

TOWN OF NATICK

MASSACHUSETTS

JEREMY MARSETTE, P.E.

DIRECTOR

To: Jonathan Freedman, Chair Board of Selectmen
Joshua Ostroff, Chair Transportation Advisory Committee
William Chenard, Acting Town Administrator

From: Jeremy Marsette, PE
Director of Public Works *JM*

Subject: South Main Street Roadway Improvement Project - Update

Date: March 16, 2018

South Main Street from Cottage Street south to the town line with Sherborn has been included on the Town's Five Year Roadway Improvement Plan. At the 2016 Fall Town Meeting funds were appropriated for the study and design of improvements. A Request for Proposal process was used to select a transportation consultant to perform the study and design. The consultant has completed a full on-the-ground topographical survey of the roadway, developed a complete base plan including property line information, collected vehicle counts and speed information, gathered pedestrian and bicycle counts, performed pavement cores to analyze its condition, and have developed several proposed alternatives for the Town's consideration.

As part of the design development process, several public meetings were held with the Transportation Advisory Committee and the Board of Selectmen. A Public Information Meeting was also held on November 28th at the Morse Institute Library (consultant notes of this meeting are attached). A second Public Information Meeting is scheduled for the evening of March 28th.

South Main Street is classified as an Urban Principal Arterial and is a state numbered route (Route 27). The roadway carries 10,020 vehicles per day (average annual daily traffic) and about 4% of this traffic are classified as trucks. The regulated and posted speed limit for the northern section of South Main Street is 30 mph. The measured "85 percentile speed" was 33 mph. The pavement condition (RSR) is currently 70 out of 100, indicating it is in fair to poor condition. The sidewalks and wheelchair ramps are in fair to poor condition and are not compliant with current Americans with Disability Act (ADA) and Massachusetts

Architectural Access Board (MAAB) regulations and requirements. Many utility poles fall within the middle of the sidewalk or in close proximity to the vehicle path of travel. These utility poles make sidewalk maintenance (snow plowing and sweeping) a challenge and contribute to non-compliance with ADA/MAAB. *Any alternative for the reconstruction of South Main Street will involve considerable relocations of existing utility poles.* The existing roadway layout (public right-of-way) width is 41.25 feet and the current curb-to-curb roadway width is 26 feet.

North Main Street (Route 27) from North Avenue to the town line with Wayland will be reconstructed using state and federal funding. This \$11 million construction project is included on the Boston Metropolitan Planning Organization's Transportation Improvement Program and will be constructed in Federal Fiscal Year 2019. USDOT and MassDOT design standards require North Main Street to be reconstructed with 11-foot wide travel lanes, 5-foot wide shoulders, and 5-foot wide sidewalks. A 3-foot wide grass set back is also to be provided between the shoulder and sidewalk. Therefore, the foot print width of the proposed roadway cross-section for North Main Street is 48 feet (curb-to-curb width of 32 feet). This curb-to-curb width is the narrowest allowed by standards to receive State and Federal funding.

On March 23, 2015 the Board of Selectmen adopted a Policy on Complete Streets. A copy of the policy is attached and additional information may be found on the Town's website at <http://www.natickma.gov/1331/Complete-Streets>. The town's transportation consultant was charged with considering this Policy during the development of proposed alternatives for the reconstruction of South Main Street.

During discussions of design alternatives for South Main Street the roadway has been considered in two segments. Segment 1 runs from the Sherborn town line to West Street and Segment 2 from West Street to Cottage Street. The focus of discussion has been Segment 2. The attached Alternatives Matrix provides a summary of the range of alternatives presented for Segment 2. Alternative 1 is a "foot print" reconstruction retaining the existing curb-to-curb width, Alternative 2 provides a separate off road multi-use path (Alternative 2 was removed from consideration by vote of the Selectmen at their March 5th meeting), and Alternative 3 provides a reconstructed roadway that fully considers the Town's Complete Street Policy. Revised Alternative 3, also included in the Matrix, presents the narrowest roadway cross-section that fully considers complete streets principles. To help visualize the alternatives please find the attached renderings (perspective color drawings).

Revised Alternative 3 was developed to provide an alternative that would provide a proposed roadway cross-section for South Main Street that might balance many competing needs of the Town, increase safety, and respect properties along the corridor. The revised alternative would narrow the proposed roadway travel lanes to 10.5 feet (to help control vehicle speeds); provide bicycle accommodation along the roadway; provide more offset between vehicle travel lanes and pedestrians on the sidewalk (improving safety and the pedestrian environment); fully reconstruct the curbing, sidewalks, and wheelchair ramps; provide a uniform location for the consolidation of overhead wires; set back utility poles from the vehicle travel lanes to improve safety (an issue noted by the Safety Committee); provide clear space for the proper removal of snow from sidewalks; and place the general cross-section of improvements within the existing Town roadway layout (minimizing impacts to adjacent properties). The attached sketch helps depict the revised alternative.

Common to all alternatives will be the incorporation of traffic calming and pedestrian safety features. The conceptual plans of Alternative 1 and Revised Alternative 3 to be presented at the next public information meeting will highlight the locations of these improvements. It is envisioned that all pedestrian crosswalks on South Main Street (6 locations) will be provided with contrasting colored/textured pavement and high visibility pedestrian crossing signals. A raised intersection would be provided at the intersection of South Main Street/Circular Avenue/Curve Street with the same colored/textured pavement as the sidewalks. Raised crosswalks may be provided for the two most northern crosswalks on South Main Street (these locations could also include curb bump outs under Revised Alternative 3). Landscaped median islands may be provided on South Main Street at Cottage Street and West Street (these islands would promote slower vehicle speeds and raise motorist awareness of pedestrians – these would also provide a visual gateway for the approach to Natick Center). The existing school zone warning signs would be replaced with modern high visibility active flashing signage. Traffic speed feedback signage will be provided at a couple strategic locations. Also the project will include a program to plant additional street trees (we will encourage interested project abutters to request “setback” plantings). These plantings would be in addition to those required to mitigate impacts. The incorporation of these improvements will improve safety, contribute to the aesthetics of the corridor, and increase the enjoyment of this roadway by residents.

Once the Community selects a design alternative (generally via the Board of Selectmen as Roadway Commissioners), we will be able to continue design refinements and coordination with utility companies. For planning purposes, we would anticipate direction from the Board of Selectmen this spring (early April 2018), discussions for utility pole relocations with utility companies May to June so that they may begin relocations this Fall, capital funding request for construction at this Fall Town Meeting, and a construction start next Spring (March 2019).

**GREEN INTERNATIONAL AFFILIATES, INC.**

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MEETING MINUTES

Project Name: Roadway Improvements to South Main Street
(Green No. 17008.01X)
Subject: Public Informational Meeting – BOS & TAC
Date / Time: November 28, 2017
Location: Morse Library, Lebowitz Meeting Hall
Prepared By: John Maidrand, Green International Affiliates (Green)

The meeting was held at the Morse Library in the Lebowitz Meeting Hall meeting room on November 28, 2017 at 7:00 pm to present the 3 alternatives for the South Main Street Project. Jonathan Freedman, chairman of the Board of Selectmen (BOS), opened the meeting and provided a brief summary of the intent of the meeting. Joshua Ostroff, chairman of the Transportation Advisory Committee (TAC), provided a brief introduction of the TAC's role. Jeremy Marsette, DPW Director, provided an overview of the project. Erik Atkins, Green International, presented the project to the audience.

The following is a summary of the comments and questions that were presented and the responses that were provided at the meeting. This is not a verbatim transcript but only a general account of the comments/questions and responses to those questions.

#140 So. Main St:

- Are any residential properties required to be purchased in their entirety?
No.
- Are easements only required for the work or will utility easements also be required?
Takings and easements will depend on which Alternative is selected. Alternatives 1 and 3 will require minimal takings, Alternative 2 will require takings the length of the project.
- What is a right of entry?
Allows the contractor to perform work within your property to match the proposed work to existing conditions and is only for a limited time period.
- Will anyone lose frontage or acreage?
Takings will depend on the selected Alternative.
- Do we get to vote or how will the final Alternative be determined?
BOS makes the decision on the final Alternative. This public meeting is part of the determination process.

Did not identify:

- Explain why Alternative 2 is preferred by TAC.
Town has adopted the Complete Streets Policy which tries to take into account the needs for all road users. Alternative 3 provides a safe path for bicyclists beyond the roadway and accommodates pedestrians. Town has received grants for several Complete Streets projects in Town.
- How is this project budgeted?
Construction funds have not been set aside yet but those funds will include the cost of ROW takings.

#178 So. Main St:

- Alternative 2 is my least favorite. What grants does the Town gain or lose by selecting or not selecting Alternative 2?
The Town does not anticipate receiving any grants for this project.

Did not identify:

- What is the rough cost of each Alternative?
Alternative 1 is about \$1.7 million, Alternative 2 about \$4 million and Alternative 3 about \$2.5 million. These are very preliminary costs.

#153 So. Main St:

- As a bicyclist, the wider shoulders are good. You need to consider the character of the street. It's an old neighborhood and the houses are set back a minimal distance from the street. I'm not in favor of Alternative 2. Selected alternative should maintain the character of the neighborhood.

Did not identify:

- Will the project begin in the Spring?
This is contingent upon funding for the project.
- Will the project be constructed in phases, say Segment 1 first then Segment 2?
Construction would be phased if it's advantageous to the Town. We usually let the contractor decide how to phase the work within the parameters set by the Town.

Did not identify:

- Given the options, considering the loss of trees, losing character of the neighborhood, removing fences, recommend Alternative 1.

#163 So. Main St:

- If Town owns 10 feet into property would the taking be 10 feet?
The Town owns 41.25 feet generally centered within the existing paved roadway. Takings would depend on which Alternative is selected. The takings in Alternative 2 are about 3 feet along both sides. May be a little more on one side than the other in certain locations due to the angle points in the layout.
- What material would the sidewalks be?
Bituminous concrete.
- Would the grass strip, or dirt strip because grass doesn't grow, be eliminated?
Yes, under Alternatives 1 and 3 the grass strip is eliminated. Alternative 2 proposes a 3' grass strip between the roadway and the shared use path.

Tom Collins:

- One other project that was done was a complete disaster. Why can't they fix road and sidewalk and go away?

Did not identify:

- Has a study of the usage by bicyclist been done? Where are they going, Sherborn, high school?
Traffic and bicycle counts have been taken but a study of the bicycle traffic was not done.
- Will the sidewalk extend to Sherborn?
Sidewalk may be extended depending on impacts and final design will try to minimize impacts to the wetlands.

#140 So. Main St:

- Who's paying for this?
The Town through capital expenditure funds.
- Will this project increase my taxes?
No, but there are other upcoming projects, like the new middle school, which will increase taxes.
- I'm pro-biker but I knew my kids would not be biking along South Main Street when I purchased the house. My kids walk their bikes to the side street where their friends live and ride there. Natick is not a bicycle town.

#15 Morgan Dr:

- Residents have expressed a concern about the speed on South Main Street. Has there been an analysis to determine if wider roads increase speeds?
Yes, studies have shown that speed can increase on wider roads. We can suggest ways to help control speed such as speed feedback signs or police enforcement.

Ken Worthing:

- Logical reason for the shared use path is for safety reasons considering speed of traffic. Town has not made an effort to use speed lights to slow down traffic.

#127 So. Main St:

- My property will be impacted by Alternative 2. The neighborhood will lose character and there will be minimal usage of shared path. Has the shared use path been used anywhere and how was it used?
Have not been used in Natick but is used in other communities like Cambridge.
- The grass strip is not wanted. Why not brick or some other material?
Other materials could be used and we will evaluate options with the Town.

#110 So. Main St:

- Is the 5-6 foot taking a reasonable assumption?
In the south section near the hill, 6 feet is probably the maximum width. Closer to the center of Town the taking equalizes on both sides, about 3 feet.
- Project is removing a number of trees. Will they be replaced?
That is to be determined by the Town but most likely there will be replacement trees.
- What is the cost benefit of Alternative 2? What are we getting out of it?
A cost-benefit analysis has not been performed.

BOS:

- Clarify the cost. Is it in the current capital plan?
The project is not in the current capital plan but will be presented at Town meeting in the capital plan.
- How is the project funded?
Town will use the money allotted to capital improvements.

Mike Hickey BOS:

- Where will the utility poles be relocated?
For Alternatives 1 and 3 utility poles will be relocated behind the sidewalk. For Alternative 2 they would be relocated to the buffer between the roadway and shared use path. It's hoped that the utility companies will consolidate the poles to one side of the street.

Did not identify:

- I'm in favor of Alternative 3. I'm a bike rider and the wider shoulder is also good for the motorist.

#97:

- This is a continuation of the rail trail. Opposed to Alternative 2.

Did not identify:

- Does the owner have any say in where the fences will be relocated?
Yes, the owner can request a location outside the ROW.

#148:

- Parking could be an issue if project requires taking land. Some driveways are barely long enough for 1 car now and some cannot be extended.

#146:

- Alternate 2 would eliminate the driveway at #148. Are there any other shared use paths?
This would be the first one in Natick.
- Does anyone support Alternative 2?
(One member of TAC raised hand)

Did not identify:

- Hard to imagine the scale of the project. How does this project compare to Cottage Street?
Cottage Street is a little different in that it is a scenic road and has sidewalk on only one side. Also, existing pavement was reclaimed.
- What is the cost comparison of this project with Cottage Street?
Cottage Street was \$1.5-1.7 million (actually \$2.5) and Alternative 1 is about \$1.7 million, Alternative 2 about \$4 million and Alternative 3 about \$2.5 million.

Did not identify:

- Why did TAC recommend Alternative 2?
TAC looked to implement the Complete Streets policy and provide for the safety of bikers. The TAC recommendation is part of the process as is this public meeting and BOS will make the final decision.
- Their recommendation did not account for impact to abutters. Would like some assurance the public has been heard.
All BOS members are present and they have been listening to all of the comments.

#120:

- I'm an occasional biker but do not like Alternative 2. Prefer Alternative 1 or 3. Does the Town compensate the property owner for the takings?
Yes, but the value is a lot less than what most people think. Evaluation for the land is not as high as for the house. The value for an easement is negotiated with the property owner.
- After this meeting, the BOS will make a decision. Will this be a separate line item or included with something else?
This will be included with the capital improvements. Town meeting can vote to remove specific expenditures from the capital improvements.

Sue BOS:

- When the BOS considers which alternative to approve, it will be an open meeting and the public is welcomed.

#163:

- Against Alternative #2.

#161:

- Prefers Alternative 3, against Alternative 2. Widening roadway would improve safety.

#153:

- Needs more information.
Detailed plans will be provided as the project advances once the preferred alternative is selected.

Did not identify:

- Need to clarify the ROW limits. Also, the postcards arrived one week before the meeting and the notice should have been sent earlier.

The selectmen asked for a tentative show of hands for the preferred alternative. There was no actual count but visually it appeared more hands were raised for Alternative 1.)

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TOWN OF NATICK COMPLETE STREETS POLICY

Vision and Purpose:

Complete Streets are designed and operated to provide safety and accessibility for all the users of our roadways, trails and transit systems, including pedestrians, bicyclists, transit riders, motorists, commercial vehicles, and emergency vehicles and for people of all ages and abilities. Furthermore, Complete Streets principles contribute toward the safety, health, economic viability, and quality of life in a community by providing accessible and efficient connections between home, school, work, recreation and retail destinations by improving the pedestrian and vehicular environments throughout communities. The purpose of Natick's Complete Streets policy, therefore, is to accommodate all road users by creating a road network that meets the needs of individuals utilizing a variety of transportation modes. It is the intent of the Town of Natick to formalize the planning, design, operation and maintenance of streets so that they are safe for all users of all ages and abilities as a matter of routine. This policy directs decision-makers to consistently plan, design, and construct streets to accommodate all anticipated users including, but not limited to pedestrians, bicyclists, motorists, emergency vehicles, and freight and commercial vehicles.

Core Commitment:

The Town of Natick recognizes that users of various modes of transportation, including, but not limited to, pedestrians, cyclists, transit and school bus riders, motorists, delivery and service personnel, freight haulers, and emergency responders, are legitimate users of streets and deserve safe facilities. "All Users" includes users of all ages and abilities.

The Town of Natick recognizes that all projects, new, maintenance, or reconstruction, are potential opportunities to apply Complete Streets design principles. The Town further recognizes that many Natick roads are substandard, unaccepted, scenic, and/or constrained by natural features or other limitations. The Town will, to the maximum extent practical, design, construct, maintain, and operate all streets to provide for a comprehensive and integrated street network of facilities for people of all ages and abilities.

Complete Streets principles and design elements shall be considered for all publicly and privately funded projects, and incorporated as appropriate. All transportation infrastructure and street design projects requiring funding or approval by the Town of Natick, as well as projects funded by the state and federal government, such as the Chapter 90 funds, Town improvement grants, Transportation Improvement Program (TIP), the MassWorks Infrastructure Program, Community Development Block Grants (CDBG), Capital Funding and other state and federal funds for street and infrastructure design shall adhere to (comply with) the Town of Natick Complete Streets Policy.

Private developments and related street design components or corresponding street-related components shall adhere to (comply with) the Complete Streets principles. In addition, to the extent practical, state-owned roadways will comply with the Complete Streets resolution, including the design, construction, and maintenance of such roadways within Town boundaries.

Transportation infrastructure may be excluded, upon approval by the Town Engineer with review by the Board of Selectmen, where documentation and data indicate that:

1. Facilities where specific users are prohibited by law, such as interstate freeways or pedestrian malls. An effort will be made in these cases for alternative accommodations.
2. Where cost or impacts of accommodation are excessively disproportionate to the need or probable use or probable future use.
3. Where the constraints of the roadway preclude a design that can safely accommodate all users. An effort will be made in these cases for alternative accommodations.
4. Where such facilities would constitute a threat to public safety in the determination of the Town Engineer in consultation with the Natick Police Department Safety Officer.

Best Practices:

The Town of Natick Complete Streets policy will focus on developing a connected, integrated network that serves all road users. Complete Streets principles will be integrated into policies, planning, and design of all types of public and private projects, including new construction, reconstruction, rehabilitation, repair, and maintenance of transportation facilities on streets and redevelopment projects.

Implementation of the Town of Natick Complete Streets Policy will be carried out cooperatively within all departments in the Town of Natick with multi-jurisdictional cooperation, to the greatest extent possible, among private developers, and state, regional, and federal agencies.

Complete Streets principles include the development and implementation of projects in a context sensitive manner in which project implementation is sensitive to the community's physical, economic, and social setting. The context-sensitive approach to process and design includes a range of goals by considering stakeholder and community values on a level plane with the project need. It includes goals related to livability with greater participation of those affected in order to gain project consensus. The overall goal of this approach is to preserve and enhance scenic, aesthetic, historical, and environmental resources while improving or maintaining safety, mobility, and infrastructure conditions.

The Town of Natick recognizes that "Complete Streets" may be achieved through single elements incorporated into a particular project, or incrementally through a series of smaller improvements or maintenance activities over time.

The latest design guidance, standards, and recommendations available will be used in the implementation of Complete Streets including:

- The Massachusetts Department of Transportation Project Development and Design Guidebook and current Engineering Directives
- The latest edition of American Association of State Highway Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets
- The United States Department of Transportation Federal Highway Administration's Manual on Uniform Traffic Design Controls (2009).
- The Architectural Access Board (AAB) 521CMR Rules and Regulations
- Documents and plans created by or for the Town of Natick, such as bicycle and pedestrian network plans, land use plans, open space and recreation plans, Town of Natick Pavement Management Program Five-year Roadway Improvements Plan.

Complete Streets implementation and effectiveness should be constantly evaluated for success and opportunities for improvement. The town will develop performance measures to gauge implementation and effectiveness of the policies.

The Town will endeavor to ensure that Natick ways, including but not limited to those subject to improvements under this policy, are accessible to all, and that the town employs education, encouragement and enforcement to help ensure the safety of all users.

Implementation:

The Town shall make Complete Streets practices a routine part of everyday operations, shall approach every transportation project and program as an opportunity to improve streets and the transportation network for all users, and shall work in coordination with other departments, agencies, and jurisdictions to achieve Complete Streets.

Town shall review and either revise or develop proposed revisions to all appropriate planning documents (master plans, open space and recreation plan, etc.), zoning and subdivision codes, laws, procedures, rules, regulations, guidelines, programs, and templates to integrate Complete Streets principles in all Street Projects. A committee of relevant stakeholders designated by the Town Administrator may be created to implement this initiative.

The Town shall maintain a comprehensive inventory of pedestrian and bicycle facility infrastructure, including infrastructure in need of maintenance, repair and connectivity, which will prioritize projects to eliminate gaps in the sidewalk and bikeway network.

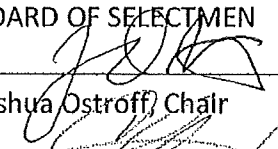
The Town will consider capital planning and funding to encourage implementation of Complete Streets implementation.

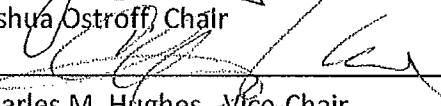
The Town will train pertinent town staff and decision-makers on the content of Complete Streets principles and best practices for implementing policy through workshops, reference materials, and other appropriate means.

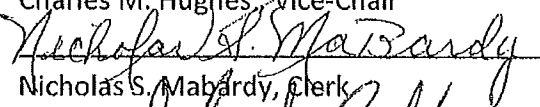
The Town will utilize inter-department coordination to promote the most responsible and efficient use of resources for activities within the public way.

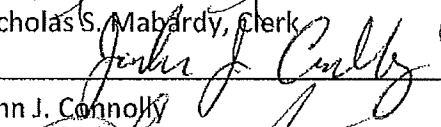
The Town will seek out appropriate sources of funding and grants for implementation of Complete Streets policies, and advocate for such funding directly or through affiliations.

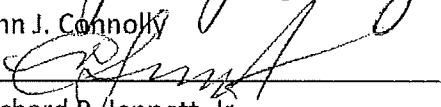
BOARD OF SELECTMEN


Joshua Ostroff, Chair


Charles M. Hughes, Vice-Chair


Nicholas S. Mabardy, Clerk


John J. Connolly


Richard P. Jennett, Jr

Adopted: March 23, 2015

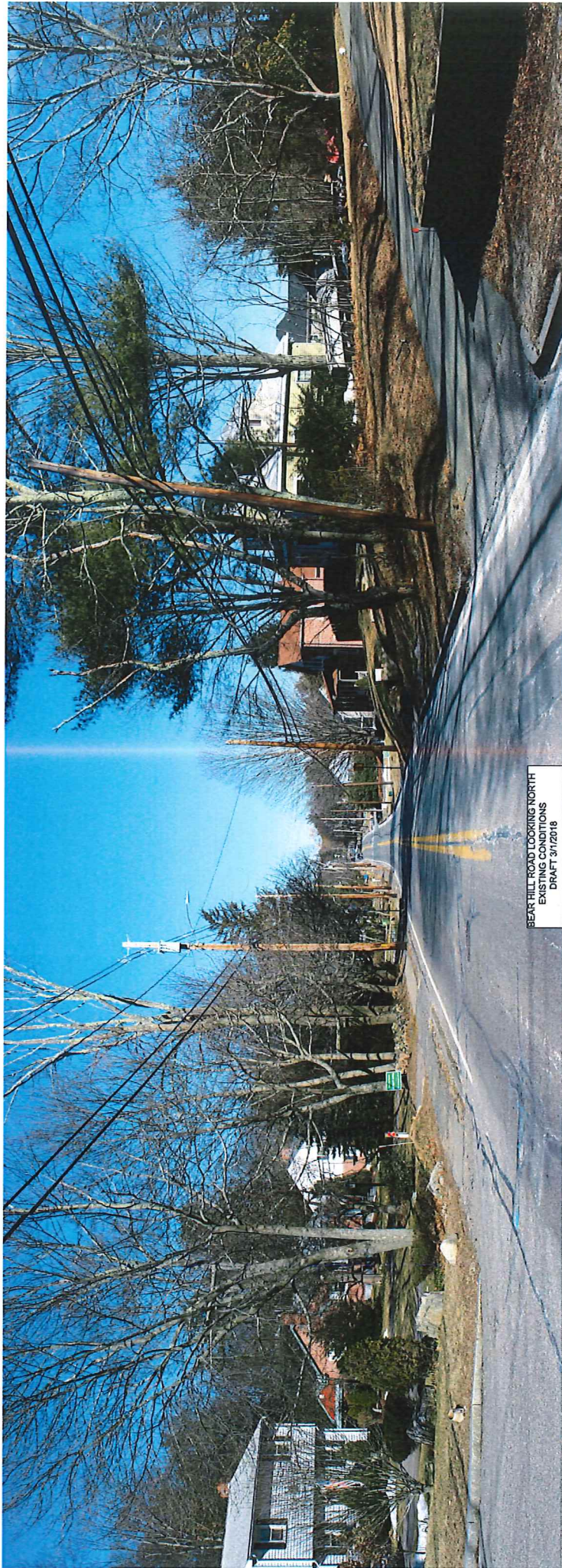
ALTERNATIVES MATRIX - SEGMENT 2

SOUTH MAIN STREET

3/16/2018

Cottage Street to West Street

	Alternative 1	Alternative 2	Alternative 3	Alternative 3 Revised
	Maintain Existing Curblane Width	Adjacent Shared Use Path	Shoulders for Pedestrian Separation and Bicycle Use	Shoulders for Pedestrian Separation and Bicycle Use
Roadway Cross-section	11 foot vehicle lanes 2 foot shoulders 5 foot sidewalk	11 foot vehicle lanes 2 & 4 foot shoulders 10 foot shared use path - 5 foot shared use path	11 foot vehicle lanes 4 foot shoulders 5 foot sidewalk	10.5 foot vehicle lanes 4 foot shoulders 5 foot sidewalk
Curb-to-curb Width	26 feet	28 feet	30 feet	29 feet
Number of Right of Way Actions	5	99	9	9
Area of Right of Way Acquisitions/Easements	80 sf	32,000 sf	300 sf	300 sf
Utility Pole Impacts	Moderate	Major	Major	Major
Utility Pole Relocations	In Roadway Layout	In Roadway Layout	Outside Roadway Layout	In Roadway Layout
Private Improvements Impacted	10	76	54	54
Bicycle Accommodation	No Separate Accommodation	Full Off Road	Separate On Road	Separate On Road
Pedestrian Accommodation	Full/ADA	Full/ADA	Full/ADA	Full/ADA
Complete Street	No	Yes	Yes	Yes
Traffic Calming Features	Yes	Yes	Yes	Yes
Construction Impacts	Minor	Major	Moderate	Moderate
Estimated Construction Duration	1 Season	2.5 Seasons	1.5 Seasons	1.5 Seasons
Estimated Construction Cost	\$2.3 Million	\$4.0 Million	\$3.0 Million	\$3.0 Million



BEAR HILL ROAD LOOKING NORTH
EXISTING CONDITIONS
DRAFT 3/12/2016



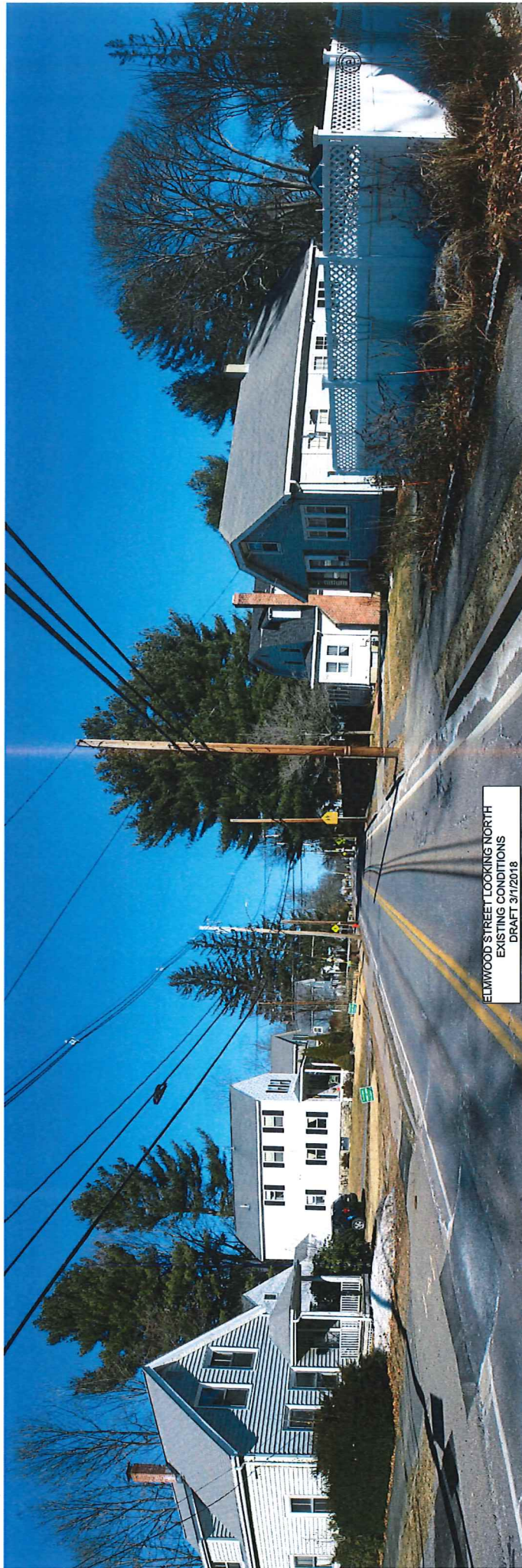
BEAR HILL ROAD LOOKING NORTH
OPTION 1
5 FT SIDEWALKS W/ 2 FT SHOULDERS
DRAFT 3/12/2018



BEAR HILL ROAD LOOKING NORTH
OPTION 2
SHARED USE PATH
DRAFT 2/12/2016



BEAR HILL ROAD LOOKING NORTH
OPTION 3
5 FT SIDEWALKS ON LEFT & RIGHT
4 FT BUFFER
5 FT BUFFER
DRAFT 3/1/2018



ELMWOOD STREET LOOKING NORTH
EXISTING CONDITIONS
DRAFT 3/1/2018



ELMWOOD STREET LOOKING NORTH
OPTION 1
5 FT SIDEWALKS & 2 FT SHOULDERS
DRAFT 3/1/2018

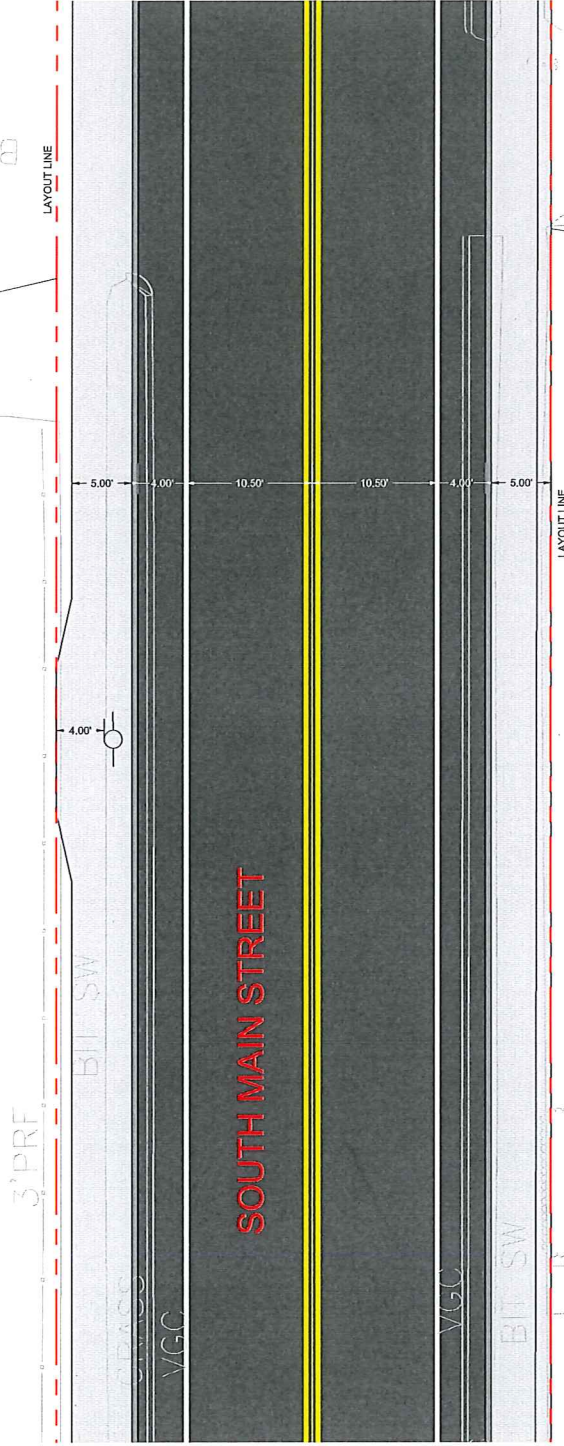
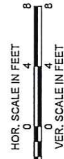
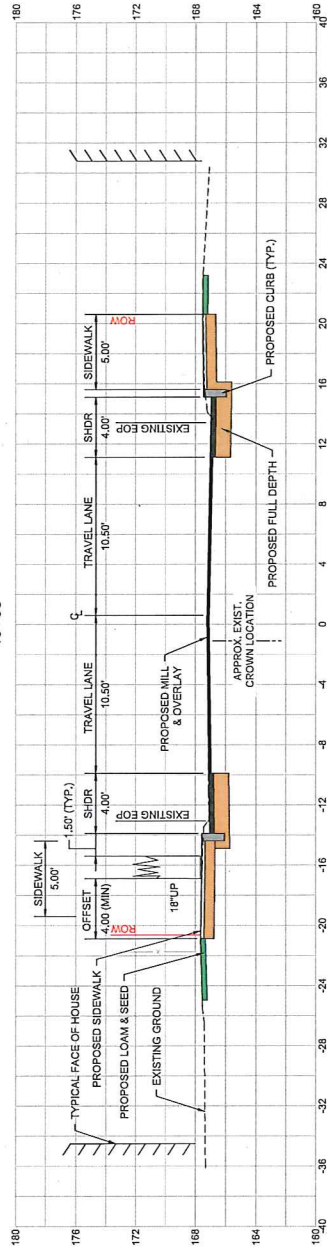


ELMWOOD STREET LOOKING NORTH
OPTION 2
SHARED USE PATH
DRAFT 3/1/2018



ELMWOOD STREET LOOKING NORTH
OPTION 3
5 FT SIDEWALKS & 4 FT SHOULDERS
DRAFT 3/1/2018

49+68



PROJECT:		IMPROVEMENTS TO SOUTH MAIN STREET	
DESIGN SUBMISSION:		ALTERNATIVE 3 MODIFIED 10.5 FOOT LANE / 4 FOOT SHOULDER SHIFTED EAST	
PREPARED BY:		GREEN INTERNATIONAL AFFILIATES, INC. (978) 923-0400 Civil and Structural Engineers Westford, Massachusetts Greenhill.com	
SCALE AS NOTED	DESIGNED BY: MB	DRAWN BY: MB	SHEET NO. 1 OF 1
DATE: 2/12/2018	CHECKED BY: EAUM		
PROJECT NO. 17008			