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Yarmouth Route 28 – Living Streets Study

Presentation to Yarmouth Board of Selectmen

August 6, 2013

This presentation



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- **Background Information**
- **Work to Date**
- **Public Feedback Received**
- **Priority Design Concepts**
- **Additional Design Considerations**
- **MassDOT process**
- **Next Steps**

GOALS OF THIS STUDY:

CCC for MASS DOT Unified Planning (UPWP) TASK 3.3

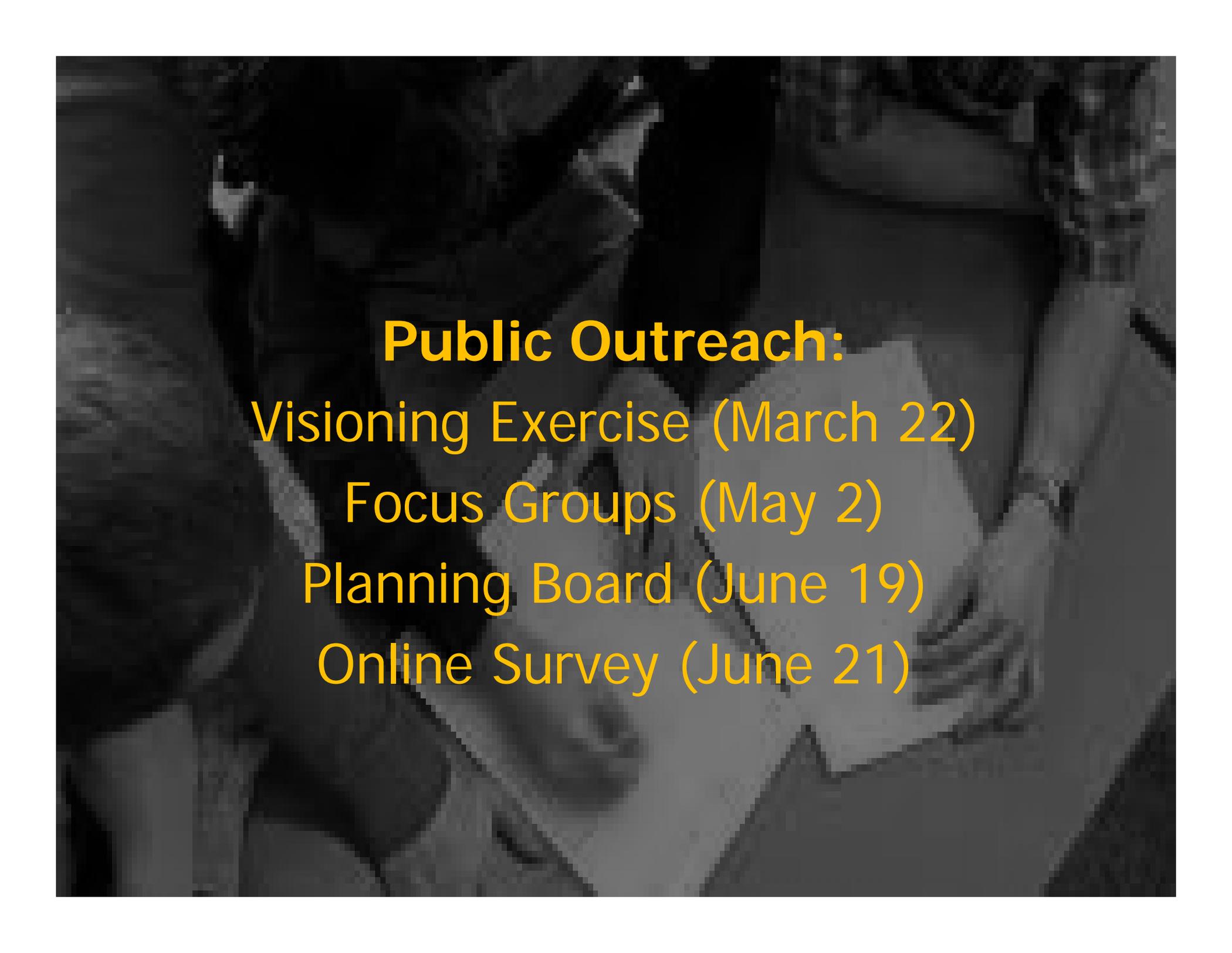


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- **Reduce conflicts, improve traffic flow** and incorporate multi-modal transportation options along the Route 28 corridor
- Further the creation of **vibrant, mixed-use centers** along the roadway.
- Provide **safe accommodation of pedestrians and bicycles**
- Incorporate **Low Impact Development (LID) techniques to mitigate stormwater runoff.**
- Establish a **preferred roadway redesign** which addresses the above and reflects a planning window of 2033.
- Ensure preferred alternatives are transferrable to a Massachusetts Department of Transportation (MassDOT) Project Need Form (PNF) and Project Initiation form (PIF) at project completion.

Study Area





Public Outreach:

Visioning Exercise (March 22)

Focus Groups (May 2)

Planning Board (June 19)

Online Survey (June 21)

Primary Considerations from early Staff Analysis & Public Outreach:



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- **Prioritize to be able to phase implementation**
 - Winslow Gray/South Sea, Seaview, Forest Intersections
- **Bike accessibility, transit, and landscaping upgrades important**
- **Right of Way considerations throughout**
- **Utilities should be located to outside, or behind sidewalks**
- **Maintain walkable, pedestrian oriented districts**
- **Access management (curb cuts) adds additional conflicts through frequent turning movements**

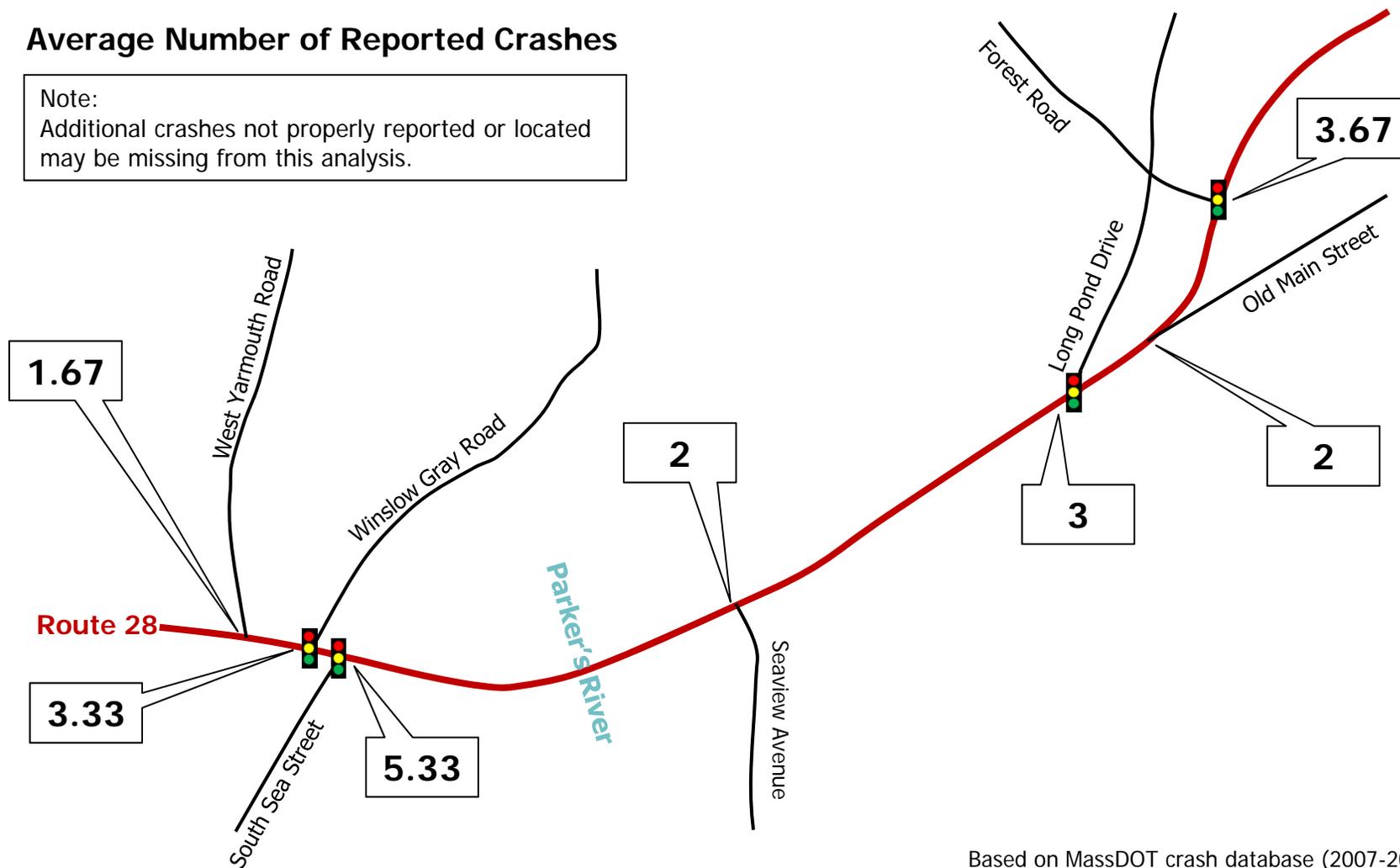
Crash History: Reported Crashes at Intersections



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Average Number of Reported Crashes

Note:
Additional crashes not properly reported or located
may be missing from this analysis.



Based on MassDOT crash database (2007-2009 data)

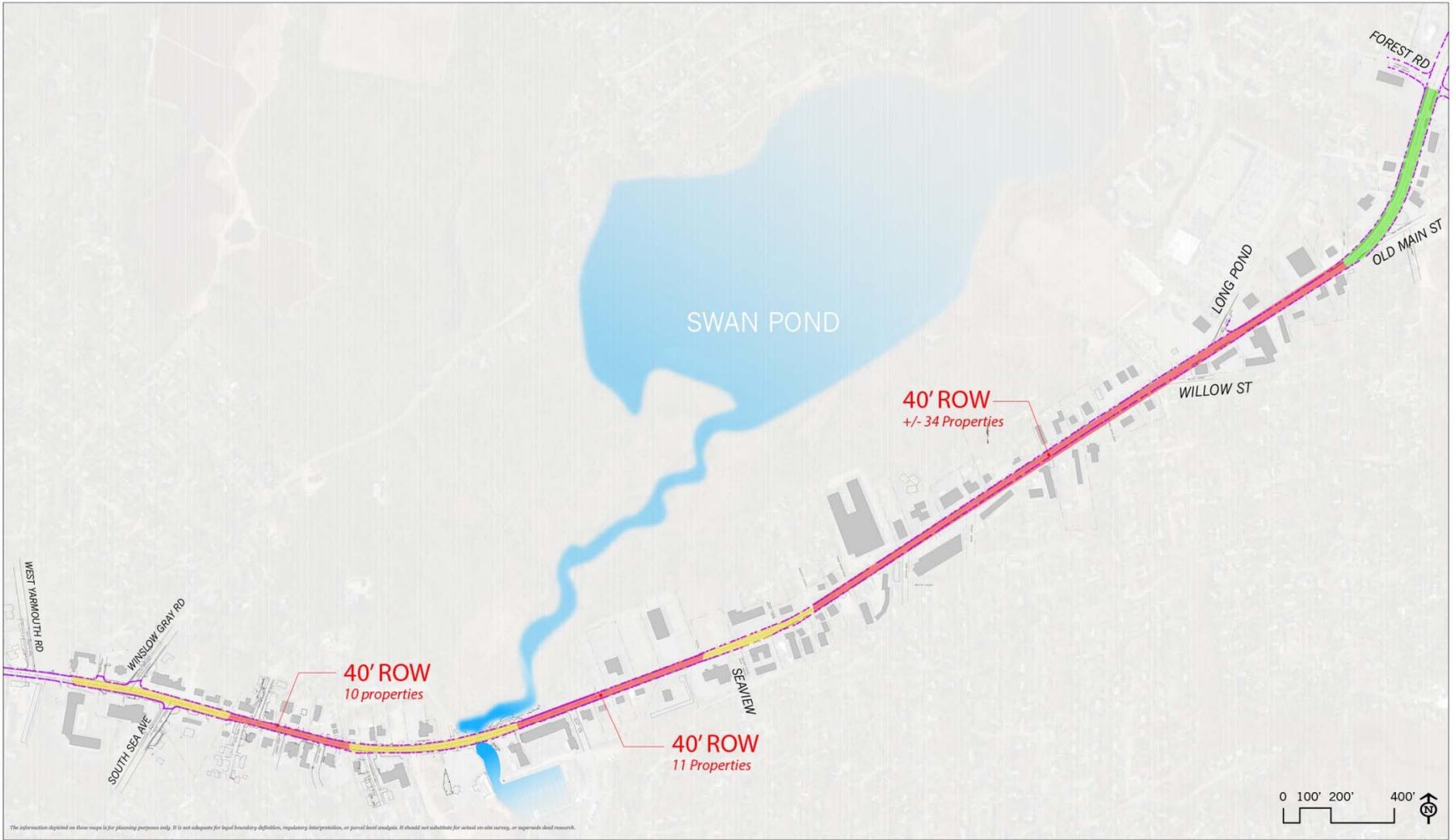
Crash History



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- There were 170 crashes reported on the Route 28 corridor within the study area from 2007 through 2009





ROUTE 28 YARMOUTH | RIGHT OF WAY CONSIDERATIONS

-  APPROXIMATE ROW BOUNDARY
-  40 FEET ROW
-  50 FEET ROW
-  80 FEET ROW



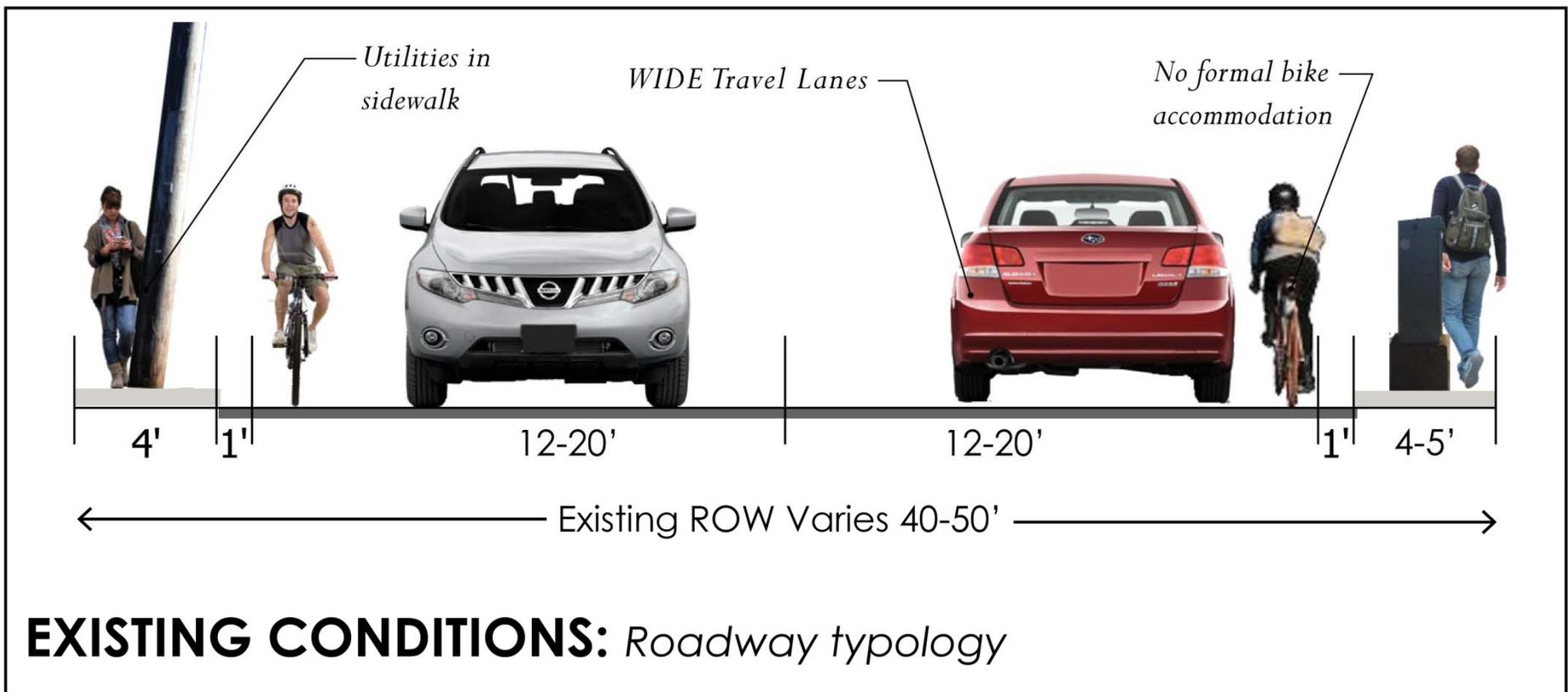
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Created by: TTB
Reviewed by: JCC
Review AutoCAD:
modified with GIS

Current Layout: All Areas



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ROUTE 28 YARMOUTH | PRIORITY INTERSECTIONS



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Reviewed by: GC
Source: Aerial/CAD
modified with CS6

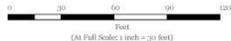


Design Ideas

1. Update & re-time signals
 2. Re-align intersections into a single traffic signal
 3. Re-align intersections into a roundabout
- Improved bicycle and pedestrian accommodations as well as access managements improvements should be included in any redesign

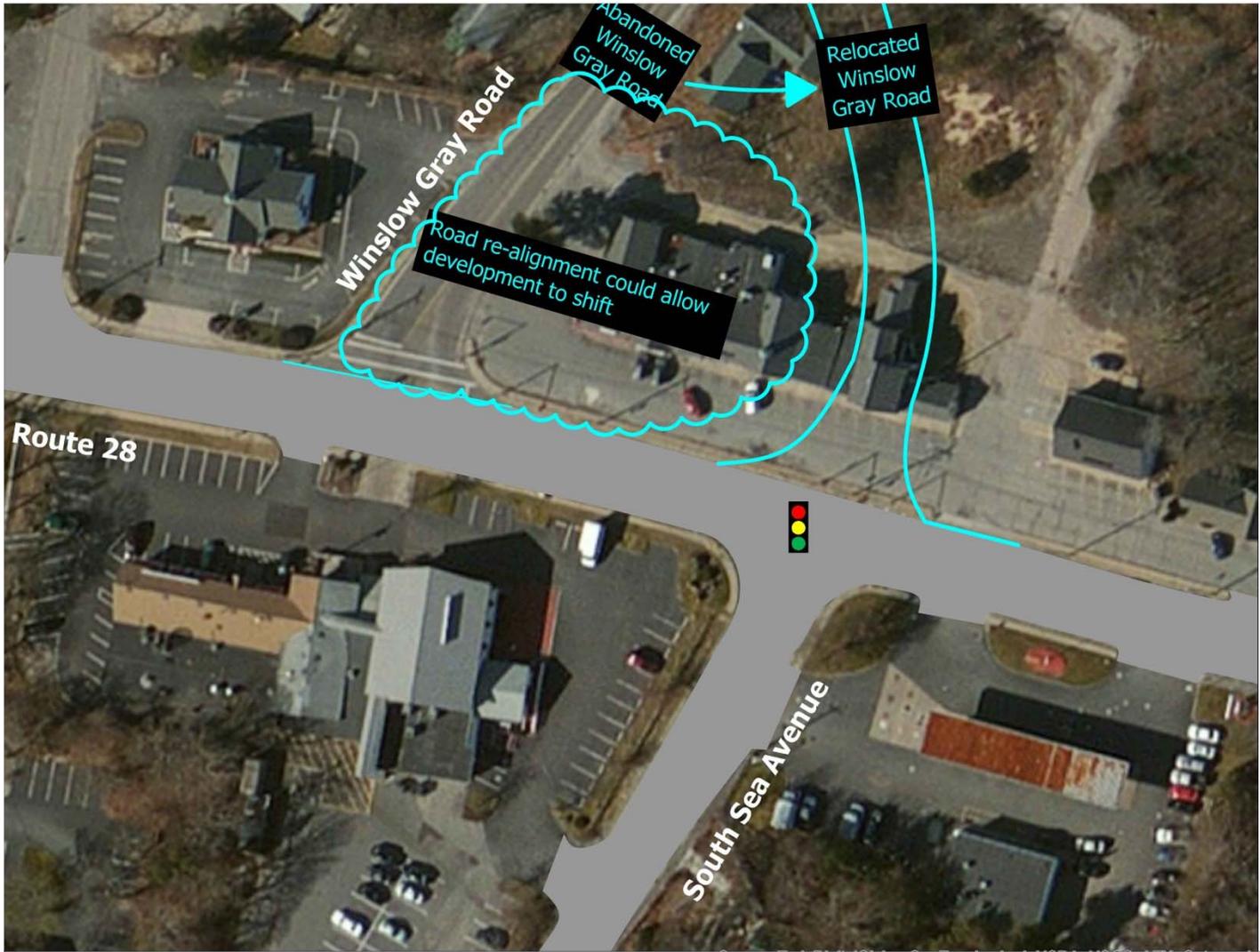
Note: Graphical depicts of design ideas and are conceptual in nature; intersection geometries have not been considered in detail at this point.

Route 28 at Winslow Gray Road and South Sea Avenue



The information depicted on these maps is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. It should not substitute for actual on-site survey, or supersede deed research.



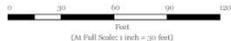


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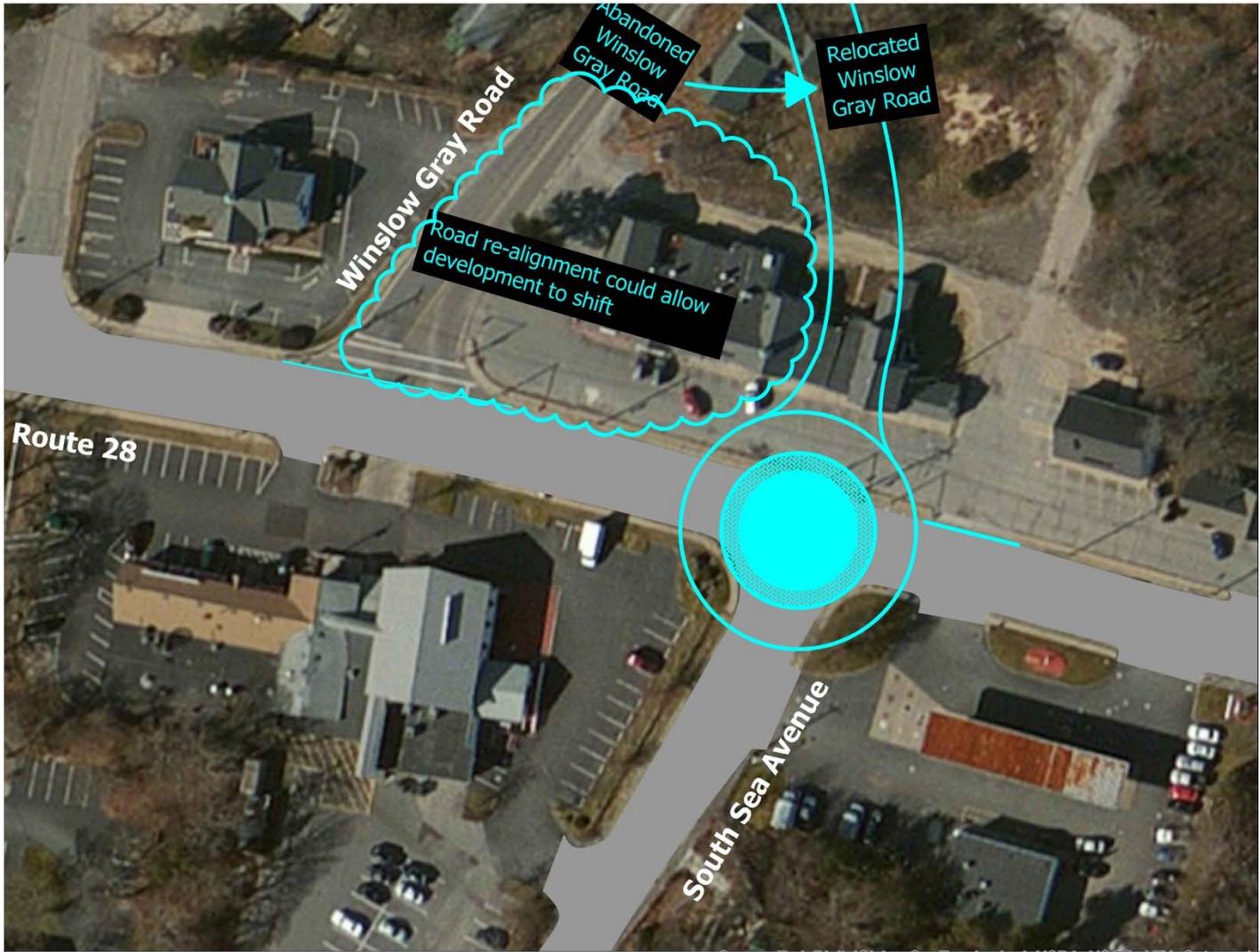
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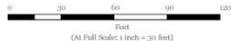


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Route 28 at Winslow Gray Road and South Sea Avenue



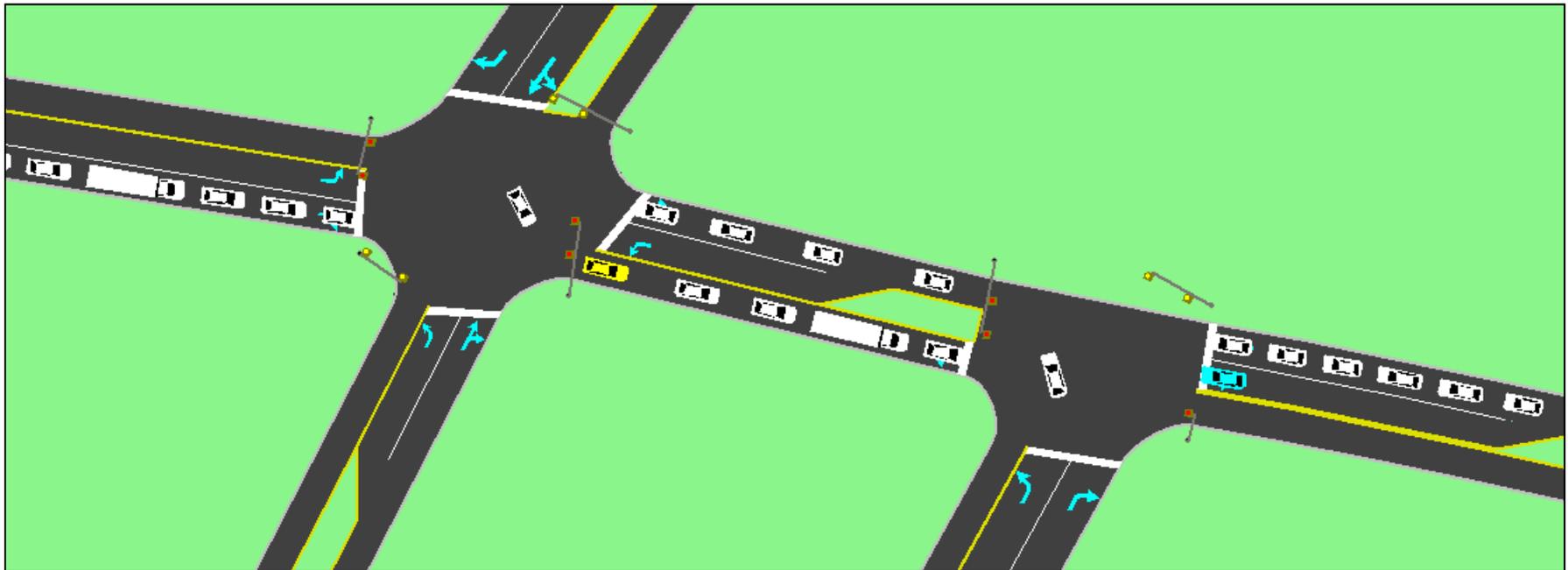
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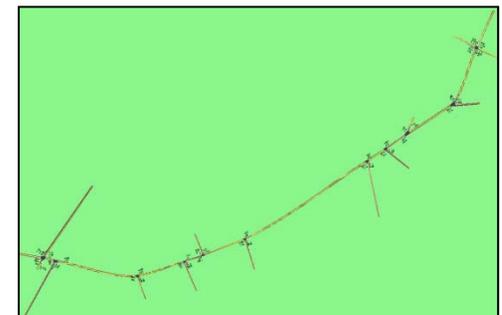
Traffic Modeling using Synchro 7



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Each intersection was studied as part of a model that studied the whole corridor >>



Route 28 at Winslow Gray Rd. and at South Sea Ave.



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Intersection Level of Service

	2013 Volumes	2033 Volumes*
No Improvement**	B	C
Signal Retiming**	A	B
Realigned Signalized Intersection	C	C
Realigned Single-lane Roundabout	D	F
Realigned Double-lane Roundabout	C	E

*Assumes 1% annual growth

**Both intersections operate at the same Level of Service

Seaview Ave. Signal Warrant Analysis



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Signal Warranted? YES

- Warrant 1: Eight hour vehicular volume
- Warrant 1B: Interruption
- Warrant 2: Four hour vehicular volume
- Warrant 3: Peak hour
- Warrant 3b: Peak vehicular volumes met





Design Ideas

1. Update signal equipment and timing
 2. Update traffic signal and include geometric improvements
- Improved bicycle and pedestrian accommodations as well as access managements improvements should be included in any redesign

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Route 28 at Forest Road

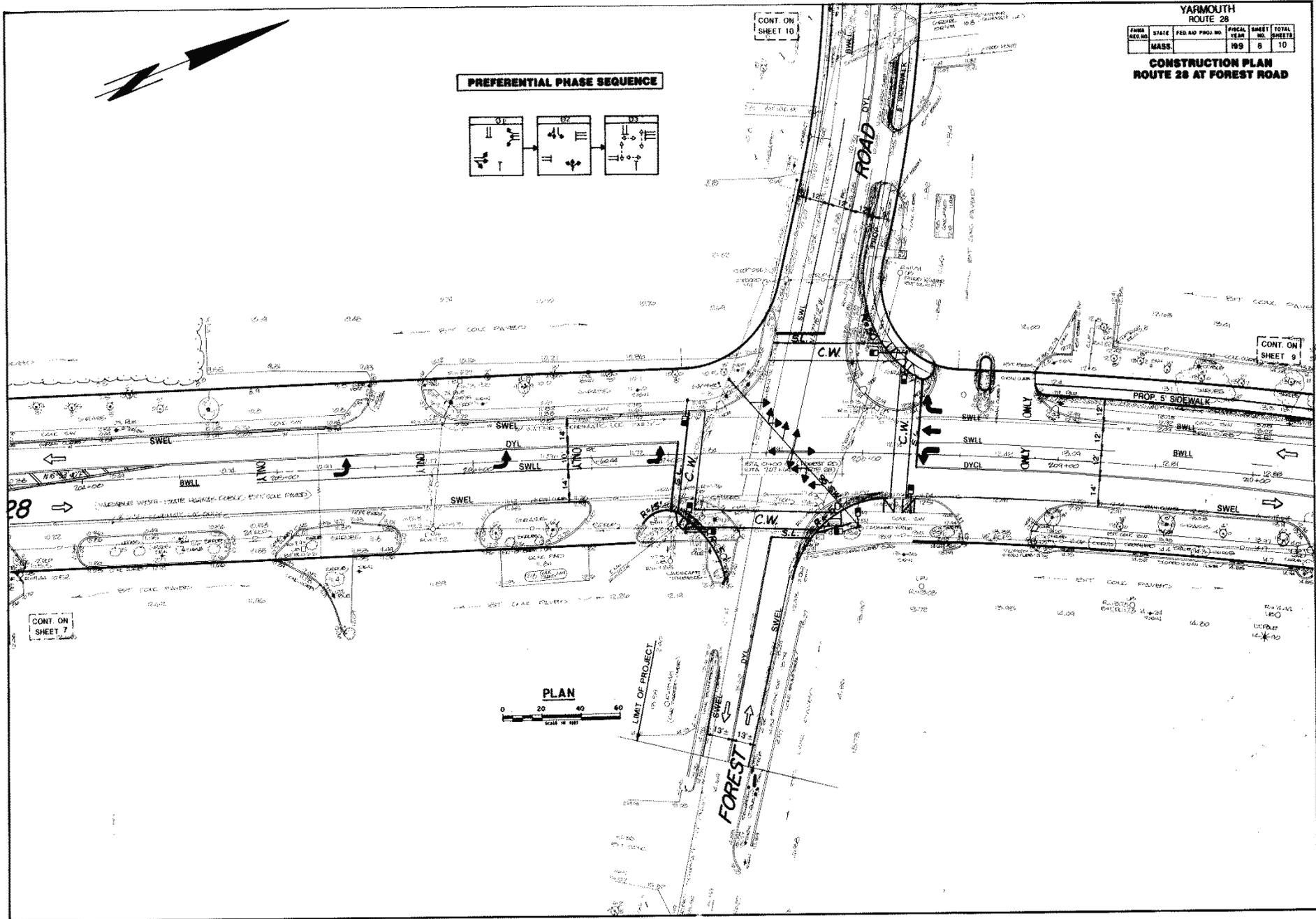
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User: stunner

Date: 6/9/19



Previous Design Plans (1992) – Massachusetts Highway Department



Route 28 at Forest Road – Level of Service Analysis

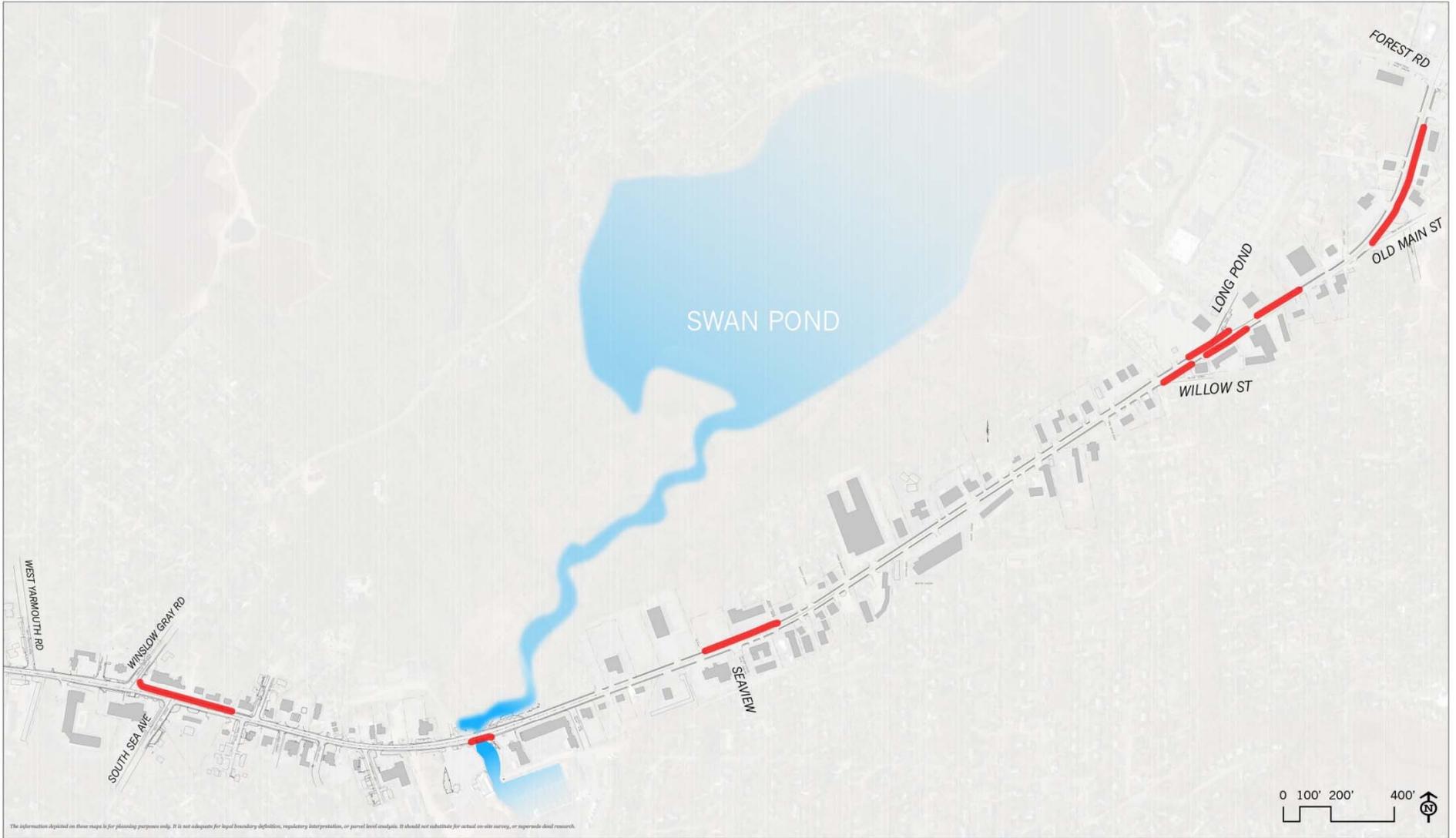


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Intersection Level of Service

	2013 Volumes	2033 Volumes*
No Improvement	F	F
Signal Retiming	E	F
Geometric Improvements (add right-turn lane on Route 28 WB)	B	C

*Assumes 1% annual growth



ROUTE 28 YARMOUTH | SIDEWALK CONNECTIVITY

 SIDEWALK INCOMPLETE OR IMPASSABLE

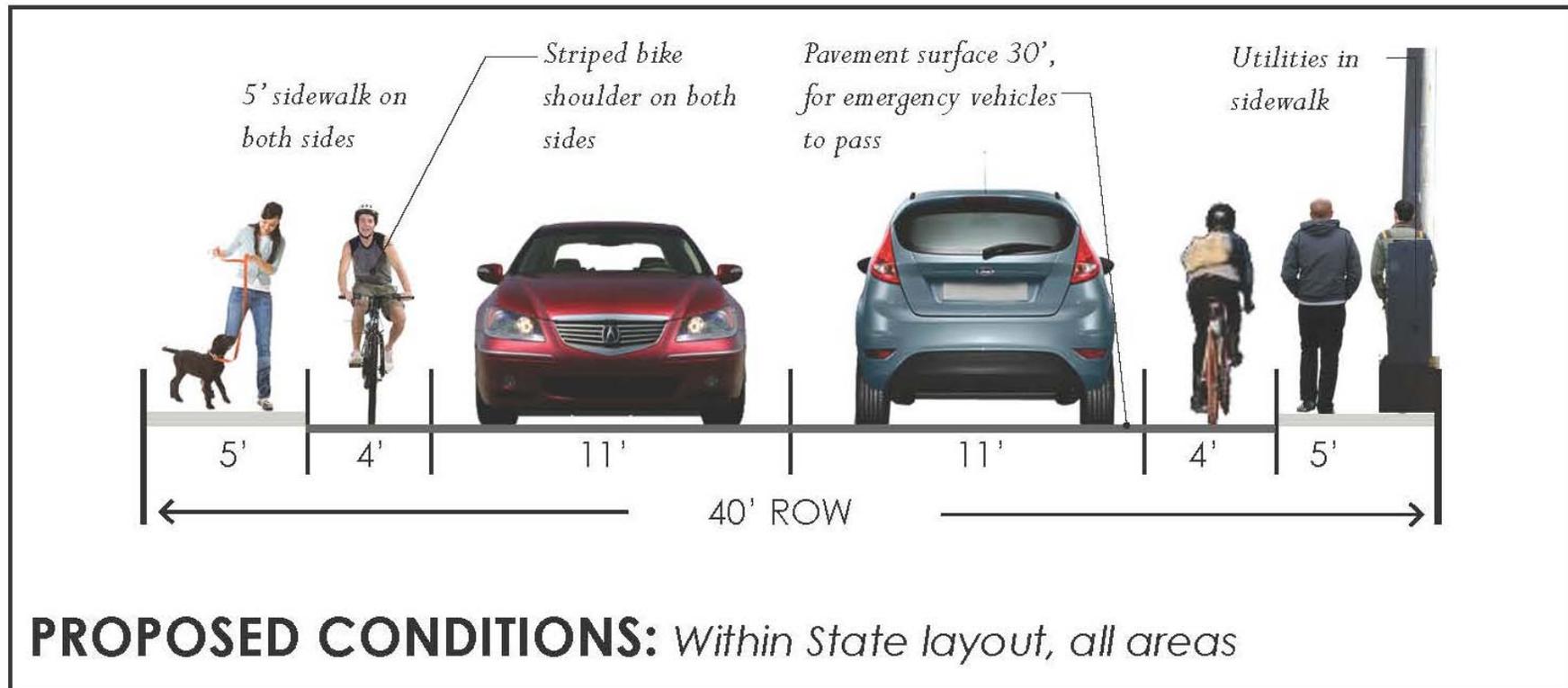


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 Reviewed By: GC
 Source: AutoCAD
 Modified with: CSX

Proposed (typical) Cross Section: Within state layout

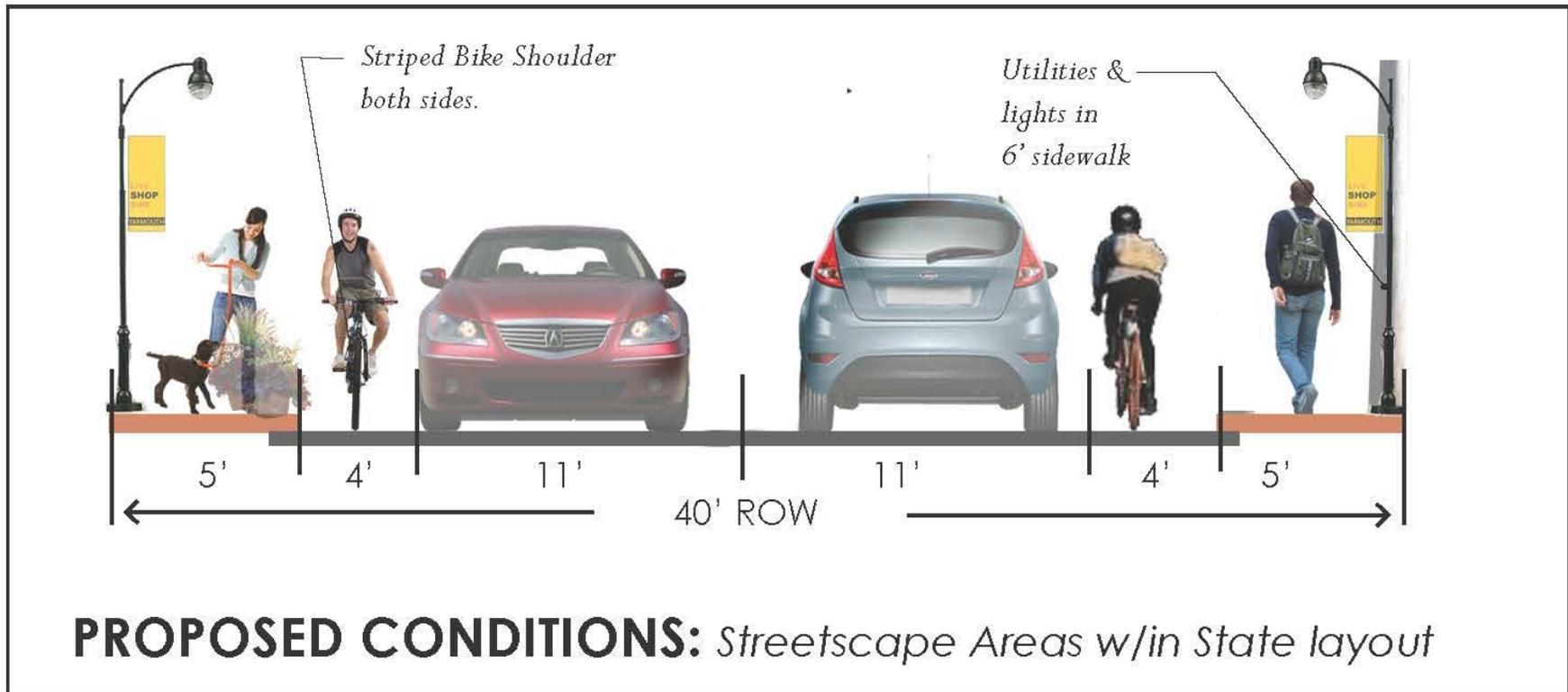
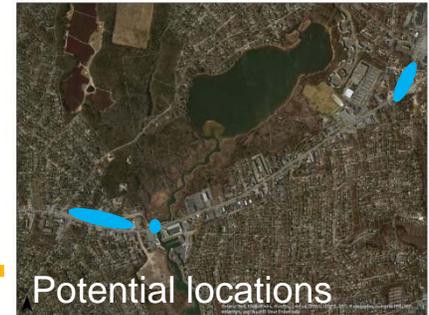


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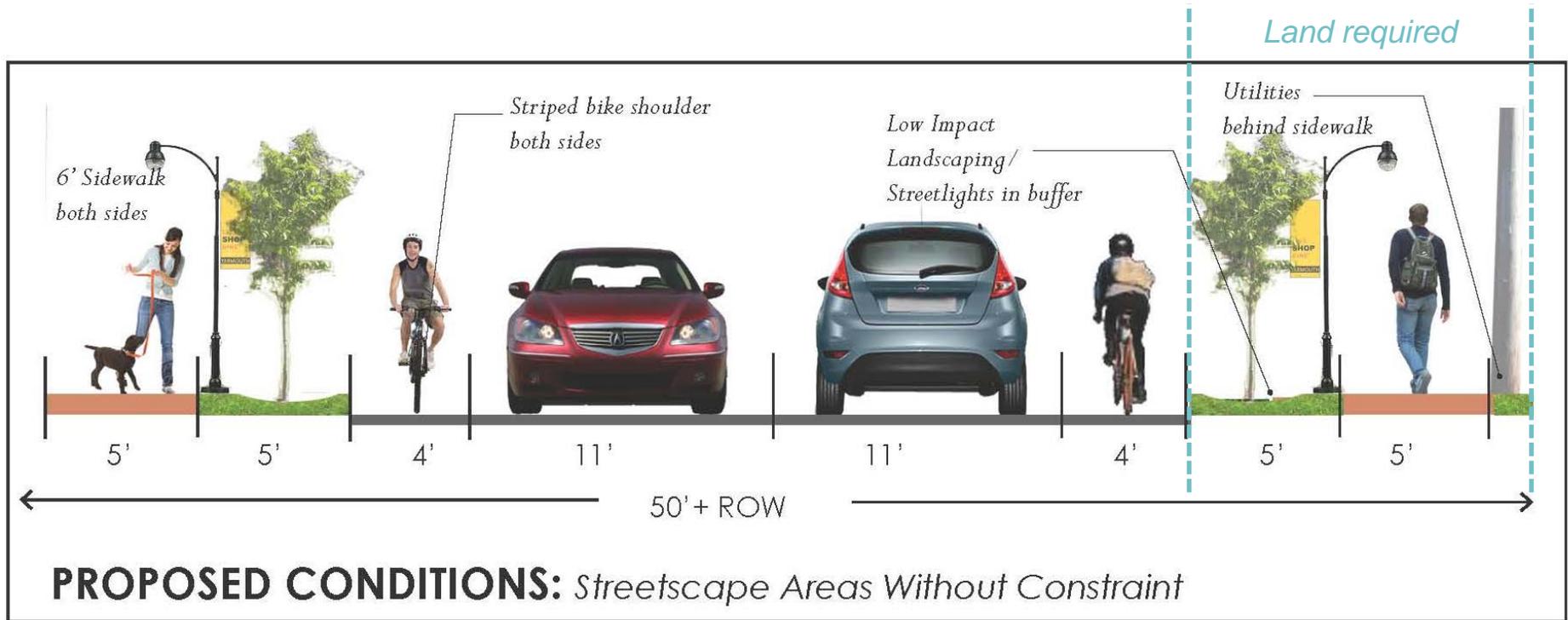
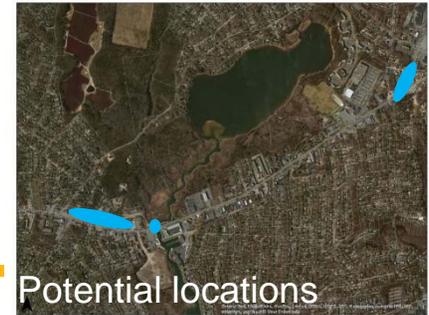


Utilities located 2-3' from edge of curb, allowing for 3' ADA required clearance in walkway

Proposed "Streetscape" Cross Section: Option A (Within state layout)

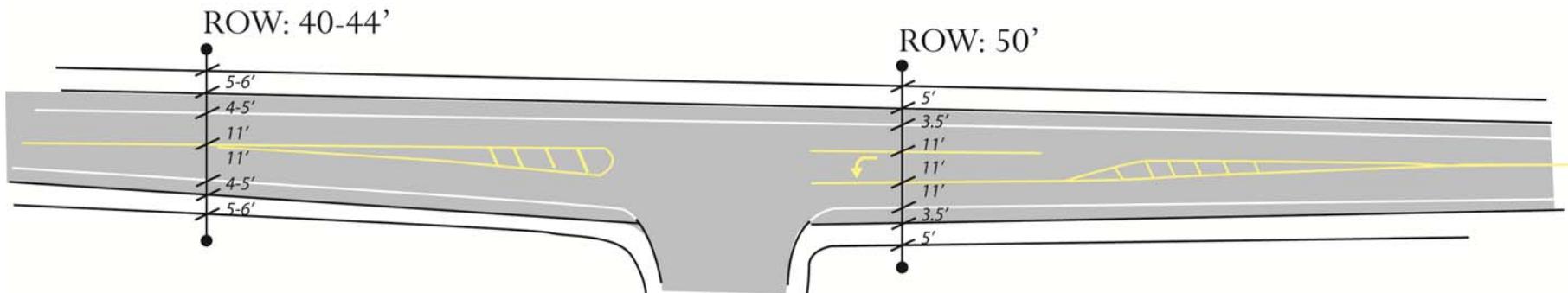
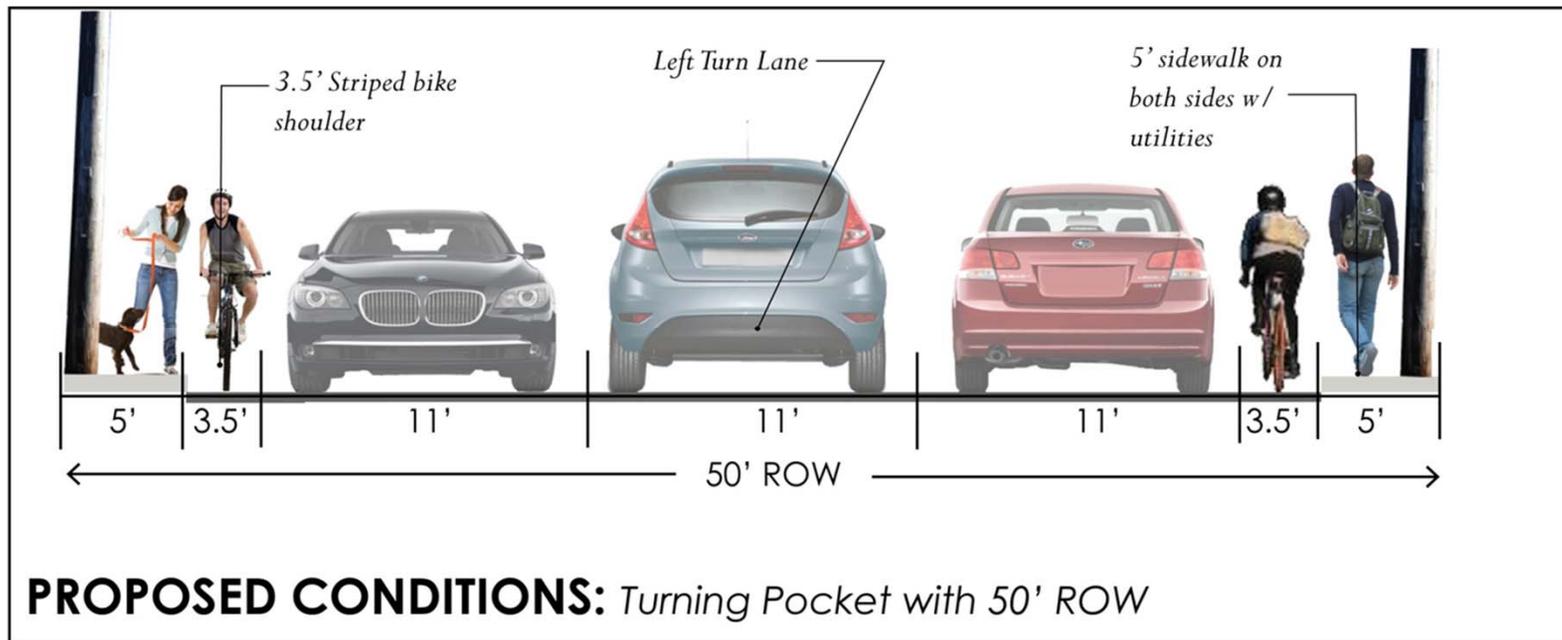
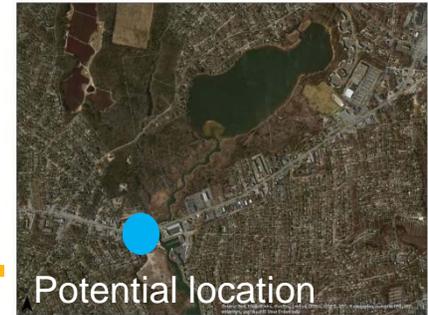


Proposed "Streetscape" Cross Section: Option 2 (areas without constraint)



Additional Considerations

Turning Lanes





ROUTE 28 YARMOUTH | POTENTIAL BUS ACCOMODATIONS

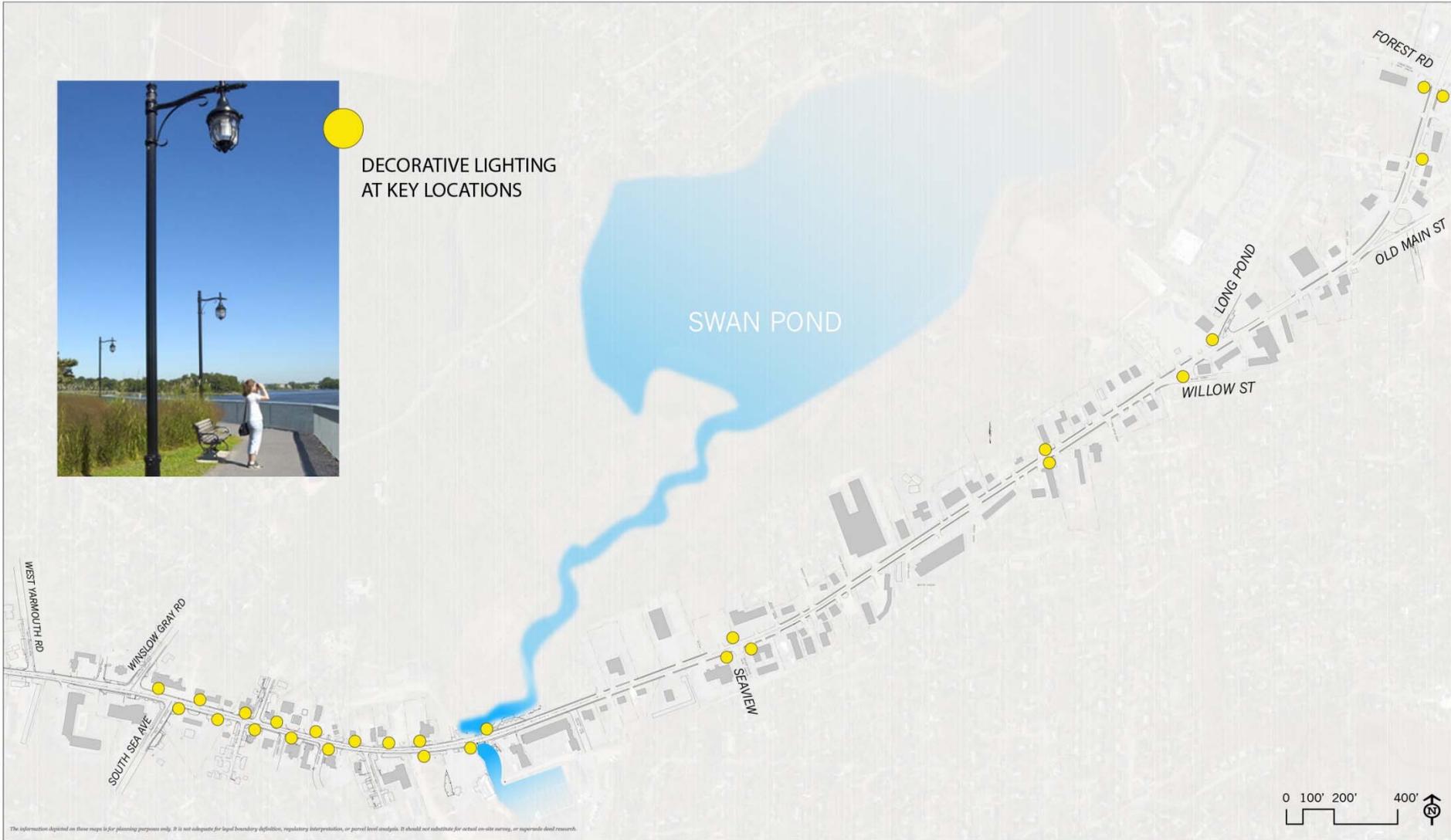


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 Source: AutoCAD,
 modified with ESRI



DECORATIVE LIGHTING
AT KEY LOCATIONS

SWAN POND



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ROUTE 28 YARMOUTH | POTENTIAL LIGHTING LOCATIONS

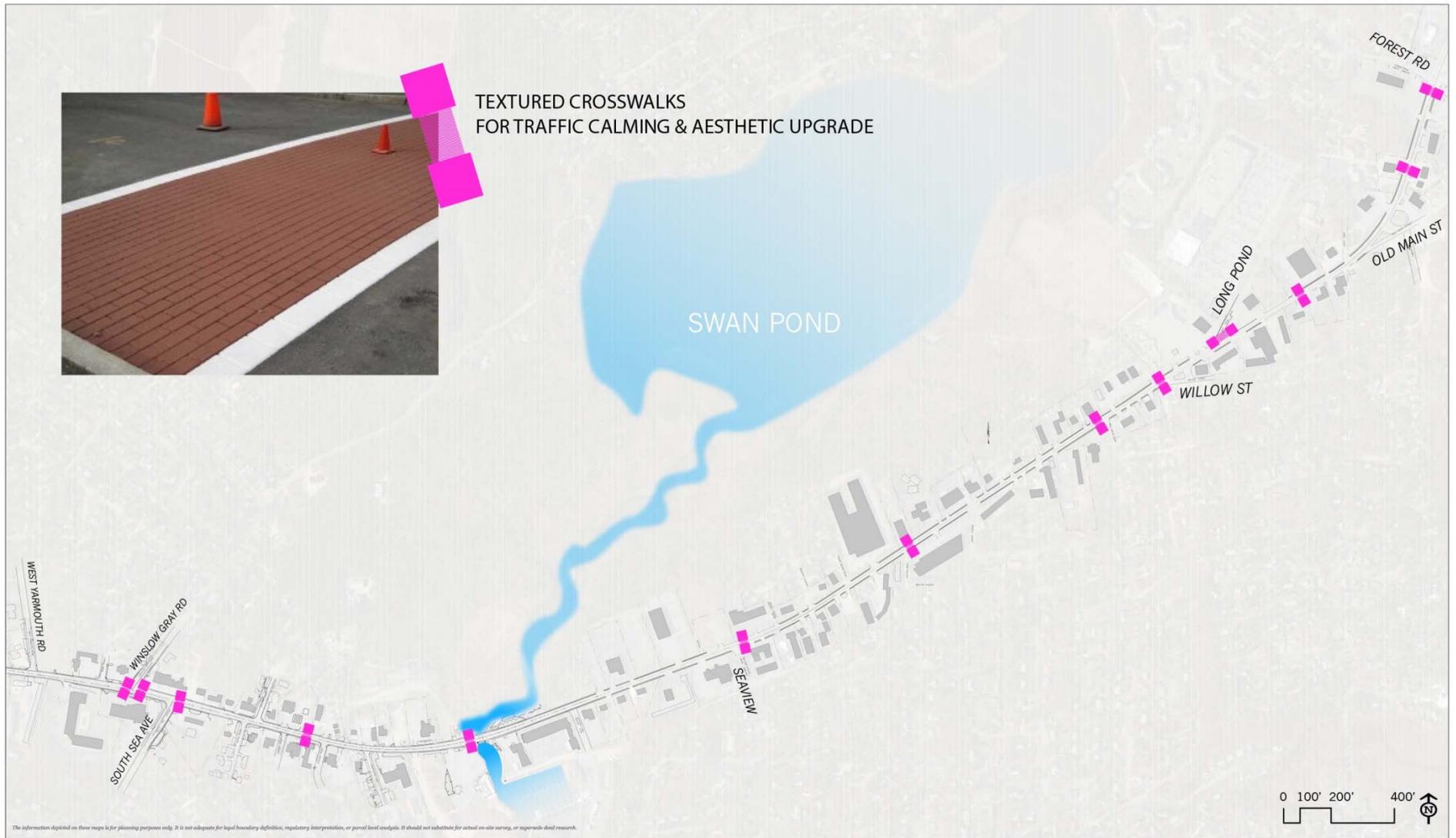


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Reviewed by: GC
Source: Aerial/CAD
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TEXTURED CROSSWALKS
FOR TRAFFIC CALMING & AESTHETIC UPGRADE



ROUTE 28 YARMOUTH | NEW & UPGRADED CROSSWALKS



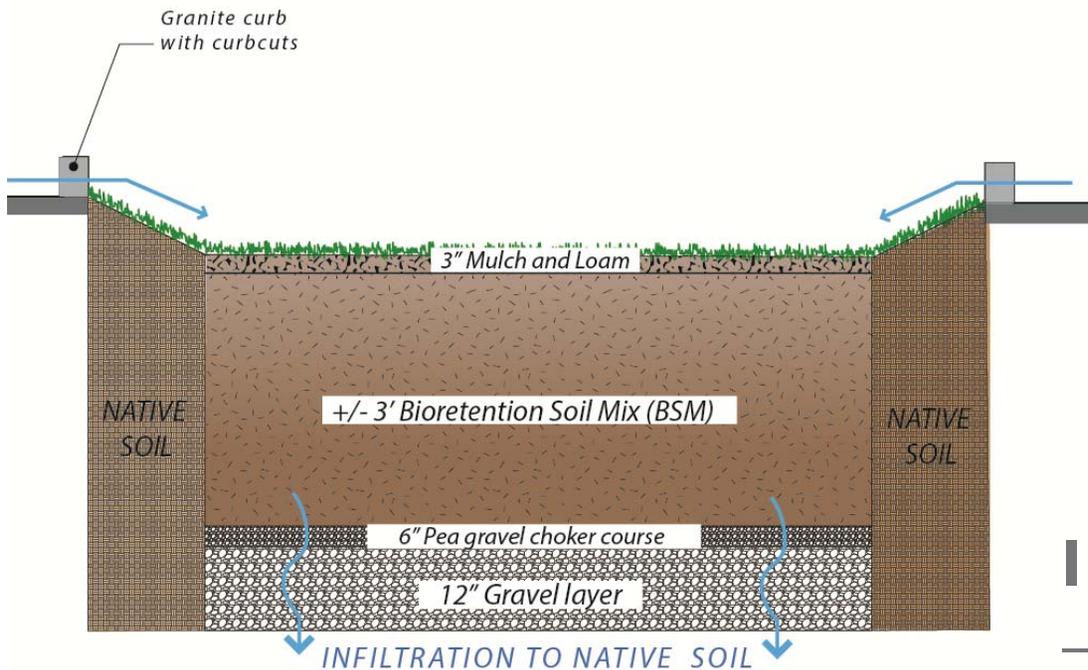
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Reviewed by: GC
Issue: 4/24/2024
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Infiltration planters and buffer strips



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In landscaped areas:

- Where possible at low points
- Buffer plantings
- Roundabout plantings
- With Street Trees

Looking For BOS Endorsement on 4 points



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- **Intersection Concepts:**

- 1a: Winslow Gray/South Sea: Upgrade signals
- 1b: Winslow Gray/South Sea: 4 Way realignment
- 1c: Winslow Gray/South Sea: Roundabout
- 2: Seaview: Signalization
- 3a: Forest Road: Upgrade signal
- 3b: Forest Road: Geometric upgrade

1

2

3

- **Standard Cross-section**

- 4a: Keep within existing ROW, no takings or easements
- 4b: Selectively Expand to 50' allowing for full streetscape in portions of the study area

4

Next Steps



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- **Detailed Conceptual Design for Corridor -- July-August**
- **Technical Review meeting -- August**
- **Public Presentation and Report – September**
- **PNF/PIF Filing**

Feedback?



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Contact

Tabitha Harkin

Community Design Planner

Phone: 508-362-3828

tharkin@capecodcommission.org

Thank You for attending!

Project materials available at:
www.capecodcommission.org

