ENGINEERING STUDY

Littleton 41362/X-A004(605)
Littleton Sidewalk Connectivity Project

Transportation Alternatives Program (TAP)

March 2019

Prepared for:
Town of Littleton
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1. INTRODUCTION
The Town of Littleton, New Hampshire, in conjunction with the New Hampshire Department of Transportation (NHDOT), seeks to improve pedestrian safety and connectivity by providing new segments of sidewalk to link existing pedestrian routes and upgrading existing pedestrian routes. These improvements will provide a cohesive pedestrian network connecting residents and tourists to the Town’s historic Main Street, Downtown, and River District (see project location map in Appendix A). The project is locally administered under the NHDOT’s Transportation Alternatives Program (TAP).

In accordance with NHDOT’s Local Public Agency Manual, this Engineering Study documents the Local Concerns Meeting, the Purpose and Need Statement, Existing Conditions, Design Criteria, Environmental Review and Documentation, Alternative Analysis, Proposed Action Meeting, and the Cost Estimate. This study is used to seek preliminary approval from NHDOT of the proposed action for the proposed sidewalk improvements.

2. PUBLIC MEETINGS
A Local Concerns Meeting was held on March 27, 2018 to better understand the project area and potential issues, and to collaboratively develop project objectives. The meeting was held at the Littleton Senior Center, properly noticed, and well attended. To solicit public comments, the Project Team presented an overview of the project purpose and need statement, project area, potential issues addressed, the project development process, and preliminary schedule.

A Proposed Action meeting was held on February 21, 2019 to discuss the findings of alternative/engineering analysis and present the proposed action, while also updating the public on project status. The meeting was held at the Littleton Opera House, properly noticed, and well attended.

Meeting minutes and presentations are included in Appendix C.

3. PURPOSE AND NEED STATEMENT
As defined in the Town’s 2016 TAP application, the purpose and need of the project is to “allow people that do not have a vehicle or cannot drive, the ability to access medical appointments or basic necessities such as grocery stores safely on foot or bicycle and to also allow safe access to Littleton’s tourist destinations with a variety of transportation modes from a connection to the Ammonoosuc Rail Trail.”

4. EXISTING CONDITIONS
The project includes six segments: Cottage Street, Mt Eustis Road, Bronson Street, South Street/Riverside Drive, Mill Street and Meadow Street. Kellogg Surveying and Mapping, Inc. completed ground survey and existing right-of-way research for all segments. A comprehensive field review (see photos in Appendix B) was completed by CMA Engineers and existing conditions are summarized as follows.
Cottage Street
The segment of Cottage Street analyzed as part of this project begins at the intersection of Bethlehem Road (US Route 302, NH Route 18 and 116) and ends at the intersection of South Street. The segment is approximately 2,215 feet long. Cottage Street is located on US Route 302/NH Route 18/NH Route 116 and contains a 12-foot wide travel way and a 5 to 10-foot wide shoulder in each direction. On-street parking is permitted within most of the west side shoulder, north of the Owen Drive intersection. Existing sidewalk is present on the west side of the roadway throughout the segment and generally four to five-foot wide. The sidewalk is elevated from the adjacent roadway and separated with either curb or a steep slope of bituminous pavement. This segment contains a mix of commercial and residential properties and connects multiple facilities for the elderly with the downtown area.

Mt Eustis Road
The segment of Mt Eustis Road analyzed as part of this project begins at the intersection of Bronson Street and ends at Cottage Street. The segment is approximately 860 feet long. Mt Eustis Road is an unstriped, local roadway, approximately 24-feet in width. There are no existing sidewalks within the segment. This segment is mostly residential, with a few commercial properties on the Cottage Street side.

Bronson Street
Bronson Street is an unstriped, local roadway, approximately 24-feet in width. It is approximately 1,700 feet long. There is existing sidewalk for the northern 675 feet of the road along the eastern side of the roadway. Bronson Street contains all residential properties except for an adult learning center where the existing sidewalk ends.

South Street/Riverside Drive
The segment of South Street analyzed as part of this project begins at the intersection with Bronson Street and continues to the intersection of Riverside Drive. The short segment of Riverside Drive to connect with the Ammonoosuc Rail Trail is also included. The segment (including Riverside Drive) is approximately 1,600 feet long. South Street is an unstriped, local roadway, approximately 25-feet in width. Existing sidewalk is present on the east side of the roadway and terminates approximately 350 feet north of the intersection of Bronson Street. The sidewalk is separated from the roadway by bituminous curb. This segment of South Street is
residential. The short segment of Riverside Drive is a local, striped, roadway, approximately 25-feet in width. There are no existing sidewalks present. The segment is undeveloped, and includes a railroad crossing prior to the gravel foot path access to the Ammonoosuc Rail Trail at the northern end of the segment.

**Mill Street**

Mill street is a one-way, local street that connects the riverfront businesses to Main Street. The segment is approximately 430 feet long. Mill street is approximately 24-feet wide, but in some sections, narrows down to 15-feet wide. There is some existing sidewalk along Mill Street; however, there is discontinuity due to intersecting stairways, retaining walls, and buildings. Previously, the Town had placed barriers along the street to allow pedestrians a continuous path of travel separated from vehicles.

**Meadow Street**

The segment of Meadow Street analyzed as part of this project begins at the intersection of Main Street (NH Route 18) and ends at the intersection of Saranac Street. The segment is approximately 300 feet long. Meadow Street is located on US Route 302 and contains a 12-foot wide travel way and three-foot wide shoulders in each direction. Existing sidewalk is present on the south side of the road and is separated from the roadway by either curb or a steep slope of bituminous pavement. At the back of sidewalk are retaining walls for both cut and fill sections.

**5. DESIGN CRITERIA**

The following design criteria follow the latest *NHDOT and American Association of State Highway and Transportation Officials (AASHTO)* guidelines. It is understood that significant variations in design criteria would require a design exception.

Specifications:

- AASHTO Geometric Design of Highways and Streets, 2018
- Manual on Uniform Traffic Control Devices (MUTCD), 2009
- NHDOT Standard Specifications for Road & Bridge Construction, 2016
6. ALTERNATIVES CONSIDERED

This section describes alternatives to the proposed action that were considered as part of this project, but ultimately rejected. The original TAP Application proposed to create a cohesive pedestrian network connecting downtown with vital areas and residential neighborhoods. The pedestrian network can be completed by adding pedestrian segments that do not exist today and reconstructing existing pedestrian segments that are in poor condition.

Alternatives that were evaluated and rejected include:

- **No Build**
  This alternative would not improve the Town’s pedestrian/bicycle facilities or connectivity of the pedestrian network. The purpose and need of the project are not sufficed, the desires demonstrated by the public are not satisfied, and it does not accomplish the goals developed in the Town’s TAP application.

- **Mt. Eustis**
  This alternative would construct a sidewalk adjacent to one side of the road with granite curb, bituminous sidewalk, and installation of closed drainage, between, Cottage Street and Bronson Street. The sidewalk would be placed on the north side of the road because it would be less complicated to cross the existing culvert, and better tie into the potential improvements on Bronson Street.

  This alternative suffices the project purpose and need, and the standalone cost aligns with the project budget. The overall project does not have enough funds to complete all the locations evaluated. When compared to the proposed action, this location has minimal design complexities, is not as pedestrian critical, and could easily be constructed via Town labor and funds. Based upon these considerations, the alternative was rejected.

- **Bronson Street**
  This alternative would construct a sidewalk on one side of the road between Mt. Eustis Road and the existing sidewalk on the north end of Bronson Street. The east side of the road was selected as it presented the least amount of impacts to abutters and the existing Bronson Street Sidewalk (near South Street) is located on this side. Portions of the sidewalk would be flush with a grass panel, while others would be raised with granite curbing and closed drainage. A retaining wall would be necessary toward north end of the project to limit impacts. A pedestrian crossing would be installed at Colonial Court to provide access to the elderly housing development.

  This alternative suffices the project purpose and need, and the standalone cost aligns with the project budget. As previously stated, the overall project does not have enough funds to complete all the locations evaluated. When compared to the proposed action, this
location has less complexities, less pedestrian trips, and could be more easily constructed via Town labor and funds. Based upon these considerations, the alternative was rejected.

- **South Street / Riverside Drive**
  This alternative would construct a sidewalk along one side of South Street / Riverside Drive between the Bronson Street intersection and the River Trail. The sidewalk would be adjacent to the road with granite curb, bituminous sidewalk, and require modification/installation of closed drainage. South Street is narrow with limited ROW, so construction of a sidewalk would require permanent easements. The north side of the road was selected because it had the least impact to abutters, connected to an existing sidewalk facility at the Bronson Street intersection, and could tie into the River Trail. The project would also include creation of an ADA compliant connection to the River Trail and Curran Suspension Bridge.

This alternative suffices the project purpose and need, and the standalone cost aligns with the project budget. As previously stated, the overall project does not have enough funds to complete all the locations evaluated. When compared to the proposed action, this location has less design complexities, is not as critical of a pedestrian connectivity link, and could be more easily constructed via Town labor and funds. Based upon these considerations, the alternative was rejected.

- **Meadow Street**
  This alternative would reconstruct the sidewalk along the south side of Meadow Street between Saranac Street and Main Street. The existing sidewalk would be replaced in its current location with a new ADA compliant bituminous sidewalk with granite curb adjacent to the road. A formal crossing of Saranac Street would also be included.

This alternative suffices the project purpose and need, and the standalone cost aligns with the project budget. As previously stated, the overall project does not have enough funds to complete all the locations evaluated. When compared to the proposed action, this location has minimal design complexities and could easily be constructed via Town labor and funds. Based upon these considerations, the alternative was rejected.

7. **PROPOSED ACTION (See Appendix G -Conceptual Plans)**

   **General Description**

   The project has been developed in accordance with the NHDOT’s “Local Public Agency Manual for the Development of Projects” associated with the Transportation Alternative Program (TAP). The proposed action will provide new and enhanced pedestrian facilities along some of the Town’s most used pedestrian corridors, while also filling a vital gap and addressing major pedestrian safety concerns in the downtown area.

   The Proposed Action will include improvements along Cottage Street, from Bethlehem Road to South Street, and along Mill Street from Main Street to the Westhill Street/Porter Street intersection. Collectively, the proposed action selected suffices the project purpose and need, and the costs aligns best with the project budget. Specific improvements are described as follows:

   **Cottage Street**
Improvements were only evaluated along the west side of Cottage Street because there are currently pedestrian facilities along the east side of the road. The intent of the TAP application was to redevelop the current pedestrian facilities and bring them into current ADA compliance so they would be usable by all individuals.

Planned improvements along Cottage Street include:

- Restripe southbound roadway from existing centerline to provide an 11’ travel-way
- Shoulder rehabilitation/modification
  - Adjust shoulder to provide a 5-foot bike lane
  - Provide limited parking in specific areas
  - Install granite curbing at new edge of pavement
  - Modify drainage to be at new gutter line and efficiently capture stormwater
- Sidewalk reconstruction
  - Vertical granite curb
  - 5 foot (min.) wide bituminous sidewalk
  - ADA compliant
- Grass Panels
  - To be installed between sidewalk and proposed curb, from approximately 200 feet south of Mt. Eustis Road to South Street
  - 5 foot (typ.)
  - Provides area for landscaping/tree planting
  - Eliminates current sidewalk drop-off or need for a pedestrian protective barrier
  - Allows existing utility poles to remain without relocation
- Pedestrian Crossings
  - Construct pedestrian crossings of Cottage Street at:
    - Bethlehem Road
    - Crane Street
    - 123 Cottage Street
  - Install ADA compliant ramps
  - Install crosswalk pavement markings (continental block crosswalk markings)
  - Install crosswalk signing in advance of crosswalk
  - Install appropriate lighting
    - Bethlehem Road Only
      - Install Rectangular Rapid Flashing Beacon (RRFB)
      - Connect to existing pedestrian facilities at Littleton Food Coop (Coop to coordinate and build ADA compliant ramp)
- Match into existing retaining walls to avoid reconstruction
- Streetscape and landscape elements to foster “gateway” feeling while also calming traffic
**Mill Street**

Improvements were only evaluated along the north side of Mill Street because the intent of the TAP application was to establish a complete, ADA compliant, pedestrian route with connections to local businesses through the east end of Mill Street. The south side of the road was not viable for this because of the basement access of an abutting property near Main Street and numerous wide driveways which made establishment of a sidewalk ineffective.

Planned improvements along Mill Street include:

- **Sidewalk**
  - North side of Mill Street from Main Street to Westhill Street/Porter Street intersection
  - 5 foot (typ.) wide bituminous sidewalk
  - ADA compliant
  - Granite curbing (use of vertical and mountable)

- **Pedestrian Crossings**
  - Construct pedestrian crossings of Mill Street at
    - Main Street
    - 42 Mill Street
    - 18 Mill Street
    - Westhill Street/Porter Street intersection
  - Install ADA compliant ramps
  - Install crosswalk pavement markings (continental block crosswalk markings)
  - Install crosswalk signing in advance of crosswalk (as appropriate)
  - Install appropriate lighting

- ADA compliant entrances to businesses
- Modify drainage to accommodate proposed layout
- Accommodate parking/loading as practicable
- Streetscape and landscape elements to be incorporated

**Utility Considerations**

Coordination with the owners of existing utilities will be completed to review potential impacts. Most of the proposed work requires only shallow excavation and fill; therefore, we do not anticipate conflicts with existing buried utilities. Overhead utilities exist within the project area and impacts to them are being minimized to the extent possible. Some pole relocations may be necessary, which will be investigated/coordinated during the preliminary design.
8. **RIGHT-OF-WAY CONSIDERATIONS (See Appendix G -Conceptual Plans)**

Ample right-of-way (ROW) width exist along Cottage Street between Bethlehem Road and South Street. As the design is still at a conceptual level, specific ROW impacts have not been determined but we anticipate that permanent easements will not be needed, and potentially only temporary easements may be needed to reconstruct some driveways.

Mill Street ROW is very limited along the section between Main Street and Westhill Street. The ROW is often at or slightly offset from the building faces. As the design is still at a conceptual level, specific ROW impacts have not been determined but we anticipate that both permanent easements and temporary easements will be needed to construct the sidewalk.

The original TAP application did not provide funds for ROW acquisition. As part of the alternative process and selection of the proposed action, ROW funds were estimated and incorporated, which can be seen in Section 11. We are aware that the impacted abutters are due Just Compensation for the impacts to their property in accordance with Federal requirements. We will coordinate with the Town Assessor and Municipal Officials in their development of Just Compensation offers. Offers will be based on a percentage of fair market value based on comparable sales to be approved by the NHDOT prior to extending the offers.

9. **ENVIRONMENTAL CONSIDERATIONS**

The proposed project involves work within a previously developed/disturbed area. However, there are natural resources that will be considered during design and protected during construction. We anticipate that specific environmental permitting is not needed.

Initial coordination with natural resource agencies and stakeholders has been completed (see Appendix E). There are no recorded occurrences of rare species and exemplary natural communities within the project area.

A Programmatic Categorical Exclusion (CE) application is anticipated, and will be submitted separately to the NHDOT Bureau of Environment.

10. **HISTORICAL CONSIDERATIONS**

In compliance with the “Procedures for the Protection of Historic Properties (36 CFR 800)” and regulations set forth by the National Historic Preservation Act and the Advisory Council on Historic Preservation, a Request for Project Review (RPR) was submitted to the NH Division of Historic Resources (NH DHR) for their review and determination if any additional historic research or archeological investigations are warranted. The review determined that there are no archeological concerns based on the project scope and no
research, investigations, or impact to resources are necessary at this time. NH DHR has requested detailed plans if the proposed project will impact trees, retaining walls and historic steps and walkways. (See Appendix D)

11. CONCEPTUAL COST ESTIMATE

The following Engineer’s Opinion of Construction Costs is presented for the proposed action shown on the Conceptual Plans included in this Engineering Study. A detailed breakdown of the anticipated construction costs (including contingency) has been included in Appendix F.

**Conceptual Construction Cost Estimate:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Cottage Street:</td>
<td>$749,000¹</td>
</tr>
<tr>
<td>B. Mill Street:</td>
<td>$135,000</td>
</tr>
<tr>
<td>C. PE:</td>
<td>$161,789</td>
</tr>
<tr>
<td>D. CE:</td>
<td>$90,000</td>
</tr>
<tr>
<td>E. ROW:</td>
<td>$8,000</td>
</tr>
<tr>
<td>F. Total:</td>
<td>$1,143,789</td>
</tr>
</tbody>
</table>

¹Includes contingency, see Engineer’s Estimate in Appendix F.
APPENDIX A

Project Location Map
Town of Littleton, NH
Sidewalk Connectivity Project

7.5 Minute USGS Topographic Map

March 2019

Scale: 1" = 2,000'

Project Location
APPENDIX B

Existing Conditions Photos
Photo 1
Cottage St (Looking east toward #15 Grove St)

Photo 2
Cottage St (Looking west toward #74 Cottage St)
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Photo 3
Cottage St (Looking east toward #81 Cottage St)
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Photo 4
Cottage St (Looking west toward #96 Cottage St)
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Photo 5
Cottage St (Looking east toward #101 Cottage St)

Photo 6
Cottage St (Looking east toward #103 Cottage St)
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Photo 7
Cottage St (Looking west toward #110 Cottage St)

Photo 8
Cottage St (Looking east toward #113 Cottage St)
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Photo 9
Cottage St (Looking west toward #120 Cottage St)

Photo 10
Cottage St (Looking east toward #123 Cottage St)
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Photo 11
Cottage St (Looking west toward #130-132 Cottage St)

Photo 12
Cottage St (Looking east toward #131 Cottage St)
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Photo 13
Cottage St (Looking west toward #134 Cottage St)

Photo 14
Cottage St (Looking east toward #137 Cottage St)
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Photo 15
Cottage St (Looking east toward #145 Cottage St)

Photo 16
Cottage St (Looking west toward #146 Cottage St)
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Photo 17
Cottage St (Looking east toward #153 Cottage St)

Photo 18
Cottage St (Looking west toward #154 Cottage St)
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Photo 19
Cottage St (Looking west toward #160 Cottage St)

Photo 20
Cottage St (Looking east toward #161 Cottage St)
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Photo 21
Cottage St (Looking west toward #170 Cottage St)

Photo 22
Cottage St (Looking east toward #175 Cottage St, Unit #2)
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Photo 23
Cottage St (Looking west toward #178 Cottage St)

Photo 24
Cottage St (Looking east toward #183 Cottage St)
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Photo 25
Cottage St (Looking west toward #188 Cottage St)

Photo 26
Cottage St (Looking east toward #189 Cottage St)
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Photo 27
Cottage St (Looking west toward #202 Cottage St)

Photo 28
Cottage St (Looking east toward #209 Cottage St)
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Photo 29
Cottage St (Looking west toward #210 Cottage St)

Photo 30
Cottage St (Looking west toward #220 Cottage St)
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Photo 31
Cottage St (Looking east toward #229 Cottage St)

Photo 32
Cottage St (Looking east toward #241 Cottage St)
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Photo 33
Cottage St (Looking west toward #260-268 Cottage St)

Photo 34
Cottage St (Looking west toward #260-268 Cottage St)
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Photo 35
Cottage St (Looking east toward #43 Bethlehem Rd)

Photo 36
Mill St (Looking west toward #16-18 Mill St)
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Photo 37
Mill St (Looking south toward #16-18 Mill St)

Photo 38
Mill St (Looking south toward #26 Mill St)
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Photo 39
Mill St (Looking southeast toward #42 Mill St)

Photo 40
Mill St (Looking south from intersection of Mill St/Main St)
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Photo 41
Main St (Looking south toward #7-21 Main St)

Photo 42
Mill St (Looking northeast toward #7-21 Main St)
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Photo 43
Main St (Looking south toward #25 Main St)
Mill St (Looking north toward #25 Main St)
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Photo 45
Main St (Looking south toward #31-39 Main St)

Photo 46
Mill St (Looking northeast toward #31-39 Main St)
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Photo 47
Mill St (Looking north toward #31-39 Main St)
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Photo 48
Main St (Looking south toward #41 Main St)
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Photo 49
Mill St (Looking north toward #41 Main St)
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Photo 50
Main St (Looking south toward #47 Main St)

Photo 51
Mill St (Looking east from intersection of Mill St/Westhill St)
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Photo 52
Mill St (Looking east toward #47 Main St)

Photo 53
Main St (Looking south toward #53,55 Main St)
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Photo 54
Main St (Looking south toward #57-59 Main St)

Photo 55
Mill St (Looking northwest toward #67-77 Main St)
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Photo 56
Meadow St (Looking south toward #299 Main St)

Photo 57
Meadow St (Looking south toward #301 Main St)
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Photo 58
Meadow St (Looking south toward #195 Saranac St)

Photo 59
Meadow St (Looking north toward #20 Meadow St)
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Photo 60
Meadow St (Looking south toward #5 Bridge St)
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Photo 61
Suspension Bridge (Looking north from Riverside Dr)
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Photo 62
Riverside Dr (Looking north toward #34 Riverside Dr)

Photo 63
Riverside Dr (Looking east from #34 Riverside Dr)
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Photo 64
South St (Looking north toward #100 South St)

Photo 65
South St (Looking south toward #109 South St)
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Photo 66
South St (Looking north toward #110 South St)

Photo 67
South St (Looking northeast toward #124 South St)
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Photo 68
South St (Looking northeast toward #136 South St)

Photo 69
South St (Looking southwest toward #139 South St)
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Photo 70
South St (Looking northeast toward #146 South St)

Photo 71
South St (Looking southwest toward #155 South St)
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Photo 72
South St (Looking north toward #160 South St)

Photo 73
South St (Looking south toward #169 South St)
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Photo 74
South St (Looking north toward #184 South St)

Photo 75
South St (Looking north toward #192 South St)
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Photo 76
South St (Looking south toward #193 South St)

Photo 77
South St (Looking north toward #200 South St)
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Photo 78
South St (Looking south toward #209 South St)

Photo 79
South St (Looking north toward #210 South St)
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Photo 80
South St (Looking south toward #221 South St)

Photo 81
Curtis Ct (Looking south toward #5 Curtis Ct)
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Photo 82
South St (Looking southwest toward #14 Curtis Ct)

Photo 83
Bronson St (Looking east toward #91 Kilburn St)
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Photo 84
Bronson St (Looking west toward #34 Bronson St)

Photo 85
Bronson St (Looking west toward #42-44 Bronson St)
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Photo 86
Bronson St (Looking east toward #43 Bronson St)

Photo 87
Bronson St (Looking east toward #55 Bronson St)
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Photo 88
Bronson St (Looking west toward #56 Bronson St)

Photo 89
Bronson St (Looking east toward #67 Bronson St)
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Photo 90
Bronson St (Looking west toward #70 Bronson St)

Photo 91
Bronson St (Looking east toward #75 Bronson St)
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Photo 92
Bronson St (Looking west toward #84 Bronson St)

Photo 93
Bronson St (Looking east toward #91 Bronson St)
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Photo 94
Bronson St (Looking west toward #96 Bronson St)

Photo 95
Bronson St (Looking east toward #101 Bronson St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 96
Bronson St (Looking west toward #118 Bronson St)

Photo 97
Bronson St (Looking west toward #126 Bronson St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 98
Bronson St (Looking east toward #127 Bronson St)

Photo 99
Bronson St (Looking west toward #134 Bronson St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 100
Bronson St (Looking west toward #154 Bronson St)

Photo 101
Bronson St (Looking west toward #162 Bronson St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 102
Mount Eustis Rd (Looking southeast toward #25 Mount Eustis Rd)

Photo 103
Mount Eustis Rd (Looking northwest toward #26 Mount Eustis Rd)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 104
Mount Eustis Rd (Looking west toward #56 Mount Eustis Rd)

Photo 105
Mount Eustis Rd (Looking northwest toward #116 Mount Eustis Rd)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 106
Mount Eustis Rd (Looking southeast toward #125 Mount Eustis Rd)

Photo 107
Mount Eustis Rd (Looking southeast toward #10 Lewis Ln)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 108
Mount Eustis Rd (Looking southeast toward #90 Herbert Ln)

Photo 109
Cottage St (Looking northwest toward #182 Cottage St)
Photo 110
Cottage St (Looking west toward #335 Cottage St)

Photo 111
Cottage St (Looking northwest toward #62 Cottage St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 112
Cottage St (Looking southeast toward #51 Cottage St)

Photo 113
Bronson St (Looking east toward #23 Bronson St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 114
Bronson St (Looking west toward #24 Bronson St)

Photo 115
Main St (Looking south toward #289 Main St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 116
Main St (Looking north toward #290 Main St)

Photo 117
Main St (Looking north toward #298 Main St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 118
West Main St (Looking north toward #2 West Main St)

Photo 119
South St (Looking south toward #97 South St)
Appendix B

Littleton Sidewalk Connectivity Project
Littleton 41362 (FHWA X-A004(605))

Photo 120
South St (Looking south toward #85 South St)

Photo 121
South St (Looking north toward #76 South St)
APPENDIX C

Public Meetings

Local Concerns Meeting
(March 27, 2018)

Proposed Action Meeting
(February 21, 2019)
MEMORANDUM

TO: Files

FROM: Jason Beaudet, P.E.
CMA Engineers, Inc.

RE: Littleton 41362
Transportation Alternatives Program (TAP) Project
Sidewalk Connection Project
CMA #1097

SUBJECT: Local Concerns Meeting

MEETING DATE: March 27, 2018

On the above date, a Local Concerns Meeting was held at the Littleton Senior Center in Littleton, NH and was well attended by the public. The following project representatives attended:

- Andrew Dorsett: Town of Littleton, Town Manager
- Joe DePalma: Town of Littleton, Public Works Director
- Mike Welch: NCIC, Senior Project Manager
- Philip Corbett, PE: CMA Engineers, Inc.
- Jason Beaudet, PE: CMA Engineers, Inc.

The primary purpose of the Local Concerns Meeting was to gain input from the public on what they would like to see incorporated into the project and to solicit local information related to the current use. A sign-in sheet was provided for attendees to provide their contact information (see attached sign-in sheet). Andrew Dorsett opened the meeting with a brief introduction of the project and introduced Jason Beaudet and Phil Corbett of CMA Engineers. Jason Beaudet and Phil Corbett collectively presented the project purpose & need, project area/potential issues addressed, project development process, and preliminary schedule. The presentation included a roll plan of the project area and a PowerPoint presentation (see attached presentation) with photos of the current conditions, and outline of the project development process and schedule. Upon completion of the presentation, the floor was open to the public to provide input. The following summarizes the input received from the public that will be considered during the design process going forward:

- **ADA Compliant Grades** – Questions were raised related to what an ADA compliant grade on a sidewalk is.
  - ADA compliant sidewalk grades will be the same as the grade of the road outside of ramp areas
  - ADA compliant ramp grades shall not exceed 8.3%, until they reach a maximum length of 15 feet.
• **Type of Sidewalks and Curbs** – The type of curbs and sidewalks for the project was discussed. Bituminous sidewalk with vertical granite curb will be used. Ramps will be concrete. Where applicable, grass panels could be added. Sidewalks will be wide enough to accommodate the sidewalk plow.

• **Suspension Bridge Abutters Concerns** – The direct abutters to the suspension bridge voiced concerns about the following issues:
  - Trespassing
  - Loitering
  - Trash
  - Privacy
  - Vandalism
  - Drug use

• **Vehicle Speed** – Concerns were raised over vehicle speeds on Cottage Street and South Street. It was noted by numerous individuals that the speeds are high on Cottage Street from the vehicles coming off I-93.

• **Crosswalks** – Concerns were raised related to current and lack of current sidewalks within the project locations. The project will analyze the current sidewalk locations and evaluate the establishment of any new crosswalk locations. The crosswalk type and lighting will also be considered as part of this.

• **Cottage Street Sidewalks** – It was questioned if sidewalks would be installed on both sides of Cottage Street. The budget will likely only support the construction of sidewalk on one side. Cottage Street has ample width and could support the addition of sidewalk in the future.

• **Traffic Calming** – Discussion was raised about traffic calming measures being installed. Some of the items discussed include:
  - Speed bumps
  - Raised crosswalks
  - Narrowed lanes
  - Bump outs

• **Utility Poles** – Concerns were raised about the location of the current utility poles and the possibility of relocations. Questions were raised about the possibility of putting them underground. Utility relocations will be avoided to the extent possible and placing the utilities underground is outside of the projects scope.

• **Improvement Location Prioritization** – It was questioned if priority has been given to the segments included in the TAP application for improvement. Currently, no prioritization has been established for the project.

• **Project Budget and Funding** – The project budget and funding were questioned. The project budget is $1 million with the Town having to match 20%, with the funding sources being FHWA and the Town.
• **Construction Oversight** – The question of who will be providing construction oversight was raised. The Town will be required to have a consultant provide the construction oversight.

• **Coordination with Adjoining Projects** – Concerns were raised about the numerous projects that will be taking place on Mill Street within the next few years. Efforts should be taken to coordinate these so that the minimal amount of disruption to residents and businesses takes place.

END OF MEMORANDUM
# LOCAL CONCERNS MEETING

Littleton, #41362, X-A004(605)
Sidewalk Connectivity Project
Town of Littleton, NH

Date: Tuesday, March 27, 2018, 6:30 PM
Littleton Senior Center
77 Riverglen Lane, Littleton, NH

<table>
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</table>
## LOCAL CONCERNS MEETING

Littleton, #41362, X-A004(605)
Sidewalk Connectivity Project
Town of Littleton, NH
**Date:** Tuesday, March 27, 2018, 6:30 PM
Littleton Senior Center
77 Riverglen Lane, Littleton, NH

<table>
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</table>
Presentation Overview

- Purpose and Need
- Project Area/Potential Issues Addressed
- Project Development
- Preliminary Schedule
- Public Input
“This project is necessary to allow people that do not have a vehicle or cannot drive, the ability to access medical appointments or basic necessities such as grocery stores safely on foot or bicycle and to also allow safe access to Littleton’s tourist destinations with a variety of transportation modes from a connection to the Ammonoosuc Rail Trail.”

“The goal is to make Littleton a safe pedestrian friendly town for residents, tourists, the elderly and disabled by improving traffic flow and the condition of sidewalks to bring them into compliance with ADA standards.”

Source: 2016 Transportation Alternatives Program (TAP) Application for Funding

“This proposed project includes five foot wide sidewalks along town and state roadways as follows: 1890 LF along Cottage Street, 400 LF along Mill Street, 1110 LF along South Street, 310 LF along Meadow Street, 400 LF connection to Suspension Bridge, 770 LF along Mt. Eustis Road and 710 LF along Bronson Street.”

“The project will connect with 5 bridges that cross the Ammonoosuc River in a 1 mile stretch. Route 302/Cottage Street Bridge, Covered Bridge (2004), Suspension Bridge (1939), Bridge Street Multi-modal (2016 under construction), and Littleton Industrial Park (1998).”

Source: 2016 Transportation Alternatives Program (TAP) Application for Funding
South Street/Riverside Drive

LITTLETON 41362
SIDEWALK
CONNECTIVITY PROJECT

South Street/Riverside Drive

LITTLETON 41362
SIDEWALK
CONNECTIVITY PROJECT
Project Development

Engineering Study
- Local Concerns Meeting
- Alternative/Conceptual Design
- Survey
- Proposed Action Meeting
- Engineering Study Document
- Draft Environmental Document

Preliminary Design

Final Design

Construction

Preliminary Schedule

Local Concerns Meeting ................................................................. March 27, 2018

Proposed Action Meeting ................................................................. May 2018

Engineering Study Complete ......................................................... July 2018

Preliminary Design Complete ......................................................... November 2018

Final Design Complete ................................................................. March 2019

Project Advertisement ................................................................. April 2019

Construction ................................................................. Summer 2019
Questions and Discussion

Contacts

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Andrew Dorsett
Town of Littleton
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adorsett@townoflittleton.org
MEMORANDUM

TO: Files

FROM: Jason Beaudet, P.E. CMA Engineers, Inc.

RE: Littleton 41362
Transportation Alternatives Program (TAP) Project
Sidewalk Connectivity Project
CMA #1097

MEETING DATE: February 21, 2019

On the above date, a Proposed Action Meeting was held at the Littleton Opera House in Littleton, NH at 6:00 pm. The meeting notice was publicly posted, and attendees of the Local Concern Meeting were notified. The following project representatives attended:

Andrew Dorsett        Town of Littleton, Town Manager
Doug Damko            Town of Littleton, Public Works Director
Mike Welch            NCIC, Senior Project Manager
Philip Corbett, PE    CMA Engineers, Inc.
Jason Beaudet, PE     CMA Engineers, Inc.

The primary purpose of the Proposed Action Meeting was to review the project and alternative analysis that had been completed since the Local Concerns Meeting and present the Proposed Action to the public. A sign-in sheet was available for attendees to provide their contact information (see attached sign-in sheet). Andrew Dorsett opened the meeting with a brief introduction of the project and introduced Jason Beaudet and Phil Corbett of CMA Engineers. Jason Beaudet and Phil Corbett collectively presented the project purpose & need, project area/potential issues addressed, local concerns meeting outcomes, project development process, alternative analysis, proposed action, and preliminary schedule. The alternatives presented in detail are as follows:

- No Build
- Alternative 1: Cottage Street
- Alternative 2: Mt. Eustis Road
- Alternative 3: Bronson Street
- Alternative 4: South Street / Riverside Drive
- Alternative 5: Mill Street
- Alternative 6: Meadow Street

Alternatives 1 and 5 were selected as the proposed action. Upon completion of the presentation (see attached presentation), the floor was open to the public to provide input. Following the public input portion of the meeting, Andrew Dorsett gave an update on the planned Mill Street sewer and stormwater improvements that will be constructed in 2019. The following summarizes the input received from the public:
General

- **Project Costs** – The current project budget was questioned related to the selected alternatives. The current budget allows for the design, ROW procurement, construction and construction oversight of the Proposed Action.

- **Add Alternates** – It was questioned if some of the smaller/simpler alternatives, such as Alternative 6: Meadow Street, would be considered for inclusion in case the project bid comes in low. The NHDOT will allow a project to be developed that is not feasible (constructability or financially). The current budget only allows for Cottage Street and Mill Street to be constructed. Based on this, there is no opportunity to include any alternatives as add alternate. There will be opportunity to include additional features (i.e. trees, landscaping, etc.) to the project as add alternates in case of the low bid.

Cottage Street

- **Side Street Turning Radii** – Concerns were expressed about some tight turning radii on from side streets onto Cottage Street. Vehicles are often seen driving over the current curbs and sidewalks. Some specific locations include Mt. Eustis Road, Crane Street, and South Street.

- **Utility Concerns** – Concerns were raised over the current location and potential location of utilities on Cottage Street. The current intent is to keep utilities at the current locations and avoid relocations to the extent practical. Based on this, utilities will not be any closer to the abutters than they currently are. The proposed design calls for proving a grassed panel between the current sidewalk location (to remain and be reconstructed) and the edge of pavement. This will place the utilities farther away from the Cottage Street edge of pavement/curb. Sidewalks will be reconstructed to provide a 5 ft. width to allow for ADA compliance and snow removal operations.

Mill Street

- **Delivery Concerns** – Concerns were raised over how deliveries would take place with sidewalk and curbing added to Mill Street. The concerns were noted and will be evaluated during the preliminary design process. This is an urban area and a balance will need to be struck between the needs of the businesses and the needs to public.

- **Mountable Curb** – It was questioned if mountable curb would be used so delivery vehicles could use the sidewalk area during loading operations. Mountable curb will be evaluated as an option during the preliminary design process.

- **Westhill Street / Porter Street / Mill Street Intersection Layout** – Suggestions on some alternative pedestrian crossing layouts were discussed. These alternatives will be evaluated during the preliminary design process.

- **Construction Impacts to Businesses** – Concerns were raised related to the construction impacts to businesses. This area was impacted by construction in 2018, will be impacted by construction in 2019 for sewer and stormwater improvements, and will be impacted by the TAP project in 2020. Efforts to condense and coordinate construction efforts will be evaluated.
• **Survey Information** – It was asked if abutters could get copies of the survey plans. They were informed that the project doesn’t have survey plans of each individual property, but rather an existing condition plan with ROW. CMA Engineers will make the existing conditions plans available to the Town for distribution to anyone interested.

• **Parking** – Concerns were raised about parking along the west side of Mill Street near the intersection of Main Street. Parking is currently allowed at this location today. Attendees thought parking and a sidewalk on the west side of the road would narrow the street too much. It was noted that this area currently has an approximately 4 ft. wide area adjacent to the building that is not used for parking where the proposed sidewalk would be built. The east side of the road was discussed for the purpose of shifting the road, but it was noted that there is a basement access at this location and shifting is not viable.

• **Snow Maintenance** – Concerns were raised about snow maintenance, specifically related to providing cleared sidewalks and roads. It was noted that the Town will be responsible for all snow maintenance and that this is an urban environment which will likely require the removal of snow in addition to the typical plowing.

• **Truck Maneuvering** – Concerns were raised over the ability of trucks to navigate Mill Street once the proposed sidewalks are installed. Truck maneuvering was initially evaluated as part of the alternative process to ensure adequate geometric layout. Truck maneuvering will be revisited during the preliminary design process as the proposed layout is further refined.

END OF MEMORANDUM
# PROPOSED ACTION MEETING
Littleton, #41362, X-A004(605)
Sidewalk Connectivity Project
Town of Littleton, NH
Date: Thursday February 21, 2019, 6:00 PM
Littleton Opera House
2 Union Street, Littleton, NH

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</tbody>
</table>


Presentation Overview

- Purpose and Need
- Project Area/Potential Issues Addressed
- Project Development
- Public Informational Meeting Outcomes
- Alternative Analysis
- Proposed Action
- Preliminary Schedule
- Public Input
Purpose and Need

“This project is necessary to allow people that do not have a vehicle or cannot drive, the ability to access medical appointments or basic necessities such as grocery stores safely on foot or bicycle and to also allow safe access to Littleton's tourist destinations with a variety of transportation modes from a connection to the Ammonoosuc Rail Trail.”

“The goal is to make Littleton a safe pedestrian friendly town for residents, tourists, the elderly and disabled by improving traffic flow and the condition of sidewalks to bring them into compliance with ADA standards.”

Source: 2016 Transportation Alternatives Program (TAP) Application for Funding

Project Description

“This proposed project includes five foot wide sidewalks along town and state roadways as follows: 1890 LF along Cottage Street, 400 LF along Mill Street, 1110 LF along South Street, 310 LF along Meadow Street, 400 LF connection to Suspension Bridge, 770 LF along Mt. Eustis Road and 710 LF along Bronson Street.”

“The project will connect with 5 bridges that cross the Ammonoosuc River in a 1 mile stretch. Route 302/Cottage Street Bridge, Covered Bridge (2004), Suspension Bridge (1939), Bridge Street Multi-modal (2016 under construction), and Littleton Industrial Park (1998).”

Source: 2016 Transportation Alternatives Program (TAP) Application for Funding
Held March 27, 2018

- Presented the broad project outline and objectives
- Received comments from attendees
- Some comments/questions included:
  - Cottage Street Sidewalk
  - Vehicle Speeds
  - Crosswalks
  - Utility Poles
  - Curbing & Drainage
  - Traffic Calming
  - ADA Compliance
  - Project Element Prioritization
Project Development

**Engineering Study**
- Local Concerns Meeting
- Alternative/Conceptual Design
- Survey
- Proposed Action Meeting
- Engineering Study Document
- Draft Environmental Document

**Preliminary Design**

**Final Design**

**Construction**

---

**Alternative Analysis**

**Alternatives Considered**

- No Build Alternative
  - Alternative 1: Cottage Street
  - Alternative 2: Mt. Eustis Road
  - Alternative 3: Bronson Street
  - Alternative 4: South Street / Riverside Drive
  - Alternative 5: Mill Street
  - Alternative 6: Meadow Street
No Build Alternative

- No improvements to any of the segments
- Does not improve pedestrian/bicycle facilities
- Does not address observed existing pedestrian facility safety
- Does not improve sidewalk network connectivity
- Does not suffice purpose and need of this project
- Not recommended

Alternative 1

Cottage Street

- Major Alternative Design Elements
  - Restripe road to provide 11’ wide south bound travel way
  - Reconstruct sidewalk
    - Granite curb
    - Grassed panel (alleviate drop off)
    - Bituminous surface
    - ADA compliant
  - Add crosswalks at:
    - Bethlehem Road (RRFB)
    - Crane Street
    - South of Kilburn Street
  - Drainage modifications
  - Retaining wall modifications/revitalization
- Suffices the project purpose and need
- Standalone alternative cost aligns with budget
- Alternative considered
Alternative 1

Major Alternative Design Elements
- Construct sidewalk on north side of road to Bronson Street
  - Granite curb
  - Bituminous surface
  - ADA compliant
- Drainage modifications

Suffices the project purpose and need

Standalone alternative cost aligns with budget

Alternative considered
Alternative 2

Bronson Street

- Major Alternative Design Elements
  - Construct sidewalk on east side of road
    - Granite curb (partial)
    - At-grade grassed panel (partial)
    - Bituminous surface
    - ADA compliant
    - Connect to exist Bronson Street sidewalk
  - Crosswalk at Colonial Court
  - Construct retaining wall
  - Drainage modifications

- Suffices the project purpose and need
- Standalone alternative cost aligns with budget
- Alternative considered

Alternative 3
Alternative 3

Major Alternative Design Elements
- Construct sidewalk on north side of road
  - Granite curb
  - Bituminous surface
  - ADA compliant
  - Connect to exist South Street sidewalk
- ADA compliant connection to trail
- Crosswalk at Bronson Street/South Street Intersection
- Drainage installation

Suffices the project purpose and need

Standalone alternative cost aligns with budget

Alternative considered

South Street / Riverside Drive

Alternative 4
Alternative 4

Mill Street

- Major Alternative Design Elements
  - Construct sidewalk on north side of road
    - Granite curb
    - Bituminous surface
    - ADA compliant
  - Connect to existing Main Street sidewalk and Westhill Street
    - ADA compliant entrance to businesses
    - Accommodate parking/loading to the extent practical
    - Drainage modification
    - Include streetscape elements
- Suffices the project purpose and need
- Standalone alternative cost aligns with budget
- Alternative considered

Alternative 5
Meadow Street

- Major Alternative Design Elements
  - Construct sidewalk on south side of road
    - Granite curb
    - Bituminous surface
    - ADA compliant
    - Connect to exist Meadow Street and Main Street sidewalk
  - Drainage modification
  - Crosswalk at Saranac Street
- Suffices the project purpose and need
- Standalone alternative cost aligns with budget
- Alternative considered
Alternative 1 and 5 selected as proposed action
  - Alternative 1: Cottage Street
  - Alternative 5: Mill Street

- Allows the most critical elements to be constructed based on alternative prioritization
- Suffices the project purpose and need
- Collectively aligns with project budget
Mill St. Sidewalk Detail

Local Concerns Meeting ......................................................... March 27, 2018

Proposed Action Meeting ................................................. February 21, 2019

Engineering Study Complete ............................................. February 2019

Preliminary Design Complete ............................................. Summer 2019

Final Design Complete ..................................................... Fall 2019

Project Advertisement ......................................................... Fall 2019

Construction ................................................................. Spring 2020

CONCRETE CLASS A BACKFILL TO BE INSTALLED (SUBSIDIARY TO ITEM 609.01) AND SHALL NOT CONFLICT WITH FULL DEPTH WEARING COURSE INSTALLATION TO FACE OF CURB. AREA OF CONCRETE INCLUDED IN CRUSHED GRAVEL QUANTITY.
Contacts

Jason Beaudet, P.E.
CMA Engineers, Inc.
(603) 627-0708
jbeaudet@cmaengineers.com

Andrew Dorsett
Town of Littleton
(603) 444-3996
adorsett@townoflittleton.org
Please mail 2 copies of the completed form and required material to:

Cultural Resources Staff
Bureau of Environment
NH Department of Transportation
7 Hazen Drive
Concord, NH 03302

Request for Project Review by the
New Hampshire Division of Historical Resources
for Transportation Projects

☐ This is a new submittal.
☐ This is additional information relating to DHR Review and Compliance (R&C)#:

<table>
<thead>
<tr>
<th>GENERAL PROJECT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Project Name &amp; Number</td>
</tr>
<tr>
<td>Brief Descriptive Project Title</td>
</tr>
<tr>
<td>Project Location</td>
</tr>
<tr>
<td>City/Town</td>
</tr>
<tr>
<td>Lead Federal Agency and Contact (if applicable)</td>
</tr>
<tr>
<td>(Agency providing funds, licenses, or permits)</td>
</tr>
<tr>
<td>DOT Environmental Manager (if applicable)</td>
</tr>
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<td>NHDES Shoreland</td>
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<table>
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<tr>
<th>PROJECT SPONSOR INFORMATION</th>
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<tr>
<td>Project Sponsor Name</td>
</tr>
<tr>
<td>Mailing Address</td>
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<tr>
<td>City</td>
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</table>

<table>
<thead>
<tr>
<th>CONTACT PERSON TO RECEIVE RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name/Company</td>
</tr>
<tr>
<td>Mailing Address</td>
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<tr>
<td>City</td>
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</table>

This form is updated periodically. Please download the current form at [http://www.nh.gov/nhdhr/review](http://www.nh.gov/nhdhr/review). Please refer to the Request for Project Review for Transportation Projects Instructions for direction on completing this form. Submit 2 copies of this project review form for each project for which review is requested. Include a self-addressed stamped envelope to expedite review response. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DOT and the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR’s role in it, please visit our website at [http://www.nh.gov/nhdhr/review](http://www.nh.gov/nhdhr/review) or contact the R&C Specialist at christina.st.louis@nh.gov or 603.271.3558.
PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

Project Boundaries and Description

☑ Attach the relevant portion of a 7.5' USGS Map (photocopied or computer-generated) indicating the proposed area of potential effect (APE). (See RPR for Transportation Projects Instructions and R&C FAQs for guidance. Note that the APE is subject to approval by lead federal agency and SHPO.)

☑ Attach a detailed narrative description of the proposed project.

☑ Attach current engineering plans with tax parcel, landscape, and building references, and areas of proposed excavation, if available.

☑ Attach photos of the project area/APE with mapped photo key (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) (Blank photo logs are available on the DHR website. Informative photo captions can be used in place of a photo log.)

☑ A DHR file review must be conducted to identify properties within or adjacent to the APE. Provide file review results in Table 1. (Blank table forms are available on the DHR website.)

File review conducted on 02/23/2018.*

*The DHR recommends that all survey/National Register nomination forms and their Determination of Eligibility (green) sheets are copied for your use in project development.

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the APE? ☑ Yes ☐ No

If no, skip to Archaeology section. If yes, submit all of the following information:

☑ Attach completed Table 2.

☑ Photographs of each resource or streetscape located within the APE. Add to the mapped photo key and photo log noted above. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)

☐ Copies of National Register boundary (listed or eligible) mapping, and add National Register boundaries for listed and eligible properties to the 7.5' USGS project map (if applicable).

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☑ Yes ☐ No

If yes, submit all of the following information:

☑ Description of current and previous land use and disturbances.

☑ Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.

AGENCY COMMENT This Space for DOT and Division of Historical Resources Use Only

Sent to DHR; Authorized DOT Signature: SC Date: 5/22/18

☐ Insufficient information to initiate review.

☐ Additional information is needed in order to complete review.

Comments: No archaeological issues.

Above-ground: Continue construction as project design progresses. Survey may be necessary if impacts to mature historic elements can be avoided. Other potential impacts to consider during design include drainage/slope adjacent to buildings, reshape building elevations, and remaining beneath the character of the rural residential areas of the project.

Contact DOT for consultation with the public early and share comments with the DOT.

If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.

Authorized DHR Signature: Laura Blake Date: June 11, 2018

New Hampshire Division of Historical Resources / State Historic Preservation Office
August 2017
March 26, 2018

Mr. Bill Gegas, LWCF Program Specialist
DRED Division of Parks and Recreation
172 Pembroke Road
Concord, NH 03301

Re: Littleton TAP
   Sidewalk Connectivity Project
   Resource Agency Coordination (Response Requested by 4/20/2018)
   CMA #1097

Dear Mr. Gegas,

The Town of Littleton, New Hampshire, in conjunction with the New Hampshire Department of Transportation (NHDOT), is planning new sidewalks and modifications to existing sidewalks throughout the Town. The following locations, as seen in the attached Locus Map, are designated for potential improvements: 890 LF along Cottage Street, 400 LF along Mill Street, 1110 LF along South Street, 310 LF along Meadow Street, 400 LF connection to Suspension Bridge, 770 LF along Mt. Eustis Road and 710 LF along Bronson Street. The project goal is to make Littleton a safe, pedestrian friendly town for residents, tourists, the elderly and disabled by improving traffic flow and the condition of sidewalks to bring them into compliance with ADA standards.

Sidewalk construction or reconstruction will involve removal of existing features; removing, resetting, and installing curbing; grading or modifying side slopes; replacing or modifying existing drainage pipes and structures; reconstructing driveways; constructing or reconstructing roadway shoulders; clearing trees and vegetation (where they conflict with proposed work or restrict sight distances); and coordinating with existing utilities, as may be required. It is anticipated that all work will fall within previously disturbed areas. See attached Figure 1 for extent of sidewalk improvements.

The proposed project is being locally administered under the NHDOT’s Transportation Alternatives Program (TAP). We are in the process of preparing the necessary environmental documentation for the project and any comments or pertinent information that you or your staff can provide relative to potential impacts to environmental, social, economic, or cultural resources would be appreciated. Please feel free to contact Andrew Dorsett, Town of Littleton, Project Manager (603-444-3996x13 or adorsett@townoflittleton.org) or myself (603-627-0708 or jbeaudet@cmaengineers.com) should you have any questions or need any additional information.

Very truly yours,

CMA ENGINEERS, INC.

Jason J. Beaudet, P.E.
Project Manager

cc: Andrew Dorsett, Town of Littleton Department of Public Works

[Sample Environmental Coordination Letter Sent]
Town of Littleton, NH
Sidewalk Connectivity Project

7.5 Minute USGS Topographic Map

April 2018

Scale: 1" = 2,000'

Project Location
To:  Whitney Chamberlain, CMA Engineers  
     35 Bow Street  
     Portsmouth, NH 03801

From:  NH Natural Heritage Bureau

Date:  4/6/2018 (valid for one year from this date)

Re:  Review by NH Natural Heritage Bureau of request submitted 3/28/2018

NHB File ID:  NHB18-0997  
Applicant:  Whitney Chamberlain

Location:  Littleton  
          Tax Maps: Right-of-Way

Project Description:  The Town of Littleton, New Hampshire, in conjunction with the New Hampshire Department of Transportation (NHDOT), is seeking to construct new sidewalks and modifications to existing sidewalks throughout the Town. The following locations are designated for potential improvements: 890 LF along Cottage Street, 400 LF along Mill Street, 1110 LF along South Street, 310 LF along Meadow Street, 400 LF connection to Suspension Bridge, 770 LF along Mt. Eustis Road and 710 LF along Bronson Street.

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 3/28/2018, and cannot be used for any other project.
MAP OF PROJECT BOUNDARIES FOR: NHB18-0997
January 8, 2018

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service’s New England Field Office website:


Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact David Simmons of this office at 603-227-6425 if we can be of further assistance.

Sincerely yours,

[Signature]

Thomas R. Chapman
Supervisor
New England Field Office
## FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

| COUNTY      | SPECIES                  | FEDERAL STATUS | GENERAL LOCATION/HABITAT                                                                 | TOWNS                                                                 |
|-------------|--------------------------|----------------|-----------------------------------------------------------------------------------------|                                                                      |
| Belknap     | Small whorled Pogonia    | Threatened     | Forests with somewhat poorly drained soils and/or a seasonally high water table        | Meredith, Alton and Laconia                                          |
|             | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide                                                              |
| Carroll     | Small whorled Pogonia    | Threatened     | Forests with somewhat poorly drained soils and/or a seasonally high water table        | Albany, Brookfield, Eaton, Effingham, Madison, Ossipee, Wakefield and Wolfeboro |
|             | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats              | Statewide                                                              |
| Coos        | Canada Lynx              | Threatened     | Regenerating softwood forest, usually with a high density of snowshoe hare.           | All Towns                                                              |
|             | Dwarf wedgemussel        | Endangered     | Connecticut River main channel and Johns River                                       | Northumberland, Lancaster and Dalton                                   |
|             | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats              | Statewide                                                              |
| Cheshire    | Dwarf wedgemussel        | Endangered     | S. Branch Ashuelot River and Ashuelot River                                           | Swanzey, Keene and Surry                                             |
|             | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats              | Statewide                                                              |
| Grafton     | Dwarf wedgemussel        | Endangered     | Connecticut River main channel                                                        | Haverhill, Piermont, Orford and Lyme                                   |
|             | Small whorled Pogonia    | Threatened     | Forests with somewhat poorly drained soils and/or a seasonally high water table        | Holderness                                                             |
|             | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats              | Statewide                                                              |
| Hillsborough| Small whorled Pogonia    | Threatened     | Forests with somewhat poorly drained soils and/or a seasonally high water table        | Manchester, Weare                                                     |
|             | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats              | Statewide                                                              |
| Merrimack   | Karner Blue Butterfly    | Endangered     | Pine Barrens with wild blue lupine                                                   | Concord and Pembroke                                                   |
|             | Small whorled Pogonia    | Threatened     | Forests                                                                                | Bow, Danbury, Epsom, Loudon, Warner and Allenstown                    |
|             | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats              | Statewide                                                              |

Updated 02/05/2016
### FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>SPECIES</th>
<th>FEDERAL STATUS</th>
<th>GENERAL LOCATION/HABITAT</th>
<th>TOWNS</th>
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<tr>
<td>Rockingham</td>
<td>Piping Plover</td>
<td>Threatened</td>
<td>Coastal Beaches</td>
<td>Hampton and Seabrook</td>
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<tr>
<td></td>
<td>Roseate Tern</td>
<td>Endangered</td>
<td>Atlantic Ocean and nesting at the Isle of Shoals</td>
<td></td>
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<tr>
<td></td>
<td>Red knot¹</td>
<td>Threatened</td>
<td>Coastal Beaches and Rocky Shores, sand and mud flats</td>
<td>Coastal towns</td>
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<tr>
<td></td>
<td>Small whorled Pogonia</td>
<td>Threatened</td>
<td>Forests</td>
<td>Deerfield, Northwood, Nottingham, and Epping</td>
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<tr>
<td></td>
<td>Northern Long-eared Bat</td>
<td>Threatened Final 4(d) Rule</td>
<td>Winter- mines and caves, Summer – wide variety of forested habitats</td>
<td>Statewide</td>
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<tr>
<td>Strafford</td>
<td>Small whorled Pogonia</td>
<td>Threatened</td>
<td>Forests with somewhat poorly drained soils and/or a seasonally high water table</td>
<td>Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury</td>
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<tr>
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<td>Northern Long-eared Bat</td>
<td>Threatened Final 4(d) Rule</td>
<td>Winter- mines and caves, Summer – wide variety of forested habitats</td>
<td>Statewide</td>
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<tr>
<td>Sullivan</td>
<td>Northeastern bulrush</td>
<td>Endangered</td>
<td>Wetlands</td>
<td>Acworth, Charlestown, Langdon</td>
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<td></td>
<td>Dwarf wedgemussel</td>
<td>Endangered</td>
<td>Connecticut River main channel</td>
<td>Plainfield, Cornish, Claremont and Charlestown</td>
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<td></td>
<td>Jesup’s milk-vetch</td>
<td>Endangered</td>
<td>Banks of the Connecticut River</td>
<td>Plainfield and Claremont</td>
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<td>Northern Long-eared Bat</td>
<td>Threatened Final 4(d) Rule</td>
<td>Winter- mines and caves, Summer – wide variety of forested habitats</td>
<td>Statewide</td>
</tr>
</tbody>
</table>

¹Migratory only, scattered along the coast in small numbers

- Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.
- Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.
- There is no federally-designated Critical Habitat in New Hampshire

Updated 02/05/2016
APPENDIX F

Engineer’s Estimate of Probable Construction Costs
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<thead>
<tr>
<th>Alternative</th>
<th>Base Construction Cost</th>
<th>Length (FT)</th>
<th>Cost/FT</th>
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<tbody>
<tr>
<td>Alternate 1 - Cottage Street</td>
<td>$749,000.00</td>
<td>2215</td>
<td>$338.15</td>
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<tr>
<td>Alternative 5 - Mill Street</td>
<td>$135,000.00</td>
<td>430</td>
<td>$313.95</td>
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**TAP Budget**

- Construction: $884,000
- Construction Engineering: $90,000
- Right-of-Way: $8,000
- Design Engineering (survey/permitting/design): $161,789

**Total Project (Base Bid):** $1,143,789

**Say:** $1,144,000
### Littleton 41362: Sidewalk Connection Project (Conceptual Estimate)

#### Alternate 1 - Cottage Street

<table>
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<tr>
<th>Item #</th>
<th>Item Description</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Quantity</th>
<th>Cost</th>
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</tr>
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<td>SY</td>
<td>$5.00</td>
<td>1700</td>
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Subtotal (rounded) $623,000  
Misc. Items (10%) $63,000  
Contingency (10%) $63,000  
Base Construction Cost $749,000  

Say: $749,000
### Littleton 41362: Sidewalk Connection Project (Conceptual Estimate)

**Alternate 5 - Mill Street**

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item Description</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Quantity</th>
<th>Cost</th>
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</table>

**Subtotal (rounded)** $110,500

**Misc. Items (10%)** $12,000

**Contingency (10%)** $12,000

**Base Construction Cost** $134,500

Say: $135,000
APPENDIX G

Conceptual Plans Of
Proposed Action
Cottage St. Sidewalk Detail

Typical Sections

TS-1
Legend
- Proposed Sidewalk
- Proposed Crosswalk
- Proposed Curb
- Proposed Ramp
- Proposed Retaining Wall
- Proposed Grass
- Proposed Shoulder
- Proposed Driveway

Town of Littleton, New Hampshire
125 Main St.-Suite 200, Littleton NH 03561
Sidewalk Connectivity Project
Littleton 41362, X-A004(605)
Conceptual Plans
Mill Sheet C-2

Diagram of Mill Street in Littleton, New Hampshire, showing proposed sidewalk, crosswalk, and other improvements.