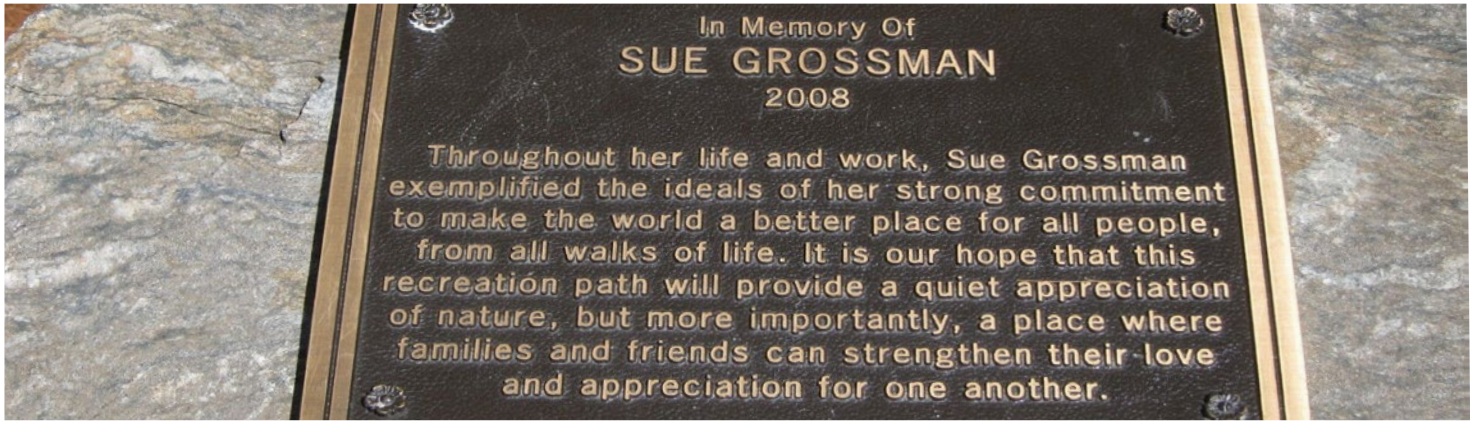
SUE GROSSMAN STILL RIVER GREENWAY,
TORRINGTON, CT

TRAIL PLANNING

PREPARED FOR:

CITY OF TORRINGTON



BSC GROUP


hotography by ian martin ©2011

TABLE OF CONTENTS

SECTION 1: ACKNOWLEDGEMENTS

City of Torrington
Elinor Carbone, Mayor
Rista Malanca, Director of Economic Development

Northwest Hills Council of Governments (NHCOG)
Rick Lynn, Executive Director

Naugatuck River Greenway Steering Committee
Jack Walsh, Co-Chair
Rista Malanca, Co-Chair

Torrington Trails Network

Connecticut Department of Transportation (CTDOT)

State of Connecticut
Office of Policy and Management (OPM)
Project Funding

BSC Group (Glastonbury, CT)
Robert Newton, P.E., Project Manager
William Paille P.E., Project Engineer

Funding for the project was provided through the Responsible Growth and Transit-Oriented Development Grant Program. This grant program is administered by the State of Connecticut's Office of Policy and Management (OPM) and relies on a combination of funding from the Responsible Growth Incentive Fund and the Transit-Oriented Development and Pre-development Fund.

The project was funded with $1,825,000 in June of 2016 based on a joint grant application submitted by the City of Torrington and the Town of Winchester/ City of Winsted, along with Northwest Hills Council of Government as fiscal partner. The City of Torrington was designated as the lead Municipality, although each municipality was operating as an independent participant. The grant included a 2-mile extension of the Sue Grossman Still River Greenway into downtown Winsted and final design and construction plans for the remaining five miles of the Sue Grossman Still River Greenway into downtown Torrington. Goals of the project were to enhance the network of pedestrian and bicycle improvements to improve accessibility to local activity centers and/ or the regional public transportation network in a collaboration with local and regional partners.

SECTION 2: INTRODUCTION AND OVERVIEW

The Sue Grossman Still River Greenway (the "Greenway") is a planned multi-use trail that will connect the City of Torrington with the Town of Winsted. A project that began over 10 years ago with a vision of a five-mile multi-use trail has blossomed into one that has expanded an additional five miles to incorporate a linkage with downtown Torrington, as well as the 44-mile Naugatuck River Greenway.

In 2009, 3 miles of the Greenway was completed starting at Harris Drive in Torrington heading north towards Winstead. While this segment of trail quickly became very popular to both pedestrians and cyclists, it does not connect to any urban centers. In 2015, Torrington held a Torrington Walks! Charrette to get the public involved in the planning of a more walkable community. An overwhelming response of this charrette was to connect the downtown areas of Torrington to Winsted providing connectivity between the two Town Centers.

The City of Torrington has been identified as a Distressed Community since 1999. With an approximate population of 34,000 residents, and with major state roadways of Routes 4, 8, and 202 passing through the City, the downtown area has been designated as an Opportunity Zone by the State of Connecticut. Recreational facilities such as the Sue Grossman Still River Greenway will help spur economic growth by enhancing transportation needs and recreational opportunities to the community.

In the City of Torrington there has been some exciting changes including a revitalization of the downtown area. The extension of the Greenway into the Town Center will continue to build on the positive momentum established by previous projects. The extension will be a great asset to the City that will enhance boost and expand the local economy. Walkable communities allow local businesses to thrive, promotes an engaging healthy lifestyle, and creates a closer community feel that becomes and attractive regional destination to people outside of the immediate area.

Following portions of the Naugatuck River and the existing railroad corridor, the Greenway extension will link from the proposed northern terminus of the Naugatuck River Greenway on Franklin Street to the southern terminus of the already-constructed segment of the Still River Sue Grossman Greenway located at the intersection of Winsted Road and Harris Drive.

BSC Group was retained by the City in July of 2017 to develop a preferred alignment for the trail extension and subsequently prepare design documents to support its construction. The primary objective of the project was to gain consensus of a preferred route by seeking public input and develop a route that is safe and welcoming for users for all ages and abilities to improve the safety and ability for all users to enjoy.

This report summarizes the process of developing the preferred alignment and presents the final trail routing. In general, this report summarizes the key elements of the routing study which included:

- Establish a Preferred Route Alignment for the Greenway extension which will facilitate the ability to pursue and obtain project funding.
- Link points of interest along the selected alignment.
- Determine likely rights-of-way needs and impacts.
- Provide design and construction plans and specifications.
- Estimate construction costs.

BSC Group led Public Engagement

SECTION 3: EVALUATION

Over the past 18 months, BSC has been working alongside the City staff pulling together information on each of the studied routes. This process included public presentations and stakeholders' meetings where the public was encouraged to weigh in on the design and comment on what is most important to them. Each comment was taken into consideration in developing trail routes that would meet the needs of the public that would be using these trails. With the information provided by the public the design team also utilized previous studies, input from the City staff, the Torrington Trails Network, and site visits to develop a working trail map identifying several routes along the entire corridor.

The evaluated was completed using basic design criteria to determine if the route warranted further consideration and remain in the study. These criteria included:

- For On-Road Segments
  - -Available right-of-way
  - -Available paved roadway/shoulder width
  - -Roadway profile grade.
  - -Traffic Volumes
  - -Sight Distances
- For Off-Road Segments
  - -Available Right-of-Way
  - -Terrain
  - -Flood Plain
  - -Proximity to Environmental Resources (i.e. wetlands)
  - -Physical Obstacles (i.e. state highway, building, bridge structure, vertical separation)

Other factors considered to either include or exclude a specific trail segment included key access points, parking and the potential for trailheads for the public; cultural, historic and environmental points of interest; scenic areas or potential vistas; and educational opportunities.

Taking these factors into consideration in conjunction with the public comments, the City and BSC group collectively decided to eliminate several possible trail routes as well as develop new ones throughout this phase of the project. The group ultimately chose a preferred route for the 5-mile extension of the Sue Grossman Greenway into downtown Torrington.

A. ROUTE SCORING

The initial part of the scoring process involved evaluating the individual trail segments based on specific criteria assigned point values out of a possible 100-point total as an unbiased means of evaluating the merits of one segment over another. The following is a summary of each criterion:

SAFETY (0 – 50 Pts):

Safety is the primary objective in selecting and designing a multi-use path. This category uses specific criteria to evaluate off-road and on-road segments, the off-road segment receiving more points as it is preferred over on-road. Points are awarded for segments that meet requirements or encourage safe travel for bikes while deductions are applied for those segments that intersect with either an active railroad or street that require safety improvements.

A. ROUTE SCORING

In terms of on-road routes, several criteria were developed to analyze roadway characteristics that affect bicycle safety including traffic volume, vehicle speed, vehicle type (i.e. trucks, buses, passenger cars), pavement condition, lane width, roadway functional classification (i.e. arterial, collector, local), and roadway section (i.e. shoulder, curb, parking).

Special attention must be given to the treatment of bicycle lanes and routes at non-signalized intersections, for which points are deducted to account for anticipated bicycle/vehicle conflicts. Bicycle and motor vehicle traffic mix at intersections, particularly left-turning bicyclists and right-turning motor vehicles. A left-turning bicyclist must exit the bicycle lane and cross at least one motor vehicle lane to execute this movement.

A right-turning motor vehicle must cross the path of through-moving bicyclists to turn right at an intersection. As the number of lanes, movements, and traffic volume increase, the potential for accidents increase. In some cases, the installation of a new traffic signal may be required to accommodate the additional bicycle traffic.

Residential and/or business access driveways may present potential conflicts for less experienced bicyclists using on-road segments. A roadway with many curb-cuts may not be suitable for use as a bikeway due to the number of turning vehicles crossing the bicycle path. This is particularly true for high-volume roads with many commercial drives.

Road surface conditions are also a factor that affect bicycle lanes and routes. A pavement surface that is cracked, delaminated and in poor condition must be repaired to properly support new bicycle traffic. In addition, existing catch basin grates must con- form to current ADA/AAB requirements (i.e. square opening vs bars parallel to direction of travel).

Geometry and traffic accommodation are a significant factor when considering a bicycle segment. As individual bike routes may include both on-road and off-road, a maximum point total of 50 points was assigned to this category.

Off-road segments include any portion that is outside existing/proposed curb or edge of pavement. Scoring for off-road segments assigns a higher point if a segment occurs outside an active railroad right-of-way with a deduction if a segment crosses an at-grade railroad or street.

On-road segments include any portion that is inside existing/proposed curb or edge of pavement. Scoring for on-road segments assigns a higher point value for a segment that occurs along a roadway that already meets minimum standard requirements such as available shoulder width, surface type, intersection controls, speed, volume, posted speed limit, and high crash locations with deductions accordingly.

OFF-ROAD

- Outside active railroad right-of-way (50 points)
- Within active railroad right-of-way (30 points)
- Street Crossing Deductions
  - -Street Crossing Functional Classification
    - Railroad = -3 Pts
    - Arterial = -2 Pts
    - Collector = -1 Pts
    - Local Road = 0 Pts
  - -Crossing Control Multiplier
    - Mid-Block = 3 Pts
    - Non-Signalized = 2 Pts
    - Signalized = 1 Pts
  - -Driveway Crossing Deductions
    - Driveway Crossing Reduction (Business Plaza Containing 3 or More = -1 Pts
    - Local Business = 0 Pts
    - Residential = 0 Pts

ON-ROAD

- Special Feasibility
  - -Road Width Accommodates Bike-Lane in Either Direction or Cycle Track
    - Local = 40 Pts
    - Collector = 35 Pts
    - Arterial = 30 Pts
  - -Road Width Accommodates Single Bike Lane Only
    - Local = 35 Pts
    - Collector = 30 Pts
    - Arterial = 25 Pts
  - -Road Width Accommodates Sharrows Only
    - Local = 30 Pts
    - Collector = 25 Pts
    - Arterial = 20 Pts
- Street Crossing Deduction
  - -Street Crossing Functional Classification
    - Railroad = -3 Pts
    - Arterial = -2 Pts
    - Collector = -1 Pts
    - Local Road = 0 Pts
  - -Crossing Control Multiplier
    - Mid-Block = -3 Pts
    - Non-Signalized = -2 Pts
    - Signalized = -1 Pts

STREET CROSSING DEDUCTIONS CHART

		Street Crossing Classification			
		Railroad	**Arterial**	**Collector**	**Local Road**
Control Multiplier	**Mid-Block**	-9 pts	-6 pts	-3 pts	0 pts
	Non-Signalized	-6 pts	-4 pts	-2 pts	0 pts
	Signalized	-3 pts	-2 pts	-1 pts	0 pts

A. ROUTE SCORING

- Crash History Deduction
  -High Crash Location (Greater than 5 Crashes per Year over 3-Year Period) = -10 Pts

AESTHETIC/VISUAL BICYCLING ENVIRONMENT (0 – 20 Pts)

One of the objectives of the bicycle network is to provide access to specific enhancements and natural features such as environmental resource areas, wildlife habitat and historic elements. For off-road segments, this can be accomplished by constructing spurs or secondary trails to selected areas, constructing picnic areas and overlooks, and the use of guide signs directing users to these areas. For on-road segments, this can also be accomplished using guide signs, as well as education programs sponsored by the towns and business community to make users more aware of these areas

Scoring scenic or aesthetic value is typically not a primary factor in determining one segment over another and thus has a relatively low point value. However, if a particular segment provides access to a key vista or a natural feature along its route the higher the point value was assessed.

- Access to Vista, Natural Feature or Wildlife Viewing Area (5 Pts)
- Access to Public Park or Open Space (5 Pts)
- Route is at least 10’ Beyond Edge of Road (5 Pts)
- Route Provides Direct Access to Public Parking (5 Pts)

CONNECTIVITY (Maximum 20 Points)

- Direct Access to Local Producer (5 Pts Each)
- Direct Access to Destination (5 Pts Each)

TRAIL WIDTH (0 - 10 Points)

The typical design for the trail is intended to be 10 feet wide paved path. This allows for comfortable passing of oncoming users and the ability to safely pass slower users ahead of you. When right-of-way is available (typically on off-road) segments, it is preferred to increase the trail width to 12 feet wide. Where there are right-of-way constraints or physical feature constraints (typically on on-road segments), the trail may be reduced to an 8-foot-wide path. This width still maintains a safe passage of two-way traffic but feels more constrained.

- Route is 8’ (0 Pts)
- Route is 10’ (5 Pts)
- Route is 12’ (10 Pts)

LAND OWNERSHIP

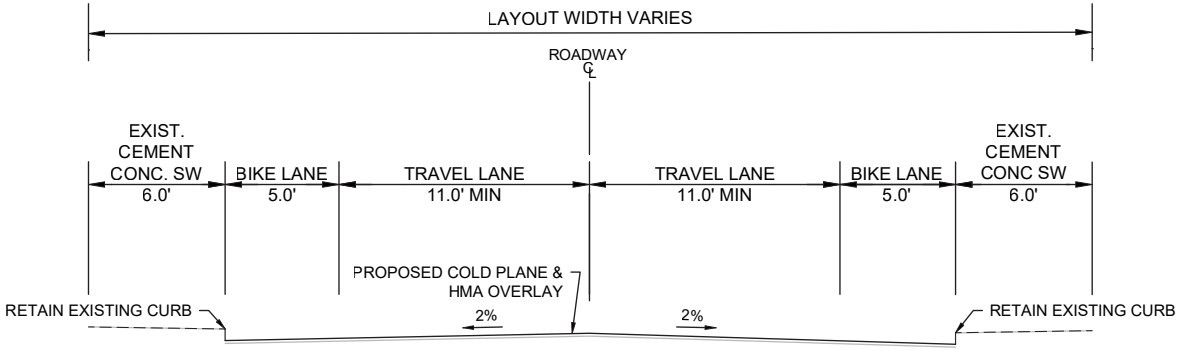
Property ownership is a concern primarily in the location of off-road multi-use paths since on-road bicycle lanes and routes are typically located within the public right-of-way. No points were assigned to this criterion as it was decided it more important to understand the percentage of a particular route on public land or land owned by a cooperative private owner and the number of easements required. The goal of this study is to designate a preferred route that provides the maximum benefit to the community. Since property ownership changes over time, it was not a determining factor in designating the preferred route, but where potential right-of-way issues were identified, alternate routes were investigated to avoid gaps in the trail network.

- Percentage of route on public land or land owned by cooperative private owner
- Number of easements required (Excluding Public Land/Cooperative Private Land Owners)

See Appendix “A” for the full scoring matrix.

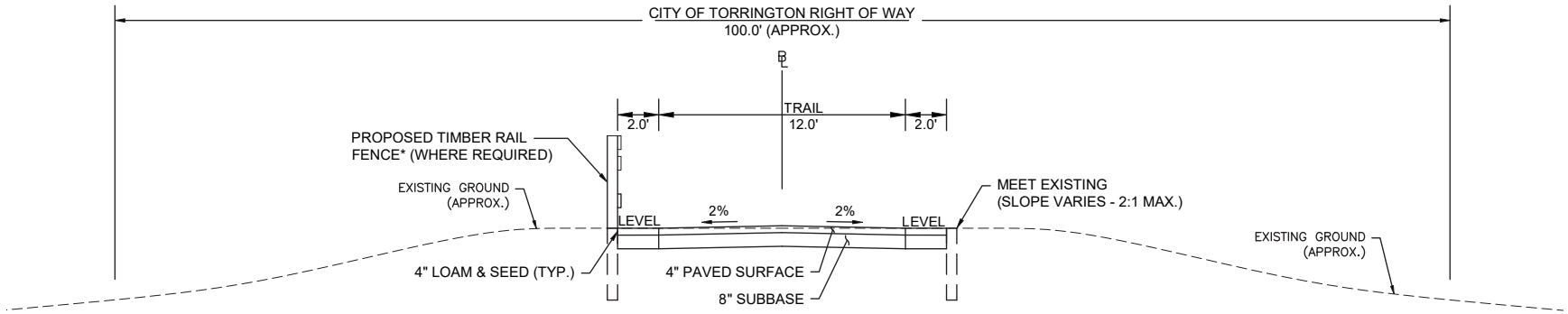
B. TYPICAL SECTIONS

Due to the fact the trail segments and routes traverse a wide variety of topography and terrain it became necessary to develop several different typical sections. For example, a path along the edge of a roadway may consist of an edge treatment (i.e. asphalt berm, vertical granite curb, paved shoulder), a paved width 8’-10’ and vertical separation at the back of the path (i.e. timber rail fence, chain link fence, guardrail, etc) whereas a path along the abandoned Route 8 or railbed may consist of a 12’ wide paved path with timber rail along one side or the other. Along sections with steep slopes the path may consist of a 8’-12’ wide paved surface with a modular block retaining wall at the back side, timber rail fence along the river side with riprap to protect and stabilize the slope. Typical sections were developed as part of this study for two primary reasons: first, provide a guide and vision for future planning of a particular route; and second to assist with developing construction costs.



ON-ROAD TRAIL

SCALE: 1" = 4'



OFF-ROAD TRAIL

ABANDONED RAIL BED

SCALE: 1" = 4'

NOTE:

* LOCATION OF TIMBER RAIL FENCE AS REQUIRED BY ENGINEER.

C. CONSTRUCTION & DESIGN COST

There is a clear understanding that the cost associated with the establishment of a bicycle network is an important factor in determining if a section is able to be constructed. However, the goal of this study was to determine which route was preferred by the residents and would provide the greatest benefit to the City. Since it is anticipated that the construction of this trail will happen in phases over several years, the City did not want to make any assumptions about the availability of funds in the future; therefore, it was decided the anticipated cost to construct any trail segment would not become a deciding factor to select a specific and no points were assigned to this criterion.

At the same time, the City wanted to ensure these costly sections did not create gaps in the linear trail and provided alternate routes in Sections where the construction cost is expected to be prohibitive, due to the cost of new infrastructure, such as bridges or tunnels.

Initially, construction costs for each segment were calculated using specific items of work and the latest State DOT weighted average bid prices (Refer to Appendix C for a summary). Quantities were estimated based on the existing conditions maps developed as part of this study, site walks, observations and experience with design of on-road and off-road multi-use trails. Major items of work included Clearing & Grubbing, Unclassified Excavation, Ordinary Borrow, Gravel Borrow, Fine Grading & Compacting, Hot Mix Asphalt, Granite Curb, Guardrail, Chain Link Fence, Pressure Treated Timber Rail Fence, Precast Modular Block Wall, Riprap, Composite Boardwalk (w/Pressure Treated Rails), Cement Concrete Sidewalk, Cement Concrete Wheelchair Ramps, Rectangular Rapid Flashing Beacon (RRFB), HAWK Signal, Signs, Pavement Markings (i.e. Sharrows, Edge, Centerline, Stop), Prefabricated Steel Pedestrian Bridge and Police Details.

Once construction costs were developed for each segment, the overall route construction costs were developed by simply adding them together.

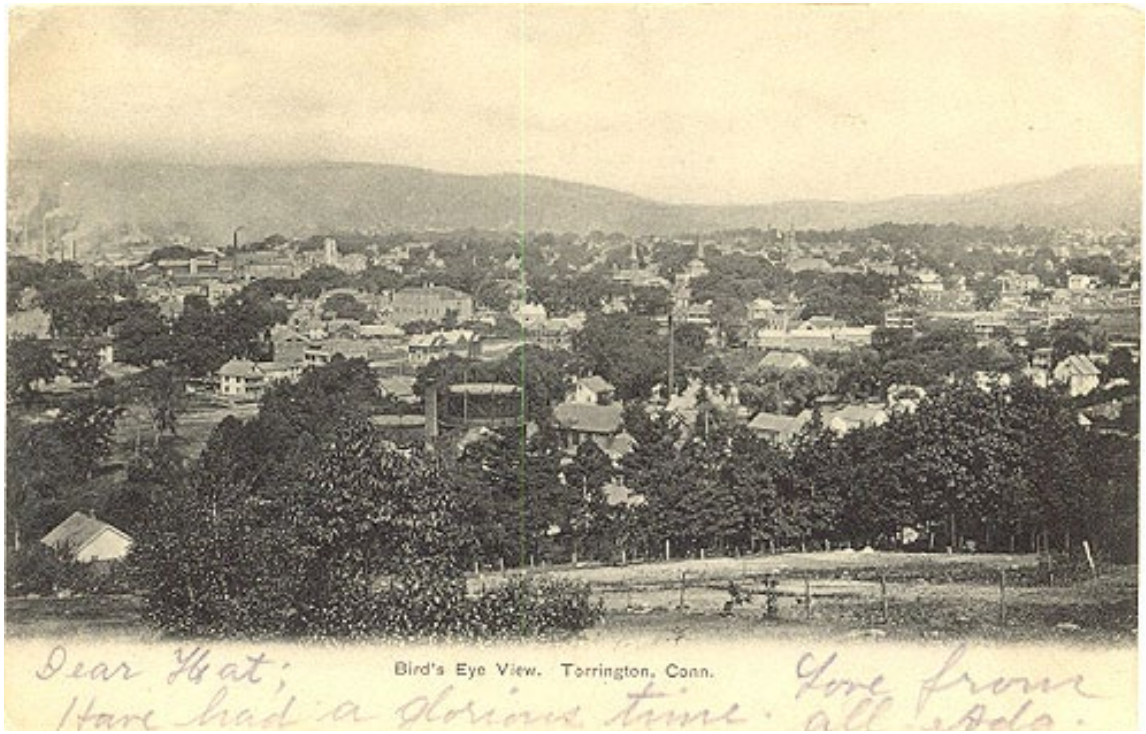
SECTION 4: FINDINGS

Beginning at the existing Harris Drive Trailhead, the Sue Grossman Still River Greenway (Greenway) is proposed to extend approximately 5 miles south to the intersection of Franklin Street and Main Street, where it will connect to the future Naugatuck River Greenway trailhead.

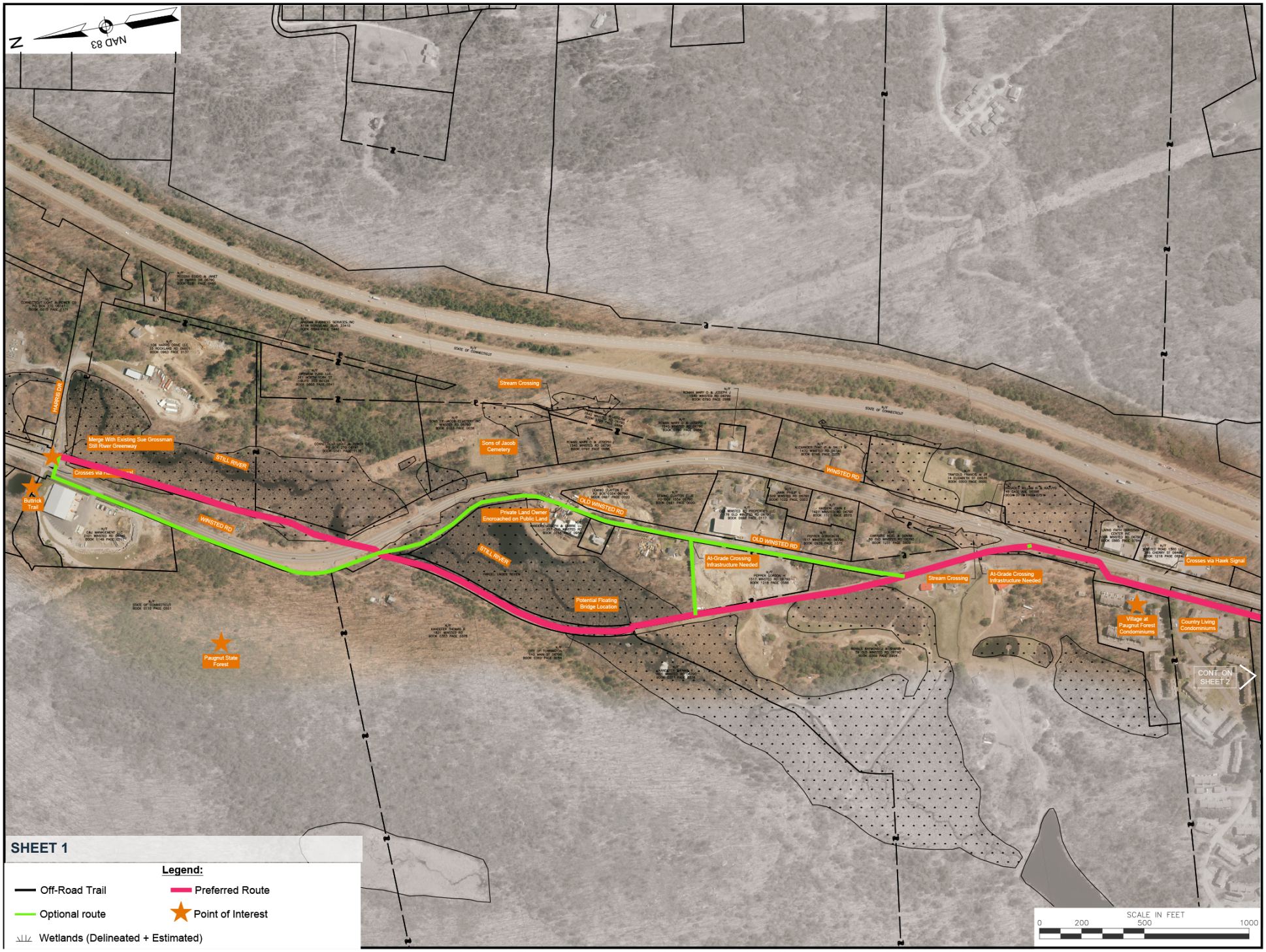
After analyzing all the data collected during this study and taking into account the public opinion, the City has determined a preferred route, independent of construction cost or right-of-way. In choosing this route heavy consideration was given to constructability, safety, trail design and aesthetics.

When necessary, the City has also determined alternate routes at locations where construction cost or right-of-way prohibit the immediate development of the Greenway.

The preferred and alternate routes are summarized as follows (See Appendix “C” for cost estimating sheets:



Historic Ariel of Torrington


N
NAD 83
HARRIS DR
Merge With Existing Sue Grossman Still River Greenway
Crosses via
Buttrick Trail
STILL RIVER
WINSTED RD
Stream Crossing
Sons of Jacob Cemetery
Private Land Owner Encroached on Public Land
OLD WINSTED RD
At-Grade Crossing Infrastructure Needed
Potential Floating Bridge Location
Paugnut State Forest
Crosses via Hawk Signal
Village at Paugnut Forest Condominiums
Country Living Condominiums
CONT. ON SHEET 2
SHEET 1
Legend:
Off-Road Trail
Optional route
Wetlands (Delineated + Estimated)
Preferred Route
Point of Interest
SCALE IN FEET
0
200
500
1000

HARRIS DRIVE TO THE SOUTHERLY END OF OLD WINSTED ROAD

Approximate Length: 3,000 LF
Estimated Construction Cost (Alternate Routes) $700,000*
*Does not include costs for potential easements
*Tunnel Structure under Winsted Road to allow the preferred route is estimated at $2,000,000.

Preferred Route:

The Greenway will cross Harris Drive and continue south along the East Side of Winsted Road along the existing utility ROW until the area known as "Sink Hole Bridge", also the location of the City's sewer main. At this point a tunnel will be constructed under Winsted road and continue along the City sewer line, which includes as portion of City owned property (MBL 237/002/004) and an easement of 39 Old Winsted Rd. The area intersects Winsted Road at the same location as Old Winsted Rd. A small trail head/parking area should be constructed at the intersection of Old Winsted Road and Winsted Road as a logical terminus for this section of the trail.

Challenges:

- The construction of a tunnel under Winsted Road is very challenging and expensive. It is recommended that when the City of Torrington's WPCA replaces the force main under the road, a tunnel is considered in-conjunction with that repair/replacement.
- The easement of 39 Old Winsted Road, for the sewer line, does not allow public access or the construction of a trail. The current property owner is not agreeable to grant an easement for such purposes.

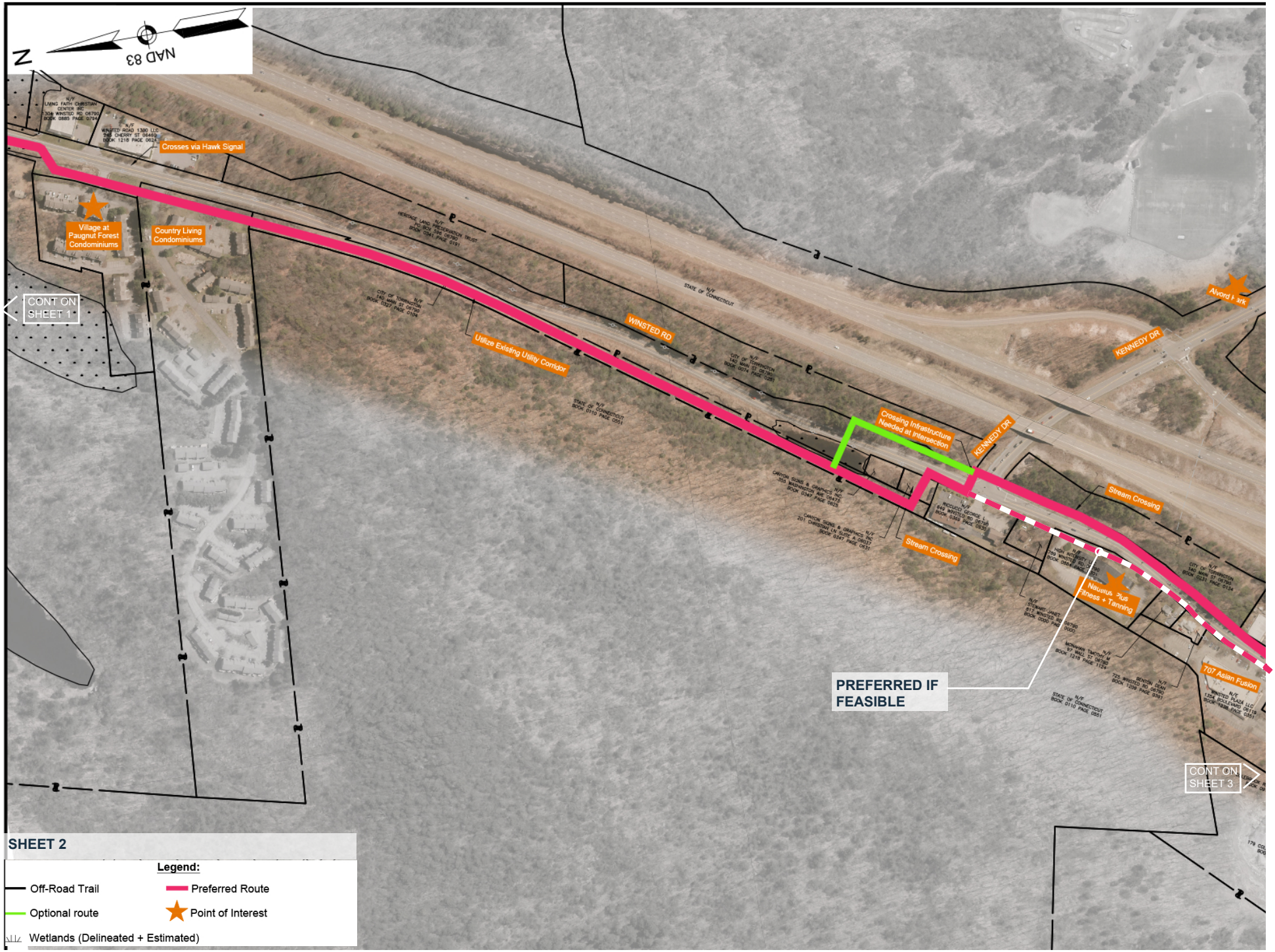
Alternate Routes:

An at grade crossing over Winsted Road at the intersection of Harris Drive and the abandoned Buttrick road can be constructed. (Note: this crossing has been approved by ConnDOT and may be installed in addition to the preferred route to provide safe access to the Buttrick Trail from the Harris Drive Trail head.) The Greenway would then continue south within the ROW of the west side of Winsted Rd to Old Winsted Road, where it will veer off and continue along Old Winsted Road until it reaches Winsted Road. Due to the low volume of traffic on Old Winsted Road, on-road amenities are suitable to provide a safe trail for both cyclists and pedestrians.

It may be necessary to use all or a portion of this alternate route, depending on which portions of the preferred route are able to be constructed. Another option that would allow the section of the preferred route that is owned by the City (MBL 237/002/004) to be used, would be to get an easement from the property owner (Currently Torrington Diesel) at 221 Old Winsted Road (MBL 237/002/003), across that property to Old Winsted Rd.

Winsted Road at Harris drive

Trailhead at Harris drive


N
NAD 83
Crosses via Hawk Signal
Village at Paugnut Forest Condominiums
Country Living Condominiums
CONT ON SHEET 1
Utilize Existing Utility Corridor
WINSTED RD
KENNEDY DR
Crossing Infrastructure Needed at Intersection
Stream Crossing
Stream Crossing
Nauvius Nails Fitness + Tanning
707 Asian Fusion
PREFERRED IF FEASIBLE
CONT ON SHEET 3
SHEET 2
Legend:
Off-Road Trail
Preferred Route
Optional route
Point of Interest
Wetlands (Delineated + Estimated)

INTERSECTION OF OLD WINSTED RD & WINSTED RD TO KENNEDY DR

Approximate Length: 6,000 LF
Estimated Construction Cost $750,000*
*Does not include costs for potential easements

Preferred Route:

From the Intersection of Old Winsted Rd and Winsted Rd, the Greenway would continue South along the west side of the Winsted Rd, along the existing Sewer line ROW and State ROW, until it reached 849 Winsted Rd. At this point a trail head would be constructed, to act as a logical terminus for this section of trail, on vacant parcels known as MBL 236/001/002 or 236/001/001, which are across from Kennedy Drive

Challenges:

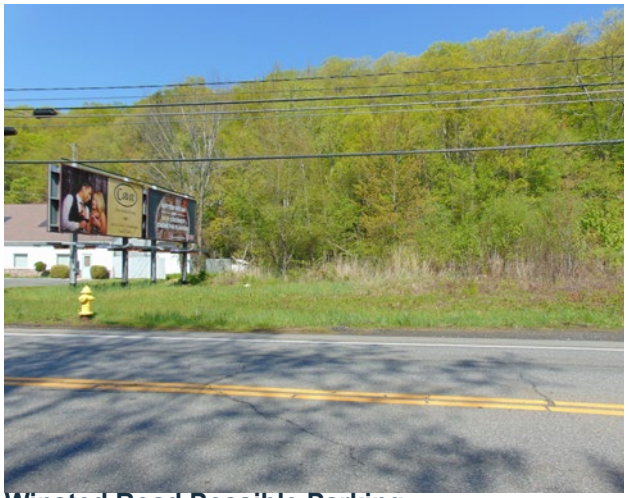
- The ROW area in front of Country Living Condominiums is much narrower than the rest of the ROW along this portion of the Greenway, which would require and easement from Country Living Condominiums to maintain trail alignment and width in this area.
- The two parcels across from Kennedy Drive MBL 236/001/002 & 236/001/001 are private property, which house two large bill boards. Easements to construct a trail head on these properties would need to be acquired.

Alternate Route:

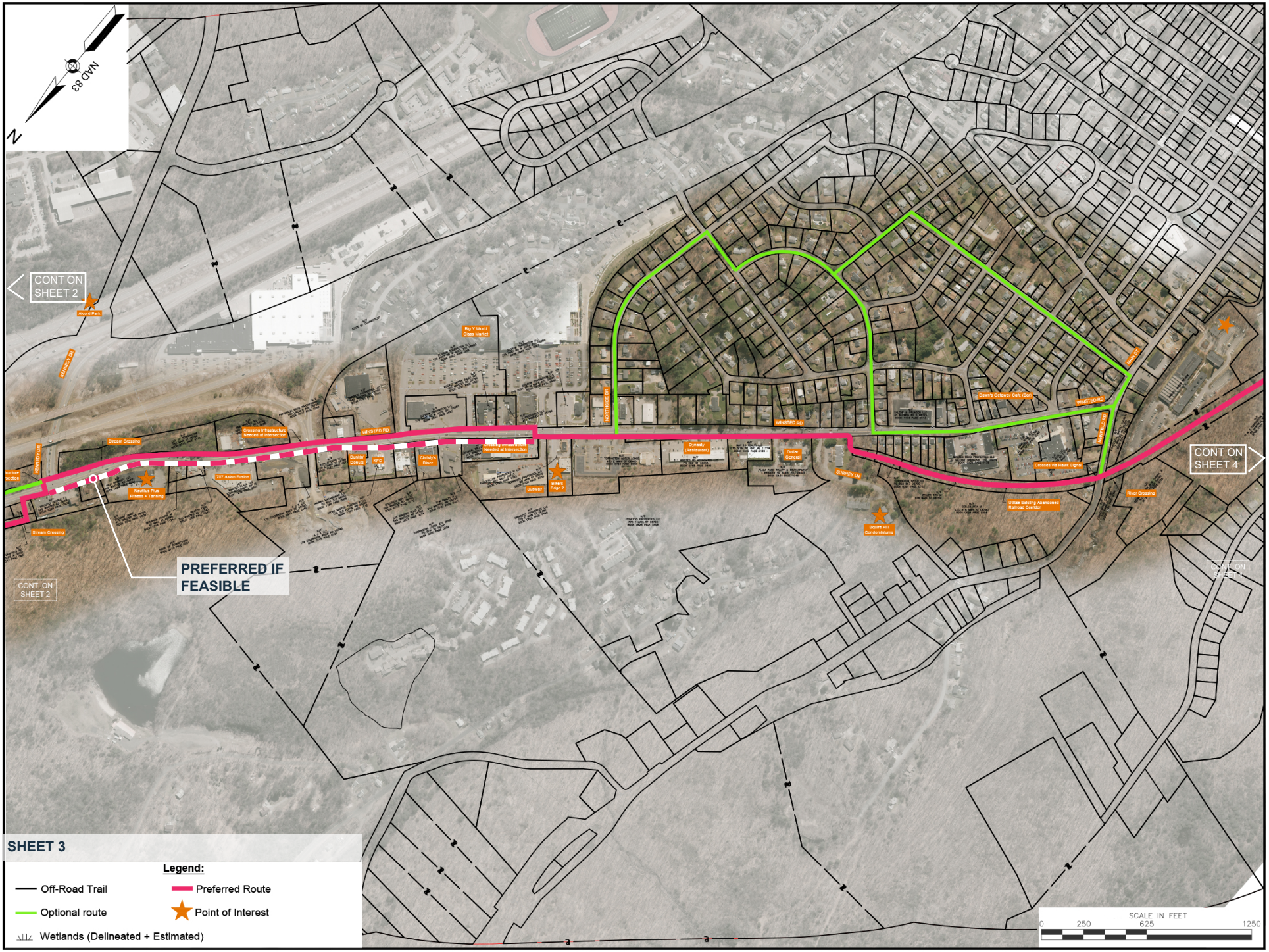
There is no alternate route around the Country Living Condominium. If an easement is not able to be required, trail design would need to be altered to keep trail within existing ROW. This would affect alignment and trail width. It would also require that the Greenway be constructed closer to Winsted Road, leaving a much narrower buffer between the travel lane and the Greenway.

If easements are not able to be acquired over the two bill board parcels, then the Greenway will have to exit onto Winsted Road just north of these parcels, before the wetland area in the State ROW. A small parking area would be constructed to as a logical terminus for this section of Greenway. The next phase of the Greenway would then travel south along the west side of Winsted Road ROW in front of the bill board parcels.

Sewer main off Winsted



Winsted Road Possible Parking



SHEET 3

Legend:

- Off-Road Trail
- Optional route
- Wetlands (Delineated + Estimated)
- Preferred Route
- Point of Interest

A. PREFERRED ROUTES & ALTERNATE ROUTES

KENNEDY DRIVE TO NEWFIELD ROAD

Approximate Length: 3,500 LF
Estimated Construction Cost $1,275,000*
*Does not include costs for potential easements

Preferred Route:

Using the existing signalized intersection of Kennedy Drive and Winsted Road, the Greenway would cross to the east side of Winsted road and continue south until the signalized intersection of the Lowes/ Big Y Plaza. At this intersection, the Greenway would then cross back to the west side of Winsted Road until the Squire Hill Condominiums where it would connect to the parcels which were part of the old train tracks (MBL 121/004/022 & 121/004/021) until Newfield Rd.

Note: It would be preferred that the Greenway not cross Winsted Road and stay along the West side of Winsted Road the entire length; however, when trail constructability was looked at, it didn't appear feasible at this time due to the proximity of building to Winsted Road and the width of the ROW on the east side.

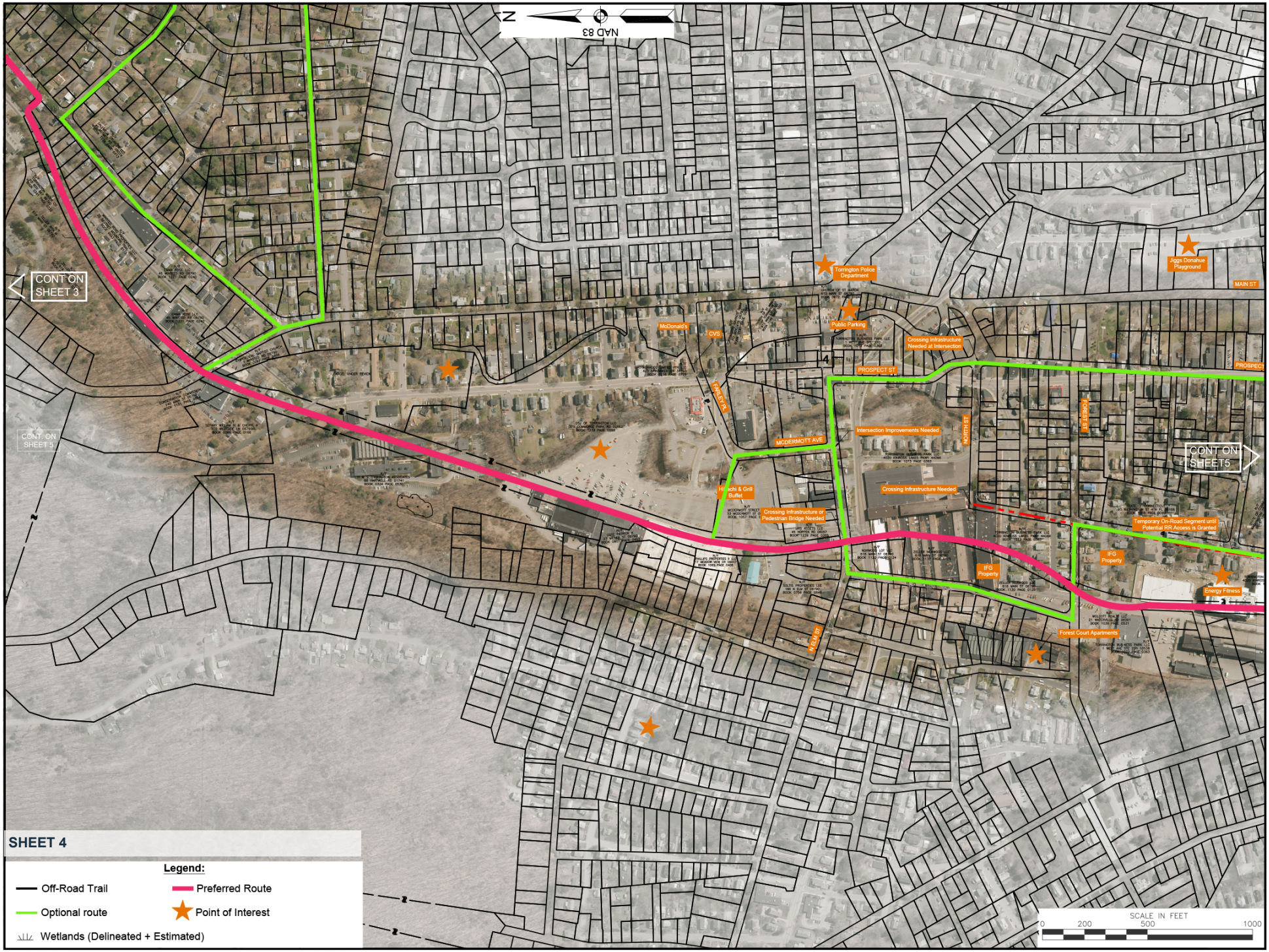
Challenges:

This section is very difficult and expensive, to incorporate a separated, 10' wide, shared use path or dedicated bike lanes into existing conditions. In some section it will require the realignment of Winsted Rd. However, it appears that the State ROW in this area is wide enough to accommodate the Greenway without eliminating travel lanes.

Alternate Route:

There is no proposed alternate route at this time. It is recommended that if/when the State repairs or replaces Winsted Road, alternatives that incorporate the Greenway be researched.
Also, the Planning and Zoning Commission, when reviewing Site Plans in this area, may want to require an easement along private property for the construction of a Greenway.
Until this section of Greenway can be constructed, the City will encourage pedestrians to use existing sidewalks and cyclist to use alternate bike routes designated by the City, utilizing local roads that have low speed and traffic volume. This includes the section from Squire Hill to Newfield along the abandoned rail road bed if easements are not able to be acquired.

Until this section of Greenway can be constructed, the City will encourage pedestrians to use existing sidewalks and cyclist to use alternate bike routes designated by the City, utilizing local roads that have low speed and traffic volume. This includes the section from Squire Hill to Newfield along the abandoned rail road bed if easements are not able to be acquired.


N
NAD 83
CONT ON SHEET 3
CONT. ON SHEET 5
CONT ON SHEET5
Torrington Police Department
Public Parking
Jiggs Donahue Playground
MAIN ST
McDonald's
CVS
Crossing Infrastructure Needed at Intersection
PROSPECT ST
FOREST PL
MCDERMOTT AVE
Intersection Improvements Needed
NORTH ST
Hibachi & Grill Buffet
Crossing Infrastructure or Pedestrian Bridge Needed
Crossing Infrastructure Needed
Temporary On-Road Segment until Potential RR Access is Granted
IFG Property
IFG Property
Energy Fitness
Forest Court Apartments
ELM ST
SHEET 4
Legend:
Off-Road Trail
Optional route
Wetlands (Delineated + Estimated)
Preferred Route
Point of Interest
SCALE IN FEET
0
200
500
1000

A. PREFERRED ROUTES & ALTERNATE ROUTES

NEWFIELD ROAD TO NORTH ELM STREET

Approximate Length: 3,500 LF
Estimated Construction Cost (Alternate Routes)
$900,000*
*Does not include costs for potential easements

Preferred Route:

From Newfield Road, the Greenway will follow the City owned parcel of the old rail road bed, behind Warrenton Mill (839 Main St) and the Ocean State Job Lots Plaza (681 Main St) to North Elm Street Route 4, where it will cross Route 4 to 70 North Street

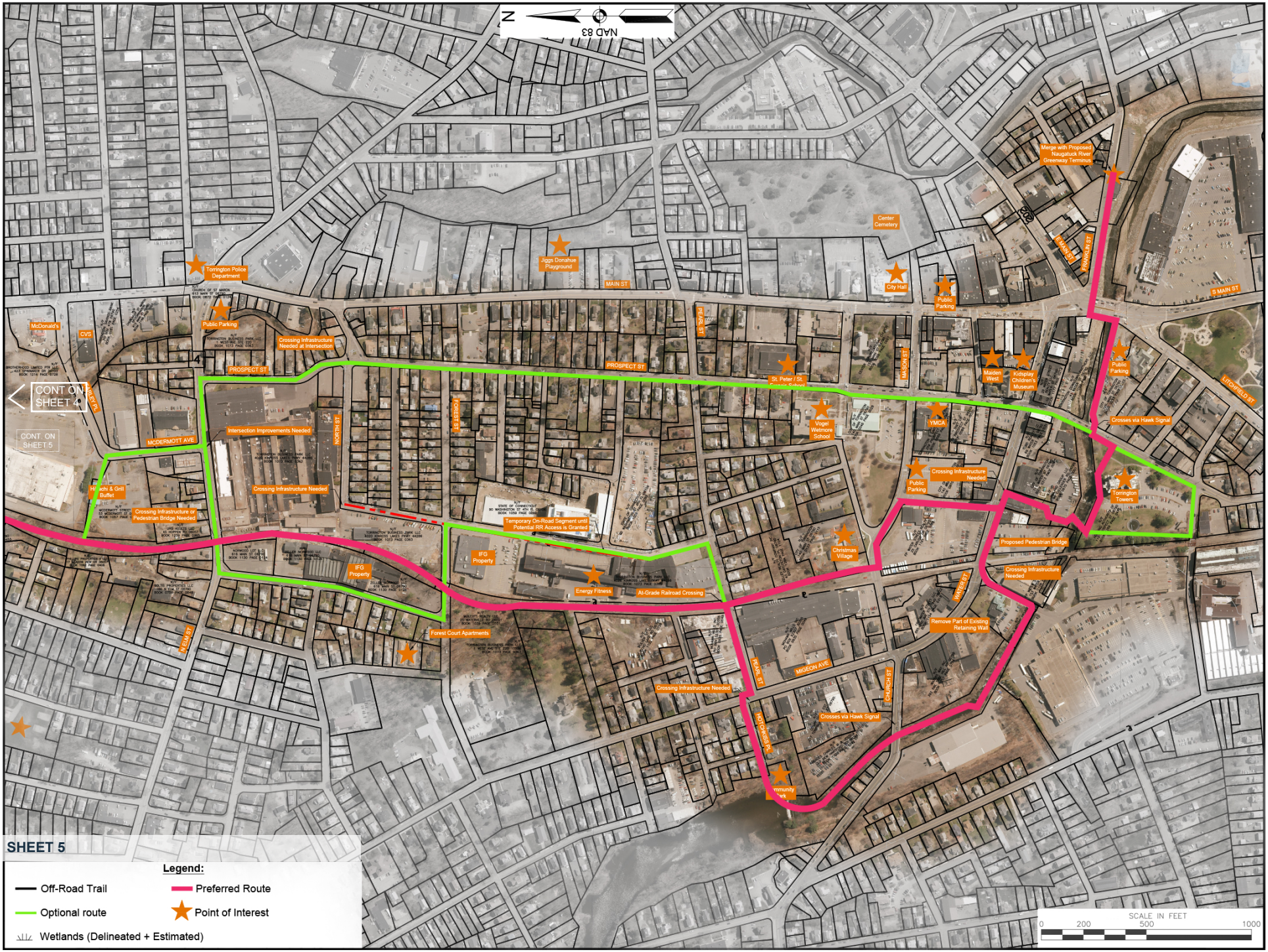
Challenges:

Crossing Route 4, with existing conditions is very dangerous. A pedestrian bridge, over Route 4, is recommended for safe crossing. The construction of this bridge is very expensive. In addition, the pedestrian bridge would need to enter onto private property on the South side of Route 4 (70 North Street), which we do not currently have an easement to do.

Alternate Route:

At the southerly end of 681 Main St, near Planet Fitness, the Greenway can cross private property (easement required) to Farley Place and continue down McDermott Ave to the signalized intersection where it can cross to the south side of North Elm St.

Abandoned Railbed


N
NAD 83
Torrington Police Department
Public Parking
McDonald's
CVS
Jiggs Donahue Playground
Center Cemetery
City Hall
Public Parking
Merge with Proposed Naugatuck River Greenway Terminus
EXCHANGE ST
FRANKLIN ST
S MAIN ST
MAIN ST
PEARL ST
MASON ST
Malden West
Kidsplay Children's Museum
Public Parking
LITCHFIELD ST
PROSPECT ST
Crossing Infrastructure Needed at Intersection
St. Peter / St. [illegible] School
CONT. ON SHEET 4
CONT. ON SHEET 5
CHERRY ST
MCDERMOTT AVE
Intersection Improvements Needed
NORTH ST
FORBES ST
Vogel Wetmore School
YMCA
Crosses via Hawk Signal
Public Parking
Crossing Infrastructure Needed
Torrington Towers
[illegible] Grill Buffet
Crossing Infrastructure or Pedestrian Bridge Needed
Crossing Infrastructure Needed
Temporary On-Road Segment until Potential RR Access is Granted
IFG Property
IFG Property
Christmas Village
Proposed Pedestrian Bridge
Energy Fitness
At-Grade Railroad Crossing
Crossing Infrastructure Needed
WARREN ST
Remove Part of Existing Retaining Wall
NELSON ST
Forest Court Apartments
PEARL ST
MIGEON AVE
CHURCH ST
Crossing Infrastructure Needed
Crosses via Hawk Signal
PROSPECT ST
[illegible] mmunity [illegible]
SHEET 5
Legend:
Off-Road Trail
Preferred Route
Optional route
Point of Interest
Wetlands (Delineated + Estimated)
SCALE IN FEET
0
200
500
1000

NORTH ELM TO WATER STREET

Approximate Length: 1,500 LF
Estimated Construction Cost $150,000*

Preferred Route:

The Greenway will cross North Elm Street to 70 North Street along the portion of the property that was once the rail road bed, then cross Forest Street to behind 59 Field Street within the active railroad ROW to the south side of Pearl Street, at which point the Greenway will exit the active railroad ROW and continue on vacant City owned land (MBL 118/002/009) and continue to city owned property (160 Church St & 150 Church St) adjacent to Christmas Village. A Trail head will be created on these parcels. The Greenway will then cross Church St. and travel along John Street to 136 Water Street. A mid-block crosswalk will be constructed at the intersection of John St and Water St.

Challenges:

- The City will need to acquire and easement over 70 North Street. Based upon preliminary discussions with the property owner, this may be feasible once they begin their re-development project. Planning and Zoning Commission may require an easement or the Greenway as part of the Site Plan.
- Permission from the Naugatuck Railroad Company is required to be within the active railroad ROW; this permission is not likely at this time due to liability concerns.
- Easement of 136 Water St will also need to be obtained.

Alternate Route #1:

The Greenway can head east along the south side of N. Elm Street to Prospect Street, then southerly along Prospect Street to Water Street. During the reconstruction of Prospect Street, the City should consider wide sidewalks, bike lanes and sharrows to improve bike and pedestrian safety along this route.

Alternate Route #2:

The Greenway can head west along the south side of N. Elm St to Norwood St, south along Norwood to Forest Street, east along Forest St to Field St, then south along Field St to Pearl St, crossing Pearl Street to it can access the City owned vacant parcel (MBL 118/002/009).

Note: Alternate #1 is recommend for cyclist; however, providing suitable pedestrian access from the proposed trail head at the city owned parcels adjacent to Christmas Village to Field St is desirable to encourage pedestrians to use this lot to provide additional public parking that serves the court house and business in that neighborhood.

Note: There are several local roads which run perpendicular between Prospect St and Field St that could be used to provide alternate access to the City owned parcels adjacent to Christmas Village. A route has not been determined, but these connections should be explored in the event these roads are reconstructed. If an easement over 136 Water St is not able to be obtained; the Greenway can utilize existing sidewalks and on road bike lanes/sharrows from 160 Church Street to John Street. The existing parking lot at the corner of Mason St & John St will be used as an additional trail head.

NOTE: Safe pedestrian access from Water Street to both the parking lots (behind Christmas Village and corner of John St.) is desirable to encourage pedestrians to use these lots to provide additional public parking that serves businesses along Water St and the downtown area

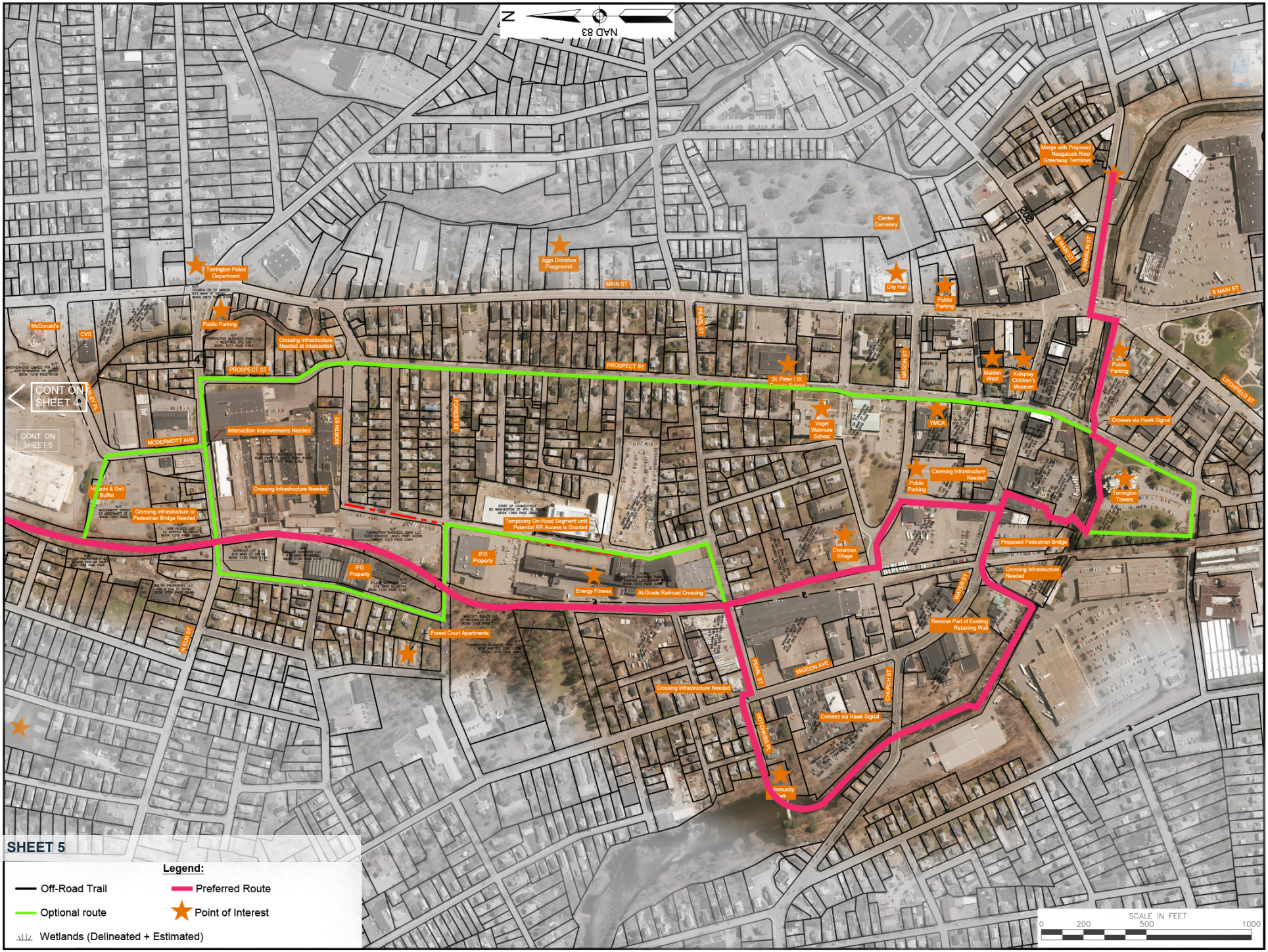
Additional Preferred Route:

Approximate Length: 4,500 LF
Estimated Construction Cost : $450,000*

The City also wishes to construct a portion of the Greenway that creates a loop trail starting where the active Railbed intersects with Pearl Street, then travels west adjacent to Pearl Street, crosses Migeon Ave, down Hotchkiss Place, where it will cut through the Heritage Land Preservation Trust (HLPT) Property (MBL 110/020/006), onto private property along the east side of the Naugatuck River (MBL 110/020/005, cross Church Street, onto an existing City easement over 199 Water street, across 179 Water Street to the existing sidewalks along the entrance to 211 High Street to the south side of Water Street, where it will continue east until it connects with the crossing at the intersection of John St and Water St.

Challenges:

- Several easements are required to cross private property: HLPT (MBL 110/020/006), Jessica & Charlie Rhoades (MBL 110/002/005, Susan B Anthony Project (179 Water St), Torrington Commons Improvements (211 High Street).


N
NAD 83
Torrington Police Department
Public Parking
McDonald's
CVS
Jiggs Donahue Playground
Center Cemetery
City Hall
Public Parking
Merge with Proposed Naugatuck River Greenway Terminus
EXCHANGE ST
FRANKLIN ST
S MAIN ST
MAIN ST
PEARL ST
MASON ST
Malden West
Kidsplay Children's Museum
Public Parking
LITCHFIELD ST
PROSPECT ST
Crossing Infrastructure Needed at Intersection
St. Peter / St. [illegible] School
CONT. ON SHEET 4
CONT. ON SHEET 5
CHERRY ST
MCDERMOTT AVE
Intersection Improvements Needed
NORTH ST
FORBES ST
Vogel Wetmore School
YMCA
Crosses via Hawk Signal
Public Parking
Crossing Infrastructure Needed
Torrington Towers
[illegible] Grill Buffet
Crossing Infrastructure or Pedestrian Bridge Needed
Crossing Infrastructure Needed
Temporary On-Road Segment until Potential RR Access is Granted
IFG Property
IFG Property
Christmas Village
Proposed Pedestrian Bridge
Energy Fitness
At-Grade Railroad Crossing
Crossing Infrastructure Needed
WARREN ST
Remove Part of Existing Retaining Wall
NELSON ST
Forest Court Apartments
PEARL ST
MIGEON AVE
CHURCH ST
Crossing Infrastructure Needed
Crosses via Hawk Signal
PROSPECT ST
[illegible] mmunity [illegible]
SHEET 5
Legend:
Off-Road Trail
Preferred Route
Optional route
Point of Interest
Wetlands (Delineated + Estimated)
SCALE IN FEET
0
200
500
1000

WATER STREET TO EAST MAIN STREET

Approximate Length: 1,500 LF
Estimated Construction Cost $325,000*
*Does not include costs for potential easements

Preferred Route:

Directly across from John Street, the Greenway will utilize the accessway for 117 Water St to the rear of 117 Water St. property. The rear of 117 Water St is proposed to be the parking lot for a brewery; this parking lot will be incorporated into a trail head and the Greenway will then continue south over the City of Torrington Fire Department Property to an existing bridge over the Naugatuck River landing at the Torrington Towers (52 Summer St). The Greenway will continue east, along the property line (adjacent to the Naugatuck River) to Prospect St – utilizing a switch back ramp to provide ADA accessible access over the large retaining wall. The Greenway will then cross Prospect Street to the City owned public parking lot, hugging the property line closest to the Naugatuck River to Litchfield St (Route 202) then use existing sidewalks to the Crosswalk over route 202 to Franklin St.

Challenges:

- The City does not currently have an easement over 117 Water St, but through preliminary discussion, this seems possible.
- The Fire Department does training, which includes live burns, in the rear of the property, safety measures to ensure there is no access to the training area, such as a fence, must be installed.
- The switch back ramp over the retaining wall is very expensive to construct and leads to a mid-block crossing, what would likely need beacons or a hawk system to create a safe crossing.
- The public parking area next to the library, is critical to downtown to serve businesses, but also to encourage residential use downtown; therefore, the Greenway should be designed in order to preserve the same number of parking spaces that currently exists. Also, due to the proximity to downtown, aesthetics is very important, maintaining existing landscaping or replacing it with new landscaping to avoid a "sea of pavement" is critical to the design.

Alternate Route 1:

If an easement from 117 Water Street is not obtained, there is no proposed alternate route, due to the likelihood of acquiring the easement. However, if the easement was not acquired, the City would need to work with other private property owners to gain access to the existing bridge over the Naugatuck River, to the rear of the City of Torrington Fire House.

Note: Water Street can be used as an alternate access for pedestrians; however, dedicated bike lanes or sharrows are not recommended; the high traffic volume, along with the current lane width/ grade of road and on-street parking is not suitable for on-road bike amenities.

Alternate Route 2:

Until funds are available to construct the switch-back ramp and adequate crossing of Prospect St, an existing trail at the Torrington Towers can be utilized to access Summer Street, then on-road amenities can be constructed to allow the Greenway to continue east along Summer Street to Prospect St, then north on Prospect St to the entrance of the public parking lot.

Note: All or a portion of this alternative may want to be constructed even if the switch-back ramp is constructed, as it provides closer access to 211 High Street (Stop & Shop) and 200 Litchfield St (proposed transit facility).

The sections of trail described above are not necessarily the construction phases of the Greenway. It is unlikely that the entire 5 miles of trail will be constructed at one time. When determining which sections of the Greenway will be constructed as one "project" or "phase", the City should make sure that there is a logical terminus, at both ends of the trail, that provide safe access. The City will want to avoid constructing long sections of trail with only one access point, to ensure adequate access for emergency access. Also, the City will want to be sure the trail ends at a safe location, so unexpecting users do not find themselves in heavily trafficked areas or private property.

Winsted Road at Rt-8 Ramps

MAIN STREET, E. MAIN STREET, FRANKLIN STREET, WATER STREET & LITCHFIELD STREET (AKA 5-WAY)

The intersection of Main Street, East Main Street, Franklin Street, Water Street, Litchfield Street (aka 5-Way) presents many challenges to trail users wanting to connect to the Naugatuck River Greenway trailhead located on Franklin Street. This multi-leg intersection carries a significant amount of traffic volume that utilizes a complex coordinated traffic signal system to process vehicles and pedestrians.

BSC Group performed a traffic analysis of the intersection comprised of Main Street, East Main Street, Franklin Street, Water Street, Litchfield Street, South Main Street and the Torrington Plaza driveways (Refer to Memorandum, dated April 5, 2019).

The following intersection were evaluated as part of this traffic study:

- Main Street at Water Street
- Main Street at South Main Street, East Main Street, and Franklin Street
- South Main Street at Litchfield Street and Torrington Plaza Driveway
- South Main Street at South Torrington Plaza Driveway

Following an iterative process that involved studying the traffic data that was collected, review of the geometric constraints, and several assessments of potential geometric and signal improvements, three final options were identified and considered for construction within the study area including the following (Refer to Appendix “B” for schematics):

Option 1

Several geometric and signal timing changes to the study area intersections with the primary goal to improve traffic operations and safety by eliminating some vehicle movements. The option will also facilitate the safe and efficient movement of bicyclists across Main Street travelling along the Still River Sue Grossman Greenway. Revisions include the following:

- Closing Franklin Street at the intersection with Main Street
- Relocating northbound stop lines and pedestrian crossing on South Main Street at Franklin Street to the north. This crossing will also serve as the Sue Grossman Greenway crossing for bicyclists travelling across South Main Street
- Geometric modifications to the East Main Street approach to its intersection with Main Street, Water Street, and South Main Street. The modifications reduces the width of East Main Street by eliminating the island, separating eastbound and westbound traffic and the buffer zone separating left and right turning westbound traffic. The approach will be shifted to the north with the goal of creating a more natural alignment with Water Street.
- The stop line for vehicles approaching on Litchfield Street will be moved back. This modification will reduce the pedestrian crossing distance across Litchfield Street.
- This option propose to remove the Torrington Plaza driveway just to the south of the truck loading plaza driveway and move the stop line up for northbound vehicles on South Main Street. The pedestrian crossing along South Main Street at this driveway will also be shifted north.
- The intersection between South Main Street and the southern Torrington Plaza Driveway will become signalized. Combined with the removal of the northern plaza driveway, this will force plaza traffic to enter and exit the site exclusively to the south of the study area, with the exception of trucks entering the loading driveway at the north end of the plaza.
- The traffic signals within the study area will be upgraded to accommodate the proposed modifications.

Option 2

Maintains the existing geometric pattern and traffic signal timings with a few exceptions as shown in the attached figure. Franklin Street will be closed to vehicle traffic from Main Street. The existing crosswalk spanning South Main Street will remain in place, however the center median, currently approximately 6 feet wide will be widened to create a greater area of refuge for crossing pedestrians and bicyclists. The median will only be widened at the crosswalk, and will maintain its current width to the south of the crosswalk. The widened portion will block the southbound left-turn lane on South Main Street, creating a pocket design where the left-turn lane emerges to the south of the crosswalk. No signal timing changes are proposed with this option. Capacity analysis were not performed for this option, as the results are expected to be nearly identical to the Future No-Build Condition.

Option 3

Reconstruction of the intersections of Main Street/ East Main Street/Water Street and South Main Street/Litchfield Street as two modern roundabouts. The development of this option was initiated by the City of Torrington and includes the following:

Main Street/East Main Street/Water Street

- Reconstruct the intersection of Main Street/ East Main Street/Water Street as a single lane roundabout
- East Main Street westbound and Main Street southbound approaches as a single travel lane
- Main Street northbound approach will consist of two lanes – one through and one exclusive right-turn lane
- Water Street will be converted to one-way operation in the eastbound direction and will intersect Main Street, slightly north of the roundabout. Maneuvers from Water Street will be limited to right-turns only.
- Franklin Street will be closed to vehicular traffic from Main Street
- Crosswalks will be provided across all legs of the roundabout. Splitter islands will provide a pedestrian refuge and be constructed along all approaches to the roundabout

South Main Street/Litchfield Street

- Intersection of South Main Street/Litchfield Street will be reconstructed to consist of a single lane roundabout
- South Main Street southbound approach will consist of two lanes – one through and one exclusive right-turn lane
- South Main Street northbound and Litchfield northbound approaches will consist of single travel lanes
- Truck access to the Torrington Plaza will be retained at the existing location and allow right-turning vehicles to enter and exit
- Northern Torrington Plaza driveway will be closed
- Crosswalks will be provided across all legs of the roundabout. Splitter islands will provide a pedestrian refuge and constructed along all approaches to the roundabout

Under 2018 Existing Conditions, each signalized intersection operates at LOS C or better during the AM, PM and Saturday peak hour periods. This remains true for each signalized intersection under the 2020 No-Build Condition as well. The Litchfield Street and South Main Street intersection operates at LOS C, unchanged from the 2018 Existing Conditions with the exception of the AM peak hour, where this intersection currently operates at LOS B.

Under the Option 1 2020 Build Condition, the Main Street, East Main Street & Franklin Street intersection is combined with the Main Street & Water Street intersection due to the closing of Franklin Street to vehicular traffic from Main Street and the realignment of East Main Street. The intersection drops to LOS D during the AM, PM and Saturday peak hour periods while the Litchfield Street at South Main Street & Plaza Driveway remains at LOS C during the AM, PM and Saturday peak hour periods.

Abandoned Bridge Over River