displacing through traffic.
- Metacom Avenue has residential service wires crossing the roadway throughout.
- Bayview Avenue/Metacom Avenue intersection has spanwire signals that can be moved temporarily during a transport.
- Franklin Street from Metacom Avenue to destinations has no constraints.
- Franklin Street, west of Magnolia Street has significant overhead and width clearance issues as the roadway width is narrow, on-street parking exists on both sides of the roadway, and overhead vegetation and residential service wires cross the roadway allowing only a vertical clearance of 15'.
- Thames Street for a segment south of Franklin Street has parking on the west side of the road.

West Sector (Hope Street, Asylum Road, Treepass Green Road, Poppasquash Road)

- Bristol Marine is primary destination.
- Poppasquash Road/Hope Street intersection has very limited turning radii, narrow width with minimum shoulder.
- Popppasquash Road has utility pole at entrance to Bristol Marine as a constraint.
- Treepass Green Road/Poppasquash Road intersection has very limited turning radii. Truck/trailers heading out of Bristol Marine have to back into Colt State Park, then back into jogger's parking area, then pull forward maneuvering around the 2 headwalls. Truck/trailers heading to Bristol Marine, have to pullout onto Poppasquash Road then travel in reverse to the facility.
- Asylum Road east is the preferred route due to no overhead obstructions, as is the case on the westbound lane.

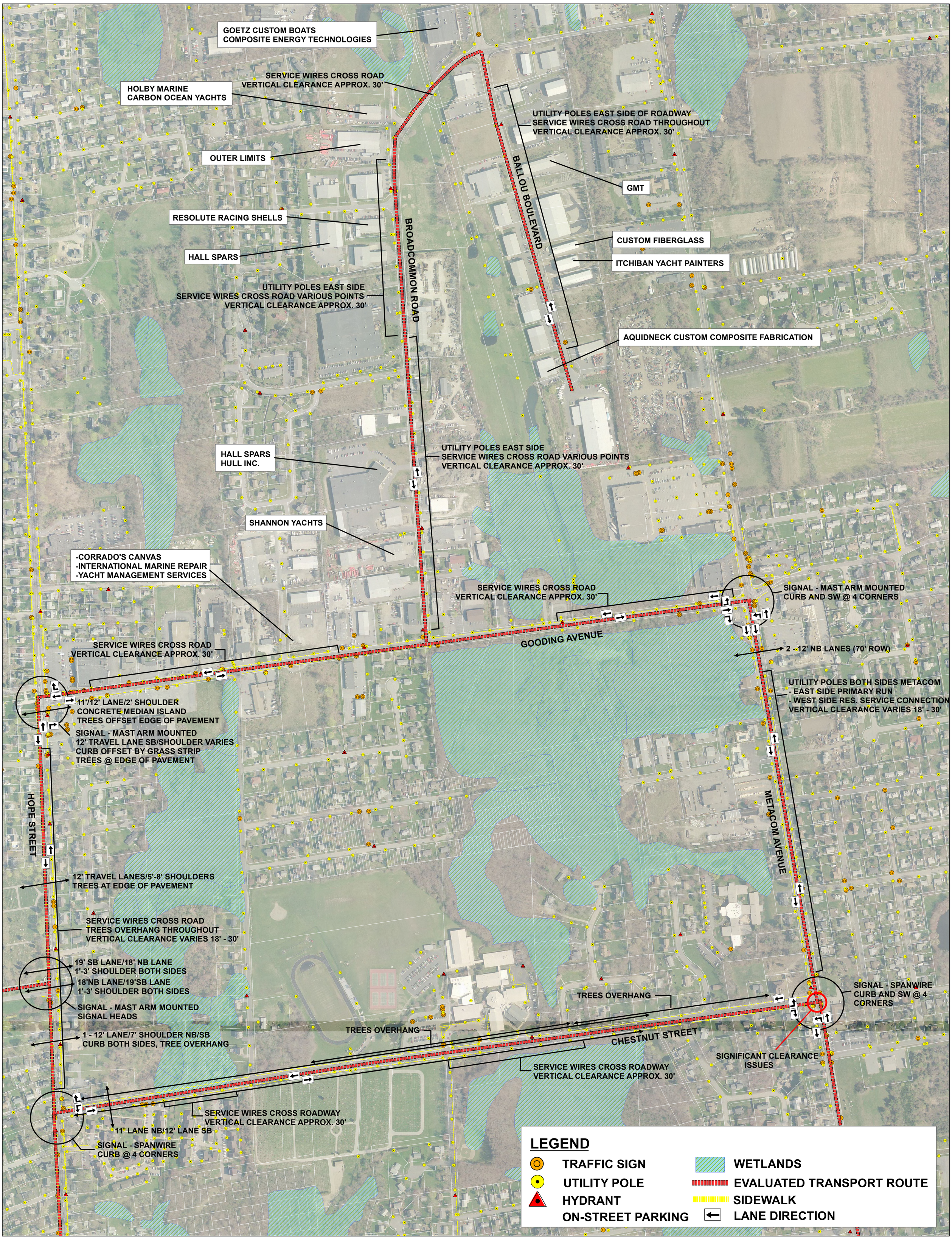

FIGURE 1.1

NORTH SECTOR

MARINE TRADES ROUTE

BRISTOL, RHODE ISLAND

NORTH

0 300 600 1,200 Feet

PARE

NOVEMBER 30, 2010

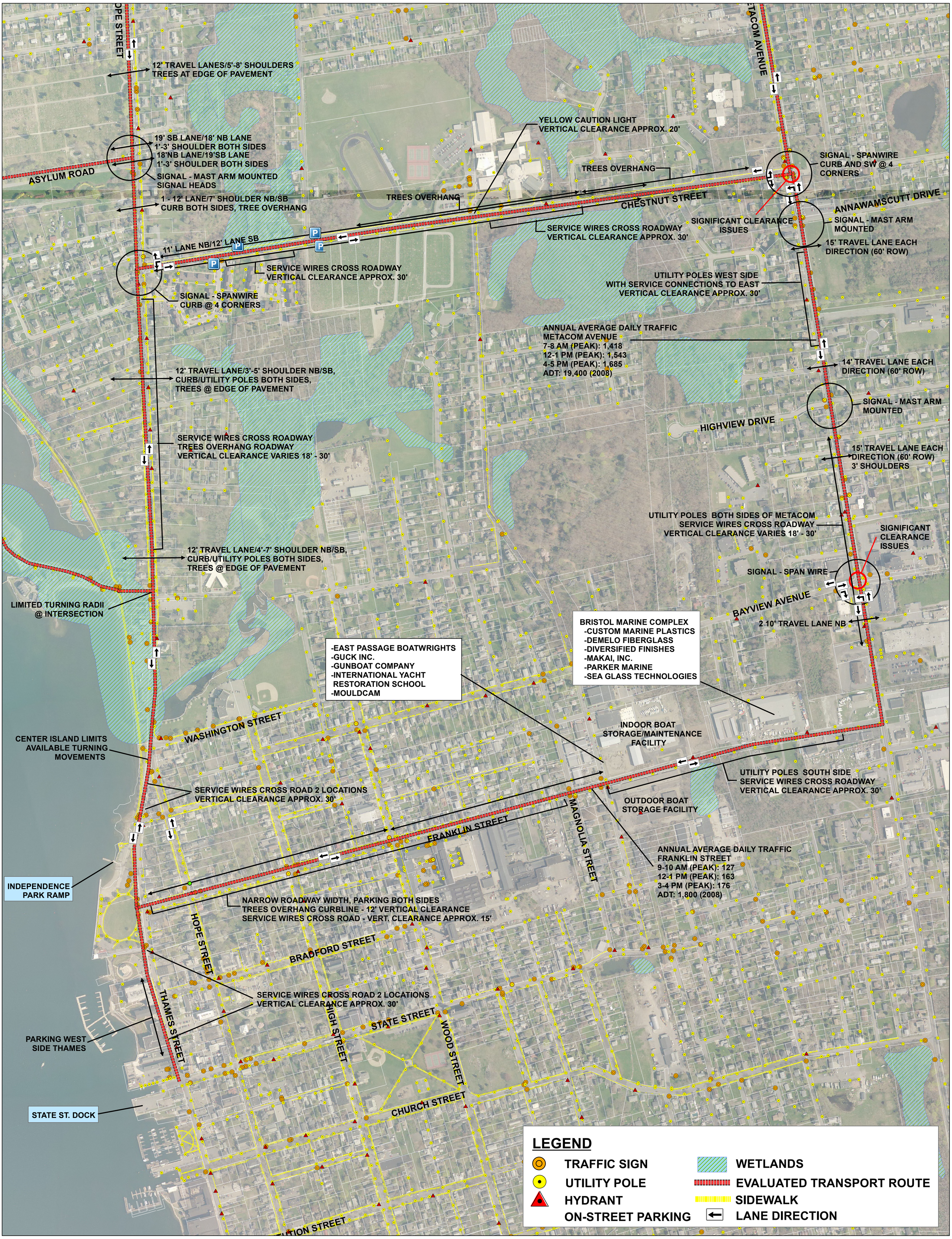

FIGURE 1.2

SOUTH SECTOR

MARINE TRADES ROUTE

BRISTOL, RHODE ISLAND

NORTH

0 300 600 1,200 Feet

PARE

NOVEMBER 30, 2010

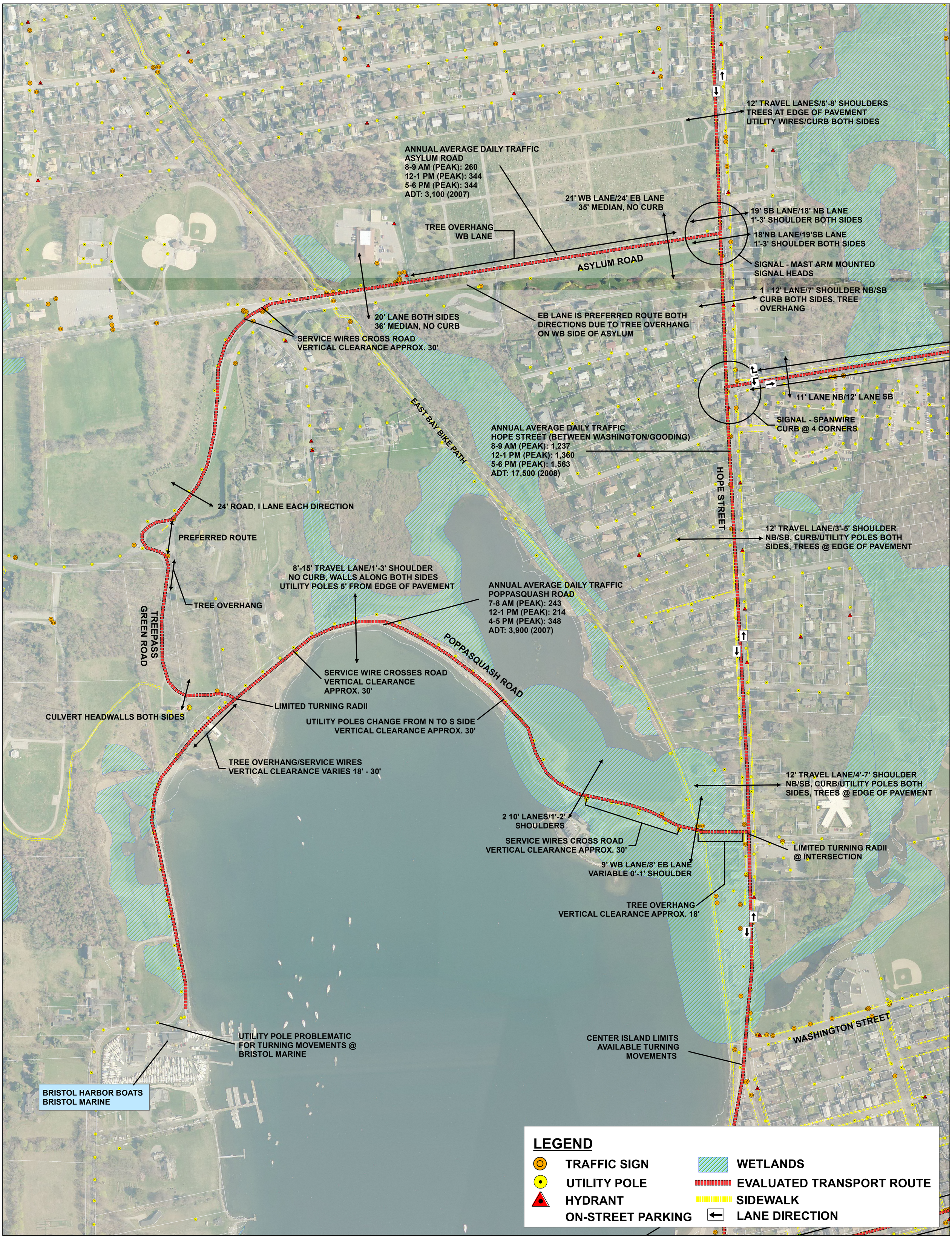

FIGURE 1.3

WEST SECTOR

MARINE TRADES ROUTE

BRISTOL, RHODE ISLAND

NORTH

0 300 600 1,200 Feet

PARE

NOVEMBER 30, 2010

Boat Transport Observation

On Thursday, November 4, 2010, Pare Corporation observed the transport of a 55' foot sailboat from Bristol Marine to the storage facility on Franklin Street in Bristol, RI. The vehicles utilized in the move included a police escort, the trailer, and a shadow vehicle (pick-up truck). The police escort and shadow vehicle helped stop and block traffic at various locations along the transport route. Two routes were identified by Mr. Tom Brownell of Brownell Systems Inc., the hauler for this particular move. The following are highlights from the transport.

Boat hauling is a seasonal activity running typically from March through June and September through November. Brownell Systems typically moves at least one boat per week from Bristol Marine in season. The route taken by the transport vehicle is selected by the individual driver. The primary concerns when selecting a route are turning radii at intersections, width of the roadway, and presence of overhead obstructions such as trees, utility wires, and signal equipment. During the transport at least one person rides on the bow of the boat being moved to move obstructions along the way, including utility wires (fire alarm, cable, and telephone) and tree branches. Trees are more difficult to deal with than wires, as they are larger and cannot be planned for. Utility wires can be planned for appropriately. The highest point on the boat being transferred during the observed transport was approximately 15' from the ground, and the width was 16'-6". A typical height of the boat on the trailer is 16', and a typical width is 18' or less. The total length of the trailer plus the boat was approximately 77'. One of the boat builders located off of Ballou Boulevard, Aquidneck Custom, builds boats that are 24' wide.

Routes with vertical clearance of 18' are most desirable. If 18' were not possible, 16' would still provide adequate clearance for most boats. The route taken by this transfer vehicle was out of Bristol Marine, into Colt State Park and up Asylum Road to Hope Street (Route 114), right onto Hope Street, left onto Chestnut Street, right onto Metacom Avenue (Route 136), and right onto Franklin Street. Chestnut Street provides the shortest route to Franklin Street. Gooding Avenue has to be used when Broadcommon Road is the destination.

Along this route many conflicts were noted. The utility pole located directly across Poppasquash Road from the entrance to Bristol Marine is an obstruction. The trailer had to make several turns to bypass the pole without hitting it. The trailer then went from Bristol Marine into Colt State Park. The trailer cannot use the intersection of Poppasquash Road and Hope Street because of the turning radii, and cannot turn into Colt State Park from Poppasquash Road because of the turning radius at the intersection. Instead, the driver bypasses the entrance, then reverses to back into Colt State Park boat first. The police officer stations himself past the joggers' parking lot in Colt State Park to stop oncoming traffic. The shadow vehicle blocks traffic entering the park as necessary. The driver backs from the entrance into the joggers' parking lot, then drives forward to continue north through the Park towards the roundabout. The existing culvert and headwalls located on either side of the Park roadway at the joggers' parking lot present a problem for the driver because they restrict the available turning radius. Several turns were required to clear the headwalls.

One of the benefits of utilizing the Park roadways to haul the boat is that much of the traffic on Hope Street is avoided. It creates a minimal traffic backup because the through volumes within the Park are typically low.

The hydraulic trailers used for the moves have an automatic transmission, which allows for more fluid turning movements. The ability to use the trailers to move boats inland allows the waterfront property potential to be maximized, rather than having to utilize it for maintenance and storage of boats.

Going from Bristol Marine to Hope Street through Colt State Park, the trailer is able to use the correct side of the roadway. Entering Colt State Park from Hope Street, the trailers use the outbound lane instead of the inbound lane because of the heavy tree cover on the inbound side of Asylum Road. Once they reach Poppasquash Road, they turn left onto Poppasquash Road then back down the remainder of Poppasquash Road to Bristol Marine because of the existing turning radius at the park entrance.

At various points along the route, the trailer rides in the center of the roadway to avoid trees. This pushes opposing traffic to the far shoulder on their side of the road, or almost off the road where the pavement width is limited.

Chestnut Street is a desirable route for trailers heading toward Franklin Street because of its width and minimal overhead obstructions. One side of the roadway being wooded rather than residential limits the number of service wires running to houses from the main lines. When the service wire runs directly from the main line to the house, its height decreases from the main line to the house. When the service wire runs from the main line to a service pole on the opposite side of the street then to the house, a consistent height is maintained across the roadway. Vertical clearance of the signal heads at the intersection of Chestnut Street and Metacom Avenue (Route 136) is an issue. Because they are on a tether wire, the signal heads could be moved to allow the trailer to pass underneath. The signal heads on Metacom Avenue at Annawamscutt Drive, however, are mast arm mounted. The trailer had to drive in the center of the roadway to clear the signal heads.

If adequate roadway width exists, the trailer will pull over to allow the rolling queue behind it to pass, helping to alleviate some of the traffic backup. Metacom Avenue does not provide such a location due to its width, therefore, a significant queue formed behind the boat.

Curbs are also problematic along the route. The shadow vehicle often carries wooden ramps that can be used if it is necessary to jump a curb while in transit. The hydraulic trailer allows the boat to be raised and lowered as necessary to prevent the rudder from dragging on the ground when negotiating a slope in the roadway. It is especially problematic if the slope is located at or just after a turn is required.

The haul began at Bristol Marine at approximately 11:40 a.m. and reached the Franklin Street facility at approximately 12:20 p.m., approximately a 40-minute transport operation.

In addition to observing the transport described above, Mr. Brownell showed PARE staff alternate routes typically used to move boats in Bristol. Below are observations and notes from those locations as well as discussion with Mr. Brownell.

Franklin Street west of the storage facility provides direct access to the water, and would provide a much more direct route than the route taken above. This section of Franklin Street cannot be used however due to the limited width of the road and the heavy presence of low overhead wires.

The State Street ramp is not generally used by commercial companies as it provides limited parking for trailers and its location within the downtown area makes access difficult. Instead, the Independence Park ramp is more widely used. To access the Independence Park ramp, the trailers have to travel through the intersection of Thames Street with Hope Street (Route 114). The center island at this location (with the flag pole) limits the travel lane widths and the turning movements available for large trailers. Brownell Systems currently utilizes the Century 21 parking area to negotiate the turn to or from Thames Street with a large boat. Wooden ramps are used on one side of the parking lot for the trailer to negotiate over the existing curb. The current property owner allows this use, but it could become problematic if the property changed hands or the owner decided he no longer wished to allow for the movement to occur. The Independence Park ramp is the preferred ramp for commercial fishermen and boat haulers. However, the lack of striped parking in the parking lot can make accessing the ramp difficult or impossible at times. When a trailer or large vehicle is parked at the top of the ramp, the hauling trailers cannot make the turn to access the water. The trees located along the east side of the entrance to the ramp are also a concern, as they overhang the curb and can potentially scratch boats. This ramp is not usable during low tide, therefore, it may be beneficial to extend the ramp further into the water. Additionally, striping a centerline down the ramp would encourage users to form two lanes, allowing full utilization of the ramp. From the Independence Ramp, the typical route to Broadcommon Road would include negotiating through the Thames Street/Hope Street intersection, continuing north on Hope Street to Gooding Avenue, making a right turn onto Gooding Avenue, then a left turn onto Broadcommon Road.

Other general information that Mr. Brownell shared included the following:

- The haulers can use the intersection of Hope Street at Poppasquash Road for a boat a maximum of 36’ long.
- Hauling boats greater than 16’ wide has such an impact on traffic that night moves are required.
- The haulers are required to obtain permits from the state to move boats along the roadway.
- Two other companies that haul boats in Bristol are RI Boat Movers (David Chase) and Casey Boat Haulers. Both of these companies typically move smaller boats than Brownell Systems.

POPPASQUASH ROAD/COLT STATE PARK INTERSECTION.

POSITIONING IN JOGGER'S LOT AT COLT STATE PARK.

MANUEVERING THE CULVERT OPPOSITE THE JOGGER'S LOT.

COLT STATE PARK AND HOPE ST. INTERSECTION.

HOPE ST. AND CHESTNUT ST. INTERSECTION.

CHESTNUT ST. AND METACOM AVE. INTERSECTION.

METACOM AVE. AND ANNAWAMSCUTT DRIVE INTERSECTION.

METACOM AVE. AND FRANKLIN ST. INTERSECTION.

FIGURE 1.4

BOAT TRANSPORT

MARINE TRADES ROUTE

BRISTOL, RHODE ISLAND

PARE

NOVEMBER 4, 2010

Traffic Data

The following traffic data was obtained and considered in the Project Team's evaluation of the identified routes:

- Number of trips, routes taken for trips, and the times that trips occur between the marine industry businesses and the marine industry businesses to the waterfront
- Existing Town of Bristol/RIDOT traffic volume data to understand the peak hour traffic volumes and times
- Coordination with Rhode Island Public Transit Authority (RIPTA) and the Bristol-Warren School District to identify routes, stops, and schedules
- Coordination with transporters/haulers for typical sizes of transport vehicles and boats

Existing average daily traffic (ADT) data was obtained from RIDOT for several roadways included in the identified routes. Data was provided for Franklin Street, Hope Street (Route 114), Metacom Avenue (Route 136), Asylum Road, and Poppasquash Road for a 48-hour period either in 2007 or 2008. The table below provides a summary of the data obtained, including the identified peak hours and their associated volumes. Copies of the data received are provided in Appendix C.

				Peak Hour			
Roadway	Location	Year	ADT	Time	Volume	Time	Volume
Franklin St	B/t Metacom Ave & Hope St	2008	1,800	12 –1 PM	170	4-5 PM	164
Hope St	B/t Washington St & Gooding Ave	2008	17,500	12 –1 PM	1,359	4-5 PM	1,565
Metacom Ave	200' South of Chestnut St	2008	19,400	7-8 AM	1,401	4-5 PM	1,682
Asylum Rd	West of Hope St	2007	3,100	12 –1 PM	250	6-7 PM	286
Poppasquash Rd	100' West of Harbor View Dr	2007	3,900	7-8 AM	244	4-5 PM	338

Franklin Street, Hope Street, and Asylum Road did not have a clearly defined a.m. peak hour. Instead, the traffic volumes on those roadways increased steadily through the a.m. hours to a peak between 12:00 p.m. and 1:00 p.m. Following that peak, the volumes decreased slightly then peaked again during a typical commuter p.m. peak hour.

Information obtained from the Bristol-Warren Regional School District website indicates that buses from several schools, including Colt/Andrews Elementary School, Guiteras Elementary school, Kickemuit Middle School, Fatima High School, Mt. Hope High School, Our Lady of Mt. Carmel, St. Luke's School, and the East Bay Career Academy, utilize roadways included in one or more identified route, primarily Metacom Avenue and Hope Street. The school buses run along the routes between 6:30 a.m. and 9:00 a.m., and then again between 2:00 p.m. and 4:30 p.m.

The RIPTA website indicates that the general project area is serviced by Bus No. 60, which runs between the Newport Gateway Center and Kennedy Plaza in downtown Providence. The current route map available on the website also indicates that the project area falls within

Flex Zone 233, where direct service is available from any destination to a nearby RIPTA facility between 7:00 a.m. and 5:00 p.m. Monday through Friday, and 9:00 a.m. and 5:00 p.m. on weekends and holidays.

Utility Coordination

Pare Corporation coordinated with Mr. Terry Amon of National Grid Electric and Mr. Omarrio Dawkins of Verizon regarding the presence of/feasibility of relocating overhead wires throughout the project area. From this coordination, it was determined that Bristol is a National Grid pole set area, although Verizon shares 50% equity in the utility poles. This means that National Grid is responsible for the physical relocation of poles.

Typical vertical clearances include (in order of hierarchy):

- Verizon at 18’-6’’
- Cable at 19’ to 19’-6’’
- Private Fire Alarms
- National Grid secondary at 22’-3’’
- National Grid primary at the top

Larger cables (similar to those running along west side of Metacom Avenue) include copper/fiber optic wires which are difficult to relocate (due to disruption in service to customers) and are not recommended for burial.

SECTION 2

Route Identification

Development of Route Map

Through coordination with the Town and the Project Steering Committee, three preferred Marine Inland Transport Routes have been developed: the Preferred North Route; the Preferred South Route; and the Business to Business Route. Figure 2.1 shows each of the three preferred routes. A description of each route and route maps identifying necessary improvements are provided below.

Preferred North Route

The Preferred North Route selected for this project runs from the marine industry on Ballou Boulevard and Broadcommon Road south to the State Street Dock on Thames Street. To reach the State Street Dock, the other roadways traversed are Gooding Avenue, Hope Street, and Thames Street. A map of the Preferred North Route is provided in Figure 2.2.

Photo 1: Ballou Boulevard

The intersection of Broadcommon Road and Ballou Boulevard is wide, and the turning radii in both directions appear adequate to accommodate trailer turning movements. At the intersection, Broadcommon Road is approximately 35 feet wide, and Ballou Boulevard is approximately 40 feet wide. Although no lanes are marked on either roadway, it is likely that turning trailers will encroach on the opposing travel lane to complete turns in each direction. On Ballou Boulevard, utility wires run along the west side of the roadway, with pole-to-pole connections to the east side. Because the connections are pole-to-pole, the available overhead clearance is adequate. The pavement condition on Ballou Boulevard near the Broadcommon Road intersection is fair to poor. Potholes and ruts in the pavement could become significant obstacles to haulers if left untreated. It is recommended that an approximate 150-foot section of the roadway be resurfaced before the pavement condition deteriorates further. Both Broadcommon Road and Ballou Boulevard are Town-owned and maintained roadways.

Between Ballou Boulevard and Gooding Avenue, Broadcommon Road is approximately 30 feet wide. Utility wires run along the west side of the roadway, then switch to the east side of the roadway just north of Hamlet Court. In general, the utility crossings are high and do not create vertical clearance conflicts. Trees are located sporadically along the roadway on private properties, with some overhang into the roadway. Coordination would be required with property owners for selective trimming that will be performed under the direction of a Landscape Architect and done in a manner to be satisfactory for the boat transport but will not impact the character of the roadway. The turning radii at the intersection of Broadcommon Road and Gooding Avenue are generally adequate to accommodate trailer

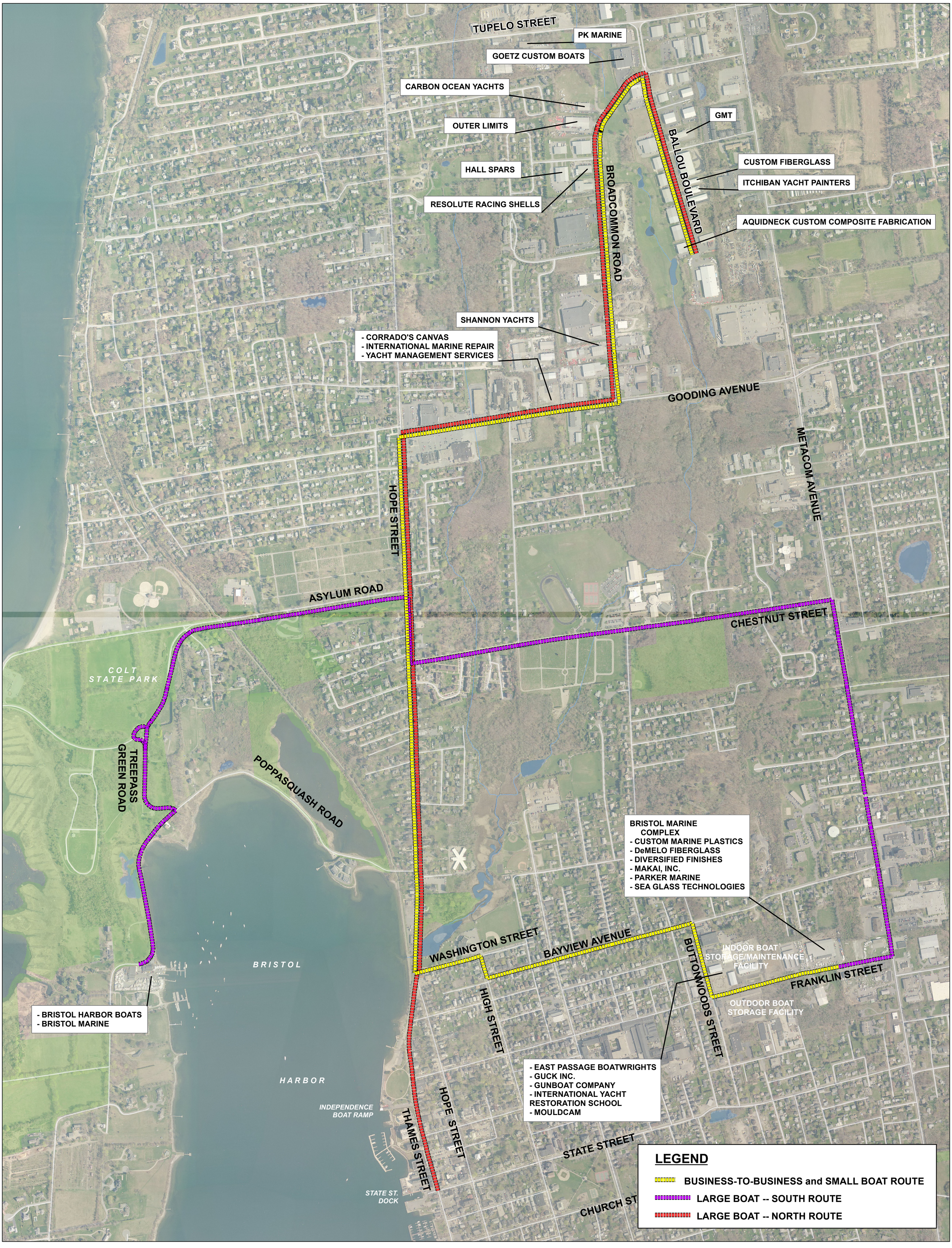

FIGURE 2.1

IDENTIFIED ROUTES

MARINE TRADES ROUTE

BRISTOL, RHODE ISLAND

NORTH

0 600 1,200 2,400 Feet

PARE

MAPPING AND PLANNING SERVICES

PLANNING ~ GIS ~ CARTOGRAPHY

MH

MARCH 10, 2011

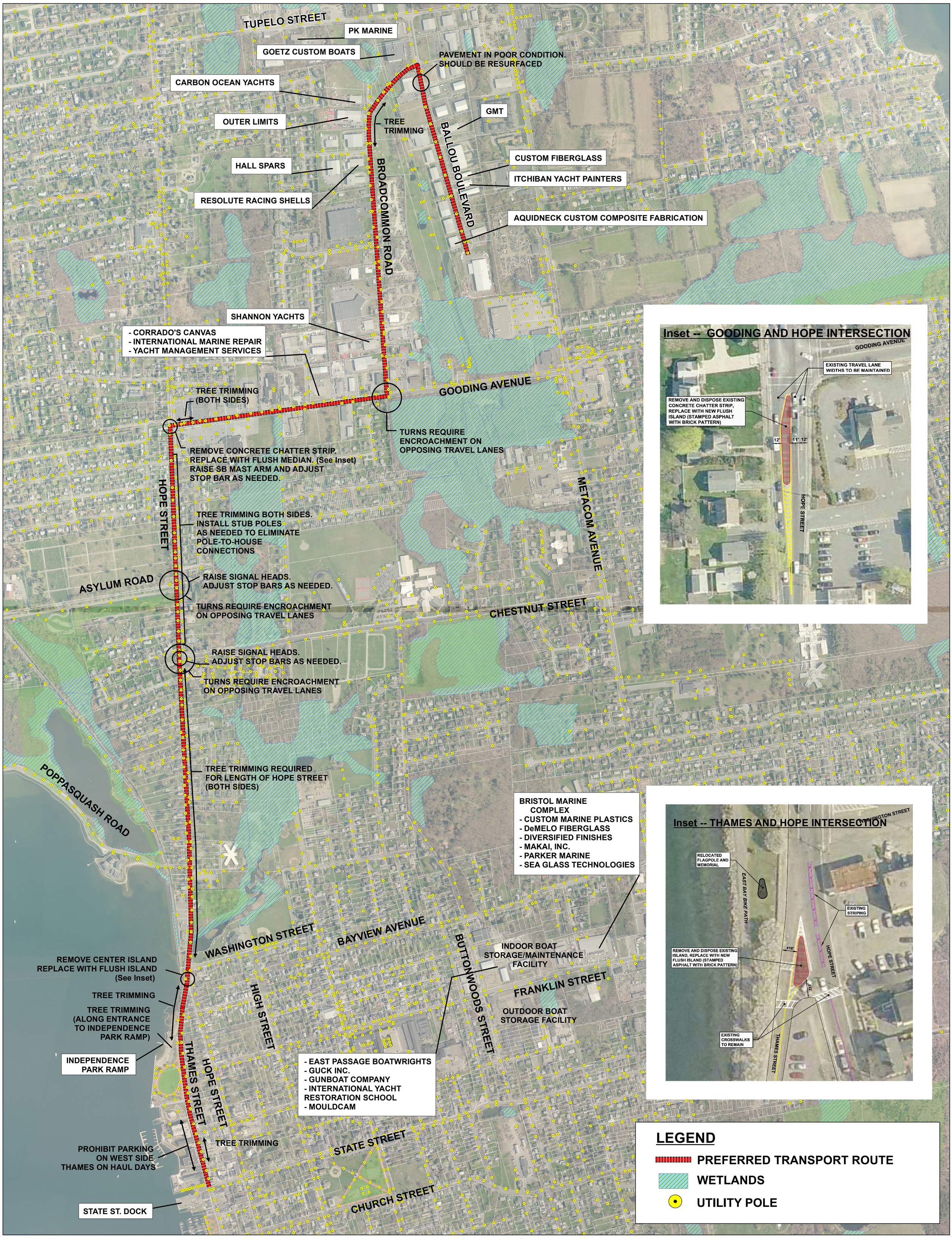

FIGURE 2.2

LARGE BOAT - NORTH ROUTE

MARINE TRADES ROUTE

BRISTOL, RHODE ISLAND

NORTH

0 600 1,200 2,400 Feet

PARE

MAPPING AND PLANNING SERVICES

PLANNING ~ GIS ~ CARTOGRAPHY

MH

MARCH 10, 2011

turns, although the widths of both Broadcommon Road and Gooding Avenue prohibit the turns from being completed from the appropriate travel lane.

The route then continues from Gooding Avenue west towards Hope Street. Trees on the northeast and southeast corners of the intersection of Hope Street with Gooding Avenue overhang the curb line slightly and should be selectively trimmed. Otherwise, Gooding Avenue is generally clear of overhead obstructions. Utility wires cross the roadway several times between Hope Street and Broadcommon Road, but are pole-to-pole connections and are high enough that they are not a vertical conflict. Both Gooding Avenue and Hope Street are State owned and maintained roadways, and Hope Street is classified as a Scenic Roadway throughout Bristol.

The mast arm mounted signal heads for the southbound approach on Hope Street may need to be raised to eliminate a vertical constraint for trailers turning from Gooding Avenue onto Hope Street southbound. Raising the signal heads on this approach would result in the need for the reevaluation of the stop bar location, as the required cone of vision for the signal heads must be maintained. Additionally, although the concrete chatter strip installed on Hope Street south of Gooding Avenue is intended to act as a barrier between opposing lanes of traffic, it presents an obstacle for trailers turning from Gooding Avenue to Hope Street. The trailer will not be able to complete the turn without encroaching on the center median area. A flush stamped asphalt median, potentially with a decorative treatment, may offer a more suitable driving surface, and be easier to plow in the winter months. For reflectivity and added visibility of the median area, in-road reflectors could be used to outline the limits of the median area. A concept plan for the stamped median follows in Figure 2.3.

Photo 2: Hope Street at Gooding Avenue

Haulers traveling on Hope Street in both directions encroach on the opposing travel lane due to the limited lane widths and the presence of tree overhang in the shoulders. Between Gooding Avenue and Washington Street, 12-foot travel lanes are provided with 4-foot to 7-foot shoulders on both sides of the roadway. It is recommended that trees be selectively trimmed along both sides of the roadway ensuring to maintain a canopy but allowing the passing of boat transports. This will allow the haulers to stay closer to the curb rather than the center of the roadway, limiting the encroachment on the opposing lane. Washington Street is a Town owned and maintained roadway.

Utility wires run along both sides of Hope Street, and the connections are a mix of pole-to-pole and pole-to-house. The pole-to-pole connections are likely high enough that they are not a conflict, however, the installation of stub poles to eliminate the need for pole-to-house connections should be considered. The span-wire mounted signal heads at the intersection of Hope Street with Chestnut Street are low, requiring haulers to maneuver around them when

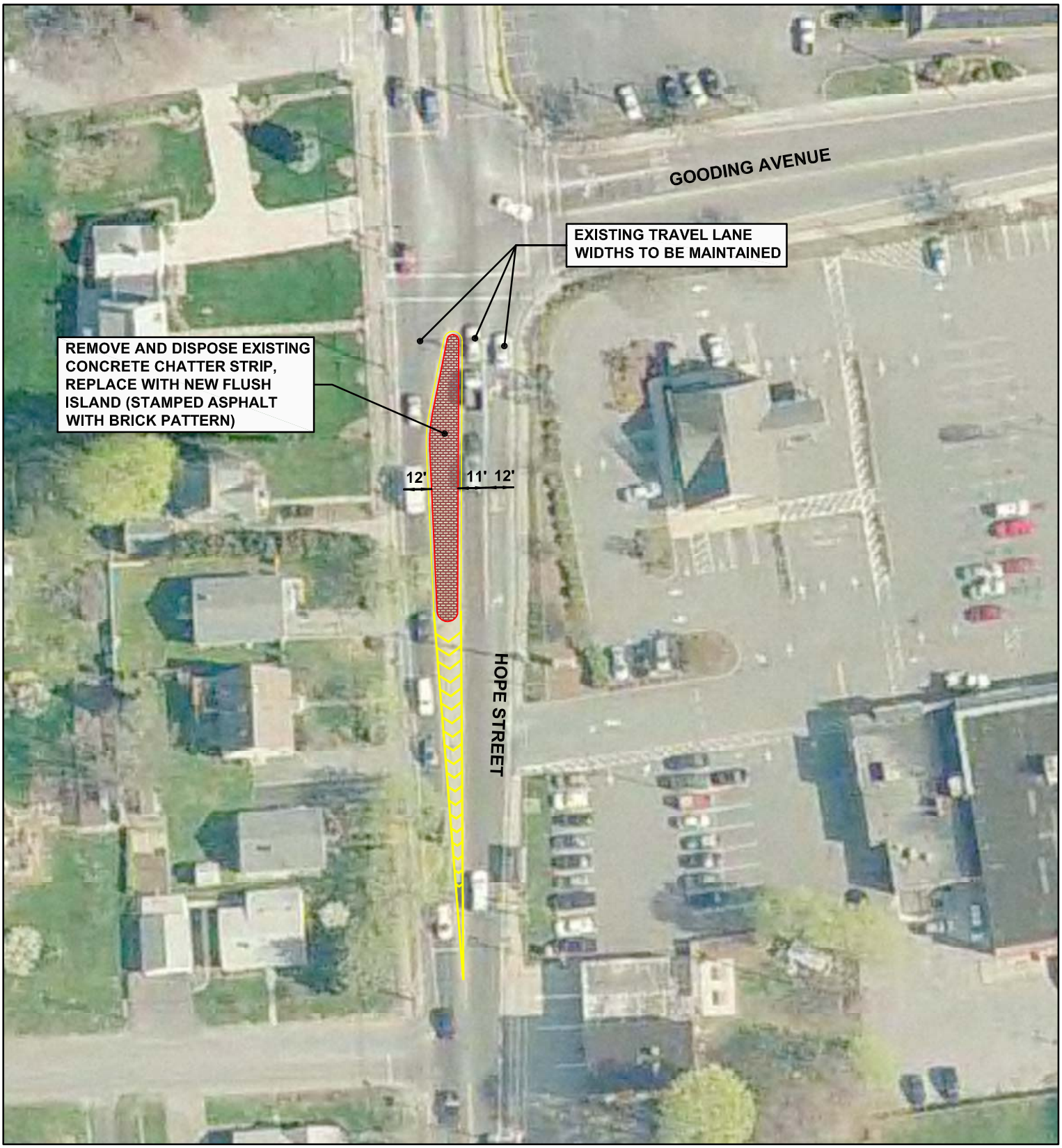

FIGURE 2.3

HOPE STREET CENTER ISLAND REPLACEMENT

HOPE STREET AT GOODING AVENUE

BRISTOL, RHODE ISLAND

NORTH

0 30 60 120 Feet

PARE

MACRH 2011

passing through the intersection. The existing span poles are decorative and would be more expensive to replace than standard poles. The installation of higher signal heads is feasible. however, it will result in the need for review of the stop bar locations to maintain the appropriate visibility of the signal heads. Similarly, the signal heads at the intersection of Hope Street and Asylum Road should be raised to provide adequate vertical clearance. These signals are mounted on decorative mast arms, which will raise the cost of their replacement slightly. Chestnut Street is a Town owned and maintained roadway, while Asylum Road is a State owned and maintained roadway.

From Washington Street, the Preferred North Route continues down Hope Street to Thames Street. Thames Street is a Town owned and maintained roadway. At the intersection, Hope Street and Thames Street are split by a center median island with a flagpole in the center. While the median island provides a decorative treatment on the roadway in addition to defining the appropriate travel directions, the limited width of the lanes around the median restrict the travel paths available for haulers. At the median island, the southbound lane towards Thames Street is 16 feet wide, while the northbound lane on Thames Street is approximately 21 feet wide. Although 21 feet is wide enough to accommodate the trailers, the skew of the intersection and the presence of curbing on both sides limit the feasibility of turning movements for large vehicles. Removing the curbed island and replacing it with a flush, stamped concrete island would maintain the channelization of the travel lanes, but would provide a center area that could be mounted by haulers, if necessary, to complete turning movements at the intersection. The existing flagpole and memorial plaque currently installed in the center of the island could be relocated to the grass area between Thames Street and the East Bay Bike Path. Figure 2.4 provides a concept plan for the improvement.

Photo 3: Hope Street at Thames Street

The route then continues from Hope Street south on Thames Street toward the Independence Park Boat Ramp. Along this section of roadway, tree overhang is problematic on the west side of the roadway. The Independence Park Boat Ramp is owned by the Rhode Island Department of Environmental Management (RIDEM) and is leased by the Town of Bristol. According to the Town Parks and Recreation Department, the need exists for improvements to the ramp in the near future. Desirable improvements include a general rehabilitation of the dock, rebuilding of the parking area and striping trailer parking stalls, installation of a handicap accessible boat launch, a new dinghy rack, a transient dock, and beautification of the area surrounding the dock. The beautification process would include planting of native and coastal plants.

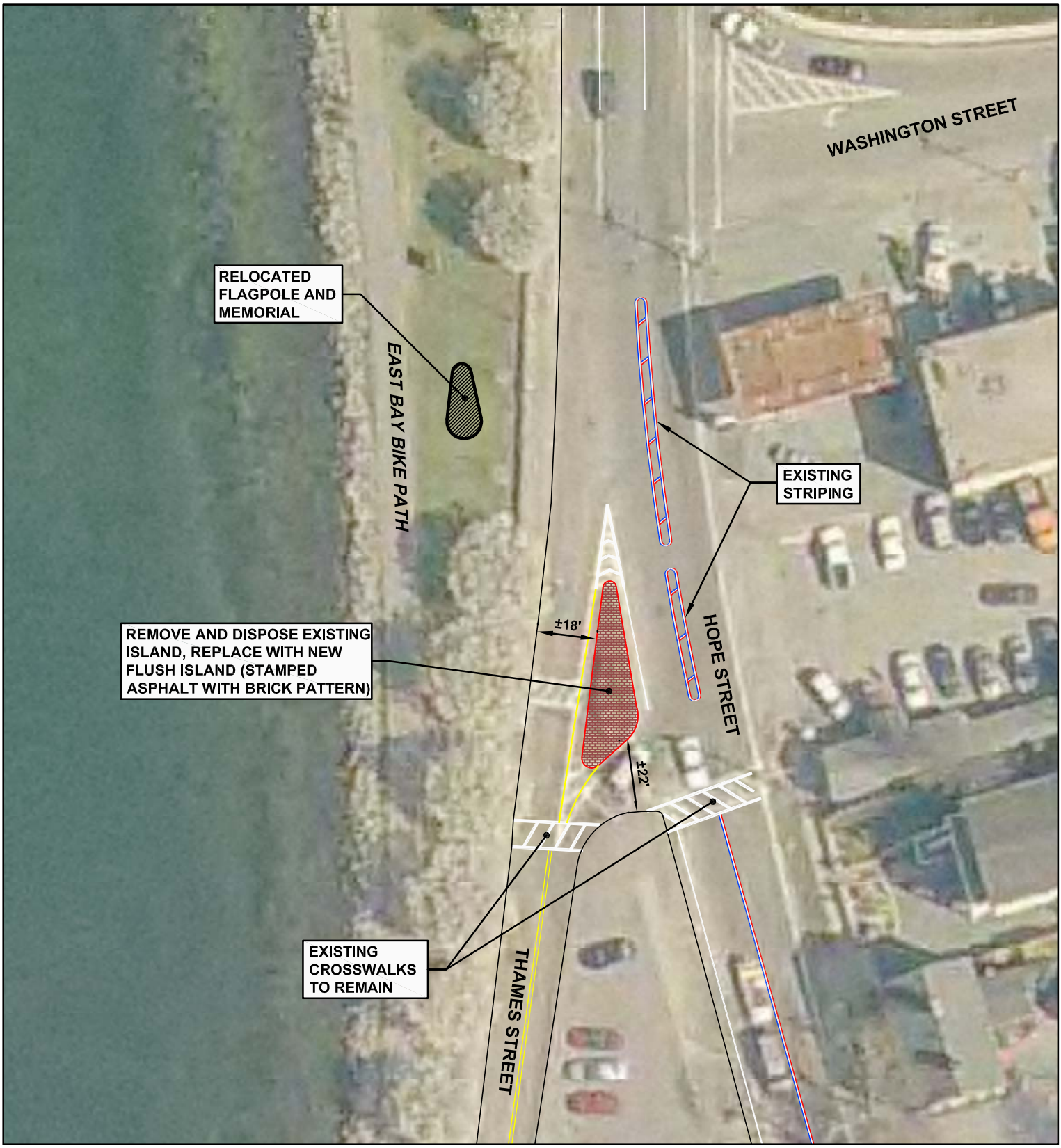

FIGURE 2.4

THAMES STREET CENTER ISLAND REPLACEMENT

HOPE STREET AT THAMES STREET

BRISTOL, RHODE ISLAND

NORTH

0 20 40 80 Feet

PARE

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Past the Independence Ramp, on-street parking is permitted on the east side of the roadway in the area of Franklin Street, and on the west side of the roadway from just north of Bradford Street to the State Street Dock. The approximate 30-foot width of Thames Street coupled with parked vehicles results in haulers traveling in the center of the roadway to their destination rather than in the marked lanes. It is recommended that parking along Thames Street be prohibited on haul days to provide additional roadway width. Franklin Street and Bradford Street are both Town owned and maintained roadways.

The intersection of the State Street Dock with Thames Street forms a four-legged stop controlled intersection. Thames Street is approximately 30 feet wide, State Street is approximately 34 feet wide, and the dock is approximately 60 feet wide. To utilize the dock, haulers traveling south on Thames Street would have to pull past the dock on Thames Street or State Street, and then back down the ramp. The corner radii at the intersection could make this maneuver difficult with large trailers and boats. Discussions with haulers indicate that the State Street dock is not generally used for large boats or commercial operations due to the constraints of the adjacent roadways.

Photo 4: State Street Dock

Preferred South Route

The Preferred South Route runs between Bristol Marine on Poppasquash Road and Franklin Street via Poppasquash Road, Treepass Green Road, Colt Drive and Asylum Road within Colt State Park, Hope Street, Chestnut Street, Metacom Avenue, and Franklin Street. Although several of these roadways offer considerable challenges for hauling, they offer fewer constraints compared to other alternatives, and were therefore selected as preferred roadways. Poppasquash Road, Asylum Road, Hope Street, and Metacom Avenue are all State owned and maintained roadways. Treepass Green Road and Colt Drive are under the jurisdiction of the RIDEM, and Chestnut Street and Franklin Street are Town owned and maintained roadways. A map of the Preferred South Route is provided in Figure 2.5.

TURNS REQUIRE ENCROACHMENT ON OPPOSING TRAVEL LANES

RAISE SIGNAL HEADS. ADJUST STOP BARS AS NEEDED.

TREE OVERHANG PREVENTS USE OF WB LANE

ASYLUM ROAD

INSTALL STUB POLES AS NEEDED ON NORTH SIDE TO ELIMINATE POLE-TO-HOUSE CONNECTIONS.

TREE TRIMMING (BOTH SIDES)

EB LANE USED FOR TRANSPORTS IN BOTH DIRECTIONS DUE TO TREE OVERHANG ON WB SIDE OF ASYLUM

TURNS REQUIRE ENCROACHMENT ON OPPOSING TRAVEL LANES

RAISE SIGNAL HEADS. ADJUST STOP BARS AS NEEDED.

TREE TRIMMING (BOTH SIDES). PROHIBIT PARKING ON ONE SIDE OF ROAD ON HAUL DAYS.

INSTALL STUB POLES TO ELIMINATE POLE-TO-HOUSE CONNECTIONS

TREE TRIMMING

REVIEW NEED FOR FLASHING BEACON. REMOVE BEACON AND INSTALL CROSSWALK WARNING SIGNS OR REINSTALL BEACON AT HIGHER HEIGHT

METACOM AVENUE

TURNS REQUIRE ENCROACHMENT. RAISE SIGNAL HEADS. ADJUST STOP BARS AS NEEDED. RAISE UTILITY WIRES

RAISE UTILITY WIRE CROSSING

CHESTNUT STREET

ANNAWAMSCUTT DRIVE

RAISE SIGNAL HEADS. ADJUST STOP BARS AS NEEDED.

RAISE SIGNAL HEADS. ADJUST STOP BARS AS NEEDED.

HIGHVIEW DRIVE

RAISE UTILITY WIRE CROSSING

HOPE STREET

EAST BAY BIKE PATH

TREE TRIMMING

TREEPASS GREEN ROAD

REALIGNMENT ALTERNATIVES (See Inset)

POPPASQUASH ROAD

RECONFIGURE CULVERT HEADWALLS AS NEEDED FOR REALIGNMENT

TREE TRIMMING. INSTALL STUB POLE AT 55 POPPASQUASH RD TO PROVIDE VERTICAL CLEARANCE.

PAVEMENT IN POOR CONDITION BETWEEN BRISTOL MARINE AND COLT STATE PARK SHOULD BE RESURFACED

OVERHEAD CLEARANCE CONFLICT. RAISE UTILITY WIRES.

RELOCATE NECO/VERIZON POLE No. 46

- BRISTOL HARBOR BOATS
- BRISTOL MARINE

BRISTOL HARBOR

BRISTOL MARINE COMPLEX
- CUSTOM MARINE PLASTICS
- DeMELO FIBERGLASS
- DIVERSIFIED FINISHES
- MAKAI, INC.
- PARKER MARINE
- SEA GLASS TECHNOLOGIES

RAISE UTILITY WIRE CROSSING HEIGHT

BAYVIEW AVENUE

RAISE SIGNAL HEADS. ADJUST STOP BARS AS NEEDED

WASHINGTON STREET

BAYVIEW AVENUE

INDOOR BOAT STORAGE/MAINTENANCE FACILITY

OUTDOOR BOAT STORAGE FACILITY

TURNS REQUIRE ENCROACHMENT ON OPPOSING TRAVEL LANES

FRANKLIN STREET

TURNS REQUIRE ENCROACHMENT ON OPPOSING TRAVEL LANES

- EAST PASSAGE BOATWRIGHTS
- GUCK INC.
- GUNBOAT COMPANY
- INTERNATIONAL YACHT RESTORATION SCHOOL
- MOULDCAM

THAMES STREET

HOPE STREET

HIGH STREET

STATE STREET

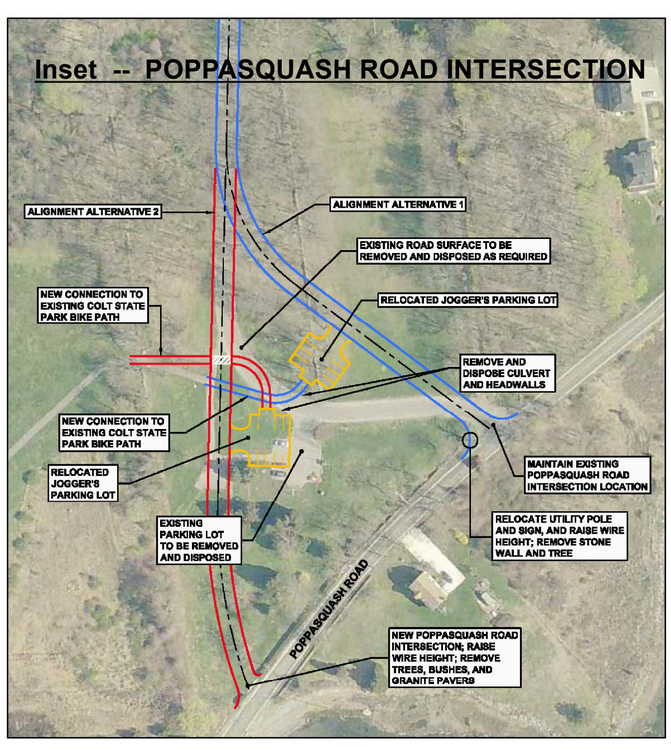
CHURCH STREET

STATE ST. DOCK

CONSTITUTION STREET

HERRESHOFF MUSEUM

Inset -- POPPASQUASH ROAD INTERSECTION



LEGEND

- PREFERRED TRANSPORT ROUTE
- WETLANDS
- UTILITY POLE

FIGURE 2.5

LARGE BOAT -- SOUTH ROUTE

MARINE TRADES ROUTE

BRISTOL, RHODE ISLAND

NORTH

0 600 1,200 2,400 Feet

PARE

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PLANNING - GIS - CARTOGRAPHY

MH

MARCH 10, 2011

Photo 5: Poppasquash Road at Bristol Marine

Poppasquash Road at Bristol Marine has a one-foot shoulder on the south side, two 11-foot travel lanes, and a two-foot shoulder on north side. The existing pavement width is not sufficient for a trailer hauling a large boat to exit Bristol Marine without driving over the curb and grass on the west side of Poppasquash Road. In addition, NECO/Verizon Utility Pole No. 46 directly opposite Bristol Marine entrance is an obstacle for exiting traffic, and should be considered for relocation. Utility wires from this pole continue along the west side of Poppasquash Road, then cross to the east side in front of Fleet Yacht, then cross back to the west side of Poppasquash Road. The crossing from Fleet Yacht, at NECO/Bell Atlantic Pole No. 44, to the west side of Poppasquash Road has several low wires that create a vertical clearance conflict. Moving these wires away from the edge of pavement or raising the wires should be considered. Near the entrance to Colt State Park, three separate service wires run directly from NECO/Bell Atlantic Poles 30 and 31 to the residential property at 55 Poppasquash Road. Installation of one service pole on the east side of Poppasquash Road, at the house, may allow for the combination of the three service wires into one, and would allow for pole-to-pole connections, which will provide a greater vertical clearance than pole to house connections. Trees along the west side of Poppasquash Road and near the entrance to Colt State Park should be selectively trimmed to eliminate overhang into the roadway. The existing pavement condition along Poppasquash Road between Bristol Marine and Colt State Park should also be addressed, as the existing fair to poor pavement surface will continue to deteriorate. Potholes, wide cracks, and severe rutting could become obstacles for the trailer driver.

At the Colt State Park Entrance, the limited width of Poppasquash Road combined with the skew of Treepass Green Road, an internal park roadway, the presence of Utility Pole No. 29, a tree, and a stone wall at the entrance restrict the turning radius available for trucks. Two alternatives were developed for the realignment of Treepass Green Road within Colt State Park to improve the intersection of the roadway with Poppasquash Road and remove the existing hairpin turn. Figure 2.6 shows the two conceptual alignments for Treepass Green Road, which would improve the intersection at Poppasquash Road and eliminate the need for complex backing maneuvers.

The first Alternative would involve maintaining the location of the existing intersection of Treepass Green Road and Poppasquash Road, but would shift the alignment of Treepass Green Road to the north. With this shift, the roadway would impact an existing stone wall and a forested area currently located northwest of the existing alignment. The existing Jogger's Parking Lot would have to be relocated to maintain a direct connection to Treepass Green Road, or an additional section of roadway would have to be constructed to connect to the existing parking lot. For the relocated parking lot, a new connection would be required to the existing Colt State Park bike path. In both cases, it is likely that the existing culvert and

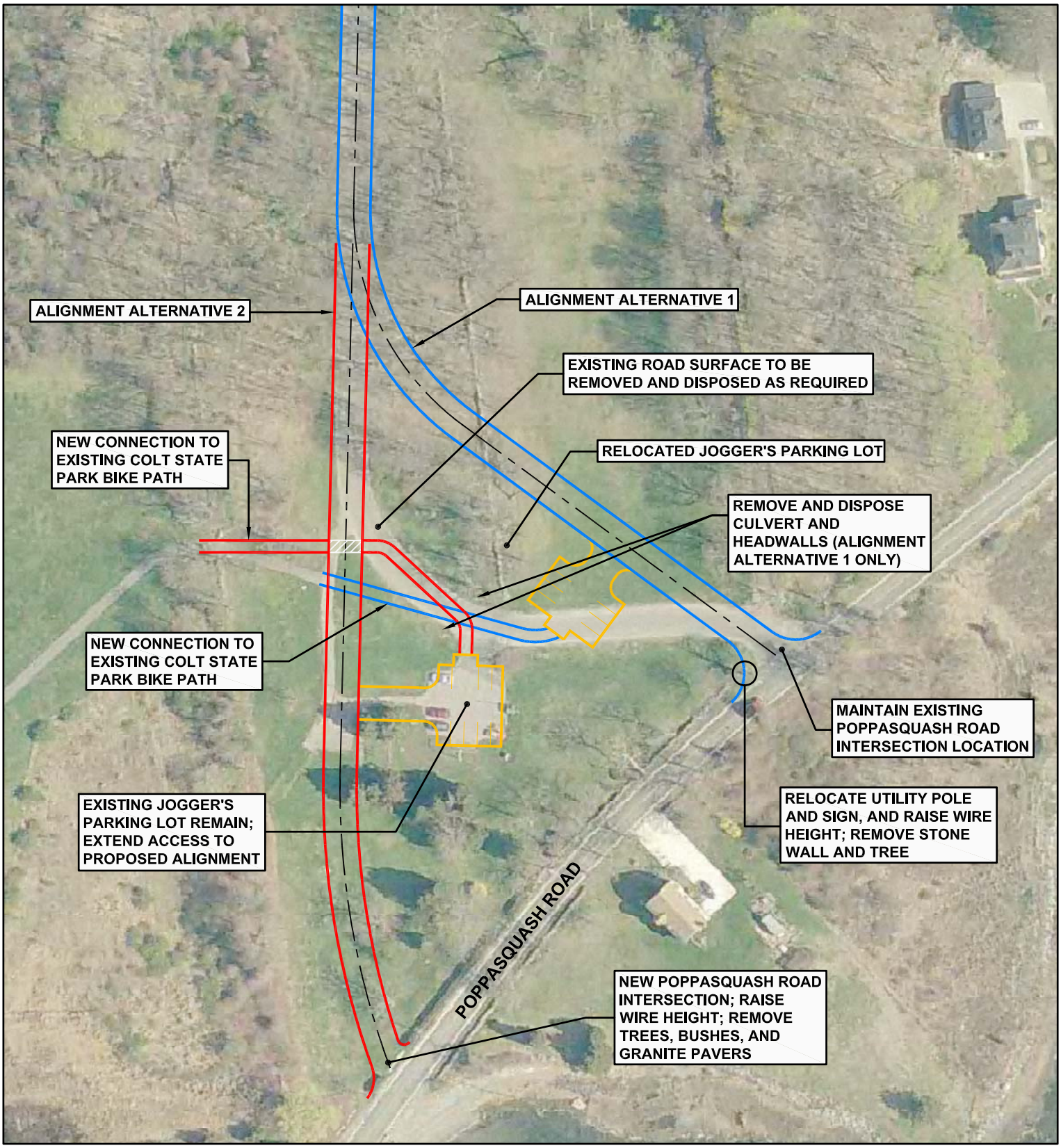

FIGURE 2.6

REALIGNMENT ALTERNATIVES

POPPASQUASH ROAD AT COLT STATE PARK

BRISTOL, RHODE ISLAND

NORTH

0 50 100 200 Feet

PARE

MARCH 2011

headwalls located northwest of the Jogger's Parking Lot would remain, however, modifications may be required to the pipe length. The existing tree located at the entrance would require removal, as would a portion of the existing stone wall. Similarly, the utility pole located at the entrance and Colt State Park sign would require relocation. These improvements would allow for turns in and out of Colt State Park in the direction of travel, rather than requiring complex backing maneuvers in both directions.

The second Alternative would shift the location of the entrance to Colt State Park on Poppasquash Road from its existing location to a point approximately 420 feet south, creating a new intersection. The new alignment of Treepass Green Road would be generally straight, running north from Poppasquash Road to the match the existing alignment. While this alignment would impact some trees and shrubs, it would not impact the stone wall or the wooded area impacted by Alternative 1. The existing Jogger's Parking Lot could be maintained, with an extended access to the new alignment. A new connection to the existing Colt State Park bike path would be required, and would involve a pedestrian crossing across the new roadway. In addition to removal of the shrubs and trees impacted, Alternative 2 would necessitate raising the utility wires across the entrance on Poppasquash Road, as well as removal of several granite pavers at the entrance. An abandoned manhole was also observed within the area of the new alignment, which would require removal. Selection of Alternative 2 as the preferred alignment would also eliminate the need for improvements along Poppasquash Road north of the new intersection.

A freshwater wetland complex is located to the west of Alternative 2 between Poppasquash Road and Treepass Green Road. This wetland falls within the jurisdiction of the Coastal Resources Management Council's (CRMC) Coastal Resources Management Plan (CRMP). Because the wetland directly borders on a salt pond, it is defined as a Coastal Wetland in 210.3 of the CRMP. Coastal wetlands are classified as Shoreline Features, and therefore an associated 200-foot Contiguous Area extends upslope from the inland edge of the wetland.

The edge of the wetland adjacent to Alternative 2 was investigated on March 2, 2011. This portion of the wetland consists of a freshwater wet meadow mixed with areas of shrub wetland. The wetland edge appears to be located between 70 and 100 feet from the edge of Alternative 2. Between Poppasquash Road and the Colt State Park Bike Path, the edge of the wetland generally corresponds to the base of the slope to the west of the maintained lawn area. Although this alternative is not expected to result in any permanent or temporary impacts to the wetland area, the new roadway connection would be located within the wetland's 200-foot Contiguous Area. If Alternative 2 is selected, a delineation of the area will be necessary, and an Application for State Assent would be submitted to CRMC in order complete new roadway construction within 200-foot Contiguous Area. The approximate limits of the Coastal Wetland and 200-foot Contiguous Area are shown on Figure 2.7.

At the time of investigation, the area of maintained lawn directly southwest of the existing Treepass Green Road entrance and Jogger's Parking Lot contained areas of localized ponding. These areas are located at low points in the landscape that collect stormwater runoff and snow melt from the surrounding maintained uplands and roadways. Hydric soil indicators and wetland vegetation were not present in these areas, however they appear to be serving a stormwater management function in an area where limited measures are in place to control runoff. Although the ponding was not located within either of the alignment alternatives, drainage in this area should be considered when planning the locations of parking areas and associated site work. Any improvements proposed for Treepass Green

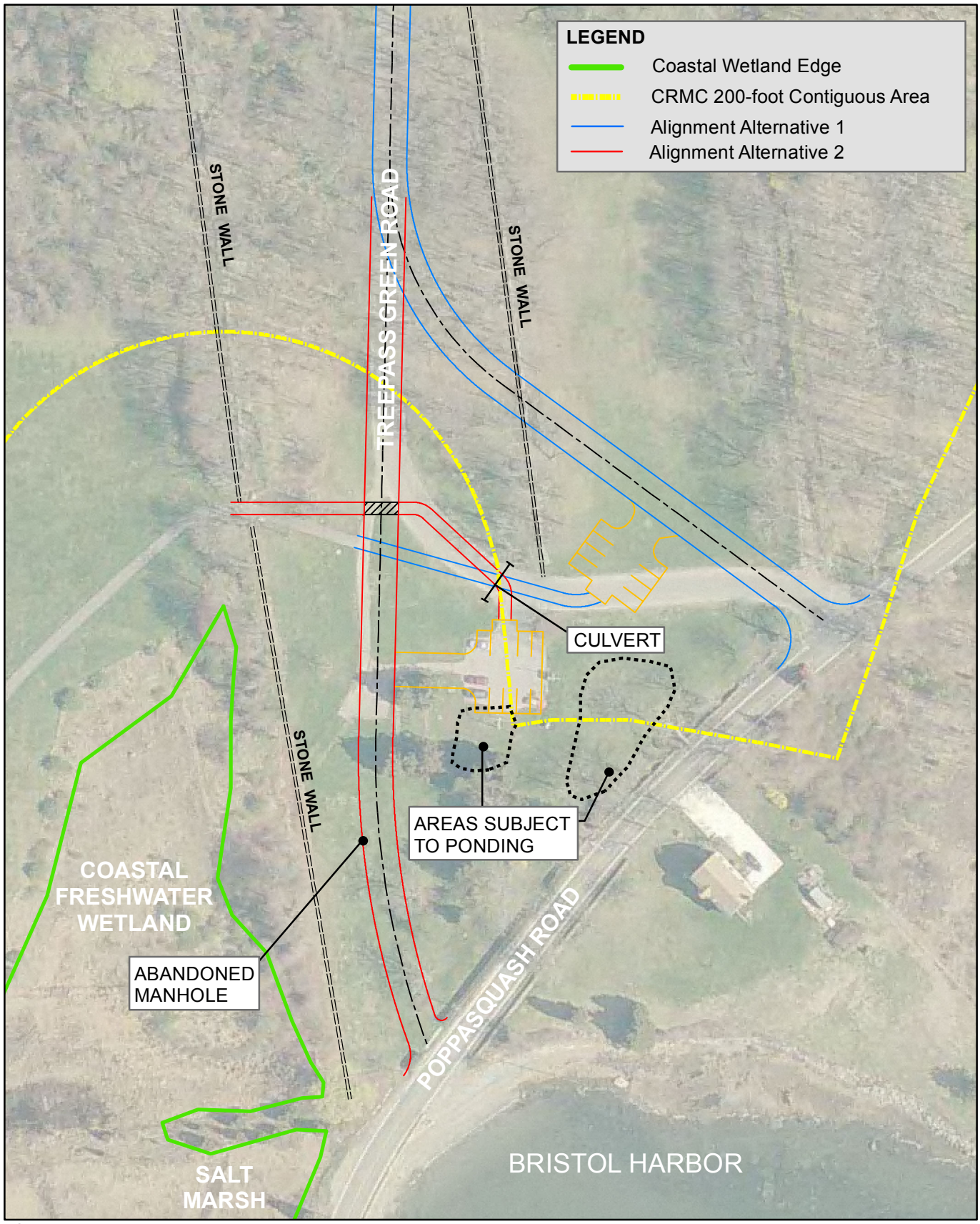

FIGURE 2.7

APPROXIMATE WETLAND LOCATIONS

POPPASQUASH ROAD AT COLT STATE PARK

BRISTOL, RHODE ISLAND

NORTH

0 37.5 75 150 Feet

PARE

MARCH 2011

Road and the Jogger's Parking Lot will require review and approval of the RIDEM, as Colt State Park is under their jurisdiction.

At a minimum, if no improvements are made to the existing geometry at the intersection of Treepass Green Road and Poppasquash Road, the tree should be removed from the corner of the entrance and the stone wall, utility pole, and Colt State Park sign relocated. This may allow for turns in and out of Colt State Park in the direction of travel, rather than requiring complex backing maneuvers in both directions. If the backing movements are to continue, relocation of the headwall on the north side of Treepass Green Roads for the culvert adjacent to the Jogger's Parking Lot should be considered. It may be possible to extend the length of the culvert pipe and shift the headwall to the north, out of the path of a turning truck.

Selective tree trimming is required along Treepass Green Road between the Joggers Parking Lot and the rotary, and within Colt State Park in the vicinity of Harborview Avenue. Harborview Avenue is a Town owned and maintained roadway. An additional overhead conflict is present on Colt Drive in the area of Harborview Drive, where utility wires cross the park roadways from north to south. Tree overhang on Asylum Road westbound between Hope Street and the East Bay Bike Path prevents that side of the roadway from being used to transport boats from Hope Street back to Bristol Marine.

Photo 6: Treepass Green Road

Turning from Colt State Park (Colt Drive) onto Hope Street, tree overhang becomes an immediate problem, and continues for the duration of the route on Hope Street. Utility wires run along both sides of Hope Street, but the connections are typically pole-to-pole and high enough that they are not a conflict. The span-wire mounted signal heads at the intersection of Hope Street with Chestnut Street are low, requiring maneuvering to avoid them with large boats. The existing span poles are decorative, and would likely be more expensive to replace than standard poles. It may be feasible to move the span wire and signal heads up on the poles, however this will result in the need for review of the stop bar locations to maintain the appropriate visibility of the signal heads.

Photo 7: Existing Signal Heads at Chestnut Street

A trailer traveling either from Hope Street to Chestnut Street or from Chestnut Street to Hope Street can navigate the turn at this intersection, but not without encroaching on the opposing travel lane. Property acquisition would be required on the northeast and southeast corners of the intersection for the intersection to be wide enough to eliminate encroachment. In addition to the pavement costs, this improvement would necessitate the replacement of at least one span pole and the traffic signal control cabinet. As an alternative, police escorts could be used well in advance of the trailer to temporarily stop motorists before they enter the conflict area within the intersection ahead, so the trailer is not waiting for traffic to clear the intersection once they reach it. This will create minor traffic delays in the vicinity of the intersection, but will allow for a timely and efficient turn by the driver once he reaches the intersection.

The existing travel lanes on Chestnut Street are 14 feet wide, which is not wide enough to accommodate the typical 15-16-foot wide boats. Instead of allowing parking on both sides of Chestnut Street, parking could be provided on one side of the roadway, and the excess width used to provide wider travel lanes. A more likely alternative will be prohibiting parking along one or both sides of the road as necessary on days when large moves are scheduled.

A number of overhead residential utility services run directly from the utility poles on the south side of Chestnut Street to homes on the north side of Chestnut Street for its length between Hope Street and Metacom Avenue. Stub poles should be considered on the north side so connections can be pole to pole, remaining a consistent height across the roadway (minimum 18'), or so services could potentially be grouped, decreasing the number of wires crossing the roadway overhead.

A single-section flashing beacon is currently installed on Chestnut Street at Sherry Avenue, creating a vertical conflict for hauling trailers passing below. Both Chestnut Street and Sherry Avenue are Town owned and maintained roadways, as is the exiting flashing beacon. The need for the flashing beacon was discussed with the Town, and alternatives to it were discussed. It appears that the intent of the beacon is to alert motorists of crosswalks across Chestnut Street at this intersection, which lead to the Mount Hope High School.

Removal of the beacon should be considered, as modern alternatives exist which will highlight the presence of the crosswalks. Prior to the removal of the beacon, a review of recent crash data at the intersection should be performed, to determine if any additional safety concerns exist. Similarly, coordination should occur with the school department to determine their needs within the school zone.

Photo 8: Flashing Beacon on Chestnut Street at Sherry Avenue

If the beacon is removed, advance signage and signage at the crosswalks across Chestnut Street should be installed, compliant with the *Manual on Uniform Traffic Control Design*

(MUTCD). The MUTCD is the national standard for the design and implementation of all traffic control devices on any street or private road open to public travel. All signage should be fluorescent yellow-green, as is the current MUTCD standard in school zones. Similarly, the existing flashing school speed limit signs should be reviewed for their compliance with the current MUTCD and replaced as required. For added emphasis, on-road pavement markings could be used to supplement the existing flashing school warning signs. All of these measures would help alert passing motorists to the presence of the school, and potentially slow traffic in the area of the school.

At the intersection of Metacom Avenue and Chestnut Avenue, the intersection width is problematic, as the driver cannot turn the trailer without encroaching on opposing lanes. Widening of the intersection would require property acquisition on the northwest and southwest corners of the intersection. Currently the northwest corner is a vacant lot, and the southwest corner is a residential property. At the intersection, utility wires cross Chestnut Street to continue down the west side of Metacom Avenue and cross Metacom Avenue on the northbound approach. Consideration should be given to raising the height of the lowest 4 or 5 wires to eliminate the vertical conflict at the intersection.

The span-wire mounted signal heads across the northbound approach to intersection are low, creating vertical clearance conflicts. Raising the height of the span wire at the intersection is a possibility, however, it will require a review of the existing stop bar locations to ensure that required visibility of the signal heads is maintained. Under existing conditions, the stop bar for the northbound approach to this intersection could be shifted south 20 to 25 feet to provide additional maneuvering room within the center of the intersection for the trailers, before they encroach on queued traffic.

Photo 9: Existing Signal Heads on Metacom Avenue at Chestnut Street

At the intersection of Metacom Avenue with Annawamscutt Drive, several overhead conflicts exist, including the overhead utility wires across Metacom Avenue between Chestnut Street and Annawamscutt Drive, and the mast arm mounted signal heads at Annawamscutt Drive. Discussions with RIDOT indicate that taller mast arms could be installed at the intersection to increase the available vertical clearance. Their installation will require the repositioning of either the mast arms or the stop bars to maintain the required cone of visibility for the signal heads. Annawamscutt Drive is a Town owned and maintained roadway.

Similar to the intersection of Metacom Avenue with Annawamscutt Drive, mast arm mounted signal heads at the intersection of Metacom Avenue with Roosevelt Drive and Highview Drive create an overhead conflict. Taller mast arms could be installed at the intersection to increase the available vertical clearance, however, their installation will require the repositioning of either the mast arms or the stop bars to maintain the required cone of visibility for the signal heads. Both Roosevelt Drive and Highview Drive are Town owned and maintained roadways.

Continuing along Metacom Avenue towards Franklin Street, utility wires remain an overhead conflict, as do trees along both sides of the roadway. Similarly, the limited width of Metacom Avenue forces trailers to travel in the center of the roadway, and does not allow the trailer to pull over and let traffic pass. Both result in the haul having significant impact on traffic in both directions on Metacom Avenue.

The span wire mounted signal heads at the intersection of Metacom Avenue and Bayview Avenue are low, creating a vertical conflict and forcing the trailer to shift in the roadway to avoid hitting them. This, in addition to the limited lane width, results in the trailer driving outside the marked lane, significantly impacting opposing traffic. Similar to other intersections along Metacom Avenue, the signal heads at this intersection could be raised, but would then require a review of the marked stop bars to ensure that they remain located appropriately. The narrow width of Metacom Avenue and the angle of intersection of Franklin Street require the haul driver to encroach on the opposing travel lane to complete a southbound right turn onto Franklin Street. Improving this intersection to include wider turning radii would require property acquisition on the northwest corner of the intersection. Currently the property at the northwest corner of the intersection is vacant. Both Bayview Avenue and Franklin Street are Town owned and maintained roadways.

Photo 10: Existing Signal Heads on Metacom Avenue at Bayview Avenue

Business-to-Business Route

The preferred Business-to-Business Marine Trades Route runs between the marine industry on Franklin Street and the marine industry on Broadcommon Road and Ballou Boulevard. All three of these roadways offer a wealth of marine industry, including manufacturing, repair, and storage. A map of the Business to Business Route is provided in Figure 2.8.

From the storage and repair facilities on Franklin Street, the haulers on this route will travel west towards Buttonwood Street. The turning radius from Franklin Street westbound to Buttonwood Street northbound is limited, and requires turning trailers to encroach on opposing traffic in both directions to complete the turn. Widening of the radius to facilitate the turning movement would require relocation of one utility pole on the corner, with heightened utility wires, if possible, and acquisition of a portion of the commercial/industrial property on the northeast corner of the intersection

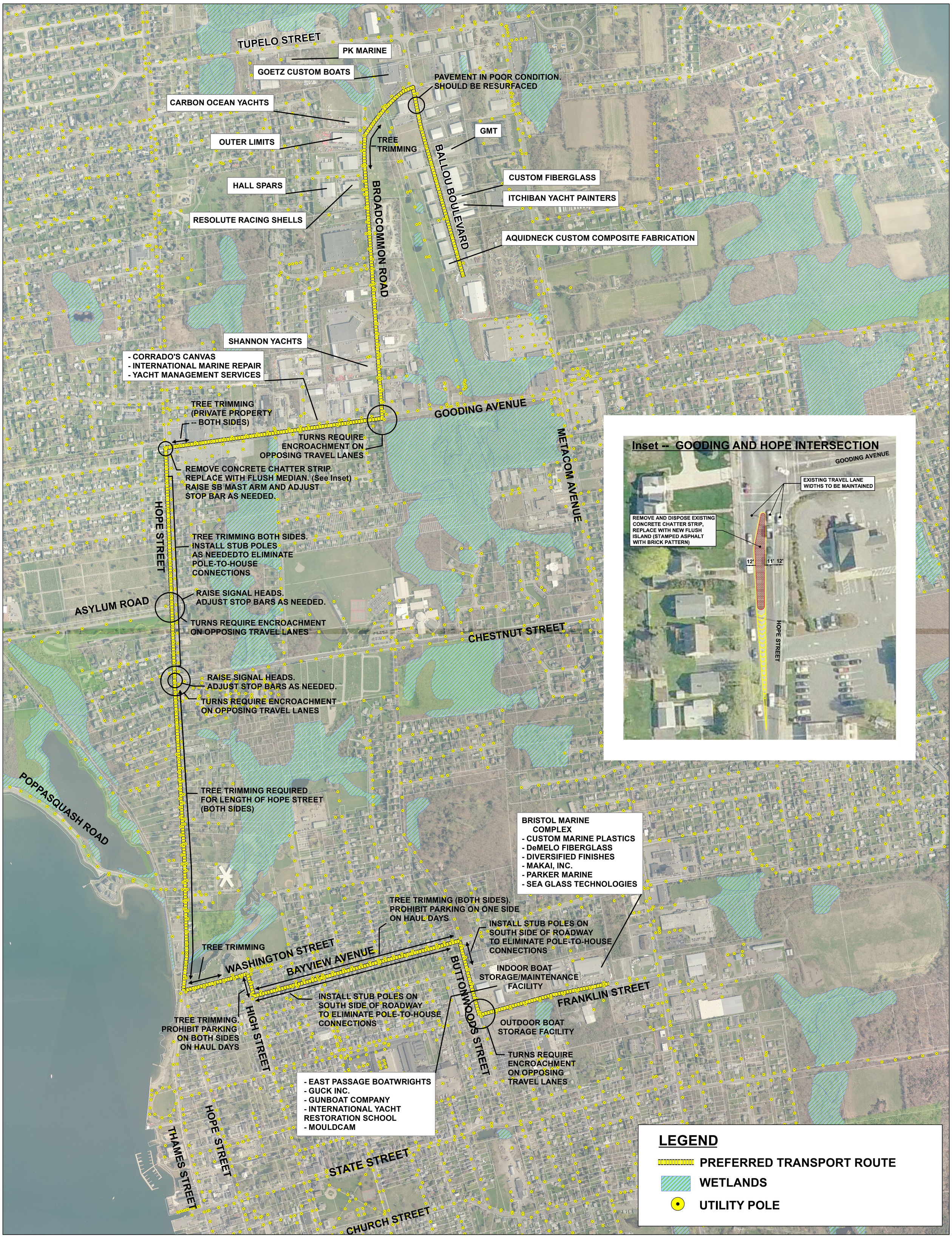

FIGURE 2.8

BUSINESS-TO-BUSINESS and SMALL BOAT ROUTE

MARINE TRADES ROUTE

BRISTOL, RHODE ISLAND

NORTH

PARE

MAPPING AND PLANNING SERVICES

PLANNING ~ GIS ~ CARTOGRAPHY

0 600 1,200 2,400 Feet

MH

MARCH 10, 2011

Photo 11: Buttonwood Street

Buttonwood Street is 24 feet wide with no marked lanes, housing mostly commercial and industrial uses. It is a Town owned and maintained roadway. Parking was observed sporadically on the east side of the roadway. Because of the limited width, trailers using this road end up traveling in the middle of the roadway, especially if vehicles are parked on the east side of the road. Utility wires cross from the main run on the east side of Buttonwood Street to residential house numbers 65 and 71. The wires decrease in height from the utility poles, No. 3 and 2, respectively, but may be high enough that they do not create a vertical clearance conflict.

From Buttonwood Street, the route continues to Bayview Avenue, which is a Town Roadway comprised of dense residential development. Utility wires run primarily down the north side of the roadway, with a significant number of service wires crossing directly to residential properties on the south side of the roadway. Consolidation of these wires to several stub poles on the south side should be considered, as it would allow higher pole-to-pole connections and potentially decrease the number of crossings. Bayview Avenue is approximately 37 feet wide, with parking permitted on both sides of the roadway. No lane striping was present at the time of observation, however, it is unlikely that a trailer towing a large boat would be able to stay in the correct travel lane with vehicles parked on both sides of the roadway. Prohibiting parking on the necessary side of the road on haul days would decrease and potentially eliminate the impact on opposing traffic along the roadway.

Photo 12: Bayview Avenue

Tree overhang is prevalent along Bayview Avenue. Trees should be selectively trimmed to a minimum 16-foot height along the roadway. An 18-foot clearance is desirable, however, may not be practical given the character of the roadway. The tree trimming should be done under the guidance of a Landscape Architect and should be done so to lower the impact of the character of the roadway and neighborhood. Several main utility wires cross Bayview Avenue at Monroe Avenue, along its north side. The height of these wires is unknown, although they run from utility pole to utility pole.

At the intersection of Bayview Avenue and High Street, utility wires cross from the northeast side of the intersection in all directions, creating numerous potential vertical clearance conflicts. All crossings are pole-to pole. Parking is permitted on both sides of High Street at the intersection, which could be problematic for a turning trailer. Prohibition of parking on boat move days may be required. Tree overhang on High Street between Bayview Avenue and Washington Street is also a concern. Trees should be trimmed to a minimum of 16 feet.

Photo 13: High Street at Bayview Avenue

From High Street, the route continues west on Washington Street then north on Hope Street. Both High Street and Washington Street are Town owned and maintained roadways, while Hope Street is a State scenic roadway. Utility service wires run primarily along the south side of Washington Street between High Street and Hope Street, with crossings to the north side. The crossings are typically pole-to-pole and appear high enough for clear passage below. Tree overhang on Washington Street is limited to the area near Hope Street, where some selective trimming may be required. Parking is permitted on both sides of Washington Street west of the school. Parking prohibition on the relevant side of the roadway should be considered during boat moves to decrease the potential for impacts on opposing traffic.

The primary concerns along Hope Street between Washington Street and Gooding Avenue are utility wires and tree overhang. Tree trimming is required along this entire stretch of roadway. Utility wires run along both sides of Hope Street, and the connections are a mix of pole-to-pole and pole-to-house. The pole-to-pole connections are likely high enough that they are not a conflict, however, the installation of stub poles to eliminate the need for pole-to-house connections should be considered.

Photo 14: Hope Street between Washington Street and Gooding Avenue

Haulers traveling on Hope Street in both directions encroach on the opposing travel lane due to the limited lane widths and the presence of tree overhang in the shoulders. Between Gooding Avenue and Washington Street, 12-foot travel lanes are provided with 4 foot to 7-foot shoulders on both sides of the roadway. Trimming trees on both sides of the roadway

will allow the haulers to stay closer to the curb rather than the center of the roadway, limiting the encroachment on the opposing lane.

The signal heads at the intersections of Hope Street with Chestnut Street and Hope Street with Asylum Road create vertical obstructions, requiring haulers to maneuver around them when passing through the intersection. At Chestnut Street, the existing span poles are decorative and would be more expensive to replace than standard poles. The installation of higher signal heads is feasible, however, it will result in the need for review of the stop bar locations to maintain the appropriate visibility of the signal heads. Similarly, the decorative mast arms at Asylum Road can be replaced, however, their cost will be slightly higher than standard mast arms.

Although the concrete chatter strip installed on Hope Street south of Gooding Avenue is intended to act as a barrier between opposing lanes of traffic, however, it presents an obstacle for trailers turning from Gooding Avenue to Hope Street. The trailer will not be able to complete the turn without encroaching on the center median area. A flush, striped median may offer a more preferable driving surface, and be easier to plow in the winter months. For reflectivity and added visibility of the median area, in-road reflectors could be used to outline the limits of the median area.

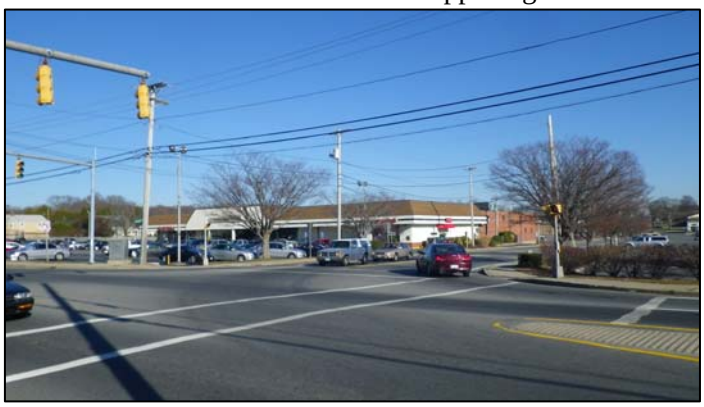

Photo 15: Hope Street at Gooding Avenue

The route continues from Hope Street to Gooding Avenue, and then east toward Broadcommon Road and Ballou Boulevard. Trees on private property on the northeast and southeast corners of the intersection of Hope Street with Gooding Avenue overhang the curb line slightly and should be trimmed. Otherwise, Gooding Avenue is generally clear of overhead obstructions. Utility wires cross the roadway several times between Hope Street and Broadcommon Road, but are pole-to-pole connections and appear high enough to be avoided.

The turning radii at Broadcommon Road are generally adequate to accommodate trailer turns, although the widths of both Broadcommon Road and Gooding Avenue prohibit the turns from being completed from the appropriate travel lane. Broadcommon Road is approximately 30 feet wide, with no marked lanes. Along Broadcommon Road, the utility crossings are high and do not create vertical clearance conflicts. Trees are located on private properties adjacent to the roadway, and some overhang the curb line. Coordination would be required with property owners for trimming.

The intersection of Broadcommon Road and Ballou Boulevard is wide, although the approach widths are limited. The turning radii in both directions appear adequate to accommodate trailer turning movements. Although no lanes are marked on Broadcommon Road or Ballou Boulevard, it is likely that turning trailers will encroach on the opposing travel lane to complete turns in either direction. Ballou Boulevard is approximately 40 feet wide, and

similar to Broadcommon Road, utility wire connections are pole-to-pole, resulting in adequate overhead clearance. The pavement condition on Ballou Boulevard near the Broadcommon Road intersection is fair to poor. Potholes and ruts in the pavement could become significant obstacles to haulers if left untreated. It is recommended that an approximate 150-foot section of the roadway be resurfaced before the pavement condition deteriorates further.

Identification of Route Roadways

Signage should be considered for installation along the identified routes to act as guidance for the haulers utilizing the routes and to alert motorists, businesses, and residents along each route of its presence. The identified routes will also act as emergency evacuation routes for the marine industry, and will be used in the event that quick and efficient removal of marine related products from the waterfront is required.

For consistency within the routes, it is recommended that a single, consistent design be utilized along each route. A concept was developed for the proposed sign, based on the sign principals included in the MUTCD for standard guide signs on conventional roadways. The arrow indication can be revised for the appropriate route direction, and would be moved to either the left or right of the text dependant upon the direction indicated. The sign should meet all retroreflectivity requirements of the MUTCD, as use of the routes will occur at times of the day.

Opinions of Probable Cost

Based on the data collection process, the development of the route alternatives, and coordination with the Steering Committee, Opinions of Probable Cost were developed for the proposed improvements that will be necessary along each preferred route. The necessary improvements generally include selective tree trimming, utility pole and utility wire improvements, signal improvements, pavement and curbing replacement or repair, relocation or installation of signage, roadway alignment revisions, and updated striping.

The opinions of probable cost were developed for each route, and for the overall project with the implementation of all three routes. Because the routes overlap at several locations within the Town, the overall cost of implementation is less than the individual cost of improvements along each route. A detailed cost breakdown is provided for each alternative in Appendix D. A summary of each alternative with the major work items required and an overall cost of implementation are described below.

Route Identification

The Preferred North Route selected for this project runs from the marine industry on Ballou Boulevard and Broadcommon Road south to the State Street Dock on Thames Street. To reach the State Street Dock, the other roadways traversed are Gooding Avenue, Hope Street, and Thames Street. Along this route, the significant improvements identified to improve the route to better accommodate the Marine Trade businesses are as follows:

- Geometric Improvements at the Hope Street/Thames Street intersection.
- Signal Improvements at Hope Street/Chestnut Street intersection, Hope Street / Gooding Avenue and Hope Street/Asylum Road.
- Selective tree trimming along the route.
- New Utility Poles and Connections on Hope Street.

The opinion of probable cost to improve this route is approximately $235,000.00.

Preferred South Route

The Preferred South Route runs between Bristol Marine on Poppasquash Road and Franklin Street via Poppasquash Road, Treepass Green Road, Colt Drive and Asylum Road within Colt State Park, Hope Street, Chestnut Street, Metacom Avenue, and Franklin Street. Two alternatives are provided for the intersection of Poppasquash Road and Treepass Green Road. Along this route the significant improvements identified to improve the route to better accommodate the Marine Trade businesses are as follows:

- Geometric Improvements at the Poppasquash Road/Treepass Green Road intersection.
- Signal Improvements at Hope Street/Chestnut Street intersection, Chestnut Street / Metacom Avenue intersection, Metacom Avenue/Annawamscutt Drive intersection. Metacom Avenue/Roosevelt Drive/Highview Drive intersection and Metacom Avenue at Bayview Avenue intersection.
- Utility Pole Relocations.

The opinion of probable cost to improve this route with Alternative 1 as the preferred alternative at Treepass Green Road is approximately $1,304,000.00.

The opinion of probable cost to improve this route with Alternative 2 as the preferred alternative at Treepass Green Road is approximately $1,218,800.00.

Business to Business Route

The preferred Business-to-Business Marine Trades Route runs between the marine related businesses on Franklin Street and the marine related businesses on Broadcommon Road and Ballou Boulevard. All three of these roadways offer a wealth of marine industry, including manufacturing, repair, and storage. Along this route the significant improvements identified to improve the route to better accommodate the Marine Trade businesses are as follows:

- Signal Improvements at Hope Street/Chestnut Street intersection, Hope Street / Gooding Avenue.
- Selective tree trimming along entire route.
- New Utility Poles and Connections on Hope Street.

The opinion of probable cost to improve this route is approximately $589,500.00.

Overall Implementation

As mentioned above, the overall cost of implementation of the three designated routes is less than the individual cost of each route due to route overlap. A number of improvements are required along each route to create a conflict-free preferred travel route. The improvements should be prioritized, and completed along each of the designated routes in order of priority. The recommended priority for improvements is as follows:

1. Poppasquash Road and Treepass Green Road realignment.
2. Selective tree trimming along designated routes. (Annual maintenance will be required to maintain the necessary vertical clearance.)
3. Signal improvements, including raising signal heads and necessary striping improvements.
4. Hope Street at Thames Street improvement.
5. Utility improvements, including relocation of utility poles, raising of existing wires, and installation of stub poles to eliminate pole to house connections.
6. Miscellaneous roadway and pavement improvements.
7. Miscellaneous signing and striping improvements.

The overall cost of implementation of the Preferred North Route, the Preferred South Route, and the Business to Business Route is dependant upon the realignment alternative selected for the intersection of Poppasquash Road with Treepass Green Road.

With realignment Alternative 1 as the preferred alternative, the overall implementation cost of the three selected routes is approximately $1,941.000.

With realignment Alternative 2 as the preferred alternative, the overall implementation cost of the three selected routes is approximately $1,856,200.

It is recommended that the Town of Bristol initiate and continue coordination with the Rhode Island Department of Transportation to determine the feasibility of any recommended improvements being completed as part of an ongoing or upcoming State project. The inclusion of any improvements in an existing project may significantly reduce the overall implementation cost for the selected routes.

SECTION 3

Implementation

Final Design

The purpose of this study is to develop desirable routes within the transportation infrastructure that can be used to successfully transport boats from their respective facilities to and from the waterfront and to also allow access between the boat manufacturer suppliers. Through the study of the feasible routes, infrastructure improvements have been identified within each preferred route that will need to be addressed in the final design phase.

Upon approval of the study, several of the identified infrastructure improvements will need to proceed to design development. Amongst the infrastructure improvements recommended are geometric improvements at several intersections, upgrades to traffic signals that will allow greater vertical clearance, upgrades of overhead utilities to allow greater vertical clearance, selective tree trimming and other ancillary improvements. It should be noted that all tree trimming will need to be performed under the supervision of a Landscape Architect and with coordination with the Bristol Tree Commission and through consultation with the Tree Warden.

Design of the improvements will be brought to a 30%, 90% and PS&E Design stage, requiring review and approval by the Town of Bristol, the Rhode Island Department of Transportation (RIDOT), and/or the Rhode Island Department of Environmental Management at each stage. For the initial plan development, survey will be required for development of a base plan where roadway improvements are recommended. Due to the location of the project, a Cultural Resource Phase I Survey may be necessary. An environmental permit application through the Rhode Island Coastal Resource Management Council may be necessary depending on the magnitude of geometric improvements. Wetland flagging will be required in coastal areas. Right-of-way takings will need to be reviewed where curb radii are being increased and private properties may be impacted. Utility coordination for the overhead wires from the electric, telephone and cable companies will be necessary.

As some of the identified routes include State owned and maintained roadways, there is the potential for improvements along those roadways to be included within an ongoing or upcoming RIDOT project. For this consideration, the Town is required to submit a formal letter of request to RIDOT, indicating the improvements and their locations. RIDOT has several ongoing projects in areas where improvements of significant nature have been identified. Teaming the improvements proposed along the identified routes with ongoing projects may decrease the overall cost of the improvements, in addition to shortening the time frame required for completion of the improvement.

The Marine Trades Industry has been cited as a very important industry that the Town of Bristol wants to support. In order to improve opportunities and expansion for the industry, the transportation infrastructure necessary to aid inland marine trade facilities in accessing the waterfront and associated facilities needs improvement. The Comprehensive Plan acknowledges the significance of the Marine Trades Industry in Bristol as strong and growing, comprised of boat builders, boating supply manufacturers, and related businesses such as boat brokers and yacht designers. Throughout the study and design process, presentation to the Town Council will be performed to ensure the Town support.

Revisions to Town Ordinances

Through coordination and feedback provided by members of the Steering Committee, including the Chief of Police, several alternatives were mentioned that provided opportunities for preliminary discussion. Consideration of restricting day/time of transports (holidays, peak traffic times, poor weather conditions) was discussed and agreed upon. Standard procedures development should be considered that will ensure that any transporting will begin and end with the Town of Bristol identifying preferred routes, restrictions, etc.

The existing process for transport includes an application for an 'Oversized Load' permit through the Rhode Island Division of Motor Vehicles for transport over RIDOT roads and bridges. This process for review and approval generally takes 5 business days. The Bristol Police Chief suggested that the Town implement a transport permit/checklist, which would allow Town forces to test drive the desired route. The test drive would allow the Police Department and the Highway Department the opportunity to identify areas that could be sectioned off the day of the transport to facilitate movement through the Town streets. It would also allow the police to identify and call in registrations of vehicles needing to be moved temporarily.

To implement this procedure, it was recommended that an ordinance be adopted requiring any transport approval to go through the Town review and approval process to ensure that traffic impacts are kept to a minimum during transports and that impacts to emergency services is limited.

Utility Coordination

Pare Corporation coordinated with Mr. Terry Amon of National Grid Electric and Mr. Omarrio Dawkins of Verizon regarding the presence of/feasibility of relocating overhead wires throughout the project area. From this coordination, it was determined that Bristol is a National Grid pole set area, although Verizon shares 50% equity in the utility poles. This means that National Grid is responsible for the physical relocation of poles.

Typical vertical clearances include (in order of hierarchy):

- Verizon at 18'-6''
- Cable at 19' to 19'-6''
- Private Fire Alarms
- National Grid secondary at 22'-3''
- National Grid primary at the top

Larger cables (similar to those running along west side of Metacom Avenue) include copper/fiber optic wires which are difficult to relocate (due to disruption in service to customers) and are not recommended for burial.

According to National Grid, the process for pole or wire relocation would begin with the Town of Bristol initiating a work request through National Grid. Close coordination with all utilities present on the poles would be required throughout the project, some of which would be the responsibility of the Town and some of which would occur directly between the

engineers from the respective utility companies. It was recommended by National Grid that following initial site visits by the utility company engineers, parties from all companies should meet on-site to discuss the project and any potential concerns.

Once the work request is initiated, National Grid would send an engineer to the sites within approximately one week to determine the scope of the work required. Following that initial visit, anticipated costs would be generated for the work, a project schedule would be developed, and service agreements for each improvement would be generated. Following review and approval of the service agreement by the Town, work would begin. A project of this scale would typically take 4 to 5 months to complete.

Coordination with the respective utility companies is to occur throughout the design process to obtain feedback and to get sign off on the proposed design upgrades.

Funding Opportunities

Through the initial research performed, several opportunities were identified for possible funding for a project of this nature. The following is a brief discussion of several viable funding opportunities/programs.

The current federal funding authorization bill is the Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users, or SAFETEA-LU for short. There are several programs within SAFETEA-LU that allow for the funding of various transportation and transportation related projects. Those pertinent to the Bristol Marine Trades Project include:

- *Inclusion into on-going RIDOT Projects* – Certain components identified within the study area that are necessary for construction to make the routes viable should be coordinated with RIDOT to see if they could be incorporated into other on-going RIDOT Projects. It is our understanding that several projects in the Town of Bristol are in the design stage through RIDOT. For example: components such as signal upgrades and signing and striping could be requested to be added into another on-going traffic project and the identified improvements at Poppasquash Road could be requested to be added into either the Poppasquash Road Improvement Project or the Colt State Park Bike Path Project. Coordination request letters should be submitted by the town to RIDOT.

- *The Clean Air and Mobility Program* – This program has been developed in order to fund a wider variety of projects that improve air quality and mobility and reduce congestion in a region using Congestion Mitigation and Air Quality (CMAQ) funds. This program expands on previous existing programs such as the Suburban Mobility, Transportation Demand Management (TDM). The objectives of this program that would pertain to the Marine Trades Route project include:

  - The fact that it is serves as a funding source for implementing small-scale roadway improvements that may be recommended in the MPO evaluation and study,
  - It helps develop a broader range of proposals from public entities in the region to expand the variety and scope of CMAQ investments, and
  - It improves the effectiveness of CMAQ funds in reducing emissions and congestion in a region.

It is expected that this program will have $2 million in funds available in 2011. Proposals are accepted by regional transit authorities, municipalities, transportation management associations, chambers of commerce, and non-profit transportation advocacy groups in the MPO region. All projects must have a Regional Transit Authority, a municipality or a transportation agency as a fiduciary agent. Criteria used for selection includes vehicle emissions reduction, mobility, sustainability, cost-effectiveness, population served, or modal and geographic balance (compared to other projects to be funded). Eligible projects and programs fall into three categories: transit operations, Transportation Demand Management (TDM)/Transportation Systems Management (TSM) programs or projects, and infrastructure projects. The funding is 80% federal funds with a 20% local match. For more information visit **http://www.fhwa.dot.gov/environment/cmaqpgs/**.

- *Economic Development Corporation Grants* – Infrastructure stimulus grants play an important role in the economic development and rehabilitation of communities. These grants spring from federally funded programs. The grants ensure that community leaders address priority development areas like job creation, road construction, rural development projects and energy efficient technologies.

- *Transportation Improvement Program (TIP)* – The TIP is a list of transportation projects that the State of Rhode Island intends to implement using federal highway and transit funds. Federal regulations require that States and metropolitan areas undertake an extensive public planning process resulting in an eligible project list, the TIP, as a prerequisite for receipt of federal highway and transit funds. No highway or transit project can utilize federal funds unless it appears in an approved TIP. The Rhode Island TIP serves as the Rhode Island and the Providence-Pawtucket Metropolitan Area eligible project list for receipt of federal highway and transit funds. As this TIP covers the entire state, it is also referred to by federal agencies as a Statewide Transportation Improvement Program, or STIP.

APPENDIX A: Steering Committee Coordination

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
www.bristolri.us
401-253-7000

MARINE TRADES ROUTE

STEERING COMMITTEE

"KICK-OFF MEETING"

Tuesday, September 28, 2010

At 7:00 p.m.

Town Hall Conference Room

10 Court Street, Bristol, RI

Agenda:

1. Presentation by the Consultant on the Scope of Work and Timeline
2. Review of Proposed Survey of Marine Trade Businesses
3. Identification of Issues/Opportunities
4. Next Steps
5. Next Meeting
6. Adjourn

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≠ GIS SHAPEFILES?
≠ COM OF BRISTOL MARINE IMPROVEMENT PLAN?

PARE
CORPORATION

MEMORANDUM OF MEETING

DATE: September 29, 2010

TO: File

CC: John Shevlin, P.E., PARE
Diane Williamson, Director of Community Development Town of Bristol

FROM: Craig Pereira

RE: Steering Committee Meeting No. 1 (Kickoff)
PARE Project No. 10196.00

A meeting was held on September 28, 2010 at the Bristol Town Hall Conference Room to discuss the Project Kickoff for the Bristol – Marine Trades Route Project. Present were the following:

Joseph Cabral	Harbormaster
Dominic Franco	
Andrew Tyska	Bristol Marine
Nick King	Bristol Marine
Ed Tanner	Principal Planner/Zoning Officer Town of Bristol
Diane Williamson	Director of Community Development Town of Bristol
John Shevlin, P.E.	PARE
Craig Pereira	PARE

Diane Williamson opened the meeting with both a team and Committee introduction and brief overview of the scope. Project was identified in the Comprehensive Plan and Economic Development Strategy. Bristol Marine (Andy Tyska/Nick King) providing the in-kind match through development/distribution of marine trades survey.

Committee members then began to identify industry needs, potential growth and existing constraints relative to over-land marine transport within the Town, including:

- Hope Street (from Broadcommon) is the favored transport route, due to limited constraints and direct access.
- There are radius issues at the Broadcommon/Gooding turn.
- Annawamscutt Drive center island is an issue getting to Mt. Hope Bay.
- The industry and Town needs a 'best practices manual/guidebook'.
- Independence Park needs a wider/deeper ramp…Town is working on it.
- Presently, some transports require raising electrical/telephone lines manually…coordination with utility providers is necessary.
- RIDOT requires 'over height limit permit' prior to transports (where applicable).

- Transports generally occurring during early morning hours, although there are still others throughout the day.
- Police escort is necessary. Haulers generally handle permits/escorts.
- Consideration of Variable Message Signs by the Town to inform of transports.
- Plan needs to manage expectations.

John Shevlin and Craig Pereira followed with a review of the revised Project Schedule and the Scope, which included:

- Project Schedule…maintain the same March 2011 final deliverable date, accelerate the completion of Task 1 items.
- Scope
  - Task 1 Data Collection
    - Steering Committee Coordination
    - Survey
    - Base Map (GIS)
    - Field Review
    - Traffic Data
    - Utility Coordination
  - Task 2 Route Identification
    - Route Map Development
    - Report
  - Task 3 Next Steps
    - Implementation Matrix

Andy Tyska/Nick King followed with a review of the revised survey.

- Cover letter will introduce project and survey to business owners.
- Bristol Marine intends to deliver/distribute in-person.
- Additional items added include:
  - Add duration of survey period.
  - Ask whether business owners have had to turn away business/opportunities due to transport limitations.
  - Ask if they could/would expand their business if transport was more predictable/easier.

Action Items

- Andy Tyska/Nick King to provide revised survey and distribution list to Committee.
- PARE to contact/interview Tom Brownell
- PARE to observe next transport with Harbormaster (October 5 or 6…PARE to be contacted).
- Next Committee meeting scheduled for November 30, 2010 at 5 pm.

Andy Tyska	Bristol Marine	99 Poppasquash Road	Bristol, Rhode Island 02809
Eric Goetz	Goetz Custom Boats	115 Broadcommon Road	Bristol, Rhode Island 02809
Barrett Holby	Holby Marine	97 Broadcommon Road	Bristol, Rhode Island 02809
Joe Daponte	Custom Fiberglass	58 Ballou Boulevard	Bristol, Rhode Island 02809
Bill Koffler	Aquidneck Custom Composite Fabrication	69 Ballou Boulevard	Bristol, Rhode Island 02809
Britt Colombo	Carbon Ocean Yachts	97 Broadcommon Road	Bristol, Rhode Island 02809
Mike Fiore	Outer Limits	91 Broadcommon Road	Bristol, Rhode Island 02809
Eric Hall	Hall Spars	17 Peckham Drive	Bristol, Rhode Island 02809
Walter Schulz	Shannon Yachts	19 Broadcommon Road	Bristol, Rhode Island 02809
Halsey Herreshoff	Herreshoff Museum	1 Burnside Street	Bristol, Rhode Island 02809
John Barnitt	MouldCAM	259 Franklin Street	Bristol, Rhode Island 02809
Andy Aleicho	Itchiban Yacht Painters	60 Ballou Boulevard	Bristol, Rhode Island 02809
Lars Guck	Guck Inc	255 Franklin Street	Bristol, Rhode Island 02809
Dave Parker	Parker Marine	281 Franklin Street	Bristol, Rhode Island 02809
Ben Garcia	Diversified Finishes	257 Franklin Street	Bristol, Rhode Island 02809
Seth Hagen	East Passage Boatwrights	257 Franklin Street	Bristol, Rhode Island 02809
Chuck Kelley	All Paint Inc.	251 Franklin Street	Bristol, Rhode Island 02809
Tom Brownell	Brownell	1 Park Street	Mattapoisett, MA 02739
Mike Mullaney	Yacht Management Services	47 Gooding Avenue	Bristol, Rhode Island 02809
David Schwartz	GMT	48 Ballou Boulevard	Bristol, Rhode Island 02809
Jorge Borges	International Marine Repair	47 Gooding Avenue	Bristol, Rhode Island 02809

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company_____ Contact Name_____

Address_____

Type of Business_____

Email_____ Phone #_____

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products?_____

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

_____

_____

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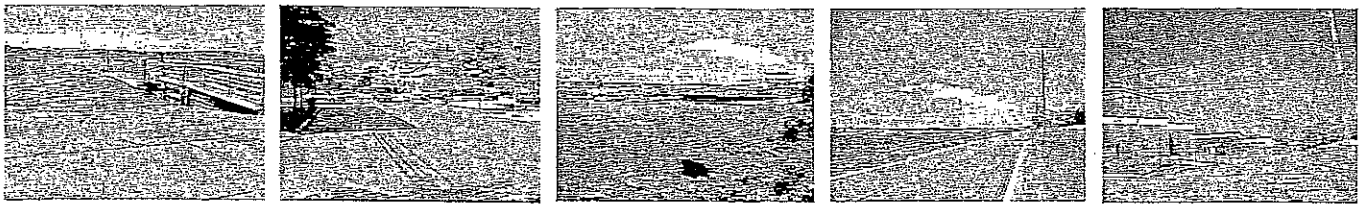


Bristol Marine Trades Route
Steering Committee Kickoff Meeting

Tuesday, September 28, 2010
Please Sign In!

Name	Business/Address	E-mail
CRAIG PEREIRA	PARE CORPORATION	
NICK KING	BRISTOL MARINE	NICK@BRISTOLMARINE.COM
Andrew Tyska	Bristol Marine	andy@bristolmarine.com
EDWARD TANNER	TOWN OF BRISTOL	ETANNER@BRISTOLRI.US
Dominic S. Franco	26 Tower St. Bristol	
John Sheulin	PARE CORPORATION	JSHEULIN@PARECORP.COM

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
www.bristolri.us
401-253-7000

MARINE TRADES ROUTE

STEERING COMMITTEE

MEETING

Tuesday, November 30, 2010

At 5:00 p.m.

Town Hall Conference Room

10 Court Street, Bristol, RI

Agenda:

1. Review Results of Survey from Marine Trade Businesses
2. Presentation/Report by Consultant on Data Collection
3. Identification of Issues/Opportunities
4. Next Steps
5. Next Meeting
6. Adjourn

PARE
CORPORATION

MEMORANDUM OF MEETING

DATE: November 30, 2010

TO: File

CC: John Shevlin, P.E., PARE
Diane Williamson, Director of Community Development Town of Bristol

FROM: Craig Pereira

RE: Steering Committee Meeting No. 2
PARE Project No. 10196.00

A meeting was held on November 30, 2010 at the Bristol Town Hall Conference Room to discuss Data Collection – Task 1 findings for the Bristol – Marine Trades Route Project. Present were the following:

Dominic Franco	Harbor Commission
Andrew Tyska	Bristol Marine
Nick King	Bristol Marine
Diane Williamson	Director of Community Development Town of Bristol
Josue D. Canario	Bristol Police Chief
John Shevlin, P.E.	PARE
Craig Pereira	PARE
Mary Hutchinson	Mapping and Planning Services

Craig Pereira began the meeting with a review of the survey results administered by Bristol Marine. Of the 18 businesses polled, 16 responded. A summary of the information provided follows below:

- Most access the waterfront at Bristol Marine, followed by Independence Park
- Restrictions experienced along most routes include height (trees, wires, and signals) and turning radii at intersections
- Typical clearances needed include height (20' – 15'), Width (15' – 10'), Length (60'), and Turning Radius (40')
- Transports in general are moderately difficult to coordinate, cost less $1,000 or less, and occur 3-5 times per year

Mr. Pereira continued with a summary of the Data Collection

<u>Data Collection/Field Review for the Identified Routes</u>

The project area was divided into 3 maps for ease of read/presentation (North, South and West Sectors). Maps have been attached and include data collection/findings relative to:

- Number of travel lanes/dedicated turning lanes
- Width of roadway, right-of-way
- Sidewalks, curbing, signal heads, over head wires, over head vegetation
- Presence of on-street parking, signage
- RIDOT traffic volumes

North Sector

- Broadcommon Road/Industrial Park are primary destinations
- Hope St. has vertical clearance concerns (18'-30') throughout, and minimum width shoulders (residential service wires crossing roadway throughout and overhead vegetation)
- Gooding Ave./Broadcommon/Ballou Blvd. No existing constraints. Gooding/Metacom intersection recent reconfiguration/improvements)
- Metacom Avenue has vertical clearance concerns (18'-30') throughout, and no shoulders (residential service wires crossing roadway throughout)
- Chestnut/Metacom intersection has significant clearance issues due to low overhead wires, spanwire signals (can be moved).

South Sector

- Eastern end of Franklin St. is the primary destination
- Chestnut St. has yellow caution light center of roadway (at school) 20' clearance
- Chestnut/Metacom intersection has significant clearance issues due to low overhead wires, spanwire signals
- Metacom/Annawamscutt intersection has mast arm signals, truck/trailer needs to utilize center of roadway (temporarily displacing through traffic)
- Metacom Ave. (residential service wires crossing roadway throughout)
- Bayview Ave/Metacom intersection has spanwire signals (can be moved)
- Frankilin St. no issues to destination
- Franklin St. west of Magnolia…significant overhead and width clearance issues (narrow roadway width, on-street parking both sides, overhead vegetation, residential service wires crossing roadway with vertical clearance at 15')
- Thames St. no issues

West Sector

- Bristol Marine is primary destination
- Poppasquash Rd./Hope St. intersection has very limited turning radii, narrow width with minimum shoulder
- Popppasquash Rd. has utility pole at entrance to Bristol Marine as a constraint
- Treepass Green Rd/Poppasquash intersection has very limited turning radii…truck/trailer heading out of Bristol Marine, has to back into Colt State Park, then back into jogger's parking area, then pulls forward maneuvering the 2 culverts. Truck/trailer heading to Bristol Marine, has to pullout onto Poppasquash, then travels in reverse to the facility.
- Asylum Rd. east is the preferred route due to no overhead obstructions, as is the case on west bound lane.

<u>Data Collection/Boat Transport Observation (11.4.10)</u>

On Thursday, November 4, 2010, Pare Corporation observed the transport of a 55' foot sailboat from Bristol Marine to the storage facility on Franklin Street in Brisol, RI. The vehicles utilized in the move included a police escort, the trailer, and a shadow vehicle (pick-up truck). The police escort and shadow vehicle helped stop and block traffic at various locations along the transport route. Two routes were identified by Mr. Brownell (hauler). A memo and photo documentary are attached. The following are highlights from the transport.

Route Selection

- As per preferences of individual drivers
- Considerations include turning radii at intersections, width of roadway, and overhead obstructions

Typical Dimensions of a Transport

- Height – 16'
- Width – 18'

Desirable Clearances

- 18' most desirable
- 16' adequate for most transports

Route # 1 – from Bristol Marine, through Colt State Park, south on Hope St. east onto Chestnut St., south onto Metacom Ave., then west onto Franklin St to destination.

Route #2 – from Independence ramp, north on Thames St. to Hope St., east onto Gooding Ave., then north onto Broadcommon Road.

<u>Data Collection/Utility Coordination (Verizon)</u>

Mr. Pereira coordinated with Omarrio Dawkins (Verizon Engineer) regarding the presence of/feasibility of relocating overhead wires throughout the project area. The following are highlights from the conversation.

- Verizon shares 50% equity in the utility poles (although owned by National Grid)
- Typical vertical clearances include (in order of hierarchy)
    - Verizon at 18'-6''
    - Cable at 19' to 19'-6''
    - Private Fire Alarms
    - National Grid secondary at 22'-3''
    - National Grid primary at the top
- Larger cables (similar to those running along west side of Metacom include copper/fiber optic wires which are difficult to relocate (due to disruption in service to customers) and are not recommended for undergrounding
- Once final routes are identified, aerial plates can be obtained from Verizon, and discussion of relocation feasibility can be initiated

Mr. Pereira presented some issues and opportunities for preliminary discussion.

- Consideration of restricting day/time of transports (holidays, peak traffic times, poor weather conditions)
- Consideration of standard procedures development…permit to begin/or end with Town of Bristol, identifying preferred routes, restrictions, etc.

Discussion points by the Committee…

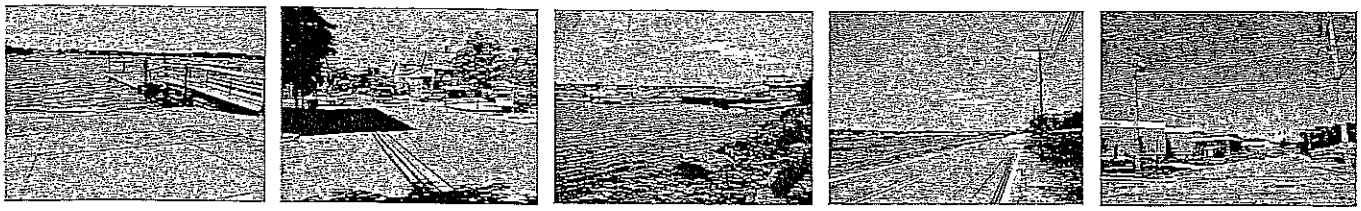
- Existing process for transport includes application for 'Oversized Load' through DMV for transport over RIDOT road/bridge, generally processed within 5 business days. Anything over 8' is considered 'supersize'.
- Bristol Police Chief suggested transport permit/checklist to take place with the Town. Route can be driven for test drive, and working with Highway Dept., potentially section off areas (the day of the transport) to facilitate ease through the streets (police can call in registrations of vehicles needing to be moved temporarily).
- The 2 routes identified by Mr. Brownell during transport observation to be carried forward as preferred north and south transport routes, with a third identified as the preferred business-to-business route.

Next Steps…

- Pare site visit to Annawamscutt/Mt. Hope ramp.
- Task 2 Route Identification 12.1.10 to 1.6.11
    - Development of route map with necessary improvements
    - Report
    - Conceptual Cost Estimates
    - Conceptual Plans

    Team deadline: 1.14.10 (submission to Town)
    Steering Committee Meeting No. 3: 1.28.10

- Task 3 Implementation 2.1.11 to 2.14.11
    - Memorandum letter detailing scope of work for design/construction budget.
        - Final Design
        - Revisions to Town Ordinances
        - Public Meetings/outreach necessary for ordinance revisions
        - Final Utility coordination
        - Funding opportunities
        - Town Council presentation 3.1.11



Bristol Marine Trades Route
Steering Committee Kickoff Meeting

Wednesday, November 30, 2010
Please Sign In!

Name	Business/Address	E-mail
[illegible]	PAWA CORPORATION	
[illegible]	Harbor Comm.	
A. TYSEA	BRISTOL MARINE	
N. KING	BRISTOL MARINE	
MARY HUTCHINSON	MAPPING AND PLANNING SERVICES	
John Sheulin	PAWA CORPORATION	
Diane Williamson	Bristol Town Hall	dianew@bristolri.us
JOSUE D. CANARIO	BRISTOL POLICE	Chief@bristolRI.US

Town of Bristol, Rhode Island

Department of Community Development

10 Court Street
Bristol, RI 02809
www.bristolri.us
401-253-7000

MARINE TRADES ROUTE

STEERING COMMITTEE

MEETING

Monday, January 31, 2011

At 5:00 p.m.

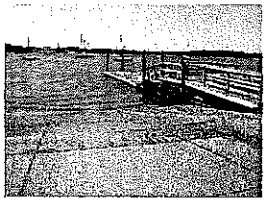
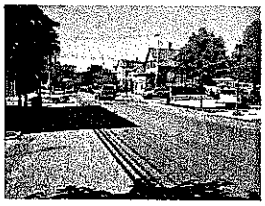
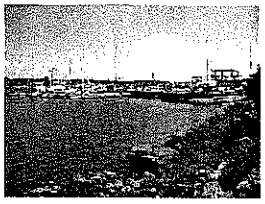
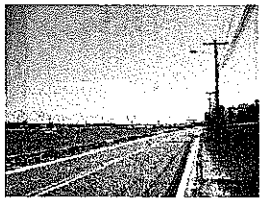
Town Hall Conference Room

10 Court Street, Bristol, RI

Agenda:

1. Presentation and Review of Draft Report and Mapping by Consultants
2. Next Steps
3. Next Meeting
4. Adjourn

Posted: January 26, 2011/dmw

Bristol Marine Trades Route
Steering Committee Meeting

Wednesday, January 31, 2011
Please Sign In!

Name	Business/Address	E-mail
John Shevlin	RARC	JSHEVLIN@RARECORP.COM
Tom Franco	26 Tower St.	
Edward Tanner	Town of Bristol	ETANNER@BRISTOLRI.US
Andrew Tyska	Bristol Marine	andy@bristolmarine.com
NICK KING	BRISTOL MARINE	NICK@BRISTOLMARINE.COM
Diane Williamson	Town of Bristol	dianew@bristolri.us
Josue D. Canario	Bristol Police Dept.	Chief@bristolri.us

PARE
CORPORATION

MEMORANDUM OF MEETING

DATE: February 1, 2011

TO: File

CC: Jennifer DiStefano, EIT, PARE
Diane Williamson, Director of Community Development Town of Bristol

FROM: John P. Shevlin, P.E.

RE: Steering Committee Meeting No. 3
PARE Project No. 10196.00

A meeting was held on January 31, 2011 at the Bristol Town Hall to present and review the 'Draft' Report of the Marine Inlands Transport Routes submitted on January 27, 2011. Present were the following:

Dominic Franco (DF)	Harbor Commission
Andrew Tyska (AT)	Bristol Marine
Nick King (NK)	Bristol Marine
Diane Williamson (DW)	Director of Community Development Town of Bristol
Edward Tanner (ET)	Principal Planner Town of Bristol
Chief Josue D. Canario (JD)	Bristol Police Chief
John Shevlin, P.E. (JS)	PARE

DW began the meeting explaining the status of the project and the purpose of this nights meeting. JS then gave a presentation of the three preferred route alternatives that were developed and discussed the improvements that would be needed along on each route along with the approximate opinion of probable costs for each route/alternative. Throughout the presentation feedback was provided by the attendees. A summary of the information provided/discussed follows below:

- PARE is going to check with RIDOT to see if the alignment alternative at Poppasquash Road entrance into Colt State Park can be incorporated into Colt State Park Bike Path Project being designed by PARE. **JS to coordinate with RIDOT.**
- JD stated that communication to handle the parking restrictions in the roadways during the moves is key and that this should be well defined in the report.
- *Large Boat North Route*- RIDOT is doing improvements to Route 114 (Hope Street). The improvements may have impacts to the use of the realtor property at the corner of Thames Street and Hope Street. Transports cut through parking due to maneuvering restrictions at the intersection. PARE has recommended replacement of island with stamped asphalt that would require the relocation of the monument and flagpole. This needs to be further investigated. **ET is to supply PARE with copy of Route 114 Plans at this location.**

- ET suggested widening of road without relocating pole and monument. Also suggested by AT to further coordinate with Tom Brownell to discuss his needs. Option 1 should be to widen Thames Street if feasible and Option 2 should be as presented currently in the report. **AT is having a boat transport this week. He will speak with Mr. Brownell.**
- *Large Boat South Route* – Two options for access into Colt State Park were presented. Concern with Alternative 2 as the exit is directly across from a home. NK suggested a gravel pave path with gates instead of Alternative 2 as presented. Suggested looking at a straighter alignment that would come out at an existing opening approximately 200 feet south of Alternative 2 opening. Wetlands should be investigated before finalizing this option. Culvert may be needed. **PARE will field verify the feasibility of this alternative.**
- A discussion took place regarding the need for local approvals from the Police Department for transport. JS stated this is covered in report.
- In the *Implementation Section*, write-up should include something in regards to the advantage of teaming road/signal improvements with other projects. ET mentioned the project that is to be performed for the rest of Route 114.
- NK suggested providing a list of improvements with dollars associated with each. **PARE will revise the costs section to better define costs for each task.**
- DW believes that with any redevelopment plan, NGRID is forced to do upgrades as necessary.
- **PARE will further coordinate the possibilities of the signal improvements being done under a RIDOT contract.**
- State roads versus Town roads should be identified in report.
- Signage should be identified/recommended labeling the transport route. Efforts needed to get signs installed with RIDOT and/or the State Traffic Commission should be identified in the report.
- **NK and AT is to provide PARE a list of all marine trade businesses. They are to mark-up Figure 2.1 and provide to PARE.**
- Page 1-8: Change 'Thames Street ramp' to 'Independence Park Ramp' for clarity.
- Page 2-2, Figure 2.1: Add all businesses. Check limits of routes on Franklin Street. Label Bayview Avenue.
- Page 2.4, 1st paragraph, 2nd sentence: Take out 'on private property'.
- Page 2.4, paragraph 3, 2nd sentence: Take out recommendation for widening travel lanes.
- Page 2-14, paragraph 3: The beacon should be studied to see if it is still necessary. **The Chief will contact the RIDOT to see if they could study it.**
- Page 2-14, last paragraph: Wires buried, should that option be taken out. Recommend raising wires. Burying too expensive.
- Page 2-21, 2nd bullet. Preferred South Route: Need description for Metacom Avenue/Roosevelt Drive/Highview Drive in text.
- Page 2-22, 1st bullet; Remove 1st bullet.
- Page 3-1, Final Design: Itemize items more in regards to what needs to be done as part of final design, i.e. Geometric improvements, signal studies, coordination with RIDOT, utilities, etc.
- Take out last sentence of this section.
- Funding opportunities: JS looking into Economic Development Grants, Federal/State funding through the TIP Process and US Fish and Wildlife opportunities.
- PARE to coordinate with Walter Burke, Bristol Parks and Recreation Director, regarding proposed improvements at Independence Park Ramp.
- Identify what improvements should have a priority.
- Identify in report that boat transport route is also an emergency evacuation route.

- Schedule going forward:
  - Steering Committee to provide any other additional comments to PARE on or before February 10, 2011.
  - PARE to provide Revised Report (text only in electronic format) to Steering Committee on or before February 24, 2011.
  - Reports for distribution to Town Council – March 15, 2011.
  - Town Council Meeting March 30, 2011.

T:\10196.00 Bristol Marine Trades Route - RI\Correspondence\Meetings\Steering Committee 1.31.11\Marine Memorandum of Meeting Steering Committee 1.31.11.doc

APPENDIX B: Survey Results Summary

SURVEY SUMMARY
(16 OF 18) RETURNED
17 OF 18 ... 2 FROM HERRESCHOFF MUS.

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010
Mail or fax completed questionnaire to:
Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company_____ Contact Name_____

Address_____

Type of Business_____

Email_____ Phone #_____

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES (10) NO (7)

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES (8) NO (9)

3. Do you currently or would you like to transport large products to the waterfront?

   YES (15) NO (2)

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES (17) NO (0)

5. Where would you access the waterfront?

   (11) Bristol Marine (8) Independence Park (5) State State Other PORTSMOUTH/NEWPORT (1) MUSEUM WATERFRONT (1) COLT STATE PARK (1)

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height (9) Width (6) Turning Radius (9)

7. What is the maximum height clearance of products you would transport over the road?

   25-20' (1) 20'-15' (8) 15'-10' (6)

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   (10) Overhead Wires (12) Trees (10) Traffic Signals Other UTILITY POLES, SIGNAGE, ROADWAY WIDTH

   a. Where are these restrictions? BAY VIEW, CHESTNUT, HOPE ST., WOOD ST.

9. What is the maximum width of products you would transport over the road?

   (0) 35'-30' (2) 30'-25' (2) 25'-20' (5) 20'-15' (7) 15'-10'

10. What are the width restrictions/obstacles you currently face in Bristol?

(6) Street Width (6) Parked Cars Other TREES, SIGN POSTS

a. Where are these restrictions? POPPASQUASH RD, INDEPENDENCE RAMP, HOPE ST. FRANKLIN COMMON PUBLIC AREA

11. What is the maximum length of products you would move over the road?

100' (3) 80' (1) 60' (6) 40' (3) Other 70' (1) 150' (1) 50' (1) 100'+ (1) 140' (1)

12. How much turning radius would you need?

80' (2) 60' (1) 40' (3) 20' (0) Other_____

a. Where are these restrictions? POPPASQUASH RD, COLT STATE PK, FRANKLIN, BYFIELD

13. How difficult is it to coordinate moving products over the road?

(0) Extremely (14) Moderately (3) Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 (4) $5,000 (7) $1,000 or less Other $2000 (1) 10K PLUS (1)

15. How many times a year do you need to move large products over the road?

(1) 50+ (2) 50-26 (3) 25-16 (1) 15-11 (2) 10-6 (5) 5-3 (3) 3 or less

a. In what month/season do you move the most products? SPRING/FALL (4) MAY/JUNE (2) APR (3) OCT/NOV (2)

16. Do you currently or would you consider moving your products during off hours?

(13) YES (4) NO

17. If roads were closed to traffic could you transport your products over the road?

(10) YES (2) NO NO DIFFERENCE (1)

18. If there was a parking ban in place could you transport your products over the road?

(13) YES (1) NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

(6) YES (10) NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

(9) YES (8) NO

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

(4) YES (10) NO NA (1)

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

(5) YES (9) NO

Additional comments on marine transport route:

- MOST RESTRICTIONS ARE HEIGHT RESTRICTIONS
- USE BRISTOL POLICE DETAIL FOR ESCORTING BOATS
- MORE BUSINESS POTENTIAL W/ EASIER ACCESS
- COULD MOVE LARGER BOATS, ROUTE DOES NOT PERMIT
- INDEPENDENCE RAMP = NEEDS BETTER ACCESS, WIDER/FURTHER OUT INTO WATER
- NO EFFECT ON CURRENT BUSINESS
- LARGEST MOVE = 44'×9'W×12'H FROM COVE HAVEN TO FRANKLIN ST., STANDARD TRUCK COULD DO THIS.
- HERRESHOFF MUSEUM TO INSTALL CRANE AND/OR MARINE RAILWAY TO ASSIST BUSINESSES/IND. W/ ACCESS TO WATERFRONT.
- SUPPORT BURN IN WIRES
- DEEPER TRAVEL LIFT/PIT WOULD HELP BUSINESS @ BRISTOL MARINE
- DESIGNATION ROUTE WOULD BE HELPFUL.
- BRISTOL DOES NOT HAVE FACILITY FOR LAUNCHING LARGER BOATS/YACHTS, HAD TO TRUCK 82' BUILD TO PORTSMOUTH FOR COMMISSIONING/LAUNCHING.

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company Bristol Marine Contact Name Andrew Tyska

Address 99 Poppasquash Road

Type of Business Boatyard

Email andy@bristolmarine.com Phone # 401-253-2897

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   (YES) NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   (YES) NO

3. Do you currently or would you like to transport large products to the waterfront?

   (YES) NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   (YES) NO

5. Where would you access the waterfront?

   (Bristol Marine) (Independence Park) State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   (Height) Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' (20'-15') 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   (Overhead Wires) (Trees) (Traffic Signals) Other_____

   a. Where are these restrictions? Hope / Chestnut ; 136

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' (15'-10')

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions? various.

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other ?

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-T6 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? Spring / Fall

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)? ?

20. Could you expand your business if you had better access to the waterfront?

YES NO

Bristol Maine

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company Parker Marine Contact Name David Parker

Address 281 Franklin St

Type of Business Marine sales and Services

Email Parkermarine@gmail Phone # 401.254.0733

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions? Height Restrictions

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions? Height Restrictions

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? All

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)? 42 X 16 X 16

20. Could you expand your business if you had better access to the waterfront?

YES NO

Parker Marine

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

most of our restrictions in transporting boats are height restrictions

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company BRISTOL MARINE MUSEUM/AMERICA'S CUP HALL OF FAME Contact Name JON GOFF

Address ONE BURNSIDE ST

Type of Business MUSEUM

Email _____ Phone # 401-253-5000

OK HERRESHOFF DESIGNS
C/O ROM LAUGERMAN
18 BURNSIDE ST, BRISTOL
SAME REQ.

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES (NO)

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES (NO)

3. Do you currently or would you like to transport large products to the waterfront?

   (YES) NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   (YES) NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other AT THE MUSEUM WATERFRONT

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other _____

   a. Where are these restrictions? FREQUENT

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

Hemenway Marie

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? ANYTIME

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

Herreshoff Marine

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

Harry C. Herreshoff
PRESIDENT
HERRESHOFF MARINE MUSEUM
18 OCTOBER 2010

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company EAST BAY BOAT WORKS Contact Name CARTER RICHARDSON

Address 257 FRANKLIN ST #8 BRISTOL RI 02809

Type of Business WOOD BOAT RESTORATIONS / REPAIRS

Email CARTER@EBBWS.COM Phone # 401 253-5535

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO Limited in the fact that it is more costly.

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

East Passage Boatwrights

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other BAT DOORS

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other 70'

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other $2000

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? FALL / SPRING

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO NOT YET

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

East Passage Boatwrights

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company BROWNELL SYSTEMS Contact Name TOM BROWNELL

Address 7 INDUSTRIAL DRIVE, P.O. BOX 61, MATTAPOISETT, MA. 02739

Type of Business BOAT TRANSPORTER, HAULING AND LAUNCHING

Email TOM@BROWNELLSYSTEMS.COM Phone # 508-758-3774

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions? ALL ROADS

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

Brownell

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width (Parked Cars) Other TREES AND SIGNPOSTS

a. Where are these restrictions? POPASQUASH ROAD AND INDEPEDENCE RAMP

11. What is the maximum length of products you would move over the road?

(100') 80' 60' 40' Other_____

12. How much turning radius would you need?

(80') 60' 40' 20' Other_____

a. Where are these restrictions? POPASQUASH ROAD AND COLT STATE PARK

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately (Not Difficult)

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other WE ARE THE HAULING CONTRACTOR

15. How many times a year do you need to move large products over the road?

(50+) 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? MAY, JUNE, OCTOBER, NOVEMBER

16. Do you currently or would you consider moving your products during off hours?

(YES) NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO NO DIFFERENCE

18. If there was a parking ban in place could you transport your products over the road?

YES NO IT COULD HELP

19. Have you ever turned away business because you were unable to transport to the waterfront?

(YES) NO

a. What were the dimensions (LxWxH)? 120' LONG, 26' WIDE, 17' HIGH

20. Could you expand your business if you had better access to the waterfront?

(YES) NO

Brownell

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO N/A

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO I WOULD CONSIDER IT IF IT MEANT INCREASED WORK

Additional comments on marine transport route:

TOWN OF BRISTOL IS GREAT TO WORK IN. WE USE THE LOCAL POLICE DETAILS FOR ESCORTING THE BOATS.

THERE IS A HUGE POTENTIAL FOR MORE BOAT RELATED JOBS IF AN EASIER AND BETTER ACCESS CAN BE BUILT.

WE HAVE THE ABILATY TO MOVE BOATS THAT ARE MUCH LARGER THAN THE PRESENT ROUTES ALLOW.

WE HAUL AND LAUNCH LARGE VESSELS INTO THE WATER ON RAMPS AND COULD DO MUCH MORE AT INDEPENDENCE RAMP IF IT HAD BETTER ACCESS, WAS WIDER AND WENT FURTHER OUT INTO THE WATER.

IF YOU WANT ME TO CONSULT ON RAMP IMPROVEMENTS I WOULD GLADLY DO THAT FOR NO CHARGE.

TOM BROWNELL
508-958-5943 - CELL

C+C Fiberglass

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company C+C Fiberglass Contact Name Cesar DaPonte

Address 75 Ballou Blvd

Type of Business Manufacturing

Email _____ Phone # 401-254-9342

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES (circled) NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO (circled)

3. Do you currently or would you like to transport large products to the waterfront?

   YES (circled) NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES (circled) NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park (circled) State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width (circled) Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10' (circled)

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' (circled) 20'-15' 15'-10'

C+C Fiberglass

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_ ____ ____ ____

a. Where are these restrictions? EVERYWhere ____ ____ ____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____ ____ ____

12. How much turning radius would you need?

80' 60' 40' 20' Other__ ____ ____

a. Where are these restrictions? ____ ____ ____ ____ ____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_ ____ ____ ____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products?____ ____ ____ ____

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_ ____ ____ ____ ____

20. Could you expand your business if you had better access to the waterfront?

YES NO

C+C Fiberglass

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES (NO)

22 Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES (NO)

Additional comments on marine transport route:

Not Really Effect with my Current Business.

ATTENTION: NICKIE
253-0007

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company Herreshoff Marine Museum Contact Name RICHARD FEENY

Address 1 BURNSIDE STREET

Type of Business MUSEUM

Email Education@Herreshoff.org Phone # 401-253-5000

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES (NO)

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES (NO)

3. Do you currently or would you like to transport large products to the waterfront?

   (YES) NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   (YES) NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other Our own Waterfront

6. What restriction(s) do you currently face in Bristol when transporting large products? N/A

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' (15'-10')

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' (15'-10')

Herreshoff Marine

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other ~50'

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-9 8 or less

a. In what month/season do you move the most products? ~~December~~ Fall & Spring

16. Do you currently or would you consider moving your products during off hours?

YES NO

17 If roads were closed to traffic could you transport your products over the road? N/A

YES NO

18. If there was a parking ban in place could you transport your products over the road? N/A

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES (NO)

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES (NO)

Additional comments on marine transport route:

We support the idea. Currently this is not an issue for us because
(1) We have our own waterfront
(2) We are not transporting large boats or parts. 44'x 9'w x ~12'h is our largest annual movement, from Cove Haven to Franklin Street, and a standard truck moves this boat mid-day.

In the future we might install a crane or/and Marine railway and try to assist business and individuals needing access to the waterfront.
We do support burying wires.

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 89 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company Hall Inc Contact Name Nan Hall

Address 33 Broadcommon Rd Bristol

Type of Business Spars + Rigging Manufacturing; Marine Products Distribution

Email n.hall@hallspars.com Phone # 401 253 4850 841533

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES (NO)

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES (NO)

3. Do you currently or would you like to transport large products to the waterfront?

   (YES) NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   (YES) NO

5. Where would you access the waterfront?

   (Bristol Marine) (Independence Park) State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width (Turning Radius)

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' (15'-10')

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires (Trees) Traffic Signals Other TELEPHONE POLES, SIGNS

   a. Where are these restrictions? AT MOST INTERSECTIONS

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' (15'-10')

10. What are the width restrictions/obstacles you currently face in Bristol? N/A

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' + 80' 60' 40' Other 140 FT.

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions? MOST MAJOR INTERSECTIONS

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? MARCH – NOVEMBER

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

Hall Inc

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO NOT AT THIS TIME

Additional comments on marine transport route:

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company Guck Inc Contact Name Victoria

Address 255 Franklin Street Bristol, RI 02809

Type of Business Boat Maintenance + Repair

Email Victoria@guckinc.com Phone # 401-254-5090

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would ~~you access the~~ waterfront?

   Bristol Marine Independence Park State Street Other_____

6. What restriction(s) do ~~you currently face~~ in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions? WOOD ST.

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

GUCK

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions? Franklin common Pub area

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40 20' Other_____

a. Where are these restrictions? End of Franklin + Byfield

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? Fall / Spring

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company YACHT MANAGEMENT SVS Contact Name MICHAEL MULLANEY

Address 47 GOODING AVE BRISTOL RI

Type of Business YACHT REPAIR - RESTORATION + REFIT - STORAGE

Email MIKE@YMSAIL.COM Phone # 401-254-8881

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other Coll State Park

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

Yacht Mgmt DVS

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? Oct Nov May June

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

Yacht Mgt

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

A deeper travellift pit at Bristol Marine would be a big help to my business at Yacht Management Services

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company International Marine Contact Name George Borges

Address 47 Gooding Ave, Bristol RI 02809

Type of Business Boat building + Repairs

Email imrjorge@hotmail.com Phone # 401-254-4322

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other Government Wharf

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   ~~25'-20'~~ 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other width of streets when turning

   a. Where are these restrictions? _____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

international maine

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' [illegible] 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other 2,000 +

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? Spring / Fall

16. Do you currently or would you consider moving your products during off hours?

YES if night NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)? L-55' x W-16', H-17'

20. Could you expand your business if you had better access to the waterfront?

YES NO

International Marine

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

If there was a route in place in which the transport of bigger boats was allowable, I think this would help out buisnesses significantly

Composite

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company Composite Energy Technologies Contact Name Eric Gretz

Address 115 Broad Common Rd, Bristol 02809

Type of Business _____

Email Eric@Composite Energy Technologies.com Phone # 401 253 2670

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other _____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other Signs

   a. Where are these restrictions? _____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

Composit

[illegible] you currently face in Bristol?

Street Width Parked Cars Other SIGNS

a. Where are these restrictions? _____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other 150'

12. How much turning radius would you need?

80' 60' 40' 20' Other _____

a. Where are these restrictions? _____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other 10K PLUS

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? VARIOUS

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)? _____

20. Could you expand your business if you had better access to the waterfront?

YES NO

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO CANNOT AT THIS POINT

Additional comments on marine transport route:

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010
Mail or fax completed questionnaire to:
Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company CARBON OCEAN YACHTS Contact Name BRIT COLOMBO

Address 97 BROADCOMMON ROAD

Type of Business COMPOSITES BUILDER

Email BRIT@CARBONOCEANYACHTS.COM Phone # 401.694.0808

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES (NO)

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES (NO)

3. Do you currently or would you like to transport large products to the waterfront?

   (YES) NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   (YES) NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street (Other) PORTSMOUTH + NEWPORT

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius None

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' (15'-10')

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____ NONE

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' (25'-20') 20'-15' 15'-10'

Carbon Ocean Yachts

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____ NONE

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 + $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products?_____ Apr

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

Carbon Ocean Yachts

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

THE BRISTOL WATERFRONT DOES NOT HAVE AN AVAILABLE WATERFRONT FACILITY CAPABLE OF LAUNCHING OUR SIZE OF YACHTS. WE WILL TRUCK OUR CURRENT 82' BUILD TO PORTSMOUTH FOR COMMISSIONING & LAUNCHING.

Shannon/Schultz

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company Shannon/Schultz Boat Contact Name Bill Ramos

Address 19 Broad Common Road Bristol RI

Type of Business Boat building / restoration

Email bill@shannonyachts.com Phone # 401-253-2441

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   (YES) NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES (NO) → not yet

3. Do you currently or would you like to transport large products to the waterfront?

   (YES) NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   (YES) NO

5. Where would you access the waterfront?

   Bristol Marine X Independence Park X State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height X Width X Turning Radius X

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' X 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   ALL Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions? Hope St.

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' (20'-15') 15'-10'

Shannon/Schultz

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions? Hope St.

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? April to Dec.

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company GMT Contact Name David Schwartz

Address 48 Ballou

Type of Business Composite Structures Mfg

Email david@gmtcomposites.com Phone # 253 8820

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES (NO)

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES (NO)

3. Do you currently or would you like to transport large products to the waterfront?

   (YES) NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   (YES) NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other_____

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width (Turning Radius)

7. What is the maximum height clearance of products you would transport over the road? N/A

   25-20' 20'-15' ~~15'-10'~~

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road? N/A

   35'-30' 30'-25' 25'-20' 20'-15' 15'-10'

GMT

10. What are the width restrictions/obstacles you currently face in Bristol? N A

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' + 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions? Trees / Signs @ corners

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you? Per Local Moves

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products?_____

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road? N/A

YES NO

18. If there was a parking ban in place could you transport your products over the road? N A

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company mouldCAM Inc Contact Name John Barnitt

Address 259 Franklin ST

Type of Business Composite Tooling & Patterns

Email john.barnitt@gmail.com Phone # 401 396 5522

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES (NO)

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES (NO)

3. Do you currently or would you like to transport large products to the waterfront?

   YES (NO)

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol? possibly

   (YES) NO

5. Where would you access the waterfront?

   (Bristol Marine) Independence Park State Street Other neb portsmouth Broad common RO.

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' (15'-10')

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products? NA

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-15' (15'-10')

mouldcam, inc.

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other_____

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? Any time

16. Do you currently or would you consider moving your products during off hours?

YES NO yes if I had to

17. If roads were closed to traffic could you transport your products over the road?

YES NO would not help

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)?_____

20. Could you expand your business if you had better access to the waterfront?

YES NO

Mauldoom, inc

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

MARINE TRADES TRANSPORT ROUTE QUESTIONNAIRE

Please complete by 10/8/2010

Mail or fax completed questionnaire to:

Bristol Marine, 99 Poppasquash Road, Bristol, Rhode Island 02809. Fax (401) 253-0007.

Company Itchiban Yacht Painters Contact Name Andy Alcido, Buck Frost

Address 60 Ballow blvd

Type of Business yacht, mast, marine painting

Email itchibanyacht@verizon.net Phone # 401 253 4420

PLEASE CIRCLE ALL ANSWERS THAT APPLY AND/OR FILL IN THE BLANK

1. Is your business limited by what you can transport over the road within Bristol?

   YES NO

2. Have you lost business because of difficultly accessing the waterfront in Bristol?

   YES NO

3. Do you currently or would you like to transport large products to the waterfront?

   YES NO

4. Do you currently or would you like to transport large products to and from other marine businesses in Bristol?

   YES NO

5. Where would you access the waterfront?

   Bristol Marine Independence Park State Street Other all

6. What restriction(s) do you currently face in Bristol when transporting large products?

   Height Width Turning Radius

7. What is the maximum height clearance of products you would transport over the road?

   25-20' 20'-15' 15'-10'

8. What are the height restrictions/obstacles you currently face in Bristol when transporting large products?

   Overhead Wires Trees Traffic Signals Other_____

   a. Where are these restrictions?_____

9. What is the maximum width of products you would transport over the road?

   35'-30' 30'-25' 25'-20' 20'-16' 15'-10'

Itchiban Yacht Painter

10. What are the width restrictions/obstacles you currently face in Bristol?

Street Width Parked Cars Other_____

a. Where are these restrictions?_____

11. What is the maximum length of products you would move over the road?

100' 80' 60' 40' Other_____

12. How much turning radius would you need?

80' 60' 40' 20' Other not sure

a. Where are these restrictions?_____

13. How difficult is it to coordinate moving products over the road?

Extremely Moderately Not Difficult

14. On average how much does a one way move of large product over the road cost you?

$10,000 $5,000 $1,000 or less Other_____

15. How many times a year do you need to move large products over the road?

50+ 50-26 25-16 15-11 10-6 5-3 3 or less

a. In what month/season do you move the most products? all year

16. Do you currently or would you consider moving your products during off hours?

YES NO

17. If roads were closed to traffic could you transport your products over the road?

YES NO

18. If there was a parking ban in place could you transport your products over the road?

YES NO

19. Have you ever turned away business because you were unable to transport to the waterfront?

YES NO

a. What were the dimensions (LxWxH)? large boats

20. Could you expand your business if you had better access to the waterfront?

YES NO

Itchiban Yacht Painters

21. Have you ever considered moving your business out of Bristol to have better access to the waterfront?

YES NO

22. Would you be willing to contribute money to a town fund to help to construct a marine transport route?

YES NO

Additional comments on marine transport route:

Bristol Marine
Established 1998
(401) 253-2200 Tel. • (401) 253-0007 Fax
99 Poppasquash Road • Bristol, Rhode Island 02809 • email: info@bristolmarine.com

Fax

To: Diane Williamson
From: Bristol Marine
Fax: 253-5490
Pages: 4
Phone:
Date: Oct 28th 2010
Re:
cc:

Comments:

recieved this questionare this morning.

thanks
Nicki Tyska

APPENDIX C: RIDOT Traffic Volumes

BRISTOL, FRANKLIN ST
BTW METACOM & HOPE

Average Hourly Traffic (AHT) By Hour Of Day, Day Of Week, And Month

Wednesday, October 20, 2010

For 2008 - AADT 1800 0200350000

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AHT
12-1 AM	*	*	*	17 *	14 *	19 *	*	16
1-2	*	*	*	11 *	10 *	10 *	*	10
2-3	*	*	*	3 *	2 *	7 *	*	4
3-4	*	*	*	3 *	5 *	7 *	*	5
4-5	*	*	*	6 *	11 *	7 *	*	8
5-6	*	*	*	22 *	20 *	23 *	*	21
6-7	*	*	*	85 *	78 *	83 *	*	82
7-8	*	*	*	113 *	97 *	103 *	*	104
8-9	*	*	*	110 *	112 *	120 *	*	114
9-10	*	*	*	127 *	115 *	128 *	*	123
10-11	*	*	*	100 *	143 *	150 *	*	131
11-12	*	*	120 *	144 *	154 *	*	*	139
12-1 PM	*	*	156 *	163 *	191 *	*	*	170
1-2	*	*	142 *	142 *	127 *	*	*	137
2-3	*	*	109 *	145 *	154 *	*	*	136
3-4	*	*	138 *	176 *	174 *	*	*	162
4-5	*	*	172 *	156 *	164 *	*	*	164
5-6	*	*	138 *	129 *	134 *	*	*	133
6-7	*	*	113 *	99 *	127 *	*	*	113
7-8	*	*	81 *	96 *	97 *	*	*	91
8-9	*	*	88 *	91 *	77 *	*	*	85
9-10	*	*	78 *	64 *	66 *	*	*	69
10-11	*	*	39 *	42 *	50 *	*	*	43
11-12	*	*	25 *	17 *	26 *	*	*	22
ADT	*	*	1,399 *	2,061 *	2,148 *	657 *	*	2,082

BRISTOL, STHW 114 HOPE ST
BTW WASHINGTON & GOODING

Average Hourly Traffic (AHT) By Hour Of Day, Day Of Week, And Month

Wednesday, October 20, 2010

For 2008 - AADT 17500 0200391140

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AHT
12-1 AM	*	*	*	150 *	149 *	101 *	*	133
1-2	*	*	*	84 *	89 *	76 *	*	83
2-3	*	*	*	27 *	40 *	30 *	*	32
3-4	*	*	*	43 *	31 *	45 *	*	39
4-5	*	*	*	65 *	72 *	81 *	*	72
5-6	*	*	*	248 *	233 *	306 *	*	262
6-7	*	*	*	696 *	734 *	389 *	*	606
7-8	*	*	*	1,165 *	1,175 *	684 *	*	1,008
8-9	*	*	*	1,235 *	1,237 *	959 *	*	1,143
9-10	*	*	*	1,207 *	1,233 *	1,037 *	*	1,159
10-11	*	*	1,165 *	1,183 *	1,167 *	971 *	*	1,121
11-12	*	*	1,262 *	1,314 *	1,243 *	*	*	1,273
12-1 PM	*	*	1,368 *	1,350 *	1,360 *	*	*	1,359
1-2	*	*	1,301 *	1,334 *	1,230 *	*	*	1,288
2-3	*	*	1,404 *	1,394 *	1,316 *	*	*	1,371
3-4	*	*	1,479 *	1,601 *	1,463 *	*	*	1,514
4-5	*	*	1,566 *	1,566 *	1,563 *	*	*	1,565
5-6	*	*	1,497 *	1,575 *	1,552 *	*	*	1,541
6-7	*	*	1,181 *	1,294 *	1,278 *	*	*	1,251
7-8	*	*	1,091 *	1,146 *	1,114 *	*	*	1,117
8-9	*	*	975 *	1,077 *	1,317 *	*	*	1,123
9-10	*	*	642 *	786 *	845 *	*	*	757
10-11	*	*	409 *	477 *	532 *	*	*	472
11-12	*	*	208 *	239 *	272 *	*	*	239
ADT	*	*	15,548 *	21,256 *	21,245 *	4,679 *	*	20,528

BRISTOL, RT 136 METACOM AVE
200' S OF CHESTNUT ST

Average Hourly Traffic (AHT) By Hour Of Day, Day Of Week, And Month

Wednesday, October 20, 2010

For 2008 - AADT 19400 0200611360

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AHT
12-1 AM	*	*	165 *	166 *	159 *	*	*	163
1-2	*	*	84 *	103 *	91 *	*	*	92
2-3	*	*	51 *	66 *	72 *	*	*	63
3-4	*	*	61 *	63 *	62 *	*	*	62
4-5	*	*	139 *	133 *	160 *	*	*	144
5-6	*	*	396 *	411 *	404 *	*	*	403
6-7	*	*	1,022 *	1,004 *	1,027 *	*	*	1,017
7-8	*	*	1,414 *	1,418 *	1,372 *	*	*	1,401
8-9	*	*	1,402 *	1,374 *	1,387 *	*	*	1,387
9-10	*	*	1,272 *	1,229 *	1,329 *	*	*	1,276
10-11	*	*	1,270 *	1,287 *	*	*	*	1,278
11-12	*	1,313 *	1,369 *	1,336 *	*	*	*	1,339
12-1 PM	*	1,574 *	1,544 *	1,543 *	*	*	*	1,553
1-2	*	1,360 *	1,314 *	1,274 *	*	*	*	1,316
2-3	*	1,470 *	1,492 *	1,429 *	*	*	*	1,463
3-4	*	1,658 *	1,614 *	1,666 *	*	*	*	1,646
4-5	*	1,682 *	1,679 *	1,685 *	*	*	*	1,682
5-6	*	1,574 *	1,558 *	1,657 *	*	*	*	1,596
6-7	*	1,335 *	1,329 *	1,328 *	*	*	*	1,330
7-8	*	1,008 *	1,118 *	1,061 *	*	*	*	1,062
8-9	*	855 *	1,016 *	962 *	*	*	*	944
9-10	*	685 *	767 *	772 *	*	*	*	741
10-11	*	470 *	460 *	513 *	*	*	*	481
11-12	*	327 *	329 *	354 *	*	*	*	336
ADT	*	15,311 *	22,865 *	22,834 *	6,063 *	*	*	22,775

BRISTOL, ASYLUM RD
WEST OF HOPE

Average Hourly Traffic (AHT) By Hour Of Day, Day Of Week, And Month

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AHT
12-1 AM	*	*	4 *	5 *	*	*	*	4
1-2	*	*	*	2 *	1 *	*	*	1
2-3	*	*	1 *	2 *	2 *	*	*	1
3-4	*	*	*	*	1 *	*	*	1
4-5	*	*	6 *	6 *	6 *	*	*	6
5-6	*	*	20 *	18 *	31 *	*	*	23
6-7	*	*	61 *	68 *	75 *	*	*	68
7-8	*	*	119 *	119 *	109 *	*	*	115
8-9	*	*	134 *	128 *	133 *	*	*	131
9-10	*	*	154 *	136 *	137 *	*	*	142
10-11	*	*	190 *	170 *	*	*	*	180
11-12	*	*	196 *	202 *	*	*	*	199
12-1 PM	*	*	241 *	260 *	*	*	*	250
1-2	*	*	239 *	281 *	*	*	*	260
2-3	*	299 *	202 *	267 *	*	*	*	256
3-4	*	239 *	214 *	299 *	*	*	*	250
4-5	*	224 *	173 *	287 *	*	*	*	228
5-6	*	261 *	247 *	344 *	*	*	*	284
6-7	*	268 *	262 *	328 *	*	*	*	286
7-8	*	227 *	254 *	316 *	*	*	*	265
8-9	*	78 *	66 *	90 *	*	*	*	78
9-10	*	46 *	28 *	93 *	*	*	*	55
10-11	*	24 *	10 *	34 *	*	*	*	22
11-12	*	13 *	9 *	11 *	*	*	*	11
ADT	*	1,679 *	2,830 *	3,466 *	495 *	*	*	3,116

Wednesday, October 20, 2010

2007 - AADT 3100 0200270020

BRISTOL, POPPASQUASH RD
100' W OF HARBOR VIEW DR

Average Hourly Traffic (AHT) By Hour Of Day, Day Of Week, And Month

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	AHT
12-1 AM	*	*	*	48 *	41 *	47 *	*	45
1-2	*	*	*	16 *	19 *	23 *	*	19
2-3	*	*	*	4 *	4 *	17 *	*	8
3-4	*	*	*	7 *	11 *	9 *	*	9
4-5	*	*	*	26 *	23 *	26 *	*	25
5-6	*	*	*	53 *	57 *	39 *	*	49
6-7	*	*	*	143 *	124 *	142 *	*	136
7-8	*	*	*	243 *	253 *	238 *	*	244
8-9	*	*	*	210 *	229 *	226 *	*	221
9-10	*	*	*	191 *	196 *	190 *	*	192
10-11	*	*	*	160 *	189 *	183 *	*	177
11-12	*	*	*	188 *	181 *	*	*	184
12-1 PM	*	*	*	214 *	246 *	*	*	230
1-2	*	*	*	206 *	216 *	*	*	211
2-3	*	*	230 *	200 *	230 *	*	*	220
3-4	*	*	258 *	276 *	285 *	*	*	273
4-5	*	*	326 *	348 *	342 *	*	*	338
5-6	*	*	303 *	317 *	311 *	*	*	310
6-7	*	*	257 *	278 *	288 *	*	*	274
7-8	*	*	235 *	268 *	297 *	*	*	266
8-9	*	*	193 *	200 *	202 *	*	*	198
9-10	*	*	126 *	131 *	166 *	*	*	141
10-11	*	*	80 *	95 *	122 *	*	*	99
11-12	*	*	71 *	78 *	55 *	*	*	68
ADT	*	*	2,079 *	3,900 *	4,087 *	1,140 *	*	3,937

Wednesday, October 20, 2010

2007 - AADT 3900 0200580000

APPENDIX D: Cost Estimate

Overall Implementation Cost
Bristol Marine Trades
PARE Project No. 10196.00

3/21/2011

Improvement	North Route	South Route: Realignment Alternative 1	South Route: Realignment Alternative 2	Business to Business Route	Compilation of Improvements: Realignment Alternative 1	Compilation of Improvements: Realignment Alternative 2
Tree Trimming/Removal						
Project Wide TOTAL	$ 5,120.00	$ 5,120.00	$ 5,120.00	$ 5,120.00	$ 5,120.00	$ 5,120.00
Utility Improvements						
Hope Street - Service Connections	$ 50,000.00			$ 50,000.00	$ 50,000.00	$ 50,000.00
Poppasquash Rd (NECO/Verizon Pole No. 44)	$ -	$ 80,000.00	$ 80,000.00	$ -	$ 80,000.00	$ 80,000.00
Poppasquash Rd (NECO/Verizon Pole No. 46)	$ -	$ 30,000.00	$ 30,000.00	$ -	$ 30,000.00	$ 30,000.00
Poppasquash Road (NECO/Verizon Pole No. 29)	$ -	$ 30,000.00	$ -	$ -	$ 30,000.00	$ 30,000.00
Poppasquash Road (House No. 55)	$ -	$ 5,000.00	$ -	$ -	$ 5,000.00	$ 5,000.00
Poppasquash Rd at Colt State Park Ent	$ -	$ 40,000.00	$ 40,000.00	$ -	$ 40,000.00	$ 40,000.00
Chestnut Street at Metacom Avenue	$ -	$ 200,000.00	$ 200,000.00	$ -	$ 200,000.00	$ 200,000.00
Metacom Avenue at Academy Avenue	$ -	$ 80,000.00	$ 80,000.00	$ -	$ 80,000.00	$ 80,000.00
Metacom Avenue at Hopeworth Avenue	$ -	$ 80,000.00	$ 80,000.00	$ -	$ 80,000.00	$ 80,000.00
Metacom Avenue at Bayview Avenue	$ -	$ 80,000.00	$ 80,000.00	$ -	$ 80,000.00	$ 80,000.00
Chestnut Street - Service Connections	$ -	$ 30,000.00	$ 30,000.00	$ -	$ 30,000.00	$ 30,000.00
Franklin Street at Buttonwood Street	$ -	$ -	$ -	$ 100,000.00	$ 100,000.00	$ 100,000.00
Bayview Avenue at High Street	$ -	$ -	$ -	$ 120,000.00	$ 120,000.00	$ 120,000.00
Buttonwoods Street - Service Connections	$ -	$ -	$ -	$ 10,000.00	$ 10,000.00	$ 10,000.00
Bayview Avenue - Service Connections	$ -	$ -	$ -	$ 80,000.00	$ 80,000.00	$ 80,000.00
TOTAL	$ 50,000.00	$ 655,000.00	$ 620,000.00	$ 360,000.00	$ 1,015,000.00	$ 1,015,000.00
Signal Improvements						
Hope Street at Chestnut Street	$ 44,215.00	$ 44,215.00	$ 44,215.00	$ 44,215.00	$ 44,215.00	$ 44,215.00
Hope Street at Gooding Avenue	$ 21,700.00	$ -	$ -	$ 21,700.00	$ 21,700.00	$ 21,700.00
Hope Street at Asylum Road	$ 26,410.00	$ -	$ -	$ 26,410.00	$ 26,410.00	$ 26,410.00
Chestnut Street at Metacom Avenue	$ -	$ 51,757.00	$ 51,757.00	$ -	$ 51,757.00	$ 51,757.00
Metacom Avenue at Annawamscutt Drive	$ -	$ 51,050.00	$ 51,050.00	$ -	$ 51,050.00	$ 51,050.00
Metacom Avenue at Roosevelt Drive/ Highview Drive	$ -	$ 25,600.00	$ 25,600.00	$ -	$ 25,600.00	$ 25,600.00
Metacom Avenue at Bayview Avenue	$ -	$ 34,943.00	$ 34,943.00	$ -	$ 34,943.00	$ 34,943.00
Chestnut Street at Sherry Avenue	$ -	$ 2,500.00	$ 2,500.00	$ -	$ 2,500.00	$ 2,500.00
TOTAL	$ 92,325.00	$ 210,065.00	$ 210,065.00	$ 92,325.00	$ 258,175.00	$ 258,175.00
Roadway Improvements - Pavement and Curbing						
Hope Street at Gooding Avenue	$ 21,147.00	$ -	$ -	$ 21,147.00	$ 21,147.00	$ 21,147.00
Ballou Boulevard	$ 12,088.00	$ -	$ -	$ 12,088.00	$ 12,088.00	$ 12,088.00
Poppasquash Road	$ -	$ 53,102.00	$ 53,102.00	$ -	$ 53,102.00	$ 53,102.00
TOTAL	$ 33,235.00	$ 53,102.00	$ 53,102.00	$ 33,235.00	$ 86,337.00	$ 86,337.00
Signage						
Chestnut Street TOTAL	$ -	$ 1,320.00	$ 1,320.00	$ -	$ 1,320.00	$ 1,320.00

Overall Implementation Cost
Bristol Marine Trades
PARE Project No. 10196.00

3/21/2011

Improvement	North Route	South Route: Realignment Alternative 1	South Route: Realignment Alternative 2	Business to Business Route	Compilation of Improvements: Realignment Alternative 1	Compilation of Improvements: Realignment Alternative 2
Roadway Improvements - Widen Thames St at Hope Street						
Hope Street at Thames Street TOTAL	$ 14,403.00	$ -	$ -	$ -	$ 14,403.00	$ 14,403.00
Roadway Improvements - Realignment						
Treepass Green Road TOTAL	$ -	$ 235,791.00	$ 165,291.00	$ -	$ 235,791.00	$ 165,291.00
Revised Striping						
Hope Street at Chestnut Street	$ 156.00	$ 156.00	$ 156.00	$ 156.00	$ 156.00	$ 156.00
Hope Street at Gooding Avenue	$ 398.00	$ -	$ -	$ 398.00	$ 398.00	$ 398.00
Chestnut Street at Metacom Avenue	$ -	$ 168.00	$ 168.00	$ -	$ 168.00	$ 168.00
Metacom Avenue at Annawamscutt Drive	$ -	$ 108.00	$ 108.00	$ -	$ 108.00	$ 108.00
Metacom Avenue at Roosevelt Drive/	$ -	$ 96.00	$ 96.00	$ -	$ 96.00	$ 96.00
Metacom Avenue at Bayview Avenue	$ -	$ 228.00	$ 228.00	$ -	$ 228.00	$ 228.00
TOTAL	$ 554.00	$ 756.00	$ 756.00	$ 554.00	$ 1,154.00	$ 1,154.00
ROUTE SUBTOTAL	$ 195,637.00	$ 1,161,154.00	$ 1,055,654.00	$ 491,234.00		
20% E&C	$ 39,128.00	$ 232,231.00	$ 211,131.00	$ 98,247.00		
ROUTE TOTAL	$ 234,765.00	$ 1,393,385.00	$ 1,266,785.00	$ 589,481.00		
				PROJECT SUBTOTAL	$ 1,617,300.00	$ 1,546,800.00
				20% E&C	$ 323,460.00	$ 309,360.00
				PROJECT TOTAL	$ 1,940,760.00	$ 1,856,160.00

201.0401	**Remove and Dispose Granite Curb**	LF	$ 4.20		
	Hope Street at Thames Street			115	$ 483.00
201.0610	**Remove and Dispose Directional, Regulatory, Warning, and Street Signs**	EA	$ 30.00		
	Hope Street at Thames Street			3	$ 90.00
201.0619	**Remove and Salvage Traffic Control System**	EA	$ 2,500.00		
	Hope Street at Chestnut Street			1	$ 2,500.00
	Hope Street at Gooding Avenue			1	$ 2,500.00
	Hope Street at Asylum Road			1	$ 2,500.00
201.9901	**Remove and Dispose Chatter Strip**	SY	$ 20.00		
	Hope Street at Gooding Avenue			270	$ 5,400.00
201.9904	**Remove and Relocate Flag Pole and Memorial**	EA	$ 5,000.00		
	Hope Street at Thames Street			1	$ 5,000.00
201.9905	**Remove and Relocate Brick Pavers**	SY	$ 40.00		
	Hope Street at Thames Street			75	$ 3,000.00
202.0100	**Earth Excavation**	CY	$ 5.00		
	Hope Street at Thames Street - Center island relocation			34	$ 170.00
401.0100	**Bituminous Base Course**	TON	$ 80.00		
	Hope Street at Thames Street			22	$ 1,760.00
	Hope Street at Gooding Avenue			77	$ 6,160.00
401.0200	**Bituminous Surface Course Type I-1**	TON	$ 80.00		
	Hope Street at Thames Street			9	$ 720.00
	Hope Street at Gooding Avenue			31	$ 2,480.00
	Ballou Boulevard			110	$ 8,800.00
403.0300	**Asphalt Emulsion Tack Coat**	SY	$ 0.20		
	Hope Street at Thames Street			150	$ 30.00
	Hope Street at Gooding Avenue			534	$ 107.00
	Ballou Boulevard			940	$ 188.00
905.9901	**Furnish and Install Stamped Asphalt**	SY	$ 40.00		
	Hope Street at Thames Street			75	$ 3,000.00
	Hope Street at Gooding Avenue			150	$ 6,000.00
932.0100	**Cutting and Matching Asphalt**	LF	$ 2.00		
	Hope Street at Gooding Avenue			500	$ 1,000.00
	Ballou Boulevard			140	$ 280.00
935.0500	**Removing Bituminous Surface - Cold Planing**	SY	$ 3.00		
	Ballou Boulevard			940	$ 2,820.00
L08.0109	**Tree Trimming**	MHRS	$ 80.00		
	Along Entire North Route - Assume 2 people, 4 days at 8 hours/day			64	$ 5,120.00

T03.9901	**New Utility Service Pole and Connections**	EA	$ 5,000.00		
	Hope Street			10	$ 50,000.00
T04.5305	**14 AWG 5 Conductor Cable**	LF	$ 1.00		
	Hope Street at Chestnut Street			150	$ 150.00
	Hope Street at Gooding Avenue			700	$ 700.00
	Hope Street at Asylum Road			1110	$ 1,110.00
T04.5309	**14 AWG 9 Conductor Cable**	LF	$ 2.00		
	Hope Street at Chestnut Street			270	$ 540.00
T04.5312	**14 AWG 12 Conductor Cable**	LF	$ 3.00		
	Hope Street at Chestnut Street			450	$ 1,350.00
T11.1257	**Dual Mast Arm (20x30) Gal Steel Traffic Signal Post and Foundation Std 19.2.0**	EA	$ 12,000.00		
	Hope Street at Gooding Avenue			1	$ 12,000.00
T11.6005	**Tether Wire 5/16**	LF	$ 4.50		
	Hope Street at Chestnut Street			100	$ 450.00
T11.6006	**Span and Messenger Wires 6/16**	LF	$ 2.25		
	Hope Street at Chestnut Street			100	$ 225.00
T11.9901	**Ornamental Traffic Signal Standard and Foundation Std. 19.3.0**	EA	$ 16,000.00		
	Hope Street at Chestnut Street			2	$ 32,000.00
T11.9902	**Ornamental Dual Mast Arm (20x30) Gal Steel Traffic Signal Post and Foundation Std 19.2.0**	EA	$ 15,000.00		
	Hope Street at Asylum Road			1	$ 15,000.00
T14.3401	**F&I Section Dual Row Dual Ind. LED Arrow 12" to Existing Signal Head**	EA	$ 800.00		
	Hope Street at Chestnut Street			1	$ 800.00
T14.3413	**1-Way 3-Section Span Mounted Signal Head**	EA	$ 1,100.00		
	Hope Street at Chestnut Street			1	$ 1,100.00
T14.3423	**2-Way 3-Section Span Mounted Signal Head**	EA	$ 2,100.00		
	Hope Street at Chestnut Street			1	$ 2,100.00
T14.3431	**3-Way 3-Section Span Mounted Signal Head**	EA	$ 3,000.00		
	Hope Street at Chestnut Street			1	$ 3,000.00
T14.3513	**1-Way 3-Section Mast Arm Mounted Signal Head**	EA	$ 1,300.00		
	Hope Street at Gooding Avenue			5	$ 6,500.00
	Hope Street at Asylum Road			6	$ 7,800.00
T20.2006	**6-Inch Epoxy Resin Pavement Marking White**	LF	$ 0.35		
	Hope Street at Thames Street			100	$ 35.00
T20.2012	**12-Inch Epoxy Resin Pavement Marking White**	LF	$ 2.00		

	Hope Street at Chestnut Street			65	$	130.00
	Hope Street at Gooding Avenue			55	$	110.00
T20.2016	**6-Inch Epoxy Resin Pavement Marking Yellow**	**LF**	$ 0.35			
	Hope Street at Thames Street			100	$	35.00
	Hope Street at Gooding Avenue			250	$	88.00
T20.1000	**Remove Existing Pavement Markings**	**LF**	$ 0.40			
	Hope Street at Thames Street			200	$	80.00
	Hope Street at Chestnut Street			65	$	26.00
	Hope Street at Gooding Avenue			500	$	200.00

SUBTOTAL	$	195,637.00
20% E&C	$	39,127.40
TOTAL	**$**	**234,800.00**

Preferred South Route
Bristol Marine Trades
Pare Project No. 10196.00

3/21/2011

		UM	Unit Price	Quantity	Total Alt. 1	Total Alt 2
201.0301	**Cutting and Disposing Isolated Trees and Stumps(4"-24")**	EA	$ 400.00			
	Poppasquash Road - Alternative 1			20	$ 8,000.00	
	Poppasquash Road - Alternative 2			5		$ 2,000.00
202.0302	**Cutting and Disposing Isolated Trees and Stumps (24" or plus)**		$ 940.00			
	Poppasquash Road - Alternative 1			15	$ 14,100.00	
	Poppasquash Road - Alternative 2			10		$ 9,400.00
201.0310	**Remove and Dispose Shrubs**	EA	$ 100.00			
	Poppasquash Road - Alternative 1			15	$ 1,500.00	
	Poppasquash Road - Alternative 2			10		$ 1,000.00
201.0409	**Remove and Dispose Flexible Pavement**	SY	$ 5.00			
	Treepass Green Road - Alternative 1			2070	$ 10,350.00	
	Treepass Green Road - Alternative 2			1790		$ 8,950.00
201.0412	**Remove and Dispose Manhole**	EA	$ 500.00			
	Treepass Green Road - Alternative 2			1		$ 500.00
201.0432	**Remove and Dispose Headwall**	EA	$ 150.00			
	Treepass Green Road - Both Alignment Alternatives			2	$ 300.00	$ 300.00
201.0610	**Remove and Dispose Directional, Regulatory, Warning, and Street Signs**	EA	$ 30.00			
	Treepass Green Road - Both Alignment Alternatives			1	$ 30.00	$ 30.00
201.0619	**Remove and Salvage Traffic Control System**	EA	$ 2,500.00			
	Hope Street at Chestnut Street			1	$ 2,500.00	$ 2,500.00
	Chestnut Street at Metacom Avenue			1	$ 2,500.00	$ 2,500.00
	Metacom Avenue at Annawamscutt Drive			1	$ 2,500.00	$ 2,500.00
	Metacom Avenue at Roosevelt Drive/Highview Drive			1	$ 2,500.00	$ 2,500.00
	Metacom Avenue at Bayview Avenue			1	$ 2,500.00	$ 2,500.00
	Chestnut Street at Sherry Avenue			1	$ 2,500.00	$ 2,500.00
201.9902	**Remove and Relocate Utility Pole**	EA	$ 30,000.00			
	NECO/Verizon Pole No. 46			1	$ 30,000.00	$ 30,000.00
	Poppasquash Road - Alternative 1 NECO/Verizon Pole No. 29			1	$ 30,000.00	
201.9903	**Raise Utility Wires**	LF	$ 200.00			
	Poppasquash Road at Fleet Yacht, NECO/Bell Atlantic Pole No. 44			400	$ 80,000.00	$ 80,000.00
	Poppasquash Road - Alternative 1			200	$ 40,000.00	
	Poppasquash Road - Alternative 2			200		$ 40,000.00
	Chestnut Street at Metacom Avenue			1000	$ 200,000.00	$ 200,000.00
	Metacom Avenue at Academy Avenue			400	$ 80,000.00	$ 80,000.00
	Metacom Avenue at Hopeworth Avenue			400	$ 80,000.00	$ 80,000.00
	Metacom Avenue at Bayview Avenue			400	$ 80,000.00	$ 80,000.00
202.0100	**Earth Excavation**	CY	$ 5.00			
	Treepass Green Road - Alternative 1			1570	$ 7,850.00	
	Treepass Green Road - Alternative 2			1230		$ 6,150.00

302.0100	**Gravel Borrow Subbase Course**	CY	$ 20.00			
	Alternative 1 - Colt State Park			740	$ 14,800.00	
	Alternative 2 - Colt State Park			580		$ 11,600.00
401.0100	**Bituminous Base Course**	TON	$ 80.00			
	Alternative 1 - Colt State Park			580	$ 46,400.00	
	Alternative 2 - Colt State Park			600		$ 48,000.00
401.0200	**Bituminous Surface Course Type I-1**	TON	$ 80.00			
	Poppasquash Road - Bristol Marine to Colt State Park			490	$ 39,200.00	$ 39,200.00
	Alternative 1 - Colt State Park			230	$ 18,400.00	
	Alternative 2 - Colt State Park			240		$ 19,200.00
403.0300	**Asphalt Emulsion Tack Coat**	SY	$ 0.20			
	Poppasquash Road - Bristol Marine to Colt State Park			4230	$ 846.00	$ 846.00
	Alternative 1 - Colt State Park			3980	$ 796.00	
	Alternative 2 - Colt State Park			4160		$ 832.00
701.0512	**RCP Pipe M Class IV 12 Inch**	LF	$ 55.00			
	Treepass Green Road - Both Alignment Alternatives			30	$ 1,650.00	$ 1,650.00
709.0200	**Concrete Headwalls for Pipe Culverts Std. 2.1.0**	EA	$ 1,200.00			
	Treepass Green Road - Both Alignment Alternatives			2	$ 2,400.00	$ 2,400.00
912.0100	**Remove, Rebuild Dry Stone Walls Rubble Std. 10.2.0**	LF	$ 250.00			
	Poppasquash Road - Alternative 1			80	$ 20,000.00	
931.011	**Cleaning and Sweeping Pavement**	HSY	$ 9.00			
	Poppasquash Road - Bristol Marine to Colt State Park			43	$ 387.00	$ 387.00
932.0100	**Cutting and Matching Asphalt**	LF	$ 2.00			
	Treepass Green Road - Both Alignment Alternatives			130	$ 260.00	$ 260.00
935.0500	**Removing Bituminous Surface - Cold Planing**	SY	$ 3.00			
	Poppasquash Road - Bristol Marine to Colt State Park			4223	$ 12,669.00	$ 12,669.00
L01.0102	**Loam Borrow 4" Deep**	SY	$ 5.00			
	Treepass Green Road - Alternative 1			2070	$ 10,350.00	
	Treepass Green Road - Alternative 2			1926		$ 9,630.00
L02.0102	**Residential Seeding (Type 2)**	SY	$ 1.50			
	Treepass Green Road - Alternative 1			2070	$ 3,105.00	
	Treepass Green Road - Alternative 2			1926		$ 2,889.00
L08.0109	**Tree Trimming**	MHRS	$ 80.00			
	Along Entire South Route - Assume 2 people, 4 days at 8 hours/day			64	$ 5,120.00	$ 5,120.00
T03.9901	**New Utility Service Pole and Connections**	EA	$ 5,000.00			
	Poppasquash Road - House No. 55			1	$ 5,000.00	
	Chestnut Street, various locations			6	$ 30,000.00	$ 30,000.00

T04.5305	**14 AWG 5 Conductor Cable**	LF	$ 1.00			
	Hope Street at Chestnut Street			150	$ 150.00	$ 150.00
	Chestnut Street at Metacom Avenue			800	$ 800.00	$ 800.00
	Metacom Avenue at Annawamscutt Drive			600	$ 600.00	$ 600.00
	Metacom Avenue at Roosevelt Drive/Highview Drive (4 signal heads only)			400	$ 400.00	$ 400.00
T04.5309	**14 AWG 9 Conductor Cable**	LF	$ 2.00			
	Hope Street at Chestnut Street			270	$ 540.00	$ 540.00
	Metacom Avenue at Bayview Avenue			200	$ 400.00	$ 400.00
T04.5312	**14 AWG 12 Conductor Cable**	LF	$ 3.00			
	Hope Street at Chestnut Street			450	$ 1,350.00	$ 1,350.00
	Metacom Avenue at Bayview Avenue			800	$ 2,400.00	$ 2,400.00
T11.1020	**20' Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.0**	EA	$ 8,500.00			
	Metacom Avenue at Roosevelt Drive/Highview Drive			1	$ 8,500.00	$ 8,500.00
T11.1025	**25' Galvanized Steel Mast Arm Traffic Signal Post and Foundation Std. 19.2.1**	EA	$ 9,000.00			
	Metacom Avenue at Roosevelt Drive/Highview Drive			1	$ 9,000.00	$ 9,000.00
T11.2500	**Traffic Signal Standard Galvanized Steel and Foundation Std. 19.3.0**	EA	$ 10,000.00			
	Chestnut Street at Metacom Avenue			4	$ 40,000.00	$ 40,000.00
	Metacom Avenue at Annawamscutt Drive			4	$ 40,000.00	$ 40,000.00
	Metacom Avenue at Bayview Avenue			2	$ 20,000.00	$ 20,000.00
T11.6005	**Tether Wire 5/16**	LF	$ 4.50			
	Hope Street at Chestnut Street			100	$ 450.00	$ 450.00
	Chestnut Street at Metacom Avenue			275	$ 1,238.00	$ 1,238.00
	Metacom Avenue at Annawamscutt Drive			200	$ 900.00	$ 900.00
	Metacom Avenue at Bayview Avenue			110	$ 495.00	$ 495.00
T11.6006	**Span and Messenger Wires 6/16**	LF	$ 2.25			
	Hope Street at Chestnut Street			100	$ 225.00	$ 225.00
	Chestnut Street at Metacom Avenue			275	$ 619.00	$ 619.00
	Metacom Avenue at Annawamscutt Drive			200	$ 450.00	$ 450.00
	Metacom Avenue at Bayview Avenue			110	$ 248.00	$ 248.00
T11.9901	**Ornamental Traffic Signal Standard and Foundation Std. 19.3.0**	EA	$ 16,000.00			
	Hope Street at Chestnut Street			2	$ 32,000.00	$ 32,000.00
T14.3401	**F&I Section Dual Row Dual Ind. LED Arrow 12" to Existing Signal Head**	EA	$ 800.00			
	Hope Street at Chestnut Street			1	$ 800.00	$ 800.00
	Metacom Avenue at Bayview Avenue			1	$ 800.00	$ 800.00
T14.3413	**1-Way 3-Section Span Mounted Signal Head**	EA	$ 1,100.00			
	Hope Street at Chestnut Street			1	$ 1,100.00	$ 1,100.00
	Chestnut Street at Metacom Avenue			6	$ 6,600.00	$ 6,600.00
	Metacom Avenue at Annawamscutt Drive			6	$ 6,600.00	$ 6,600.00
T14.3423	**2-Way 3-Section Span Mounted Signal Head**	EA	$ 2,100.00			
	Hope Street at Chestnut Street			1	$ 2,100.00	$ 2,100.00
	Metacom Avenue at Bayview Avenue			1	$ 2,100.00	$ 2,100.00

T14.3431	**3-Way 3-Section Span Mounted Signal Head**	**EA**	$ 3,000.00				
	Hope Street at Chestnut Street			1	$ 3,000.00	$	3,000.00
	Metacom Avenue at Bayview Avenue			2	$ 6,000.00	$	6,000.00
T14.3513	**1-Way 3-Section Mast Arm Mounted Signal Head**	**EA**	$ 1,300.00				
	Metacom Avenue at Roosevelt Drive/Highview Drive			4	$ 5,200.00	$	5,200.00
T15.0100	**Directional, Regulatory, and Warning Signs**	**SF**	$ 30.00				
	Treepass Green Road - Both Alignment Alternatives (R1-1, 36"x36")			9	$ 270.00	$	270.00
	Chestnut Street - (4 S1-1 36"x36", 2 W16-7P 24"x12", 2 W16-9P 24"x12")			44	$ 1,320.00	$	1,320.00
T16.0200	**Remove and Relocate Ground Mounted Sign**	**EA**	$ 230.00				
	Poppasquash Road - Both Alignment Alternatives			1	$ 230.00	$	230.00
T20.2012	**12-Inch Epoxy Resin Pavement Marking White**	**LF**	$ 2.00				
	Hope Street at Chestnut Street			65	$ 130.00	$	130.00
	Chestnut Street at Metacom Avenue			70	$ 140.00	$	140.00
	Metacom Avenue at Annawamscutt Drive			45	$ 90.00	$	90.00
	Metacom Avenue at Roosevelt Drive/Highview Drive			40	$ 80.00	$	80.00
	Metacom Avenue at Bayview Avenue			95	$ 190.00	$	190.00
T20.1000	**Remove Existing Pavement Markings**	**LF**	$ 0.40				
	Hope Street at Chestnut Street			65	$ 26.00	$	26.00
	Chestnut Street at Metacom Avenue			70	$ 28.00	$	28.00
	Metacom Avenue at Annawamscutt Drive			45	$ 18.00	$	18.00
	Metacom Avenue at Roosevelt Drive/Highview Drive			40	$ 16.00	$	16.00
	Metacom Avenue at Bayview Avenue			95	$ 38.00	$	38.00

SUBTOTAL	$	1,086,154.00	$	1,015,654.00
20% E&C	$	217,231.00	$	203,131.00
TOTAL	**$**	**1,303,400.00**	**$**	**1,218,800.00**

201.0619	**Remove and Salvage Traffic Control System**	**EA**	$ 2,500.00		
	Hope Street at Chestnut Street			1	$ 2,500.00
	Hope Street at Asylum Road			1	$ 2,500.00
	Hope Street at Gooding Avenue			1	$ 2,500.00
201.9901	**Remove and Dispose Chatter Strip**	**SY**	$ 20.00		
	Hope Street at Gooding Avenue			270	$ 5,400.00
201.9903	**Raise Utility Wires**	**LF**	$ 200.00		
	Franklin Street at Buttonwood Street			500	$ 100,000.00
	Bayview Avenue at High Street			600	$ 120,000.00
401.0100	**Bituminous Base Course**	**TON**	$ 80.00		
	Hope Street at Gooding Avenue			77	$ 6,160.00
401.0200	**Bituminous Surface Course Type I-1**	**TON**	$ 80.00		
	Hope Street at Gooding Avenue			31	$ 2,480.00
	Ballou Boulevard			110	$ 8,800.00
403.0300	**Asphalt Emulsion Tack Coat**	**SY**	$ 0.20		
	Hope Street at Gooding Avenue			534	$ 107.00
	Ballou Boulevard			940	$ 188.00
905.9901	**Furnish and Install Stamped Asphalt**	**SY**	$ 40.00		
	Hope Street at Gooding Avenue			150	$ 6,000.00
932.0100	**Cutting and Matching Asphalt**	**LF**	$ 2.00		
	Hope Street at Gooding Avenue			500	$ 1,000.00
	Ballou Boulevard			140	$ 280.00
935.0500	**Removing Bituminous Surface - Cold Planing**	**SY**	$ 3.00		
	Ballou Boulevard			940	$ 2,820.00
L08.0109	**Tree Trimming**	**MHRS**	$ 80.00		
	Along Entire BTB Route - Assume 2 people, 4 days at 8 hours/day			64	$ 5,120.00
T03.9901	**New Utility Service Pole and Connections**	**EA**	$ 5,000.00		
	Buttonwoods Street			2	$ 10,000.00
	Bayview Avenue			16	$ 80,000.00
	Hope Street			10	$ 50,000.00
T04.5305	**14 AWG 5 Conductor Cable**	**LF**	$ 1.00		
	Hope Street at Chestnut Street			150	$ 150.00
	Hope Street at Gooding Avenue			700	$ 700.00
	Hope Street at Asylum Road			1110	$ 1,110.00
T04.5309	**14 AWG 9 Conductor Cable**	**LF**	$ 2.00		
	Hope Street at Chestnut Street			270	$ 540.00
T04.5312	**14 AWG 12 Conductor Cable**	**LF**	$ 3.00		
	Hope Street at Chestnut Street			450	$ 1,350.00

T11.1257	**Dual Mast Arm (20x30) Gal Steel Traffic Signal Post and Foundation Std 19.2.0**	EA	$ 12,000.00		
	Hope Street at Gooding Avenue			1	$ 12,000.00
T11.6005	**Tether Wire 5/16**	LF	$ 4.50		
	Hope Street at Chestnut Street			100	$ 450.00
T11.6006	**Span and Messenger Wires 6/16**	LF	$ 2.25		
	Hope Street at Chestnut Street			100	$ 225.00
T11.9901	**Ornamental Traffic Signal Standard and Foundation Std. 19.3.0**	EA	$ 16,000.00		
	Hope Street at Chestnut Street			2	$ 32,000.00
T11.9902	**Ornamental Dual Mast Arm (20x30) Gal Steel Traffic Signal Post and Foundation Std 19.2.0**	EA	$ 15,000.00		
	Hope Street at Asylum Road			1	$ 15,000.00
T14.3401	**F&I Section Dual Row Dual Ind. LED Arrow 12" to Existing Signal Head**	EA	$ 800.00		
	Hope Street at Chestnut Street			1	$ 800.00
T14.3413	**1-Way 3-Section Span Mounted Signal Head**	EA	$ 1,100.00		
	Hope Street at Chestnut Street			1	$ 1,100.00
T14.3423	**2-Way 3-Section Span Mounted Signal Head**	EA	$ 2,100.00		
	Hope Street at Chestnut Street			1	$ 2,100.00
T14.3431	**3-Way 3-Section Span Mounted Signal Head**	EA	$ 3,000.00		
	Hope Street at Chestnut Street			1	$ 3,000.00
T14.3513	**1-Way 3-Section Mast Arm Mounted Signal Head**	EA	$ 1,300.00		
	Hope Street at Gooding Avenue			5	$ 6,500.00
	Hope Street at Asylum Road			6	$ 7,800.00
T20.2012	**12-Inch Epoxy Resin Pavement Marking White**	LF	$ 2.00		
	Hope Street at Chestnut Street			65	$ 130.00
	Hope Street at Gooding Avenue			55	$ 110.00
T20.2016	**6-Inch Epoxy Resin Pavement Marking Yellow**	LF	$ 0.35		
	Hope Street at Gooding Avenue			250	$ 88.00
T20.1000	**Remove Existing Pavement Markings**	LF	$ 0.40		
	Hope Street at Chestnut Street			65	$ 26.00
	Hope Street at Gooding Avenue			500	$ 200.00

SUBTOTAL	$	491,234.00
20% E&C	$	98,246.80
TOTAL	**$**	**589,500.00**