BOARD OF PUBLIC WORKS MEETING HELD: March 21, 2023
LOCATION: 84 Somers Road, East Longmeadow, MA 01028

ATTENDANCE: P. Abair, M. Lynch, B. Fenney, M. Berman, F. Vachon, D. Keane, R. Roy, B. Mitchell, N. Fazio,
MVP Project Team: S. Tyler, C. Lyman, T. Miller, M. Monahan, E. Abramson, C. Armanetti, H. Stein, A. Smith
ABSENT: T. O'Brien and B. Taddia

P. Abair called the meeting to order at 4:00pm and asked if anyone is recording the meeting other than ELCAT. **P. Abair** confirmed none.

REVIEW/APPROVE MINUTES from 03/15/2023: **P. Abair entertained a motion to approve the meeting minutes dated March 15, 2023; M. Lynch made a motion to approve the minutes. P. Abair seconded the motion. The vote was taken and was unanimously affirmative.**

SUPERINTENDENT REPORT: The department is working with Westmass Development Corp. to submit an application under the Mass Works Infrastructure Program totaling $2.5 million for the Chestnut Pumping Station upgrades; submitted our EOI (Expression of Interest) on Friday, March 17, 2023; Town Council approved the funding for the 25% design work totaling $41,700; full application is due in June of this year.

COMMENTS: P. Abair: That will help to define our rate structure and future costs on water billing rates.

MVP ACTION GRANT PRESENTATION: B. Fenney: Introduced the Board, his staff and the Planning department to the MVP Team. **Opening statement:** The Towns of Hampden and East Longmeadow have received a Municipal Vulnerability Preparedness (MVP) Action Grant in 2021 from the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA). This grant funds climate resiliency actions prioritized by each community in their Community Resilience Building workshops. **MVP** team and **B. Fenney** went through the attached PowerPoint. **B. Fenney commented on Heritage Park Culvert (slide #17):** The precipitation sheet flows from the elevated northerly section of the parking lot of the 65-acre property and feeds indirectly into the pond. During heavy rainfall, there is no way for the Town to control the 24" RCP (Reinforced Concrete Pipe) for increased flows. The DPW recommends reconstructing the head wall; increase the reinforced concrete pipe to 48" and install a new whirr to control flows and height of the pond. Heritage is one of East Longmeadow's most visible areas when it comes to flooding given the proximity of one of the most travelled roadways in Town. **B. Fenney commented on Speight Arden Culvert (slide #18):** Speight Arden culvert consists of three, 30" reinforced concrete pipe; half-buried pipe in the Pecousic streambed. The culvert sediment has increased significantly over the years and is in dire need of restoration. The head walls are failing do to erosion and stormwater runoff. We have also identified a crushed 8" vitrified clay pipe within the culvert that needs replacement. The department has applied for a grant for the rehabilitation of this culvert and all related piping based on our investigations as part of the MVP grant activities. **B. Fenney commented on LID (slide# 23 and 24):** Opportunities to increase water-holding capacity of grassy area adjacent to pond; create designed wetland area that improves aesthetics and provide public access as well as flood management; integrate gathering spaces and pedestrian traffic from sidewalk into basin and park beyond; remove invasive and non-native species from a long pond edge; improve habitat for pollinators and wildlife; expand basin footprint to increase water-holding capacity and prevent flooding of field and road; dredge and deepened basin underground to further expand water holding capacity; create naturalized edges to basin in order to support a much wider range of plant species and wildlife species; improve aesthetics and create pedestrian access to the designed basin features from crosswalk to field; keep existing ornamental trees, remove invasive species and create edge habitat.

B. Fenney commented on Center Field flooding: The center of East Longmeadow is considered one of the lowest points in Town; 7 streets converge where most storm water collects during heavy rain events; most of the surrounding area has many acres of impervious surfaces which contributes to flooding and conveying stormwater; centerfield stormwater system is currently undersized for the 50 and 100 year storm events given all the data presented in this area; center field consists of a 420' by 80" detention basin which includes pumps/floats to assist water during heavy rain events to force water into our system downstream; an 18" RCP currently leaving the detention basin and increases in size downstream roughly 500'to 20" RCP; the pipe outfalls behind 147 Shaker into a wetland; the stormwater system should be upgraded to a 30" pipe to assist with the conveying of stormwater and to alleviate future flooding in this area.

COMMENTS: S. Tyler: We have helped many communities get grants from an engineering consulting side and from a DPW Director standpoint; funds are very competitive; pick your opportunities and peruse those with your grant funding and use your local dollars to pursue other areas that didn't score so well and are less likely to get a grant opportunity; we are always available to help communities. **P. Abair:** Did you take into consideration the plant species Re. the road treatments? Are they tolerable? **MVP team:** Yes, our roadside plant mix is selected and has been implemented in other towns; the purpose of the plants is to filter chemicals

OTHER BUSINESS
None

SCHEDULE NEXT MEETING: **B. Fenney** will send an email invite for the next meeting and will have it posted to the Town website.

P. Abair entertained and made a motion to adjourn the meeting at 4:48pm; M. Lynch made a motion to adjourn the meeting; P. Abair seconded the motion; there being no further discussion the vote was taken and was unanimously affirmative.

East Longmeadow and Hampden's Infrastructure Assessment and Nature-Based Solutions Project

Public Comment Meeting

Town of East Longmeadow

March 21, 2023

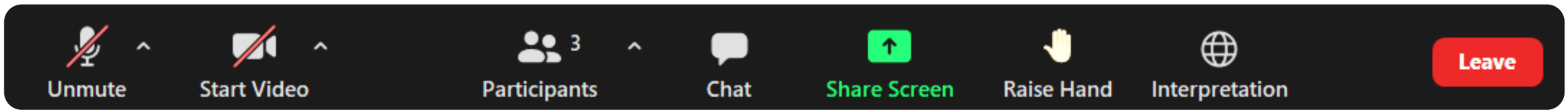
HOWARD STEIN HUDSON

Engineers + Planners

Zoom Controls

- Unmute to speak
- Turn camera on/off
- Ask a question and share comments
- Raise your hand

Note: Today's presentation is being recorded



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Agenda

- Welcome & Introductions
- About the Project
- Public Participation
- Town Priorities & Projects
- Next Steps
- Questions & Discussions

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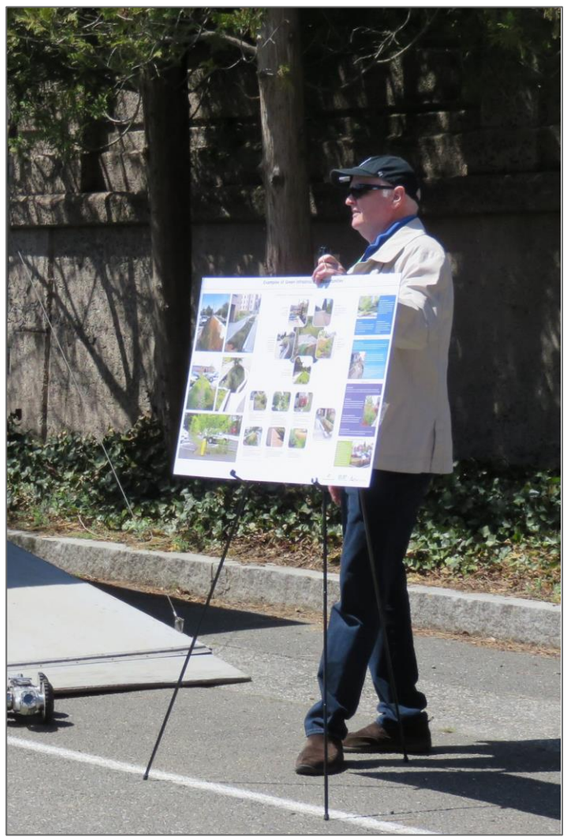
Project Team – Howard Stein Hudson, MLMe and LI

Engineers + Planners

- Steven Tyler, P.E.
- Chris Lyman, P.E.
- Taylor Miller
- Mary Monahan, MLMe
- Evan Abramson, LI
- Casey Armanetti, LI



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Project Partners

- Andrew Smith, MVP Regional Coordinator
- Bruce Fenney, Town of East Longmeadow
- Bailey Mitchell, Town of East Longmeadow
- Nina Fazio, Town of East Longmeadow
- Town of Hampden
- Mass Audubon, Laughing Brook
- Baystate Roads
- Graziano Gardens
- Girls Inc of the Valley
- DCR Holyoke Heritage State Park
- Veolia
- CN Wood

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Hampden & East Longmeadow's MVP Action Grant

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- **$389,092 Action Grant from the Executive Office of Energy and Environmental Affairs (EOEEA)**
- **Community in-kind services total: $131,965**
- **Total project: $521,057**
- **Funds priorities identified in each community's MVP Community Resilience Building Workshops**

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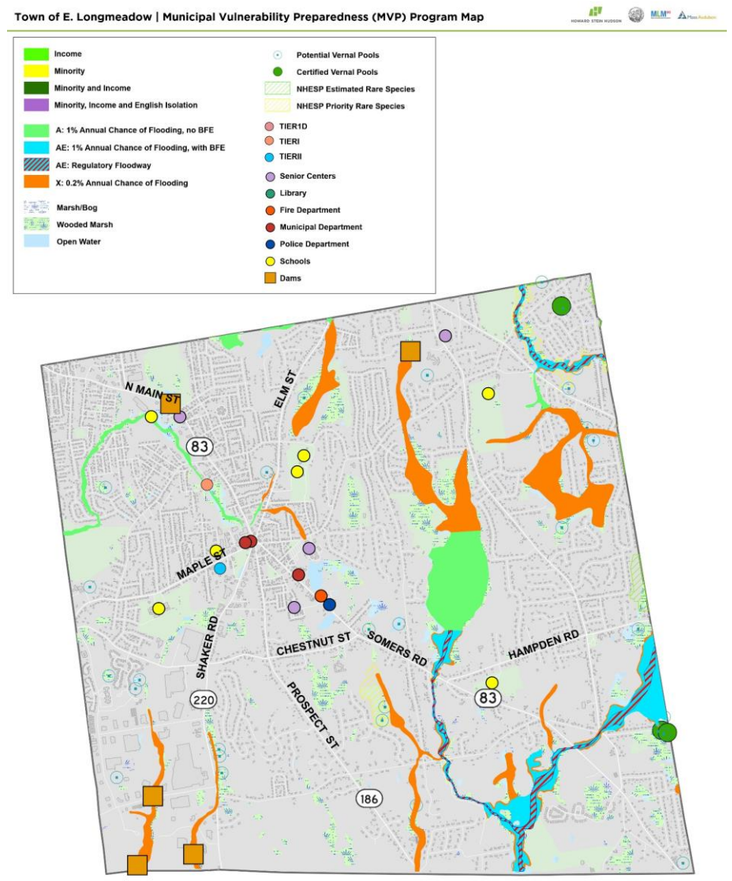
Project Overview

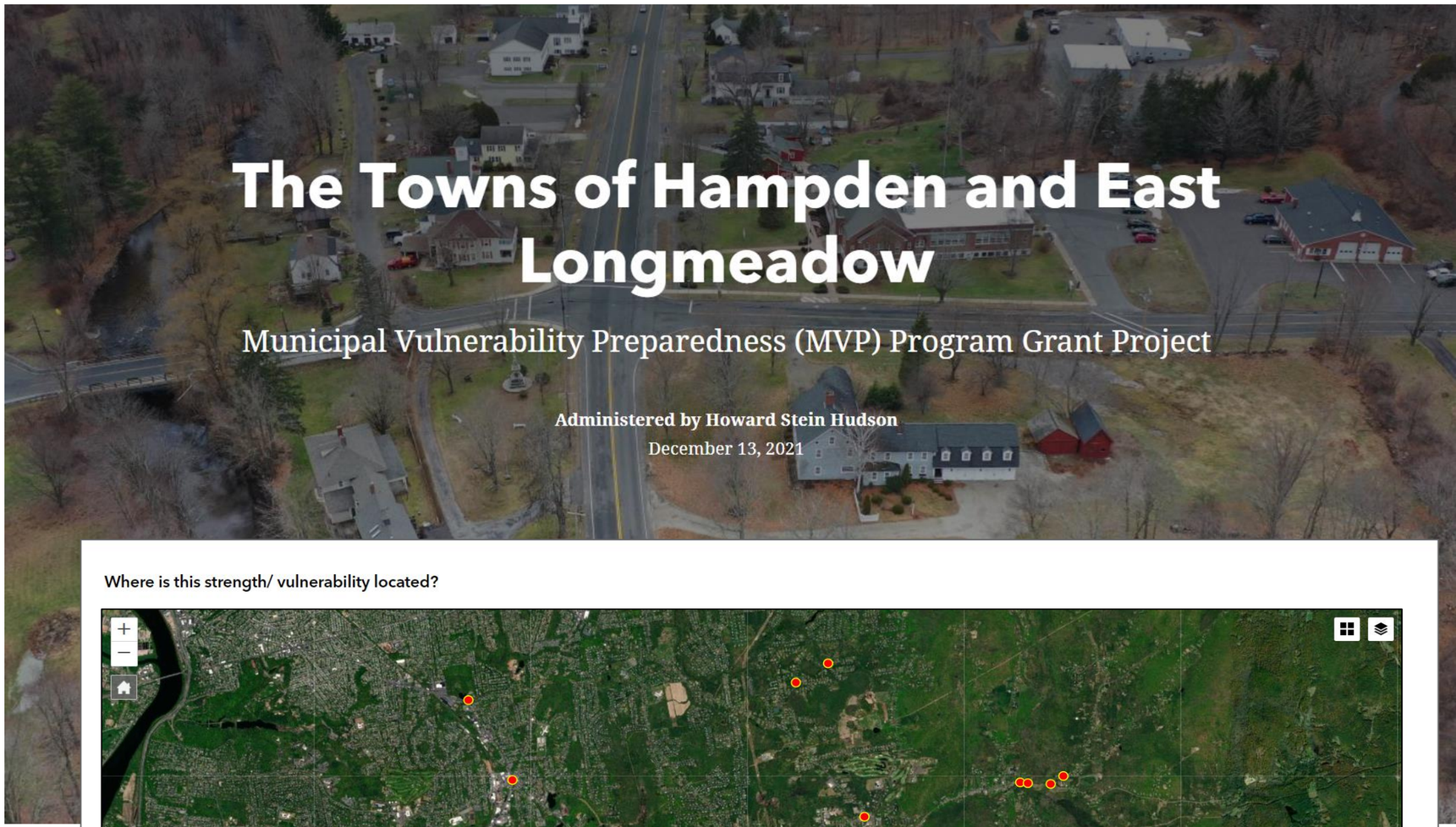
- Project Information and Public Participation Web Site
- Student Climate Resiliency Workshop
- Low Impact Development (LID) Best Management Practices (BMP) Workshops
- Inspections and Assessment at 28 Culvert Locations in East Longmeadow
- Training for DPW Staff on Culvert Inspection Methodology
- Identification of Green Infrastructure and Low Impact Design (GI-LID) Water Quality Treatment Locations / Opportunities
- Development of Pollinator Gardens Concept at 2 Town Preferred GI-LID Locations
- Top 10 Locations for Conceptual Culvert and GI-LID Conceptual Designs
- Watershed Assessment Findings, Public Review and Comment Meetings
- Final Resiliency Study Findings & Recommendations Report

Project Website - rebrand.ly/HampdenEastLongmeadowMVP

Engineers + Planners

- GIS maps
- Interactive feedback map
- Project reports
- Photos





Where is this strength/ vulnerability located?

Please explain why you shared this strength/ vulnerability*

1000

Student Climate Resiliency Workshop

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- **Students from Hampden, East Longmeadow, Wilbraham, and Girls Inc. of the Valley**
- **Agenda**
  - Climate change threats
  - Resiliency strategies
  - Environmental Justice concerns
  - Role of public works in protecting communities from these threats

Low-Impact Development Workshops

- **Public workshops at Graziano Gardens to introduce opportunities for residents to learn how to incorporate nature-based solutions in their local landscaping and maintenance activities**

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Program Outcomes & Benefits

- **Developed a 10-year Capital Improvement Plan**
- **DPW participation in a two-day, hands-on class on culvert inspection provided by MassDOT**
- **Received training and tools to investigate all culverts/bridges**
- **Investigation into potential sites for Green Infrastructure and Low Impact Development (GI-LID) projects that reduce stormwater runoff and promote biodiversity**
- **“East Longmeadow feels they have received the tools needed to ensure the safety of Town residents by mitigating future flooding and strategically planning the repair/replacement of existing culverts”**

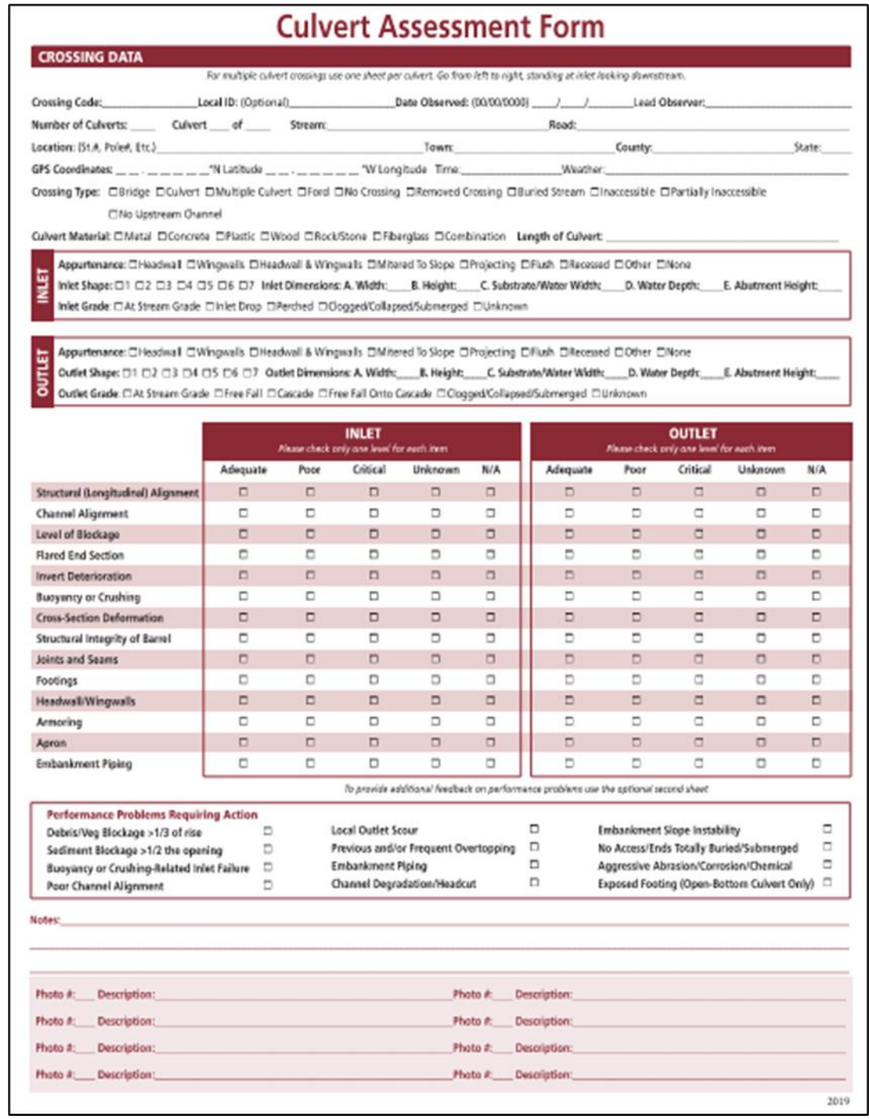
East Longmeadow's MVP Priorities

- **Roadway Accessibility**
  - Identify Historical Flood Areas
  - Infrastructure Overwhelmed by Stormwater Flows
  - Impacts to Emergency Response
- **Water Quality**
  - Identify Problem Locations
  - Utilize Green Infrastructure
  - Slow Down and Filtrate Stormwater

East Longmeadow Culvert Assessment Methodology

Engineers + Planners

- **Structural Condition**
  - Culvert Assessment Form
- **Flow Constriction**
  - Culvert Width vs. Natural Stream Width
- **Impacts to Transportation Services**
  - Local Roads or Driveways (Brook Street)
  - Collectors (Westwood Avenue)
  - Arterials (North Main Street)
- **Climate Resilience Design Standards Tool (RMAT)**
  - Preliminary Climate Change Exposure and Risk



Culvert Assessment Form

CROSSING DATA

For multiple culvert crossings use one sheet per culvert. Go from left to right, standing at inlet looking downstream.

Crossing Code:____ Local ID: (Optional)____ Date Observed: (00/00/0000) ___/___/____ Lead Observer:____

Number of Culverts: ___ Culvert ___ of ___ Stream:____ Road:____

Location: (St.#, Pole#, Etc.)____ Town:____ County:____ State:___

GPS Coordinates: __ __ . __ __ __ __ __ °N Latitude __ __ . __ __ __ __ __ °W Longitude Time:____ Weather:____

Crossing Type: ☐Bridge ☐Culvert ☐Multiple Culvert ☐Ford ☐No Crossing ☐Removed Crossing ☐Buried Stream ☐Inaccessible ☐Partially Inaccessible ☐No Upstream Channel

Culvert Material: ☐Metal ☐Concrete ☐Plastic ☐Wood ☐Rock/Stone ☐Fiberglass ☐Combination Length of Culvert: ____

INLET

Appurtenance: ☐Headwall ☐Wingwalls ☐Headwall & Wingwalls ☐Mitered To Slope ☐Projecting ☐Flush ☐Recessed ☐Other ☐None

Inlet Shape: ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 Inlet Dimensions: A. Width:___ B. Height:___ C. Substrate/Water Width:___ D. Water Depth:___ E. Abutment Height:___

Inlet Grade: ☐At Stream Grade ☐Inlet Drop ☐Perched ☐Clogged/Collapsed/Submerged ☐Unknown

OUTLET

Appurtenance: ☐Headwall ☐Wingwalls ☐Headwall & Wingwalls ☐Mitered To Slope ☐Projecting ☐Flush ☐Recessed ☐Other ☐None

Outlet Shape: ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 Outlet Dimensions: A. Width:___ B. Height:___ C. Substrate/Water Width:___ D. Water Depth:___ E. Abutment Height:___

Outlet Grade: ☐At Stream Grade ☐Free Fall ☐Cascade ☐Free Fall Onto Cascade ☐Clogged/Collapsed/Submerged ☐Unknown

	INLET *Please check only one level for each item*					OUTLET *Please check only one level for each item*				
	Adequate	Poor	Critical	Unknown	N/A	Adequate	Poor	Critical	Unknown	N/A
Structural (Longitudinal) Alignment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Channel Alignment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Level of Blockage	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Flared End Section	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Invert Deterioration	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Buoyancy or Crushing	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Cross-Section Deformation	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Structural Integrity of Barrel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Joints and Seams	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Footings	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Headwall/Wingwalls	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Armoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Apron	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Embankment Piping	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

To provide additional feedback on performance problems use the optional second sheet

Performance Problems Requiring Action

Debris/Veg Blockage >1/3 of rise ☐	Local Outlet Scour ☐	Embankment Slope Instability ☐
Sediment Blockage >1/2 the opening ☐	Previous and/or Frequent Overtopping ☐	No Access/Ends Totally Buried/Submerged ☐
Buoyancy or Crushing-Related Inlet Failure ☐	Embankment Piping ☐	Aggressive Abrasion/Corrosion/Chemical ☐
Poor Channel Alignment ☐	Channel Degradation/Headcut ☐	Exposed Footing (Open-Bottom Culvert Only) ☐

Notes:____

Photo #:___ Description:____ Photo #:___ Description:____

Photo #:___ Description:____ Photo #:___ Description:____

Photo #:___ Description:____ Photo #:___ Description:____

Photo #:___ Description:____ Photo #:___ Description:____

2019

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East Longmeadow Top 10 Culvert Priority Replacement Locations

Engineers + Planners

Culvert No.	Over/Facility Carried (Street Name)	Facility Under	Roadway Score	Structure Condition Score	Flow Constriction Score	Priority Score
012	Porter Road	Pecousic Brook	3	7	1	11
027	Allen Street	South Branch Mill River	3	10	1	14
001	Meadowbrook Road	Watchaug Brook	3	11	1	15
004	Mapleshade Avenue / Pleasant Street	Pecousic Brook	4	10	1	15
006	North Main Street / Heritage Park	Pecousic Brook	3	11	1	15
015	Chestnut Street	Jawbuck Brook	3	12	1	16
019	Pease Road	Freshwater Brook	4	11	1	16
026	Speight Arden	Pecousic Brook	5	10	1	16
014	Elm Street	Schneelock Brook	3	11	3	17
017	Brook Street	Pecousic Brook	5	11	2	18

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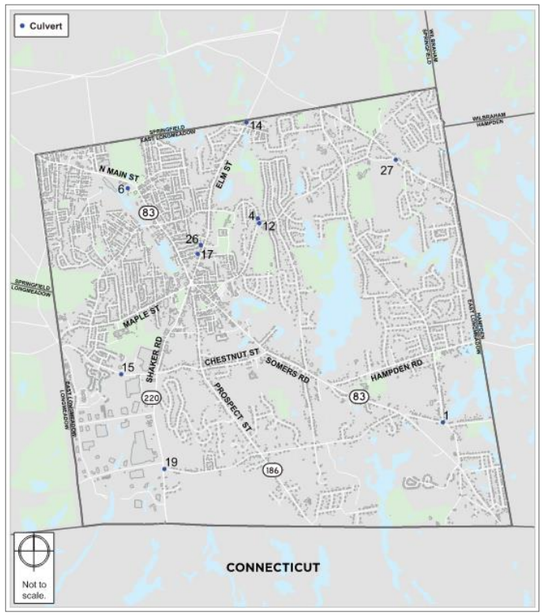
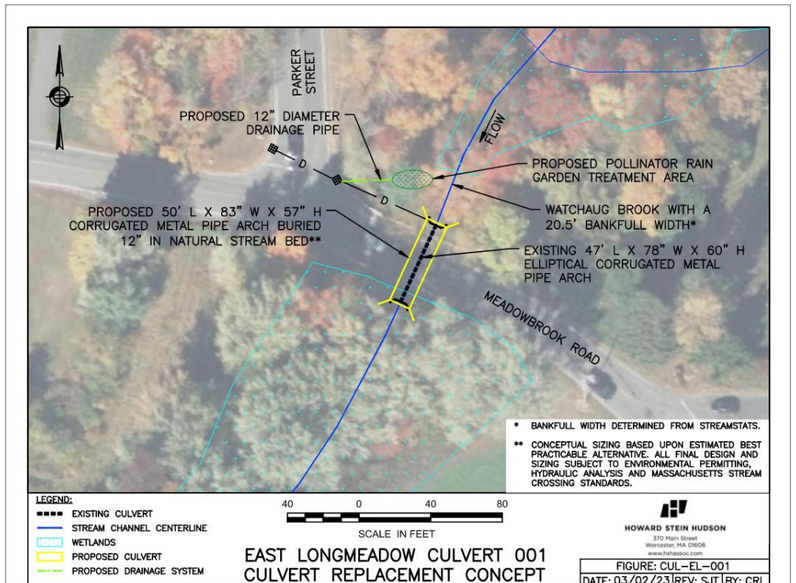
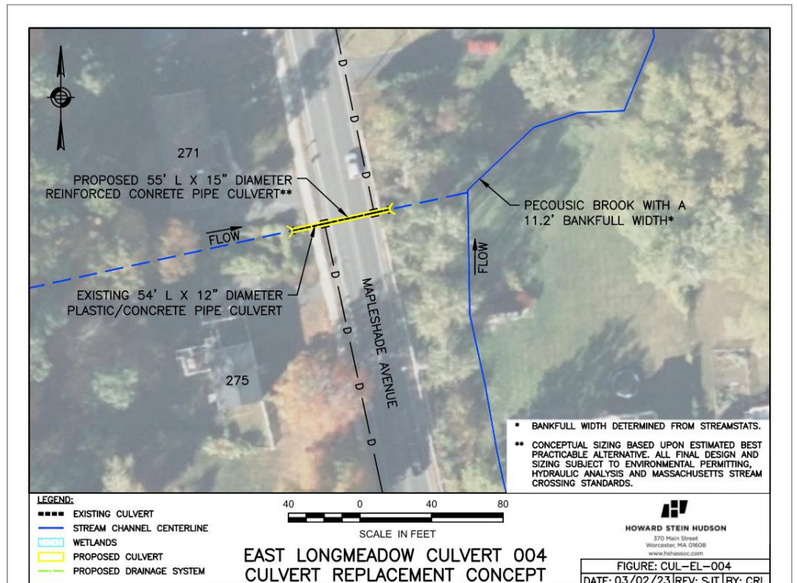
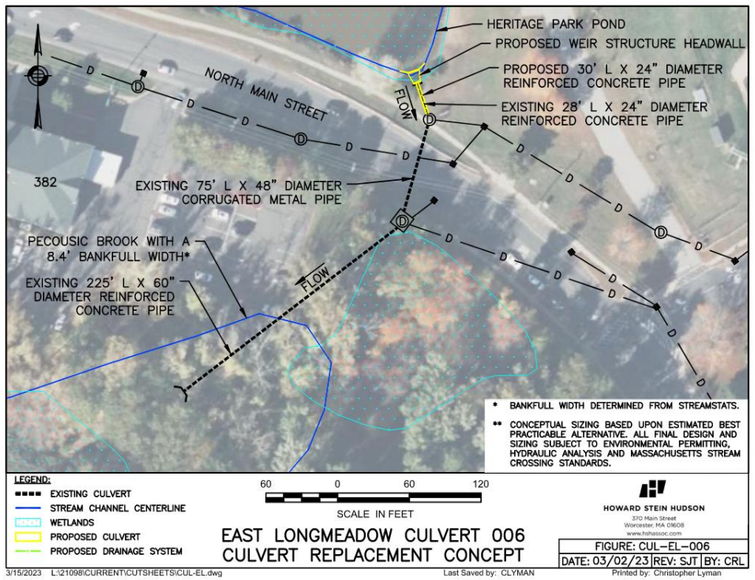
East Longmeadow Top 10 Culvert Priority Replacement Concepts

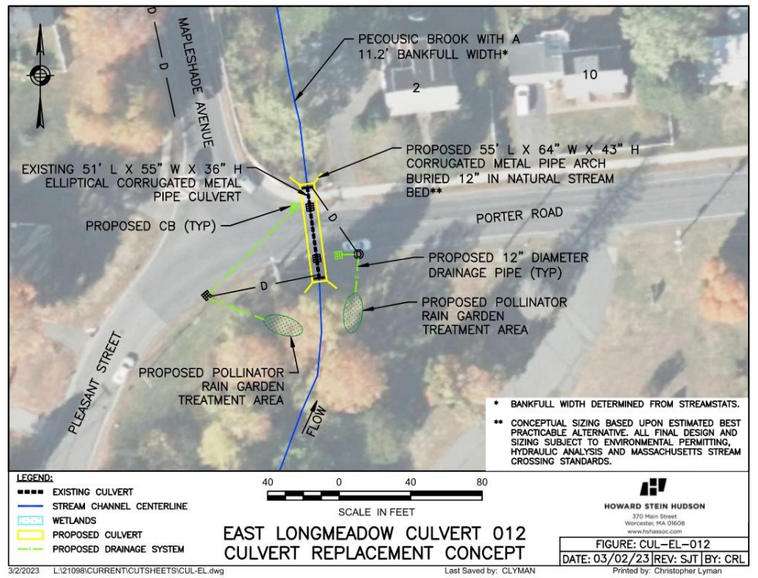
Engineers + Planners

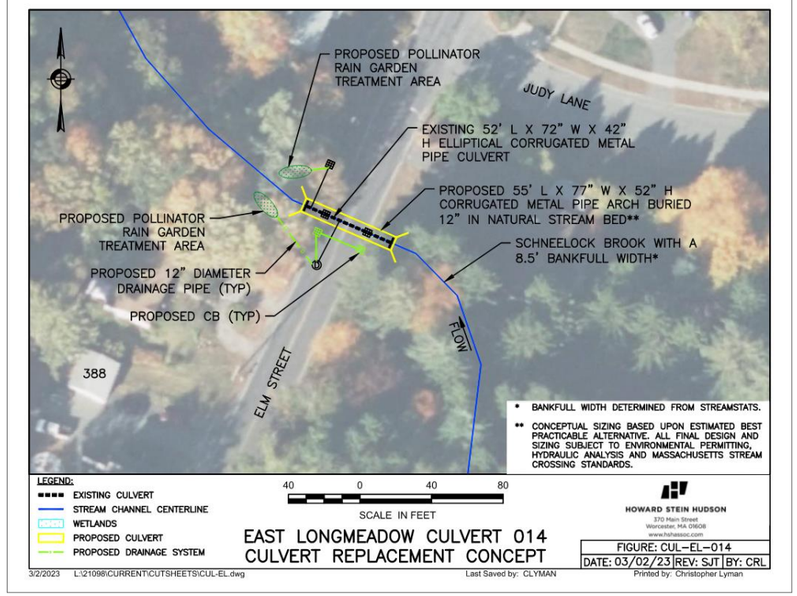






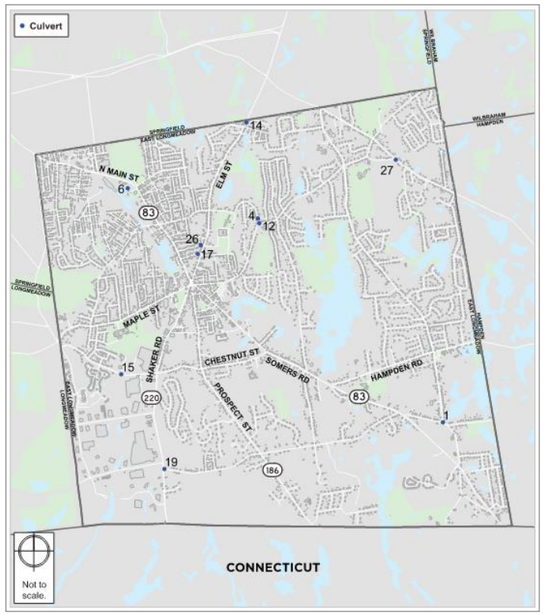


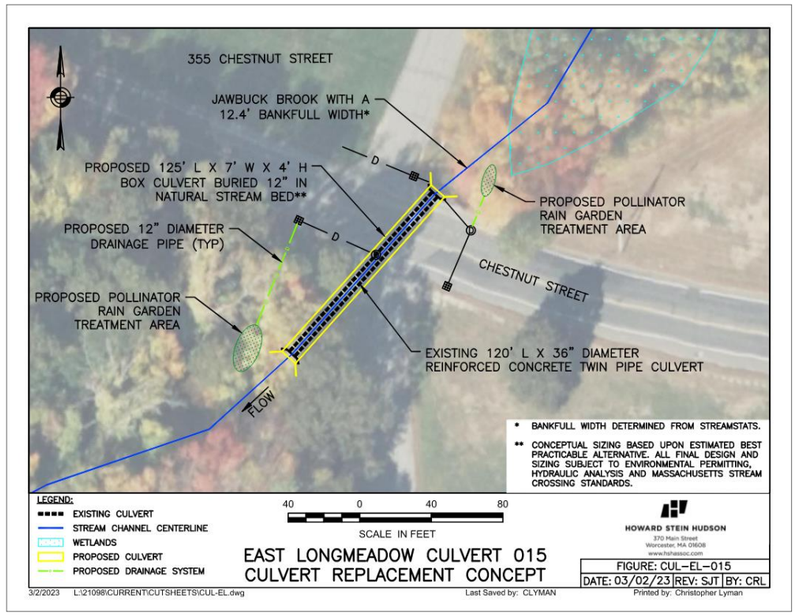


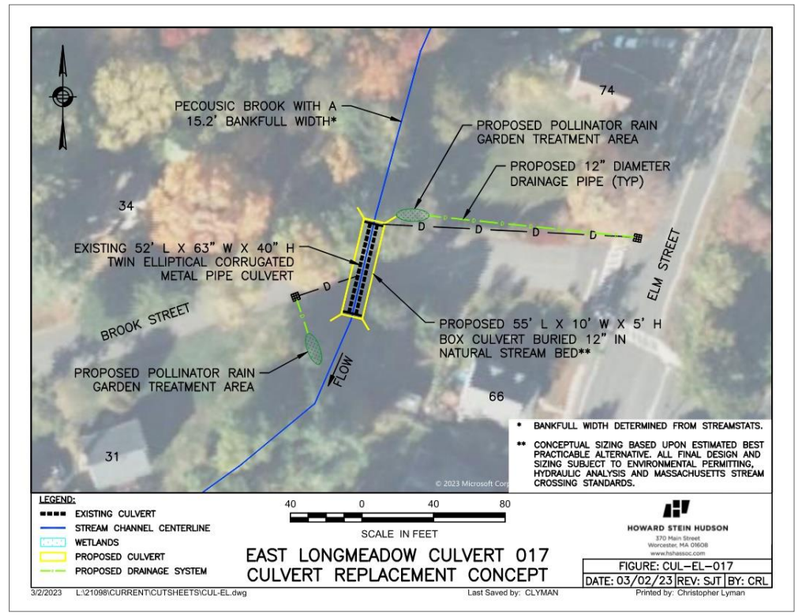


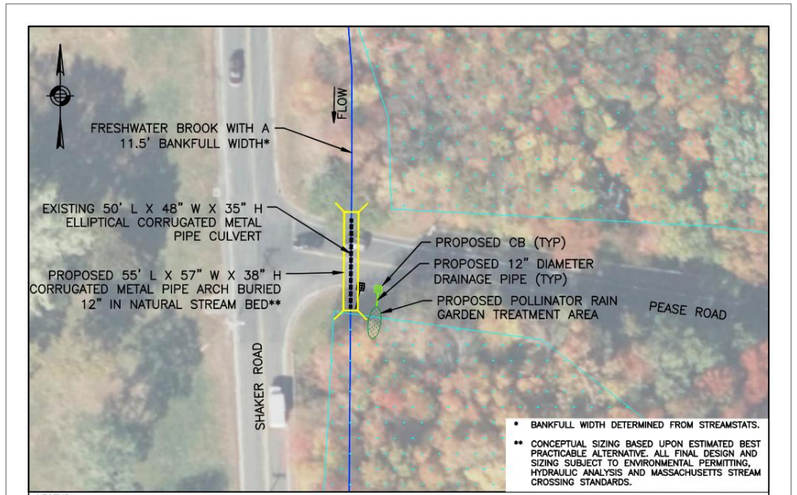
East Longmeadow Top 10 Culvert Priority Replacement Concepts

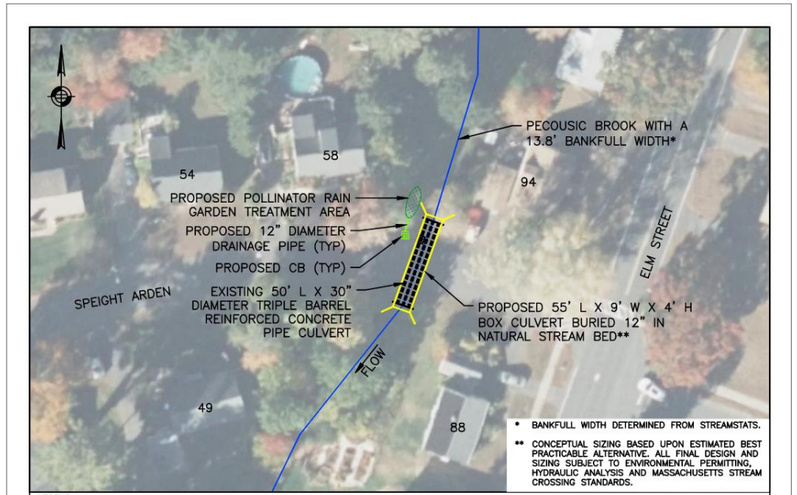
Engineers + Planners

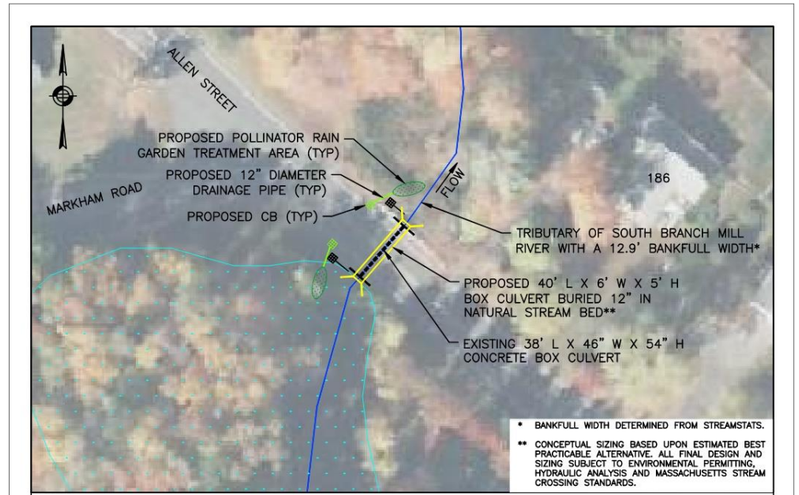






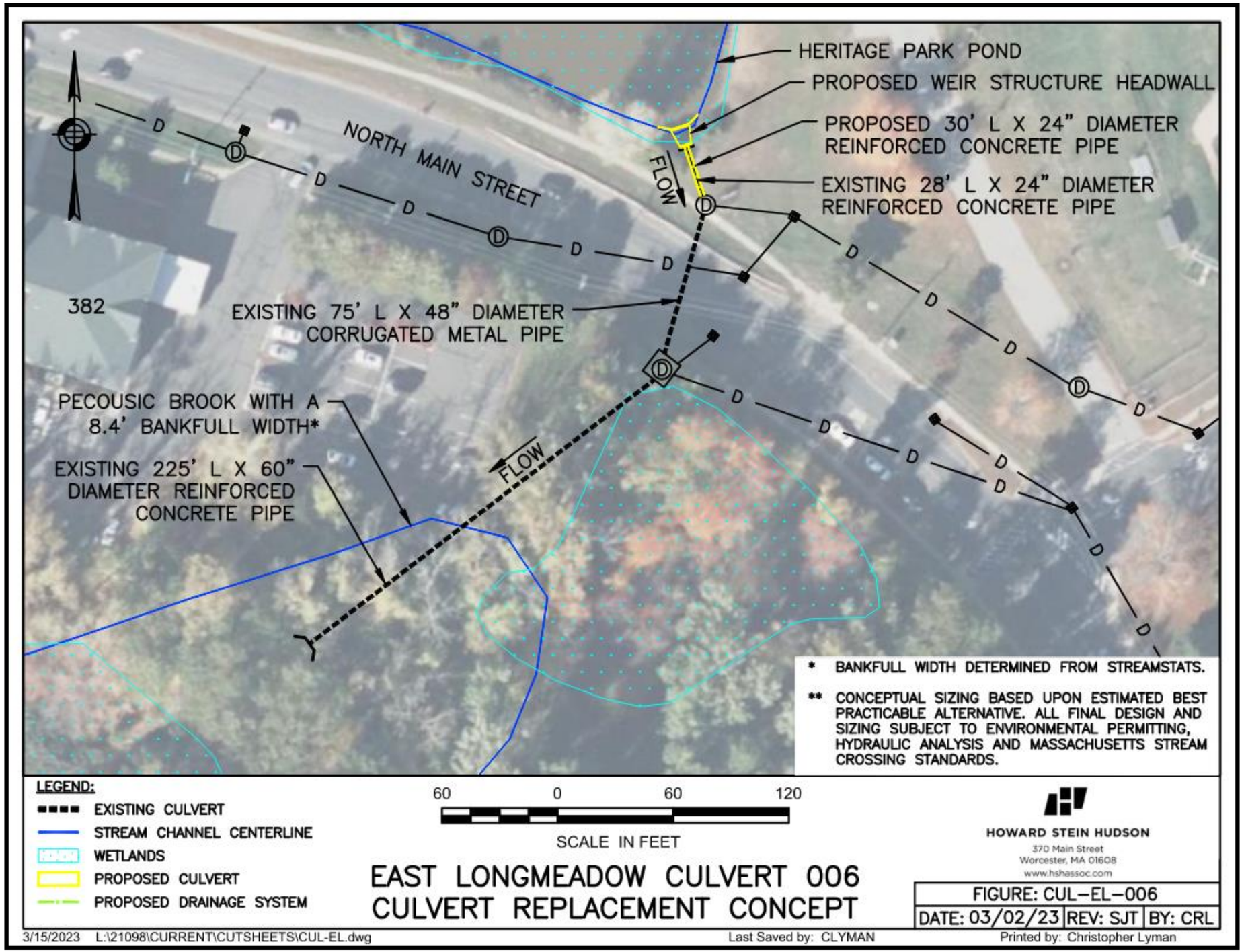




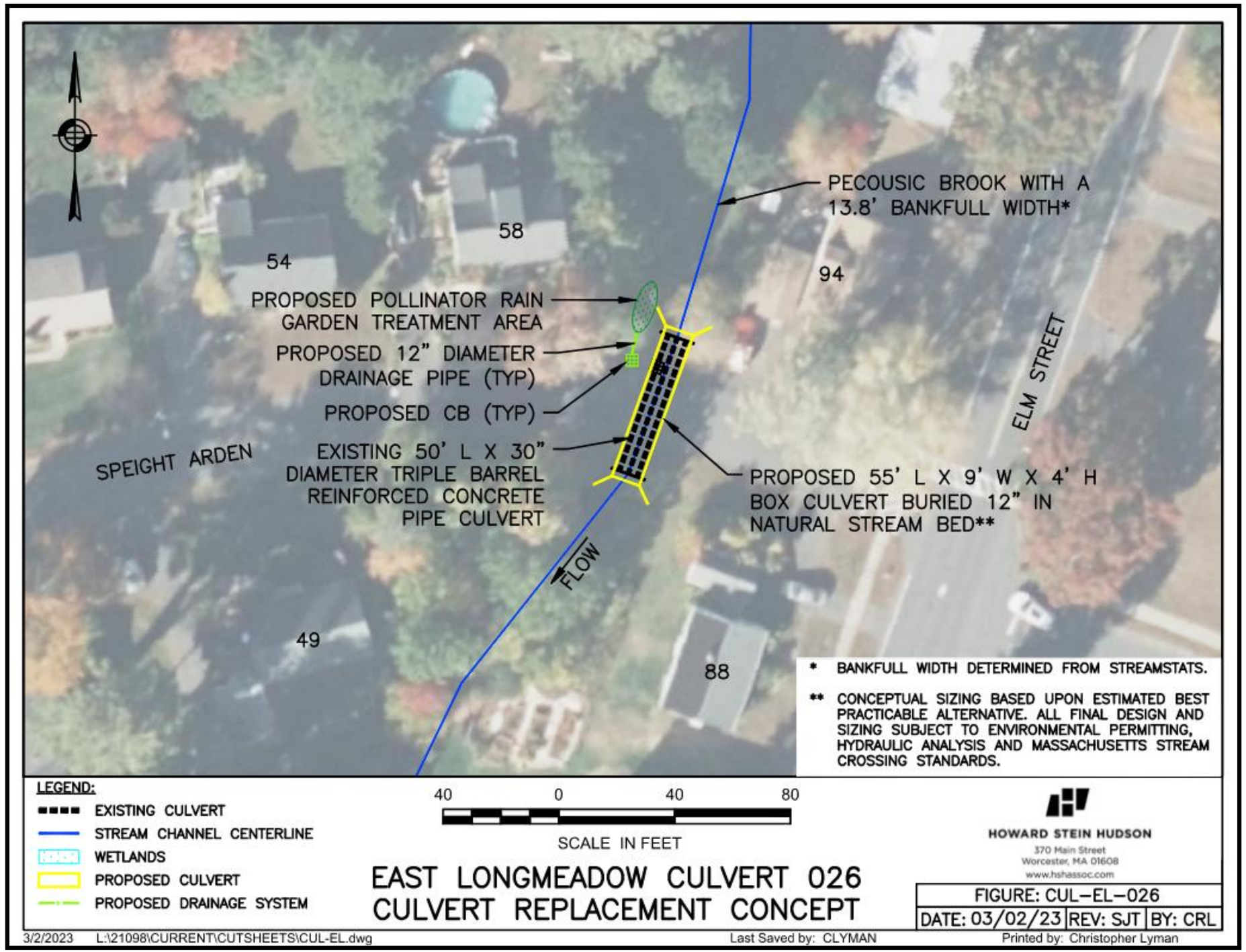


East Longmeadow Culvert 006 – North Main Street / Heritage Park

Engineers + Planners



East Longmeadow Culvert 026 – Speight Arden



East Longmeadow GI-LID Prioritization Method

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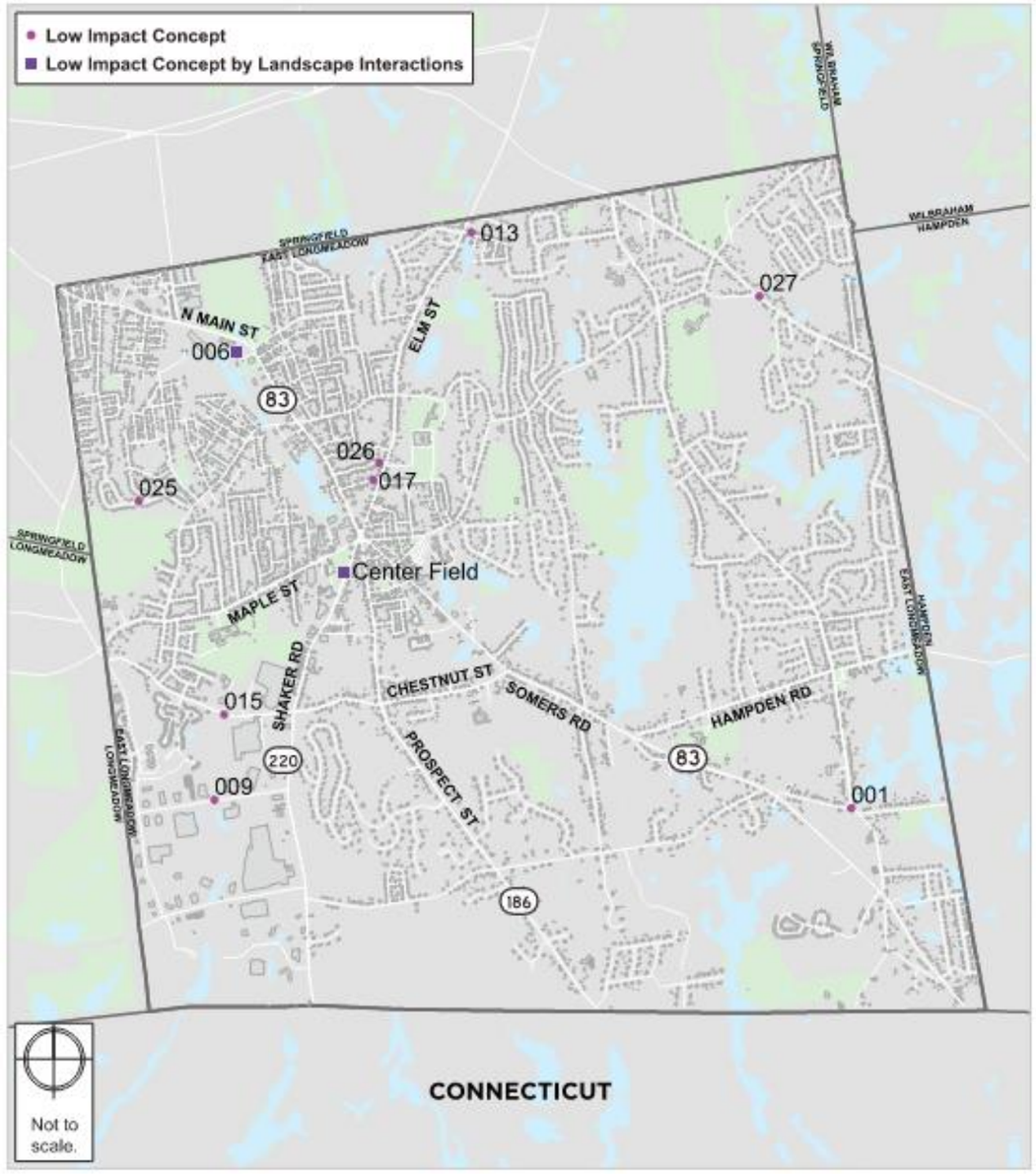
GI-LID Priority Scoring

- Public Land or Right-of-Way
- Within Floodplain
- Within 50’ of Wetlands and/or Priority Habitat
- Located within 100’ of Open Space
- Priority Culvert Location

Culvert No.	Over/Facility Carried (Street Name)	Facility Under	GI-LID Priority Ranking Score
001	Meadowbrook Road	Watchaug Brook	3
009	Industrial Avenue	Jawbuck Brook	3
027	Allen Street	South Branch Mill River	3
N/A	Shaker Road / Center Field Park	Closed Drainage System	3
015	Chestnut Street	Jawbuck Brook	2
017	Brook Street	Pecousic Brook	2
006	North Main Street / Heritage Park	Pecousic Brook	2
013	Lynwood Road	Schneelock Brook	1
025	Franconia Circle	Pecousic Brook	1
026	Speight Arden	Pecousic Brook	1



East Longmeadow GI-LID Typical Concepts

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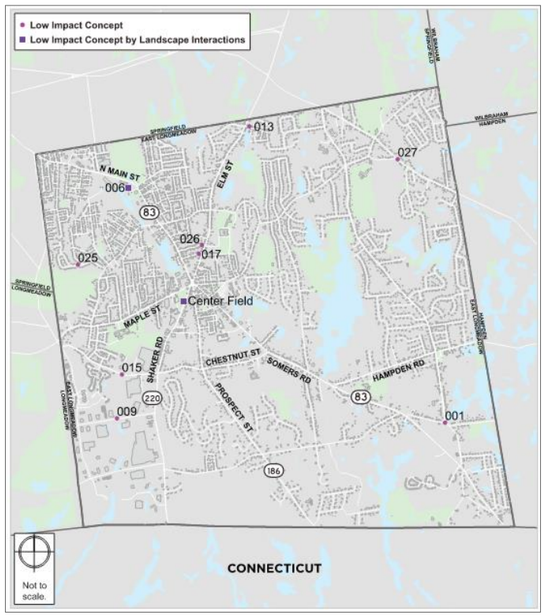
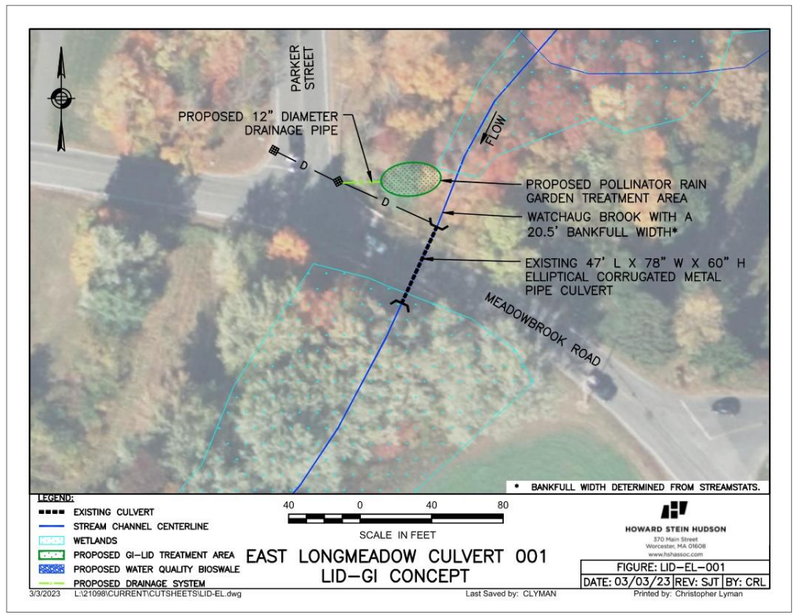
Vegetated Water Quality Bioswale

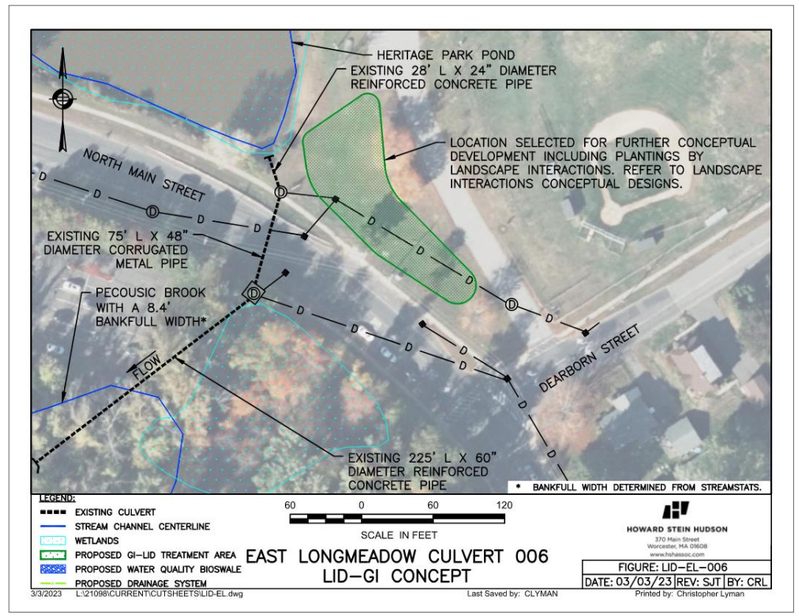
Rain Garden/Wet Garden Treatment Area

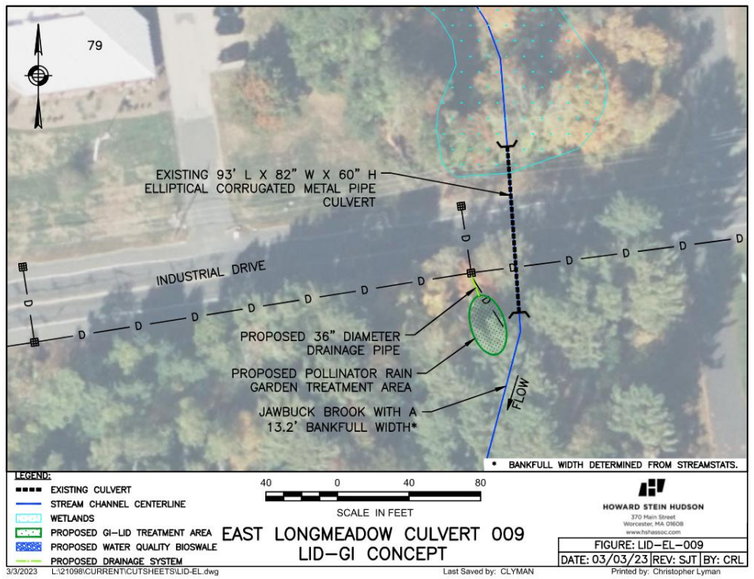
East Longmeadow Top 10 GI-LID Concepts

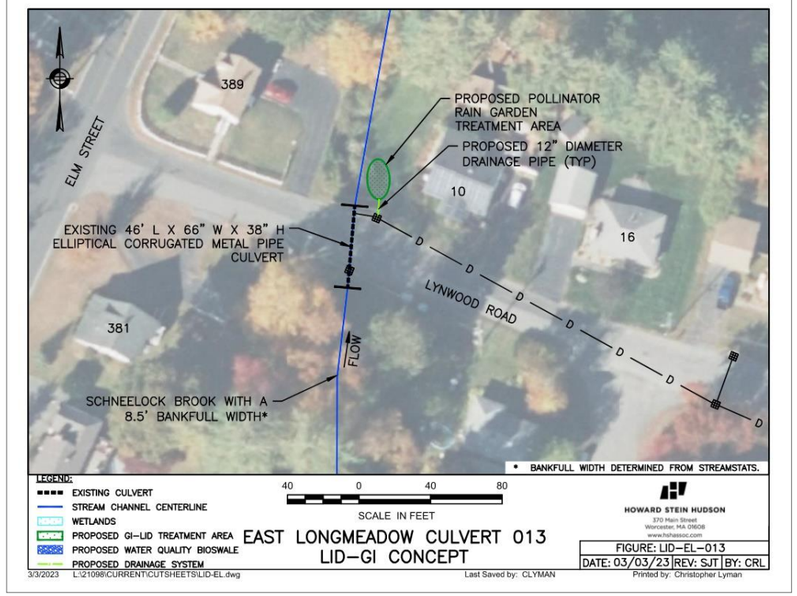
Engineers + Planners

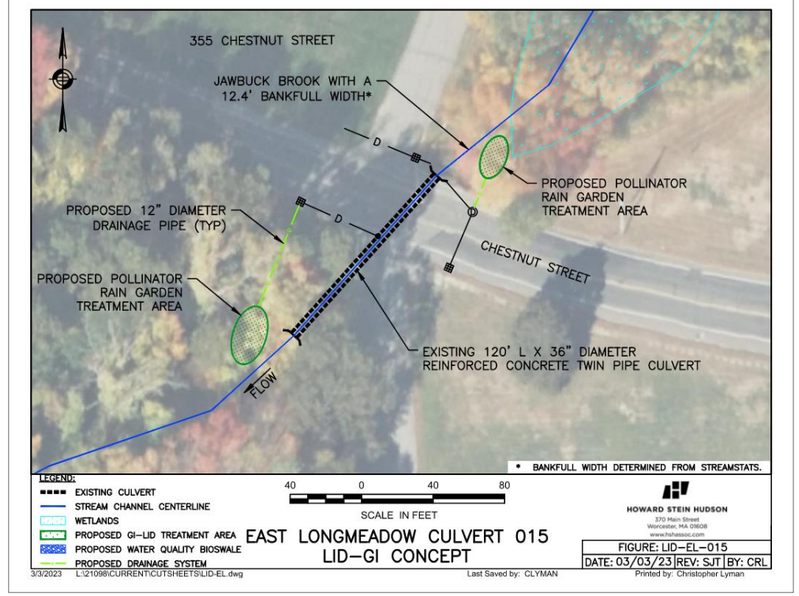






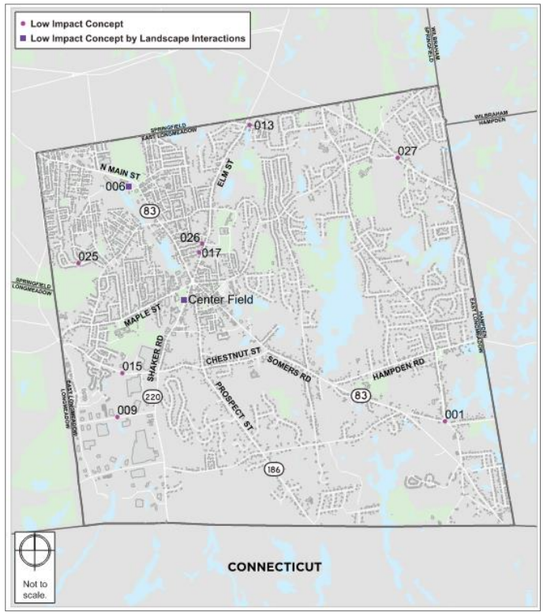


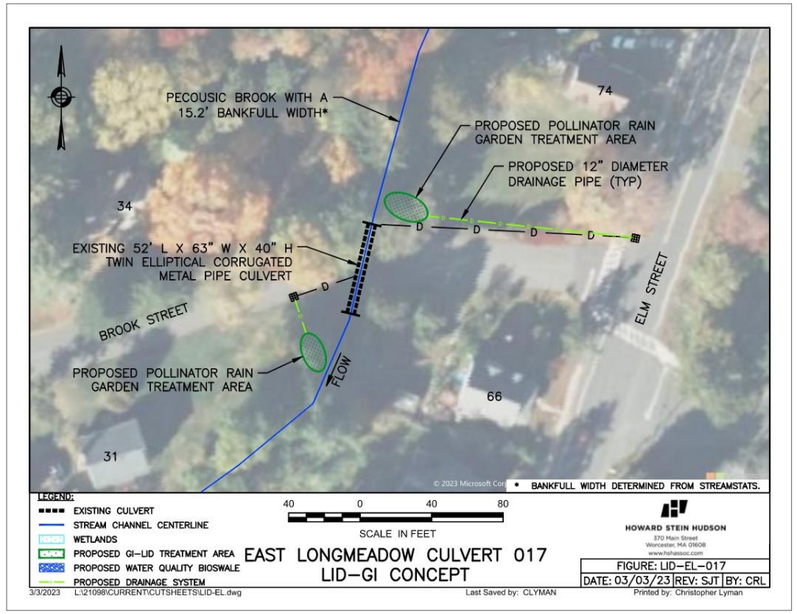


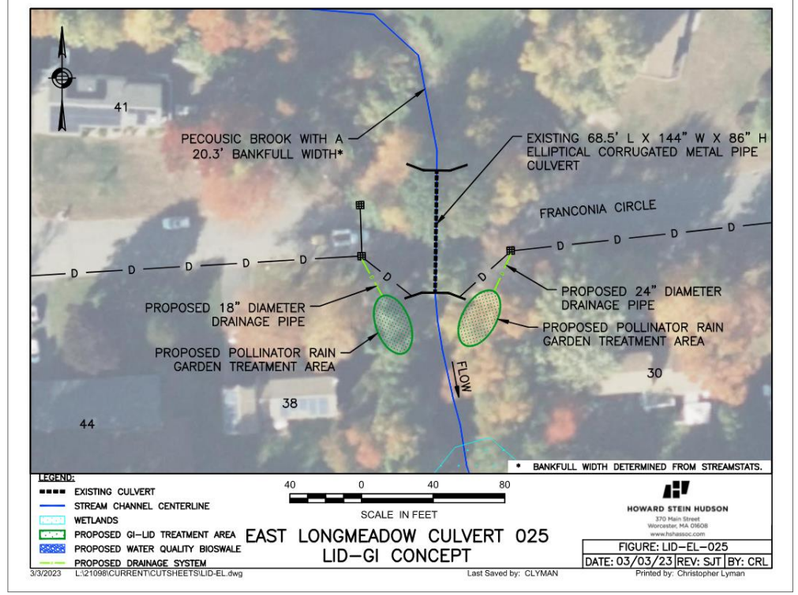


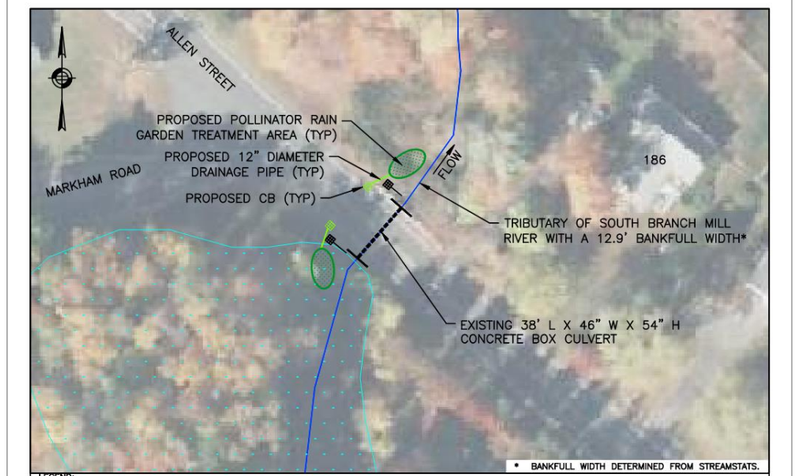
East Longmeadow Top 10 GI-LID Concepts

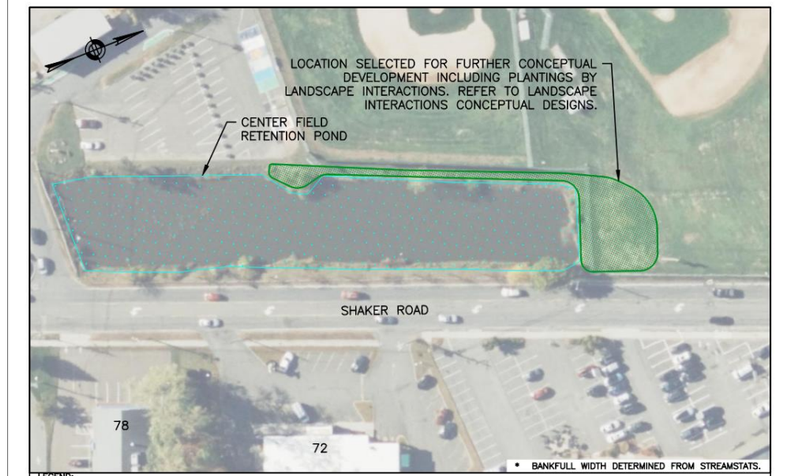
Engineers + Planners





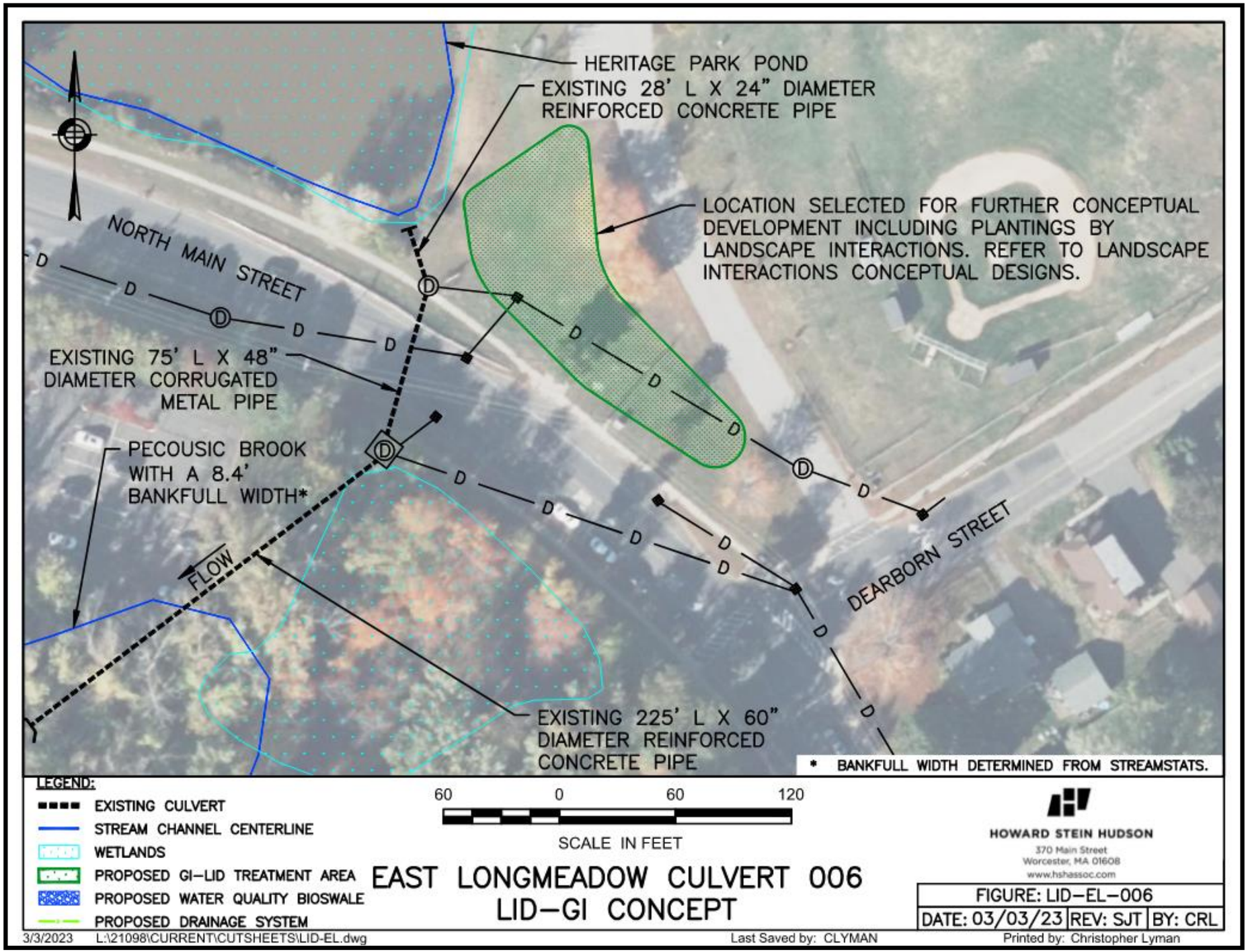






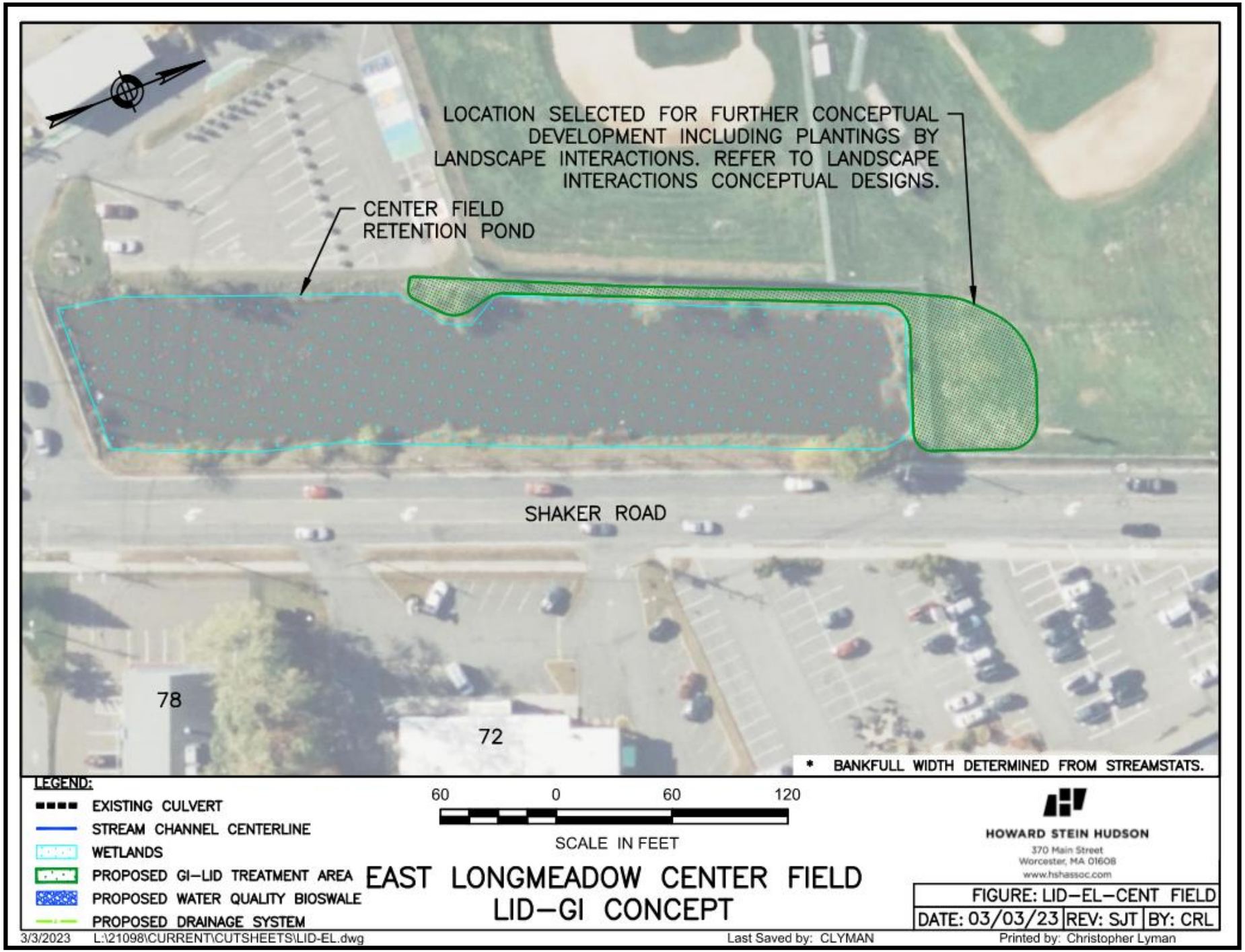
East Longmeadow Culvert 006 – North Main Street / Heritage Park

Engineers + Planners



East Longmeadow Center Field Park

Engineers + Planners



POLLINATORS SUPPORTED

BEES

Bombus affinis	Rusty patched bumblebee
Bombus fervidus	Golden northern bumblebee
Bombus pensylvanicus	American bumblebee
Bombus terricola	Yellow-banded bumblebee
Bombus vagans	Half-black bumblebee
Colletes validus	Blueberry cellophane bee
Macropis patellata	(no common name)
Andrena distans	Distant miner bee
Epeolus scutellaris	Notch-backed cellophane-cuckoo bee

BUTTERFLIES

Amblyscirtes hegon	Pepper and Salt Skipper
Amblyscirtes vialis	Common Roadside Skipper
Boloria bellona	Meadow Fritillary
Callophrys henrici	Henrel's Hairstreak
Callophrys irus	Frosted Elfin
Callophrys lanoraieensis	Bog Elfin
Carterocephalus palaemon	Arctic Skipper
Chlosyne harrisii	Harris' Checkerspot
Euphyes bimacula	Two-spotted Skipper
Euphyes conspicua	Black Dash
Hesperia leonardus	Leonard's Skipper
Hesperia metea	Cobweb Skipper
Hesperia sassacus	Indian Skipper
Lycaena epixanthe	Bog Copper
Lycaena hyllus	Bronze Copper
Poanes massasoit	Mulberry Wing
Satyrium acadica	Acadian Hairstreak
Satyrium favonius	Oak Hairstreak
Speyeria aphrodite	Aphrodite Fritillary
Speyeria atlantis	Atlantis Fritillary

Building Resilience through Biodiversity

SCALABLE + REPLICABLE
STORMWATER MANAGEMENT DESIGNS
TO SUPPORT POLLINATION SYSTEMS
AT RISK IN EAST LONGMEADOW

PLANT LIST

SUBMERGED EDGES
Permanently wet, full sun.
Keystone Species: Nymphaea odorata, Pontederia cordata, Typha latifolia, Vaccinium macrocarpon, Vaccinium oxycoccos.

FLOOD CHANNELS
Wet to moist, flood-tolerant, full sun to part-shade.
Keystone Species: Carex lacustris, Chamaecyparis thyoides, Cephalanthus occidentalis, Cirsium muticum, Lysimachia ciliata, Salix discolor, Salix lucida, Vaccinium corymbosum.

FLOODABLE SLOPES
Moist to occasionally wet, full sun to part-shade.
Keystone Species: Asclepias incarnata, Carex stricta, Eleocharis palustris, Eupatorium maculatum, Impatiens capensis, Mimulus ringens, Physostegia virginiana, Rosa palustris, Scutellaria galericulata, Symplocarpus foetidus.

UPLAND SHRUBLAND
Mesic to dry, full sun to part-shade.
Keystone Species: Cercis canadensis, Diervilla lonicera, Hypericum prolificum, Juniperus virginiana, Prunus maritima, Quercus ilicifolia, Rosa carolina, Rubus odoratus, Salix petiolaris, Spiraea alba, Vaccinium angustifolium.

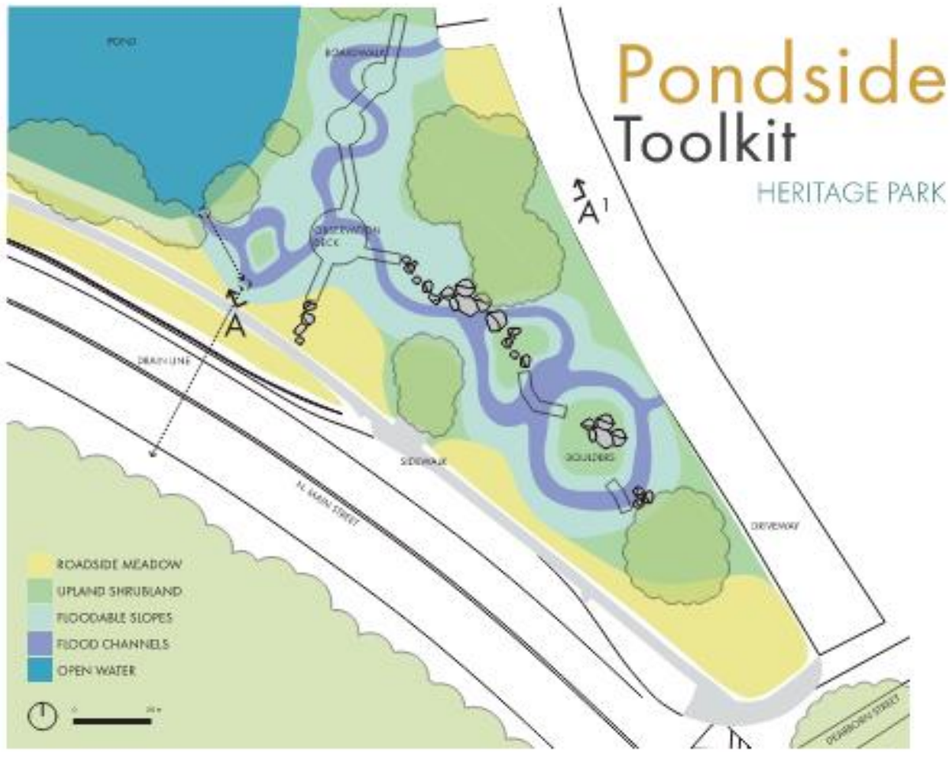
ROADSIDE MEADOW
Dry, full sun to part-shade. Salt-tolerant.
Keystone Species: Agastache scrophulariifolia, Andropogon gerardii, Asclepias syriaca, Baptisia tinctoria, Lupinus perennis, Monarda fistulosa, Panicum virgatum, Penstemon hirsutus, Schizachyrium scoparium, Solidago odora, Zizia aurea.

BEE + BUTTERFLY LAWN
Mesic to dry, full sun to part-shade.
Keystone Species: Carex pensylvanica, Danthonia spicata, Geranium maculatum, Pedicularis canadensis, Prunella vulgaris ssp. lanceolata, Viola pedata, Viola pubescens.

Basin Toolkit

CENTER FIELD

LANDSCAPE | NTERACTIONS
160 George Lamb Road
Leyden, MA 01337
landscapeinteractions.com



Pondside Toolkit

HERITAGE PARK

Public Comment Session

- **Top 10 Culvert Project Concepts**
- **Top 10 GI-LID Project Concepts**
- **Project website:**
  - rebrand.ly/HampdenEastLongmeadowMVP

PROJECT CONCEPTS FEEDBACK FORM

Hampden and East Longmeadow's Infrastructure Assessment and Nature-Based Solutions Project

Public Comment Meeting

Please review the descriptions for the Top 10 Culvert Project Concepts and Top 10 GI-LID Project Concepts and provide your thoughts and feedback in the sections below.

Top 10 Culvert Project Concepts
Top 10 GI-LID Project Concepts
General Feedback

CONTACT INFO (OPTIONAL)

Name: _____

Email/Phone Number: _____

ONLINE FEEDBACK SUBMISSION

For more information on the Hampden-East Longmeadow Municipal Vulnerability Preparedness (MVP) Project, please visit the project website: rebrand.ly/HampdenEastLongmeadowMVP

To submit your feedback on the Top 10 Project Concepts, please follow this link: https://rebrand.ly/top-concepts

You can also email comments or questions to Taylor Miller at tmiller@hshassoc.com.

370 MAIN STREET, SUITE 972 | WORCESTER, MASSACHUSETTS 01608 | 508.500.7041

HOWARD STEIN HUDSON Engineers + Planners

Next Steps

- **Public comment period ends**
  - March 31
- **Final reporting**
  - May 2023
- **Funding, including grants**
- **Local planning and permitting**
- **Upcoming GI-LID workshop**
  - Date and location coming soon

Questions and Discussion

For more information:

Project Website: rebrand.ly/HampdenEastLongmeadowMVP

Project Contact: styler@hshassoc.com

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