

Planning for Stormwater Management and Village Redevelopment in Warehouse Point

Town of East Windsor, Connecticut

Final Report

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Prepared by:
LADA, P.C. Land Planners
Simsbury, CT

WAREHOUSE POINT - PLANNING FOR STORMWATER MANAGEMENT AND VILLAGE REDEVELOPMENT – FINAL REPORT

TOWN OF EAST WINDSOR, CONNECTICUT

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WAREHOUSE POINT - PLANNING FOR STORMWATER MANAGEMENT AND VILLAGE REDEVELOPMENT- FINAL REPORT

TOWN OF EAST WINDSOR, CONNECTICUT

1 Introduction

The Town of East Windsor received a State of Connecticut Department of Economic and Community Development (DECD) grant in May 2018 to continue to study the relationship between stormwater and future planning in Warehouse Point, one of the two major village centers in East Windsor (Map #1.1). The Town retained a consultant team in July 2018 for purposes of coordinating with the Town Planner and First Selectman to prepare an updated master plan for Warehouse Point to address stormwater as both a potential obstacle and an opportunity for the planning of the future of Warehouse Point. LADA, P.C. Land Planners (LADA) of Simsbury, CT was retained by the town to prepare this study which included an evaluation of the existing conditions, the identification of obstacles and opportunities for the future development of Warehouse Point, community participation and, ultimately, an updated master plan for the envisioned future growth of Warehouse Point with draft zoning and stormwater regulations. .

An initial report on the Existing Conditions was prepared and submitted in March 2019. . The Existing Conditions Report includes detailed information and maps regarding the existing underlying environmental conditions for Warehouse Point. Nathan L. Jacobson and Associates, Engineers, prepared the Blue Ditch Watershed Drainage Report in the Existing Conditions Report.

This report continues where the Existing Conditions Report ended. In this report, the activities of the second phase of the study are described and recorded. In this phase, the Planning and Zoning Commission (the Commission) acted as lead to consider the future of Warehouse Point; how that would be manifested in draft Zoning Regulations; what impact stormwater has on those regulations; and what impact those regulations have on stormwater runoff.

2 Background/History

Warehouse Point is one of the industrial communities along the Connecticut built and occupied in the 1800's. The 1893 Atlas of Connecticut shows the street layouts and development pattern still active today (Figure 2.1). Warehouse Point is one of the two major and several minor village-type settlements in East Windsor and acts as the counterpoint to Broad Brook in the eastern portion of the Town. These two villages are connected together via Route 140 or Bridge Street which runs east/west. Immediately adjacent to Warehouse Point and running north/south is Route 5 (Prospect Hill Road) which is the commercial corridor of the Town.

For purposes of this study, Warehouse Point is defined as the area with the Town of East Windsor which is bounded on the west by the Connecticut River; on the north by the Enfield Town Line; on the east and south by Interstate 91 (I-91) as shown on Map #2.1. There are two bridges within the subject area – The Interstate 91 bridge in the southwest corner that is located about 25' higher than South Water Street and the Bridge Street bridge (CT Route 140) which connects Warehouse Point to Windsor Locks to the west.

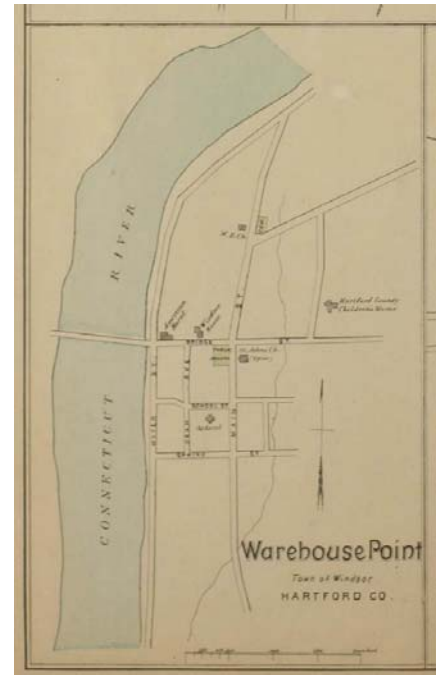


Figure 2.1 1893 Atlas of Connecticut



View of I-91 bridge from Town Park



View of Bridge Street looking West

Warehouse Point is approximately 380+/- acres in size consisting of 322+/- parcels of land as shown in Map #2.2. Of the 322+/- parcels, there are 204 (63%) residential properties of which 164 are single family homes and 40 are two family residences. There are 20 multi-family parcels (6%), 19 commercial parcels (6%), 12 institutional parcels (4%) and 63 vacant parcels (20%). There are 4 parcels that are owned by the Town that are considered open space or recreation (1%). Other Town-owned properties such as the library and firehouse are listed under Institutional uses. The “Center Core” of Warehouse Point is Bridge Street to Main Street, School Street and Dean Avenue and extensions of Bridge Street to the east and Main Street to the South as shown on Map#2.3. Most of the buildings in this area were built before 1893. In fact, nearly 80% of the buildings in Warehouse Point were built prior to 1950.

Warehouse Point’s Bridge Street and portions of Main Street represent the historic commercial district for western East Windsor. Historic Broad Brook, in the eastern portion of the Town, has a smaller commercial base but more a residential focus. These two areas are noted as the major villages or “places” in East Windsor in the Town of East Windsor 2016 Plan of Conservation and Development (PoCD).



Street Signs



Historic View of Bridge Street (Maine Fish House)

The main commercial corridor for East Windsor is the Route 5 corridor which is located slightly to the east of I-91 and connects with Warehouse Point via intersections at Bridge Street, Main Street and South Water Street.

Within the study area, there are over 90 historic buildings as listed on the Towns List of Historic Properties which is included in Appendix G in the Existing Conditions Report and noted on Map #5.4.

Beginning with the housing study prepared in 2014 and the Route 5 Corridor Study prepared in 2015 (both prepared by LADA) to support the 2016 Town’s Plan of Conservation and Development (PoCD), Warehouse Point was identified as an important historic resource, a housing cluster, a retail and institutional center, an employment zone, a potential recreation resource and one of two critical nodes or “Places” within East Windsor. In addition, the neighboring town, Windsor Locks, was actively working with the State of Connecticut to expand and enhance the train station and train service to Windsor Locks. The new train station location places portions of Warehouse Point within the zone of walkability (as defined by CTDOT as ½ mile from the transit stop via the bridge on Bridge Street) as noted in Map #2.4. This makes Warehouse Point a part of the transit oriented district (TOD) associates with the train station. As such, the Board of Selectmen and the Planning and Zoning Commission determined that Warehouse Point should be the focus of an additional study and level of detail for the Plan of Conservation and Development (PoCD). A Warehouse Point Master Plan Study was completed for the PoCD including workshops and visioning sessions with the residents of the area and general public (Figure 2.2). From those workshops, a Master Plan for Warehouse Point was developed and integrated into the PoCD. The PoCD Master Plan for Warehouse Point is shown as Figure 2.3 below.

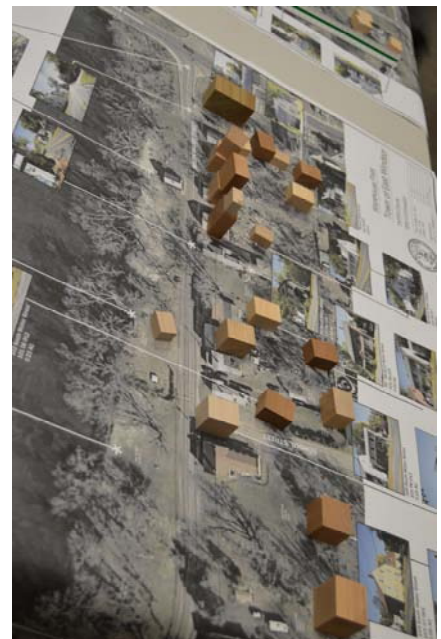


Figure 2.2- Visioning Exercise for Warehouse Point (2016)



Figure 2.3- 2016 PoCD Warehouse Point Master Plan

During the preparation of the 2016 Warehouse Point Master Plan Study, the public and Town staff identified the main potential obstacle for the future development of Warehouse Point as the potential impacts of stormwater within the Blue Ditch watershed and how that relates to flooding along the Connecticut River. This watershed level review and analysis was determined to be beyond the scope of any one property and appropriate for a town-level review and coordination. Once the issues regarding stormwater were identified then what could physically be constructed within Warehouse Point in the future would be better defined and more realistic. The concern for the safety of residents and protection of property was very important for the future use and development of Warehouse Point.



Figure 2.4- 2016 Aerial of Warehouse Point (CTEco)

Background data – Using available data from the State of Connecticut CTECO website, MAGIC databases and Town GIS/Assessor’s information, a base map showing the streets, lots and existing buildings was compiled and used throughout the project. This base map was typically printed at 36” x 56” or longer and used at a scale of 1”=200’. (Figure 2.4) The maps used in

this report have been reduced to 11” x 17” but full size versions have been provided to the Planning Department.

Since the preparation of the PoCD and the original 2016 Warehouse Point Master Plan, new development has been approved by the Town of East Windsor at the intersection of South Water Street and Route 5 which may help to anchor the intersections of South Water Street and Main Street as they enter Warehouse Point. In addition, a new casino has been approved at the site of the old movie theater at Bridge Street and Route 5. This project represents the interface between Route 5 and Warehouse Point and offers an opportunity to begin to connect Warehouse Point to Board Brook via improved pedestrian and bike access along Bridge Street. The train at the Windsor Locks Station proceeds slowly through the state system for funding but continues to move ahead. New projects at the bridge over the Connecticut River in Windsor Locks are an indicator of the potential for development within this TOD. These new projects bracket Warehouse Point as shown on Map #2.4, Amenities and Development Opportunities.

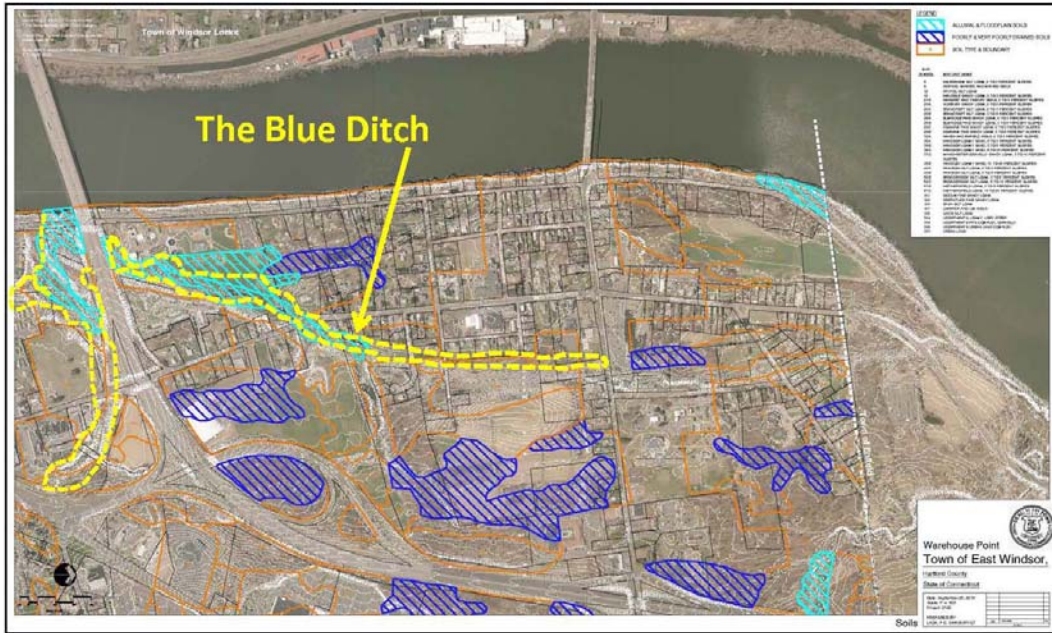
Sources used for this study included:

1. *2014 – 2024 Regional Plan of Conservation & Development*, Capital Region Council of Governments
2. Historic photos of Warehouse Point courtesy of Peg Hoffman, the Historical Society and others purchased by LADA at a local craft fair
3. Town of East Windsor, Office of the Assessor
4. Town of East Windsor Zoning Regulations and Zoning Map
5. Town of East Windsor, Planning and Zoning Commission: *2007 Plan of Conservation and Development*
6. Town of East Windsor, Office of the Town Planner
7. *Making it Happen: Opportunities and Strategies for Transit Oriented Development in the Knowledge Corridor: A Market Analysis for Transit-Oriented Development in the Region’s Bus Rapid Transit and Rail Corridors*, September, 2013, prepared for Capitol Region Council of Governments & Pioneer Valley Planning Commission by Jonathan Rose Companies, Center for Transit-Oriented Development
8. *2013 – 2018 Connecticut Conservation and Development Policies Plan and Locational Guide Map: State of Connecticut*, Office of Policy and Management
9. CGS, Section 8-23 (municipal POCD)
10. CTECO website for soils information and aerial photos
11. Soils survey on the web
12. FEMA Website
13. Town of East Windsor, WPCA
14. Town of East Windsor, Building Inspector
15. Town of East Windsor, Public Works Superintendent
16. CTDEEP Stormwater Group

The following Maps were prepared for Warehouse Point Existing Conditions Report:

- Overall Context Plan
- Street Addresses
- Parcel Data
- Soils and Wetlands
- Flood Limits
- Soils, Wetlands and Flood Limits
- Existing Land Uses
- Existing Zoning (Current Town Map)
- Existing Streets and Sidewalks
- Existing Parking
- Existing Pedestrian Travel
- Existing Utilities- Sewer Lines (from WPCA) and Potable Water (from PoCD)
- Overall Blue Ditch Watershed Map
- Existing Stormwater Facilities

The Existing Conditions Report included a lengthy review of the Blue Ditch. The Blue Ditch is the name locally given to the drainage way which serves the central and eastern portion of Warehouse Point to drain runoff from the area to the Connecticut River. Although parts of the Blue Ditch have the characteristics of a stream and wetland corridor, some portions are more like a “crinkle” in the landscape which carries water during rain events but is otherwise dry. The Blue Ditch watershed is approximately 340+/- acres and includes most but not all of Warehouse Point as well as 28+/- additional acres east of I-91 including land of the Big Y and portion of the former Le Renaissance restaurant. The proposed casino site is not currently included but depending on the final drainage design, that area could drain north or south. If the runoff drains south toward the existing detention basin and then the watershed area would need to increase. If the final design for the casino property drains to the north then it is located within the watershed that drains north to Enfield and directly to the Connecticut River via the wetland system through Enfield. Some additional portions of Warehouse Point – mostly along North and South Water Streets- drain directly to the Connecticut River - rather than to the Blue Ditch. The Blue Ditch location is shown on Figure 2.5 below. The Final Watershed Maps used in the Drainage Report are attached at full size at the end of Appendix F in the Existing Conditions Report.



So where is the Blue Ditch?

A First Look at the Blue Ditch
Warehouse Point TOD/Planning Project
The Blue Ditch
 LADA, P.C. Land Planners 1/7/2019

Figure 2.5 Location of the Blue Ditch

Based on the Existing Conditions Report and many site visits made by the project team, we can make the following observations regarding stormwater conditions in Warehouse Point:

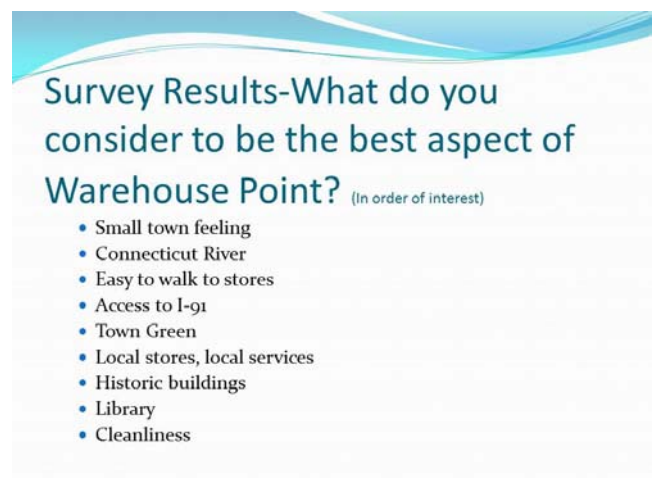
1. The Blue Ditch watershed flow is generally through the system in 8-24 hours depending on size of the rain event.
2. The road crossings within the Blue Ditch watershed function as ponds holding water and slowing the flow. This ponding condition is reflected in the watershed drainage model calculations.
3. The Connecticut River water levels peak after a rain event is at least 24 hours after the end of the storm, typically closer to 48 hours. The Blue Ditch is typically at low flow conditions at that point.
4. The upstream conditions affect the Connecticut River more than the actual rain event in East Windsor. If it rains more to the north than in East Windsor, then the river levels will rise regardless of the amount of rain in East Windsor. If rains more in East Windsor than upstream, the Connecticut River might not be affected except in minimal way (less than 5' water elevation change).
5. When the Connecticut River reaches approximately elevation 20,' a backwater condition occurs and the Blue Ditch starts to fill up and flow upstream until the elevation stabilizes.

These site observations were reviewed by the project engineer and helped to define the conditions for the mathematical model of the Blue Ditch Watershed used in the Existing Conditions Report.

In addition, the field observations allowed the project team to correlate the data available from the State of Connecticut prepared 2' contour topography from the CT Eco website. Based on this information, this report uses a reference point of approximately elevation 30' as the elevation of South Water Street (except where it goes under I-91 which is at elevation 28'). This topography is also synced with the FEMA base data for a Base Flood Elevation from Bridge Street to the I-91 Bridge of elevation 35'- 34.52' as the Connecticut River runs south as shown on Map# 2-5.

At the conclusion of the Existing Conditions report, the following Next Steps were identified to be completed in this phase of the project:

1. Complete the 2019/2020 Issues and Opportunities Plan for discussion purposes and to use as an illustration of what topics will be considered in the next phase.
2. Identify the topics and presentation approach for the first public workshop.
3. Prepare the necessary graphics to support the public participation portion of the project.
4. Begin to contact selected property owners to discuss expansion/future development options/interests to begin site design portion of the project.
5. Review existing Town stormwater and flood hazard regulations and begin new draft zoning regulation for Warehouse Point once the visioning process starts.
6. Define the amount of anticipated impervious surface expected from the proposed new development to complete the post-development stormwater calculations.
7. Continue to record the storm events that occur during the study period.
8. Review streetscape options especially those to increase ease and extent of pedestrian travel and to provide for bike traffic.



3 **2019-2020 Concerns and Opportunities Plan**

As noted above, following the publication of the Existing Conditions Report, the East Windsor Planning and Zoning Commission (the Commission) continued the discussion regarding the concerns they had and the opportunities they saw or would like to see in Warehouse Point. These discussions resulted in a series of ideas and questions which are noted on the 2019-2020 Concerns and Opportunities Plan (Map #3.1). These included the following:

- Consider raising South Water Street under I-91 to reduce flooding from the south-side of the Blue Ditch
- Continue to coordinate with the WPCA and staff at the wastewater treatment facilities to identify issues related to possible flooding at the facility
- Should the recreation area be moved?
- Is there a way to expand bike and public use of South and North Water Streets?
- Is a floodwall a viable option to stop Connecticut River Flooding?
- Should there be houses along the River at all?
- What would it look like to raise the houses above the base flood elevation?
- Can new culverts, catch basins and pipes be added to the existing stormwater system to address pooling water behind the houses in the low spot running parallel to South Water Street from School to Spring Street?
- Can the project address the creation of a municipal overflow parking area near Dean Ave?
- What is a good future use for the Police Station/Annex building?
- Is there something that can be done regarding the street parking that occurs at the Touchpoints nursing home?
- Bank of America is vacant- what should that property become?
- What kind of development should be in the future for the north side of Bridge Street from the Bridge to Maine Fish?
- Does Geisselers' Plaza have any expansion capability?
- Coordinate with Enfield to look at drainage on North Main Street and where it discharges to get to the river sooner rather than traveling over land
- The Blue Ditch is full of sediment from the last 50 years- how does the Town or an individual property owner maintain the Blue Ditch? Should easements be obtained?

-
- What is the best use for the farmland at the top of Bridge Street?
 - Sidewalks need to extend to Route 5 – on Main Street, Bridge Street and South Water Street
 - Can runoff from the east side of I-91 at the casino, church and shopping area be routed more directly to the Connecticut River instead of to Warehouse Point?

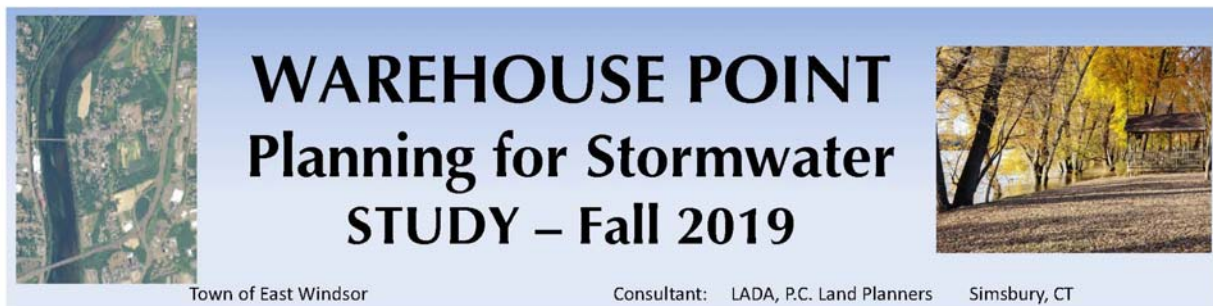
The ideas in this map and ongoing conversations were then collected into a list of Preliminary Recommendations which continued to evolve and change until the final chapter of this report.

Preliminary/Possible Recommendations-

- Consider a shared parking ordinance to provide flexibility and some protection to individual property owners
- Consider a municipal parking lot for overflow of business and residential uses
- Provide additional parking on South Water Street to connect to trails especially if recreation uses are expected to expand
- Future use of the Dean Avenue neighborhood as a growth model should consider additional parking provisions
- Extend Sidewalks to Route 5 via Main Street and Bridge Street
- Establish Entry feature and gateway to Warehouse Point on Route 5 at Main Street and South Water Street, Establish Entry feature/Gateway on Bridge Street
- Consider developing river access on North Water Street
- Consider easements to town from properties where the Blue Ditch exists to allow for control of sediment and possibly storage expansion
- Consider adding catch basins/yard drains to dewater rear of houses on South Water Street
- Become proactive in coordinating with FEMA to take advantage of programs to purchase flood prone land

4 **Public Comment- Initial Public Workshop – August and September 2019 COVID-19 Public Participation – December 2020**

As per the DECD grant requirements, the next step was to confirm the findings of the Existing Conditions Report by presenting the information to the public. As this information had been the subject of multiple meetings and presentations, the goal of the workshop was changed to seeking out individual property owners within the study area and asking what their observations regarding stormwater in the area and on their own property were. In addition, access to the meeting room at St. John’s Episcopal Church, where the earlier successful workshop was held, was no longer an option as Mother Julia had moved to a different congregation. Therefore, the workshop options considered were- mailing a survey, going door to door or having a pop-up workshop where people could be approached individually in a public setting. It was determined that, although the best way to reach people was face to face, going door to door was likely to result in miscommunication or hostility. Therefore, a pop-up workshop was chosen. Given the budget available, the pop-up workshop was set for two separate days – one evening and one primetime during the day – and set up at the local grocery store, Geisslers, on Bridge Street.



LADA staff printed handouts, created a banner and set up a table with the project area map so people could look up their property and view the overall project scope. The pop-up was operational on August 31 from 4-7pm and September 21 (part of Geissler’s Annual Sidewalk Sale) from 10- 2pm.



August 31, 2019 Pop-Up

The weather was excellent and we were able to talk to a wide range of residents of Warehouse Point. Based on the conversations, we believe that most people we connected with would NOT have attended a traditional public meeting. The second or September Workshop required that we interact within the crowd gathered for the Sidewalk Sale to ask shoppers if they lived in Warehouse Point. The booth setup off the parking area near the Fire Truck and Town Parks and Recreation staff providing games for the children which was too far away from the main pedestrian traffic to wait for people to come to the booth.



LADA, P.C.

Land Planners Land Development Consulting, Site Planning, Landscape Architects, Planners, Corridor Studies, Visual Assessment, Environmental Impact Statements, Erosion Control Specialists, Streetscapes, Recreation, and Master Planning

MOBILE Workshop Survey Questions - September 2019

Planning for Stormwater Management and Village Redevelopment for Warehouse Point

Address _____

Do you consider your property to be in a "low spot or area"? Yes No

Do you have any problems moving your yard due to wetness or standing water? Yes No

Is this a recent problem or long term?

Are there portions of your property you consider unusable due to water? Yes No
Where?
(Use Map if helpful)

Where do you think the water is coming from?

Do you have any thoughts about how this can be changed?

Have you experienced any flooding on your property? Yes No

Have you done anything to address this?

Do you know if you are in a flood zone? Yes No (Locate property on map)

If needed- Do you have flood insurance? Yes No

Provide Handouts Yes No

Offices in Simsbury, CT • Brewster, NY
100 West Street, Simsbury, CT 06070
(860) 851-4971 • (845) 278-7424 • Fax (860) 851-6153
E-mail: ladapc@net.net

September 23, 2019 Pop-Up and Survey Questions

Workshop Statistics

# of People entering Geisslers		# of People asked if they lived within WP		# of People within study area who answered questions	
August	September	August	September	August	September
500+/-	1000+/-	80+/-	100+/-	9	12

There were a total of 21 respondents.

Of the 21 respondents, one lives on property that was shown to be in the 100 year flood zone, two live where the 500 year flood zone is located on a portion of the property and the remainder live, own or lived at properties outside the flood zones. Several residents identified observed road drainage issues on North Main Street, Grandview Terrace and Gardner that were not identified on the map and appear to be the result of existing road grading and existing drainage issues around houses. These locations will be referred to Public Works.

Overall, the conversations confirmed that the observations and calculations made in the Existing Conditions chapters above are consistent with resident experience. Respondents were aware of the potential for flooding in Warehouse Point in general but it was not directly related to their property. We did not speak to any residents or homeowners within the floodway or in those areas previously impacted by flooding such as South Water Street. New homeowners within the 100 year flood zone have been required to have flood insurance as part of their mortgage. Property owners where a portion of the property is within the 500 year flood zone generally have not been required to have flood insurance.

Other topics of discussion included architecture and general quality of life in Warehouse Point. Respondents were in general agreement with the following:

- Existing architecture and building edge limits should remain
- Streetscape needs improvement
- Need more reasons to come to Warehouse Point – stores and restaurants
- New development should be infill rather than teardown and start over

On a non-stormwater issue, we noted that the typical shopper we spoke to was from Windsor Locks (60%), Broad Brook or elsewhere in East Windsor (25%) and from Enfield or out of town (10%) with only slightly less than 10% from Warehouse Point. This distribution of residence suggests that Warehouse Point needs additional residential units to support future and existing development. In addition, there was a surprising lack of children arriving with parents during any of our visits. This is further reinforced by the informal observation that most shoppers were older than the average town population.

Completion of the project was stalled in 2020 due to the shutdowns of Town Hall due to the Governor's Orders and COVID-19 virus. In addition, the Town Planner was affected by the virus and unable to coordinate efforts to complete the project. Once regular meetings were reestablished and the project started back on course, the Planning and Zoning Commission tried to prepare for public workshops to be held in person. During the late summer and fall of 2020, the effects of the virus remained and large public gatherings were not allowed and Town Hall remained closed. Alternate ideas for public participation were considered but there was a preference to wait out the situation to allow for more public contact. In the late fall, DECD determined that the project needed to be completed prior to March 2021 in order to meet their requirements. To ensure completion of the project in a timely manner, LADA proposed to use a mail-in survey and an on-line survey linked to the Town website to solicit comment on the proposed vision for Warehouse Point. The survey was created using Survey Monkey and reviewed by the Commission. After several changes, it was clear that residents taking the survey would be at a disadvantage when compared to the traditional workshop approach. The traditional workshop approach includes an introductory presentation to set the stage and provide background information for attendees. Therefore, the Commission felt that anyone taking the survey needed to be able to have some information prior to and during the survey to help understand the project and the efforts to date. LADA prepares a series of four (4) videos that explained the project and provided in-depth information to help residents understand the project in lieu of a 2 hour presentation and discussion. After some technical difficulties, the videos were viewed by a number of residents and remain active on the Town's website. A final presentation was held on December 29, 2020 as a zoom meeting to present the survey results and to function as a question and answer period with the public. The survey results were presented at that time and are included throughout this report.

Graphic 1: Survey Distribution

A survey was prepared and mailed to every property owner within the project area. In addition, an on-line survey was conducted via Survey Monkey via a link on the Town's website.

Graphic 2: Video Series

There is a four part video series – each part runs approximately 20-35 minutes located on the Town's website

- Part One- Why do this study and what is it about?
- Part Two- Understanding the Blue Ditch
- Part Three- Zoning and how it affects stormwater runoff
- Part Four – What the Future of Warehouse Point could look like

Graphic 3: Survey Results

Are you a resident/owner in Warehouse Point?

- 250 surveys mailed
 - 45 paper copies received
 - 2 phone calls
 - 6 on-line responses
 - 53 total responses
 - Men 50%/Women 50%
 - 18 surveys returned
 - Not all questions answered

Legend for pie chart:

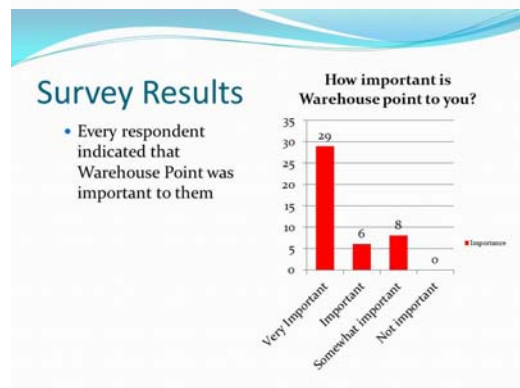
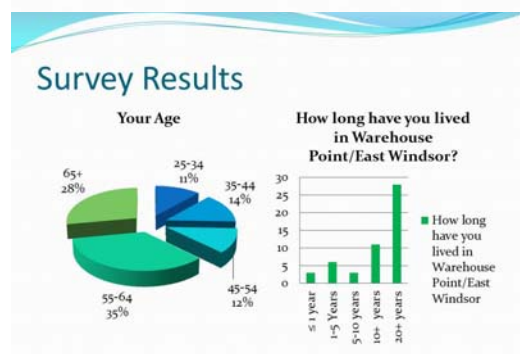
- Homeowner- 31%
- Property Owner- 34%
- Resident and Business Owner
- Property Owner and Business owner
- Resident of East Warehouse but not Warehouse Point
- None of the above

300 surveys were printed and over 250 surveys were initially mailed on December 4, 2020. The package included the survey and a stamped return envelope. 45 surveys were completed and returned. Only 6 on-line surveys were completed due to access issues related to security features on the Town website. LADA received two direct phone calls.

63% of the survey respondents were 55 and older, homeowners within the Study area and have lived in Warehouse Point for over 20 years. This demographic will be important in the next 10-15 years as property ownership turnover occurs. Most respondents live in the study area so they are in Warehouse Point every day.

One of the most important survey results confirms that the respondents consider Warehouse Point to be important to them. The paper surveys in particular were sent to residents and property owners so those most affected by this study are also the most interested.

As noted in the beginning of this report, Warehouse Point is located between the Windsor Locks Train station and the future development of the former movie theatre site on Route 5 which was approved as a casino. Although the casino has been delayed, residents are still mostly positive about that future use. Interestingly, the train station is not particularly on the residents' radar. Respondents to the survey were asked a series of questions regarding use of the train now and in the future. The results indicate that most residents would not take the train and that 80% of the respondents would not be willing to give up their car. Unfortunately, it appears that transit use and reduced reliance on the automobile is not viewed positively.



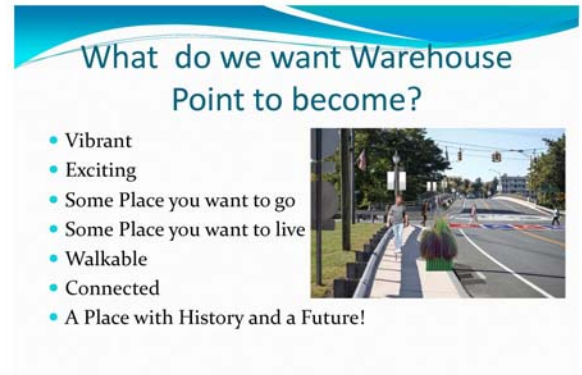
Survey Results –

Use of the Train Station may not be an idea residents embrace yet!!!

- Is access to the train station important to you?**
 - 50% neutral or N/A
 - Of remaining – 25% agree and 25% disagree
- I would take the train to work**
 - Only 10% agree, everyone else says No!
- I would give up my car and take the train**
 - A resounding 80% say no!!

5 Future Land Use and Zoning

To continue the visioning exercise from 2016, the Planning and Zoning Commission started with the Warehouse Point Master Plan for guidance and direction. During the nearly 2 yearlong study, the Commission looked at every area in Warehouse Point to consider what is there and what could/should be there in the future. During this process, several important goals became clear-



- Increase the potential for Warehouse Point to be a destination
- Protect and restore historic structures on Main Street and Bridge Street but consider that time may cause some of those structure to be reused differently.
- Enhance the potential for existing businesses to expand where possible
- Reduce existing non-conformities by reconsidering zoning bulk requirements especially in residential neighborhoods
- Treat the area as a “Village” supporting shared parking and potentially reduced parking from standard suburban based parking requirements
- Coordinate zoning bulk requirements with stormwater study to protect land and residents

After nearly 15 different draft versions, the final Future Use and Density Plan is included as Map #5.1. Within this plan, Warehouse Point divided into 10 areas which cover the entire study area.

Riverfront Area

This area includes land on the west side of North and South Water Streets and the northern portion of the east side of North Water Street. Most of this land is vacant and within the FEMA flood Zone AE (formerly known as the 100 year flood zone). This area has consistent minor flooded any time the river reaches flood level (15’ according to the Connecticut River gauge equals elev. 20’ +/- on maps) but typically experiences moderate flooding at least once a year above elevation 24’ and major flooding every 5-10 years above elevation 26’. The Base Flood

Elevation (BFE) for the 100' year event along South Water Street is approximately 35' (See Map #2.5). South Water Street is typically at elevation 30'. North Water Street is at elevation 32' - 30' depending on location. There are a few single family homes within this area which are vulnerable to flooding. This area is the most susceptible to Connecticut River flooding.

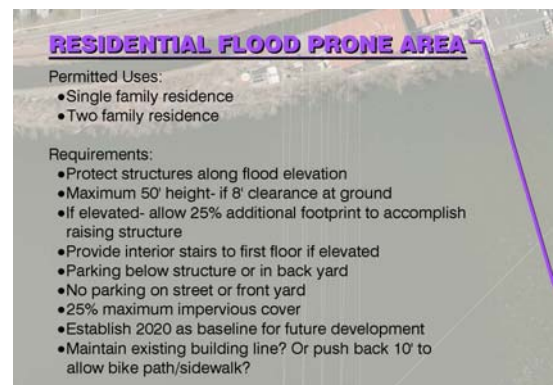
As shown on the plan, these existing homes would remain but no new structures would be allowed. New construction to existing buildings should meet the current Town Flood Zone regulations and current Building Code. Recreation/Open space would be a permitted use. Paved paths would be allowed within the floodzone but would be expected to be able to go underwater without significant repair.

The Town may wish to consider working with property owners who would be willing to take advantage of FEMA funds available for purchase of flood prone areas.

Residential Flood Prone Area

This area includes land on the east side of South Water Street including the Town Ballfields and wastewater treatment facility. It includes a number of historic structures as noted on Map #5.4.

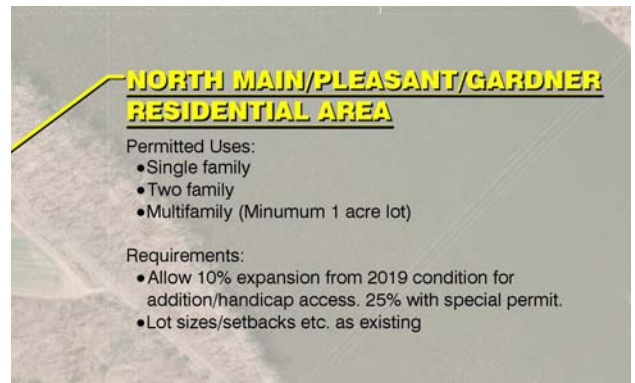
Recommended permitted uses in this area would be the existing residential uses including the existing multifamily buildings. Recommendations for this area are focused on how to reduce flooding risk for any new construction. In addition, a great deal of creativity would be required to raise and preserve the many historic structures on the street especially in the southern portion of the street. We have noted that the existing structures from School Street to the bridge in this area will require significant funds to repair and spruce up. These buildings were also noted by the public in the second public participation event for the study as "blighted".



Dean Ave./Spring Street and North Main/Pleasant/Gardiner Residential Areas

Both these area are well-developed, attractive and stable residential neighborhoods. House sales are limited and residents have been in place for quite some time. As noted above, the current zoning makes 80% or so of the lots existing non-conforming which would require significant effort and monies to allow even the smallest addition or change. The creation of zones that recognize small lots and architectural features of this area is recommended. Many of the houses in this area serve as the preferred architectural style for most residents. This new zone would allow for small additions and changes which would support aging in place and life changes such as handicap ramps, in-law rooms, etc.

It is important to note, however, that as much as both visitors and homeowners like the Dean Ave. neighborhood, there is a significant shortage of parking in that area due to the size of the lots and size of the street/right-of-way that limits on-street parking. There is simply not enough parking available to accommodate the number of cars per family. The existing municipal land on School Street is being used as overflow.



Main Street Historic Area

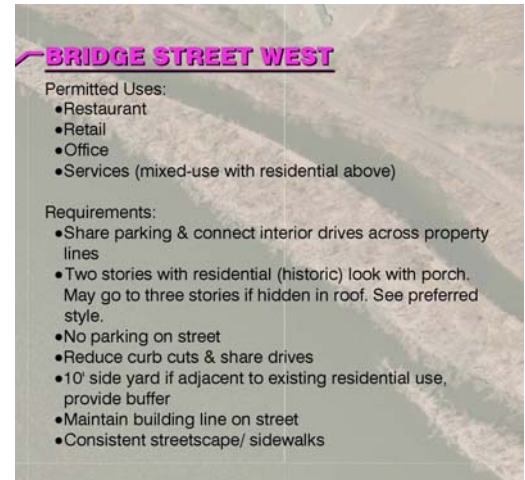
This area includes both sides of Main Street from Bridge Street to School Street, Scott Avenue, and the residential land from Spring Street south along both sides of Main Street. These areas include significant historic buildings as well as important institutional uses such as the library and church. The intent of this area is to maintain the existing historic structure “built-to” line along the street and



the architectural styles but allow for potential changes of uses (temporary or permanent) when the structures transition from residential to commercial (and sometimes back again!) to allow commercial uses that might be suitable within a historic structure.

Bridge Street West

This area includes land on the north side of Bridge Street from the bridge to Main Street and includes three significant historic buildings – Maine Fish, the federal style building with columns at 42 Bridge Street and the small commercial building at 38 Bridge Street. This area has been the focus of the Commissions’ vision for future growth which would include additional restaurants, retail and potentially mixed use development to add some new residents/consumers to the area.



Bridge Street Commercial Area

The Bridge Street Commercial Area includes land on both sides of Bridge Street from Main Street to the auto parts store. It includes the largest vacant acreage and a number of parcels that could be developed in the future- the farmland on the southern side of Bridge Street and the Connecticut Children’s Home on the northern side of Bridge Street. The land at the top of the hill is relatively flat and suitable for development. The farmhouses along the southern side are considered by residents to be attractive and of a scale that should remain along the street frontage. Conversion of these buildings to commercial use would be considered a positive way to maintain the look of the street while allowing for new development. Additional larger scale buildings behind these structures would be possible (see Site Plans in Chapter 7).



Main Street Commercial

This area includes the existing box factory, Town police/annex building, nursing home and commercial buildings on the corner of Spring and Main and the corner of School and Main. This area recalls the industrial roots of Warehouse Point with its brick buildings, larger footprints and worker housing. These buildings are considered to be historically important and, from an aesthetic perspective, provide counterpoint to the residential styles elsewhere in Warehouse Point. The development potential of this area is limited due to the existing uses but a future brewery or other restaurant uses facing Main Street are possible.



Warehouse Point Commercial Recreation Area

The soccer complex on the east side of Main Street is considered to be an important part of the recreation opportunities for East Windsor residents. The open fields provide relief from the denser development patterns in Warehouse Point. Although new building construction could occur at this location, the Commission prefers to provide support for the recreation uses on this property.

Highway Area

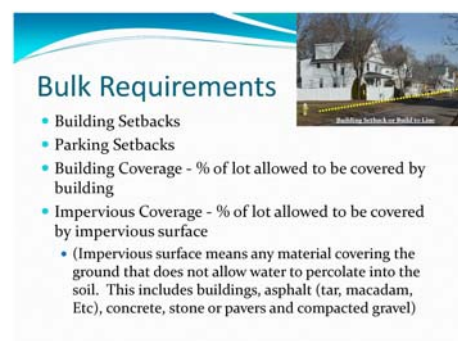
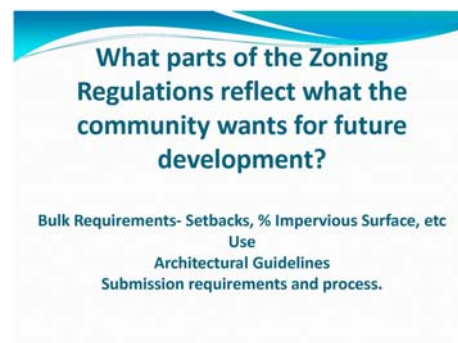
This area includes the highway interchange uses at I-91 on Bridge Street. Land for future development is limited due to wetlands but a new small hotel or other commercial use to support Warehouse Point on a smaller scale would be considered desirable.

EXISTING ZONING

In order to accommodate the uses and conditions listed in the Future Use and Density Plan, new Zoning Regulations which allow for such development would need to be in place. Therefore, a review of the current zoning in place was undertaken to find where limitations to future growth exist. The Commission reviewed the existing Zoning Map and district regulations for both uses and bulk requirements. Typically zoning addresses two important components for future development- Use and layout information – which are known as Bulk Requirements. Setbacks, building and impervious coverage were considered as they relate to future development.

A number of issues were identified with the current Zoning Regulations which would affect the possible development of the Future Land Use Plan. Practical issues due to the higher density of smaller lots typical in Warehouse Point were also identified.

- Most of the existing residential lots are non-conforming with respect to lot size, setbacks and coverage
- There is limited or no growth potential for existing businesses without extensive variances or purchasing additional land which is currently occupied
- The M-1 Zone includes uses that are undesirable in Warehouse Point
- The B-2 Zone allows a level of development that is inconsistent with the results of this study
- The uses allowed in the B-1 and B-2 Zones are not reflective of community needs and wants
- The current zones are not flexible and don't allow for a "village style" layout and uses
- No architectural guidelines
- Growth needs to reflect the historic patterns and architecture and limit or prohibit destruction of existing historic structures
- Warehouse Point is not Route 5 or suburban



Town of East Windsor

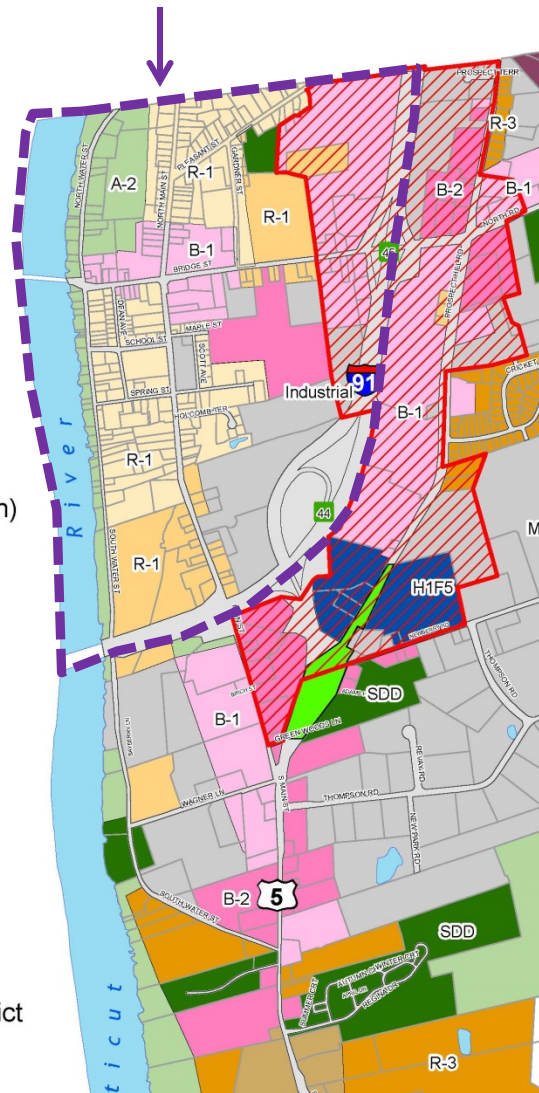
Hartford County
State of Connecticut



Zoning

- A-1 - Agricultural / Residential
- A-2 - Agricultural / Residential (floodplain)
- R-1 - Single - Multi Family Residential
- R-2 - Single Family Residential
- R-3 - Single Family Residential
- B-1 - Neighborhood Shopping District
- B-2 - Business District
- B-3 - Route 140 Business Corridor
- M-1 - Manufacturing District
- TZ-5 - Transitional Zone
- ARHD - Age Restricted Housing Zone
- MFDD - Multi Family Development District
- HIZ - Highway Interchange Zone
- Approved Parcels

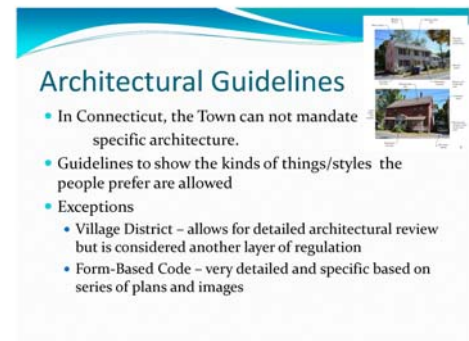
WAREHOUSE POINT



Zoning and the Bulk Requirements have an impact on stormwater runoff in several ways. This includes the impervious surface coverage limits, building coverage limits, stormwater regulations, flood zone regulations and additional regulations within the Building Code. Allowed uses affect the amount of parking required which results in impervious surface. Regulations that reduce usable lot area due to wetlands or slope also impact impervious surface allowed.

As part of this study, the study engineer (Nathan L. Jacobson and Associates) developed a series of scenarios which are based on impervious surface coverage allowed by zone. These scenarios are discussed in the next chapter. This two year study included many discussions regarding the interconnection between stormwater runoff and imperious surface which then resulted in the final Zoning Map and draft Zoning Regulations included in this report.

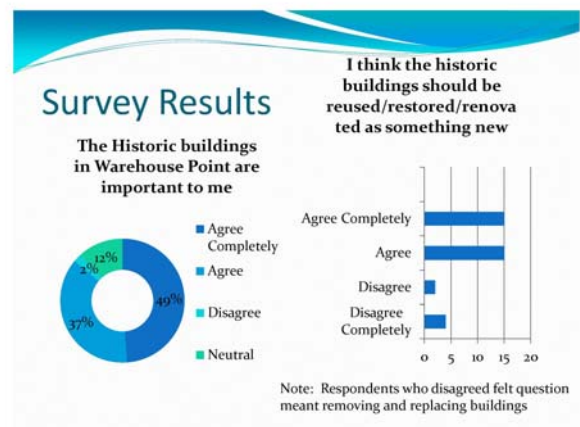
Throughout this study and the one in 2016, it is very clear that the residents of East Windsor and Warehouse Point, in particular, like very specific styles of architecture. In Connecticut, however, the Town cannot dictate or mandate specific architecture for new construction. Architectural Guidelines can be established that help guide future projects but cannot mandate specific architecture. Based on resident preferences, this report includes an evaluation of the existing architecture that can be used to develop future architectural guidelines.



HISTORIC STRUCTURES

Map #5.4 shows the location of the historic buildings within the Warehouse Point Study Area. Flood Zone AE (formerly 100 year flood zone) and the Blue Ditch are shown. The historic structures along South Water Street are within the flood prone area for the Connecticut River. Structures along Spring Street, Main Street and Scott Avenue are within the flood prone area of the Blue Ditch.

The second public participation survey included questions regarding the historic architecture and how residents feel about those structures. The survey results were very clear. 86% of respondents felt that the historic buildings in Warehouse Point were important to them. 71% felt those buildings should be restored or reused if they could not be maintained as is. Respondents were equally opposed to removing those structures in lieu of reuse.



6 The Blue Ditch and Stormwater Model- Alternates

The Blue Ditch is the locally named drainage feature which runs north to south through Warehouse Point. It runs parallel to the Connecticut River and collect runoff from the central and eastern parts of Warehouse Point. The land west of the Town Hall Annex building and all of South and North Water Street drain directly to the Connecticut River rather than the Blue Ditch as shown on Map #5.3 and Figure 6.1.

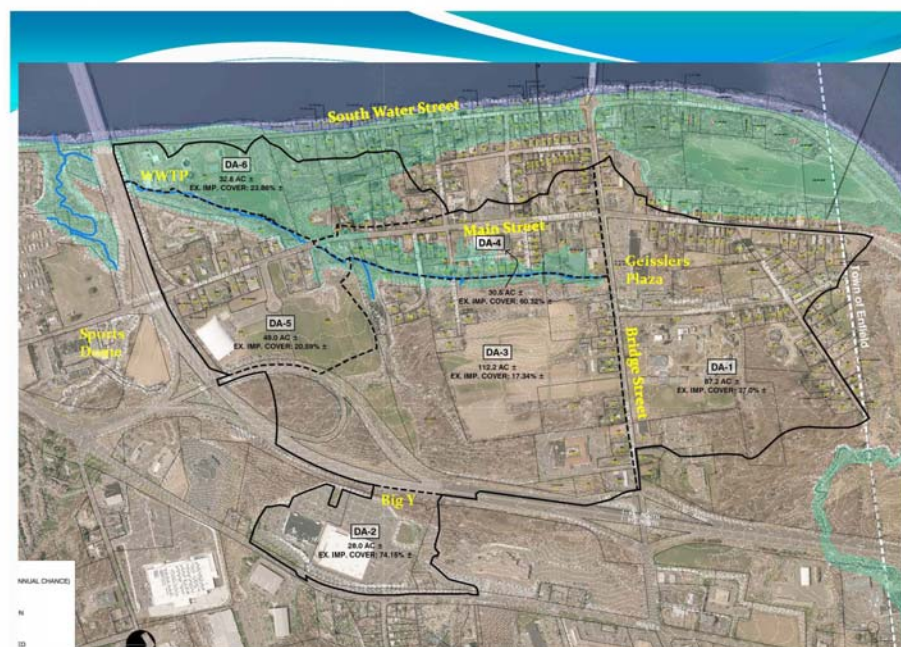


Figure 6.1 Existing Drainage Areas

The Blue Ditch starts in the wetlands north of the Geisslers parking lot and runoff is collected via a pipe which continues south through the Geisslers parking lot and daylights on the southside of Bridge Street. The pipe is 36" but is partial submerged in sediment. This discharge area is periodically cleaned out by the Town. Runoff continues to the south via a maintained drainage swale to the property of St. John's Church where it becomes a shallow

stream and adjacent wetlands. The stream meanders through the wetlands and crossing beneath Spring Street via a pipe. There is a defined stream bank from Spring Street to Holcomb Street with extensive adjacent wetlands. Exiting another road crossing, the runoff flows within an intermittent drainage way contained in a fenced zone within an agricultural field until it redefines itself as a stream and adjacent wetlands as the water continues south toward Main Street. The stream continues across Main Street via a pipe and daylights into an active stream corridor and floodplain wetlands. The stream continues south around the wastewater treatment plant and towards I-91. It crosses under I-91 via a large pipe. On the south side of I-91, there is a confluence of three branches of the Blue Ditch which merge and travel toward a new pipe and head wall recently installed by the Town under South Water Street. This pipe discharges directly to the Connecticut River. A complete description of the Blue Ditch, site observations and stormwater model are included in the Existing Conditions Report, the videos prepared for the study and throughout the presentations given during this study.



12/25/2020 Rain Event and new headwall and pipe at South Water Street

As noted in the Existing Conditions Report and Chapter 2, based on the site visits and confirmed by the mathematical stormwater model, we can make the following observations:

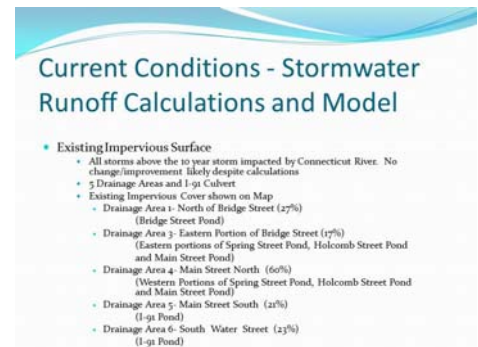
1. The Blue Ditch watershed flow is generally through the system in 8-24 hours depending on size of the rain event.
2. The road crossings within the Blue Ditch watershed function as ponds holding water and slowing the flow. This ponding condition is reflected in the watershed drainage model calculations.
3. The Connecticut River water level peak after a rain event is at least 24 hours after the end of the storm, typically closer to 48 hours. The Blue Ditch is typically at low flow conditions at that point.
4. The upstream conditions affect the Connecticut River more than the actual rain event in East Windsor. If it rains more to the north than in East Windsor, then the river levels will rise regardless of the amount of rain in East Windsor. If rains more in East Windsor than upstream, the Connecticut River might not be affected except in minimal way (less than 5' water elevation change).

5. When the Connecticut River reaches approximately elevation 20,' a backwater condition occurs and the Blue Ditch starts to fill up and flow upstream until the elevation stabilizes.

As noted in the 2004 Connecticut Stormwater Quality Manual, stormwater runoff is most directly affected by the amount of impervious surface within the watershed. Impervious surface includes buildings and pavement, patios, rock surfaces, compacted gravel and other surfaces where rain runoff cannot be absorbed into the ground. Impervious surface increases the volume and rate (peak flow) of runoff that does not get absorbed into the ground as well as reduces the time the runoff takes to move downstream (time of concentration). The Blue Ditch Watershed is approximately 340+/- acres in size and for purposes of this report is broken up into 6 sub-watersheds based on specific known pipe locations, as shown in Figure 6.1.

At each of these locations, the stormwater model identifies a “ponded” area that can be used to calculate various future development options. The future development options considered are based on impervious calculations into the stormwater model and various scenarios were developed to look at what impact specific impervious levels at specific locations within Warehouse Point would have on these pond areas and the level of water which collects there. The ponded areas identified in Figure 6.2 are:

- Drainage Area 1- Bridge Street Pond
- Drainage Areas 2,3,4 – Spring Street Pond and Holcomb Street Pond
- Drainage Areas 3,4,5 – Main Street Pond
- Drainage Area 6 plus all others - I-91 Pond



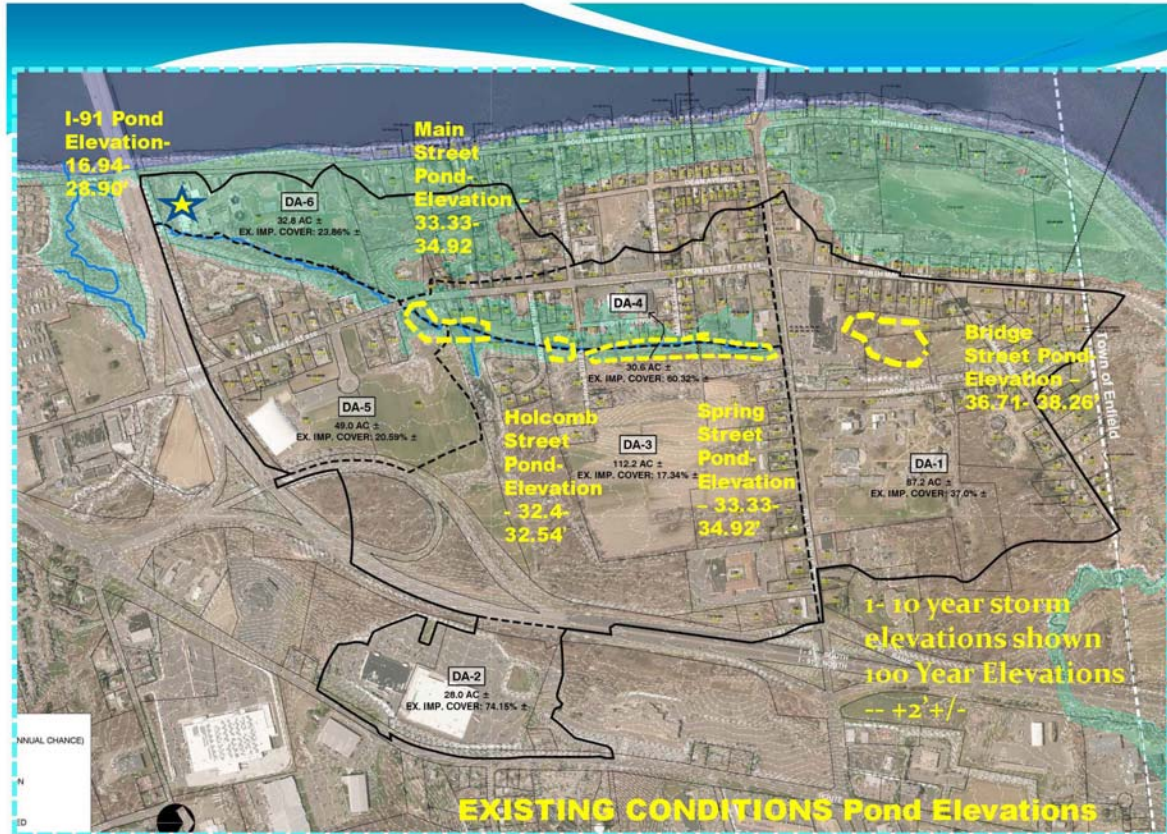



Figure 6.2 Existing Pond Elevations

Because, as noted in the Existing Conditions Report, the Connecticut River affects the Blue Ditch above the 10 year storm, the stormwater model was focused on the impacts of new impervious surface on the 1, 2, and 10 year storms. During these storms, the pond elevations are as follows:

Location	Low Flow Elevation	1 Year Storm	10 Year Storm
Bridge Street Pond (parking lot at 39')	35'	36.71'	38.26'
Spring Street Pond	31.5'	33.33'	34.92'
Holcomb Street Pond	31.5'	32.4'	32.54'
Main Street Pond	30.5'	33.33'	34.92'
I-91 Pond	13.5' (culvert)	16.94'	28.90'

The following slides from the video presentations show examples of water levels at higher storm levels taken during the study period. Our observations show that recent rain events regularly result in water levels regularly reach the elevation of the 10 year storm listed.



Bridge Street Pond
North of Geisslers
Parking lot at rear of
building. Low Flow
level at Elevation
35.0
Parking Lot at Elev.
39'

High Water Elevation at Elev. 38'+/-



Spring Street Pond
Northside-
Bridge Street to Spring
Street- Outlet/Low Flow
level at Elev. 31.5

High Water level shown at
Elev. 36'+ on Church Property




Spring Street Pond
Southside
Outlet/Low Flow at
Elev. 31.5'



High Water Level at Elev. 34'+/-




Low Flow Level




Holcomb Street Pond
Spring to Holcomb
Outlet/Low Flow Level –
Elevation 31.5'

Water Elevation at Elev. 33'+/-



High Water Level at Elev. 36'+/-



Low Flow Level



Main Street Pond -
Outlet Elevation 27'
Elevation at Holcomb
Street -30'

Low Flow Level



Water Elevation
at 32'



Main Street
culvert
crossing

Six different scenarios were modeled to considered various different impervious surface combinations-

Scenario #1 -	Existing Conditions (Figure 6.2)
Scenario #2-	Reduce Impervious Surface by 20% (Figure 6.3)
Scenario #3-	Current Zoning (Figure 6.4)
Scenario #4-	Wish List/Initial Future Land Use Map
Scenario #5-	Revised Zoning Map
Scenario #6-	Proposed Zoning with water quality volume captured plus 10% infiltration (Figure 6.5)

When addressing issues related to stormwater runoff, the convention is to first assume that the situation can be made better through a reduction of impervious surface area. In Figure 6.3, the effect of reducing the impervious surface by 20% is very small- typically 1” or less in the smaller storms and 4-6” maximum in the higher storms. There was no significant change at the I-91 culvert. The Commission felt that the benefit would only occur under certain conditions and that under typical scenarios- the reduction was likely to be exaggerated in the model. In addition, the cost and long term economic impacts of trying to reduce impervious surface would be significant on all property owners and residents with little or no benefit.

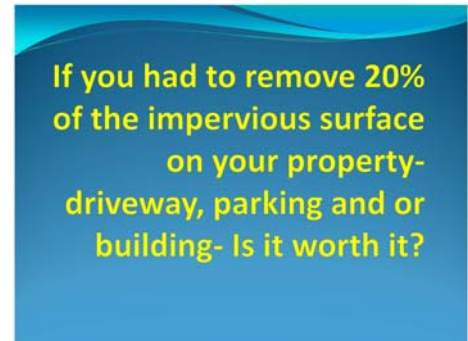


FIGURE 6.5
Stormwater Calculations - Comparison Chart
Pond Levels by storm 10-27-2020

Location	Existing Conditions-elevation of water level	Existing Zoning	Proposed Zoning - Scenario 5-imp level as shown on Plan	Proposed Zoning - Scenario 6-impervious level but with WQV and infiltration	Best choice
Bridge Street Pond - 1 year storm	36.71'	36.79 (+0.08')	36.92' (+0.21')	36.89' (+0.18')	EZ (limited growth)
Bridge Street Pond- 2 year storm	37.23'	37.32 (+0.09')	37.48' (+0.25')	37.42' (+0.19')	EZ
Bridge Street Pond- 25 year storm	38.36'	38.37' (+0.01')	38.39' (+0.03')	38.38' (+0.02')	EZ
Spring Street Pond - 1 year storm	31.53'	31.55' (+0.02')	31.54' (+0.01')	31.89' (+0.36')	Scen 5
Spring Street Pond- 2 year storm	32.31'	32.36' (+0.05')	31.98' (-0.33)	32.45' (+0.14')	Scen 5
Spring Street Pond- 25 year storm	35.43'	35.88' (+0.45')	36.00' (+0.53')	35.91' (+0.48')	EZ
Holcomb Terrace Pond- 1 year storm	30.54'	31.04' (+0.5')	30.50' (-0.04')	31.31' (+0.77')	Scen 5
Holcomb Terrace Pond- 2 year storm	31.51'	31.50' (?)	31.31' (-0.2')	31.54' (+0.03')	Scen 5
Holcomb Terrace Pond- 25 year storm	32.73'	34.17' (+1.44')	34.17' (+1.44')	34.04' (+1.31')	Scen 6
Main Street Pond- 1 year storm	28.38'	29.28' (+ 0.9')	29.27' (+0.89')	29.26' (+0.88')	Scen 6
Main Street Pond - 2 year Storm	29.29'	30.26' (+0.97')	30.15' (+0.86')	30.16' (+0.87')	Scen 5
Main Street Pond - 25 year storm	32.69'	34.17 (+1.48')	34.17' (+1.48')	34.04' (+1.35')	Scen 6
I-91 Pond- 1 year storm	16.56'	17.03' (+0.47')	17.12' (+0.56')	17.05' (+0.49')	EZ
I-91 Pond- 2 year storm	22.71'	23.02' (+0.31')	23.02' (+0.31')	23.00' (+0.29')	Scen 6
I -91 Pond- 25 year storm	28.11'	30.60' (+2.49')	30.61' (+2.5')	30.61' (+2.5')	EZ

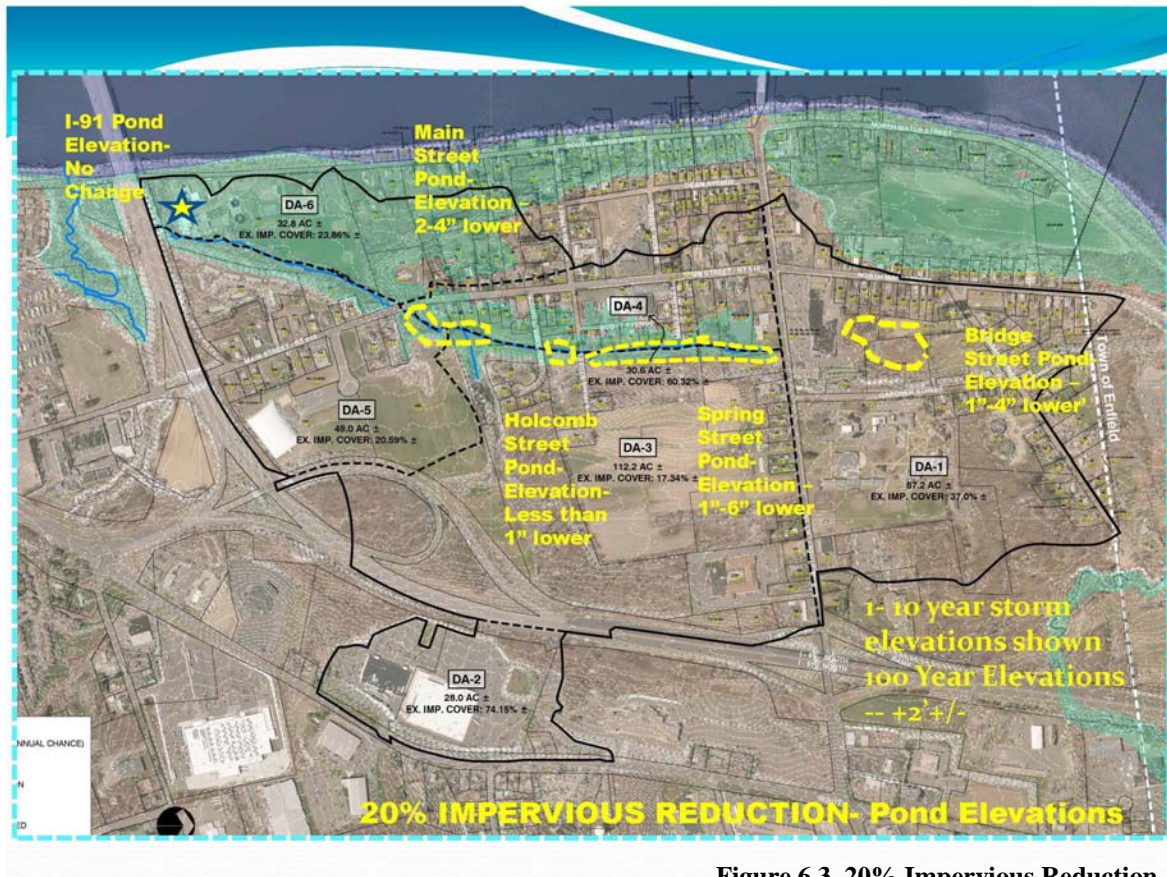


Figure 6.3 20% Impervious Reduction

The current zoning was then evaluated to identify the change to the existing stormwater runoff patterns and pond elevations that would occur if there was full build out of Warehouse Point based on the current zoning. The allowed impervious surface in each zone was identified and inputted into the model as if it were fully built out. This evaluation is slightly skewed as the land in Drainage Area 1 already has a higher impervious coverage than allowed by the zoning. In this scenario, Drainage Area 1 has virtually no new development capacity except for the Connecticut Children’s Home.

Post-Development Stormwater Runoff Calculations and Model

- Existing Zoning
 - M1 Zone - 75% Impervious Cover Allowed
 - B1/B2 Zone- 65% Impervious Cover Allowed
 - R1 Zone- 25% Impervious Cover Allowed
 - Total Impervious Cover impacted by wetlands, setbacks, access location, etc.
 - Location of M and B zones at points where have impact on stormwater
 - Drainage Areas 3 , 4 , 5 most impacted

In Figure 6.4, if there was a build out of Warehouse Point at the Current Zoning levels, then there would impacts on the water elevations of the “ponds “in the Blue Ditch. The Spring Street Pond, Holcomb Street Pond and Main Street Pond would be directly affected by the impervious surface allowed in the B-1 Zone for the vacant field at the top of the hill. During this

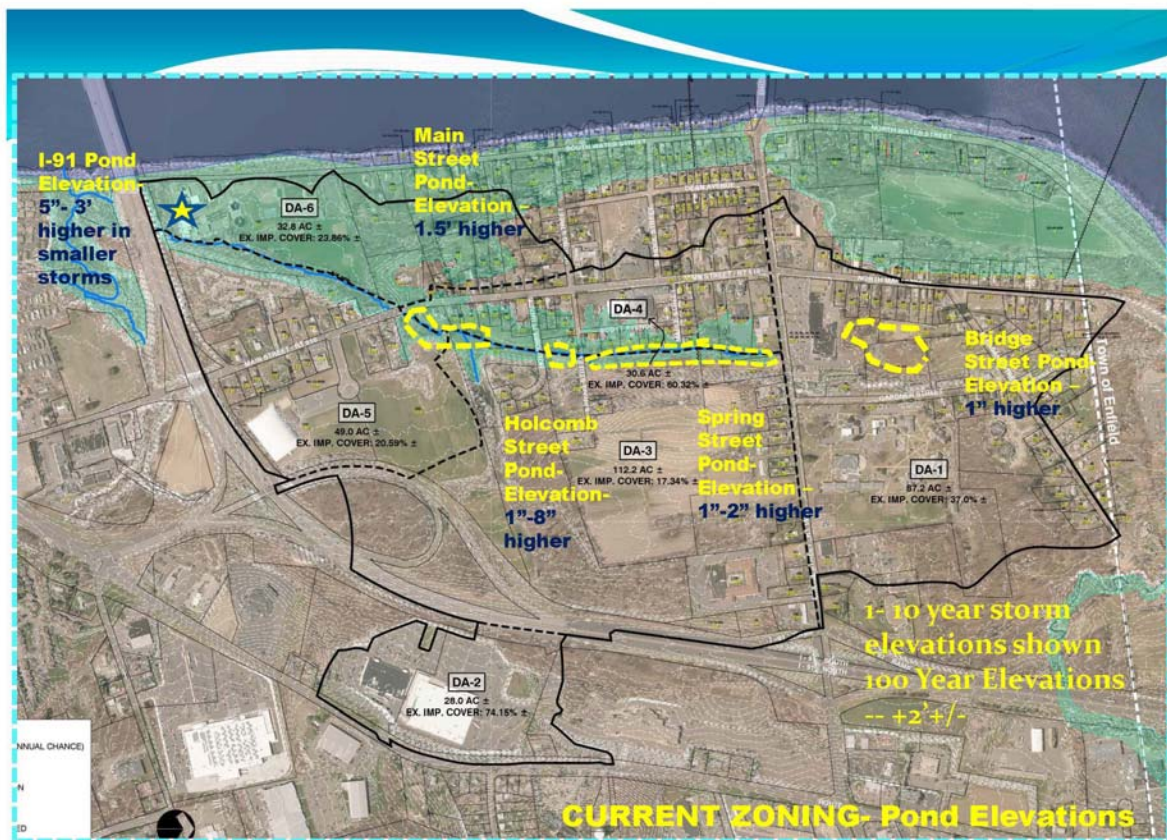


Figure 6.4 Current Zoning

process, it became clear that the allowed impervious cover for this parcel was too high and that detention would need to be required as well as the other criteria to reduce runoff such as capturing the water quality volume and 10% infiltration requirements. The numbers shown in dark blue in Figure 6.4 should be added to the elevations in Figure 6.2. The most significant figure in this scenario is that even in the smaller storms, the water elevation at the I-91 culvert would increase above elevation 30' more frequently. Elevation 30' is the elevation of most of South Water Street.

In Scenario #4, a preliminary Future Land Use Map and Proposed Zoning Map were used to calculate the elevation of the stormwater “ponds” in the Watershed. These maps were based on a “wish list” for maximizing impervious surface to allow for the greatest growth potential.

It became clear that the Blue Ditch would not be able to sustain the runoff from this level of impervious surface and that there would be significant additional flooding even in small storms. It appeared that there was a clear line where additional development would cause damage to the downstream properties. Because of this, the Commission went back to the drawing board and reconfigured the Future Land Use Plan and proposed allowed impervious surfaces. The stated goal was now to create a scenario that would not increase the downstream water levels more than the current zoning and, to the extent possible, reduce those elevations through both creative and conventional means such as green infrastructure, pervious pavement, infiltration, etc.

Why does it matter?

- Every time you build a building or add on or create a new parking area, you increase the rate and volume of stormwater runoff from the site.
- Either the Blue Ditch or the Connecticut River will receive this runoff.
- Increased impervious surface may have an impact on the Blue Ditch by increasing the amount of water collected each storm at any one time at each of the various ponds identified in Part 2 of this series.
- You are not allowed to increase runoff across your property line

A number of scenarios were then developed and finally Scenario 5 and 6 were run to compare specific alternatives. Figure 6.5 summarizes the data for these two scenarios. This chart focused on the 1, 2 and 25 year storms while the plan figures focus on the 1, 2 and 10 year storms. Scenario 5 and 6 varied on their potential impact when compared to the current zoning. As noted before, the properties in Drainage Area 1, are proposed to be allowed to increase the impervious surface on their lot in a manner that the current zoning does not allow. It is unlikely that there will be a rush to expand these structures but the model does not allow for such incremental increases. Therefore, the model consistently identifies an increase in the Bridge Street Pond that is likely to be exaggerated.

Figure 6.6 shows the Proposed Zoning compared to the Current Zoning. In all scenarios, the increase in water elevation at the I-91 culvert is a cause for concern. However, there may be a relief value in the system as a whole with the town recent replacement of the culvert under South Water Street. The recent rains over Christmas 2020 were substantial (8 “+ in 4 events over 10 days). Other than minor water elevation increases, there was a noticeable reduction in water levels at the ballfields that may be the result of this recent construction.

Post-Development Stormwater Runoff Calculations and Model

- Alternates being considered
 - Impact of significant Maintenance- culvert cleaning
 - Replace Pipes
 - Modify Proposed Zoning
 - Requiring infiltration /pervious pavement for new construction
 - Reduce impervious in certain locations
 - Detention???

As noted in the chart, none of the alternates, by themselves, provides a clear improvement over the existing zoning. Therefore additional measures are recommended-

- Require pervious pavement in specific conditions
- Require detention at the top of the hill but not elsewhere
- Require the WQV volume to be taken off line and a percentage of the increased runoff to be infiltrated for all new construction
- Consider acquiring easements from all property owners to maintain the Blue Ditch especially the pipe crossings.
- Replace the pipe crossings at Holcomb and Spring

The next step is to refine these recommendations as part of the impervious surface calculations for the Bulk Requirements portion of the draft Zoning Regulation.

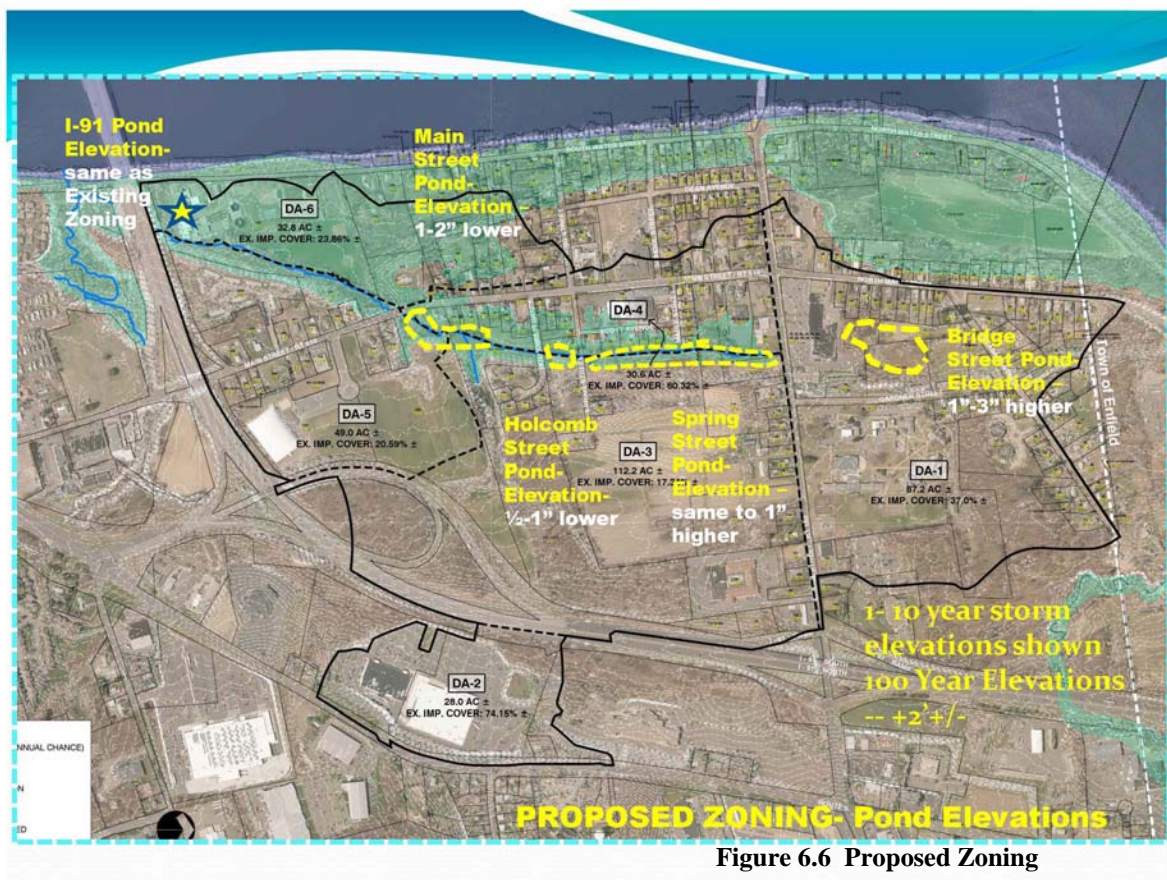
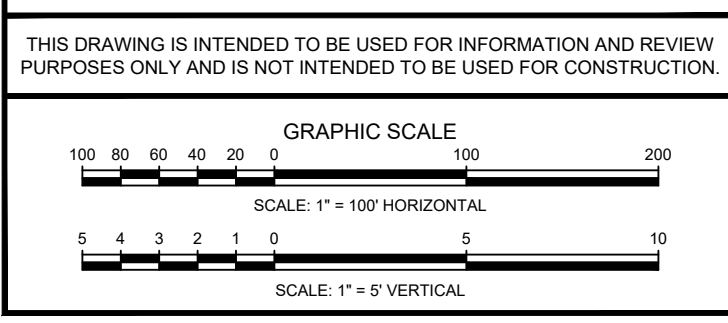
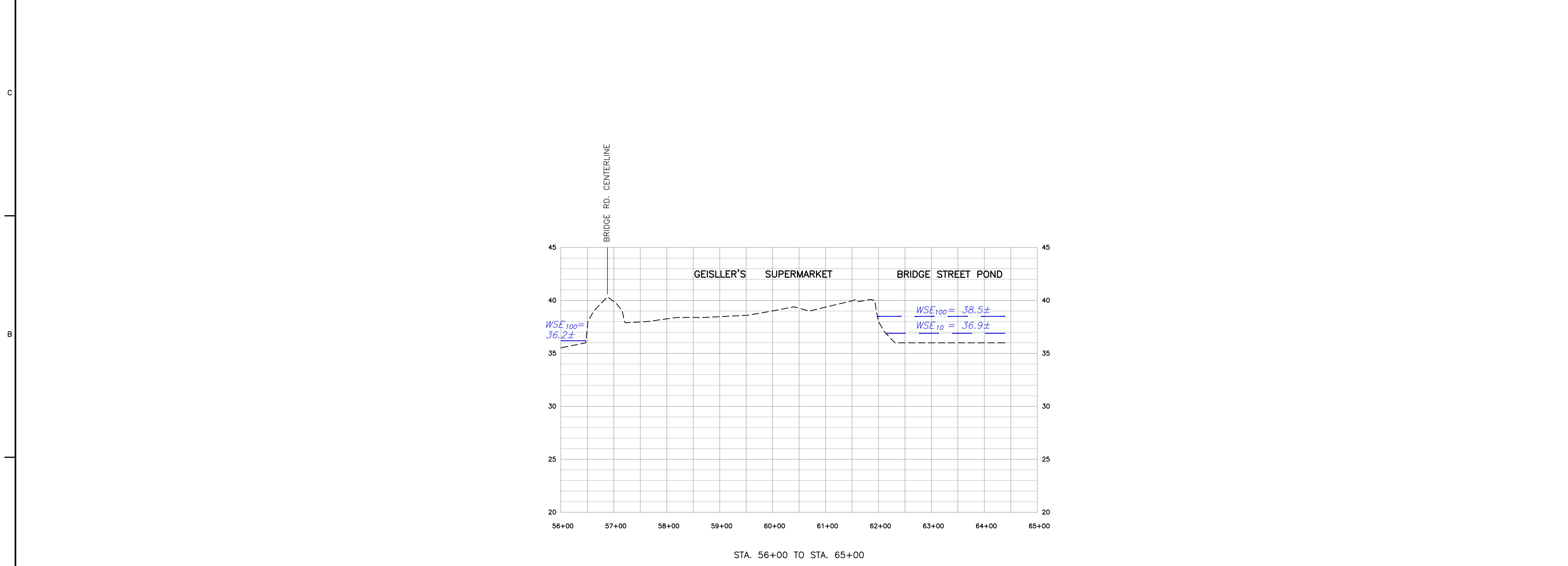
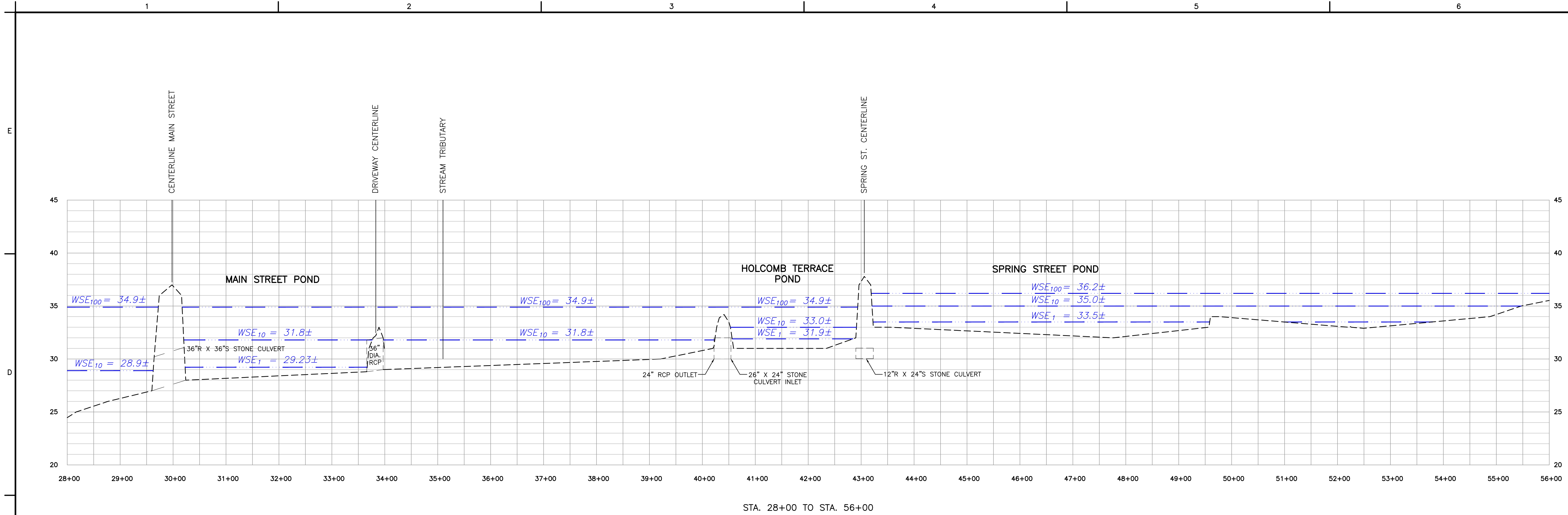


Figure 6.6 Proposed Zoning

During the preparation of these stormwater scenarios, a question was raised as to whether or not the soils in Warehouse Point are suitable for infiltration. Based on the soils maps that follow, rock is not a limiting factor. Groundwater could be a limiting factor but only in limited portions of the study area such as wetland soils and some Hydrologic Group C soils. Test holes and perc tests can be performed to show that infiltration is not an option. The Commission determined that they would consider alternate “creative“ ways to solve this issue where it can be proven that a limitation does exist. The intent, however, is to allow solutions that would not be result in more impervious surface than would be otherwise allowed with the new regulations. .



**WAREHOUSE POINT
 TOD REVITALIZATION**

BLUE DITCH

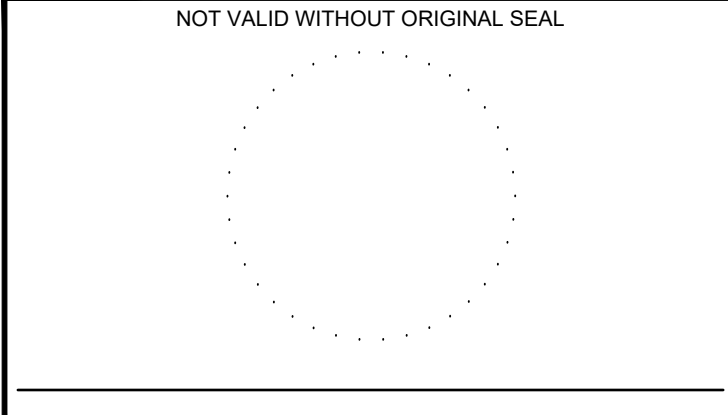
**EAST WINDSOR,
 CONNECTICUT**

**BLUE DITCH PROFILE
 STA. 28+00 TO
 STA. 65+00**

STUDY

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 88 Main Street P.O. Box 337
 Chester, Connecticut 06412-0337
 Tel: (860) 526-9591 Fax: (860) 526-5416
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 Consulting Civil and Environmental Engineers Since 1972



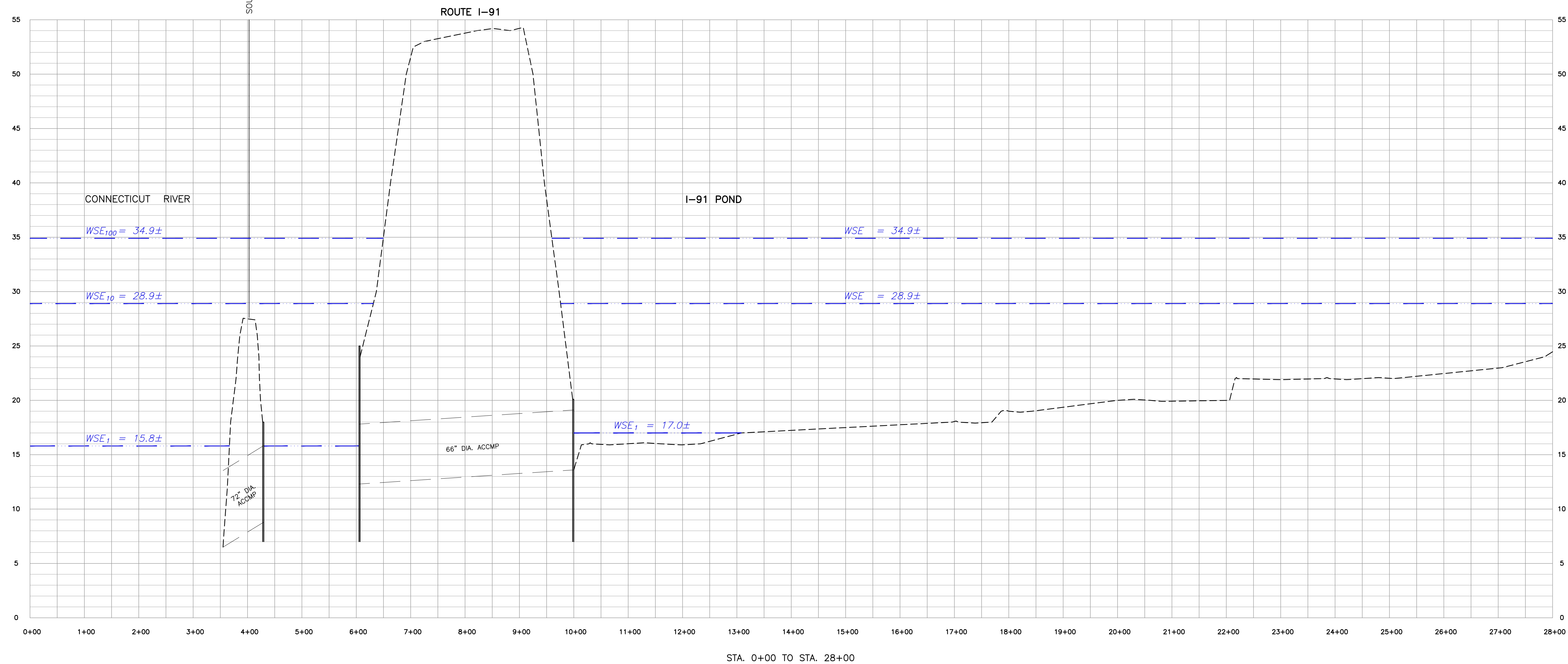
CT REGISTRATION No. _____
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REVISIONS		
No.	DESCRIPTION	DATE

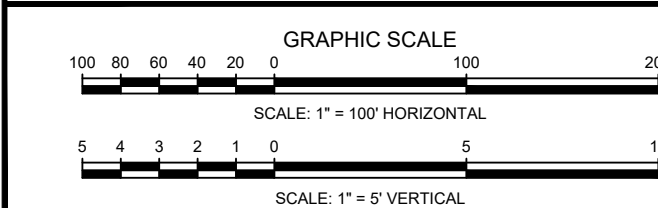
DATE: MAY 2020
 SCALE: 1"=100' HORZ.; 1"=5' VERT.
 PROJECT No.: 11790001
 CADD FILE: 11790001-PROFILE
 DESIGNED: WMT
 DRAWN: CEB
 CHECKED: _____

SHEET No.: **2 OF 2**

E
D
C
B
A



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WAREHOUSE POINT TOD REVITALIZATION

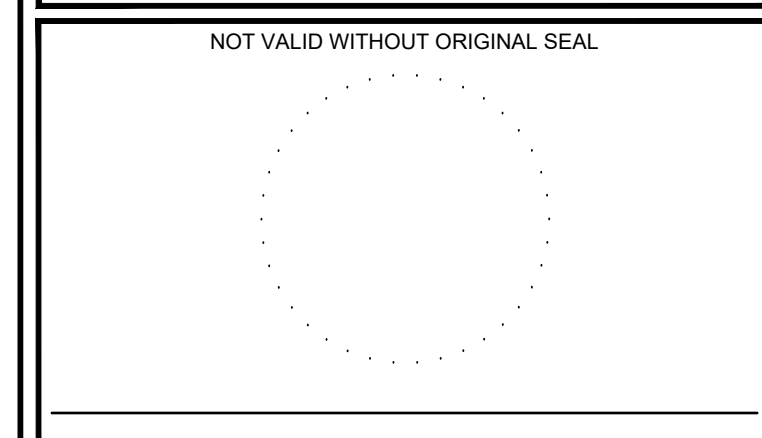
BLUE DITCH
EAST WINDSOR,
CONNECTICUT

BLUE DITCH PROFILE STA. 0+00 TO STA. 28+00

STUDY

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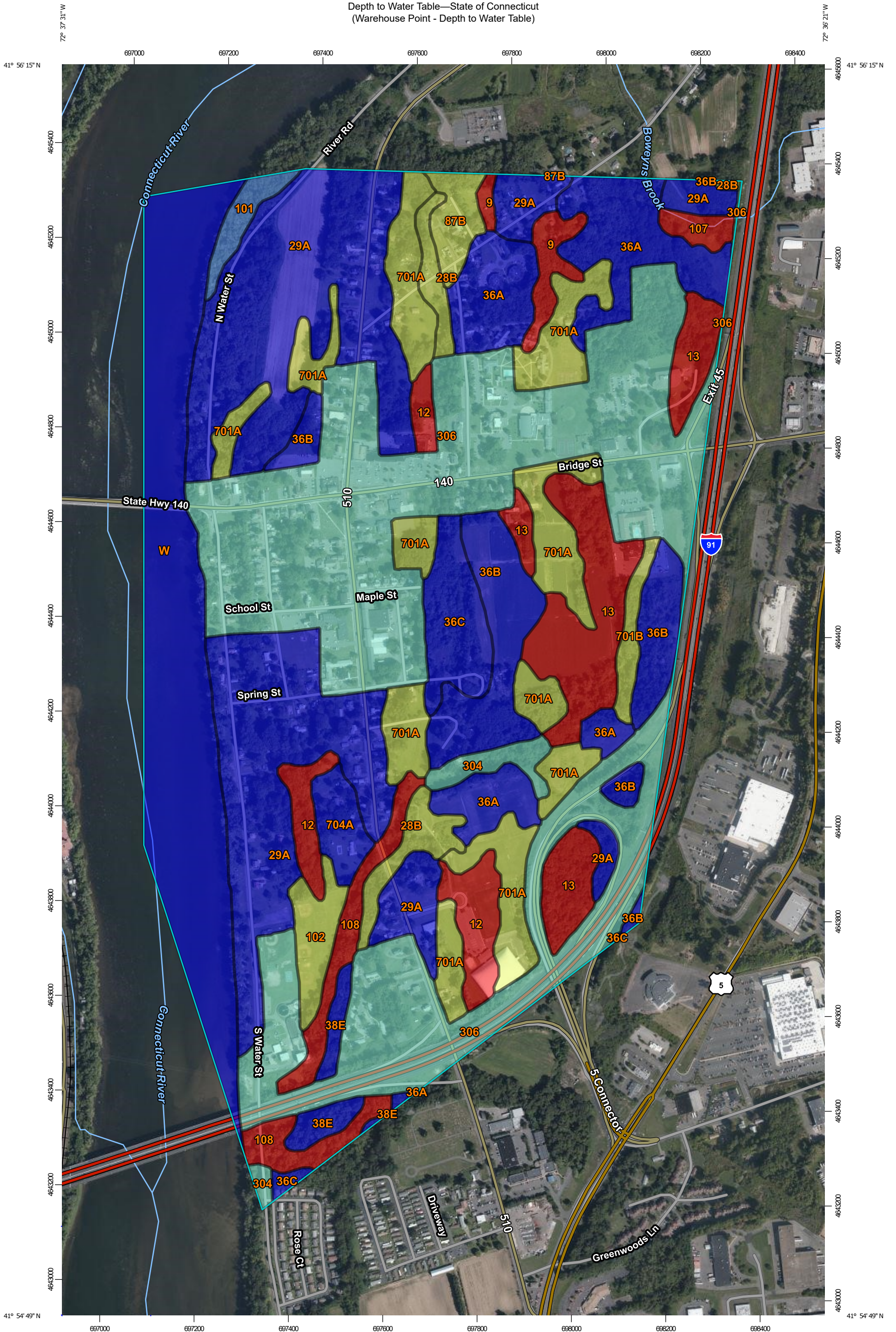
CT REGISTRATION No.
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REVISIONS		
No.	DESCRIPTION	DATE

DATE: MAY 2020
SCALE: 1"=100' HORZ.; 1"=5' VERT.
PROJECT No.: 11790001
CADD FILE: 11790001-PROFILE
DESIGNED: WMT
DRAWN: CEB
CHECKED: CEB

SHEET No.:
1 OF 2

Depth to Water Table—State of Connecticut
(Warehouse Point - Depth to Water Table)
































Map Scale: 1:7,390 if printed on B portrait (11" x 17") sheet.

0 100 200 400 600 Meters

0 350 700 1400 2100 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)	 Not rated or not available
 Area of Interest (AOI)	
Soils	Water Features
Soil Rating Polygons	 Streams and Canals
 0 - 25	Transportation
 25 - 50	 Rails
 50 - 100	 Interstate Highways
 100 - 150	 US Routes
 150 - 200	 Major Roads
 > 200	 Local Roads
 Not rated or not available	Background
	 Aerial Photography
Soil Rating Lines	
 0 - 25	
 25 - 50	
 50 - 100	
 100 - 150	
 150 - 200	
 > 200	
 Not rated or not available	
Soil Rating Points	
 0 - 25	
 25 - 50	
 50 - 100	
 100 - 150	
 150 - 200	
 > 200	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 24, 2019—Oct 24, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
9	Scitico, Shaker, and Maybid soils	15	4.9	0.9%
12	Raypol silt loam	15	12.5	2.4%
13	Walpole sandy loam, 0 to 3 percent slopes	5	29.6	5.6%
28B	Elmridge fine sandy loam, 3 to 8 percent slopes	61	8.4	1.6%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	>200	100.0	19.0%
36A	Windsor loamy sand, 0 to 3 percent slopes	>200	32.4	6.2%
36B	Windsor loamy sand, 3 to 8 percent slopes	>200	26.3	5.0%
36C	Windsor loamy sand, 8 to 15 percent slopes	>200	11.1	2.1%
38E	Hinckley loamy sand, 15 to 45 percent slopes	>200	4.8	0.9%
87B	Wethersfield loam, 3 to 8 percent slopes	61	4.8	0.9%
101	Occum fine sandy loam	159	3.4	0.6%
102	Pootatuck fine sandy loam	61	5.7	1.1%
107	Limerick and Lim soils	23	2.4	0.5%
108	Saco silt loam	8	11.5	2.2%
304	Udorthents, loamy, very steep	150	4.4	0.8%
306	Udorthents-Urban land complex	150	148.1	28.1%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	66	48.3	9.2%
701B	Ninigret fine sandy loam, 3 to 8 percent slopes	66	3.3	0.6%
704A	Enfield silt loam, 0 to 3 percent slopes	>200	5.0	1.0%
W	Water	>200	59.2	11.3%
Totals for Area of Interest			526.2	100.0%

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

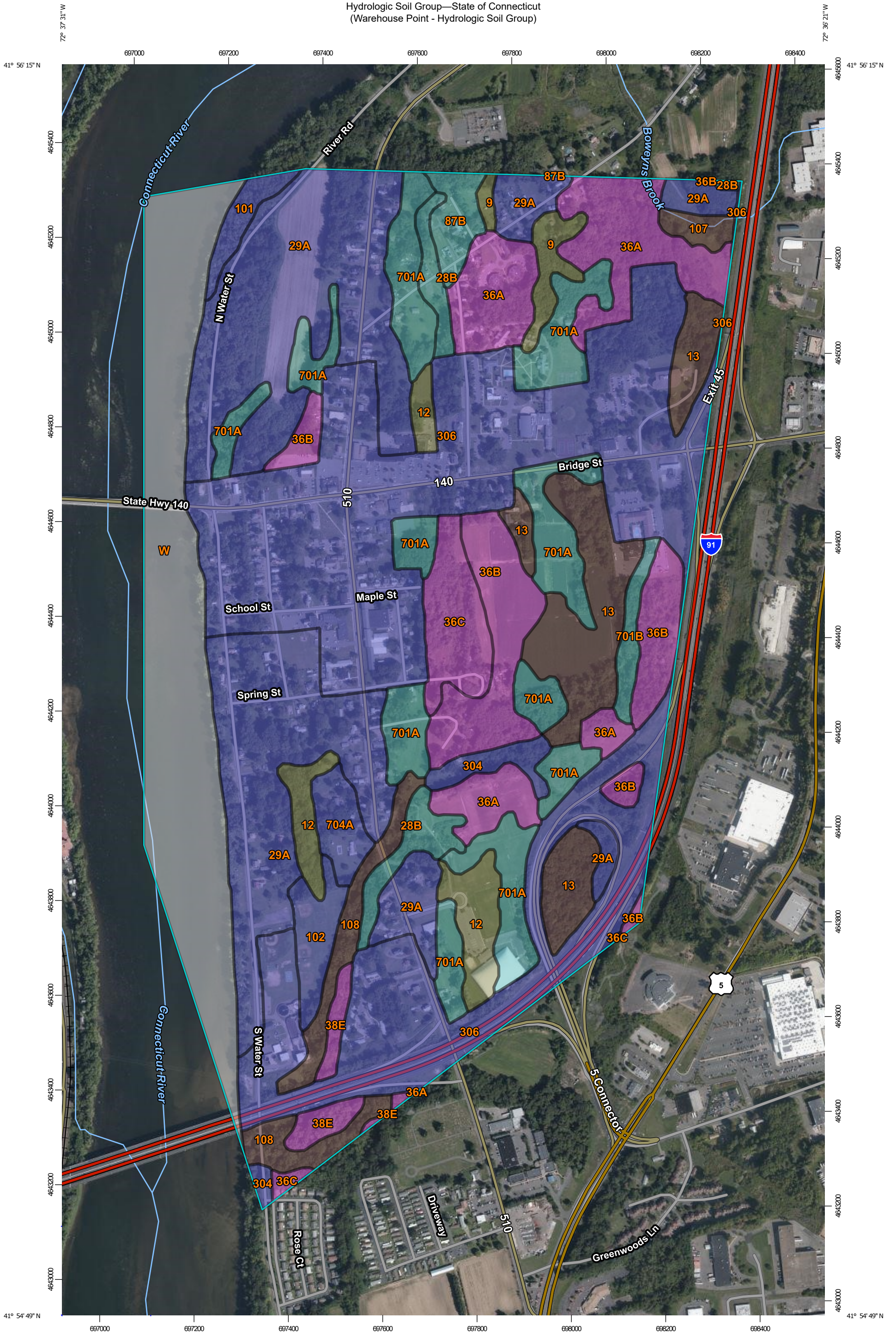
Tie-break Rule: Lower

Interpret Nulls as Zero: No

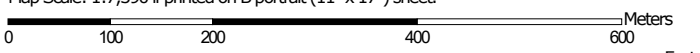
Beginning Month: January

Ending Month: December

Hydrologic Soil Group—State of Connecticut
(Warehouse Point - Hydrologic Soil Group)



Map Scale: 1:7,390 if printed on B portrait (11" x 17") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
 Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 24, 2019—Oct 24, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
9	Scitico, Shaker, and Maybid soils	C/D	4.9	0.9%
12	Raypol silt loam	C/D	12.5	2.4%
13	Walpole sandy loam, 0 to 3 percent slopes	B/D	29.6	5.6%
28B	Elmridge fine sandy loam, 3 to 8 percent slopes	C	8.4	1.6%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	B	100.0	19.0%
36A	Windsor loamy sand, 0 to 3 percent slopes	A	32.4	6.2%
36B	Windsor loamy sand, 3 to 8 percent slopes	A	26.3	5.0%
36C	Windsor loamy sand, 8 to 15 percent slopes	A	11.1	2.1%
38E	Hinckley loamy sand, 15 to 45 percent slopes	A	4.8	0.9%
87B	Wethersfield loam, 3 to 8 percent slopes	C	4.8	0.9%
101	Occum fine sandy loam	B	3.4	0.6%
102	Pootatuck fine sandy loam	B	5.7	1.1%
107	Limerick and Lim soils	B/D	2.4	0.5%
108	Saco silt loam	B/D	11.5	2.2%
304	Udorthents, loamy, very steep	B	4.4	0.8%
306	Udorthents-Urban land complex	B	148.1	28.1%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	C	48.3	9.2%
701B	Ninigret fine sandy loam, 3 to 8 percent slopes	C	3.3	0.6%
704A	Enfield silt loam, 0 to 3 percent slopes	B	5.0	1.0%
W	Water		59.2	11.3%
Totals for Area of Interest			526.2	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

7 Site Plans

The Planning and Zoning Commission, as part of this study, focused on the creation of concept level site plans for the Bridge Street area from the bridge to Maine Fish. The intent was to consider how future development could occur and what issues were likely to come from those scenarios. In addition, the Commission asked for some additional plans to be prepared for specific properties to see how the proposed regulations might impact future development- these were for 100 Bridge Street (Geissler's Plaza) and 127 Bridge Street (the large vacant field at the top of Bridge Street). A plan for the Town Annex/Police Station property was also developed to see how that might be used to alleviate parking problems at Dean Ave and the nursing home. It was prepared at a time when the removal of the Annex was being considered by the Town.

Site Plans follow this page as Maps #7.1- 7.6.

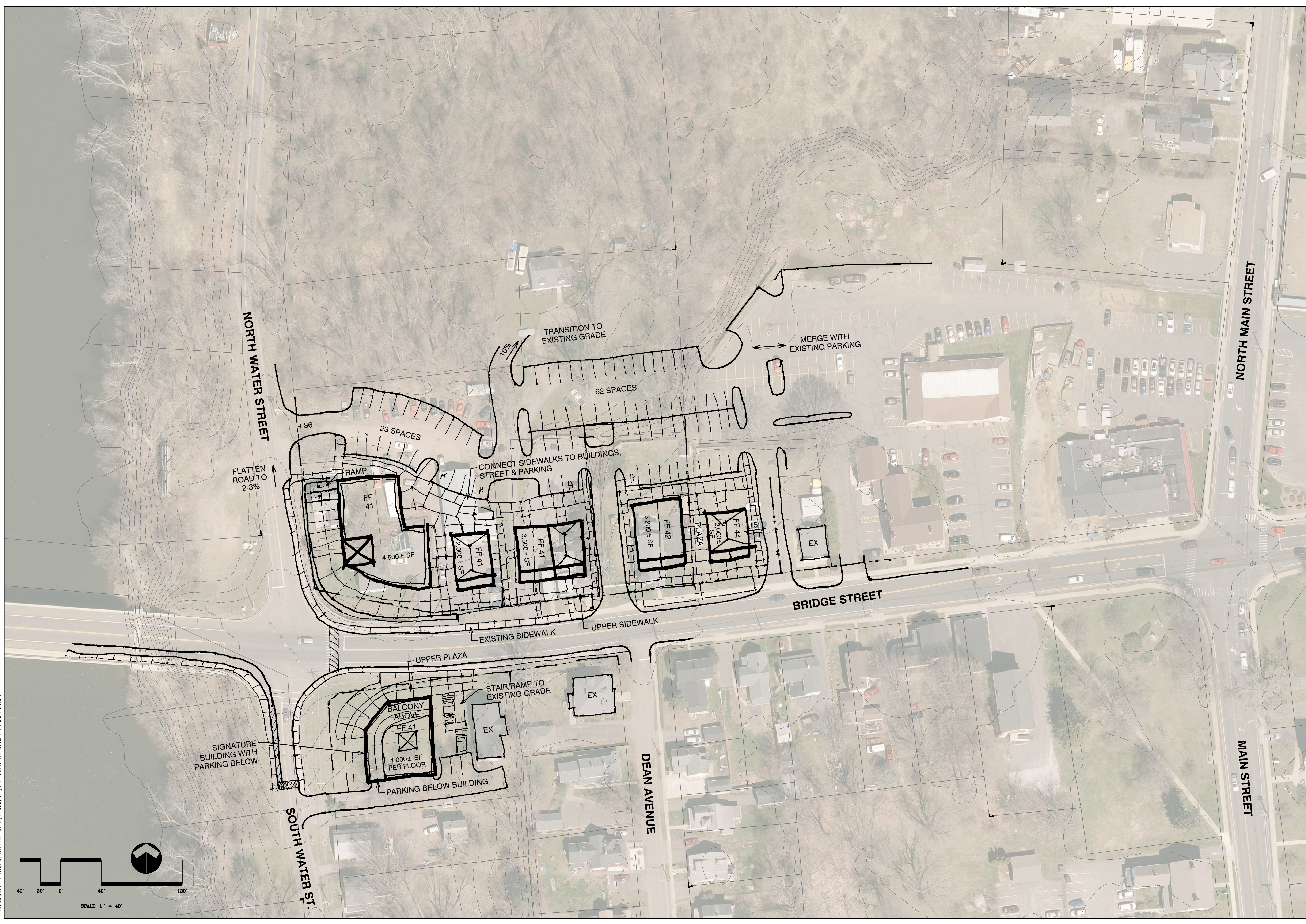
Owner:
Applicant:

Date	Description	No.

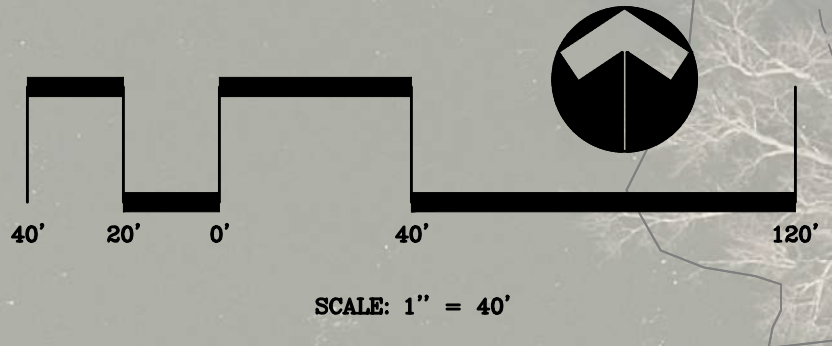
Revisions

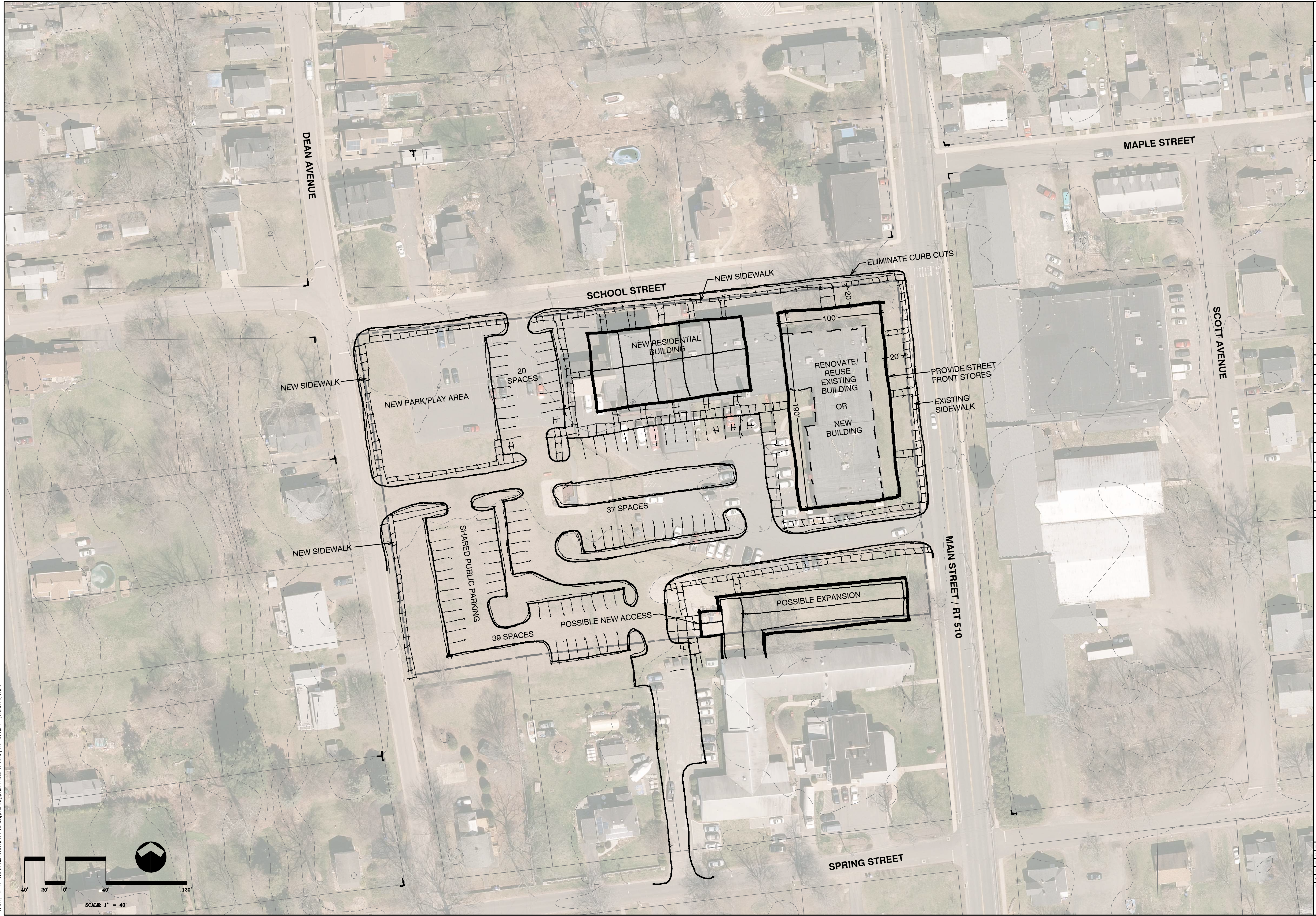
Bridge To N Main St Option 1
 Bridge Street & Water Street
 2-44 Bridge Street
 Warehouse Point, CT

Project: 2122
 Scale: 1"=40'
 Date: 03/18/20
 Drawn by:
 Checked by: TH
 Drawing No.

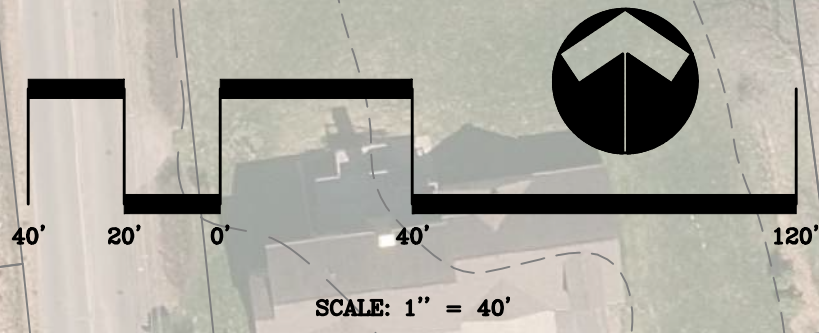


O:\CT\FP\2122 East Warehouse\DWG\2122_74 Bridge St.dwg\Bridge To N Main St Option 1\Interim\March 23, 2020





O:\CT\PP\2122 East Windsor\DWG\2122 74 Bridge St.dwg\Police Station Property Option 1\inform\March 23, 2020

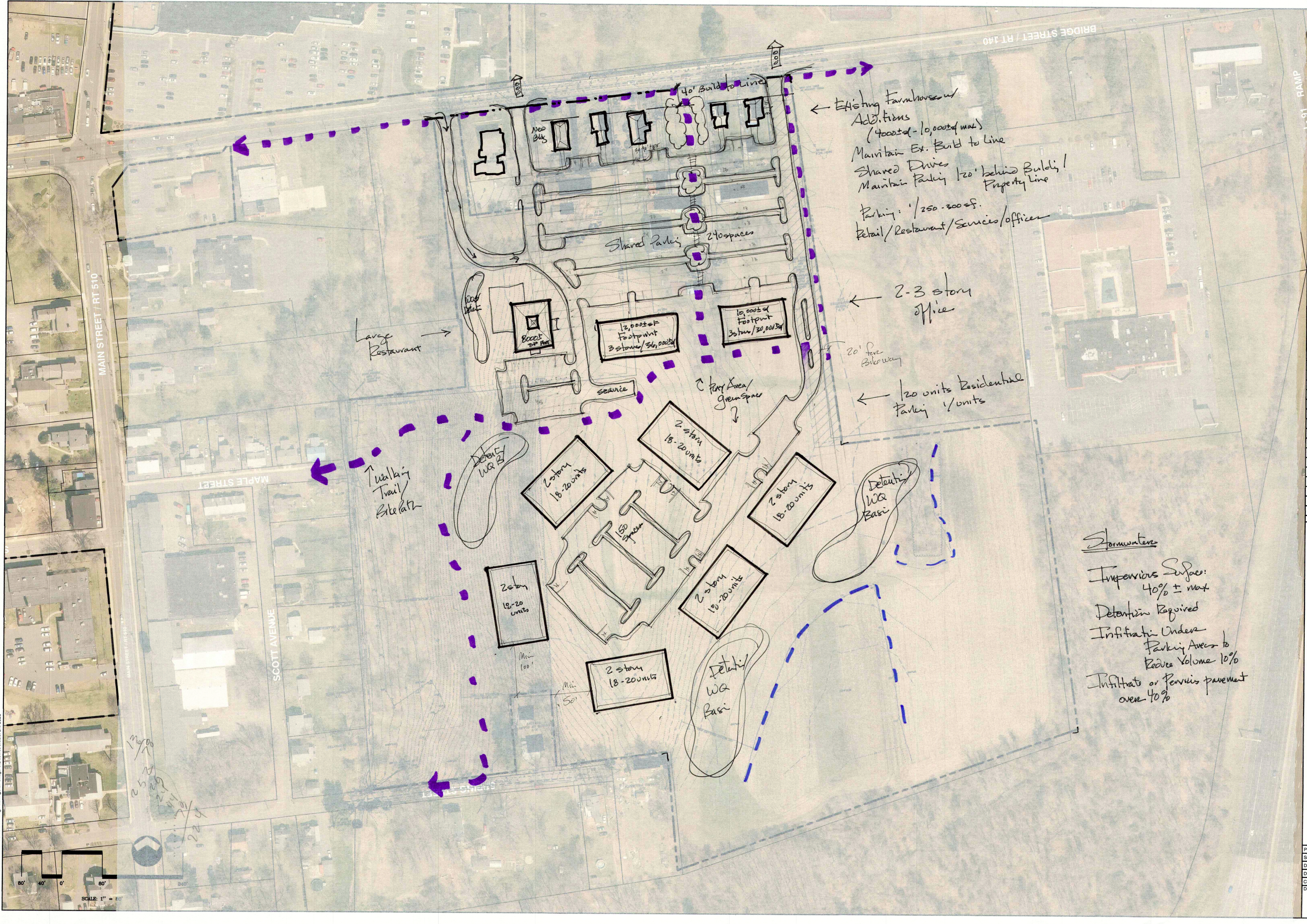


Owner:		
Applicant:		
Date	Description	No.
Revisions		

Police Station Property Option 1

Police Station Property
 Main Street from School St to Spring St Warehouse Point, CT

Project: 2122
 Scale: 1"=40'
 Date: 03/16/20
 Drawn by:
 Checked by: TH
 Drawing No.:



← Existing Farmhouses w/
Additions
(4000sf - 10,000sf max)
Maintain Ex. Build to Line
Shared Drives
Maintain Parking 120' behind Bldg /
Property Line
Parking: 1/250 - 300 sf.
Retail / Restaurant / Services / Offices

← 2-3 story
office

← 120 units Residential
Parking 1/units

Large
Restaurant

Walking
Trail/
Bike Path

Stormwaters
Impervious Surface:
40% ± max
Detention Required
Infiltration Under
Parking Areas to
Reduce Volume 10%
Infiltrate or Pervious pavement
over 40%

Owner:

Applicant:

Date	Description	No.

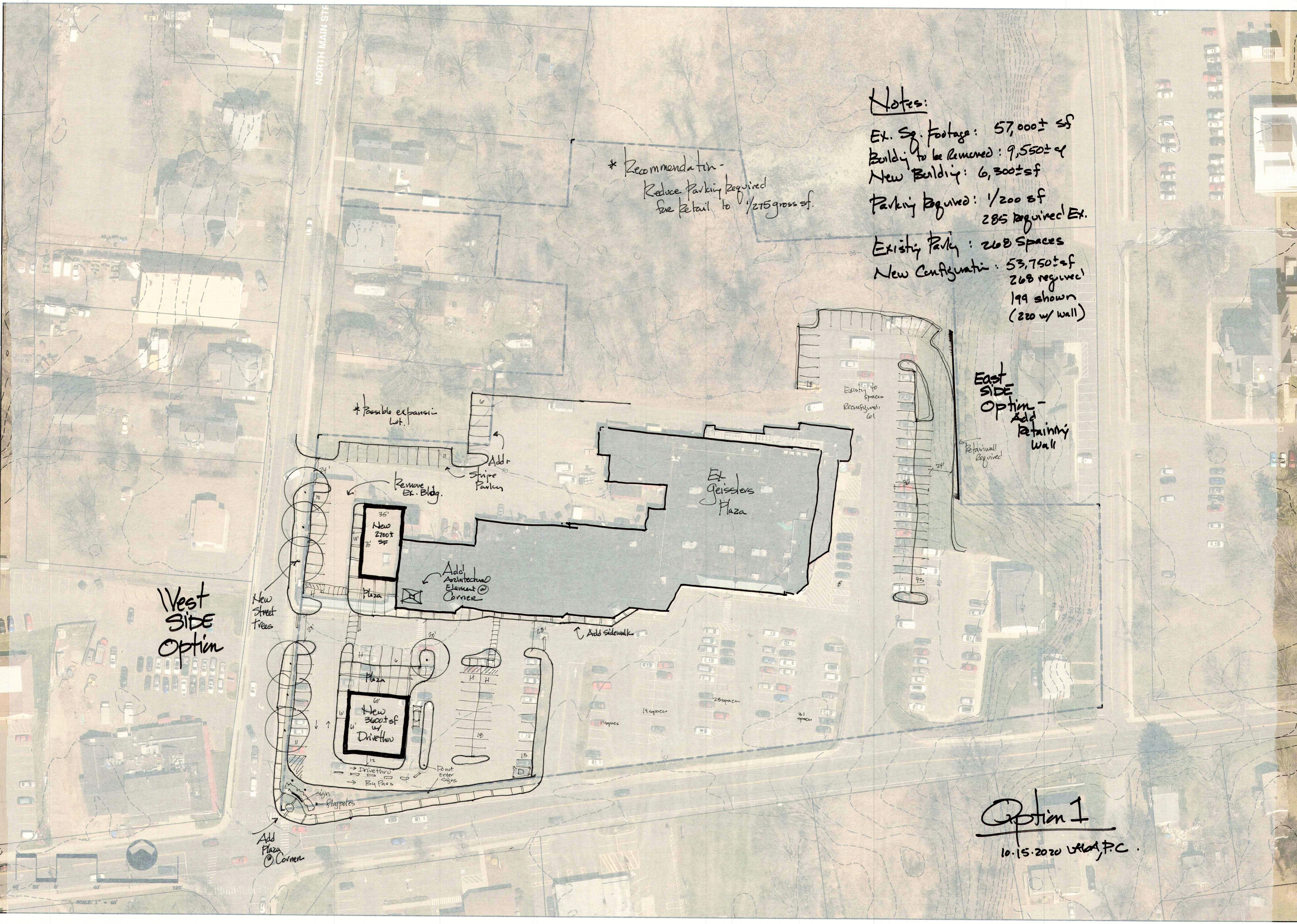
127 Bridge Street

Bridge Street West

115-141 Bridge Street

Warehouse Point, CT

Project:	2122
Scale:	1"=80'
Date:	11/22/19
Drawn by:	
Checked by:	TH
Drawing No.:	



Notes:
 Ex. Sq. Footage: 57,000± sf
 Bldg to be Removed: 9,550± sf
 New Bldg: 6,300± sf
 Parking Required: 1/200 sf
 285 Required Ex.
 Existing Parking: 268 Spaces
 New Configuration: 53,750± sf
 268 Required
 199 shown
 (220 w/ wall)

* Recommendation -
 Reduce parking required
 for retail to 1/215 gross sf.

West Side Option

East Side Option -
 Add Retaining Wall

Option 1
 10.15.2020 LADA, P.C.

Owner:	
Applicant:	
Date	Description
Revisions	

100 Bridge Street
 Geissler's Plaza
 74-100 Bridge Street
 Warehouse Point, CT

Project:	2122
Scale:	1"=40'
Date:	11/22/19
Drawn by:	
Checked by:	TH
Drawing No.:	

O:\CT\19\122 East Warehouse\DWG\122_14_Rdgs_Si.dwg 74_100 Warehouse 5/14/2020 October 21, 2020

8 Proposed Zoning Map and Zoning Regulations

Based on the discussion throughout the study, a draft Proposed Zoning Map was prepared and reviewed as part of the Planning and Zoning Commission discussion, presentations to the Board of Selectmen and public review. Map #8.1 is the final proposed Zoning Map based on those discussions and the tool to use to facilitate the future vision of Warehouse Point. After this study, the Planning and Zoning Commission will need to circulate the final version for a final review, integrate this map into the existing Zoning Map format and begin the formal review process to have the Zoning Map changes approved and codified.

In addition to the Zoning Map, a draft Regulation is also included to help the Planning and Zoning Commission start the process to link the Zoning Map with new regulations. This process includes review by the Town Attorney, circulation to Capitol Region Council of Governments, Towns of Enfield and Windsor Locks and a public hearing process as defined by the Town's existing Zoning Regulations. Public comment on the final wording of the regulation will likely result in slight changes to the draft text.

As a temporary measure, LADA has prepared a Warehouse Point Commercial District Checklist that highlights many of the items discussed in this study. This checklist can be used by the Planning Department to review applications or to assist applicants to identify areas of special concern within Warehouse Point.

507 PERMITTED USES IN WAREHOUSE POINT DISTRICTS

The following table identifies those uses permitted within the confines of Warehouse Point. Warehouse Point, for purposes of this regulation, is defined as land within area bordered on the west by the Connecticut River; on the north by the Town of Enfield; and on the east and south by I-91. All residential, business and industrial uses, developments, and new construction, except for minor changes in use, require site plan approval by the Commission. Any use not expressly permitted by the Commission shall be prohibited unless the Commission determines that a use fits into the established use groups. In addition, the Commission has the right to determine if any use meets the intent of the regulations.

Warehouse Point Districts are listed as follows:

Warehouse Point Riverfront/Flood Zone	WP-RF/F	(RF/F)
Warehouse Point R-4 (1/4acre)/Flood Zone (Residential)	WP-R-4	(R-4)
Warehouse Point R-5 (5000sf) Zone (Residential)	WP-R-5	(R-5)
Warehouse Point Bridge Street Mixed Use Zone	WP-BR	(BR)
Warehouse Point Main Street Historic Zone	WP-MS-1	(MS-1)
Warehouse Point Main Street Commercial Zone	WP-MS-2	(MS-2)
Warehouse Point Commercial Zone	WP-C	(C)
Warehouse Point Highway Zone	WP-H	(H)
Warehouse Point Commercial Recreation	WP-REC	(REC)

Residential Uses and Zones

Warehouse Point Riverfront/Flood Zone (RF/F)

1. Section 802 of these Zoning Regulations apply for any new construction.
2. Existing Single Family Homes as of the date of these regulations are allowed to remain until the town has established a mechanism to purchase and remove.
3. Improvements to the existing residential structures are subject to Section 802. No additions are allowed.
4. Public parks with associated minimal parking, bike trails, sidewalks, public utilities (WWTP) and Farms are permitted uses.

Warehouse Point R-4/Flood Zone

1. Section 802 of these regulations apply for an new construction
2. Preservation of existing historic resources are preferred where possible. See attached list of identified historic properties. These properties may be allowed a variance to the complete compliance with Section 802 as allowed by State or federal regulations if the historic home is to remain.
3. Permitted Uses: Single-Family Homes, Public parks, Farms
4. Where properties are aggregated to form a minimum 2 acre lot, multifamily may be allowed by special use permit.
5. No parking allowed in between building and street regardless of front setback or in any side yard

Warehouse Point R-5 Zone

1. Section 802 of these regulations apply for an new construction in flood zone
2. Preservation of existing historic resources are preferred where possible. See attached list of identified historic properties. These properties may be allowed a variance to the complete compliance with Section 802 as allowed by State and federal regulations if the historic home is to remain.
3. Permitted uses: Single-Family and two family homes using the existing building footprint and architectural style.
4. Existing Cemetery, as of the effective date of these regulations, is a permitted use
5. Existing multi-family, as of the effective date of these regulations , is a permitted use
6. Home occupations are allowed where the use does not require public access or additional parking and subject to Section.....
7. New Multi-family uses require a minimum lot size of 2 acres.

DRAFT

Commercial and Mixed Uses in Commercial Zones

Uses	BR- Bridge Street	MS-1- Main Street Historic Zone	MS-2- Main Street Commercial Zone	C- Commercial Zone	H- Highway Zone	REC- Commercial Recreation
Retail Establishments (up to 10,000sf)	P			P	P	Accessory only
Service Establishments	P		P			
Personal/Professional	P	P	P	P		P
Retail over 10,000sf				SUP		
Day Care Center	SUP	SUP	SUP	SUP		P
Nursery Schools	SUP	SUP	SUP	SUP		
Restaurants	P		P	P	P	SUP
Hotel						SUP
Bed and Breakfast		SUP	SUP			
Funeral Home, Mortuaries	P		SUP		SUP	
Parking lots as sole use	SUP			SUP	SUP	SUP
Office Use – General less than 3000sf	P	P				P (accessory to Rec Use)
Office Use – General over 3000sf					P	
Business and Professional	P	P	P	P		P
Medical Office	P	SUP	SUP	P	P	P
Nursing/Elder Care/Convalescent Homes			P	P	P	
Mixed use – retail/restaurant or office on 1st floor With residential above	P		P	P		
Mixed Use- retail on 1 st floor with Office above	P	P	P	P		
Educational Use	SUP	P	P			P
Drive-thru	SUP			SUP	SUP	SUP
Senior Housing		P	P	P		
Single Family Homes		P		SUP		
Multi-Family- as part of overall project	SUP			SUP		
Multi-Family	SUP	SUP	SUP			
Bakery	P			P	P	
Outdoor Seating	P	P	P	P	P	P
Recreation	SUP		SUP	P	P	P
Commercial Recreation						P
Institutional					P	
Home Occupation	P	P				
Industrial – in historic building			P			
Multiple Principal Uses on one parcel	P	SUP	SUP	P	P	P

Notes:

- (1) Animal Retail or service – see Note 3 of Section 502
- (2) Pet sales shop not permitted in Warehouse Point Zones
- (3) For mixed use where residential units are above the first floor – see Section 502 Note 6(a- d)
- (4) Parking in Warehouse Point Zones – (all other uses see Section....)

Retail – 1/275 net sf

Residential – 2/single family house

Multi-family Residential – 1/unit (1 and 2 bedroom units) plus 10% visitors space min.

Mixed use – retail/office with residential – 1 per 300sf gross plus one designated space per unit.

- (5) Share parking and interconnect parking lots wherever possible. A reduction of up to 10% of parking can be granted to allow for interconnections
- (6) Recreation includes public and private recreation and may be indoors or outdoors. Buffers to surrounding uses may be required by the PZC.
- (7) Accessory uses/structures that are typical for the function of the Principal Permitted use may be approved as part of the site plan subject to a) structure not to exceed 10% of Permitted use building; b) does not require additional impervious surface; use area does not exceed 50% of Permitted Use. Exceeding these threshold would require a Special Use Permit.

508 BULK & AREA REQUIREMENTS- Warehouse Point Districts

Zone	RF/F	R-4 (Note 2)	R-5 (Note 2)	BR (Note 8)	MS-1 (Note 8)	MS-2 (Note 8)	C	H	REC
Minimum Lot Requirements									
Frontage	100'	75'	50'	75'	100'	75'	100'	100'	200'
Width	75'	75'	50'	75'	100'	75'	100'	100'	200'
Depth	100'	100'	100'	100'	100'	100'	200'	200'	200'
Area (acres)	¼ ac	1/4ac	5000sf	7500sf	1 acre	7500sf	2 ac	1 ac	1 ac
Building Setbacks									
Front	Note 2	Note 2	Note 2	Note 3	Note 3	Note 3	100'	100'	100'
Side (Note 6)	25'	10'	10'	15'	25'	25'	50'	50'	25'
Rear (Note 5)	50'	50'	50'	25'	25'	50'	100'	100'	50'
If adjacent to a Residential Use	N/A	N/A	N/A	50'	50'	50'	N/A	N/A	50'
Maximum Lot Coverage									
Building	10%	35%	40%	50%	40%	60%	35%	35%	35%
Impervious Surface (Note 4)	10%	Note 4	Note 4	Note 4	Note 4	Note 4	Note 4	Note 4	Note 4
Maximum Height Requirements									
Height (Note 7)	35'	35'	35'	40'	40'	40'	45'	50'	35'
Stories	2.5	2.5	2.5	2.5	3	3	3	4	2.5
Parking Setbacks									
Front	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
Side (Note 6)	20'	10'	10'	15'	15'	10'	50'	25'	25'
Rear (Note 5)	25'	25'	25'	25'	25'	25'	100'	50'	50'
If adjacent to a Residential Use	N/A	N/A	N/A	25'	25'	25'	N/A	50'	50'

Note 1- All parking to be behind front building line. No parking in the front yard

Note 2- For Warehouse Point Residential Zones- Front building façade location to match existing historic build –to line. Structure style to be consistent with historic surrounding buildings including porch elements, roof type, etc.

Note 3 – For Warehouse Point BR, MS-1 and MS-2 Zones - maintain historic front build-to line. Front Yard building setback will vary for each street. Where there is no identifiable historic build-to line, no building setback closer than 50' to front property line.

Note 4- see Section----- for Impervious Surface Allowed in Warehouse Point Zones.

Note 5- where adjacent use abuts a less dense use- the rear building setback shall include dense screen planting to provide a buffer to the adjacent property.

Note 6- In the BR zone, where parcels have shared parking and overall General Development Plan, side yard setbacks may be waived.

Note 7- In the REC zone, domes for Commercial Recreation allowed as permitted uses

Note 8- For Multi-family uses in BR, MS-1 and MS-2 Zones, setbacks to meet RF/F zone requirements unless adjacent to Residential Use- then larger requirement applies

Note 9- Provide a buffer when adjacent to existing residential uses in BR and MS zones. This buffer may be temporary where uses are transitioning to commercial.

Note 10- For all requirements not covered, see Section 400 and 501????

Additions/Changes to Definition needed:

Mixed Use

Build-to Line

Define Buffers

Permeable/Pervious Pavement

Define expected Streetscape by area/road

DRAFT

509- Warehouse Point Districts - Stormwater Requirements

1. For all Zones in Warehouse Point-
 - a. Provide a current FEMA Flood Map for all new construction and any application to Building Department showing the project site
 - b. Existing conditions as of October 2020 are considered to be the base levels of impervious surface. New construction after that time shall conform to these regulations. Where buildings, pavements and impervious surface levels at that time exceed these regulations, they shall be considered existing non-conforming and allowed to remain. Future changes to non-conforming conditions require an improvement to that non-conforming condition as it relates to parking locations, setbacks, etc. Non-conforming imperious surfaces may remain but any additional surface material proposed must be pervious.
 - c. Provide Calculations showing required water quality volume, infiltration provided and compliance with required permeable/pervious pavement.

2. Allowed Impervious Surface

Zone	RF/F	R-4	R-5	BR	MS-1	MS-2	C	H	REC
Allowed Impervious Surface	10%	35%	exist	70%	50%	70%	40%	40%	40%
Additional Impervious Surface Allowed with Special Permit	N/A	55%	10% add	75%	65%	75%	45%	65%	45%
Where parcels have been aggregated totaling over 2 acres -			Up to 75% with SUP						

Notes-

1. For BR, MS-1, MS-2 , C, H and Rec zones- provide infiltration for any increase in impervious coverage above that established in Oct 2020. Credit for 50% due to pervious pavement options acceptable to Town Engineer can be substituted except that at least 10% of the increase in impervious surface must still be infiltrated.
2. For Impervious Surface Special Permit – provide infiltration for 100% of the additional impervious surface allowed as noted in chart above.
3. For new construction in H zone- provide detention for storms as required by the Town Engineer. Provide water quality volumes as required by the State of Connecticut Stormwater Manual. Provide 10% of the total volume of the 2 year storm to be infiltrated.
4. For new construction in C zone- provide detention as required for storms by the Town Engineer. Provide water quality volumes as required by the State of Connecticut Stormwater Manual. Provide 10% of the total volume of the 2 year storm to be infiltrated.
5. If drainage on Bridge Street is modified to go directly to the Connecticut River- all sites draining to Bridge Street to provide water quality volume and treatment facilities prior to being piped to DOT system. Additional water quantity volume storage not required except where DOT pipe capacity is limited. Applicant to provide drainage calculations to show adequate provisions for water quality and water quantity are acceptable to Town Engineer.
6. 10% of all pavement to be pervious pavement. This includes, parking, drives, sidewalks, patios, plazas, etc.
7. Where testing has been completed and the project engineer can show that site can not support infiltration or pervious pavement, the Commission may accept additional technology or creative solutions to compliance.

WAREHOUSE POINT
Commercial District
Check List

Project Name/Address: _____

Date of Application: _____

- Is property in Flood Zone? Provide FEMA Firmette
 - If yes, does project comply with Town Flood Hazard Zone Regulations
 - If Portion only- how does that affect overall project?

- Is land adjacent to the Blue Ditch or does land include the Blue Ditch or wetlands associated with the Blue Ditch?
 - If yes, have wetlands been flagged?
 - Provide access and maintenance agreement to Town for future

- Is land adjacent to or include other areas where drainage is of concern?
 - Can drainage be extended to Town of DOT systems?
 - Provide access and maintenance agreement to Town for future

- Does property have frontage on Bridge Street or Main Street?
 - Sidewalks- provide a minimum 4' wide sidewalk along frontage. Connect to existing sidewalks where available.
 - Are sidewalks provided from street sidewalk to front of building? Is that path handicap accessible? If not, is there a fully accessible path from the street to the door?
 - Is proposed building at the historic build-to line. (Provide plan)
 - Are additions set slightly back from historic structure? Build-to line?
 - Is parking located behind the building?
 - Provide minimum of 2 street trees for every 50' of frontage. Trees may be clustered to accommodate utilities but must be in front yard (no more than 25' from property line)
 - Are trees provided in the parking areas at a rate of 1 tree per 10 spaces?
 - Has historic structure been maintained?

Warehouse Point Commercial District Checklist

Page 2

- Curb cuts- Have the number of curb cuts been minimized?
 - Do curb cuts line up?
 - Can shared curb cuts be utilized? Is there a safe pedestrian walkway through the curb cut?

- Parking
 - Is parking adequate for special events without using on-street parking?
 - Is shared parking utilized? Up to 25% of parking can be shared except that residential units must have dedicated parking areas

- Bike Lane- Is there a bike lane in the vicinity?
 - Can a bike lane be provided? DOT permit should include bike lane (or provisions for future installation including easements, land dedication, etc.), sidewalks and reduced curb cuts. Where curb cuts exceed the minimum required (in excess of 25' wide), sidewalks should extend through the driveway.

- Street Lights and amenities
 - Has space been allocated for ornamental street lights along the road. Is power available?
 - If fixtures have been selected by Town, Is the correct fixture proposed?

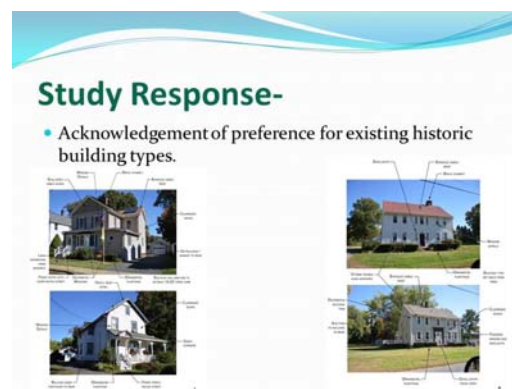
- Restaurant Uses
 - Is outdoor dining proposed? Where?
 - If part of the streetscape- Is there a clear travel path for pedestrians not related to diners to pass thru without disrupting other activities?
 - Has outdoor dining been integrated into streetscape?

- Impervious Surface
 - Has permeable pavement been used in parking areas where limited truck traffic will occur?
 - Has water quality volume been taken off line? Has 10% of the 2 year volume been infiltrated (permeable pavement can be used in the calculation)?

- Street Furniture
 - Does project include other amenities to upgrade the streetscape such as benches, planters, trash cans, etc.

9 Architecture and Streetscape

In the 2016 Warehouse Point Study and throughout this study, the residents of East Windsor have consistently expressed their preference that future growth should reflect the existing historic structures and that new construction should look like it belongs within the existing historic context. Although most of the existing structures in Warehouse Point are residential, most residents still preferred that even commercial buildings should be consistent with the period styles and building elements from Warehouse Point's past.



As part of this study, LADA prepared a series of sheets identifying the architectural elements considered to be essential to the styles of the existing architecture. These are included in this chapter as Figure 9.1. These sheets can be used as a foundation for the development of architecture guidelines in the future. Although modified over the years, the architecture of Warehouse Point includes styles from Colonial, Federal, Georgian, Victorian eras. Also included are a number of "kit" houses popular around the turn of the 20th century. The existing buildings include both single family and multifamily structures from the same time periods. There is not a consensus of agreement regarding these houses except that the worker houses on Maple Street are quite distinctive.

In addition to evaluating the existing architecture, the study included a series of visualization focused on specific areas which were tied into the Site Plans considered in Chapter 7. These images were included in the second public participation survey.



The first image, below, shows a view of the northside of Bridge Street looking toward the bridge from North Water Street to the Bridge Street Collective building. A number of important design elements were considered for this area as shown on the slide to the right.

FIGURE 9.1

SCALLOPED GABLE SIDING WINDOW DETAILS BRICK CHIMNEY SHINGLED GABLE ROOF



CLAPBOARD SIDING

OUTBUILDING / GARAGE TO REAR

LAWN SEPERATION FROM SIDEWALK

FRONT ENTRY WITH DOOR FACING STREET

DECORATIVE WINDOWS

DENTIL ROOF DETAIL

ORNAMENTAL PLANTINGS

BUILDING HAS LAWN AND IS SETBACK 15-25' FROM CURB



CLAPBOARD SIDING

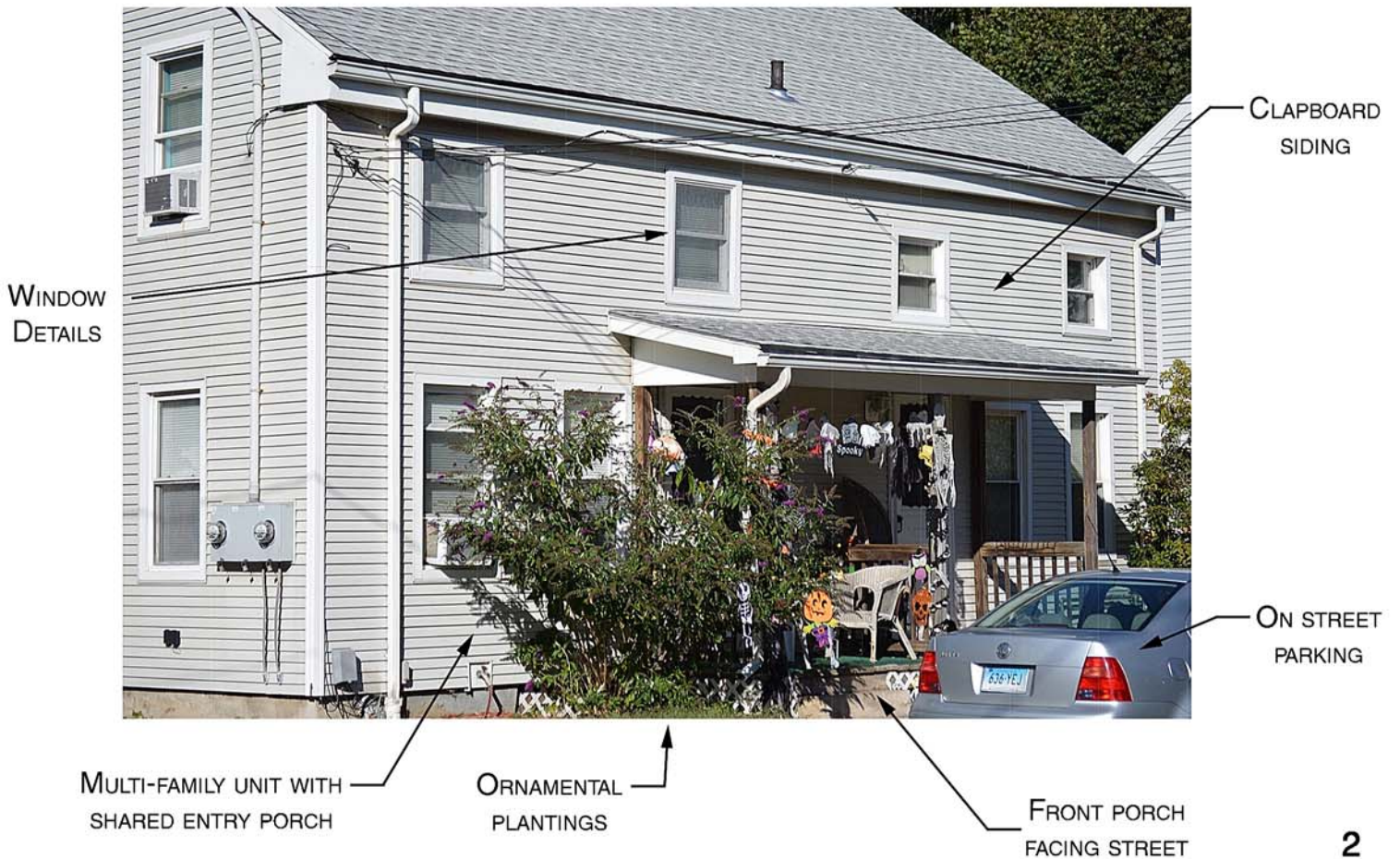
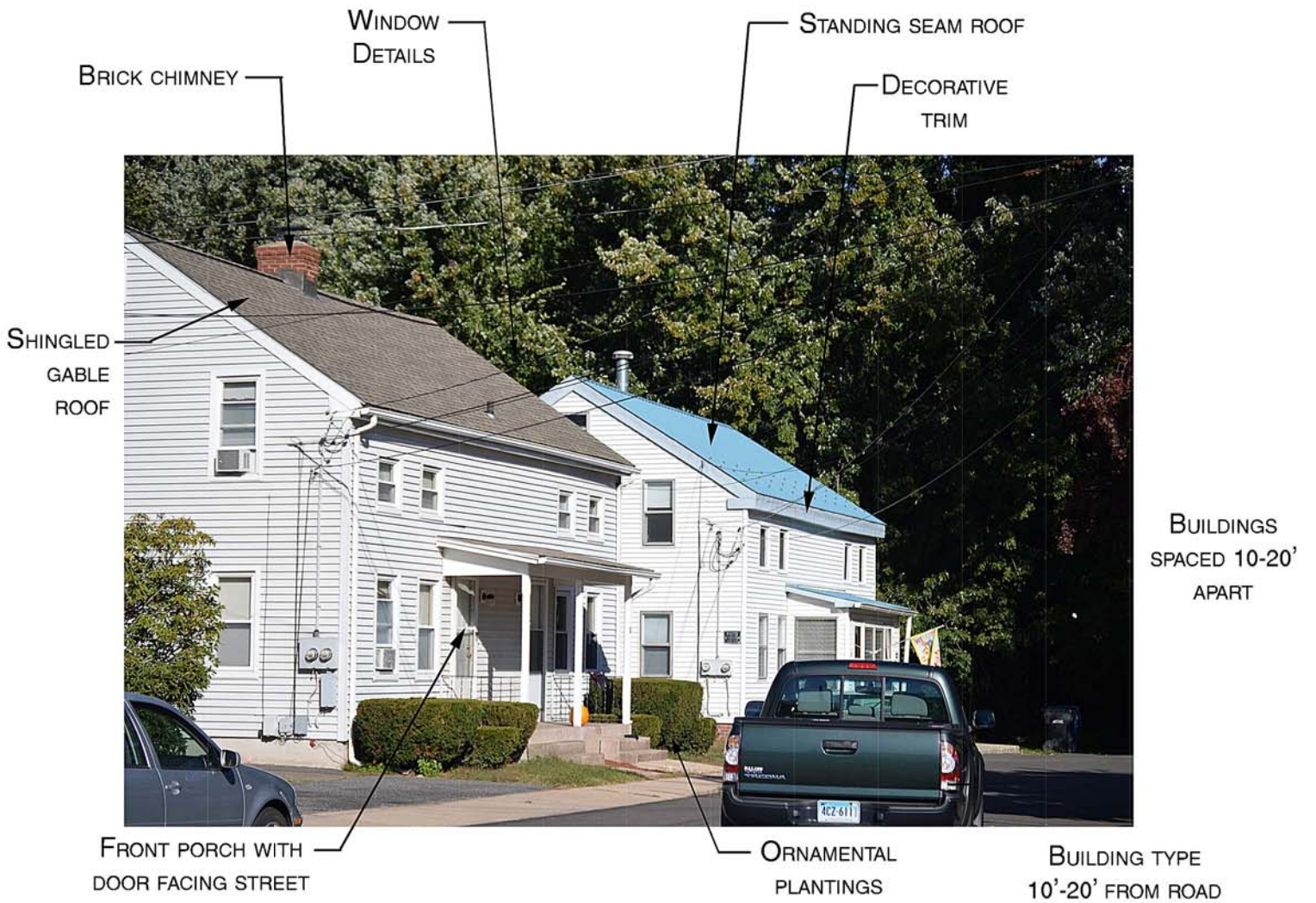
GABLE DORMERS

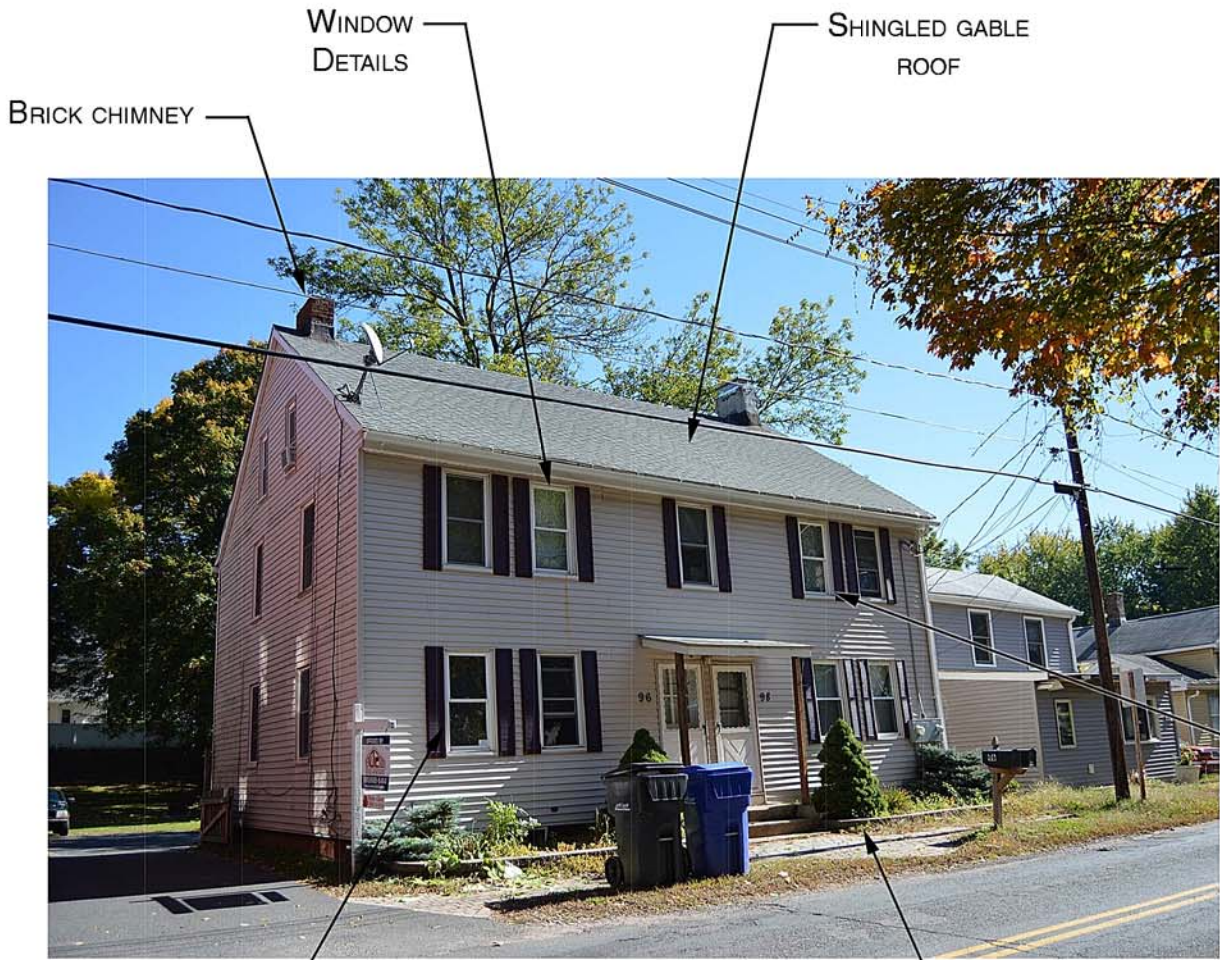
WINDOW DETAILS

BUILDING MASS CONTINUES TO REAR

ORNAMENTAL PLANTINGS

FRONT PORCH FACING STREET





BRICK CHIMNEY

WINDOW
DETAILS

SHINGLED GABLE
ROOF

TWO FAMILY
HOUSE WITH
CENTER DOORS

WINDOW
DETAILS

FUNCTIONAL
SHUTTERS

SHINGLED GABLE
ROOF

ORNAMENTAL
PLANTINGS

BUILDING TYPE
10'-20' FROM
CURB



LARGE
DOUBLE
HUNG
WINDOWS

CLAPBOARD
SIDING

BUILDING MASS
EXTENDS TO REAR
AS ADDITIONAL
UNITS

ORNAMENTAL
PLANTINGS

OFF-STREET
PARKING



SIDELIGHTS

SHINGLED GABLE ROOF

BRICK CHIMNEY

WINDOW DETAILS

12 PANE DOUBLE HUNG WINDOWS

SHINGLED GABLE ROOF

ORNAMENTAL PLANTINGS

BUILDING TYPE SET BACK FROM ROAD



DECORATIVE BUILDING TRIM

ADDITION TO BUILDING IN REAR

CLAPBOARD SIDING

TRANSOM WINDOW AND SIDELIGHTS

ORNAMENTAL PLANTINGS

DETAIL ENTRY FOCAL POINT



LARGE DOUBLE HUNG WINDOWS

SHINGLED HIPPED ROOF

HIPPED ROOF DORMER

BUILDING TYPE SETBACK VARIES

CLAPBOARD SIDING

WINDOW DETAILS

ORNAMENTAL PLANTINGS

LAWN

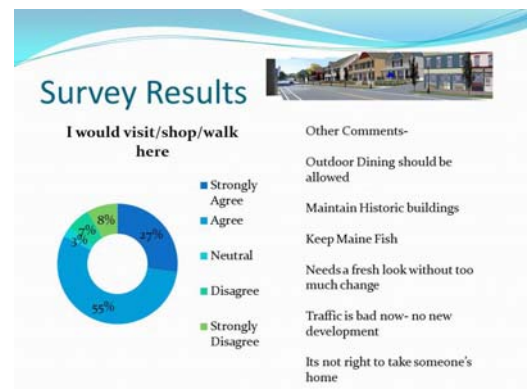
ENTRY DOOR OR FEATURE

DECORATIVE LIGHTS

PORCH - OPEN OR ENCLOSED



87% of the respondents thought the image was one where they would like to visit/shop/walk. They liked the idea of residential looking buildings that had mixed uses – retail on the first floor and office or residential above. The site plans in Chapter 7 revealed that future development consistent with this image could be done as a large project consisting of multiple parcels or on a parcel by parcel basis as long as there were limited curb cuts and shared parking in the rear. The existing grading and need to keep the buildings out of the floodplain will result in the buildings set at a finished floor elevation of approximately 40'. This will require a tiered sidewalk system because the existing at-road sidewalk dropping lower with the road. An upper sidewalk staying at the building front door elevation would be required to maintain handicap access to each building from the street and between buildings. The stairs shown in this image would make the design inaccessible.

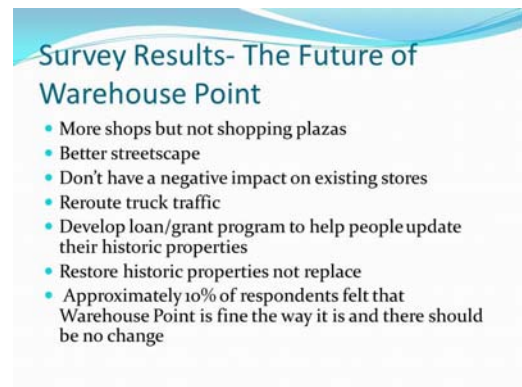


The second image, above, shows a view from the bridge looking to the east down Bridge Street. Here buildings are taller to reflect their positioning as gateway elements (tower). A large residential building with parking off from South Water Street is shown on the right. This would have some retail on the street level and residential above with parking below the building. A jersey barrier line would be added to the bridge to allow a 5-10' lane dedicated to bicycles to

cross the bridge without using the sidewalk. The sidewalk on the bridge would be pedestrians only. Both bicycles and pedestrian would be brought to a crosswalk on South Water Street at the bottom of the hill to provide safe passage up to Bridge Street via a crosswalk. The bike lane could continue down South Water Street. Bicycles would then be walked up Bridge Street on the sidewalk until a bike lane can be created, A crosswalk across Bridge Street on the east side of the Water Streets intersection would allow access to a bike lane going north on North Water Street. Although positively received (75% of respondents agreed they would visit/shop/walk here) comments regarding the architecture were mixed. We would advise any future architects that additional human scale elements and shorter building should be considered.



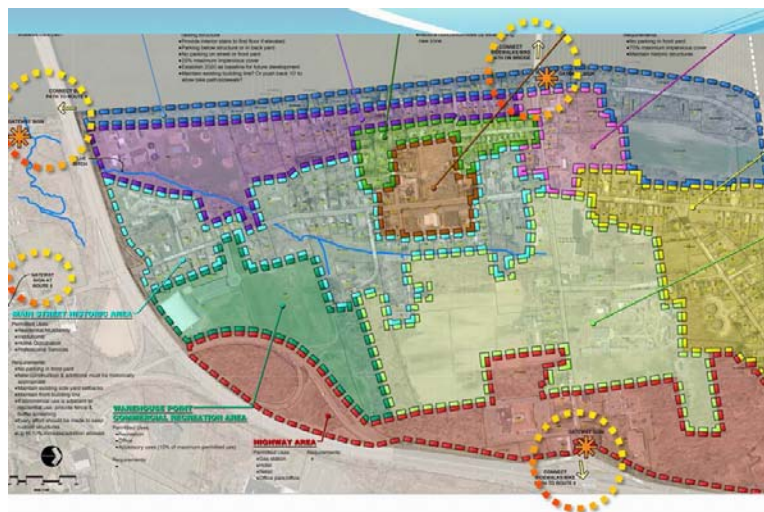
The third image, above, shows a wider plaza on the southside of Bridge Street with new street lighting, street trees, trash cans, planters and painted crosswalks at the intersection. On the northside, the reader will notice the split sidewalk system as discussed earlier. This image had mixed reviews. Respondents were interested in the plaza, open space along the streetscape but questioned the architecture and height of the buildings. They would also like to see these areas used for outdoor dining.



When asked about on-street parking along Bridge Street and Main Street, respondents in 2016 were opposed. In 2020, comments were mixed. Residents were not quite comfortable with the idea of a walkable area and were not sure that additional parking on the street would not be required. In addition, they felt it might help slow traffic down. As part of this study, the Commission has expressed their preference for a bike lane rather than parking.

Gateways

Gateway features – such as signs or other vertical elements (streetlight and banners) - are proposed to acknowledge that visitors are entering into Warehouse Point proper. These would be located at the bridge, on South Water Street at I-91 or at Route 5, Main Street at I-91 or Route 5 and on Bridge Street at Route 5.



New Pedestrian and Bike Lane Master Plan

Map #9.1 shows the proposed New Pedestrian and Bike Lane Master Plan. Based on the discussion during this study, the extension of sidewalks on Bridge Street to Route 5 is critical to provide a safe pedestrian environment between Warehouse Point and Route 5. Extension of the sidewalks on Main Street to Route 5 also allows for long term connections to the sports complex and the regional commercial uses on Route 5.

At this time, the pavement width and right-of-way width of Bridge Street does not appear to easily accommodate a bike lane on Bridge Street. Future ConnDOT work of Bridge Street may be able to address the bike lane and is noted on the plan for future use in discussions with ConnDOT and grant applications. The extension of a bike lane on North Water Street may be easier to accommodate at this time. Due to the limited number of curb cuts, the size of the road and limited traffic, a striped bike lane may be able to be accomplished with minimal additional

pavement. South Water Street, on the other hand, is narrow with very limited right-of-way. South Water Street would need to be widened or easements provided to accommodate the bike lane along the river side. Due to high traffic and speed on South Water Street, survey respondents indicated that they felt that a striped lane or sharrow on that road would be unsafe, especially with children. They preferred a dedicated bike lane as shown in the final image below. This could be accomplished by having access to the land along the right-of-way, requiring new construction on the east side of the road to be set back 15-20' to accommodate a sidewalk and create a dedicated bike path along the river side of the road. As most of this land is owned by the individual property owners on the eastside, easements or cooperation would be required from multiple property owners to accomplish this.



The plan also proposes to link Maple and Spring Street through future development to the top of the hill at Bridge Street.

Streetscape

As shown on Map #9.2, the existing streetscape is defined by the historic build-to line of the existing buildings. This building edge defines the space that the street occupies. Within this space, the public use of the street occurs, the road for vehicles and the sidewalks, plazas and green space for pedestrians. Social interaction, commerce, events and celebrations are the hallmark of a great street. As a traditional village, the Warehouse Point build-to line is set close to the street with parking behind the buildings. The existing build-to lines are noted on Map #9.2 for guidance for future infill and new construction. Changes to this existing build-to line will affect the character of the area.

Map #9.2 also shows the location of a series of section lines which correspond with the following photos. These photos have been annotated to show how the sidewalks, lawn areas, street trees and furniture (light poles, trash cans, planters etc.) should be placed in various locations on Bridge Street and Main Street. The following sheets are provided as Figure 9.2.

General/Typical Streetscape Section

Section 1- Intersection of Water Streets and Bridge Street (reflects images shown above)

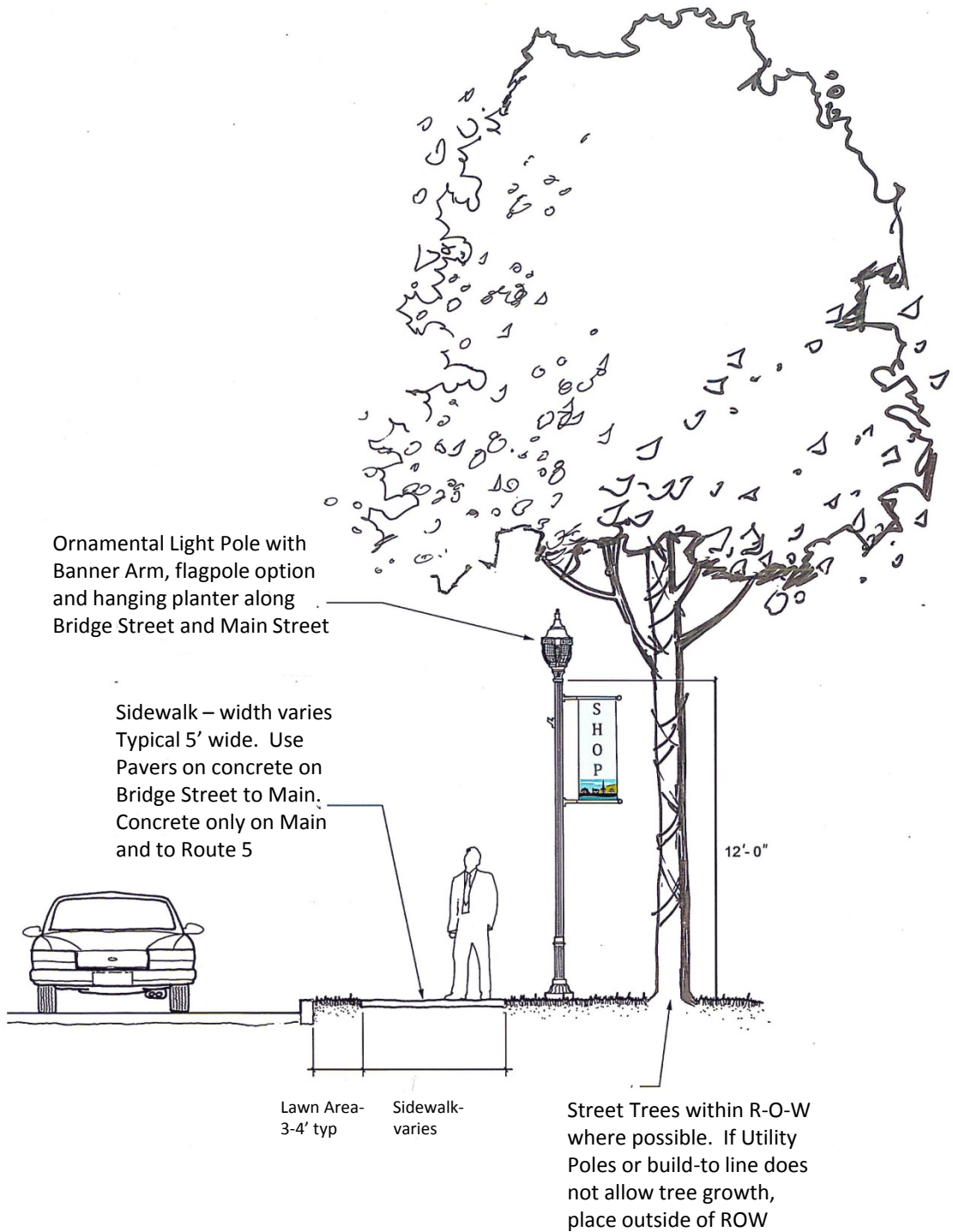
Section 2- Bridge Street to Main Street

Section 3- Bridge Street at Geisslers and the Fire House

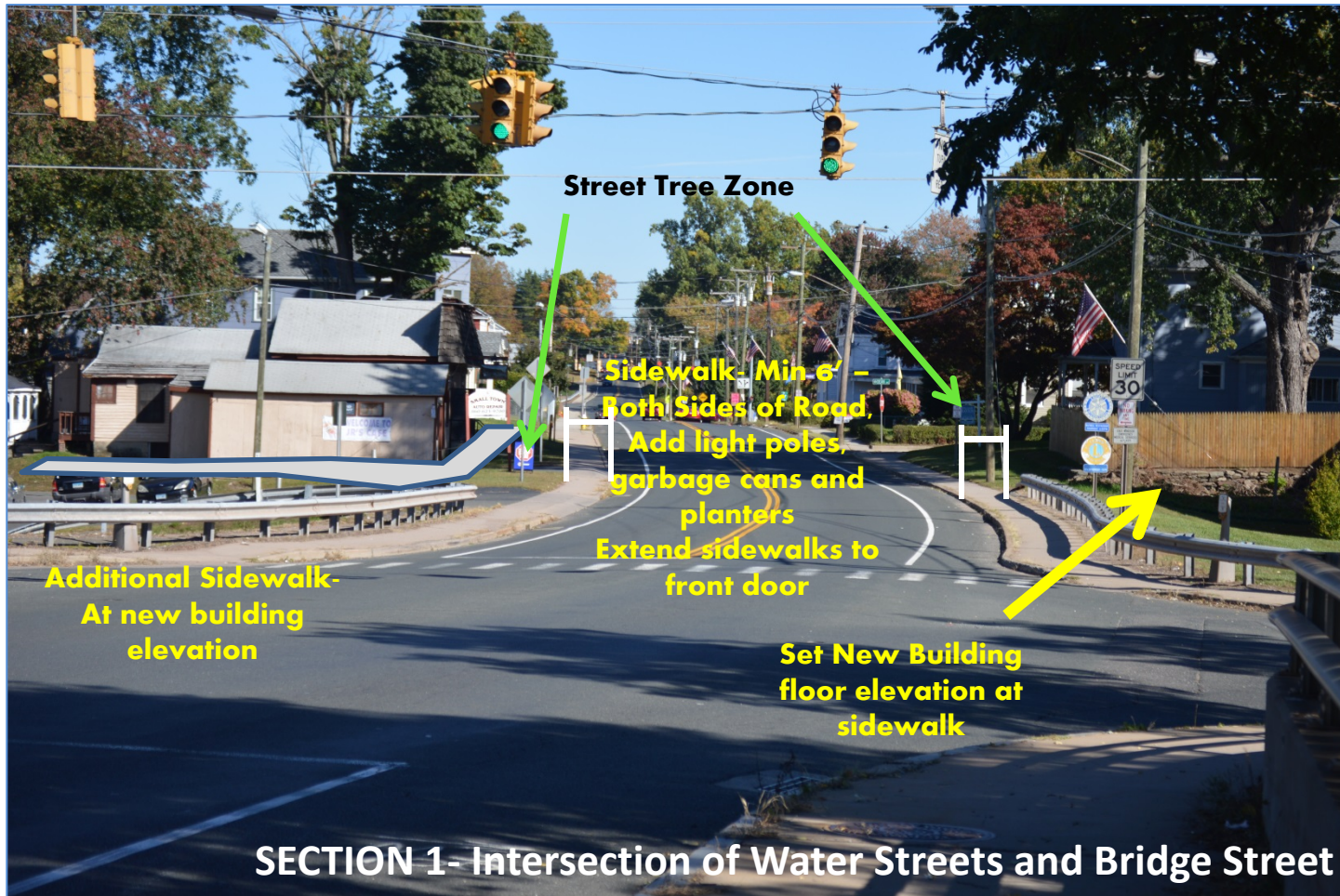
Section 4- Main Street typical

Section 5- Main Street continues to Route 5

Additional Photos- Maple Street
Bridge Street to I-91



Typical Streetscape Section for Warehouse Point
Figure 9.2



Streetscape Sections
Warehouse Point Planning Project
Bridge Street and Main Street

LADA, P.C. Land Planners 12/15/2020



Streetscape Sections
Warehouse Point Planning Project
Bridge Street and Main Street

LADA, P.C. Land Planners 12/15/2020



Streetscape Sections
Warehouse Point Planning Project
Bridge Street and Main Street

LADA, P.C. Land Planners 12/15/2020



Streetscape Sections
Warehouse Point Planning Project
Bridge Street and Main Street

LADA, P.C. Land Planners 12/15/2020



3-4' Lawn Zone

Street Tree Zone out of Right-of-Way on Poleside. Use right-of-way for street trees if no poles.

Streetscape Sections
Warehouse Point Planning Project
Bridge Street and Main Street

LADA, P.C. Land Planners 12/15/2020



Street Tree Zone Limited
Use right-of-way for street trees if no poles.

Streetscape Sections
Warehouse Point Planning Project
Bridge Street and Main Street

LADA, P.C. Land Planners 12/15/2020



Street Tree Zone Out of Right-of-way

**3-4' lawn area
Street lighting in this zone where there are no poles**

Streetscape Sections

Warehouse Point Planning Project
Bridge Street and Main Street

LADA, P.C. Land Planners 12/15/2020

10- Recommendations

Based on input from the public and the Planning and Zoning Commission, the background research and observations from the Team, we offer the following recommendations as next steps for implementing a new vision for Warehouse Point.

Planning and Zoning Commission ACTION Required:

1. Finalize and adopt the proposed Warehouse Point Zoning Regulations. Update the definitions as noted (Mixed Use, Build-to Line, etc). Modify the Zoning Map and Use Tables to reflect the Warehouse Point Zones.
2. Establish Design Guidelines for the streetscape in each street in Warehouse Point with typical light poles and other street furniture to set the style for each area.
3. The preferred Building Type for Warehouse Point is one where the building looks like the single-family and multi-family buildings of the period when Warehouse Point was at its heyday- from pre-1910. These buildings and their significant architectural features are described in detail in this report. The existing pre-1910 architecture is considered to be visually attractive and should be used as style precedents for future architectural guidelines. Architectural guidelines should be developed for both commercial and residential new construction which are consistent with this preferred style. These guidelines should also include elements which address additions and rehabilitation of existing buildings. The use of period-appropriate ornament (materials, shutters, gingerbread, colors, etc.) is preferred to a plain façade.
4. Parking and garages, when provided, are to be located behind the main building. Parking directly on Bridge Street and Main Street should be limited to special events only.
5. Roofline changes, gable ends facing the street, dormers and other period-appropriate methods to reduce the view of the roof from the street is preferred.
6. Mixed use (commercial and residential) is recommended along Bridge Street. Mixed Use in this case is defined as commercial (retail preferred) on the street level and office or residential on the second floor. Maximum building height is limited to 2.5/3 stories if story can be integrated into roof so that it does not look like greater than a 2 story house (the existing vernacular).
7. Increased residential density should be focused in Warehouse Point but within the existing fabric (layout and density) of past development patterns (upper floors, barns, in-law) rather than large scale residential only facilities except as noted in this study.

-
8. Consider incentives for second and third floor residential units within existing structures in return for maintaining the historic facades and materials of buildings built prior to 1950.
 9. Develop gateway elements for Warehouse Point that creates a sense of arrival and defines the character of the village. The locations of future gateway signs are shown on the plans.
 10. Modify regional and state PoCDs that will be required to correspond to and reflect those areas where future increased density is desired by the Town.
 11. Coordinate with Board of Selectmen to develop a shared parking ordinance to include use of Town property and interconnection between private properties.

Planning and Zoning Commission with Town Engineer and Public Works Department ACTION Required:

12. Work with DOT to extend storm drainage along Bridge Street directly to the Connecticut River. Coordinate with DOT during next regular maintenance of road to expand sidewalks and establish bike lanes along Bridge Street and Main Street to Route 5.
13. Coordinate with Town Engineer to ensure the stormwater portion of the new proposed regulations works and is easy to understand and review for new applicants.
14. Streetscape improvements to improve pedestrian and bicycle connections between the main roads and neighborhoods should be the subject of future engineered plans and grant application, if available. The improvements should include sidewalks sized for multiple people (5' minimum), bike lanes, benches, trash cans, light fixtures and changeable elements such as hanging plants and banners. Where possible, seek inclusion in the regional ConnDOT Transportation Improvement Plan (TIP), and ultimately the Statewide TIP to be able to access Federal funds for improvements.
15. Maintain the culvert at Bridge Street and the drainage way from Bridge Street to Spring and Holcomb streets by coordinating with property owner. Wetland and ACOE permitting may be required. Coordinate to replace the culverts at Holcomb and Spring Streets.
16. Consider how a bike lane might be added to North Main Street to start the establishment of a bike trail through East Windsor.
17. Evaluate the rear yards of properties on the east side of South Water Street to see if additional catch basins, culverts and pipes could be extended and connected to the Town drainage to the Connecticut River. Consider extending town drainage on School and Spring Streets to include dewatering these rear yards.

-
18. Consider how to obtain rights for public access to the Connecticut River on North Main Street for a kayak launch. Contact existing property owners to discuss possible use of these lands.
 19. Review stormwater runoff on Gardiner and Grandview Terrace to see if road maintenance over time may have created a low spot of private property. Review the location of the discharge from stormwater drainage on North Main Street to see if it can be directed north instead of west.

Board of Selectmen and Town Planner ACTION Required:

20. Work with the Capital Region Council of Governments to include Warehouse Point as a priority TOD development area associated with the TOD designation of the Windsor Locks inter-city rail stop identified in the Jonathon Rose market analysis for the Knowledge Corridor. Encourage bike and pedestrian linkages to the rail stop across the Route 140 bridge by working with CRCOG, ConnDOT and Windsor Locks to expand the existing minimal pedestrian access and environment on the bridge and into Warehouse Point. Designate a representative to serve on the committees and delegations associated with the Windsor Locks station improvements. The CRCOG Regional Plan concludes that Millennials, now entering the workforce, “will be looking for compact, walkable, mixed use communities with a selection of restaurants, shops, services and cultural amenities. They are a generation that embraces transit over the automobile and will choose housing based upon what transportation options exist.” The CRCOG Regional Plan also concludes that 89% of aging “Baby Boomers” prefer to live in place (same home or community), and in many cases downsize to live in vibrant, walkable mixed use communities. There will be a significant reduction in demand for large suburban homes. In light of those predictions, East Windsor has established mixed use zoning (village style development) for Warehouse Point, with architectural guidelines to govern infill construction, new construction and rehabilitation
21. Where possible, seek funds to promote appropriate redevelopment or elimination of flood prone residential buildings as identified in the proposed Riverfront Zone. FEMA has a program for the Town to purchase buildings within flood prone areas . Contact your regional FEMA office. Seek State Open Space funds and other available funding to preserve the land along the Connecticut River through the purchase of these lands and removal of residential uses along the river side of North and South Water Streets where property owners are willing.

-
22. Encourage restaurant uses within Warehouse Point areas to support the residential neighborhoods. Consider the development of village parking plans (showing shared and common parking) and on-street parking where an individual site may not be able to meet the Town's parking requirements. The new draft Zoning Regulations include reduced parking standards and an emphasis on Shared Parking. The Town may need to establish a parking district to address insurance and liability concerns as the public is invited to use property not directly related to their destination.
 23. Consider purchase of easements from property owner along the Blue Ditch for long term maintenance.
 24. Consider coordinating with property owners along South Water Street to find a way to expand the road width, add sidewalks and create a dedicated bike lane.
 25. As noted in previous portions of the Plan of Conservation and Development, there is existing farm land located in Warehouse Point that could provide a significant resource in the future. The development of a Farmers Market and/or clear and simple farmstand regulations may allow additional land to become viable as farmland including the currently very popular community supported agriculture (CSAs) which allow residents to share in the benefits and risks of farming.
 26. As noted in previous portions of the Plan of Conservation and Development - create a Town-wide Bicycle and Pedestrian Plan which allows for the connection of Broad Brook and Warehouse Point with Route 140 and possible the trolley line. The bike path should also extend down North and South Water Streets to provide a River's Edge Bike Path. Extensions of the bike path along Bridge Street should be continued along Route 140 to Broad Brook and extension along Main Street should provide for continued connections to Route 5 and the other portions of Town.
 27. Submit for grants to coordinate the creation of a façade improvement loan program to address updates to retail/commercial buildings and historic assets in Warehouse Point.
 28. Work with Town Police and Social Services to address homelessness issues in Warehouse Point.

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29. Coordinate with the Planning and Zoning Commission to allocate capacity of the existing wastewater plant (WWTP) , pipes and pump stations for new growth in Warehouse Point. Develop a long term program for infrastructure expansion and maintenance to avoid excess connection fees for future growth.

30. Coordinate having additional survey information generated at the WWTP to identify at-risk elements of the WWTP given the high possibility of reaching elevation 30' more often due to global warming. Use survey information to generate action plans for improvements and funding opportunities.



MAPS

APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX D

APPENDIX E

APPENDIX F