

Woonsocket

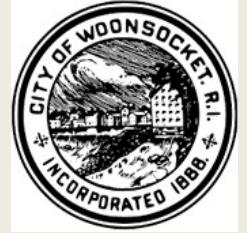


Photo Credits: William & Stuart Real Estate, Providence Journal, Wikipedia, CVS, asergeev.com

Municipal Resilience Program Community Resilience Building Workshop Summary of Findings October 2020



City of Woonsocket

Community Resilience Building Workshop

Summary of Findings

Overview

The need for municipalities, regional planning organizations, states, and federal agencies to increase resilience and adapt to extreme weather events and a changing climate is strikingly evident amongst the communities of the state of Rhode Island. Recent events such as the March 2010 floods and Tropical Storm Irene have reinforced this urgency and compelled leading communities like the City of Woonsocket to proactively collaborate on planning for and mitigating risks. Ultimately, this type of leadership is to be commended because it will reduce the vulnerability and reinforce the strengths of people, infrastructure, and ecosystems and serve as a model for other communities across Rhode Island, New England, and the Nation.

In February 2020, the City of Woonsocket embarked on certification within the newly established state of Rhode Island's Municipal Resilience Program (MRP). As an important step towards certification, Rhode Island Infrastructure Bank (RIIB) and the Nature Conservancy (TNC) provided the City with a community-driven process to assess current hazard and climate change impacts and to surface projects, plans, and policies for improved resilience. In October, 2020, the Woonsocket Core Project Team organized a Community Resilience Building Workshop led by TNC in partnership with RIIB. The core directive of this effort was the engagement with and between community stakeholders to define strengths and vulnerabilities and the development, planning, and ultimately, implementation of priority resilience actions for the City of Woonsocket.

The Woonsocket Community Resilience Building Workshop's central objectives were to:

- Define top local natural and climate-related hazards of concern;
- Identify existing and future strengths and vulnerabilities;
- Identify and prioritize actions for the City;
- Identify opportunities to collaboratively advance actions to increase resilience alongside organizations across the City.

The City of Woonsocket employed a unique “anywhere at any scale”, community-driven process called Community Resilience Building (CRB) (www.CommunityResilienceBuilding.org). The CRB’s tools, other relevant reports, and local maps were integrated into the workshop process to provide both decision-support and visualization around shared issues and priorities across Woonsocket. The Woonsocket Natural Hazard Mitigation Plan (2018), Comprehensive Plans (2012), and Chapter 1 of Resilient Rhody were particularly instructive. Using the CRB process, rich with information, experience and dialogue, the participants produced the findings presented in this summary report including an overview of the top hazards, current concerns and challenges, existing strengths, and proposed actions to improve resilience to hazards and climate change today, and in the future.

The summary of findings transcribed in this report, like any that concern the evolving nature of risk assessment and associated action, are proffered for comments, corrections and updates from workshop attendees and other stakeholders alike. The leadership displayed by the City of Woonsocket on community resilience building will benefit from the continuous and expanding participation of all those concerned.

Summary of Findings

Top Hazards and Vulnerable Areas for the Community

Prior to the CRB Workshop, the Core Project Team identified the top hazards for Woonsocket. The hazards of greatest concern are major storms (i.e. hurricanes, Nor’easters, winter storms), flooding along rivers and streams, and epidemics. The other hazards discussed during the CRB workshop included fires, urban street flooding due to stormwater runoff from heavy precipitation, and extreme temperatures (heatwaves and cold snaps). These hazards have direct and increasing impacts on the residents and resources such as its neighborhoods, natural areas (rivers, wetlands, parks), streets, sidewalks, bridges, dams, businesses, municipal facilities, social support services for disproportionately disadvantaged populations, and other critical infrastructure and community assets.

Top Hazards and Areas of Concern for the Community

Top Hazards

- Major Storms - Hurricanes, Nor'easters, Winter Storms (snow, ice, wind)
- Flooding - Riverine
- Epidemics/Pandemics

Areas of Concern in Woonsocket* - Several categories and locations were identified as being particularly vulnerable by workshop participants including:

Infrastructure: Stormwater Management Systems (culverts, catch basin - Morton Avenue, impervious surfaces), Harris Pond Dam (High Hazard), Holley Land Pond Dam (High Hazard), Woonsocket Falls Dam (Significant Hazard), Woonsocket Regional Wastewater Facility, Pump Stations (Singleton, Hamlet, Social Districts), Historic Mill Buildings, Water Mains, Schools (Woonsocket High School, Woonsocket Middle Schools—Villanova and Hamlet, Elementary Schools), Power lines, Generators, Drinking Water Reservoirs, Landmark Medical Center, Communication Towers, Multiple Fire Stations, DPW Garage (River Street). Nursing Homes, Assisted Living Facilities, Shelters.

Ecosystems/Parks: Blackstone River (including riverbanks and shorelines), Cherry Brook, Peters River, Mill River, Iron Rock Brook, Emerson Brook, Theresa Brook, Harris Pond, Street Trees, City Parks, Forested Outer Edges (wildfire).

Roads, Bridges, and Road Network: Truman Drive, Theresa Brook, Mendon Road, Blakley Street, Bernon Street, Mason Street, Greene Street, Saint Simon Street, Bridges spanning Blackstone (6 bridges), Peters (4), Mill (3) Rivers, Public Transportation (trains, taxis, buses).

Neighborhoods/Areas: Social District, Neighborhoods near waterways (i.e. Peters River, Mill River, Cherry Brook), Bernon Neighborhood, Upper-east Woonsocket, Residential Areas without Street Trees, Historic Districts (North End, Cato Hill, Main Street).

Vulnerable Populations: Elderly/Senior Citizens, Non-English Speakers, Undocumented Residents, Children, Residents with Special Needs and Disabled Residents, Visitors and Tourists, Local Business Owners, Veterans, Low-Income Residents, Working Poor, Long-term Renters. Residents Suffering from Mental Illness and/or Addiction.

*Information from workshop participants augmented via the City of Woonsocket's NHMP (2018). *See Appendix A for full list of mitigation actions from the City of Woonsocket NHMP (i.e. Section 4: Table 23; Section 6).*

Current Concerns and Challenges Presented by Hazards

The City of Woonsocket has several concerns and faces multiple challenges related to the impacts of natural hazards and climate change. In recent years, Woonsocket has experienced a series of highly disruptive and damaging weather events including March 2010 floods, Tropical Storm Irene (August 2011), Super Storm Sandy (October 2012), winter Nor'easter Nemo (February 2013), and other less impactful, but more frequent events. Impacts from Irene included rain-induced, inland flooding and wind damage. Sandy caused extensive power outages across portions of Woonsocket and the State. Winter storm Nemo dropped 19-20" of snow on the city knocking out power and isolating residents and neighborhoods due to extended road closures. The magnitude and intensity of these events and others across Rhode Island has increased awareness of natural hazards and climate change, while motivating communities like Woonsocket to proactively and comprehensively improve resilience.

This series of extreme weather events highlights that the impacts from hazards are diverse: ranging from riverine flooding of critical infrastructure, bridges, roads, and low-lying areas; urban flooding from stormwater runoff during intense storms and heavy precipitation events; property damage from trees, wind, snow, and ice. Longer periods of elevated heat, particularly in July and August, have raised concerns about the vulnerability of segments of the population including elderly and disabled residents. The combination of these issues presents a challenge to preparedness and mitigation priorities and requires comprehensive yet tailored action for particular locations and/or areas across the City of Woonsocket.

The workshop participants were generally in agreement that Woonsocket is experiencing more intense and frequent storm events and heat waves. Additionally, there was a general concern about the increasing challenges of being prepared for the worst case scenarios (i.e. major disasters, storms, major hurricanes (Cat-3 or above)) throughout the year, but particularly in the fall/winter months due to more intense snow and ice storms coupled with colder weather. The impact of the current pandemic was discussed at length amongst workshop participants.



(Credit: youtube.com)



(Credit: Getty images)



(Credit: CVS)

Specific Categories of Concerns and Challenges

As in any community, Woonsocket is not uniformly vulnerable to hazards and climate change, and certain locations, assets, and populations have and will be affected to a greater degree than others. Workshop participants identified the following items as their community's key areas of concern and challenges across three broad categories - Infrastructure, Societal, and Environmental.

Infrastructure Concerns and Challenges

Roads, Bridges, and Road Networks:

- Limited public transportation options create challenges for residents, particularly the elderly and low-income.
- Limited regional transportation system that impacts residents' job access.
- Low-lying roads and buildings close to flood prone rivers and streams subjected to flooding and erosion.
- Small, compact roads create parking and plowing difficulties.

Stormwater Management:

- Inadequate culvert and drainage system capacity during heavy rain events.
- High levels of impervious surfaces create stormwater runoff issues.
- Lack of green space for runoff in neighborhoods.

Dams:

- Recognition of the number of large and small dams (publicly or privately owned) and potential for catastrophic failure under current/future precipitation projections.

Emergency Management and Preparedness:

- Although neighborhoods and housing are dense, many residents are locally isolated and don't leave their homes.
- Turnover in the planning department makes long-term planning challenging.
- Need to increase connection and coordination with CVS Corporate Headquarters.

Housing:

- Direct impacts to structures from storms - flooding and wind.
- Lack of education regarding the potential for current & future impacts to structures including privately owned buildings and houses.
- Absentee and/or negligent landlords and property owners.
- Insufficient supply of affordable housing, including affordable senior housing with mobility access.
- Higher poverty levels contributing to a lack of routine upkeep of properties.

Specific Categories of Concerns and Challenges (cont'd)

Infrastructure Concerns and Challenges

Power:

- Power outages to residential homes and businesses, due to aging electrical grid and vulnerability of power lines to storms/tree limbs, particularly during winter months.
- Low-income households' vulnerability due to power outages.

Societal Concerns and Challenges

Vulnerable Populations:

- Implications on disproportionately disadvantaged populations (i.e. elderly, working poor, low income residents) due to flooding, winter storms, and heatwaves.
- Low-income and senior housing is particularly vulnerable to infectious disease spread.
- Limited grocery options and high poverty rates contribute to food insecurity.
- Low-income populations are particularly vulnerable to heat islands.
- Emergency communications with and outreach among non-English speakers.

Development:

- High poverty rate weakens the tax base, investments in housing, and overall growth.
- Low owner-occupied housing rate causes disinvestment and instability in neighborhoods.
- Runoff from developed areas has potential to contaminate drinking water reservoirs.
- Need to invest in human capital to upgrade the workforce so they can participate in the economy.

Environmental Concerns and Challenges

Rivers:

- Flooding from Blackstone River, Peters River, Cherry Brook, and Mill River.
- Drainage overflows pollute the rivers.

Trees and Forests:

- Prevalent heat islands due to lack of tree canopy pose threats to residents during extreme heat events.
- Declines in tree health from pests and pathogens resulting in a large population of dead and damaged trees posing risks to power lines and blocking roads.

Current Strengths and Assets

Just as certain locations, assets, and populations in Woonsocket stand out as particularly vulnerable to the effects of hazards and climate change, other features are notably assets for Woonsocket's resilience building. Workshop participants identified the following items as their community's key strengths and expressed interest in using them as the core of future resilience building actions.

- Clearly, the responsive and committed leadership exhibited by officials and staff is a very appreciated strength within and across Woonsocket. Ongoing collaboration between business community, faith-based organizations, NGOs, adjoining municipalities along the Blackstone River Corridor, CVS Corporate Headquarters, and state-level organizations, among others on priorities identified will help advance comprehensive, cost-effective, community resilience building actions.
- The City has highly experienced staff with access to adequate resources for most emergency situations. The coordination amongst various departments including leadership, Police, Fire, and EMS within and across the City was cited as a highly valued community strength.
- The City is highly diverse and multicultural. Its relatively small size facilitates a high degree of interconnectedness and approachability among residents and leadership.
- Presence and deep involvement of the NGO communities both locally and regionally across the City.
- Robust and appreciated Health Equity Zone is funded by the Rhode Island Department of Health.
- Thundermist Health Center and Landmark Medical Center key community assets.
- A redundant water system and abundant water supply include two drinking water reservoirs and an upgraded wastewater treatment facility.
- Water and Sewer Departments are fiscally stable with both the water and sewer systems at 50% capacity and able to accommodate additional growth.
- Blackstone River is a critical societal, infrastructural, and environmental asset.
- City is centrally located in the New England market, improving its business and workforce opportunities despite lack of major transportation routes to City.
- Municipal support for managing stormwater via green stormwater infrastructure and removing impervious surfaces in certain parts of the City.

Current Strengths and Assets (cont'd)

- Emphasis by residents on volunteering time and resources to strengthen their community and help other residents thrive.
- Willingness by municipality to consider using natural systems to help minimize the impacts of extreme weather and climate change via nature-based solutions.
- Woonsocket is working with the Department of Environmental Management and Environmental Protection Agency to assess old mill site contamination to increase the potential for redevelopment via it's Brownfields Program.
- The modern middle schools, high school, and the hospital provide high quality emergency shelters.
- Numerous public amenities and open spaces that improve residents' quality of life in Woonsocket - particularly along the Blackstone River.
- The real estate development project on South Main Street/Island Place provides example of how using strategic construction to build resilient housing reduces environmental vulnerabilities.
- Redundant road network ensures emergency services can easily access points across the community.
- The University of Rhode Island collaboration with Woonsocket to examine park sites and see how they can incorporate sustainability and green infrastructure into their design.
- Downtown Woonsocket will be designated a mobility hub by the forthcoming Rhode Island Transit Master Plan; the City will continue to advocate for commuter rail between Providence and Worcester, Massachusetts.
- Community organizations' engagement with youth groups providing education on sustainability and environmental outreach.
- River Island Park has great potential to hold events involving awareness about hazards and emergency preparedness.
- Army Corps of Engineers' levees have significantly reduced flood risk from the Blackstone River.

Recommendations to Improve Resilience

A common thread throughout the workshop discussions was the recognition that Woonsocket needs to be better prepared through longer-term, community-based, planning and respective actions across the areas of concern. To that end, the workshop participants reached agreement on several key topics requiring more immediate and/or ongoing attention including:

- Infrastructure improvements (i.e. wastewater treatment system and facilities, storm-water management systems, green stormwater infrastructure);
- Quality of life improvements (i.e. greening of neighborhoods, walkability, sustainability, park access improvements, green infrastructure, community events, affordable housing, improved job opportunities, transportation);
- Emergency management (i.e. preparedness, communications, sheltering, heating/cooling centers, continuation of services).

In direct response, the workshop participants developed the actions below organized across several sub-categories. During the workshop, some of these actions rose to the level of high priority actions, while others were classified only as priority actions. Mitigation actions from the Woonsocket NHMP (2018) are provided in Appendix A for cross reference.

Actions

| Capacity Building | | |
|--|-------------------|---------------|
| Improve municipal interdepartmental collaboration on projects, plans, and policies, especially between the Planning Department and DPW. | Capacity Building | High Priority |
| Improve municipal participation in Health Equity Zone initiatives. | Capacity Building | High Priority |
| Offer incentives and training to associations and organizations to ensure that volunteers are trained and equipped to support emergency personnel, where needed. | Capacity Building | Priority |
| Create a robust, preventative emergency management plan for citizen that wish to get engaged and assist during major events. | Capacity Building | Priority |

| Stormwater Management & Green Infrastructure | | |
|--|-------------------|---------------|
| Prioritize green infrastructure and nature-based solutions (e.g. rain gardens, bioswales, de-paving, tree planting, expanding open space) during concept and design phases of stormwater management projects to reduce load on existing infrastructure, address localized flooding, and improve water quality in receiving water bodies. | Guiding Principle | High Priority |
| Develop list of priority stormwater management projects and identify good candidates for Green Infrastructure. <i>See: NHMP Actions 1-6, Stormwater Management Plan, and Blackstone River Vision Report.</i> | Planning | High Priority |
| Create green schoolyards & parks strategic plan and fund pilot green infrastructure projects. | Planning | High Priority |
| Identify funding opportunities for stormwater management projects. | Funding | High Priority |
| Conduct small-scale, de-paving projects in areas experiencing routine flooding. | Project | Priority |
| Incentivize homeowners to capture stormwater on their properties (i.e. rain gardens) | Policy | Priority |

| Extreme Heat & Cold | | |
|--|----------------------|----------|
| Plant trees and greenery to reduce communities' vulnerability to heat, including at bus stops, school yards, playgrounds, and in vulnerable neighborhoods. | Planning/ Project | Priority |
| Cooperate with local businesses to identify potential warming and cooling centers in proximity to vulnerable populations and at-risk neighborhoods. | Planning | Priority |

| Electrical System | | |
|---|----------|---------------|
| Identify opportunities to reduce potential impacts to power lines. | Planning | High Priority |
| Expand the use of micro-grids to make the local electrical grid more resilient during major events. | Planning | High Priority |
| Conduct feasibility assessment for undergrounding utility lines in high risk areas. | Planning | Priority |

Water Quality, Conservation & Open Space

| | | |
|---|----------------------|---------------|
| Support conservation work relating to the Blackstone River and other waterways. | Guiding Principle | High Priority |
| Improve conditions on parcels adjoining the Blackstone River, including old mill sites and brownfields, to improve water quality and ecological health. | Guiding Principle | High Priority |
| Increase residents' access to and engagement with Blackstone River and other waterways. | Guiding Principle | High Priority |
| Identify open space parcels for acquisition that serve multiple functions, including improving resilience and quality of life, reducing flood risk and heat island effect, creating space for recreation, providing parking during emergencies and snow storage during storms. Identify funding sources, including bonds, to secure priority parcels. | Planning/ Funding | High Priority |
| Create a land trust and land conservation plan. | Planning | Priority |
| Restore riparian zones and implement other methods of erosion control. | Project | Priority |
| Create a regional action plan for the Blackstone River that identifies sources of pollution, addresses current contaminants, and stabilizes riverbanks. | Planning | Priority |
| Expand environmental education in schools and create multilingual environmental awareness programs for residents. Focus on water conservation, recycling, river conservation, etc. | Project | Priority |
| Evaluate opportunities for small stream restoration. | Project | Priority |
| Improve enforcement of existing policies and executive orders relating to conserving wetlands and floodplains, thereby helping to improve water quality. | Policy | Priority |



(Credit: city-data.com)



(Credit: smithapplebyhouse.org)



(Credit: flickr.com)

| Transportation | | |
|--|----------|---------------|
| Continue to advocate for commuter rail between Worcester and Providence along existing freight railroad tracks to improve statewide public transportation and maximize regional opportunities. | Planning | High Priority |
| Increase frequency of existing RIPTA routes and increase number of bus routes serving Woonsocket. | Planning | High Priority |
| Remain open to alternative transportation options including taxis, bike/scooter share, ridesharing, etc. | Planning | High Priority |
| Address transportation bottlenecks (i.e. intersection of Route 99 & Route 122). | Project | High Priority |
| Create and implement a city-wide bike and pedestrian mobility plan focused on developing safe and efficient bike and pedestrian routes. | Planning | Priority |
| Research how to bring better regional connectivity to Woonsocket to attract business and tourism. | Planning | Priority |

| Economic Development | | |
|---|----------|---------------|
| Incentivize development of housing and businesses downtown. | Policy | High Priority |
| Encourage users of bikeway and riverfront parks to visit downtown Woonsocket | Planning | High Priority |
| Invest in Main Street and Truman Drive. Establish Main Street as a social and business center. Convert Truman Drive to a two-lane road with former lanes used to manage runoff from Truman Drive and Main Street. | Project | High Priority |
| Increase business opportunities and space for business owners and entrepreneurs in the community. | Policy | Priority |
| Consider developing the Millrace District into living and working spaces for millennials. | | Priority |

| Critical Facilities | | |
|--|-------------------|---------------|
| Continue to flood-proof the wastewater treatment facility. | Project | High Priority |
| Increase generator capacity for emergency use at critical facilities. | Project | High Priority |
| Integrate resilience into projects included in the Capital Improvement Plan | Planning | Priority |
| Improve water mains for fire suppression, particularly near Park Square. | Project | Priority |
| Brownfields | | |
| Keep resilience in mind when conducting redevelopment of brownfields. | Guiding Principle | High Priority |
| Consider adding solar panels at remediated brownfield sites. | Policy | Priority |
| Utilize zones near the river for economic development in a resilient manner. | Policy | Priority |
| Development | | |
| Preserve open spaces and focus on redeveloping vacant parcels. | Guiding Principle | Priority |
| Rework zoning ordinance to require/incentivize new development to be more resilient, efficient, and equitable. | Policy | High Priority |
| Establishing new or strengthen existing policies that require development to include low-impact design and green infrastructure. | Policy | High Priority |
| Limit development and redevelopment in the floodplain. | Policy | Priority |
| Modify zoning laws to allow for higher density housing and less parking to reduce housing costs and oversupply of parking. | Policy | Priority |
| Evaluate private funding opportunities to reinvest in the community and restore historic buildings to more resilient standards. | Funding | Priority |

| | | |
|--|----------|---------------|
| Social | | |
| Improve general knowledge among residents and business owners about resilience challenges facing the city and the expected health impacts of climate change. | Project | Priority |
| Ensure vulnerable populations (e.g. elderly, low-income, minority, special needs, households without internet, etc.) are represented in public outreach efforts. Considering the use of youth ambassadors to strengthen response. | Policy | High Priority |
| Better integrate behavioral health and physical health while improving environmental health. | | Priority |
| Invest further in mental health support and resources to help improve the overall mental resilience of residents. | Funding | Priority |
| Continue investing in affordable housing. | Policy | Priority |
| Miscellaneous | | |
| Collaborate across Departments to generate a list of projects addressing aging infrastructure, resiliency, park improvements, tree planting, cooling services, nature-based solutions, etc. and integrate the list into City planning documents. | Planning | High Priority |
| Increase food access and food security by attracting a new grocery store, connecting residents with healthy food options, and opening a co-op on Main Street. | Planning | High Priority |
| Ensure wide-spread stakeholder engagement during the Comprehensive Plan update process, including engaging leadership and staff from CVS Corp. | Planning | Priority |
| During update to Health Equity Zone strategic plan, ensure language promotes fundability of future projects from a grant-writer's perspective. | Funding | High Priority |
| Research and evaluate options to increase the City's immediate and longer-term sustainability via procurement practices, recycling, energy efficiency, and renewable energy. | Planning | High Priority |
| Create a long-term preparedness plan. | Planning | High Priority |

| | | |
|--|-------------------|---------------|
| Miscellaneous | | |
| Expand short-term emergency housing. | Planning | High Priority |
| Conduct a city-wide study to evaluate existing parking and opportunities to centralize parking. | Planning | Priority |
| Create an emergency response fund to help businesses and community members following extreme weather events or other major crises. | Funding | Priority |
| Use up-to-date climate data to assess threats and impacts from increased storms and flooding. | Guiding Principle | High Priority |
| Leverage the work of the HEZ, Lead Center, HUD Lead, and healthy housing to increase funding to increasing resilience. | Policy | Priority |



(Credit: Homes.com)



(Credit: trailsandwalksri.com)



(Credit: Chet Smolski)

CRB Workshop Participants: Department/Organization

City of Woonsocket - Office of the Mayor
City of Woonsocket - Planning Department
City of Woonsocket - Human Resources Department
City of Woonsocket - School Department
City of Woonsocket - Engineering Division
City of Woonsocket - Emergency Management Services
City of Woonsocket - Police Department
City of Woonsocket - Finance Department
City of Woonsocket - Parks Division
City of Woonsocket - Water Division
City of Woonsocket - Public Safety
City of Woonsocket - Highway Division
City of Woonsocket - Department of Public Works
City of Woonsocket - Fire Department
City of Woonsocket - Planning Board
City of Woonsocket - Zoning Board
Woonsocket Housing Authority
Thundermist Task Force
Blackstone Coalition
Clean Water Action
Landmark Medical Facility
CVS Corporation - Facilities
Blackstone Valley Tourism Council
Neighborworks BRV
Narraganset Bay Estuary Program
Policastro Group
Activitas
Community Cares Alliance

Woonsocket Core Project Team

Kevin Proft - City Planner - City of Woonsocket

Scott Gibbs - Director, Planning Department - City of Woonsocket

Online CRB Workshop Facilitation Team

Rhode Island Infrastructure Bank - Shaun O'Rourke (Program Lead & Facilitator)

The Nature Conservancy - Adam Whelchel (Lead Facilitator)

The Nature Conservancy - Sue AnderBois (Lead Coordinator)

The Nature Conservancy - Sheila Dormody (Facilitator)

The Nature Conservancy - Holly Drinkuth (Facilitator)

The Nature Conservancy - Sara Burns (Facilitator)

The Nature Conservancy - Drew Goldsman (Facilitator)

Scribes - Kim Koriath (RIIB), Isabel Harrington (RIIB), Sabrina Chwalek (TNC -RIFO)

Recommended Citation

City of Woonsocket (2020). Online Community Resilience Building Workshop - Summary of Findings, State of Rhode Island Municipal Resilience Program. City Woonsocket, Rhode Island Infrastructure Bank, The Nature Conservancy. Woonsocket, Rhode Island.

Acknowledgements

Special thanks to the City leadership, staff, and community members for their willingness to embrace the process in hopes of a more resilient future for Woonsocket. This online workshop was made possible in large part through the generous contribution of the facilitation team members, including scribes, who skillfully conducted the Woonsocket Community Resilience Building workshop in close partnership with the City's Core Project Team.

Appendix A

City of Woonsocket

Natural Hazard Mitigation Plan (2018)

Section 6. Mitigation Actions

VULNERABLE AREA: Flood Prone Drainage Systems/Streets

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|---|---|---|
| <p>1. Improve locally owned roads to reduce flooding. Consider dredging, green infrastructure*, and cutting back vegetation.</p> <ul style="list-style-type: none"> • Victory Boulevard • Cass Avenue • Cumberland Hill Road | <input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | Active |

VULNERABLE AREA: Flood Prone Drainage Systems/Streets

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|---|---|---|
| <p>2. Improve stormwater drainage to reduce flooding on Victory Boulevard. Consider land acquisition and green infrastructure for flood control improvements, flood walls and berms.</p> | <input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | Active |

VULNERABLE AREA: Flood Prone Drainage Systems/Streets

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|---|---|---|
| <p>3. Improve stormwater drainage to reduce flooding on Colony Avenue. Consider land acquisition and green infrastructure for flood control improvements, flood walls and berms.</p> | <input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | Active |

VULNERABLE AREA: Flood Prone Drainage Systems/Streets

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|---|--|--|---|
| <p>4. Improve stormwater drainage to reduce flooding on Mendon Road at Iron Rock Brook. Consider land acquisition and green infrastructure for flood control improvements, flood walls and berms.</p> | <p><input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness</p> | <p><input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3</p> | <p><input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low</p> <p>ACTION STATUS Active</p> |

VULNERABLE AREA: Flood Prone Drainage Systems/Streets

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|---|--|--|---|
| <p>5. Improve stormwater drainage to reduce flooding on Mendon Road at Theresa Brook. Consider land acquisition and green infrastructure for flood control improvements, flood walls and berms.</p> | <p><input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness</p> | <p><input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3</p> | <p><input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low</p> <p>ACTION STATUS Active</p> |

VULNERABLE AREA: Flood Prone Drainage Systems/Streets

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|--|--|---|
| <p>6. Improve stormwater drainage to reduce flooding on Cass Avenue at Theresa Brook. Consider land acquisition and green infrastructure for flood control improvements, flood walls and berms</p> | <p><input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness</p> | <p><input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3</p> | <p><input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low</p> <p>ACTION STATUS Active</p> |

VULNERABLE AREA: Flood Prone Drainage Systems/Streets

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|---|---|---|
| 7. Public education for drivers who drive through Truman Drive and Theresa Street Brook when they are flooded. | <input type="checkbox"/> Local Plans and Regulations <input type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input checked="" type="checkbox"/> Education and Awareness | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | New |

VULNERABLE AREA: Wastewater

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|----------------------------|---|--|---|
| 8. Emergency Response Plan | <input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness | <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | New |

VULNERABLE AREA: Utilities

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|---|---|---|
| 9. Investigate whether National Grid and Verizon have plans which mitigate flood damage. | <input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | New |

VULNERABLE AREA: Critical Facilities

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|---|--|---|
| 10. Public buildings spatial needs assessment. | <input type="checkbox"/> Local Plans and Regulations <input checked="" type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness | <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | New |

VULNERABLE AREA: Populations

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|---|--|---|
| 11. Create policy to have City minimum housing inspectors check shelters, public housing, and assisted living to make sure buildings are up to code. | <input checked="" type="checkbox"/> Local Plans and Regulations <input type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness | <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | New |

VULNERABLE AREA: Businesses

| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|---|--|---|
| 12. Distribute educational material to business owners to reduce injuries and damages during an event. | <input type="checkbox"/> Local Plans and Regulations <input type="checkbox"/> Structure and Infrastructure <input type="checkbox"/> Natural Systems Protection <input checked="" type="checkbox"/> Education and Awareness | <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 | <input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low |
| | | | ACTION STATUS |
| | | | New |

VULNERABLE AREA: Historic and Natural Resources

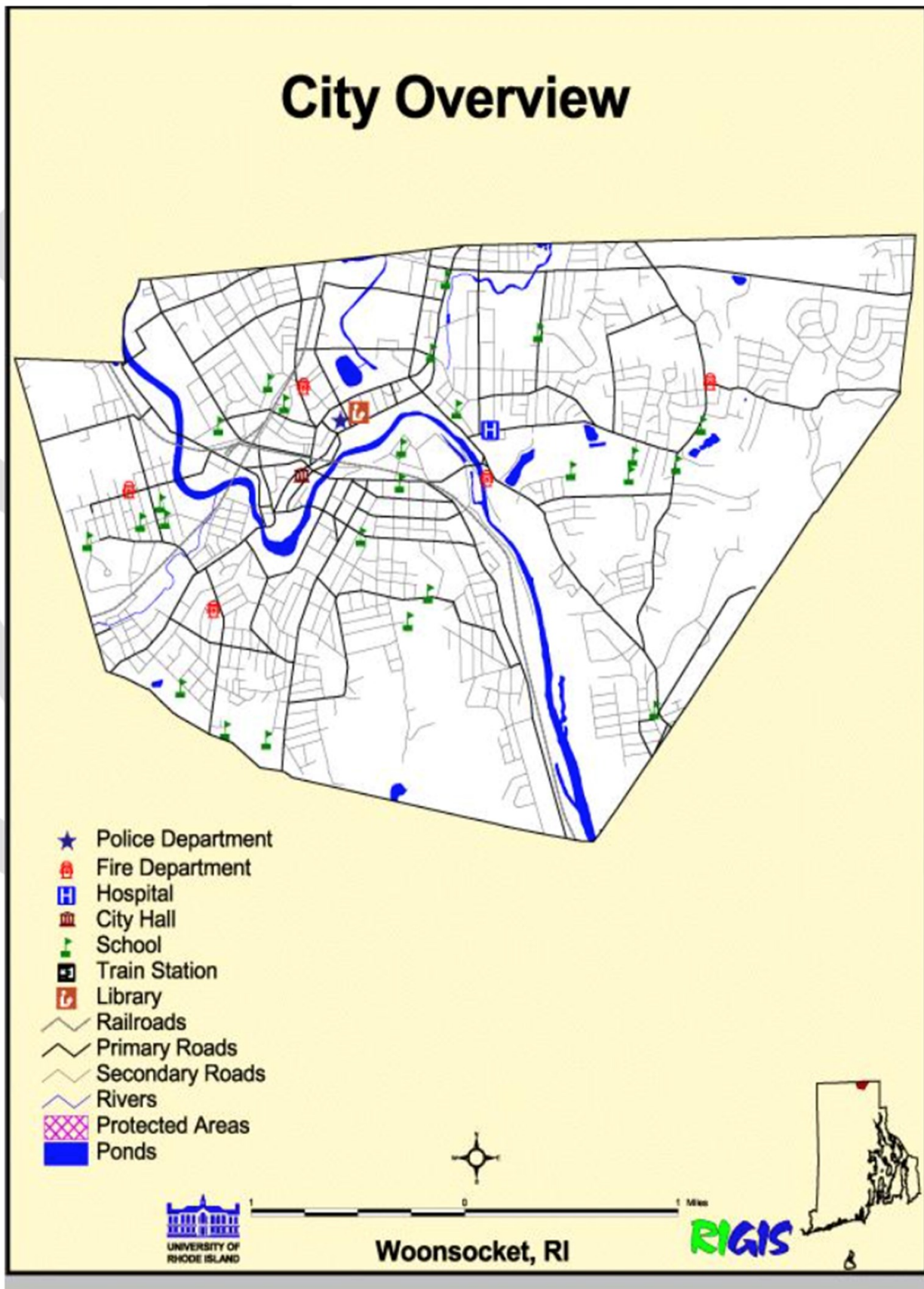
| MITIGATION ACTION | MITIGATION TYPE | ALIGNMENT WITH PLAN GOALS | ACTION PRIORITY |
|--|--|---|---|
| <p>13. Develop a plan to safely contain any known hazardous chemicals on site and demolish Dorado Processing Company at 719 River Street.</p> | <p> <input type="checkbox"/> Local Plans and Regulations <input type="checkbox"/> Structure and Infrastructure <input checked="" type="checkbox"/> Natural Systems Protection <input type="checkbox"/> Education and Awareness </p> | <p> <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 </p> | <p> <input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low </p> <p>ACTION STATUS</p> <p>New</p> |

Appendix B

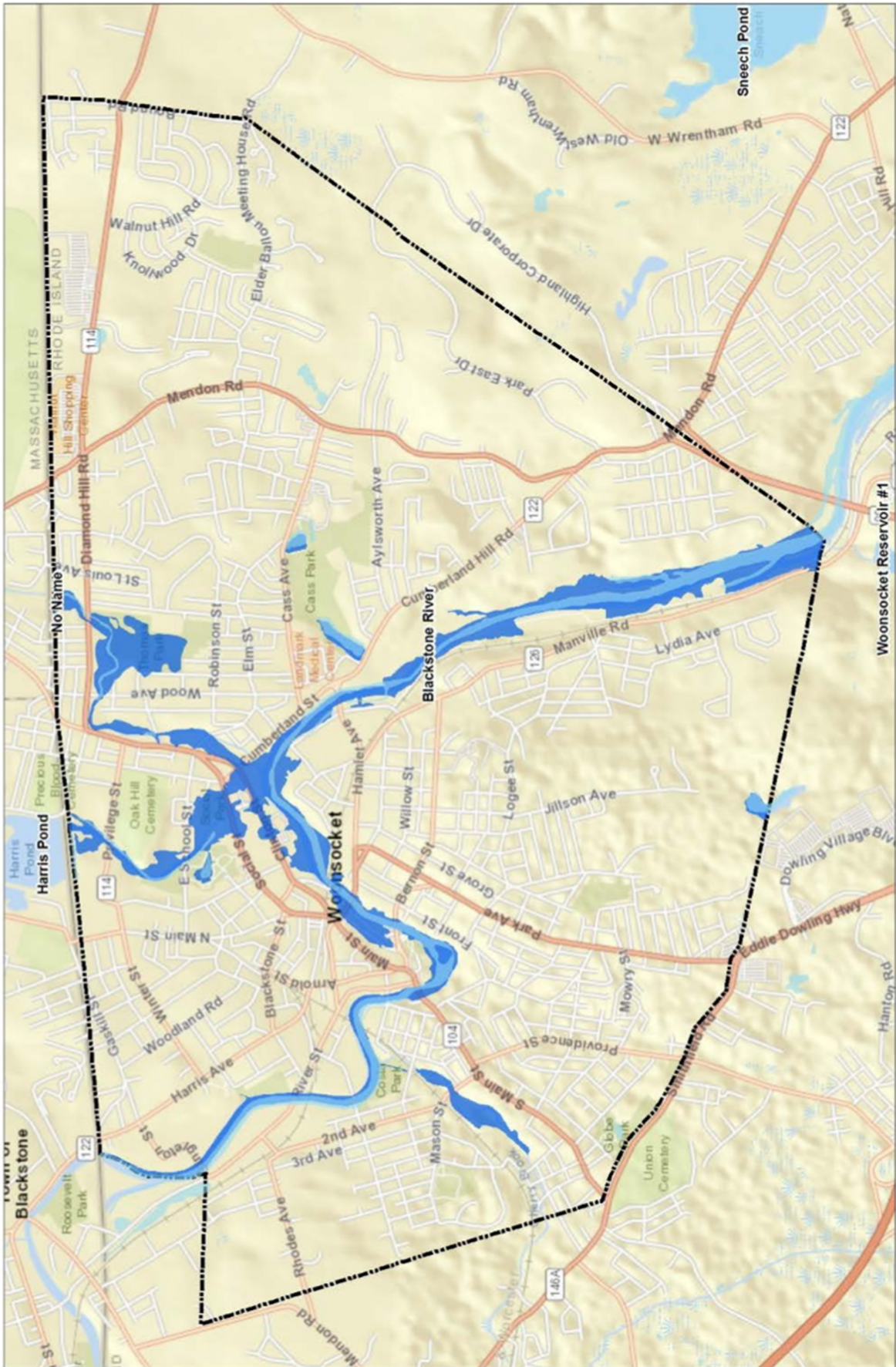
Woonsocket Map Resource Packet* Used During Workshop

***Gathered from Woonsocket's Hazard Mitigation Plan (2018) & Comprehensive Plan (2012)**

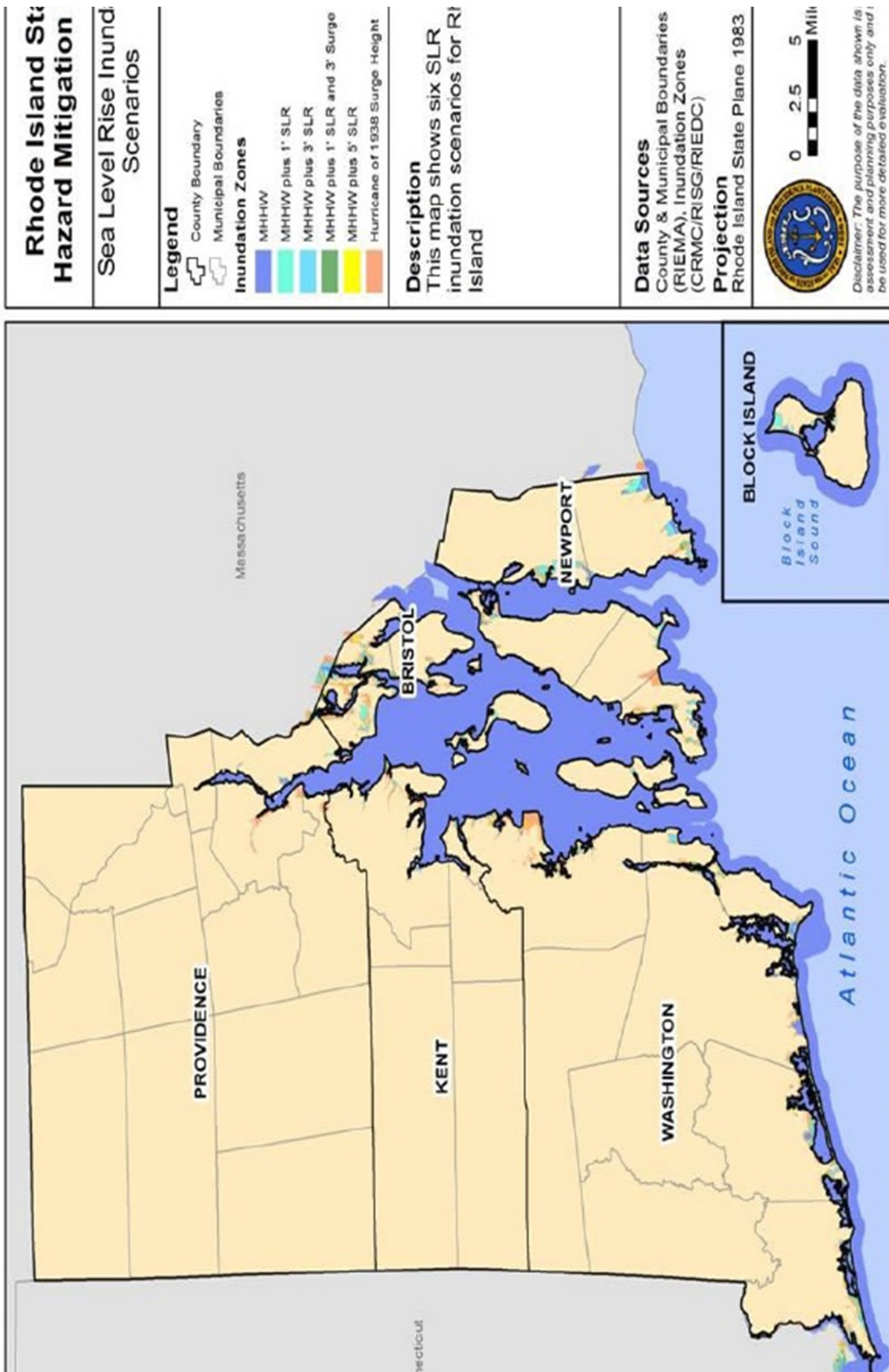
Map 1 Woonsocket, RI



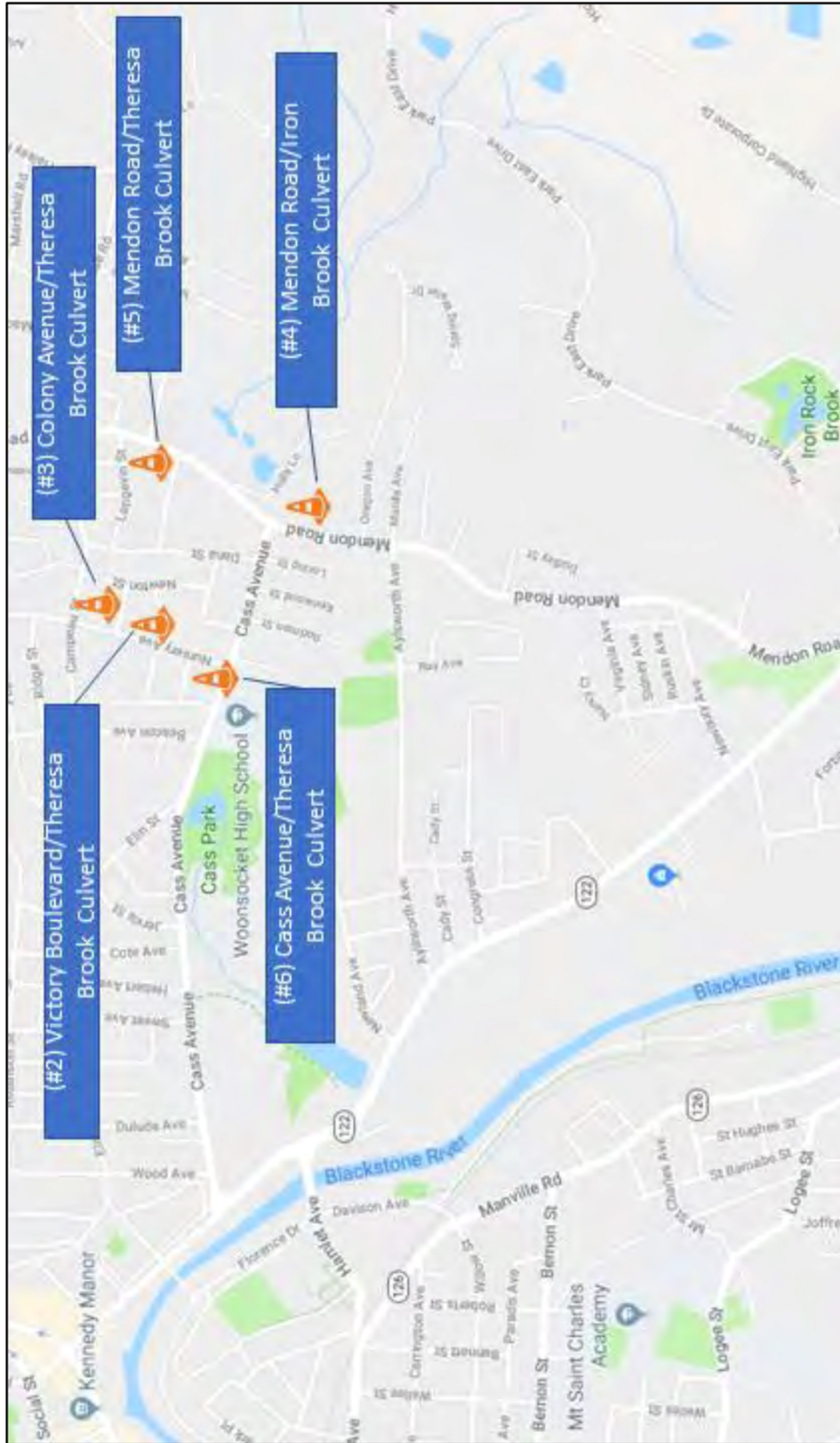
Map 2: Woonsocket Water Resources and Special Flood Hazard Area (SFHA)

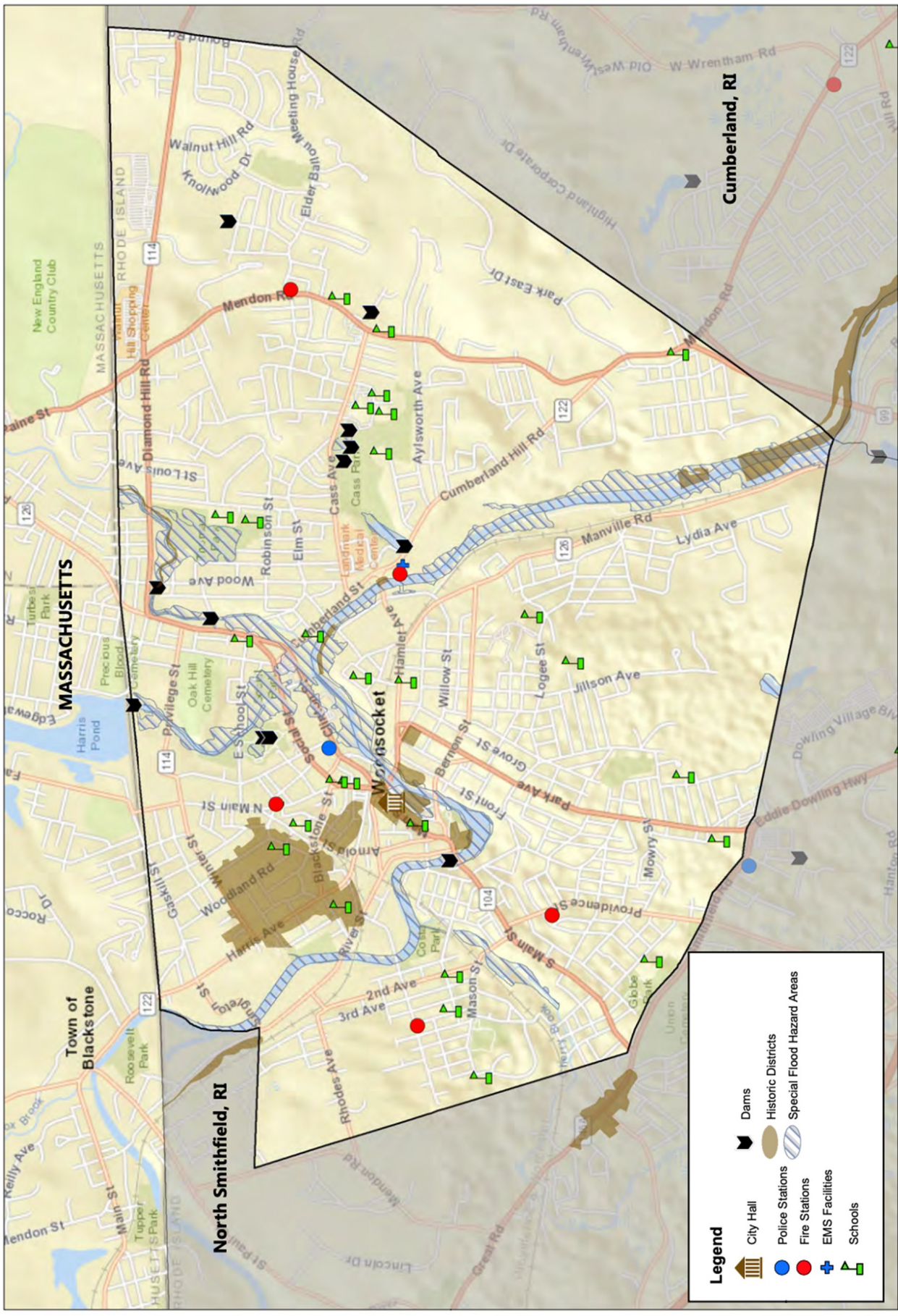


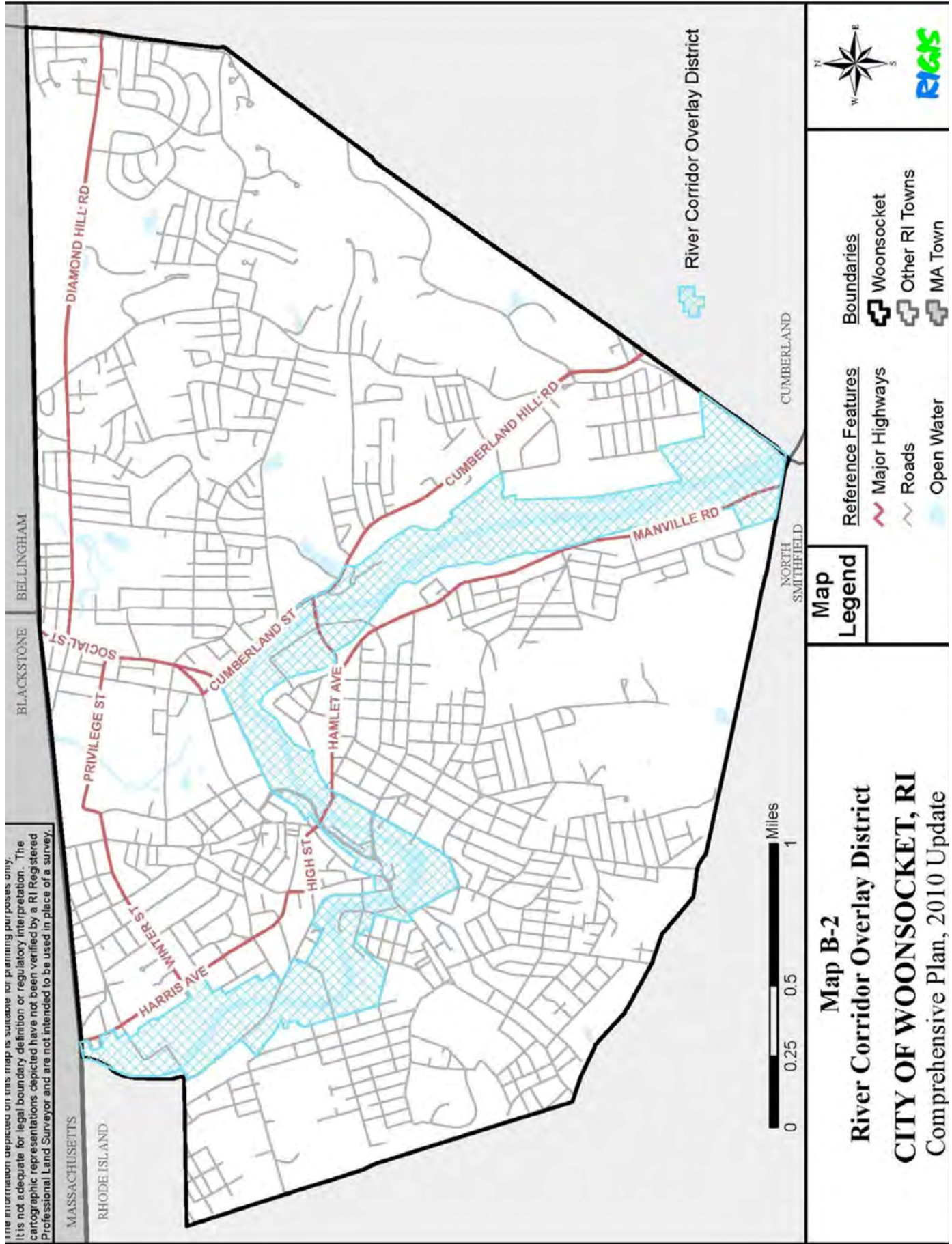
7 – Sea Level Rise Inundation Scenarios.

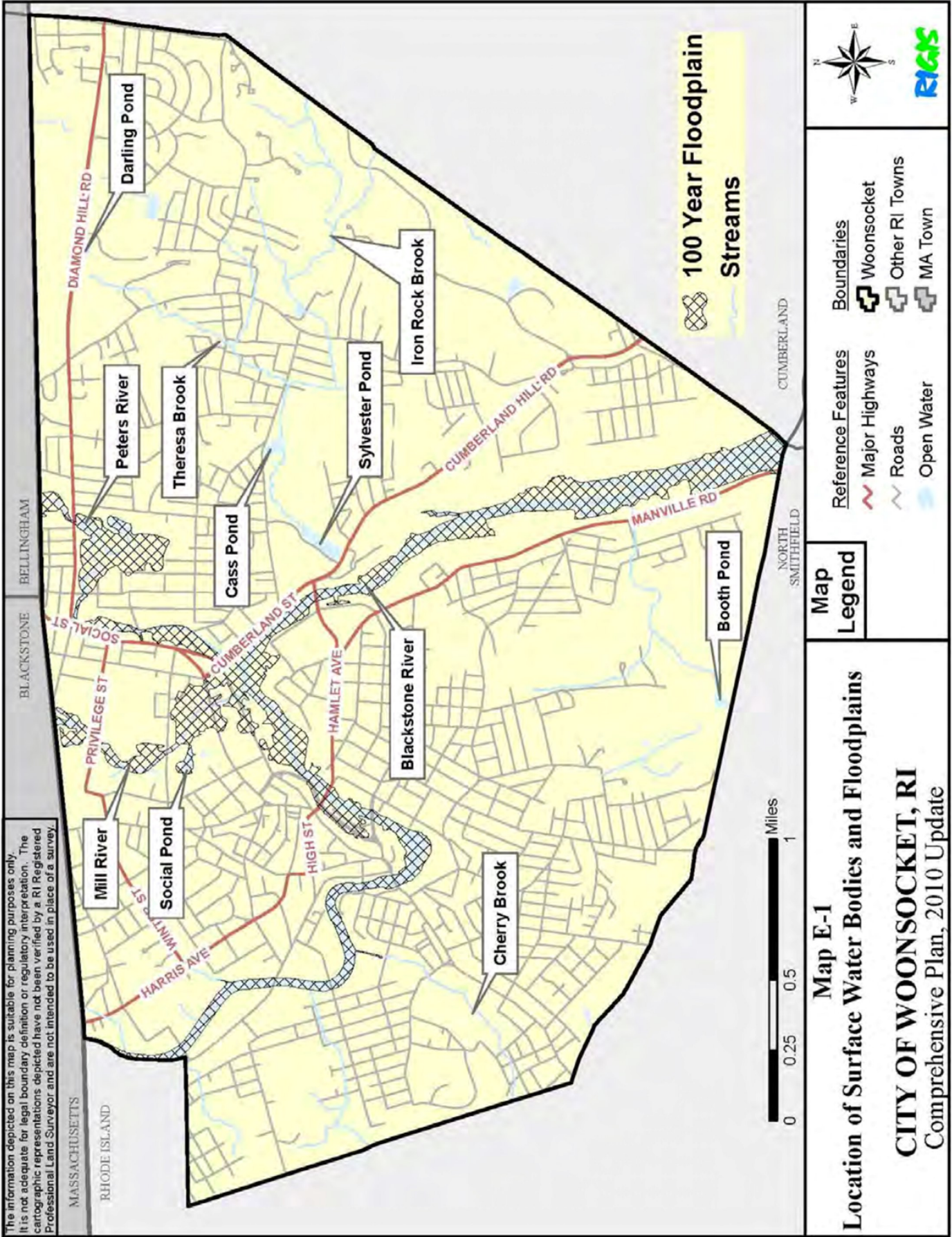


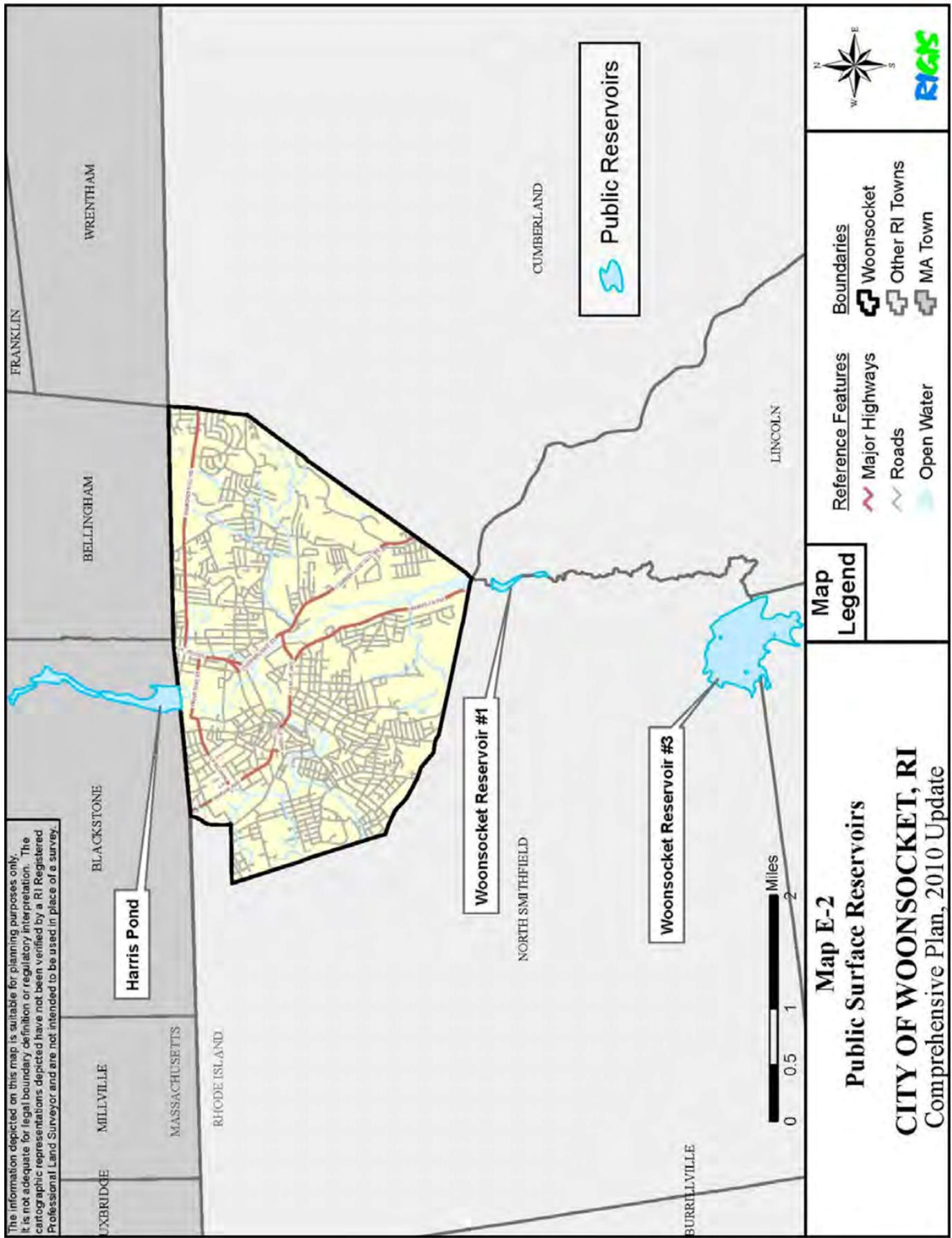
Map 4 Stormwater Projects

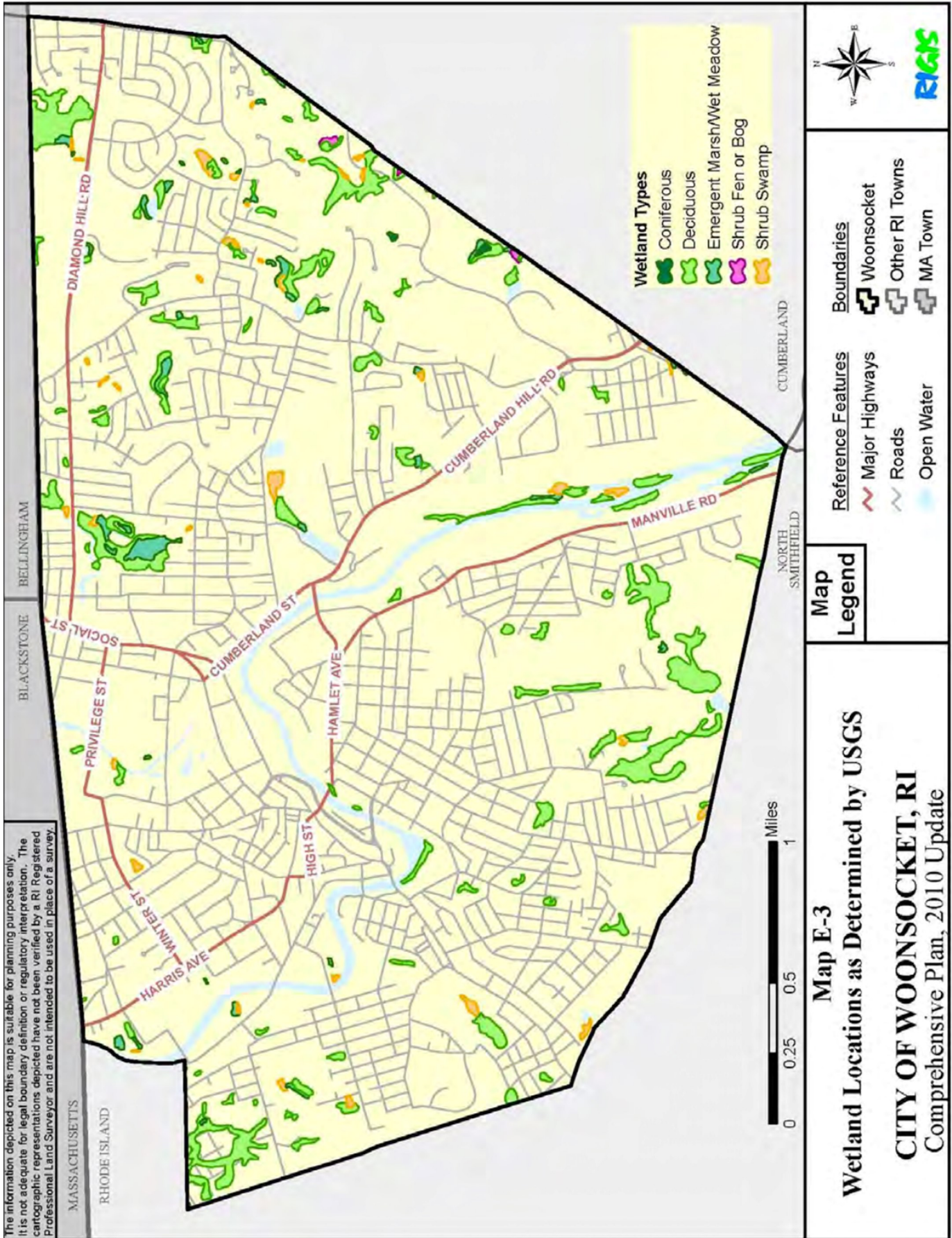


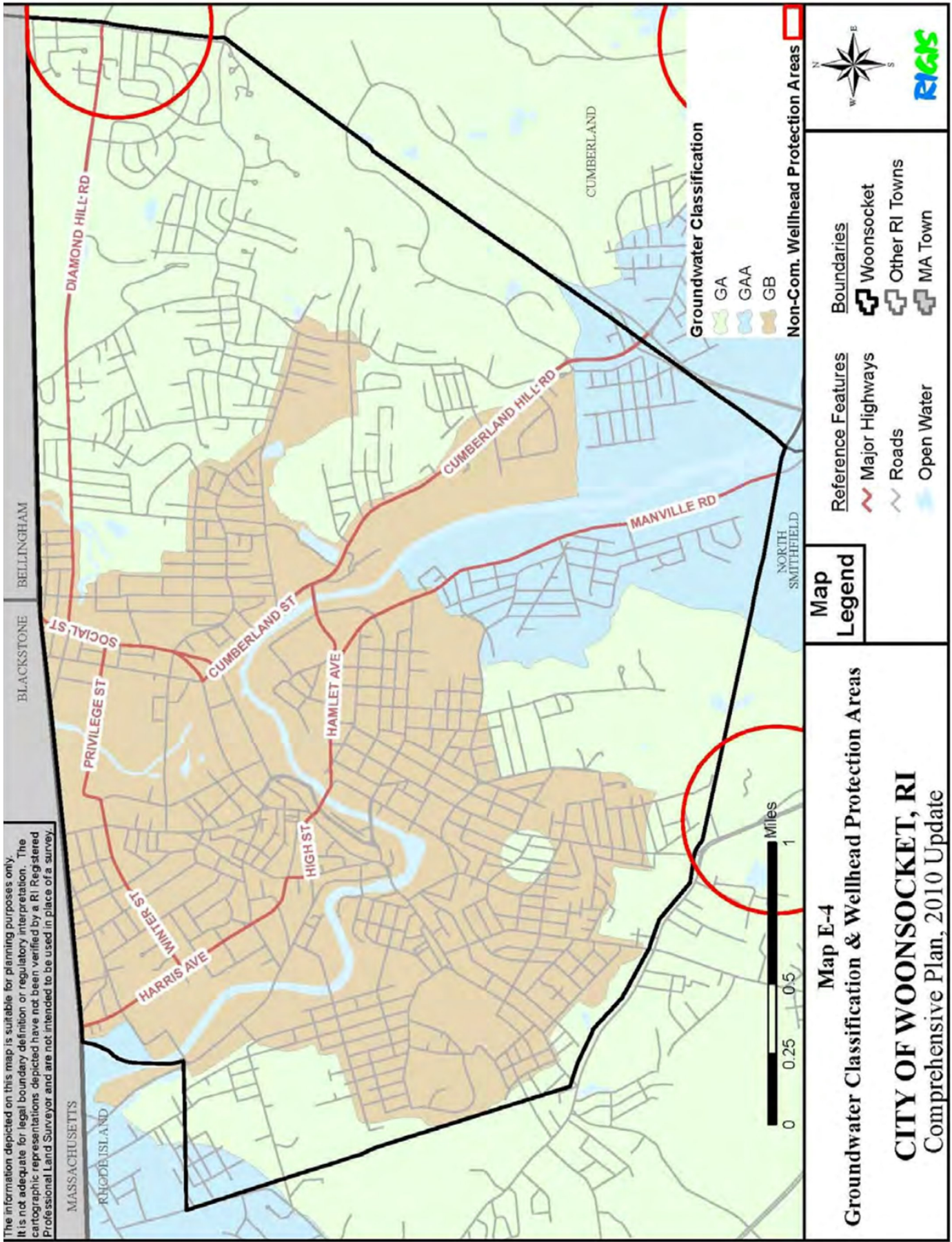


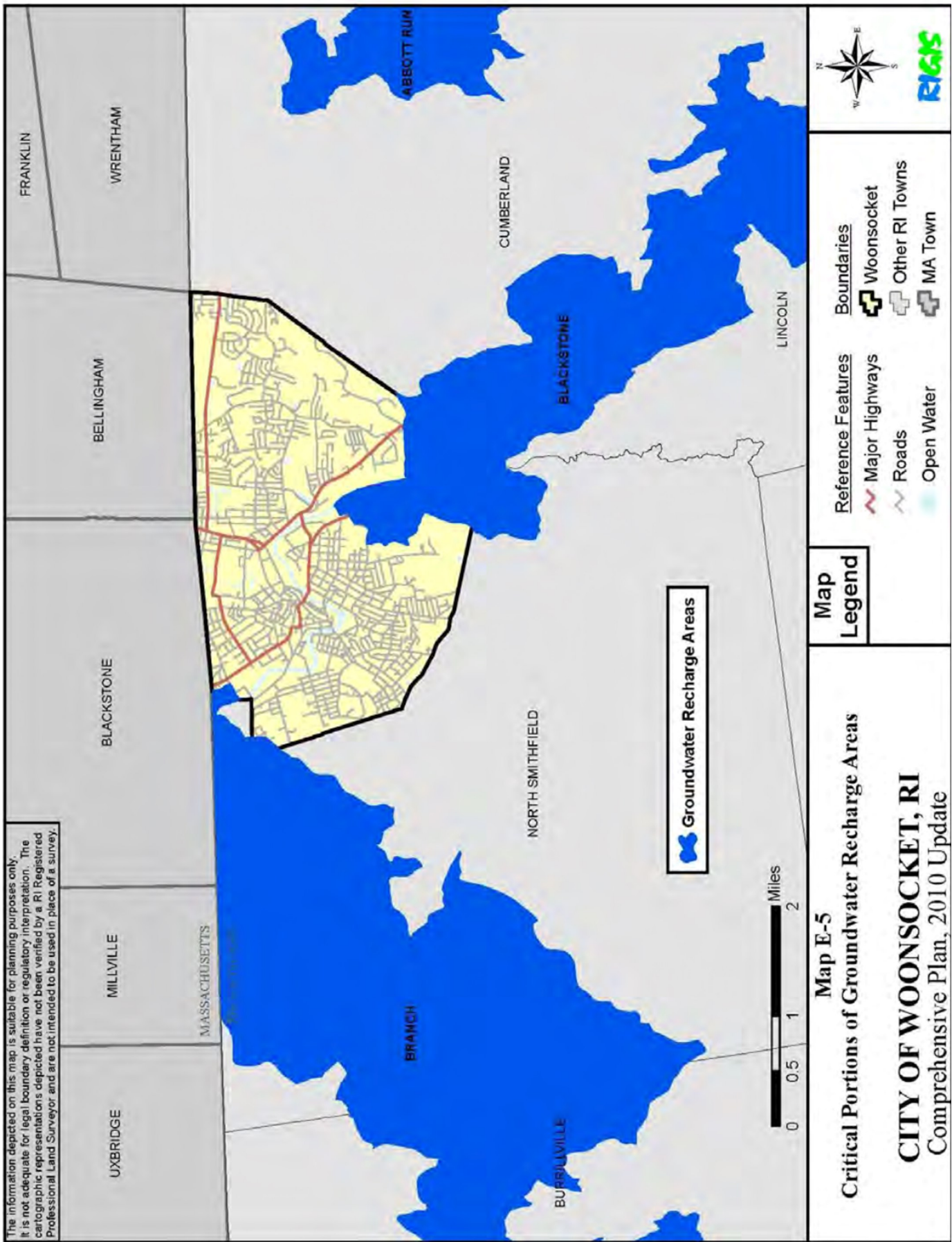


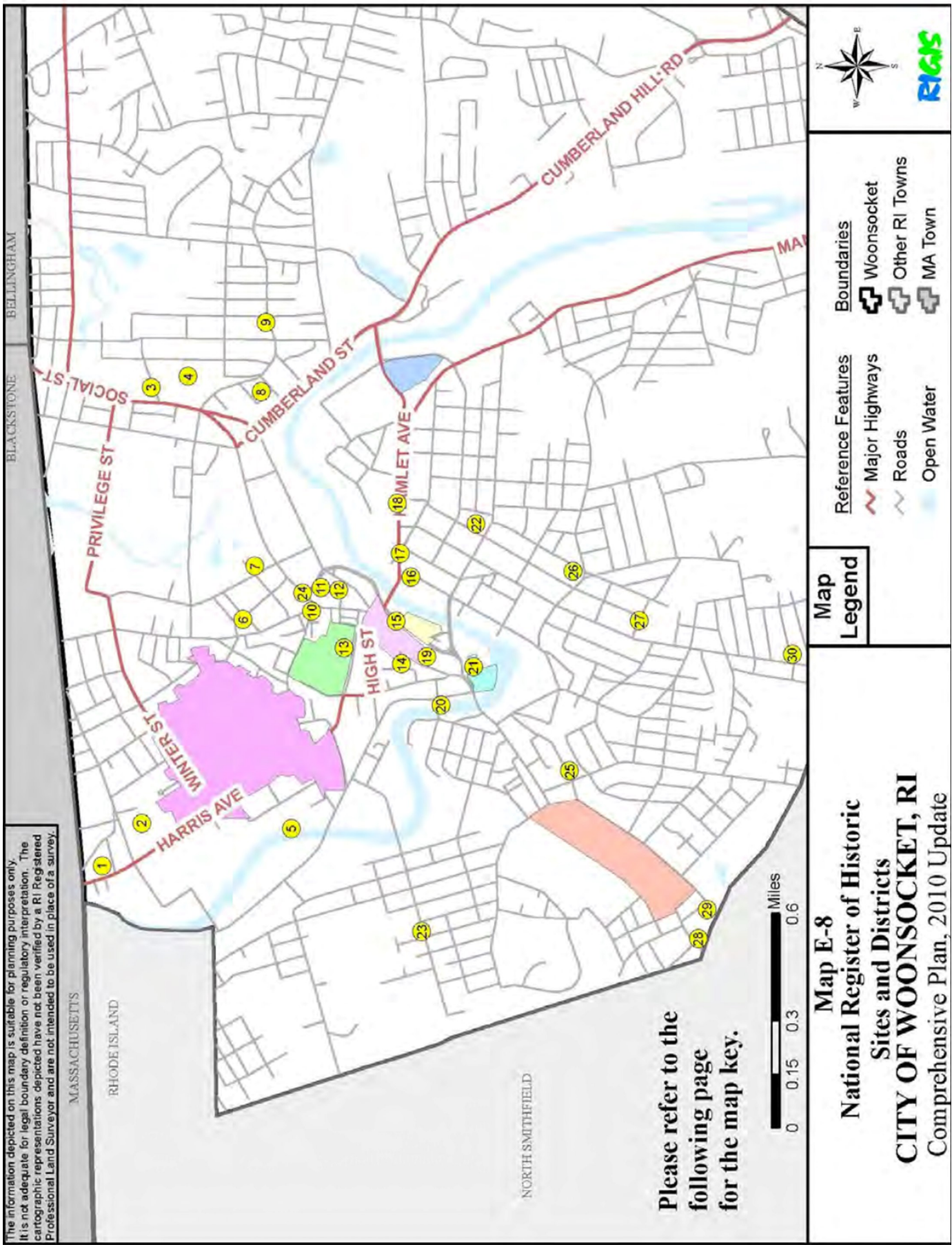


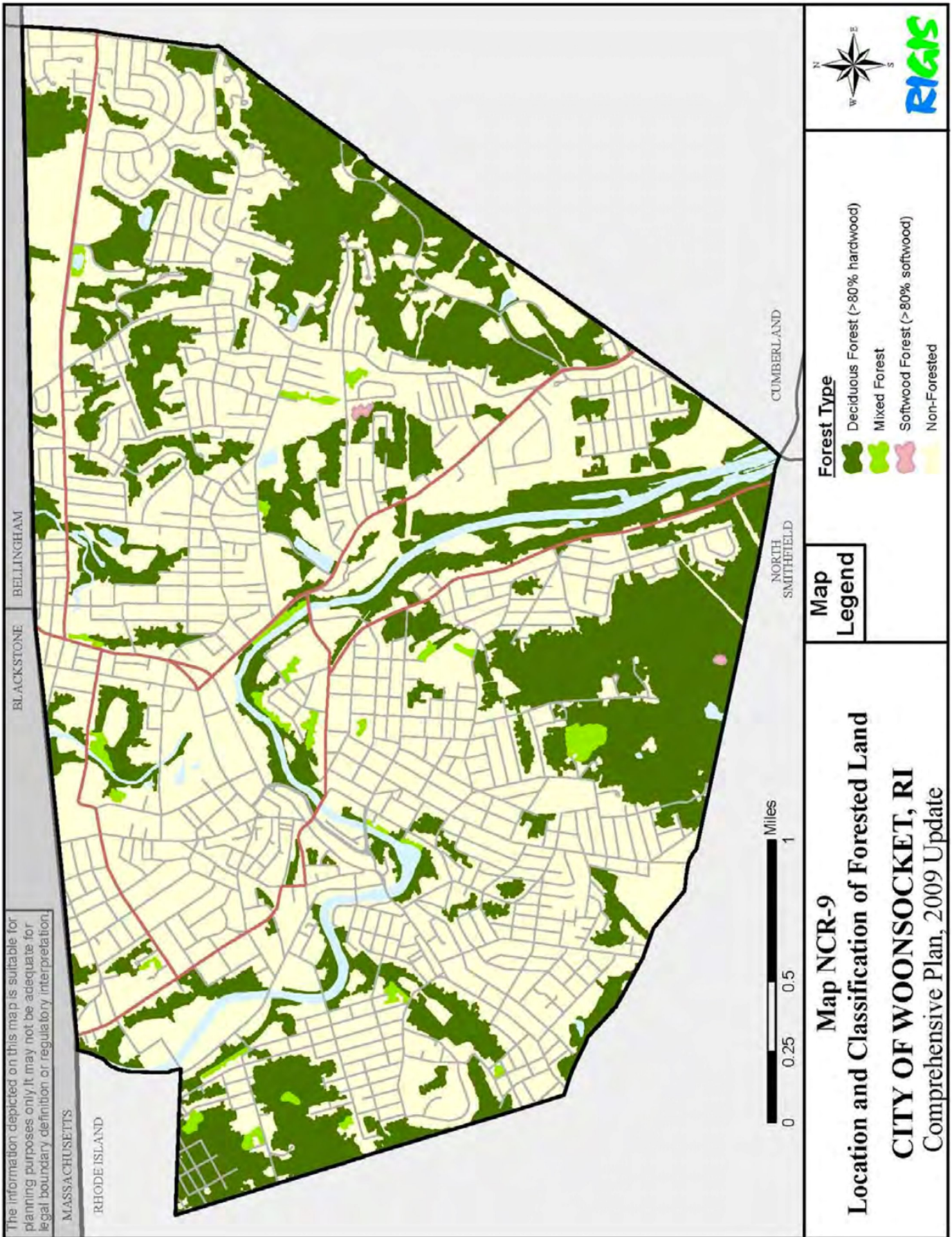


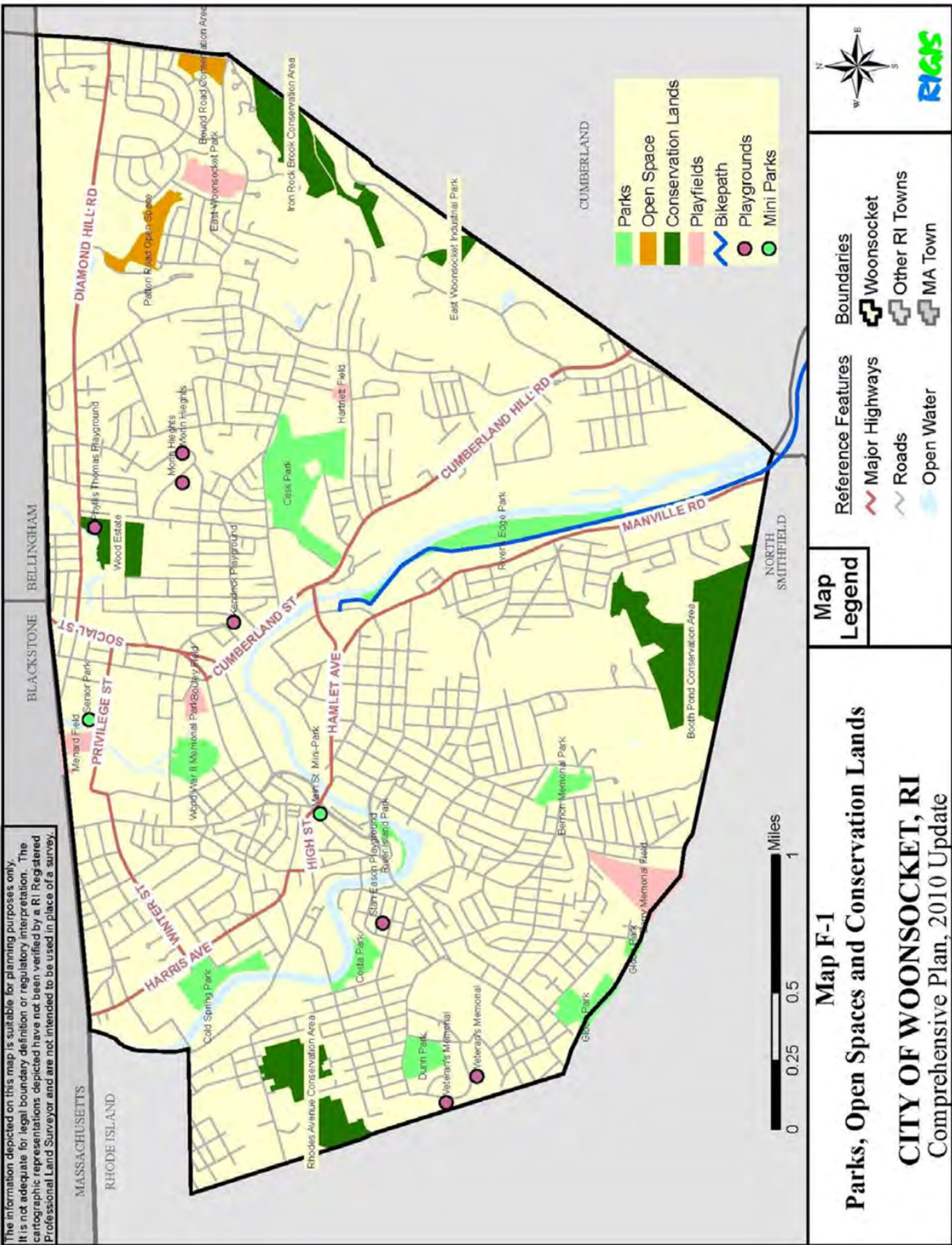




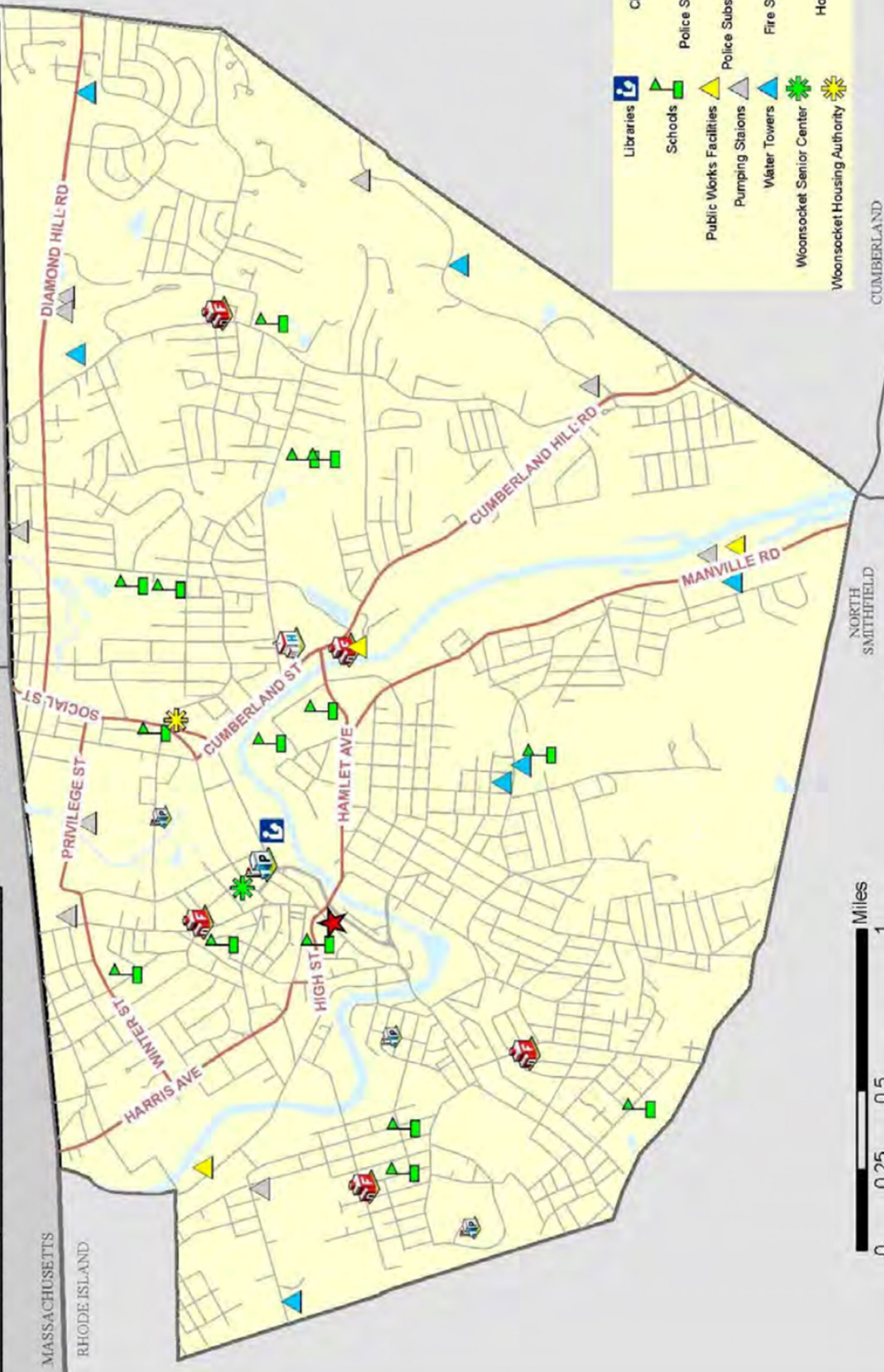








The information depicted on this map is suitable for planning purposes only. It is not adequate for legal boundary definition or regulatory interpretation. The cartographic representations depicted have not been verified by a RI Registered Professional Land Surveyor and are not intended to be used in place of a survey.



- City Hall
- Police Stations
- Police Substations
- Fire Stations
- Hospitals
- Libraries
- Schools
- Public Works Facilities
- Pumping Stations
- Water Towers
- Woonsocket Senior Center
- Woonsocket Housing Authority

Map G-1
Public Facilities
CITY OF WOONSOCKET, RI
 Comprehensive Plan, 2010 Update

Map Legend

- Reference Features**
- Major Highways
 - Roads
 - Open Water
- Boundaries**
- Woonsocket
 - Other RI Towns
 - MA Town



