A photograph of a street scene, likely in a town or village. The street is paved with asphalt and has a white line on the left and double yellow lines in the center. On the left side, there are utility poles with power lines and a street lamp. A dark car is parked on the left. In the background, there are large green trees and a brick building on the right. The sky is overcast. The text is overlaid in the center of the image.

**Nuts and Bolts
(or Gravel and Asphalt) of the
Main Street Project**

What is the Main Street Project?

The Main Street Project is a roadway project that addresses **pavement**, **infrastructure** and **safety** issues along Main Street between Sears Road and Park Street.



Pavement Issues

Poor subsurface – The road is at failure. The road was never properly constructed.



Pavement Issues

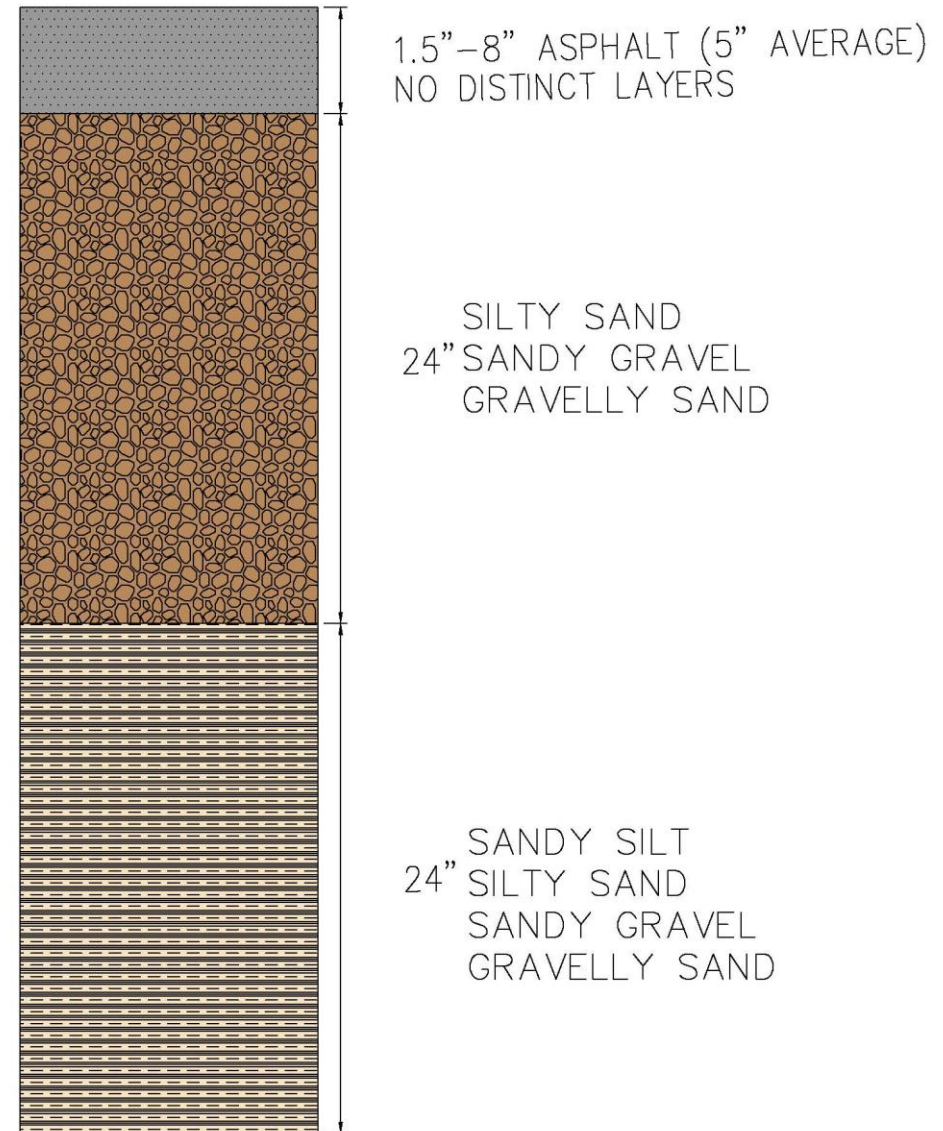
Poor subsurface –To properly repair the roadway the project will replace 20” of material under the road surface with 12” of new gravel and 8” of asphalt.

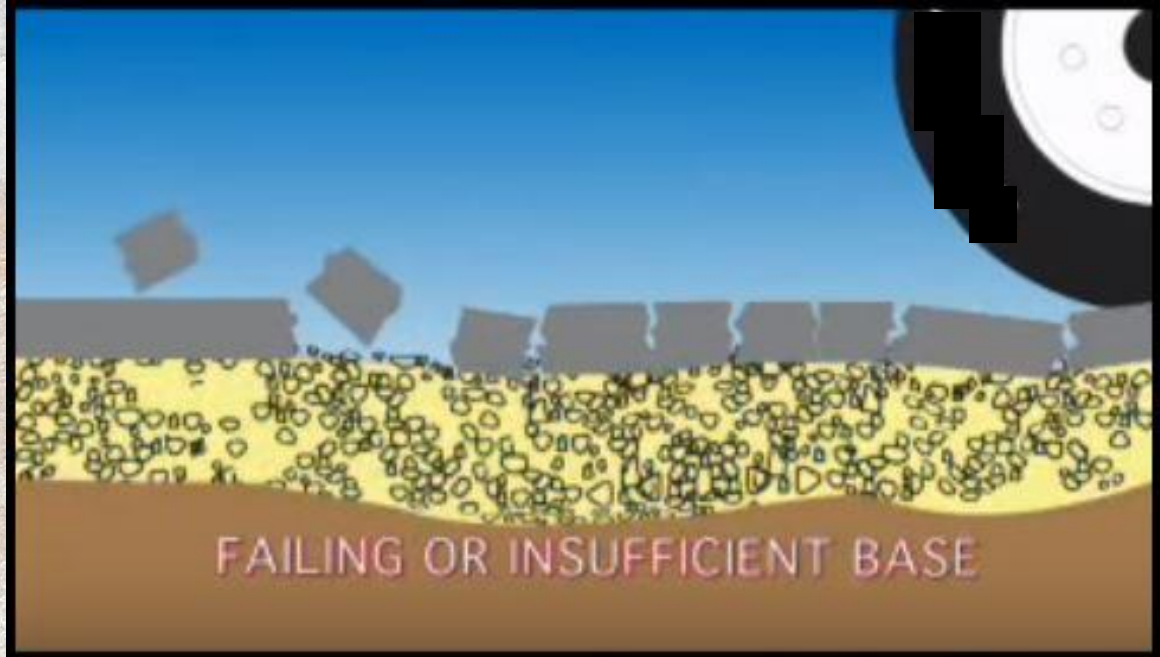


Pavement Issues

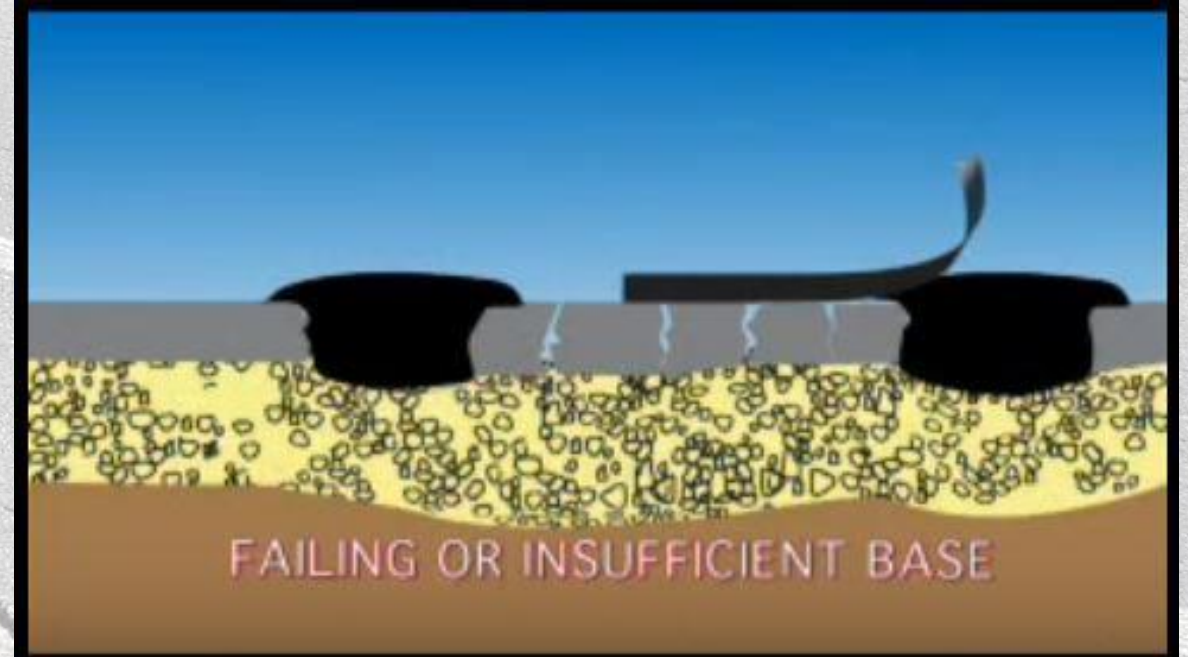
- The existing pavement structure consists of sandy materials and asphalt
- Sand moves and rolls (think of walking on beach sand)
- Even with an average of 5" of asphalt, the road is still failing

EXISTING PAVEMENT STRUCTURE





- ## Pavement Issues
- Poor base allows too much deflection in the roadway which creates cracks.
 - Eventually the cracks turn into pot holes



Pavement Issues

The Town can continue to seal cracks, fill pot holes, lay large patches of asphalt or lay asphalt over the entire road, but it won't last if the base is not repaired.



Pavement Issue Example –

- This section of Main Street was overlaid with a layer of asphalt in 2011.
- No work was done on the base.
- It has cracked, and has had multiple pot holes filled.

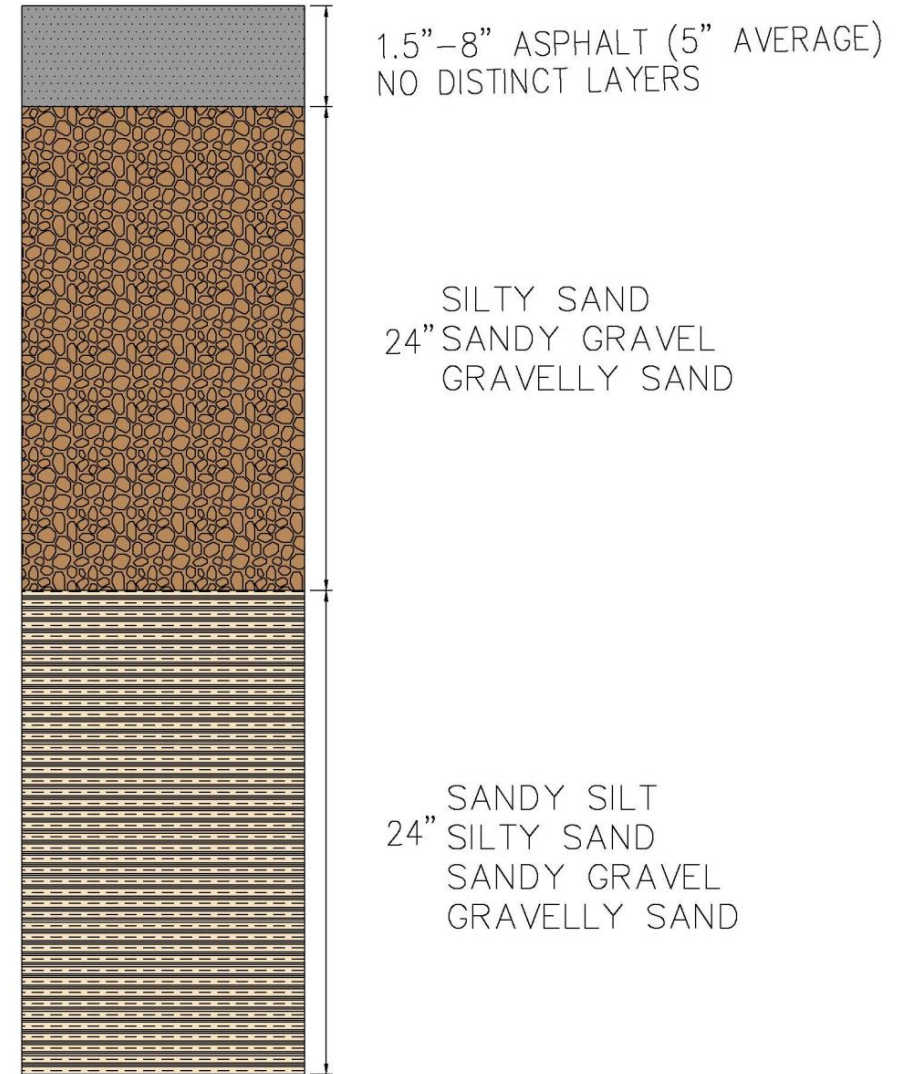


Pavement Issues

If we pave over the existing base:

- Cracks will appear within a year
- Pot holes will appear within 5 years
- The road surface will be at a higher elevation, which will affect the sidewalk elevation and driveways

EXISTING PAVEMENT STRUCTURE



Infrastructure/Pavement Issues

- On many roads the Town will reclaim the asphalt, which means we will crush it and mix it in with the base.
- As you can see from the graphic, the surface of the road stays at the same elevation.
- The road has to be graded in order to not raise the road higher than adjacent driveways and sidewalks.



Infrastructure/Pavement Issues

- Along Main Street some sidewalks are already below the road grade.
- The road will be re-graded 6"-12" lower in those and other locations.
- Asphalt, on average, is 5" thick on Main Street.
- The Town's reclaim process only mixes the top 6" of roadway.
- Reclaim is **NOT** an option for this project.



Pavement Issues – Full Depth Construction

- The proposed road structure removes 20 inches of material and replaces it with good gravel and new asphalt
- The layers of the base and pavement structure help give the roadway strength

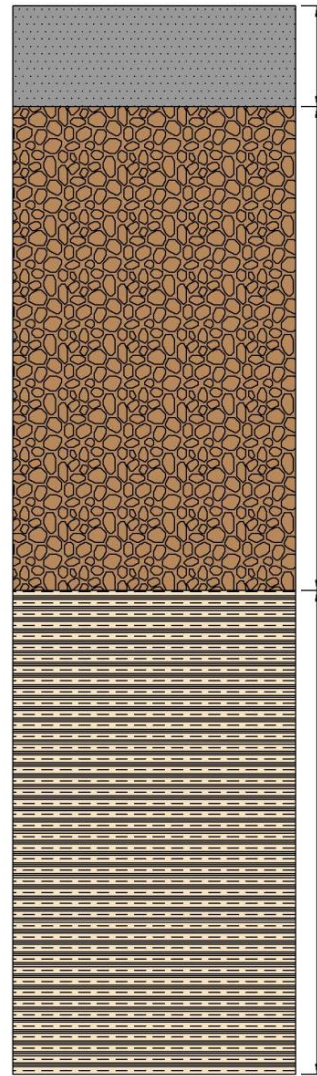
PROPOSED PAVEMENT STRUCTURE



Full Depth Reconstruction

- Will repair the roadway base and provide a strong foundation
- Is expensive but long lasting, and the best construction for this project

EXISTING PAVEMENT STRUCTURE

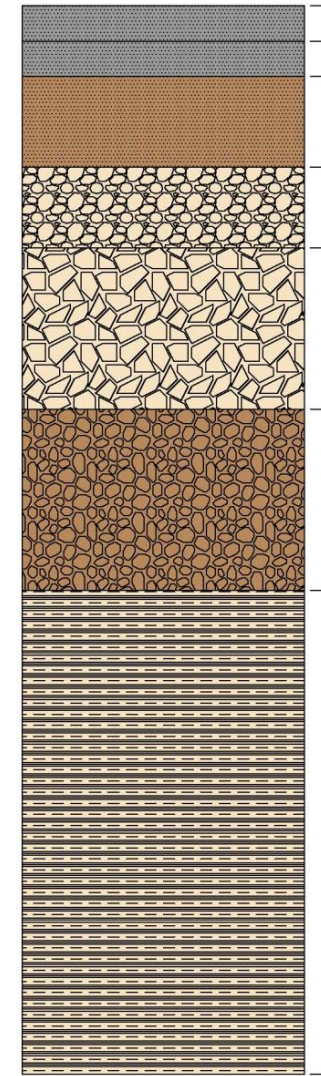


1.5"–8" ASPHALT (5" AVERAGE)
NO DISTINCT LAYERS

SILTY SAND
24" SANDY GRAVEL
GRAVELLY SAND

SANDY SILT
24" SILTY SAND
SANDY GRAVEL
GRAVELLY SAND

PROPOSED PAVEMENT STRUCTURE



1.75" HMA SURFACE COURSE
1.75" HMA INTERMEDIATE COURSE

4.5" HMA BASE COURSE

4" DENSE GRADED CRUSHED
STONE

8" GRAVEL BORROW

9" EXISTING SILTY SAND
SUBBASE

EXISTING SANDY SILT
SUBBASE

Infrastructure Issues

Drainage – without good drainage the road will continue to be at failure. Proper drainage helps keep the road base and pavement strong.



Infrastructure Issues

Drainage – poor drainage also leads to puddles and safety concerns along the roadway



Safety Issues

The project addresses pedestrian, bicycle and vehicular safety

Increases Pedestrian Safety by:

- Installing granite curbing on existing sidewalks to create a vertical separation between vehicles and pedestrians
- Shortening crossings at intersections
- Introducing a road shoulder as a buffer between pedestrians and vehicles
- Using contrasting colors at crosswalks
- Installing new sidewalks

Increases Bicycle Safety by:

- Introducing a road shoulder for bike use

Increases Vehicular Safety by:

- Creating a left turn lane at each approach to the Routes 85 & 30 intersection

EASEMENT BREAKDOWN SUMMARY

	QUANTITY	LAND AREA
PERMANENT ROADWAY EASEMENTS	30	10,934
BUSINESS	8	2,078
GOVERNMENT	4	1,119
NON-PROFIT BUSINESS	2	1,173
NON-PROFIT CHURCH	2	1,096
NON-PROFIT SCHOOL	8	4,730
PRIVATE RESIDENCE	6	738
PERMANENT UTILITY EASEMENTS	25	16,140
BUSINESS	3	11,781
GOVERNMENT	2	628
NON-PROFIT BUSINESS	3	221
NON-PROFIT CHURCH	2	373
NON-PROFIT SCHOOL	8	993
PRIVATE RESIDENCE	9	2,144
TEMPORARY EASEMENTS	67	105,863
BUSINESS	13	17,162
GOVERNMENT	11	22,649
NON-PROFIT BUSINESS	1	7,284
NON-PROFIT CHURCH	3	2,592
NON-PROFIT SCHOOL	18	31,788
PRIVATE RESIDENCE	21	24,388
TOTAL	122	132,937

Easements

The Special Town Meeting vote is to allow Selectmen to negotiate easements.

- There are 6 permanent easements from private residences needed to accommodate the road or sidewalk.
- These total 738 SF.
- Four of these locations currently accommodate road or sidewalk.
- Two locations are new because of the project.
- One of the permanent utility business easements is for the drainage basin.

Costs?

- The project is currently funded through the Transportation Improvement Program (TIP)
- The total project cost is \$7.2M which is fully funded by the TIP (State and Federal money).
- Southborough is part of the Boston Region Metropolitan Planning Organization (MPO). The MPO determines which projects get funded through the TIP. The MPO consists of 22 members from neighboring Towns, Cities and some State Agencies.
- Engineering costs have all been reimbursed through the State's Chapter 90 program (\$750k to date)
- Appraisals for easements will be funded through the State's Chapter 90 program, which are reimbursed funds.
- Payment for easements will also be funded through the State's Chapter 90 program, which will be reimbursed.

What Happens at Woodward?

Project includes:

- New sidewalk to Woodward School on the east side of Cordaville Road
- Improved sidewalk on the west side of Cordaville Road
- Delineated School Zone on Main Street at Woodward path crossing



Historical Commission's Requests

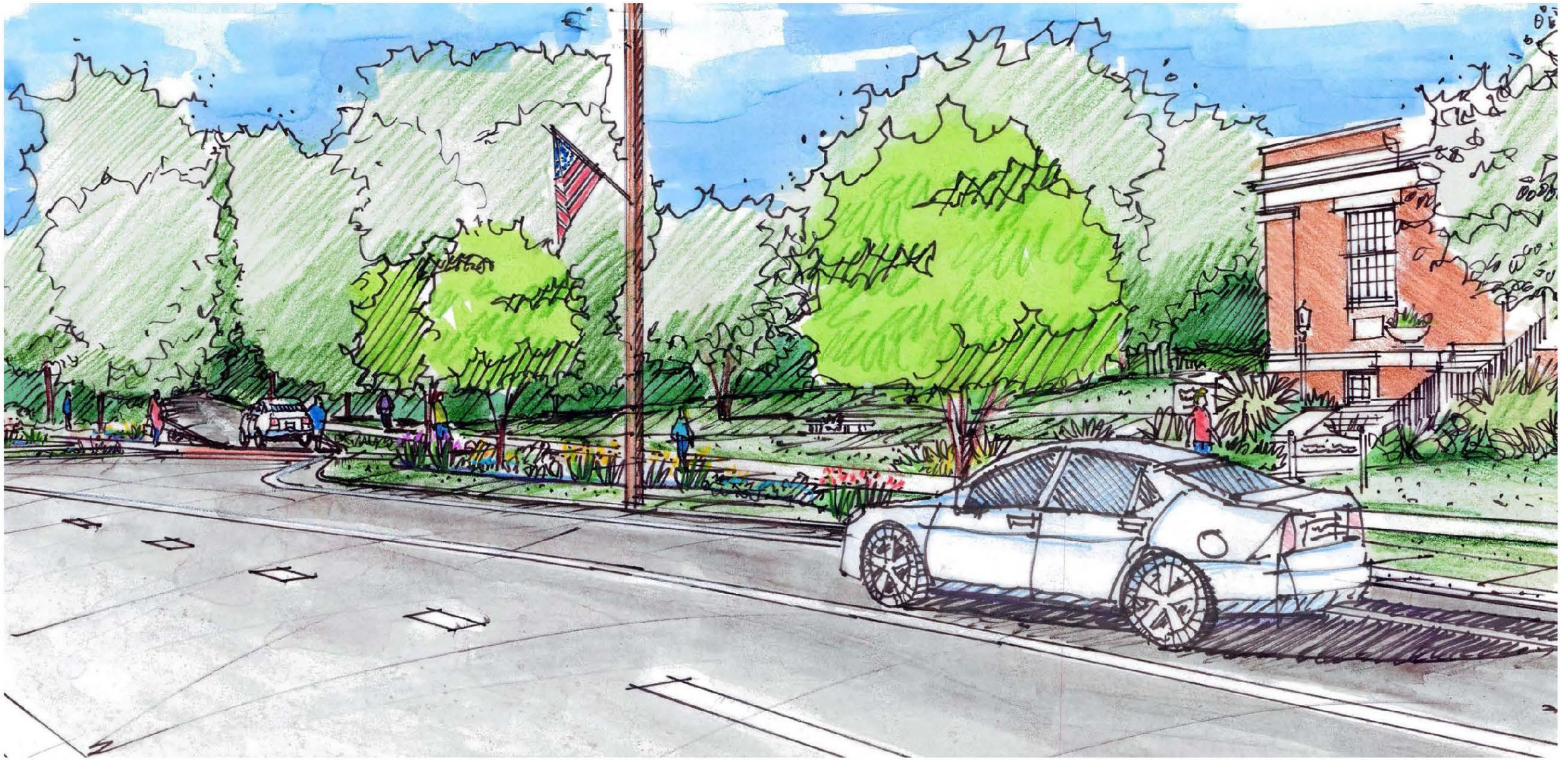
- Preserve and place the stone marker at the west end of the Common.
- Extend existing railing and granite posts on the Common, replicate existing for additional footage.
- Use Ground Penetrating Radar along the Common's retaining wall and along the stone wall of the Old Burial Grounds.
- When reconstructing the Common's retaining wall mark all capstones and return and re-use in same relative position in the wall.
- Reset granite watering trough in the same relative place in the wall alignment.
- Reset the granite block steps in the same relative position in the wall alignment.
- Do not disturb the Veteran's of All Wars Memorial.
- Relocate original "Common Street" road signs as close to their existing positions as possible.

Deerfoot looking East



Looking toward the library east on Main Street (Standing at Middle Road)

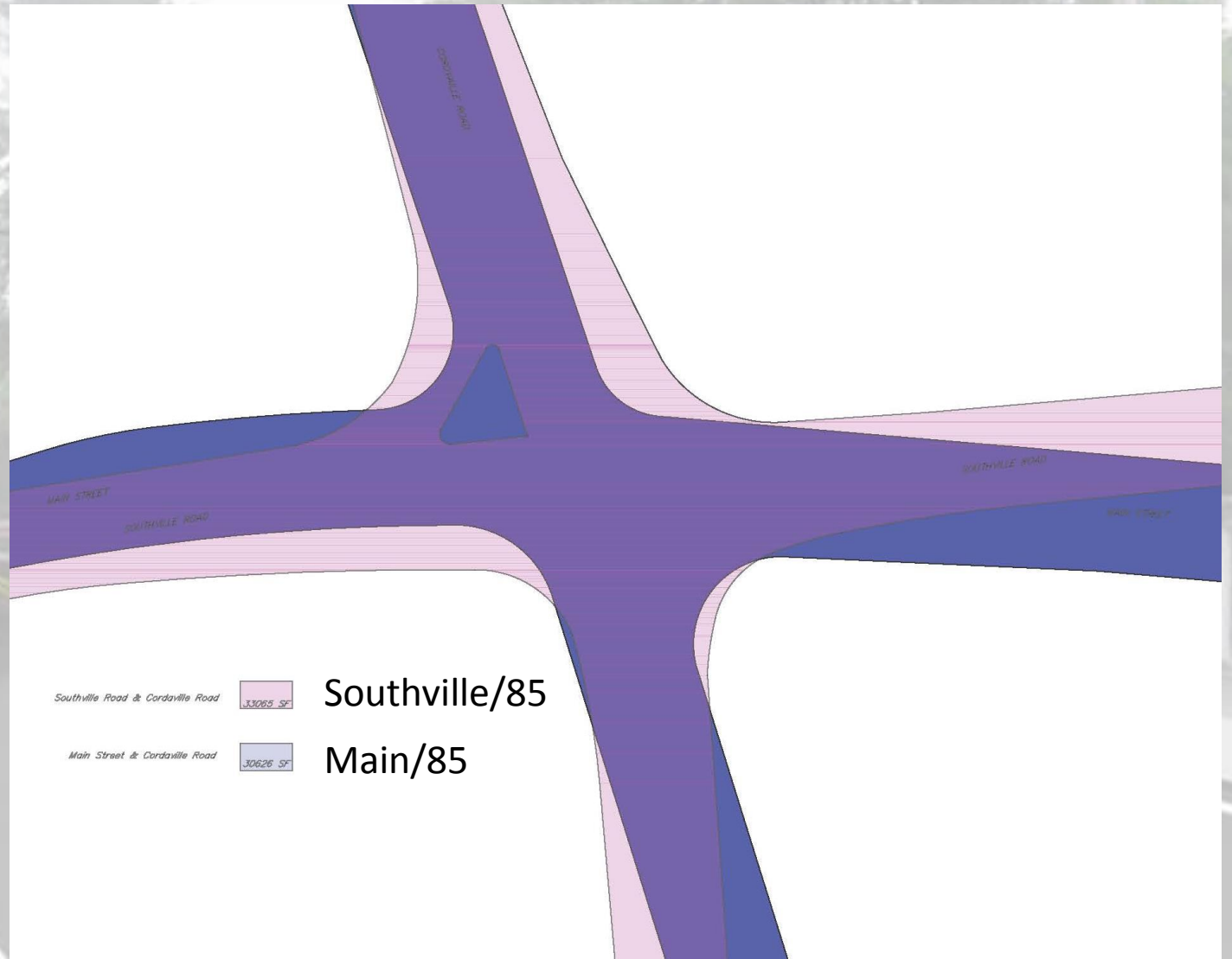




Main Street (Route 30) Improvements
Southborough, MA |

The Main Street and Route 85 Intersection

The Main Street and Route 85 Intersection design includes a left turn lane on each approach. The intersection, when built, will be smaller than the Southville Road and Route 85 intersection.



Looking East From Common



From Library's northern driveway looking south



From Library's northern driveway looking south



Library Looking South (compared to Southville)



Looking North from Cordaville Rd





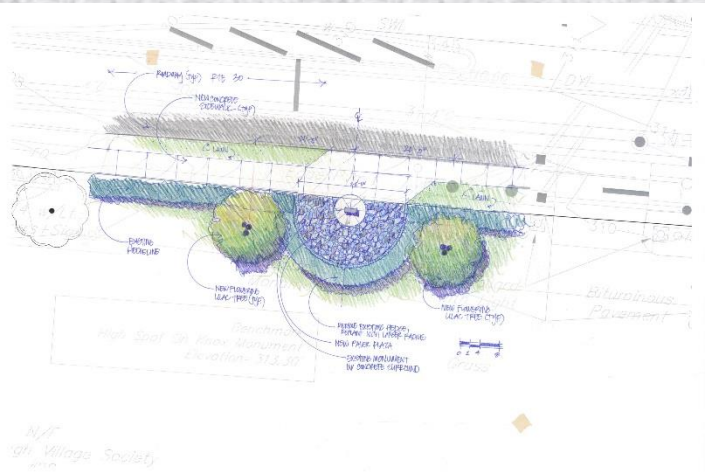
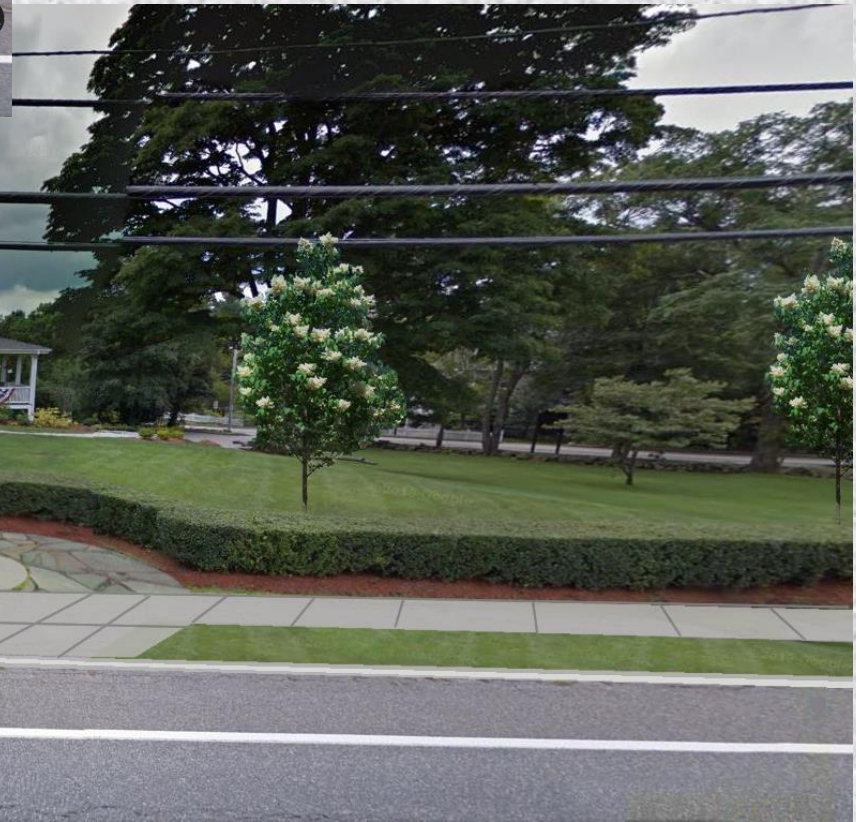
Cordaville Looking North (compared to Southville)



Looking West From Across from Community House



Henry Knox Memorial



W.F. de Winge Society
2010

Across from Public Safety looking west




Near Woodward walkway looking east



What if we don't pass the Easement Article?

At a minimum we have to fix the road with full depth reconstruction, make the sidewalks safe and meet the Americans with Disabilities Act (ADA) standards:

Tree protection/removal	\$20,000
Roadway and sidewalk sub-base replacement, grading and paving	\$2,030,000
Curb Work, new and reset	\$390,000
Water work due to grade changes	\$243,000
Drainage work, install new and repair existing	\$690,000
Drainage basin at Parkerville	\$49,000
Wall work at Parkerville	\$58,500
Loam and seed	\$50,000
Road signs and paint	\$55,000
Traffic management (cones, barrels, construction signs, etc.)	\$80,000
Contractor mobilization	\$120,000
Construction Oversight*	\$415,000
Utility work (reset poles)*	\$95,000
Police details*	\$30,000
10% contingency (* items not included in contingency)	\$376,500
TOTAL	\$4,702,000



Special Town Meeting
October 18, 2016
Trottier School -7pm

For More Information:

southboroughma.com/mainstreet

or contact DPW 508-485-1210

kgalligan@southboroughma.com



Main Street (Pond) Project
Southborough, MA