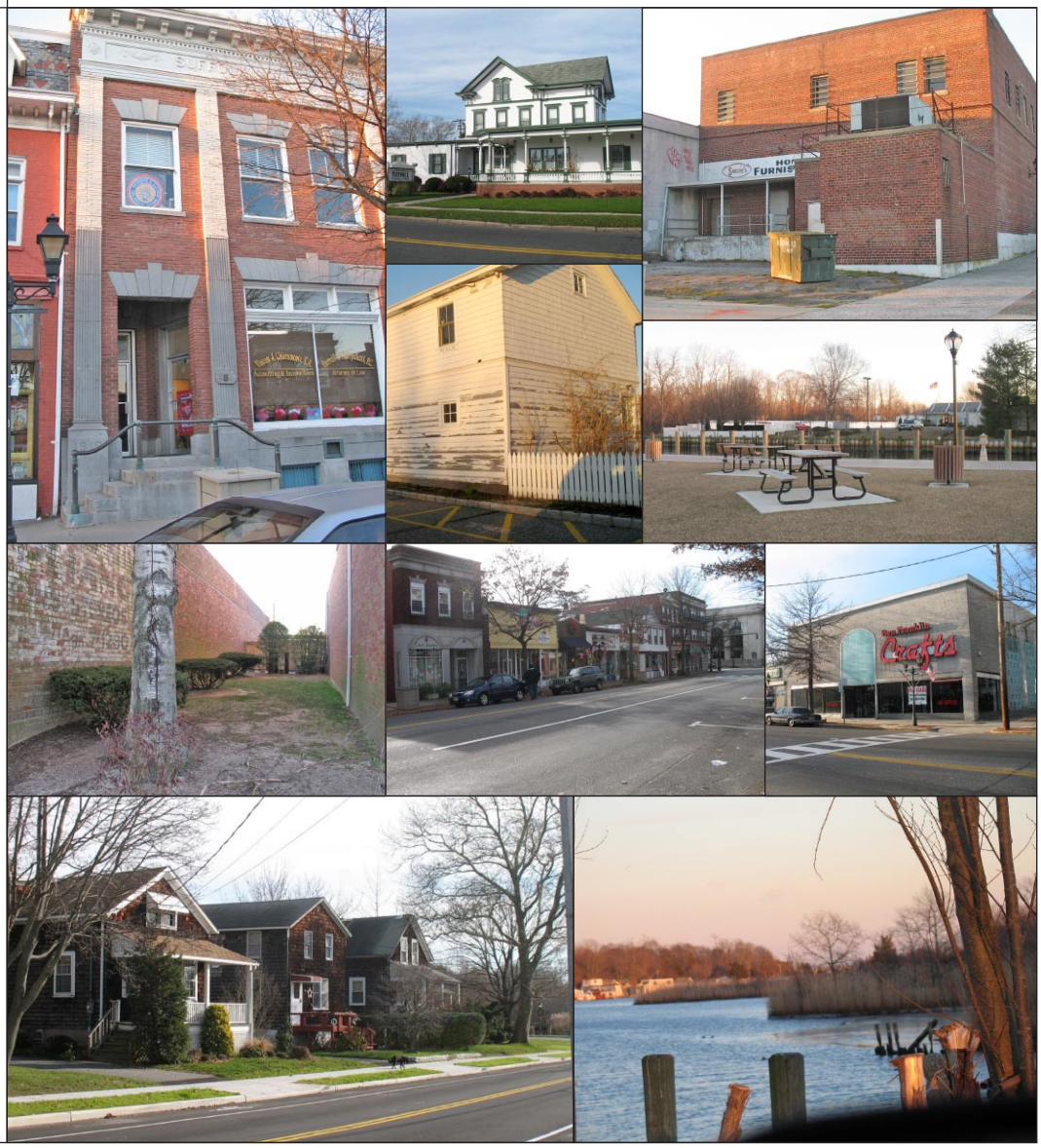
Town of Riverhead

East Main Street Urban Renewal Plan Update 2008

Draft Generic Environmental Impact Statement



Prepared by:
Town of Riverhead Community Development Agency
with assistance from
AKRF, Inc. and Dunn Engineering Associates

May 2008

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TOWN OF RIVERHEAD
EAST MAIN STREET URBAN RENEWAL PLAN UPDATE 2008
DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT

PROJECT LOCATION:

Town of Riverhead
Suffolk County, State of New York

LEAD AGENCY AND CONTACT:

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DATE OF ACCEPTANCE BY LEAD AGENCY:

_____

AVAILABILITY OF DOCUMENTS:

This document is a complete Draft Generic Environmental Impact Statement (DGEIS). Copies are available for public review and comment at the offices of the Riverhead Town Clerk, on the Town's website at http://www.riverheadli.com, and at the Riverhead Free Library. Comments on the DGEIS are requested and can be given at a public hearing at a date to be determined by the lead agency. There will also be a period for submitting written comments.

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A. INTRODUCTION

This Draft Generic Environmental Impact Statement (DGEIS) was written on behalf of the Town of Riverhead, pursuant to the State Environmental Quality Review Act (SEQRA) and its implementing procedures (6 NYCRR Part 617 State Environmental Quality Review), to assess the potential effects of the *East Main Street Urban Renewal Plan 2008 Update* (hereinafter referred to as the "2008 Update" or "proposed action"). The Town of Riverhead, as part of the ongoing effort to revitalize downtown Riverhead, has updated the *Town of Riverhead East Main Street Urban Renewal Plan of 1993* (hereinafter referred to as the "1993 Plan"). The geographical focus of this DGEIS and the 2008 Update is the East Main Street Urban Renewal Area (EMSURA). As shown in Figure S-1, the EMSURA is regionally located in eastern Suffolk County along the Peconic River. Specifically, the EMSURA is bounded by East Second Street to the north, the Peconic River to the south, just east of the Peconic River Yacht Basin, and Peconic and Roanoke Avenues to the west, as shown in Figures S-2 and S-3. The Lead Agency overseeing preparation of this DGEIS is the Town of Riverhead Community Development Agency (CDA). The CDA serves as the Town's urban renewal agency and is responsible for most actions taken within the EMSURA.

This DGEIS covers all items that are presented in the Public Scope, adopted on November 21, 2006, following a Scoping Hearing and public comment period. The Scoping Hearing was held on October 25, 2006 and was followed by a 10-day comment period. The purpose of scoping is to ensure that the DGEIS is a concise, accurate, and comprehensive document that covers all concerns and issues for public and agency review in an appropriate method and level of detail.

The purpose of this DGEIS is to evaluate the cumulative, and to the extent practicable, site-specific environmental impacts of land use recommendations proposed in the 2008 Update. The potential impacts are assessed for three development periods: the short term (2007-2012), interim (2012-2017), and long term (2017-2022). The time periods identified for the three development phases are only approximations that provided a conceptual structure for identifying the scope and potential impacts of three development levels. Whether or not SEQRA requirements of a proposed project within the EMSURA are fulfilled by the final GEIS depend on: 1) in which development phase the project occurs, determined solely by whether the potential site-specific and cumulative impacts of that project are less than or exceed the maximum impacts evaluated in the GEIS for the short-term and interim development periods; and 2) whether the necessary mitigation measures identified in the GEIS for each development level have been implemented or will be implemented as a condition of the approval of the proposed project. The year in which an actual project is proposed would not be a relevant factor in determining whether the otherwise-required SEQRA review for the proposed project has already been undertaken by the GEIS. Potential impacts are measured against existing conditions in 2007.

This DGEIS addresses a range of physical, natural, social, economic, fiscal, and regulatory issues including community character; traffic and parking; construction; soils, geology, and water resources; infrastructure; zoning; population and housing; and community facilities. In addition, this DGEIS presents and evaluates alternative land use plans, and proposes potential mitigation measures for any identified potential significant adverse impacts. In accordance with SEQRA and its implementing regulations, public participation is ongoing through the environmental review process.

As part of the analysis of potential impacts resulting from the 2008 Update, the DGEIS will evaluate the EMSURA's ability to accommodate presently planned projects, for which applications have been submitted and are either pending or approved. This DGEIS provides important environmental documentation that will serve as the basis for public policy decision-making for downtown Riverhead. The intent of this approach is to streamline the decision-making process for current and future applications, and ensure that a comprehensive planning approach is implemented for future development within the EMSURA.

Adoption of the 2008 Update, however, would not constitute an approval of any of the individual development projects included in the scope of the GEIS review. Each of those development projects, if pursued by the respective applicants, would be the subject of separate reviews and decisions by the appropriate boards and agencies of the Town.

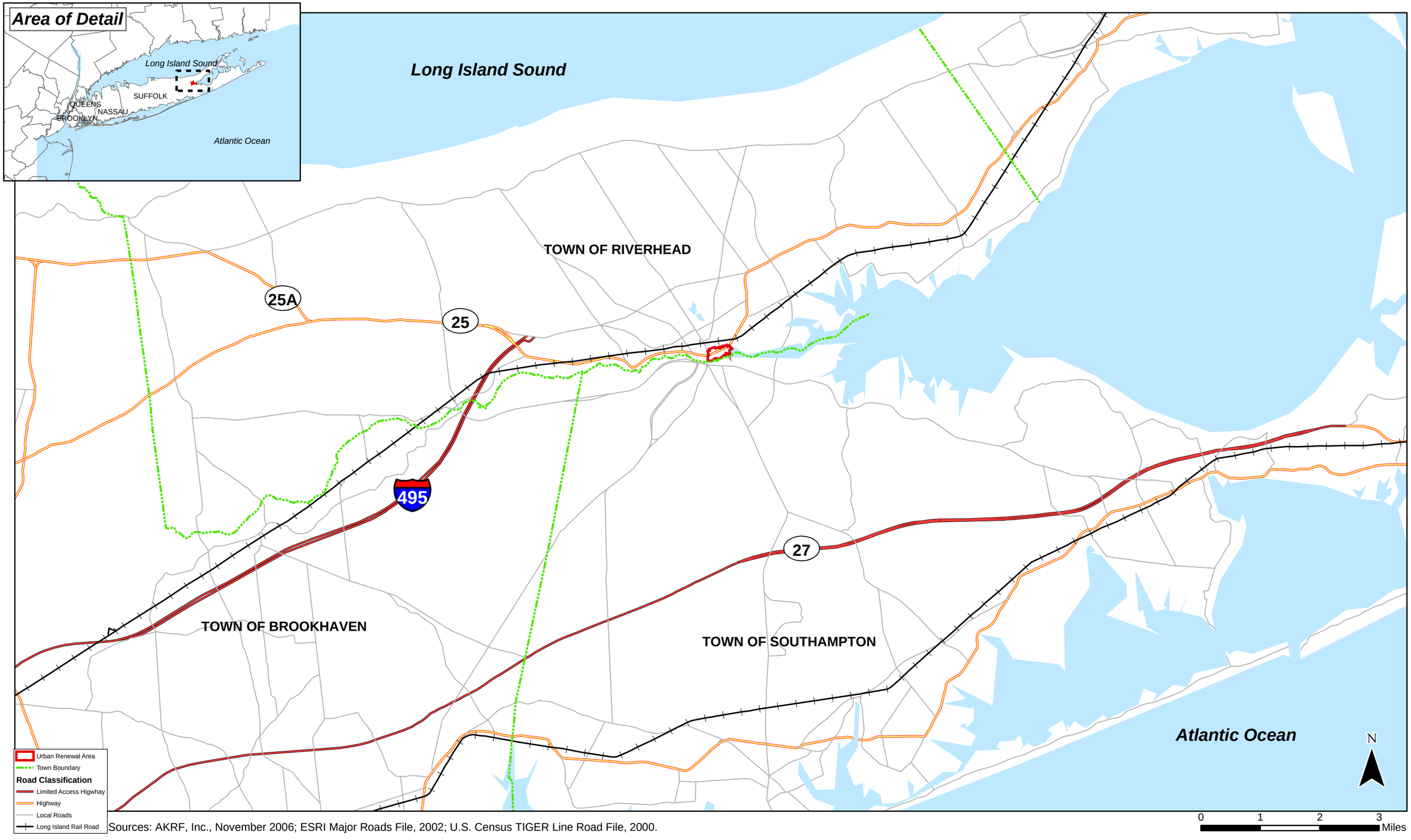
In accordance with 6 NYCRR Part 617.10(d), "Generic Environmental Impacts," when a final GEIS has been accepted, individual EMSURA project applications or other SEQRA-triggering "actions" will be treated in one of four ways:

1. No further SEQRA compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the GEIS or its findings statement;
2. An amended findings statement must be prepared if the subsequent proposed action was adequately addressed in the GEIS, but was not addressed or was not adequately addressed in the findings statement for the GEIS;
3. A negative declaration must be prepared if a subsequent proposed action was not addressed or was not adequately addressed in the GEIS and the subsequent action will not result in any significant environmental impacts; or
4. A supplement to the final GEIS must be prepared if the subsequent proposed action was not addressed or was not adequately addressed in the GEIS and the subsequent action may have one or more significant adverse environmental impacts.

B. PURPOSE AND NEED

The 2008 Update is part of a long history of efforts by the Town and community to address blight and improve the overall condition of the downtown area. The 2008 Update serves to mitigate adverse effects on the EMSURA that have resulted from changes in land use trends in the region. These trends include the increasing development pressure brought on by commercial developers for parcels along County Road (CR) 58; the development of large regional malls combined with the overall growth in suburban population; the relocation of several county offices; and the persistence of substandard lots inadequate in size to accommodate modern, retail structures.

Riverhead's entire downtown area is situated along West Main Street and East Main Street, adjacent to and north of the Peconic River. Riverhead's downtown area is characterized by



Sources: AKRF, Inc., November 2006; ESRI Major Roads File, 2002; U.S. Census TIGER Line Road File, 2000.

Town of Riverhead Generic Environmental Impact Statement

Figure S-1
Regional Site Location

Figure S-2
EMSURA Boundary

Figure S-3
Aerial

commercial, mostly retail, uses situated close to the street on parcels that are a fraction of the size of those that house larger retail uses often found in major commercial corridors, known as "big box" uses. According to the *Town of Riverhead Comprehensive Master Plan of 1973* (herein referred to as the "1973 Comprehensive Plan"), the "smaller parcels" found in the Riverhead Business Center, or downtown, "made it impossible to establish modern shopping center development standards."[1] The downtown's inability to house modern "big box" retail uses was to its detriment. As a result, downtown Riverhead experienced an overall decline in patrons, visitors, and eventually commercial tenants resulting in high vacancy rates and blight.

Riverhead hamlet has been long identified as the home of the Suffolk County courthouse and other County offices. Although some of those offices have been relocated for almost a decade,[2] the impact of the relocation is still felt by the commercial downtown.

The loss of patronage and decline of economic activity caused the EMSURA to become increasingly plagued with blight and dilapidated structures, resulting in widespread concern for the safety and economic viability of the area. Although improvements to the area have occurred in the last several years, the area is in need of continued revitalization consistent with the recommendations made in the 2008 Update.

C. DESCRIPTION OF THE PROPOSED ACTION

GOALS AND OBJECTIVES

The 2008 Update is consistent with the goals and objectives of the 1993 Plan, which included elimination of blight; encouragement of development; improvement of substandard properties, marginal land uses, and public facilities; promotion of tourist- and river-related development; enhancement of cultural resources; and encouragement of private and public funding. The 2008 Update also summarizes the growth and overall evolution of the EMSURA as a focus of public policy since 1993. In addition, the 2008 Update provides several land use recommendations that consider the current and future needs and trends of the EMSURA and the Town, and methods to implement those recommendations.

RECOMMENDATIONS

The 2008 Update presents a "Statement of Proposed Land Uses," which includes recommendations intended to improve the conditions of blight and deterioration in the EMSURA.

The following are the recommendations as stated in the 2008 Update:

1. Fill and redevelop existing vacancies with uses permitted under current zoning regulations. As applications for a building permit, alteration permit, or certificate of occupancy for a structure or use are submitted, the CDA should ensure that the reuses are appropriate (e.g., uses near the waterfront should incorporate the scenic value and public space of the Peconic River and associated waterfront park as part of their overall design and use). Additionally, interaction between uses should encourage pedestrian walkability and promote shared public

[1] Town of Riverhead, *Town of Riverhead Comprehensive Master Plan 1973*, p. 24

[2] Newsday, *Hometown Long Island - Town of Riverhead*, (Newsday, Inc., 1999) p. 125

spaces. Buildings identified as vacant in this report should be given priority for all redevelopment projects.

2. Deteriorated and vacant structures that pose a risk to public safety and welfare and impede economic viability should be considered for public and/or private acquisition and redevelopment. Redevelopment of these properties should be in conformance with zoning regulations and be considered for the highest and best use. Buildings identified as deteriorated in this report should be given priority for redevelopment projects.
3. Redevelop and rehabilitate dilapidated buildings using contemporary and environmentally friendly design in conformance with the *Code of the Town of Riverhead*, Chapter 73, "Landmarks Preservation," which gives the Town's Landmark Preservation Commission the authority to oversee and provide input on alterations, demolition, construction, repairs, or relocation of structures within a historic district.
4. Preserve and maintain buildings, sites, and structures of historical, cultural, or architectural interest. Zoning regulations should reduce permitted heights where appropriate to minimize conflicts between adjacent development and historic structures and other significant buildings. Proposed uses near historic structures should consider the cultural value of those buildings and uses.
5. The CDA and Town should review those structures that currently do not have a landmark designation but possess historic significance for potential inclusion into the Town's list of official designated landmarks.
6. Strengthen the tax base while promoting the integration of commercial and residential uses through development of multifamily residential units with ground floor commercial uses, providing a mix of uses that tie the residential and cultural components of the EMSURA and encourage meeting and gathering places to accommodate tourists and residents.
7. Provide multifamily residential developments that accommodate a mix of incomes. This could be accomplished through an incentive zoning program for affordable housing within multifamily developments.
8. Encourage personal service uses related to tourists and residents.
9. Support applications for commercial and recreation uses that are more directly related to the waterfront and incorporate site layout requirements, including minimum setback requirements from the waterfront so that public access is not inhibited.
10. Promote additional open space and community facilities for tourists and local residents. Public spaces should be strategically placed throughout the EMSURA to encourage pedestrian access, tourism, and improved scenic vistas. Additionally, within the western portion of the EMSURA, south of East Main Street across from Benjamin Street, the Town should encourage land or access easements that accommodate open areas allowing pedestrian access to the waterfront ensuring connectivity between East Main Street and the Peconic River.
11. Maintenance and enlargement of public space along the river corridor, south of East Main Street by reducing land dedicated to parking, should be considered a high priority; and the Town should seek public/private partnerships to make improvements and maintain viewsheds. Further, development other than public open space should be discouraged within this area to eliminate a conflict of use.
12. Encourage more scenic vistas along the Peconic River corridor within the Downtown Center-2 (DC-2) zoning district. Development in this area should be limited to and reserved for public uses, including pedestrian-oriented parks, courtyards, and strategic parking areas.

All uses in this area should have streetlights and signs and demonstrate a positive aesthetic quality.

13. Although current zoning permits a building height of no more than 60 feet or five stories, future development should consider the character of existing structures in conformance with existing heights on a block by block basis. Specifically, the buildings located on the east side of McDermott Avenue do no exceed two stories while buildings west of McDermott Avenue reach three stories in height. Future development should consider these existing building heights. Waterfront vistas or views from buildings on the north side of East Main Street should also be maintained and, where possible, enhanced by ensuring that building heights on the south side are restricted and do not block access or prohibit these views.
14. Provide outside courtyards at the rear entrance of buildings along East Main Street and allow outside merchandise displays within these courtyards. This dual-entrance design would connect commercial and retail uses to the waterfront and parking areas, encouraging better designs.
15. Ensure new development provides connectivity between the eastern and western portions of the EMSURA via walkways, building layouts, and greenways.
16. Encourage maritime uses, including retail, restaurants, boat and canoe rentals, and commercial use of the Peconic River in the portion of the EMSURA west of Atlantis Marine World Aquarium. This block could also include workforce housing for employees of maritime trade and a museum dedicated to the history of the waterfront.
17. Minimize the occurrence of alleyways and hidden spaces that pose a risk to public safety (e.g., alleyways could be reused as pedestrian access points to the waterfront). The Town should ensure that design standards address line-of-sight issues and encourage building clarity that identifies pedestrian access points by incorporating the use of lighting and signage that better identifies these spaces.
18. Improve the overall safety of the area by enhancing the design, layout, and lighting of alleys, streets, and parking areas as well as providing safe road crossings.
19. Implement beautification projects that address façade, landscape, and streetscape improvements as well as encourage an aesthetically pleasing and functional transition between public spaces and parking areas.
20. Establish additional parking areas within the eastern end of the EMSURA where a tourist information center, public amenities, and police substation could be developed.
21. All uses and development in the EMSURA should incorporate designs that consider pedestrian use and safety. Give priority to uses that create minimal conflicts between pedestrians and vehicles by creating a pedestrian-oriented street design, including roadway markings and signage, and provide pedestrian spaces, including benches and safe walkways.
22. Adopt and incorporate building design guidelines that reflect unity and cohesion within the EMSURA and maintain the intended integrity of the downtown atmosphere. Standards would include signage, streetscape, and landscape regulations and should provide increased corner lot setbacks to increase vehicular visibility and eliminate and/or reduce gaps in building facades to reduce commercial inactivity.
23. Due to the important nature of encouraging redevelopment activities within the EMSURA, the Town should ensure that applications are responded to in a timely fashion and handled in such a way that avoids unnecessary delays. Specifically, applications that require more than one agency or commission involvement should be coordinated in advance. Advisory commissions and agencies (e.g., the Landmarks Commission) should accommodate and

encourage pre-submission meetings prior to, or simultaneously with, building department application submissions.

24. Promote sustainable development in the downtown area to redevelop existing structures while conserving resources. Buildings should be constructed to provide a long life span and a flexible design to accommodate future uses. Multifamily residential developments of four units or less must be consistent with federal Energy Star standards. Further, green building designs should be promoted in conformance with the Leadership in Energy and Environmental Design standards.

INFRASTRUCTURE

25. Continue the program to test public wells' water supply and construct production wells to meet additional demand.
26. Increase connection fees to mitigate costs associated with supplying additional capacity.
27. Encourage or mandate water conservation throughout the water district.
28. In the event of development on the East First Street right-of-way, the existing 6-inch water main and existing 8-inch sewer line must be relocated.
29. Investigate existing flows and capacities of the sanitary sewer piping within the EMSURA and of the DeFriest Pump Station to determine whether any upgrades are necessary to handle anticipated additional flows. This effort should consist of the preparation of a map and plan.
30. Monitor actual treatment plant flows and compare to projected flows to determine the need for a State Pollution Discharge Elimination System (SPDES) permit modification. Consider restricting sanitary flow from Suffolk County facilities outside the district's boundaries to reduce the current flow.
31. Conduct a thorough inventory to determine whether/where roof drains are connected to the sewer system, and require property owners to provide alternative means for handling flows from roof drains.
32. Consider options for improving effluent quality in anticipation of potential nitrogen Total Maximum Daily Load (TMDL) limits imposed as conditions of SPDES permit.
33. The sewer district should consider relocating the 8-inch main located beneath the parking area south of Main Street. This main is subject to the influence of groundwater, and is likely subject to considerable groundwater infiltration.
34. Consider limiting intake of septage from areas outside the Town of Riverhead to reduce the impact of flows from the Scavenger Waste District.
35. Support the County Executive's initiative to provide sewers to a significantly greater portion of Suffolk County, including expansion of the Riverhead Sewer District to include more of the unsewered areas of the Town.
36. Investigate the ability of the Advanced Wastewater Treatment Facility (AWTF) to improve effluent quality, specifically to reduce nitrogen concentrations. As a result of any flow increase from the EMSURA or elsewhere within the sewer district, at current treatment capabilities, the daily nitrogen load from the plant would exceed those levels recommended in the TMDL report.
37. Reconcile conflict between 100 percent lot coverage and 2-inch rainfall storage requirement. If drainage is to be the controlling factor, then 2-inch rainfall storage is not possible combined with 100 percent lot coverage. Existing zoning should be revised to provide coverage allowances that better accommodate drainage issues.

38. Explore the possibility of creating a storm drainage district to provide common storm drainage facilities located on public property.
39. Collect impact/mitigation fees to be utilized to handle excess runoff from on-site drainage facilities.
40. Encourage or mandate green stormwater management techniques such as roof gardens and the installation of cisterns.
41. Incorporate drainage improvements into any new parkland/green space provided by elimination of parking along the riverfront, maximizing pervious surfaces that allow percolation.
42. Investigate and inventory those existing facilities that direct stormwater flows to the drainage system, either directly piped or flowing across sidewalks, streets, and parking areas.
43. Initiate a program to encourage retrofitting properties with such conditions to contain some or all of their stormwater on-site.
44. Investigate the opportunity to upgrade or eliminate direct stormwater outfalls to the Peconic River during future development, similar to the ongoing Suffolk County project at Peconic Avenue.

TRAFFIC, TRANSPORTATION, AND PEDESTRIAN ACCESS

45. Change operation of Roanoke Avenue between Second Street and Main Street to provide one-way southbound operation and restripe to provide two southbound lanes.
46. Revise lane use at the intersection of Roanoke Avenue at Main Street to reflect the one-way operation. Two southbound lanes should be carried through the intersection and onto southbound Peconic Avenue. The rightmost lane should transition to a separate right turn lane at the traffic circle.
47. Provide one-way northbound operation on East Avenue between Second Street and Main Street. This will provide the northbound compliment to the southbound operation of Roanoke Avenue.
48. Prohibit parking on both sides of East Avenue, due to the narrow right-of-way, so that two travel lanes can be provided.
49. Revise the operation of the traffic signal at Roanoke Avenue at Main Street.
50. Provide a separate eastbound left turn lane on Main Street at East Avenue to accommodate the additional demand due to the one-way operation of Roanoke Avenue, as well as the increase in traffic due to the location of the proposed parking facility (see below). Signalization of the intersection of East Avenue at Main Street should be considered.
51. Construct a parking garage to serve the EMSURA that would result in a net increase in parking supply of approximately 1,100 spaces.
52. Install a traffic signal at the intersection of CR 94 at County Center Spur.
53. Revise the Town Code and/or the Parking District guidelines to require that any development with a residential component of more than four units provide parking for those units on-site at a rate of at least one parking space per unit. Commercial components of mixed-use developments could be accommodated in the Town-owned parking provided by the Parking District.

54. Evaluate the potential impact on the Parking District due to proposed intensification of use on parcels already included in the Parking District. Under current Downtown Center-1 (DC-1) zoning, properties already in the Parking District could add significant parking demand through redevelopment. Revise the Parking District guidelines such that projects that result in significant intensification of use evaluate their parking impact.
55. Upgrade all mid-block pedestrian crossing locations to provide signing requiring motorists to yield to pedestrians.
56. Upgrade the pedestrian crossing at East Avenue and at Atlantis Marine World Aquarium to provide overhead signage requiring motorists to yield to pedestrians, contrasting pedestrian crosswalk material and pavement markings, and pedestrian bumpouts to enhance pedestrian safety.
57. Install full pedestrian signals at all existing and proposed signalized intersection locations. Pedestrian signals should be equipped with countdown timers for crossing arterials.
58. Provide a mid-block pedestrian crossing between Grangebel Park on the west side of Peconic Avenue and Riverfront Park on the east side of Peconic Avenue with overhead signage requiring motorists to yield to pedestrians, contrasting pedestrian crosswalk material, and pavement markings.
59. Encourage installation/maintenance of sidewalks with a comfortable, uniform, accessible cross-section with a minimum of street furniture on private development plans, and adopt such a policy when sidewalks are installed by the Town.
60. Investigate funding sources for additional traffic calming measures within the EMSURA. In recent years, New York State Department of Transportation administered the Local Safe Streets and Traffic Calming Program, which provided funding to local governments to investigate and implement pedestrian safety improvements. This program was not funded for the current fiscal year, but is expected to be funded in the future.
61. Construction of a new parking garage coupled with the reduction in parking south of East Main Street would cause a significant number of pedestrians to cross Main Street in order to walk to and from their vehicles between Main Street and the parking garage. Explore opportunities for the construction of a pedestrian bridge during the site plan review process, perhaps in conjunction with the design and construction of the parking garage. This would help to maintain the flow of pedestrian traffic between the new garage and the south side of East Main Street.
62. Work with Suffolk County Transit to ensure they are kept abreast of increasing demand due to development within the EMSURA to make appropriate adjustments to routes and schedules as needed.
63. Provide bus shelters at all bus stops within the EMSURA. Bus shelters should be provided with copies of schedules, at a minimum. Investigate funding sources and the availability of real time information technology to provide information on route conditions and delays.
64. Encourage private developers to provide incentives for patrons and employees to use public transportation to travel to and from the EMSURA. Movie and hotel discounts, free or discounted merchandise, shuttle service between the EMSURA and the Long Island Rail Road (LIRR) station should be considered.
65. Engage the LIRR in discussion of the possibility of shuttle service between the LIRR station and the EMSURA, similar to the program on the South Fork. Funding opportunities should be examined also.

SOLID WASTE MANAGEMENT

66. Develop a comprehensive solid waste collection strategy that uses either the local Business Improvement District (BID), in which the EMSURA is located, or a similar approach for solid waste collection and disposal. To develop the most efficient and effective strategy, the Town or BID should work with landowners and/or tenants to assess the different comprehensive collection strategies and select the best plan or approach considering cost, traffic, visual quality, equity, needs, and resources, as well as the potential for future growth.
67. All containers should be kept in good repair (e.g., painted to prevent rust and deterioration), be structurally sound, leak proof, easily accessed, and vermin proof.
68. Garbage and other waste materials should be completely contained within the container. No accumulation of garbage or waste materials should be permitted outside the confines of the container, and garbage should not accumulate so that the container cover cannot be firmly closed as to prevent animals from gaining access to the container.
69. Containers should be strategically located, angled, and screened, yet still allow for removal. Containers should be screened from public view with a solid enclosure or enclosure of dense vegetation on at least three sides to a height of the container. No container should be located in or on a public right-of-way.
70. Efforts should be taken to consolidate all containers within the area, with the assistance of the BID and/or a creation of a garbage district. Such consolidation may include requirements such as the installation one litter receptacle or receptacle area for several uses placed in an inconspicuous and safe location.
71. Garbage should be removed frequently to avoid unsanitary conditions and unpleasant odors.
72. Deliveries, collection of refuse, and other activities should be confined to such hours and such type as will not create any unreasonable disturbance to neighboring residential areas.
73. Additional code enforcement of mandatory recycling should be enforced.
74. Require tonnage reports describing the quantity and types of refuse generated.

The 2008 Update also identifies several implementation strategies including land acquisition, demolition and clearance, air rights and easements, and infrastructure improvements.

D. PLANNING BACKGROUND

This section provides a summary of past planning efforts, relevant studies, and current planning concerns relevant to the EMSURA.

In 1973, the Town of Riverhead published the 1973 Comprehensive Plan, which stated that the "smaller parcels" found in the Riverhead Business Center, or downtown, "made it impossible to establish modern shopping center development standards." For this reason, the downtown "requires more initiative on part of the community to provide an adequate environment for shopping operations."[1] Further, the Town described the area as the Riverhead Business Center and prepared a *Business Center Development Plan and Program* to address the economic viability of the area.[2] The 1973 Comprehensive Plan also recognized the presence and benefit of

[1] Town of Riverhead, 1973, p. 24

[2] Ibid. p. 25

"public facilities and architectural landmarks as well as a development character that comes with a long history."[1]

The Town continued to recognize the decline of Main Street as a major concern and took action to address the issues affecting the area. These efforts are marked by the development of the Main Street Central Business District; the creation of Town-sponsored and -owned public parking facilities regulated by the Town Parking District; and the successful acquisition of funds from New York State Urban Development Corporation for overall revitalization. Other districts specific to the area include the BID and the Lighting District.

In the 1990s, Riverhead's efforts to boost tourism resulted in the development of recreation attractions such as Splish Splash theme park and shopping centers, including Tanger Outlet Center.

In the fall of 1993, the Town of Riverhead approved the 1993 Plan as authorized under Articles 15 and 15A of the New York State General Municipal Law. The 1993 Plan was a major milestone in the Town's history that aimed to improve the economic sustainability of the downtown area. The purpose of the 1993 Plan was to create a public policy that would address the blighted conditions of the area.

The 1993 Plan cited existing problems and growing trends with an analysis of vacancy rates and condition of land uses, with emphasis on redevelopment opportunities. Goals and objectives of the plan included upgrades to structures and land uses, a stimulation of economic development by promoting tourist- and river-related uses, attention to cultural and historic resources, enhancement of public facilities, and the encouragement of financing that would help implement these goals.

The CDA, as the Town's designated urban renewal agency, was charged with implementing the goals of the plan. The major accomplishments achieved downtown include the development of Atlantis Marine World Aquarium; the renovation and sale of historic Suffolk Theater for the purposes of restoration and development of a performing arts center; improvements to the local riverfront park; acquisition of the property which housed Swezey's department store, the future home of Suffolk County Community College for Culinary Arts; ongoing site improvements to the historic Benjamin and Corwin Houses, now home to the East End Arts Council; and façade and building improvements to several buildings on East Main Street. In addition, the Town also approved several development and redevelopment applications for properties contained within the boundaries of the EMSURA.

Since the 1993 Plan, the Town has also published several other relevant studies and reports such as the *Revitalization Strategy for Downtown Riverhead*, adopted in 2000, and the *Town of Riverhead Comprehensive Master Plan, November 2003* (hereinafter referred to as the "2003 Comprehensive Plan"). The adoption of the 2003 Comprehensive Plan led to revisions of the official zoning map and Town zoning code in 2004.

In 2006, the Town designated the Riverhead Historic District. The EMSURA is located within the larger Historic District boundaries.

[1] Ibid. p. 24

PENDING AND APPROVED APPLICATIONS

The most recent issue that presented the need for an update to the 1993 Plan was the large number of applications received by the Town for development or redevelopment of parcels located within the EMSURA. Those development projects are identified below. Figure S-4 depicts the location of each project, and Table S-1 provides a brief description of each project. It should be noted that if the proposed action is approved, all development including projects that are pending and approved would conform to the guidelines and recommendations set forth in the 2008 Update. However, for the purposes of this generic review, the applications were assessed as submitted for the sole purpose of coordinated review, which assumes worst case scenario. It is expected that the Town will review and evaluate each application for compliance and make recommendations based on that review, as stated above.

Table S-1
Proposed Applications

Proposed project name	Suffolk County tax lot(s)*	Building description	Use description
Zenith Building	0600-129-4-5.2	14,900 square foot, 5-story building	9 units (3rd-5th floor) 5,960 square feet retail
Elizabeth Strebel	0600-128-6-78	1,835 square foot, 2-story building	1 residential unit 918 square feet retail
Viva L'Arte Center	0600-128-6-58.1	3,698 square foot, 2-story building	2 artists lofts 1,984 square feet commercial
209 East Avenue Building	0600-129-1-4	9,590 square foot, 5-story building	3 residential units 1,448 square feet office 1,448 square feet retail
54 East Main Retail and Apartment Building	0600-128-6-64	37,500 square foot, 5-story building	40 residential units 7,500 square feet commercial
Suffolk Performing Arts Theatre	0600-129-1-8.4	19,866 square foot, 4-story building	22 residential units 4,697 square feet theater
Atlantis Marine World Aquarium	0600-129-4-20, 21.1, and 21.2	290,250 square foot, 5-story building	120-room hotel with amenities
Riverhead Enterprises	0600-129-1-12, 13, and 14	140,565 square foot, 5-story, mixed-use building	116 units 28,113 square feet of commercial use on ground floor
Riverhead Enterprises	0600-129-1-17, 17, 19, and 20	202,505 square foot, multifamily residential building	165 condominium units
Apollo	0600-129-1-8.2, and 1.9 0600-128-6-66.4 (part of)	174,800 square foot, 4-story building	Commercial

Note: * Tax lot numbers are written in District-Section-Block-Lot format.
Source: Town of Riverhead.

Northwest of the EMSURA, a project to redevelop a 4-acre parcel has been submitted to the Town. The project is called the "Vintage Proposal." The Vintage Proposal parcel is located on the west by Osborn Avenue, on the north by Railroad Street, on the east by Griffing Avenue, and

on the south by Court Street.[1] The parcel includes Cedar Avenue between Court Street and Railroad Street. The proposal includes a mixed-use development, which includes a 400-space parking garage with a 40,000 square foot 12-screen multiplex theater, as well as some commercial (retail and office) space.

The Vintage Group proposed this project in response to a Town of Riverhead Request for Proposals. On February 6, 2008, the CDA officially approved the Vintage Group as a "Qualified and Eligible Sponsor."[2] This project is not located within the EMSURA and therefore will not be evaluated as part of the build-out. However the significance of this development, should it be constructed, is recognized by this GEIS as one that has an effect on the EMSURA. It is anticipated that this project would, prior to construction, require further environmental review, and therefore analysis of the potential impacts of this project in this GEIS has been deemed unnecessary.

E. METHODOLOGY

Provided below is a detailed description of the build-out analysis methodology developed by AKRF that will be used for impact assessment purposes in this report.

The EMSURA, including all roadways and the 90 tax parcels, comprises approximately 41 acres of land area. The current zoning designation for the EMSURA is predominantly DC-1 while a small section of the EMSURA along the waterfront is zoned DC-2. For the purposes of this analysis, development projections for the entire EMSURA area follow the DC-1 zoning regulations only. The area situated in the DC-2 district is currently developed as a waterfront public access area and will remain in this state indefinitely. The DC-2 area is excluded from growth calculations.

According to the DC-1 regulations, the number of residential units permitted within the entire district may not exceed 500.[3] It should be noted that the DC-1 district includes the entire EMSURA as well as areas located west of the ESMURA. That area outside of the EMSURA and within the DC-1 district comprises approximately 5 acres or 12 percent of the total DC-1 district land area. Although this district extends outside of the EMSURA, for the purposes of this assessment it is assumed that 100 percent of the total 500 units would be developed within the EMSURA alone. This methodology allows for a worst case scenario approach.

The projected growth is analyzed for three development scenarios: short term, which encompasses a level of development that may occur within the next 5 years (2007-2012); interim, which includes development that may occur between 5 and 10 years into the future (2012-2017); and long term, which includes development that may occur between 10 and 15 years into the future (2017-2022).

[1] Town of Riverhead Resolution, CDA Resolution #9, February 8, 2008.

[2] Ibid.

[3] Town of Riverhead, *Code of the Town of Riverhead*, Article LVI, "Downtown Center-1 Main Street Zoning Use District," November 3, 2004.

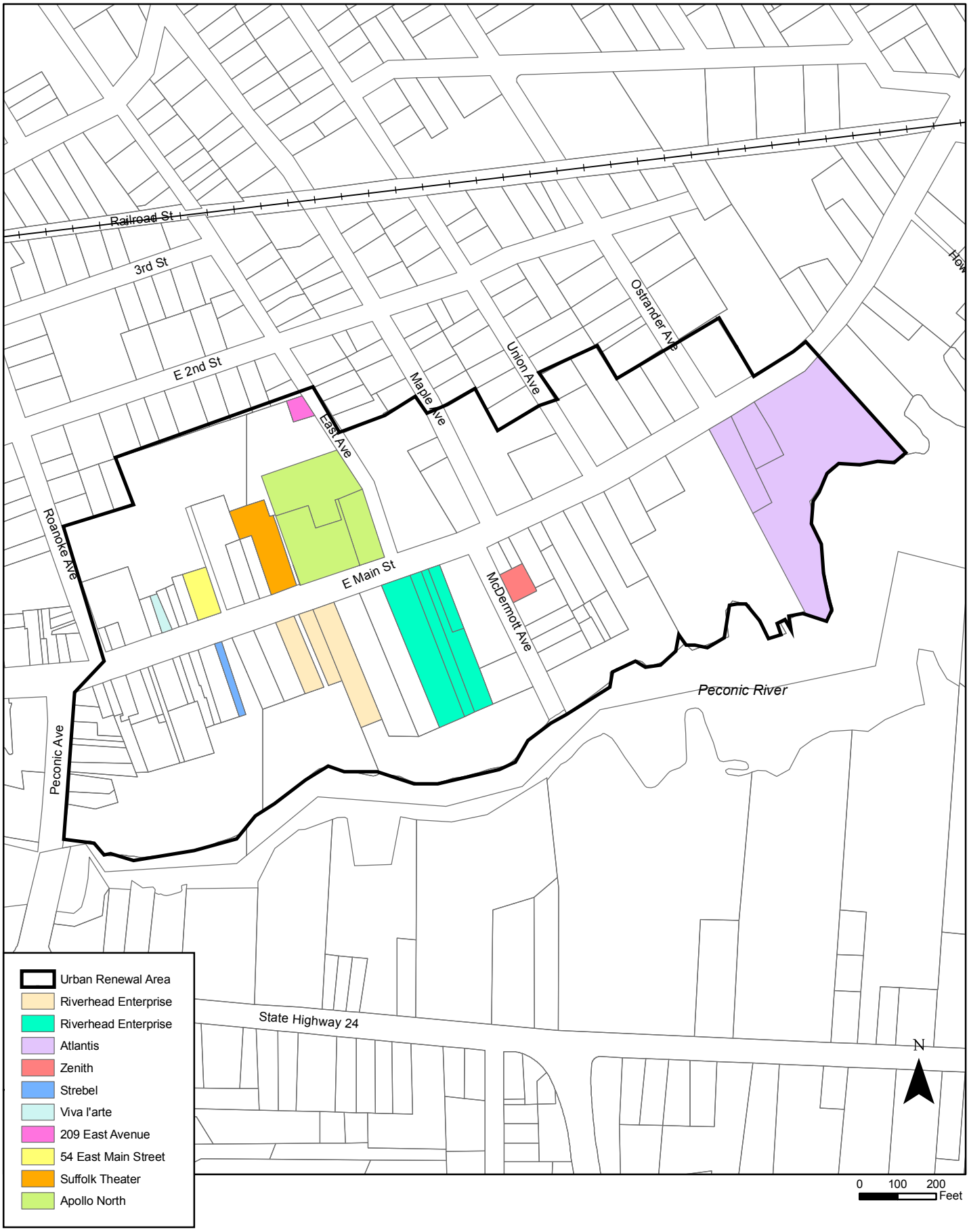


Figure S-4
Location of Proposed Projects

EXISTING CONDITIONS

Parcels within the EMSURA were grouped into seven clusters of lots, hereinafter referred to as "Superblocks," which are based on roadway boundaries (see Figure S-5). The existing condition analysis states baseline conditions in the year 2007, including an overview of land uses, building size and type, number of parcels, zoning, acreage, existing Floor Area Ratio (FAR), and lot coverage.

SHORT-TERM DEVELOPMENT SCENARIO

The short-term development scenario includes a level of development that is expected to occur approximately within the next five years (2007-2012). That level of development was determined for the purpose of potential impact evaluation based on the following assumptions that were made with respect to each Superblock during the short-term scenario:

- All currently vacant buildings and structures will be occupied. Their uses will be identical to prior uses, as recorded by the Town's Assessor and property records. The use of this assumption to calculate a level of short-term development does not mean that only "reuse" development is addressed by the GEIS analysis of the short-term scenario. As long as the cumulative impacts of a proposed project do not exceed the maximum short-term phase impacts evaluated in the GEIS, the analysis would constitute the necessary SEQRA review of that project even if it is not a renewed use of an existing vacancy; and
- All specifically identified, pending, and approved projects as they are described would be implemented.

Of particular importance are the proposed housing units with respect to the maximum residential unit capacity of 500 units. Although some of the proposed and approved applications do provide a specific number of units, several have only given the Town the total square footage of all proposed residential space. For those projects, the number of units was conservatively estimated based on a unit size of 650 square feet, which is the regulated minimum space per unit as set forth in the DC-1 zoning regulations.[1]

Calculations indicate that approximately 366 residential units will be developed as a result of the projects. This is 73 percent of the total number of housing units permitted in the DC-1 zone within the EMSURA (500 units).

For the parking and traffic analysis, an additional analysis step was included. The traffic and parking analysis measured potential effects for the short term in two consecutive scenarios. The first scenario of Phase I measured all pending or proposed projects (see Table S-1). The second scenario or Phase 2 measured the cumulative effects of Phase I and all in-fill of vacant existing buildings. The Phase 2 analysis will therefore reflect the cumulative impacts of pending and proposed projects and the in-fill of vacant existing buildings, which is estimated to occur by the end of the short-term scenario.

[1] Town of Riverhead, *Code of the Town of Riverhead*, Article LVI, "Downtown Center-1 Main Street Zoning Use District," November 3, 2004.

INTERIM DEVELOPMENT SCENARIO

The interim scenario encompasses a level of development that reasonably may be expected to occur within the EMSURA between 5 and 10 years into the future (2012-2017). The following steps were used to calculate the size and use of the projected new development that would occur during the interim build-out scenario:

1. For each parcel by Superblock, the difference between the existing lot coverage and the maximum lot coverage permitted under the DC-1 zone (80 percent) was calculated. For example, if a parcel's existing lot coverage is 50 percent, then the difference between the existing condition and the maximum permitted condition is 30 percent. It is important to note that certain parcels (Figure S-6) and proposed project sites (Figure S-4) are not expected to change during this analysis period.
2. Lot coverage for each parcel is assumed to increase by half the difference of the existing lot coverage and the maximum permitted lot coverage. Using the previous example, the same parcel's lot coverage would therefore increase by 15 percent, and total lot coverage for that parcel would be 65 percent in the interim scenario. Additionally, development on each parcel would reach a FAR of 4.0, not to exceed five stories in height. The growth constitutes new development that would occur in the interim scenario.
3. A portion of the projected new development is appropriated to new residential units. It is assumed that 400 residential units or 80 percent of the total number of residential units permitted in the DC-1 district would be developed in the interim period. Since 366 units would be developed in the short-term period, this allows for another 34 residential units that would be developed during the interim. For the purposes of this analysis, the 34 residential units were divided among the Superblocks, proportionate to the size of the block to the EMSURA (i.e., if a Superblock occupies 10 percent of the EMSURA then that block would receive 10 percent of the total residential units). Each residential unit was assumed to be 650 square feet, based on the DC-1 code's required minimum unit size for units on upper floors.
4. For the remaining new square footage, future land uses were assigned based on the 13 non-residential permitted uses in the DC-1 district. These land uses were distributed evenly over the remaining new development by Superblock and categorized as commercial, cultural/institutional, and recreational.

The following assumptions were made for the purpose of the interim analysis:

- Based on the short-term scenario projects and expected future development, it was assumed that 34 residential units, in addition to the 366 units developed during the short-term, would be developed in the interim scenario. Therefore, a total of 400 units would be developed at the end of the interim period. After the interim period, only an additional 100 units would be available for development in the EMSURA;
- Parcels depicted in Figure S-6 were assumed to remain in the existing condition. Build-out projections are not calculated for certain Town-owned property, and all landmarks, places of worship, and parks, since it is assumed that these properties would not be altered with respect to development due to the nature of their respective uses (see Figure S-6). Additionally, non-conforming single-family homes are phased out; and
- The mix of uses applied to development projected for the interim scenario is consistent with guidelines permitted as-of-right in the DC-1 zoning regulations.

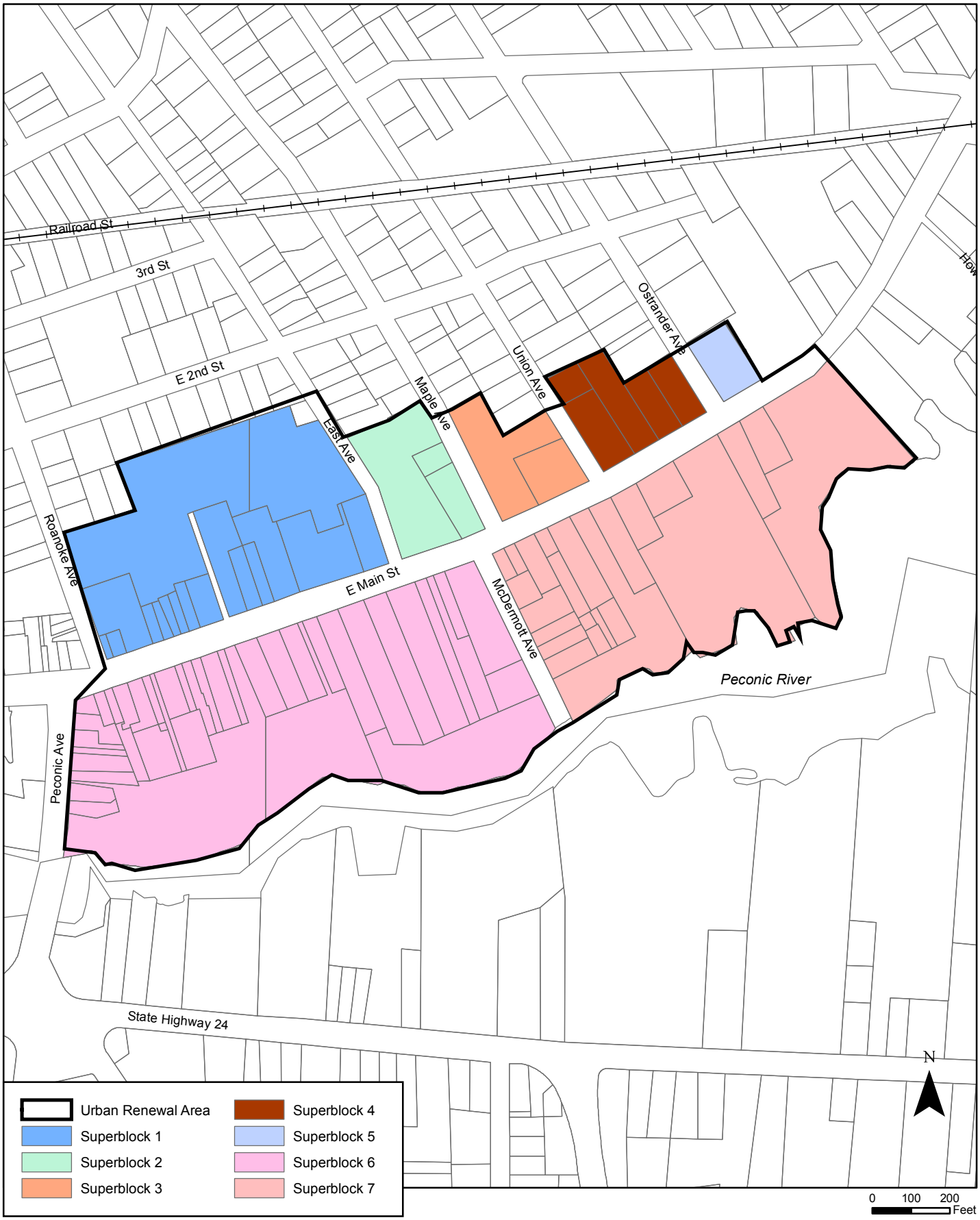


Figure S-5
Superblocks

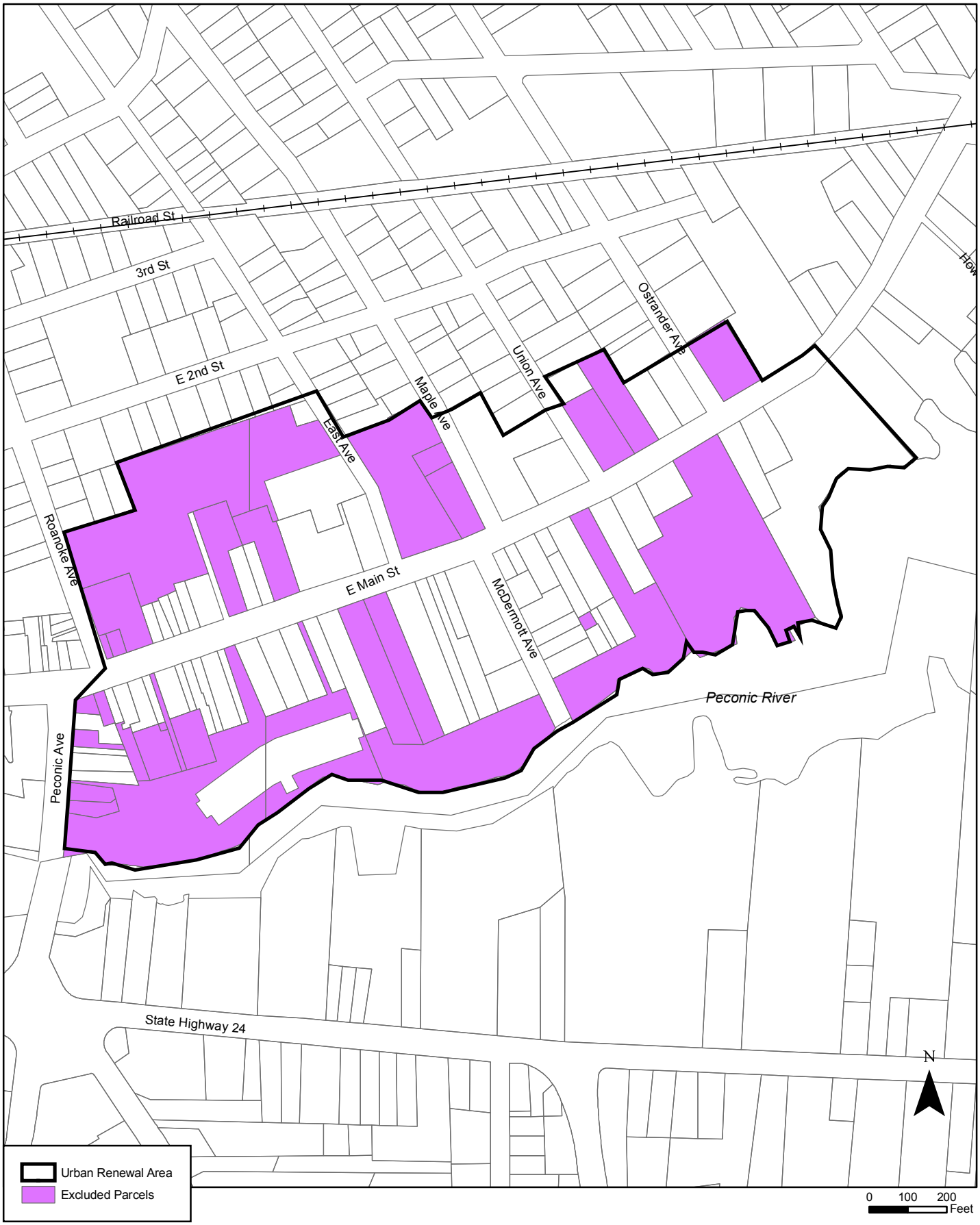


Figure S-6
Excluded Parcels

LONG-TERM DEVELOPMENT SCENARIO

The long-term development scenario, including development that may occur between 10 and 15 years into the future (2017-2022), permits 80 percent lot coverage. The new square footage is appropriated to new residential units. It is assumed that 100 more residential units would be developed in the entire EMSURA during this phase. The methodology of assigning new square footage to land uses mimics the methodology used in the interim development scenario.

F. POTENTIAL IMPACTS OF THE PROPOSED ACTION

LAND USE, ZONING AND PUBLIC POLICY

LAND USE

The proposed action puts forth recommendations that, if adopted, would change the land uses in the EMSURA to a mix of commercial, residential, cultural, and tourism that all aim to promote walkability and a vibrant community.

Short Term (2012)

It was assumed in the short term that the proposed action would result in a decrease of vacancy rates and significant redevelopment. The proposed action encourages the Town's support of applications that help to redevelop the area, especially with uses that encourage urban renewal. In addition to redevelopment of vacant structures, the short-term scenario assumed all projects either approved or submitted to the Town pending approval would be developed. If all applications are approved, the types and sizes of land uses relative to the current condition would change. It should be noted upon the adoption of the 2008 Update and subsequent GEIS that all applications and certificates of occupancy for vacant structures would have to conform to the recommendations set forth in the 2008 Update, including building design, use, and layout requirements. It is expected that conformance to the recommendations set forth would have a positive impact on land uses within the EMSURA by ensuring the highest and best land use as well as environmentally sensitive building design for all new buildings.

Although the area would remain primarily commercial, there would be a significant increase in mixed-use (commercial and residential) and multifamily residential units (see Table S-2). Table S-2 presents the change in square footage for all uses within the EMSURA for the existing condition and each of the three development scenarios. Based on Table S-2, the EMSURA would grow by 164 percent between 2007 and 2012. As stated, this growth is largely accounted for by commercial use, mixed use, and multifamily units. The increase in these uses would help to re-establish the area as a vibrant downtown, which is characteristic of the area's historical development.

As shown in Table S-2, multifamily residential uses would increase by 100 percent. Based on the approved and pending applications, there would be approximately 366 new multifamily residential units that would support local businesses and create an urban environment that contributes to the downtown's diversity, vitality, and function as a pedestrian-friendly community. Alternately, other proposed uses, particularly two full-service hotels, would foster tourism and downtown-oriented land uses.

Table S-2
EMSURA Build-Out Summary

Land use category	Existing (2007) (sf)	Short-term (2012) (sf)	Interim (2017) (sf)	Long - term (2017) (sf)	2007-2012 percent change	2012-2017 percent change	2017-2022 percent change
Commercial	127,459	650,775	1,150,065	1,317,485	411	77	15
Mixed use	20,384	251,873	251,873	251,873	1,111	--	--
Single family	9,526	8,382	4,224	4,224	(12)	(50)	--
Vacant buildings	178,982	--	--	--	(100)	--	--
Cultural and institutional	49,339	49,339	182,483	227,128	--	270	24
Recreation	84,528	79,272	278,989	345,956	(6)	252	24
Multifamily residential	--	202,505	224,605	289,739	100	11	22
Totals	470,218	1,242,146	2,092,238	2,436,405	164	68	16

Sources: AKRF, Inc., 2007, Town of Riverhead Assessor's Office.

Thus, in the short term, the proposed action would result in the preservation of additional buildings that contribute to the historical significance of the area. An increase in the number of designated historical uses would have a positive impact on preserving the historical integrity of the EMSURA, promoting cultural and tourist uses.

Interim (2017)

By the interim scenario, the EMSURA's new development would increase by 68 percent over the short-term scenario. Land uses for additional growth were assumed to adhere to the permitted as-of-right land uses. As shown in Table S-2, cultural, institutional, and recreational uses would significantly increase over the short-term condition. These uses would be associated with art galleries and studios, museums, libraries, aquariums, theaters, cinemas, schools, and places of worship. As stated, the DC-1 district prohibits development of more than 500 residential units. During the short term, 366 (or 73 percent) of those units would be developed. By the end of the interim scenario, an additional 34 units would be developed, or 400 total units consistent with DC-1 bulk restrictions. Units were calculated based on the minimum 650 square feet per unit requirement. The residential unit calculation assumed the worst case scenario because the DC-1 zoning district extends beyond the EMSURA. It is likely that some of the 500 allotted units would be developed in those areas west of the EMSURA.

By 2017, it was assumed that vacant developable lots and non-conforming uses would no longer exist. In the short-term development scenario, there would be 0.05 percent of vacant undeveloped land and several non-conforming uses, including single-family homes, a gas station and a drive-through bank. The 2008 Update recommends that nonconforming uses be phased out. For purposes of this analysis, it was assumed that by the short term, nonconforming single-family homes would be phased out and replaced with new structures and uses.

Owners of nonconforming uses, should they choose to remain, are protected by the *Code of the Town of Riverhead* and therefore would not suffer a significant adverse impact, so that "*any building, structure or use existing on the effective date of this chapter, or any amendment thereto, may be continued on the same lot held in single and separate ownership, although such*

building, structure or use does not thereafter conform to the regulations of the district in which it is located, and may thereafter be extended on the same lot by special permit of the Town Board. If the extent of the change is 10% or less, the public hearing requirement may be waived by the Town Board." [1]

Long Term (2022)

The build-out calculations for the long-term development scenario assume that the EMSURA would be fully built out in conformance with DC-1 standards (i.e., maximum lot coverage of 80 percent and a FAR of 4). The long-term scenario also assumes that the EMSURA would have a maximum of 500 multifamily residential units. The full build-out of the EMSURA would result in 16 percent more development over the interim condition.

By the long term, land uses in the EMSURA would be predominantly commercial, residential, cultural, and recreational. This change would not have a significant adverse impact on land use in the area and in fact would benefit the area by attracting permanent residents, visitors, and tourists, who in turn would support commercial uses. This change in land use would give the EMSURA a sense of place and purpose. Compared to the existing condition, the EMSURA in the long term would resemble more of an urban environment than is currently evident. It is assumed that this change would emphasize the downtown aspect of the EMSURA, thereby rehabilitating its historic vibrancy.

Overall, the proposed action seeks to implement recommendations that would phase out nonconforming uses; redevelop and reuse vacant and/or deteriorated buildings; promote development of additional cultural and recreation uses such as open space, public spaces, and historic sites; encourage mixed-use, multifamily structures; and expand new commercial development such as maritime uses.

With regard to land uses surrounding the EMSURA (predominantly single-family residential and commercial uses), the increase in height and density of buildings as well as the improvement of their overall condition would benefit the surrounding area by improving property values and increasing diversity of uses consistent with a vibrant downtown community. Further, the improved mix and variety of uses would allow residents to shop and work downtown, versus driving to various destinations outside of the EMSURA.

ZONING

In 2004, the downtown was rezoned from Business D to DC-1 and DC-2. DC-1, unlike the previous district, allows for the development of multifamily apartments. The development applications considered in the short-term scenario and 2008 Update propose uses that are either consistent with the DC-1 ordinance or would require a variance or special permit.

By limiting the potential for high density development in close proximity to the Peconic River, the proposed action would further the goals and objectives of the DC-2 zoning ordinance. The parking lot, as it exists today, would be altered so that overall impervious coverage would decrease from the current condition and therefore the number of traditional parking spaces would likely decrease. However, most of the EMSURA is located within the Riverhead Parking District No. 1, which provides parking for the entire area.

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[1] Town of Riverhead, *Code of the Town of Riverhead*, Article XIII, Section 108.51, Supplementary Use Regulations, September 24, 1970

The recommendations proposed maintain the intent of the zoning ordinance and would not have a significant adverse impact on zoning in the area. The proposed action is expected to improve the health, safety, and general welfare of the Town of Riverhead and increase property values. In fact, consistent with the goals of DC-1 and DC-2, the proposed action would improve the overall economic viability, character, and vibrancy of the area. Further, the proposed action would not alter the zoning designation of the area surrounding the EMSURA, including the Residence A-40 Zoning District to the north and Industrial C zoning district to the west.

PUBLIC POLICY

The proposed action adheres to the policy recommendations set forth in the 2003 Comprehensive Plan relating to the downtown's redevelopment and overall character. The goals of the 2003 Comprehensive Plan were adhered to in the 2008 Update. Most importantly, the 2008 Update supports the enhancement of the waterfront by recommending a rezoning of parcels adjacent to the waterfront to a less intensive zoning district.

The conclusions and recommendations published in the *Analysis of the Opportunity for Revitalization of the Main Street Corridor* and *Revitalization Strategy for Downtown Riverhead* advocate the development of increased commercial uses that attract visitors and tourists to the area. Specifically, they promote recreational and cultural uses that incorporate the Peconic River waterfront. The statement of land uses in the 2008 Update recommends uses and design standards that promote additional open space, public spaces, and community facilities, while still encouraging tourist-oriented uses, as well as building design and orientation that incorporates the waterfront. Recommendations specifically state that the Town should encourage and promote "commercial and recreation uses that are more directly related to the waterfront," as well as "maritime uses including retail, restaurants, boat and canoe rentals," and "open space and community facilities for tourists and local residents."

Regional plans, including the Peconic Estuary Program and the *Smart Growth Policy Plan for Suffolk County*, put forth recommendations and guidelines that enhance the environmental and development goals of the region. The 2008 Update provides recommendations that seek to improve both the environmental quality and local land use development of the EMSURA.

Downtown revitalization is at the heart of the proposed action. The recommendations made in the 2008 Update, specifically those that encourage and promote connectivity between buildings and/or uses, promote pedestrian access, encourage mixed-use building, and create aesthetically sound development, follow principles put forth in the *Smart Growth Policy Plan for Suffolk County*.

POPULATION AND HOUSING

If approved, the proposed action would improve the economic viability of the EMSURA, enhance land use, and increase both population and housing. The effects of these changes on the current population and housing characteristics are described below.

POPULATION AND GROWTH

The 2008 Update would encourage the development of residential structures as permitted by the DC-1 zoning district, causing an increase in the number of residents in the area.

The DC-1 zoning regulations permit a maximum of 500 residential units within the district boundaries. Although the district boundaries extend beyond the EMSURA, it was conservatively

assumed that 500 units would be developed within the EMSURA in three phases: the short-term (2007-2012), interim (2012-2017), and long-term (2017-2022) development scenarios.

Based on pending and recently approved development applications, it was assumed that 366 residential units would be constructed by 2012. In the interim, an additional 34 units (totaling 400 units) would be developed. Finally, in the long term another 100 units (500 total) would be developed.

The development of residential units would cause an increase in the overall population within the EMSURA. Specifically, in the short term, the average population would increase by approximately 775 persons. When compared to the existing condition, this is a significant change, especially when compared to the growth in population from 1990-2000 (only 50 persons). Additionally, it is important to note that the population estimates for the EMSURA provided are based on an area that is larger than the EMSURA. The areas included in the larger area are primarily residential. The actual EMSURA boundaries contain few residential housing units. Thus, the estimated growth in population that would occur in the short term changes significantly over the present population. In the interim, the average population within the EMSURA is expected to grow by another 72 persons (totaling 847 persons), signifying a growth of 9 percent relative to the short term. This is a relatively small increase in population, especially when considering the rates of decennial population growth recorded in other communities. Finally, it is expected that in the long term, the population within the EMSURA would grow by approximately 212 persons (totaling 1,059 persons), signifying a 25 percent growth rate relative

A combination of increased development, particularly residential, and population growth would turn the area into a more of an urban environment. Communities that are characteristic of urban environments possess a certain demographic that is slightly different from suburban settings. The proposed action, if adopted, could potentially alter the demographics to reflect these changes.

School-age Children

The number of school-age children within the EMSURA is expected to increase. The proposed action would cause an increase in three phases. During the short term, the school-age population would increase by and average of 86 students. During the interim it would grow by 16, and in the long term school-age population would grow by 23. The total growth expected to occur by 2022 is 125 children.

HOUSING

The proposed action would increase this small housing stock by promoting the development of 500 multifamily units. The proposed action recommends the phasing out of non-conforming uses in the EMSURA, including single-family homes. It is expected that this housing would be replaced with multifamily units, including town homes, condominiums, and apartments, as permitted by the DC-1 zoning district. It is expected that the proposed action would improve the EMSURA's economic viability and likely increase home value within and surrounding the EMSURA. It is also expected that the EMSURA would offer existing and future residents with increased housing options, which would attract a demographically diverse population.

EMERGENCY SERVICES AND COMMUNITY FACITLIES

EMERGENCY SERVICES

Police

On June 5, 2007, AKRF sent a second letter to the Riverhead Police Department. Their response was received on July 31, 2007, from Chief Hegermiller. According to the department, the increase would constitute an approximately 20 percent population increase within the local police sector in which the EMSURA is located. The department has stated that this increase is significant and would require an increase in manpower.

Fire

The Riverhead Fire Department sent a response on August 18, 2007, stating that the department would be able to provide service for new development. It should also be noted that a new fire headquarters will be located north of the Main Street corridor.

Ambulance

On July 9, 2007, the Riverhead Volunteer Ambulance Corps, Inc. responded via e-mail. The response stated that they would respond to all calls, and may need to adjust the Corps in order to accommodate growth.

SCHOOLS

The proposed action would not in itself cause an increase in the number of school-age population in the EMSURA, since the proposed action does not recommend changes to the amount of housing that may be developed, or a change to the current zoning ordinance. The current DC-1 zoning district permits a maximum of 500 residential units in the entire district, most of which is within the EMSURA.

The proposed action would increase the number of students by 125 over a 15-year period. Compared to Riverhead Central School District's projected growth rate, the proposed action would increase the number of students by 7 percent over the 1,779 district projection. Therefore, it is assumed that the proposed action would not have a significant adverse impact on the school district.

The proposed action would provide an increase in revenue that may be generated according to current assessment standards. It is estimated that by the long-term scenario the projected tax revenue increase would be 362 percent more than the 2006 tax generated. In 2006, Riverhead Central School District collected approximately $486,757. In 2022, the EMSURA would generate approximately $2,251,884 in revenue for the school district.

LIBRARY

The proposed action would potentially increase the number of patrons to the Riverhead Free Library due to population growth, as well as increase the overall revenue generated from the EMSURA as a result of the additional development. The proposed action would not have a significant adverse impact on library services, as the increase in demand for library services would be offset by the increase in the tax revenue generated from the EMSURA.

OTHER

The proposed action recommends that the Town encourage the development of parks and recreation types of uses within the EMSURA. If implemented, the proposed action would increase the amount of space dedicated to parks and open space. The proposed action also recommends the acquisition of a parcel for the expansion of the existing waterfront park.

The proposed action, if approved, would increase the overall population of the EMSURA, which would potentially increase the demand for recreational uses and open space. However, the parks are not currently heavily utilized and have capacity to accommodate an increase in visitors.

Commercial recreation and cultural uses should also increase as a result of the proposed action. By adding to the inventory of existing commercial recreation uses, the proposed action would enhance the recreation component of the EMSURA.

ECONOMIC AND FISCAL CONDITIONS

Implementation of the proposed action would result in a decrease in vacancy rates and the creation of new uses. The proposed action recommends that development occur in three consecutive five-year phases—the short term, interim, and long term. Table S-2 shows the increase in square footage by use in each development scenario. The creation of new office, commercial, recreation, and multifamily residential uses would generate full-time employment in several different categories and likely increase the overall household median income. It is anticipated that the redevelopment of the EMSURA would result in a gain in patronage and tourists that would also have an impact on revenue generated in the retail sectors.

The commercial components and development of the EMSURA is recommended to occur in a manner that emphasizes and encourages pedestrian activity in a downtown setting.

While it is impossible to realistically project future property tax revenues, it is anticipated that the property taxes generated by the 2008 Update would increase substantially over those currently collected.

Overall, the 2008 Update, if implemented, could dramatically improve the economic conditions of the EMSURA and surrounding area. An increased number of jobs would be made possible as a result of new and better development, as well as on- and off-site spending by new residents. New residents, employees, and tourists in the area would also contribute to the increase in sales tax, which would serve as a significant economic benefit.

INFRASTRUCTURE

WATER SUPPLY

As noted above, development within the EMSURA would be comprised of various uses ranging from residential apartments to restaurant and catering facilities. Approximately 0.35 million gallons per day (mgd) would be consumed within the EMSURA on an average day. A modest increase of approximately 30 percent during the peak summer months would yield a consumption rate of approximately 0.46 mgd.

Given the current capacity of the water district, an increase of 0.35 mgd on an average daily basis from the EMSURA could be easily accommodated. However, given the margin of only 2 mgd between the peak demand and the current capacity, an increase of 0.46 mgd during the warmer months is a concern. This increase would only leave 1.54 mgd of future capacity for the

remainder of the water district's service area, which includes other areas of the Town of Riverhead outside of Riverhead proper, such as Wading River, Baiting Hollow, and Aquebogue. The Town of Riverhead in general is experiencing tremendous growth in terms of both commercial projects, such as those under construction or planned within the Route 58 corridor, and residential projects, also either under construction or planned. This growth, of which the proposed development within the EMSURA is a part, easily has the potential to exceed the present excess capacity of the water district.

Due to the fact that the water district is nearing capacity at periods of peak demand, the Town is presently seeking to undertake a test well program. As part of this program, test wells will be dug at various locations within the district. The test wells will help determine if a specified location can provide water of satisfactory quality and quantity and to allow for the installation of production wells that would increase the supply of water to the district. Funding for the program and the subsequent construction of production and distribution facilities will be derived from the district's reserve funds that have been designated for capital improvement projects as well as from connection fees generated from new customers.

In order to help decrease the demand for water as a result of construction within the EMSURA as well as outside its boundaries, water conservation measures beyond those which are currently required by State and local codes are encouraged in the 2008 Update.

Based upon the static and residual pressures of 75 pounds per square inch (psi) and 60 psi of a hydrant flow test, respectively, there would be sufficient water pressure to support the proposed development within the EMSURA. Interpolating from the static and residual pressures obtained during the test, the available flow for fire fighting at a residual pressure of 20 psi is equal to 1515 gallons per minute (gpm). The recommended minimum flow is 500 gpm, therefore it appears that there would be ample flow available for fire-fighting needs. In view of many of the proposed types of development within the EMSURA, it is likely that the applicable building and fire codes for these projects would require the installation of fire sprinkler systems for the protection of lives and property. Such systems would need to be designed based upon current hydrant flow test data as well as various other parameters in accordance with the codes and other applicable standards.

SANITARY

The Riverhead Sewer District maintains a system of sewage lines and pump stations that collects and transports sewage to the District's Advanced Wastewater Treatment Facility (AWTF). The proposed action in the short-term scenario would result in additional wastewater flow of approximately 145,000 gpd. Based on the stated maximum flow of the AWTF under the existing State Pollutant Discharge Elimination System (SPDES) permit of 1,200,000 gpd (1.2 mgd), the short-term development scenario would utilize roughly 38 percent of the plant's remaining available permitted capacity, assuming no additional growth takes place in the balance of the district.

The additional flow under the interim development scenario is estimated to be approximately 76,000 gpd, and that estimated for the long-term scenario is approximately 45,000 gpd additional flow, for a total estimated additional flow of 266,000 gpd, and a total flow of 1,066,000 or 89 percent of the available permitted treatment capacity of the AWTF. Therefore, under the existing SDPES permit, the AWTF has sufficient capacity to accommodate the additional flows estimated under the development scenarios described above. An underlying

assumption is that there is no limit placed on how much of the plant's permitted excess capacity is available for development within the EMSURA.

Additional flow from development of the portion of the sewer district outside the EMSURA was estimated at 335,000 gpd, which represents nearly 84 percent of the available excess permitted capacity. Assuming that full development of the area outside the EMSURA would coincide with the long-term development scenario, and that such development would take place in a linear development pattern, additional flow of 22,000 gpd per year could be expected to be generated in the area of the sewer district outside the EMSURA, or 110,000 gpd by 2012. Combined with the increased flow estimated under the short-term development scenario for the EMSURA of 145,000 gpd, a total new flow of 255,000 gpd would be expected, representing 64 percent of available permitted capacity. Therefore, the AWTF would theoretically accommodate the short-term flows under the existing SDPES permit. Under the interim scenario, a total of 441,000 gpd would be generated using the same assumptions, which would be 3.5 percent above the plant's permitted capacity, and finally, full development of the EMSURA combined with full development of the rest of the sewer district would result in increased flow of 597,000 gpd, and a total flow of 1,397,000 gpd. This total flow is just below the rated capacity of the AWTF, and it is within the margin of error for the methodology. However, the total flow at assumed full build-out of 1.4 mgd is nearly 17 percent above the flow permitted under the existing SDPES permit.

The AWTF would provide the service needed under full development of the entire sewer district, including the EMSURA provided that a SPDES permit modification was obtained.

In the event that the Town was unable to obtain a SPDES permit modification, flow at a future point in time to the AWTF would need to be reduced to accommodate proposed development within the EMSURA and the Town in general, or the amount of development-producing flows would need to be limited.

The recommendations in the URP set forth several methods that would accomplish reducing current flow. The effluent diversion program currently being explored by the Town is a key component in meeting the total maximum daily load (TMDL) levels for nitrogen at both the current and permitted flows. During the critical warmer months, for any flow greater than the current flow, the corresponding improvement in effluent quality in conjunction with effluent diversion would be necessary. It should be noted that if a SPDES permit modification was obtained to increase the flow from the currently permitted flow, a nitrogen concentration less than the practical load reduction would need to be achieved in order to meet the TMDL during the warmer months.

The plant is presently operating at its organic capacity. In other words, given the characteristics of the influent entering the plant, the nitrogen concentration of the effluent is as low as possible given the equipment and technology utilized at the plant. Therefore, the current average daily nitrogen concentration of 10.7 mg/L and corresponding nitrogen load could not be reduced without additional measures being taken.

DRAINAGE

Much of the existing drainage facilities throughout the EMSURA pre-date the requirements for storage of a 2-inch rainfall, however, new development projects would be required to meet the current standards. The 2-inch rainfall requirement conflicts with the DC-1 zoning, which at present permits 100 percent lot coverage, leaving essentially no opportunity to install any

conventional drainage structures to handle the runoff from the site. At present, many of the parcels within the EMSURA have 100 percent lot coverage, and these buildings have downspouts that discharge directly to adjacent roadways or adjoining parking areas. The roadways and parking areas are then forced to handle stormwater from beyond their own tributary area.

Maintaining the 2-inch rainfall requirement would necessitate that a certain portion of a site be allocated towards handling the runoff generated from the site precluding 100 percent coverage of the parcel. The maximum coverage allowable would vary depending on how efficiently the site was utilized to meet the 2-inch requirement. By reducing the 2-inch requirement to a lower amount, the greater would be the remaining area of the site available for the proposed development. The portion of runoff between 2 inches and the lower amount could be handled by one of the alternate means described below if it is desired to maintain the 2-inch requirement.

Continuing to allow full lot coverage with no regard for runoff would be undesirable from an environmental standpoint, however, there are several options for handling the runoff. There are numerous green construction practices, such as roof gardens and the installation of cisterns, which are increasingly being utilized to address the issue of roof runoff in highly developed urban environments. These could be employed to meet all or a portion of the 2-inch rainfall requirement. Runoff can also be handled by centralized drainage facilities owned and operated by a public authority similar to the parking district that provides parking for parcels that lack on-site parking. Taxes collected from members of a stormwater district could be utilized to construct and maintain new drainage facilities or to upgrade existing facilities that would support the proposed development. These new facilities could be located under land owned by the Town as part of the parking district. Conversely, the Town could grant easements to property owners for the installation of drainage facilities. Such facilities would be maintained by the property owner and would preclude the discharge of runoff to public facilities. If a stormwater district was not created, a one-time assessment could be collected during development of a project that would be utilized to mitigate some or all of the impacts of that project, depending on the amount of runoff not handled on-site. The funds generated would be utilized to improve the drainage facilities located within the adjacent parking areas or roadways that handle the excess runoff. Particular attention would be directed towards reducing the quantity and improving the quality of stormwater that is either directly or indirectly discharged to the Peconic River.

Regardless of the final resolution between the site plan requirements and zoning regulations any development within the EMSURA would result in an improvement of the drainage facilities. In summary, anticipated redevelopment of properties within the EMSURA presents the opportunity to increase the ability to reduce runoff below present levels, and to handle more of the runoff by replacing existing inefficient structures, installing additional structures, and utilizing the latest stormwater management practices to more closely meet current requirements.

NATURAL RESOURCES

The proposed action would not have an adverse impact on the flora and fauna within the EMSURA since these natural resources occur only in a very limited extent. Additionally, the area does not serve as a habitat for species listed on the endangered or special concern list as published by the State. As a result of the proposed action, open space could increase overall, potentially increasing the quantity and diversity of flora and fauna found within the area.

Marine life present in the Peconic River would benefit as a result of the proposed action since the action would upzone existing parcels, which are currently within two zoning districts, DC-1

and DC-2. The upzone would prevent intensive development along the waterfront and increase the amount of overall open space.

Concentrating, or rather encouraging development in a pre-existing urban area would potentially prevent development of other areas in the Town, or possibly allow for preservation of green areas while enabling appropriate development. Additionally, the proposed action recommends that buildings follow Leadership in Energy and Environmental Design (LEED) standards and green building design. Buildings constructed according to LEED standards promote a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. The proposed action is expected to increase the amount of pedestrian activity in the EMSURA, potentially reducing vehicle miles traveled.

SOILS, GEOLOGY, AND WATER RESOURCES

SOILS

The study area is already developed, so it is highly unlikely that implementation of the proposed action would result in a significant adverse impact to soils. Consideration, when assessing future potential impacts to soils within the study area, is based on the possibility for soil erosion to occur during construction, and the ability of the existing soil to accommodate development which is an engineering issue. Both of these potential issues are addressed during site design and site plan review.

HYDROGEOLOGIC SETTING

The established system of recharge of stormwater and treatment of wastewater within the EMSURA will not be significantly altered, and therefore protection of the underground aquifer system will be maintained. Regulations and guidelines, which have been adopted to protect the surface and drinking water within the EMSURA and the Town would be utilized and adherence ensured through the site plan review process.

Any required mitigation or site design modifications would occur during this process, maintaining the integrity of the aquifer system.

TOPOGRAPHY

Due to the developed nature of the EMSURA, steep slopes do not occur in this area. The area from Main Street south to the Peconic River will not be affected by the proposed action, and no modification to this grade will occur. Any changes to existing grades that would occur as a result of development would be evaluated on a site by site basis through the site plan review process.

GROUNDWATER

The depth to groundwater within the EMSURA is between 0 to 18 feet, indicating the close proximity of the water table and potential for significant impacts. Adverse impacts to groundwater occur as a result of poor stormwater management practices, decreased occurrence of natural filtration, increase in impervious coverage, a high net use of water, and inadequate treatment of sewage or wastewater. These issues are described in the Infrastructure section above.

Almost the entire surface within the EMSURA is impervious. The proposed action encourages the development of public spaces such as courtyards and parks, also decreasing total impervious coverage in the area. The natural filtration process would be enhanced by increasing the total area of pervious surface and implementing resource management techniques previously identified. This would have an overall beneficial impact on the groundwater.

Due to the fact the region's groundwater serves as the water supply, water usage increases created by the proposed action, or development resulting from the proposed action, was evaluated. Overall, the development resulting from the proposed action would by 2022 require an additional 292,600 gpd. This amount would not have a significant adverse impact on the groundwater since it would not create a significant burden on the groundwater supply.

VISUAL RESOURCES

The proposed action recommends strategies intended to provide linkages between Main Street and the waterfront, and improve the aesthetic quality of the EMSURA. The recommendations intended to accomplish this goal focus on the design of buildings and layout of the area, in order to encourage public spaces, enhancement of historic structures, and a greater connection between the river, park, and the business corridor.

Aesthetically pleasing building design and preservation of historic architecture serve vital roles in maintaining the visual quality of an area. The 2008 Update recommends that the Town "redevelop and rehabilitate dilapidated buildings using contemporary and environmentally-friendly design" in conformance with Chapter 73, "Landmarks Preservation," of the *Code of the Town of Riverhead*, "preserve and maintain buildings, sites, and structures of historical, cultural, or architectural interest," and "review those structures that currently do not have a landmark designation but do possess historic significance for potential inclusion into the Town's list of official designated landmarks."[1]

The 2008 Update also recommends that the Town encourage uses that are "directly related to the waterfront and incorporate site layout requirements, including minimum setback requirements from the waterfront so that public access is not inhibited," and "promote additional open space and community facilities for tourists and local residents."

If adopted, the proposed action would improve the overall visual quality of the EMSURA and therefore would have a significant positive impact on the visual resources.

CULTURAL RESOURCES

HISTORIC RESOURCES

The EMSURA, in addition to being located in a historic district, contains several designated as well as unofficial places of historical significance. The proposed action recommends that the Town protect and enhance these resources by restricting development close to historic sites and furthering the goals of the Town's Landmarks Commission by continuing the current advisory role of the Landmarks Commission in reviewing development applications. Recommendations for designating additional sites as historic landmarks should be encouraged, as appropriate.

[1] Town of Riverhead, *Code of the Town of Riverhead*, Chapter 73, "Landmarks Preservation," June 20, 2006.

Therefore, the proposed action would not have a significant adverse impact on the historic resources within the EMSURA.

ARCHAEOLOGICAL RESOURCES

As discussed above, the entire EMSURA is located within an area designated by State Historic Preservation Office (SHPO) as being sensitive for archaeological resources. SHPO recommends that a Phase I archaeological survey is warranted for any future development that involves ground disturbance to undeveloped sites. However, to the extent that the entire EMSURA is developed, the discovery or disturbance of archaeological resources during redevelopment is remote. The build-out of the EMSURA would increase the developed footprint on some lots and the few vacant lots that do exist. Significant disturbance of previously virgin property is highly unlikely. In those instances, a Phase I Survey would be required, which would identify any potentially significant archaeological resources.

Applicants for projects that involve permits, approvals, or funding by federal or State agencies must consult with SHPO regarding potential impacts to cultural resources and mitigation measures.

TRANSPORTATION AND PARKING

Despite the numerous vacancies in properties along NYS Route 25, known as Main Street in downtown Riverhead and East Main Street in the EMSURA, congested traffic conditions can be found during peak hours. This is due in part to deficiencies on the roadways in the EMSURA, but also due to deficiencies on other roadways in the region. North of the EMSURA, CR 58, which was originally constructed as a bypass to Main Street, now experiences capacity deficiencies of its own, thus causing some vehicles not destined to downtown Riverhead to use Main Street as a through route. At the traffic circle located south of the Peconic River, which forms the intersection of CR 63, CR 104, NYS Route 24, CR 94 and Woodhull Avenue, congested conditions also are common.

Suffolk County is currently accepting bids for the design of an Early Implementation Project (EIP) to increase capacity and safety and improve traffic flow on CR 58. It is anticipated that this will be completed before 2012, and it should serve to reduce through traffic volumes on Main Street. Analyses performed for this study include a modest decrease in through traffic volumes on Main Street in anticipation of this improvement. Suffolk County has also recently commissioned a study of the operation of the traffic circle, and it is likely that the study will recommend mitigation measures to improve traffic flows at the circle. However, no information as to potential improvement strategies being considered by the County was available at the time of this report. Therefore, for the purposes of this study, no improvements to the traffic circle have been assumed.

Finally, based on information provided by the NYSDOT, an annual background traffic growth rate of 1.75 percent has been utilized.

In order to examine the ability of the roadway network to accommodate future traffic demand, a simulation model was developed for this study. VISSIM 3.70 was selected as the preferred simulation tool. VISSIM is a microscopic, behavior-based simulation model developed by PTV AG of Karlsruhe, Germany. In general terms, it is capable of simulating individual vehicle movements on a stochastic basis (in steps as low as 1/10 second) based on certain driver behavior inputs and control devices (signals, stop signs, etc.). VISSIM also provides a high-end

graphical output, which permits three-dimensional representations of the network and superimposes simulated traffic over aerial photographs, plans, or other backgrounds.

A key feature of VISSIM that makes it desirable for analyzing roundabouts and other complex geometries, which can be problematic in other simulation packages, is that it is not based on a link-and-node configuration, but rather models traffic flows at intersections based on detailed priority and lane changing rules.

DEVELOPMENT-GENERATED TRAFFIC VOLUMES

Analyses were conducted to examine the future conditions with a background growth in traffic of 1.75 percent per year, but without additional development in the EMSURA, and the short-term scenario was analyzed in two phases; separate trip generation analyses were performed for the projects specifically identified in Table S-1, referred to as Phase 1,and for the projected in-fill of vacant existing buildings, referred to as Phase 2. The analysis estimates that the Phase 1 projects (for which information on future proposed land use information was provided) would generate approximately 235 new trips to the downtown area during the weekday AM peak hour, 661 during the weekday PM peak hour, and 711 during the Saturday midday peak hour. Forty-two of the AM trips, 258 of the weekday PM trips, and 328 of the Saturday midday peak hour trips would be generated by the Apollo project, with remaining trips attributable to the other projects identified in this study.

The additional Phase 2 short-term development, due to the projected in-fill of vacant existing buildings, would add 86 trips to the AM peak hour, 413 to the weekday PM peak hour, and 629 to the Saturday midday peak hour. This represents an increase in traffic volumes entering and exiting the EMSURA of approximately 30 percent during the weekday PM peak hour and 40 percent during the Saturday midday peak hour, the critical time periods examined in this study.

The results of this simulation for the no-development scenario indicate that deterioration in levels of service and increase in delays throughout the network would cause significant operating deficiencies on the roadway network. Significant delays and substantial queues are projected at most approaches to the critical intersection locations examined. Both the intersection of Roanoke Avenue/Peconic Avenue at Main Street and the traffic circle effectively function at LOS F during both time periods examined. Long delays and significant queuing was observed in the simulation results.

The recommendations set forth in the 2008 Update provide some degree of improvement to the EMSURA roadway network. The results indicate that improved levels of service would be expected at the intersections of Main Street at Roanoke Avenue and Main Street at Court Street/County Center Spur. In fact, better levels of service could be expected than under existing conditions. Significant queuing would continue to prevail at the traffic circle, although delays would be reduced somewhat. The simulation was then rerun to reflect the distribution of traffic estimated to be generated by Phase 1 of the short-term scenario on the roadway network. The levels of service and delays at the critical intersections along Main Street remain reasonable, and in fact continue to be somewhat improved over the existing conditions. Therefore, while the short-term mitigation measures outlined above would successfully provide capacity on the EMSURA network to accommodate the expected growth in background traffic volumes, the traffic circle would continue to operate poorly, and vehicles traveling to and from the downtown Riverhead area, including the EMSURA and the court complex, would encounter delays at the circle.

Based on the results of the simulation, it is anticipated that the roadway network within the EMSURA can accommodate the addition of traffic generated by the projects included in the Phase 1 short-term scenario. However, conditions at the traffic circle are shown to continue to deteriorate, with nearly all approaches to the circle providing level of service F during both the weekday PM and Saturday midday peak hours. As previously stated, the traffic circle is not located within the Town of Riverhead. Three Suffolk County highway facilities, one New York State highway facility, and one Town of Southampton highway facility intersect at this location. Congestion prevails during the peak hours at the traffic circle in the existing condition, not in small part due to the presence of the County Center complex west of the circle.

The addition of the short-term Phase 2 traffic results in significant deterioration in operating conditions on the network, particularly during the Saturday midday peak hour. System-wide delays increase significantly, and many approaches to the traffic circle experience substantial delays, and long queues. Importantly, operating conditions at the intersections along Main Street also deteriorate significantly, again particularly during the Saturday midday peak hour. Conditions such as those predicted by this simulation would likely have a detrimental impact on the business community, and additional long term measures of a significantly more robust nature would be needed to provide improved operating conditions. Again, such measures will require coordination of multiple agencies.

At present, at the intersection of NYS Route 25 at Roanoke Avenue, additional phases and clearances must be included in the timing pattern of the existing traffic signal to allow for safe operation due to the misalignment of the northbound and southbound approaches. Analysis results indicated that the only way to provide the service necessary to accommodate these traffic volumes is to eliminate the offset configuration by aligning the northbound and southbound approaches to the intersection. This realignment could be accomplished by shifting the southbound Roanoke Avenue approach to the west to align with Peconic Avenue, or by shifting northbound Peconic Avenue to the east to align with Roanoke Avenue. Realigning the southbound Roanoke Avenue approach would require obtaining several properties on the northwest corner of the intersection, demolition of several existing buildings, and construction of a new roadway. Realigning the northbound approach would also require obtaining additional property and demolition of buildings on the south side of Main Street, and could possibly have impact on the bridge carrying CR 63 over the Peconic River. While significant improvement in operating conditions at the intersection of Roanoke Avenue/Peconic Avenue with Main Street, deficiencies would remain at the traffic circle.

Several different conceptual alternatives for improvements to the circle were investigated, and tested using the simulation model. Two of these alternatives were shown to provide improvements in service. A two-lane roundabout with four approach legs was investigated. The elimination of one approach leg can be accomplished by combining the CR 104 and CR 63 approaches to the roundabout at a point south of the existing traffic circle. The results of the simulation performed to evaluate this alternative improvement indicate that a two-lane roundabout with four approach legs could accommodate the future traffic volumes associated with the short-term development scenario. This simulation assumes the realignment of the intersection of Roanoke Avenue/Peconic Avenue has been implemented.

Finally, replacement of the traffic circle with a conventional signalized intersection was tested. This scenario assumes the combination of two of the major approaches to the intersection, as discussed in the two-lane roundabout alternative, and the alignment of the Roanoke Avenue/Peconic Avenue intersection. The overall impact of either improvement strategy at the

traffic circle combined with the realignment of the Roanoke Avenue/Peconic Avenue intersection, results in significantly improved levels of service and reduced delays throughout the study network. Traffic volumes estimated to be generated by the short-term development scenario are accommodated on the roadway network at levels of service better than those prevailing in the existing condition.

Thus, it is concluded that a robust program of roadway improvements, involving the Town of Riverhead, Suffolk County, the NYSDOT and the Town of Southampton would be necessary to ensure that the roadway network would provide the capacity necessary to encourage development within the EMSURA.

It is recognized that there are other strategies that would alleviate congestion at this location that have not been examined in detail by this study. Among those strategies would be the diversion of some of the traffic utilizing this intersection to enter the downtown area to alternate routes. However, diversion of traffic is complicated by the presence of the Peconic River, and the availability of only two bridges in reasonable proximity to the downtown area, the Peconic Avenue Bridge and the Court Street/County Center Spur Bridge. A good deal of the traffic destined to and from the County Center, and the court houses north and west of the EMSURA already utilizes the Court Street bridge, limiting its availability as an alternate route to the EMSURA. For example, a strategy that envisioned some combination of one-way operations on the bridges could be considered. One such strategy would be utilizing the two bridges as complementary components of a one-way couplet system, wherein one of the bridges operated in the northbound direction and the other operated in the southbound direction. However, such an operation would either bring all the southbound traffic crossing the Court Street Bridge through the intersection of Roanoke Avenue at Main Street, and then through the traffic circle, and all the northbound traffic now crossing the river via Peconic Avenue through the County Center Spur intersection, over the river, and then through the intersection of Main Street at Roanoke Avenue from the west, were that the configuration considered. Were the opposite configuration considered, wherein Peconic Avenue operated northbound and County Center Spur southbound, all the County Center Spur traffic heading north would need to travel through the intersection of Main Street at Peconic Avenue, which would have serious implications during the weekday PM peak hour, when the County Center traffic releases. Operating either of the bridges in a one-way direction and retaining two-way operation at the other might also be considered, but obviously, similar concerns arise.

Therefore, a strategy that envisioned significant diversion of traffic away from the Peconic Avenue bridge would need to consider construction of another bridge over the Peconic River into the downtown area. Construction of such a bridge is likely to have significant beneficial impact on accessibility and mobility within the EMSURA, and would also provide relief to the operation of the traffic circle by diverting traffic away from Peconic Avenue. However, it would also have major economic, environmental and design considerations, which would likely dwarf those impacts of the improvement strategies that have been considered. Therefore, the realignment strategies discussed above have been chosen for detailed analysis in this study.

Further note that, even if the bridge congestion were to be alleviated, Main Street could not accommodate the addition of the large amounts of traffic projected under these scenarios under its current configuration, and would have to be widened to provide at least two lanes in each direction with turning lanes at major intersections. While this configuration could be achieved through some combination of the elimination of on street parking and pavement widening, the elimination of parking is not conducive to attracting commerce to Main Street, and the four-lane configuration is not in keeping with a walkable, pedestrian-friendly downtown business district,

especially one in which a mix of commercial and a significant number of residential properties is envisioned. In addition, many of the buildings along Main Street are built down to the property line, and any widening could require acquisition and demolition of the buildings, or a narrowing of the existing sidewalks.

Since the hypothetical additional roadway improvements of the nature discussed above would result in a roadway network not appropriate to a thriving downtown business district, and the impediments to their implementation make it extremely unlikely that they would ever come about; no additional traffic simulations have been performed to evaluate their effect on the network.

PARKING

Analysis results indicate that at full build out of the development envisioned under the short-term scenario, the peak projected parking demand would occur on weekdays, when a peak total of 1,827 parking spaces would be required to meet demand. This peak demand is anticipated to occur during the later evening hour around 8:00 PM, when movie theater demand coincides with high demand at restaurants, and residential parking demand is nearing 100 percent of its peak. The Apollo project, to be located on the northwest corner of Main Street at East Avenue, envisions the development of a six-screen multiplex with 1,500 seats, a 100-room hotel, 20,000 square feet of retail space, and 33,400 square feet of banquet/restaurant space. Other developments include a culinary arts facility, 366 residential units, a second hotel, and additional retail space. 1,725 spaces would be needed during the weekend peak. It has been estimated that there are 929 parking spaces available in off-street facilities to serve the EMSURA. Thus, development of Phase 1 of the short-term scenario would result in a deficit of 898 spaces during the weekday peak demand times, and 796 spaces during the weekend.

As part of the Apollo project, construction of a 1,186-space parking structure on town-owned property currently being utilized for municipal parking has been proposed. Construction of this parking garage would effectively eliminate the projected parking deficit and provide a surplus of 201 spaces on weekdays and 303 spaces on weekends. Note that this would result in the concentration of off-street parking to the area north of Main Street, and would have an impact on the patterns of traffic visiting the EMSURA. This impact has been considered in the traffic flow analysis conducted for this study.

The largest parking lot maintained by the Town is located along the Peconic River waterfront, between the rear of existing properties facing Main Street, and the riverfront park recently rehabilitated by the Town. While providing sufficient convenient parking is important to the viability of the businesses in the EMSURA, of equal importance is the enhanced use of the major asset presented by the Peconic Riverfront. It is the stated desire of the Town to reduce the use of riverfront property as off-street parking, to increase the amount of public space and enhance the aesthetics of the riverfront by eliminating some of the parking located there. Any reduction in the number of spaces provided in the riverfront parking facilities would increase the projected parking deficit accordingly.

Since residential development by its nature has a more pronounced impact on the parking supply than many other land uses, in large part due the fact that vehicles tend to remain parked at residences for longer periods of time. The 2008 Update recommends that developments that envision more than a small number of residential units be required to provide parking on-site. In cases where multiple uses are proposed within the same development, the parking provided through the parking district can accommodate the parking demand generated by the non-

residential portion of the development. This could serve to offset the reduction in available parking due to the Town's desire to eliminate parking from riverfront areas.

In-fill of existing vacancies, as considered under Phase 2 of the short-term scenario, would result in a parking deficit of 151 spaces during the week and 37 spaces during weekends, assuming construction of the parking garage and reduction of parking along the riverfront. Due to the conservative nature of the assumptions used in the parking demand analyses, it is likely that these deficits would not arise, and that the parking supply would be sufficient to accommodate short-term development, provided the parking garage were constructed. Furthermore, by requiring that large residential developments provide off-street parking as discussed above, demand would be considerably reduced, and the parking supply would be more than sufficient to meet demand. The desire by the Town to eliminate parking along the riverfront could also be accommodated.

The parking demand generated by the large amount of new commercial space envisioned in the interim scenario is higher during the Saturday midday period, but the total peak demand still occurs during the weekday PM due to residential uses, the movie theater, and retail activities. This scenario generates a total demand for 4,506 parking spaces, which exceeds the amount of parking available by 2,478 spaces, assuming construction of the parking garage. Note that the previously discussed reduction of parking along the riverfront would further increase the parking deficit, and the requirement to provide on-site parking for larger residential projects would decrease the projected parking deficit. However, neither of the factors is significant in light of the magnitude of the projected parking deficit.

Obviously, absent significant addition parking construction, the parking demand generated by the long-term scenario would also be beyond the capacity of the supply in the EMSURA.

As previously stated, the existing parking, combined with the proposed 1,186-space parking structure, is considered to be sufficient to accommodate the parking demand estimated under the short-term scenario. Requiring that larger residential projects provide off-street parking to meet the needs of the residential portions of the development would further reduce the parking demand, and would allow for the elimination of some of the parking from the riverfront areas. Riverfront property thus reclaimed could be put to more aesthetic uses, such as parkland. However, parking deficits of 2,478 spaces in the interim scenario and 3,435 spaces under the long-term scenario are forecast. Utilizing the methodology in the ULI "Shared Parking" report, over 740,000 square feet of at-grade parking or more than 17 acres would be required to provide enough parking to meet the interim demand, and an additional 6 acres would be needed to meet the long-term parking demand. Note that the entire EMSURA is only 41 acres in size. Therefore, meeting the parking demand through the addition of at-grade parking is not logical.

Parking intended to serve the EMSURA would need to be within reasonable distance from the land uses it would serve. However, it is not desirable to construct such a parking structure along the riverfront, nor is a large at-grade parking lot considered an appropriate use for developable property within the EMSURA. The ULI considers a 1,600-foot outdoor walking distance between a parking facility and the destination to be the maximum acceptable distance. As previously discussed, there is a significant amount of public parking located outside the EMSURA that is underutilized on weekends, evenings and other times when courts are not in session. This parking supply could be utilized to offset demand generated by redevelopment of the EMSURA during those time periods. Due to the proximity to the courts, train station, and riverfront, these locations are also considered more desirable locations for potential future parking structure. Since this parking supply is outside the maximum acceptable walking distance

recommended by ULI, a shuttle service would be needed to encourage maximum usage of this available and potential future parking supply.

Development of the EMSURA as envisioned in this study is expected to increase travel demand in general considerably, and it is desirable that as much of this demand as possible be accommodated on public transportation. However, the nature of the trip type generated would continue to be ill-served by the existing LIRR service. The LIRR has long been reluctant to increase service, citing lack of demand, and indeed MTA points to the ample capacity available on the existing trains. Prior studies conducted in the area as well as other communities on the eastern end of Long Island have recommended that shuttle-type service be offered by the LIRR, making numerous shorter distance round trips between destinations within the region. However, until recently, LIRR has been reluctant to provide this service, even on trial basis, citing scarce funds and the need to focus on the NYC commute, which provides an overwhelming majority of income through train fares.

However, during the recent reconstruction of CR 39 in the Town of Southampton, the LIRR initiated a shuttle service between Speonk and Montauk on the Montauk Branch. This service has been widely heralded as a success; however, railroad officials said the service has to end on Memorial Day because the three trains a day it provides are needed. Southampton town officials are looking into the possibility of creating a bus service to replace the shuttle once it stops

Ridership on all the Suffolk Transit bus routes serving the EMSURA and its vicinity has increased significantly in recent years. Discussions with representatives of Suffolk Transit indicate that much of the increase is thought to originate in the growth in the immigrant population attracted to the east end of Long Island by the availability of employment in the service industries, such as landscaping, nurseries, wineries, vineyards, hotels and restaurants. The trip-types associated with this sector of the economy tend to be better serviced by buses than by trains, insofar as the trips are usually shorter and occur at various times on the day. One of the desired results of development in the EMSURA as envisioned in the various scenarios discussed and analyzed in this study is an increase in employment opportunities within the EMSURA, a proportion of which is likely to be in those economic sectors that have been found to generate demand for public transportation, as described above. While it is desirable that some of these new employees live in the EMSURA, in the residential developments being encouraged, it is also likely that many will not, and will contribute to the rising demand for bus service on those routes serving the EMSURA.

Development as envisioned under the land use scenarios examined in this report would result in considerable increase in pedestrian activity in the EMSURA. Since opportunities for parking are limited, and a considerable amount of new parking is likely to be provided through the construction of a parking structure north of Main Street, visitors to attractions, customers, etc destined to locations on the south side of Main Street would increase the number of street crossings considerably. Lateral pedestrian movements, parallel to Main Street, would result in increased pedestrian crossings of the side streets.

The recommendations in the 2008 Update foster an enhanced pedestrian environment within the EMSURA that facilitates a safe movement of pedestrians among the parks, stores, residences, and remote parking facilities, and to encourage patrons, employees, residents and visitors to the many attractions envisioned in the plan to walk rather than drive to or among such attractions. The Town of Riverhead has applied to the Suffolk County Department of Public Works to allow

the installation of a mid-block pedestrian crossing between Grangebel Park on the west side of Peconic Avenue and Riverfront Park on the east side of Peconic Avenue. This mid-block crossing is recommended with a crosswalk made of contrasting materials, and mast arm mounted overhead signs instructing motorists to yield for pedestrians.

In recent years, NYSDOT administered the Local Safe Streets and Traffic Calming Program, which provides funding to local governments to investigate and implement pedestrian safety improvements. The Town of Riverhead has used this program to finance pedestrian safety and traffic calming improvements at the intersection of Middle Road at Osborne Avenue. While this program was not funded for the current fiscal year, it is expected that funds would be available in the future.

SOLID WASTE MANAGEMENT

It is estimated that the total solid waste generated from the EMSURA would increase in proportion to the increase in development. In the short term, overall development is expected to increase by 174 percent. In the interim, development is expected to grow by 66 percent and in the long term by 16 percent. From 2007 to 2022, the EMSURA's overall development will grow by 1,966,187 square feet, or 318 percent over the existing condition. This predicted increase in development would not have an impact on the existing solid waste system due to the fact that regulations intended to manage solid waste in the EMSURA and Town-wide are in place and all new development must be in conformance to the established ordinances. Further, the commercial and multifamily uses would utilize and pay for private carters.

The 2008 Update makes certain recommendations intended to improve the existing system by creating additional requirements pertaining to container location and maintenance, litter, reporting, code enforcement, and screening. The 2008 Update also recommends that existing uses develop a system where dumpsters may be consolidated and pickup times would be better coordinated to meet demand in an efficient manner.

Based on the recommendations, solid waste management within the EMSURA should improve overall. The growth would be mitigated with the implementation of such recommendations. For example, although the growth would create more solid waste in the EMSURA, the improvements to management and enforcement of recycling would offset the impacts caused by the increase.

CONSTRUCTION

LAND USE

Land uses in the EMSURA are characteristic of a downtown setting, which include main street-type retail, office, and restaurant uses, some of which include residential units on the second and third stories. Most of the structures, typical of a downtown setting, are either attached or separated by narrow alleys. It is expected that construction activities would be limited to the sites being redeveloped and not require the continuous use of neighboring properties. It is expected that staging would occur on the construction site. Therefore no significant adverse impact to land use is expected.

NATURAL RESOURCES

Soil Erosion and Sedimentation Control

The ground cover within the EMSURA is predominantly developed and impervious. Therefore the potential for increased stormwater runoff from areas cleared of natural vegetation would be negligible during the construction period. However in order to minimize erosion, all construction activities would adhere to the *New York State Standards and Specifications for Erosion and Sediment Control* (August 2005), and the Best Management Practices developed by the New York State Department of Environmental Conservation as described in *Reducing Impacts of Stormwater Runoff from New Development* (1993). The proposed action would also adhere to any Town guidelines regarding erosion and sediment control.

By implementing these methods and working with existing grades, where feasible, no significant adverse impacts are anticipated.

CULTURAL RESOURCES

Impacts on historic and cultural resources in the EMSURA could potentially occur during in-ground disturbance or vibrations due to construction activities if they occur adjacent to or in very close proximity to the historic sites. However, construction activities would be regulated by local and regional agencies and the developer would be required to provide construction management to prevent adverse impacts on historic resources.

TRAFFIC AND PARKING

Construction activities induced by the proposed action may cause some short-term increased local truck traffic due to the delivery and removal of construction materials and equipment from the EMSURA. Typically, these activities occur during off-peak travel times, minimizing potential impacts. It is anticipated that most construction equipment and deliveries would have on-site staging areas during construction for loading and unloading of materials to avoid off-site impacts. Any loss in parking would be temporary and would therefore not have an adverse significant impact on the parking.

AIR QUALITY AND NOISE

The use of construction equipment coupled with the movement of delivery vehicles traveling to and from the site would cause a temporary increase in noise and vibration in the EMSURA. Noise and vibration levels at a given location would depend on the type of equipment used and number of construction vehicles entering/exiting the site on a daily basis, as well as the distance from the construction site. The level of impact of these noise sources depends on the noise characteristics of the equipment and activities involved the construction schedule, and the location of potentially sensitive noise receptors. In general, like most construction projects, construction of the proposed action would result in increased noise and vibration that could be considered intrusive only for a short distance, typically 50 feet off site. It is expected that these impacts, which would be temporary, would vary widely, depending on the phase of construction and the specific task being undertaken.

Construction noise is regulated by the U.S. Environmental Protection Agency's noise emission standards for construction equipment. These federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emission

standards and that construction material be handled and transported in such a manner as not to create unnecessary noise. These regulations would be carefully followed. In addition, construction activities would be restricted to occur within the hours of 7 AM and 8 PM on weekdays and Saturdays, in accordance with Chapter 8, "Noise Control," of the *Code of the Town of Riverhead*. Overall, noise and vibration impacts are not anticipated to be significant and would not be permanent.

SOCIOECONOMIC CONDITIONS

Construction directly resulting from the adoption of the 2008 Update is estimated to create a number of direct construction employment opportunities as the area is revitalized and redeveloped. In addition to direct employment, construction of the proposed action would create additional jobs off-site in Riverhead and Suffolk County. In the broader New York State economy, total employment from construction of the proposed action would be even greater.

Direct wages and salaries from implementation of the 2008 Update will be significant, but until actual site plans are developed and projects are identified, this number can not be accurately calculated. Including off-site effects, total direct and indirect wages and salaries from constructing the proposed action would be greater. In the broader state economy, total direct and indirect wages and salaries from construction would be greater still.

The adoption of the 2008 Update would also create tax revenues for Suffolk County, the MTA, and New York State. These taxes include sales tax, personal income tax, corporate and business taxes, and numerous miscellaneous taxes. Construction is estimated to create hundreds of thousands of dollars in non-property related taxes for Suffolk County, the MTA, and New York State. In addition, the Town, County, and local taxing jurisdictions would receive property taxes.

MITIGATION AND UNAVOIDABLE ADVERSE IMPACTS

Unavoidable adverse impacts occur when a proposed action results in significant adverse impacts for which there are no reasonable or practicable solutions, and for which there are no reasonable alternatives that would meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant adverse impacts.

The proposed action would encourage redevelopment in the EMSURA that would potentially create short-term adverse impacts. Those short-term adverse impacts would be mitigated by the implementation of mitigation measures, to the maximum extent practicable. Temporary or short-term impacts are those that occur during the construction phases of the proposed action.

The following are examples of short-term impacts anticipated as a result of the redevelopment of the EMSURA:

- Presence of construction vehicles on the site and area roads; and
- Localized noise from construction vehicles and equipment.

As discussed in more detail in the Construction section above all potential short-term adverse impacts would be mitigated to the maximum extent practicable.

Staging areas for loading and unloading of materials would be utilized to avoid off-site traffic impacts during construction.

Finally, all construction activities would be conducted in full compliance with applicable regulations and local day and hour construction limitations. State and federal requirements

mandate that certain classifications of construction equipment and motor vehicles be used to minimize adverse impacts. Thus, construction equipment would meet specific noise emission standards.

These construction conditions are temporary and would end when the initial phases of construction are complete. The proposed action would not result in any unavoidable significant adverse environmental impacts.

GROWTH-INDUCING IMPACTS

The implementation of the 2008 Update would facilitate or result in the following:

- An economic resurgence in the community by encouraging new mixed-use, retail, residential, and commercial development or a reutilization of vacant businesses.
- Tourism and visitors who would be expected to invest monies in the local economy.
- Increased employment and tax base for the Town of Riverhead, Suffolk County, and New York State. Additional property tax revenue for New York State, Suffolk County, the Town of Riverhead, and local taxing jurisdictions. New job opportunities would be created, resulting in an increase in payroll taxes and disposable income for the local economy. In addition, the proposed project would generate additional sales tax revenue.
- Infrastructure and transportation improvements which may encourage new commercial and residential development and reuse of existing vacant structures.

Associated construction resulting from the implementation of the proposed action would create short-term economic incentives for companies in the area and on Long Island. These economic opportunities are spurred by the plan's increased demand for supplies, equipment, and goods. Such demand would create new short-term job opportunities in construction. As a result of this temporary employment, there would be an increase in payroll taxes and disposable income from these jobs and monies would be spent on local goods and services.

No significant adverse impacts with respect to growth inducing aspects of the proposed project are expected.

DISPLACEMENT

Primary displacement is the removal and possible relocation of those uses currently located on the project site, which in the case of this proposed action, is the entire EMSURA. Preliminary displacement occurs when one use is directly and intentionally replaced by another. The implementation of the 2008 Update would revitalize, reuse, and redevelop these underperforming portions of the EMSURA

Secondary displacement refers to involuntary dislocation of people, businesses, institutions, community facilities, or establishments that result from an action, even though these entities are not located on the project sites. It is expected that implementation of the 2008 Update would have only a positive effect in the area and would result in no secondary displacement.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The adoption of the 2008 Update would encourage the redevelopment of the EMSURA. This expected redevelopment would result in the use of raw materials such as fossil fuels, lumber, and metals. Actual building materials to be used include concrete, masonry, and aluminum.

Construction resulting form the adoption of the proposed action would require the commitment of energy in the form of petroleum products, gas, and electricity consumed during construction and operation of the buildings and the human effort required to develop, construct, and manage the redevelopment. Raw construction materials are considered irretrievable committed resources because once they are utilized for the construction of buildings and parking facilities, their reuse for some purpose other than the proposed action would be highly unlikely.

The proposed action would result in development that is consistent with the recommendations of the 2008 Update. It would require the commitment of energy during construction and operation of buildings. Furthermore, if the area is developed it is expected that reuses and redevelopment of vacant and underutilized buildings would occur. ✷

Chapter 1: Proposed Action

A. INTRODUCTION

This Draft Generic Environmental Impact Statement (DGEIS) was written on behalf of the Town of Riverhead, pursuant to the State Environmental Quality Review Act (SEQRA) and its implementing procedures (6 NYCRR Part 617 State Environmental Quality Review), to assess the potential effects of the *East Main Street Urban Renewal Plan 2008 Update* (hereinafter referred to as the "2008 Update" or "proposed action"). The Town of Riverhead, as part of the ongoing effort to revitalize downtown Riverhead, has updated the *Town of Riverhead East Main Street Urban Renewal Plan of 1993* (hereinafter referred to as the "1993 Plan"). The geographical focus of this DGEIS and the 2008 Update is the East Main Street Urban Renewal Area (EMSURA). As shown in Figure 1-1, the EMSURA is regionally located in eastern Suffolk County along the Peconic River. Specifically, the EMSURA is bounded by East Second Street to the north, the Peconic River to the south, just east of the Peconic River Yacht Basin, and Peconic and Roanoke Avenues to the west, as shown in Figures 1-2 and 1-3. The Lead Agency overseeing preparation of this DGEIS is the Town of Riverhead Community Development Agency (CDA). The CDA serves as the Town's urban renewal agency and is responsible for most actions taken within the EMSURA.

The purpose of this DGEIS is to evaluate the cumulative, and to the extent practicable, site-specific environmental impacts of land use recommendations proposed in the 2008 Update. The potential impacts are assessed for three development periods: the short term (2007-2012), interim (2012-2017), and long term (2017-2022). The time periods identified for the three development phases are only approximations that provided a conceptual structure for identifying the scope and potential impacts of three development levels. Whether or not SEQRA requirements of a proposed project within the EMSURA are fulfilled by the final GEIS depend on: 1) in which development phase the project occurs, determined solely by whether the potential site-specific and cumulative impacts of that project are less than or exceed the maximum impacts evaluated in the GEIS for the short-term and interim development periods; and 2) whether the necessary mitigation measures identified in the GEIS for each development level have been implemented or will be implemented as a condition of the approval of the proposed project. The year in which an actual project is proposed would not be a relevant factor in determining whether the otherwise-required SEQRA review for the proposed project has already been undertaken by the GEIS. Potential impacts are measured against existing conditions in 2007.

This DGEIS addresses a range of physical, natural, social, economic, fiscal, and regulatory issues including community character; traffic and parking; construction; soils, geology, and water resources; infrastructure; zoning; population and housing; and community facilities. In addition, this DGEIS presents and evaluates alternative land use plans, and proposes potential mitigation measures for any identified potential significant adverse impacts. In accordance with

SEQRA and its implementing regulations, public participation is ongoing through the environmental review process.

As part of the analysis of potential impacts resulting from the 2008 Update, the DGEIS will evaluate the EMSURA's ability to accommodate presently planned projects, for which applications have been submitted and are either pending or approved. This DGEIS provides important environmental documentation that will serve as the basis for public policy decision-making for downtown Riverhead. The intent of this approach is to streamline the decision-making process for current and future applications, and ensure that a comprehensive planning approach is implemented for future development within the EMSURA.

Adoption of the 2008 Update, however, would not constitute an approval of any of the individual development projects included in the scope of the GEIS review. Each of those development projects, if pursued by the respective applicants, would be the subject of separate reviews and decisions by the appropriate boards and agencies of the Town.

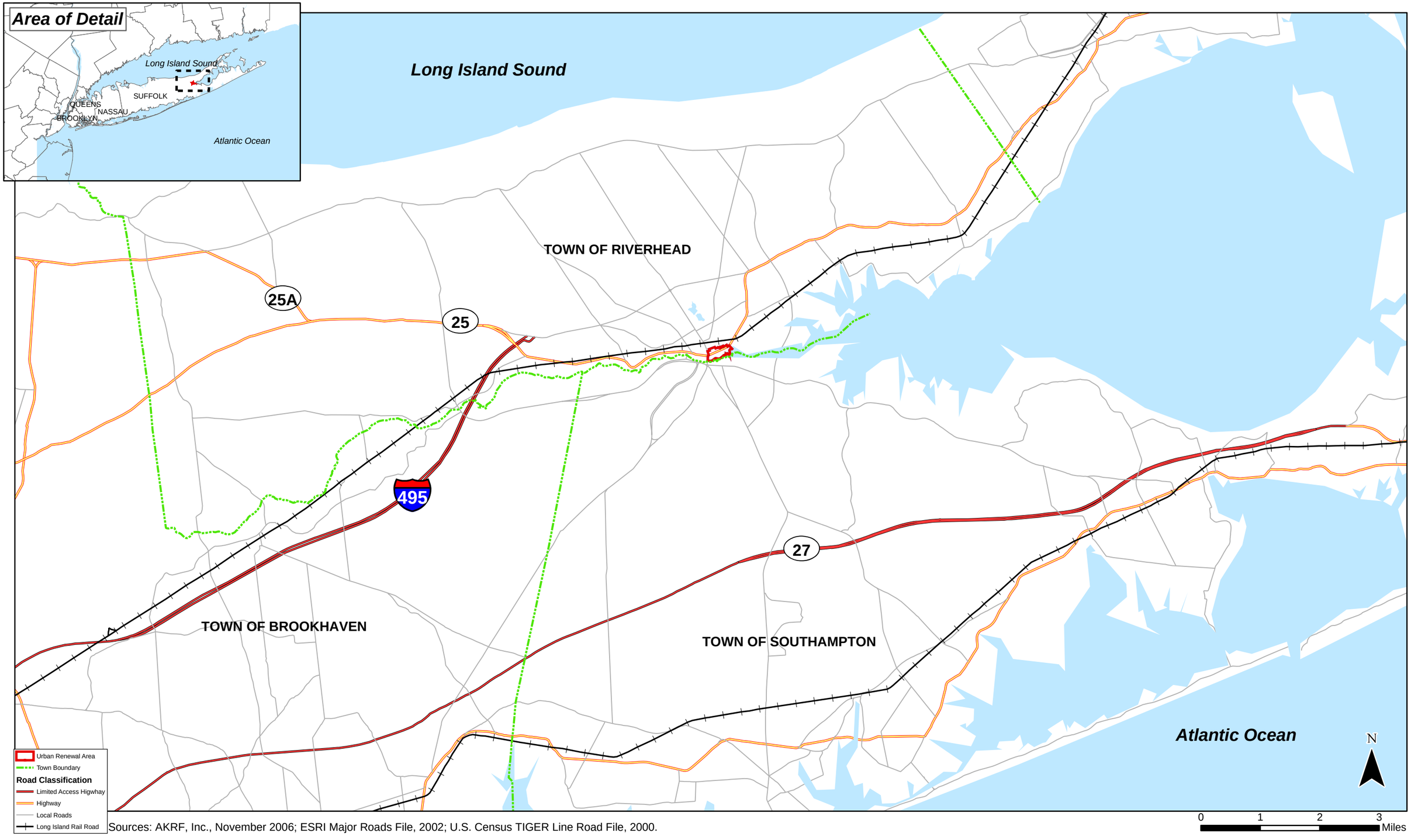
In accordance with 6 NYCRR Part 617.10(d), "Generic Environmental Impacts," when a final GEIS has been accepted, individual EMSURA project applications or other SEQRA-triggering "actions" will be treated in one of four ways:

1. No further SEQRA compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the GEIS or its findings statement;
2. An amended findings statement must be prepared if the subsequent proposed action was adequately addressed in the GEIS, but was not addressed or was not adequately addressed in the findings statement for the GEIS;
3. A negative declaration must be prepared if a subsequent proposed action was not addressed or was not adequately addressed in the GEIS and the subsequent action will not result in any significant environmental impacts; or
4. A supplement to the final GEIS must be prepared if the subsequent proposed action was not addressed or was not adequately addressed in the GEIS and the subsequent action may have one or more significant adverse environmental impacts.

B. PURPOSE AND NEED

The 2008 Update is part of a long history of efforts by the Town and community to address blight and improve the overall condition of the downtown area. The 2008 Update serves to mitigate adverse effects on the EMSURA that have resulted from changes in land use trends in the region. These trends include the increasing development pressure brought on by commercial developers for parcels along County Road (CR) 58; the development of large regional malls combined with the overall growth in suburban population; the relocation of several county offices; and the persistence of substandard lots inadequate in size to accommodate modern, retail structures.

Riverhead's entire downtown area is situated along West Main Street and East Main Street, adjacent to and north of the Peconic River. Riverhead's downtown area is characterized by commercial, mostly retail, uses situated close to the street on parcels that are a fraction of the size of those that house larger retail uses often found in major commercial corridors, known as "big box" uses. According to the *Town of Riverhead Comprehensive Master Plan of 1973* (herein referred to as the "1973 Comprehensive Plan"), the "smaller parcels" found in the Riverhead Business Center, or downtown, "made it impossible to establish modern shopping



Sources: AKRF, Inc., November 2006; ESRI Major Roads File, 2002; U.S. Census TIGER Line Road File, 2000.

Town of Riverhead Generic Environmental Impact Statement

Figure 1-1
Regional Site Location

Figure 1-2
EMSURA Boundary

Figure 1-3
Aerial

center development standards."[1] The downtown's inability to house modern "big box" retail uses was to its detriment. As a result, downtown Riverhead experienced an overall decline in patrons, visitors, and eventually commercial tenants resulting in high vacancy rates and blight.

Riverhead hamlet has been long identified as the home of the Suffolk County courthouse and other County offices. Although some of those offices have been relocated for almost a decade,[2] the impact of the relocation is still felt by the commercial downtown.

The loss of patronage and decline of economic activity caused the EMSURA to become increasingly plagued with blight and dilapidated structures, resulting in widespread concern for the safety and economic viability of the area. Although improvements to the area have occurred in the last several years, the area is in need of continued revitalization consistent with the recommendations made in the 2008 Update.

C. DESCRIPTION OF THE PROPOSED ACTION

GOALS AND OBJECTIVES

The 2008 Update is consistent with the goals and objectives of the 1993 Plan, which included elimination of blight; encouragement of development; improvement of substandard properties, marginal land uses, and public facilities; promotion of tourist- and river-related development; enhancement of cultural resources; and encouragement of private and public funding. The 2008 Update also summarizes the growth and overall evolution of the EMSURA as a focus of public policy since 1993. In addition, the 2008 Update provides several land use recommendations that consider the current and future needs and trends of the EMSURA and the Town, and methods to implement those recommendations.

RECOMMENDATIONS

The 2008 Update presents a "Statement of Proposed Land Uses," which includes recommendations intended to improve the conditions of blight and deterioration in the EMSURA.

The following are the recommendations as stated in the 2008 Update:

1. Fill and redevelop existing vacancies with uses permitted under current zoning regulations. As applications for a building permit, alteration permit, or certificate of occupancy for a structure or use are submitted, the CDA should ensure that the reuses are appropriate (e.g., uses near the waterfront should incorporate the scenic value and public space of the Peconic River and associated waterfront park as part of their overall design and use). Additionally, interaction between uses should encourage pedestrian walkability and promote shared public spaces. Buildings identified as vacant in this report should be given priority for all redevelopment projects.
2. Deteriorated and vacant structures that pose a risk to public safety and welfare and impede economic viability should be considered for public and/or private acquisition and redevelopment. Redevelopment of these properties should be in conformance with zoning

[1] Town of Riverhead, *Town of Riverhead Comprehensive Master Plan 1973*, p. 24

[2] Newsday, *Hometown Long Island - Town of Riverhead*, (Newsday, Inc., 1999) p. 125

regulations and be considered for the highest and best use. Buildings identified as deteriorated in this report should be given priority for redevelopment projects.

3. Redevelop and rehabilitate dilapidated buildings using contemporary and environmentally friendly design in conformance with the *Code of the Town of Riverhead*, Chapter 73, "Landmarks Preservation," which gives the Town's Landmark Preservation Commission the authority to oversee and provide input on alterations, demolition, construction, repairs, or relocation of structures within a historic district.
4. Preserve and maintain buildings, sites, and structures of historical, cultural, or architectural interest. Zoning regulations should reduce permitted heights where appropriate to minimize conflicts between adjacent development and historic structures and other significant buildings. Proposed uses near historic structures should consider the cultural value of those buildings and uses.
5. The CDA and Town should review those structures that currently do not have a landmark designation but possess historic significance for potential inclusion into the Town's list of official designated landmarks.
6. Strengthen the tax base while promoting the integration of commercial and residential uses through development of multifamily residential units with ground floor commercial uses, providing a mix of uses that tie the residential and cultural components of the EMSURA and encourage meeting and gathering places to accommodate tourists and residents.
7. Provide multifamily residential developments that accommodate a mix of incomes. This could be accomplished through an incentive zoning program for affordable housing within multifamily developments.
8. Encourage personal service uses related to tourists and residents.
9. Support applications for commercial and recreation uses that are more directly related to the waterfront and incorporate site layout requirements, including minimum setback requirements from the waterfront so that public access is not inhibited.
10. Promote additional open space and community facilities for tourists and local residents. Public spaces should be strategically placed throughout the EMSURA to encourage pedestrian access, tourism, and improved scenic vistas. Additionally, within the western portion of the EMSURA, south of East Main Street across from Benjamin Street, the Town should encourage land or access easements that accommodate open areas allowing pedestrian access to the waterfront ensuring connectivity between East Main Street and the Peconic River.
11. Maintenance and enlargement of public space along the river corridor, south of East Main Street by reducing land dedicated to parking, should be considered a high priority; and the Town should seek public/private partnerships to make improvements and maintain viewsheds. Further, development other than public open space should be discouraged within this area to eliminate a conflict of use.
12. Encourage more scenic vistas along the Peconic River corridor within the Downtown Center-2 (DC-2) zoning district. Development in this area should be limited to and reserved for public uses, including pedestrian-oriented parks, courtyards, and strategic parking areas. All uses in this area should have streetlights and signs and demonstrate a positive aesthetic quality.
13. Although current zoning permits a building height of no more than 60 feet or five stories, future development should consider the character of existing structures in conformance with existing heights on a block by block basis. Specifically, the buildings located on the east side

of McDermott Avenue do no exceed two stories while buildings west of McDermott Avenue reach three stories in height. Future development should consider these existing building heights. Waterfront vistas or views from buildings on the north side of East Main Street should also be maintained and, where possible, enhanced by ensuring that building heights on the south side are restricted and do not block access or prohibit these views.

14. Provide outside courtyards at the rear entrance of buildings along East Main Street and allow outside merchandise displays within these courtyards. This dual-entrance design would connect commercial and retail uses to the waterfront and parking areas, encouraging better designs.
15. Ensure new development provides connectivity between the eastern and western portions of the EMSURA via walkways, building layouts, and greenways.
16. Encourage maritime uses, including retail, restaurants, boat and canoe rentals, and commercial use of the Peconic River in the portion of the EMSURA west of Atlantis Marine World Aquarium. This block could also include workforce housing for employees of maritime trade and a museum dedicated to the history of the waterfront.
17. Minimize the occurrence of alleyways and hidden spaces that pose a risk to public safety (e.g., alleyways could be reused as pedestrian access points to the waterfront). The Town should ensure that design standards address line-of-sight issues and encourage building clarity that identifies pedestrian access points by incorporating the use of lighting and signage that better identifies these spaces.
18. Improve the overall safety of the area by enhancing the design, layout, and lighting of alleys, streets, and parking areas as well as providing safe road crossings.
19. Implement beautification projects that address façade, landscape, and streetscape improvements as well as encourage an aesthetically pleasing and functional transition between public spaces and parking areas.
20. Establish additional parking areas within the eastern end of the EMSURA where a tourist information center, public amenities, and police substation could be developed.
21. All uses and development in the EMSURA should incorporate designs that consider pedestrian use and safety. Give priority to uses that create minimal conflicts between pedestrians and vehicles by creating a pedestrian-oriented street design, including roadway markings and signage, and provide pedestrian spaces, including benches and safe walkways.
22. Adopt and incorporate building design guidelines that reflect unity and cohesion within the EMSURA and maintain the intended integrity of the downtown atmosphere. Standards would include signage, streetscape, and landscape regulations and should provide increased corner lot setbacks to increase vehicular visibility and eliminate and/or reduce gaps in building facades to reduce commercial inactivity.
23. Due to the important nature of encouraging redevelopment activities within the EMSURA, the Town should ensure that applications are responded to in a timely fashion and handled in such a way that avoids unnecessary delays. Specifically, applications that require more than one agency or commission involvement should be coordinated in advance. Advisory commissions and agencies (e.g., the Landmarks Commission) should accommodate and encourage pre-submission meetings prior to, or simultaneously with, building department application submissions.
24. Promote sustainable development in the downtown area to redevelop existing structures while conserving resources. Buildings should be constructed to provide a long life span and a flexible design to accommodate future uses. Multifamily residential developments of four

units or less must be consistent with federal Energy Star standards. Further, green building designs should be promoted in conformance with the Leadership in Energy and Environmental Design standards.

INFRASTRUCTURE

25. Continue the program to test public wells' water supply and construct production wells to meet additional demand.
26. Increase connection fees to mitigate costs associated with supplying additional capacity.
27. Encourage or mandate water conservation throughout the water district.
28. In the event of development on the East First Street right-of-way, the existing 6-inch water main and existing 8-inch sewer line must be relocated.
29. Investigate existing flows and capacities of the sanitary sewer piping within the EMSURA and of the DeFriest Pump Station to determine whether any upgrades are necessary to handle anticipated additional flows. This effort should consist of the preparation of a map and plan.
30. Monitor actual treatment plant flows and compare to projected flows to determine the need for a State Pollution Discharge Elimination System (SPDES) permit modification. Consider restricting sanitary flow from Suffolk County facilities outside the district's boundaries to reduce the current flow.
31. Conduct a thorough inventory to determine whether/where roof drains are connected to the sewer system, and require property owners to provide alternative means for handling flows from roof drains.
32. Consider options for improving effluent quality in anticipation of potential nitrogen Total Maximum Daily Load (TMDL) limits imposed as conditions of SPDES permit.
33. The sewer district should consider relocating the 8-inch main located beneath the parking area south of Main Street. This main is subject to the influence of groundwater, and is likely subject to considerable groundwater infiltration.
34. Consider limiting intake of septage from areas outside the Town of Riverhead to reduce the impact of flows from the Scavenger Waste District.
35. Support the County Executive's initiative to provide sewers to a significantly greater portion of Suffolk County, including expansion of the Riverhead Sewer District to include more of the unsewered areas of the Town.
36. Investigate the ability of the Advanced Wastewater Treatment Facility (AWTF) to improve effluent quality, specifically to reduce nitrogen concentrations. As a result of any flow increase from the EMSURA or elsewhere within the sewer district, at current treatment capabilities, the daily nitrogen load from the plant would exceed those levels recommended in the TMDL report.
37. Reconcile conflict between 100 percent lot coverage and 2-inch rainfall storage requirement. If drainage is to be the controlling factor, then 2-inch rainfall storage is not possible combined with 100 percent lot coverage. Existing zoning should be revised to provide coverage allowances that better accommodate drainage issues.
38. Explore the possibility of creating a storm drainage district to provide common storm drainage facilities located on public property.
39. Collect impact/mitigation fees to be utilized to handle excess runoff from on-site drainage facilities.

40. Encourage or mandate green stormwater management techniques such as roof gardens and the installation of cisterns.
41. Incorporate drainage improvements into any new parkland/green space provided by elimination of parking along the riverfront, maximizing pervious surfaces that allow percolation.
42. Investigate and inventory those existing facilities that direct stormwater flows to the drainage system, either directly piped or flowing across sidewalks, streets, and parking areas.
43. Initiate a program to encourage retrofitting properties with such conditions to contain some or all of their stormwater on-site.
44. Investigate the opportunity to upgrade or eliminate direct stormwater outfalls to the Peconic River during future development, similar to the ongoing Suffolk County project at Peconic Avenue.

TRAFFIC, TRANSPORTATION, AND PEDESTRIAN ACCESS

45. Change operation of Roanoke Avenue between Second Street and Main Street to provide one-way southbound operation and restripe to provide two southbound lanes.
46. Revise lane use at the intersection of Roanoke Avenue at Main Street to reflect the one-way operation. Two southbound lanes should be carried through the intersection and onto southbound Peconic Avenue. The rightmost lane should transition to a separate right turn lane at the traffic circle.
47. Provide one-way northbound operation on East Avenue between Second Street and Main Street. This will provide the northbound compliment to the southbound operation of Roanoke Avenue.
48. Prohibit parking on both sides of East Avenue, due to the narrow right-of-way, so that two travel lanes can be provided.
49. Revise the operation of the traffic signal at Roanoke Avenue at Main Street.
50. Provide a separate eastbound left turn lane on Main Street at East Avenue to accommodate the additional demand due to the one-way operation of Roanoke Avenue, as well as the increase in traffic due to the location of the proposed parking facility (see below). Signalization of the intersection of East Avenue at Main Street should be considered.
51. Construct a parking garage to serve the EMSURA that would result in a net increase in parking supply of approximately 1,100 spaces.
52. Install a traffic signal at the intersection of CR 94 at County Center Spur.
53. Revise the Town Code and/or the Parking District guidelines to require that any development with a residential component of more than four units provide parking for those units on-site at a rate of at least one parking space per unit. Commercial components of mixed-use developments could be accommodated in the Town-owned parking provided by the Parking District.
54. Evaluate the potential impact on the Parking District due to proposed intensification of use on parcels already included in the Parking District. Under current Downtown Center-1 (DC-1) zoning, properties already in the Parking District could add significant parking demand through redevelopment. Revise the Parking District guidelines such that projects that result in significant intensification of use evaluate their parking impact.

55. Upgrade all mid-block pedestrian crossing locations to provide signing requiring motorists to yield to pedestrians.
56. Upgrade the pedestrian crossing at East Avenue and at Atlantis Marine World Aquarium to provide overhead signage requiring motorists to yield to pedestrians, contrasting pedestrian crosswalk material and pavement markings, and pedestrian bumpouts to enhance pedestrian safety.
57. Install full pedestrian signals at all existing and proposed signalized intersection locations. Pedestrian signals should be equipped with countdown timers for crossing arterials.
58. Provide a mid-block pedestrian crossing between Grangebel Park on the west side of Peconic Avenue and Riverfront Park on the east side of Peconic Avenue with overhead signage requiring motorists to yield to pedestrians, contrasting pedestrian crosswalk material, and pavement markings.
59. Encourage installation/maintenance of sidewalks with a comfortable, uniform, accessible cross-section with a minimum of street furniture on private development plans, and adopt such a policy when sidewalks are installed by the Town.
60. Investigate funding sources for additional traffic calming measures within the EMSURA. In recent years, New York State Department of Transportation administered the Local Safe Streets and Traffic Calming Program, which provided funding to local governments to investigate and implement pedestrian safety improvements. This program was not funded for the current fiscal year, but is expected to be funded in the future.
61. Construction of a new parking garage coupled with the reduction in parking south of East Main Street would cause a significant number of pedestrians to cross Main Street in order to walk to and from their vehicles between Main Street and the parking garage. Explore opportunities for the construction of a pedestrian bridge during the site plan review process, perhaps in conjunction with the design and construction of the parking garage. This would help to maintain the flow of pedestrian traffic between the new garage and the south side of East Main Street.
62. Work with Suffolk County Transit to ensure they are kept abreast of increasing demand due to development within the EMSURA to make appropriate adjustments to routes and schedules as needed.
63. Provide bus shelters at all bus stops within the EMSURA. Bus shelters should be provided with copies of schedules, at a minimum. Investigate funding sources and the availability of real time information technology to provide information on route conditions and delays.
64. Encourage private developers to provide incentives for patrons and employees to use public transportation to travel to and from the EMSURA. Movie and hotel discounts, free or discounted merchandise, shuttle service between the EMSURA and the Long Island Rail Road (LIRR) station should be considered.
65. Engage the LIRR in discussion of the possibility of shuttle service between the LIRR station and the EMSURA, similar to the program on the South Fork. Funding opportunities should be examined also.

SOLID WASTE MANAGEMENT

66. Develop a comprehensive solid waste collection strategy that uses either the local Business Improvement District (BID), in which the EMSURA is located, or a similar approach for solid waste collection and disposal. To develop the most efficient and effective strategy, the

Town or BID should work with landowners and/or tenants to assess the different comprehensive collection strategies and select the best plan or approach considering cost, traffic, visual quality, equity, needs, and resources, as well as the potential for future growth.

67. All containers should be kept in good repair (e.g., painted to prevent rust and deterioration), be structurally sound, leak proof, easily accessed, and vermin proof.
68. Garbage and other waste materials should be completely contained within the container. No accumulation of garbage or waste materials should be permitted outside the confines of the container, and garbage should not accumulate so that the container cover cannot be firmly closed as to prevent animals from gaining access to the container.
69. Containers should be strategically located, angled, and screened, yet still allow for removal. Containers should be screened from public view with a solid enclosure or enclosure of dense vegetation on at least three sides to a height of the container. No container should be located in or on a public right-of-way.
70. Efforts should be taken to consolidate all containers within the area, with the assistance of the BID and/or a creation of a garbage district. Such consolidation may include requirements such as the installation one litter receptacle or receptacle area for several uses placed in an inconspicuous and safe location.
71. Garbage should be removed frequently to avoid unsanitary conditions and unpleasant odors.
72. Deliveries, collection of refuse, and other activities should be confined to such hours and such type as will not create any unreasonable disturbance to neighboring residential areas.
73. Additional code enforcement of mandatory recycling should be enforced.
74. Require tonnage reports describing the quantity and types of refuse generated.

The 2008 Update also identifies several implementation strategies including land acquisition, demolition and clearance, air rights and easements, and infrastructure improvements.

D. INVOLVED AGENCIES/INTERESTED PARTIES

INVOLVED AGENCIES

- Riverhead Town Board
- Riverhead CDA
- NYS Department of Environmental Conservation
- NYS Commissioner of Housing and Community Renewal
- NYS Department of Transportation
- Suffolk County Department of Health Services
- Suffolk County Department of Public Works
- Riverhead Department of Public Works

INTERESTED PARTIES

- U.S. Army Corps of Engineers
- NYS Department of State
- Suffolk County Planning Commission
- Suffolk County Department of Public Works

- Riverhead Planning Board
- Riverhead Landmarks Commission
- Riverhead Parking District
- Riverhead Sewer District
- Riverhead Water District
- Riverhead BID
- Riverhead Fire District
- Town of Southampton

E. PLANNING BACKGROUND

This section provides a summary of past planning efforts, relevant studies, and current planning concerns relevant to the EMSURA.

In 1973, the Town of Riverhead published the 1973 Comprehensive Plan, which stated that the "smaller parcels" found in the Riverhead Business Center, or downtown, "made it impossible to establish modern shopping center development standards." For this reason, the downtown "requires more initiative on part of the community to provide an adequate environment for shopping operations."[1] Further, the Town described the area as the Riverhead Business Center and prepared a *Business Center Development Plan and Program* to address the economic viability of the area.[2] The 1973 Comprehensive Plan also recognized the presence and benefit of "public facilities and architectural landmarks as well as a development character that comes with a long history."[3]

The Town continued to recognize the decline of Main Street as a major concern and took action to address the issues affecting the area. These efforts are marked by the development of the Main Street Central Business District; the creation of Town-sponsored and -owned public parking facilities regulated by the Town Parking District; and the successful acquisition of funds from New York State Urban Development Corporation for overall revitalization. Other districts specific to the area include the BID and the Lighting District.

In the 1990s, Riverhead's efforts to boost tourism resulted in the development of recreation attractions such as Splish Splash theme park and shopping centers, including Tanger Outlet Center.

In the fall of 1993, the Town of Riverhead approved the 1993 Plan as authorized under Articles 15 and 15A of the New York State General Municipal Law. The 1993 Plan was a major milestone in the Town's history that aimed to improve the economic sustainability of the downtown area. The purpose of the 1993 Plan was to create a public policy that would address the blighted conditions of the area.

The 1993 Plan cited existing problems and growing trends with an analysis of vacancy rates and condition of land uses, with emphasis on redevelopment opportunities. Goals and objectives of

[1] Town of Riverhead, 1973, p. 24

[2] Ibid. p. 25

[3] Ibid. p. 24

the plan included upgrades to structures and land uses, a stimulation of economic development by promoting tourist- and river-related uses, attention to cultural and historic resources, enhancement of public facilities, and the encouragement of financing that would help implement these goals.

The CDA, as the Town's designated urban renewal agency, was charged with implementing the goals of the plan. The major accomplishments achieved downtown include the development of Atlantis Marine World Aquarium; the renovation and sale of historic Suffolk Theater for the purposes of restoration and development of a performing arts center; improvements to the local riverfront park; acquisition of the property which housed Swezey's department store, the future home of Suffolk County Community College for Culinary Arts; ongoing site improvements to the historic Benjamin and Corwin Houses, now home to the East End Arts Council; and façade and building improvements to several buildings on East Main Street. In addition, the Town also approved several development and redevelopment applications for properties contained within the boundaries of the EMSURA.

Since the 1993 Plan, the Town has also published several other relevant studies and reports such as the *Revitalization Strategy for Downtown Riverhead*, adopted in 2000, and the *Town of Riverhead Comprehensive Master Plan, November 2003* (hereinafter referred to as the "2003 Comprehensive Plan"). The adoption of the 2003 Comprehensive Plan led to revisions of the official zoning map and Town zoning code in 2004.

In 2006, the Town designated the Riverhead Historic District. The EMSURA is located within the larger Historic District boundaries.

PENDING AND APPROVED APPLICATIONS

The most recent issue that presented the need for an update to the 1993 Plan was the large number of applications received by the Town for development or redevelopment of parcels located within the EMSURA. Those development projects are identified below. Figure 1-4 depicts the location of each project, and Table 1-1 provides a brief description of each project. It should be noted that if the proposed action is approved, all development including projects that are pending and approved would conform to the guidelines and recommendations set forth in the 2008 Update. However, for the purposes of this generic review, the applications were assessed as submitted for the sole purpose of coordinated review, which assumes worst case scenario. It is expected that the Town will review and evaluate each application for compliance and make recommendations based on that review, as stated above.

Northwest of the EMSURA, a project to redevelop a 4-acre parcel has been submitted to the Town. The project is called the "Vintage Proposal." The Vintage Proposal parcel is located on the west by Osborn Avenue, on the north by Railroad Street, on the east by Griffing Avenue, and on the south by Court Street.[1] The parcel includes Cedar Avenue between Court Street and Railroad Street. The proposal includes a mixed-use development, which includes a 400-space parking garage with a 40,000 square foot 12-screen multiplex theater, as well as some commercial (retail and office) space.

[1] Town of Riverhead Resolution, CDA Resolution #9, February 8, 2008.

Table 1-1
Proposed Applications

Proposed project name	Suffolk County tax lot(s)*	Building description	Use description
Zenith Building	0600-129-4-5.2	14,900 square foot, 5-story building	9 units (3rd-5th floor) 5,960 square feet retail
Elizabeth Strebel	0600-128-6-78	1,835 square foot, 2-story building	1 residential unit 918 square feet retail
Viva L'Arte Center	0600-128-6-58.1	3,698 square foot, 2-story building	2 artists lofts 1,984 square feet commercial
209 East Avenue Building	0600-129-1-4	9,590 square foot, 5-story building	3 residential units 1,448 square feet office 1,448 square feet retail
54 East Main Retail and Apartment Building	0600-128-6-64	37,500 square foot, 5-story building	40 residential units 7,500 square feet commercial
Suffolk Performing Arts Theatre	0600-129-1-8.4	19,866 square foot, 4-story building	22 residential units 4,697 square feet theater
Atlantis Marine World Aquarium	0600-129-4-20, 21.1, and 21.2	290,250 square foot, 5-story building	120-room hotel with amenities
Riverhead Enterprises	0600-129-1-12, 13, and 14	140,565 square foot, 5-story, mixed-use building	116 units 28,113 square feet of commercial use on ground floor
Riverhead Enterprises	0600-129-1-17, 17, 19, and 20	202,505 square foot, multifamily residential building	165 condominium units
Apollo	0600-129-1-8.2, and 1.9 0600-128-6-66.4 (part of)	174,800 square foot, 4-story building	Commercial

Note: * Tax lot numbers are written in District-Section-Block-Lot format.
Source: Town of Riverhead.

The Vintage Group proposed this project in response to a Town of Riverhead Request for Proposals. On February 6, 2008, the CDA officially approved the Vintage Group as a "Qualified and Eligible Sponsor."[1] This project is not located within the EMSURA and therefore will not be evaluated as part of the build-out. However the significance of this development, should it be constructed, is recognized by this GEIS as one that has an effect on the EMSURA. It is anticipated that this project would, prior to construction, require further environmental review, and therefore analysis of the potential impacts of this project in this GEIS has been deemed unnecessary.

F. METHODOLOGY

Provided below is a detailed description of the build-out analysis methodology developed by AKRF that will be used for impact assessment purposes in this report.

[1] Town of Riverhead Resolution, CDA Resolution #9, February 8, 2008.

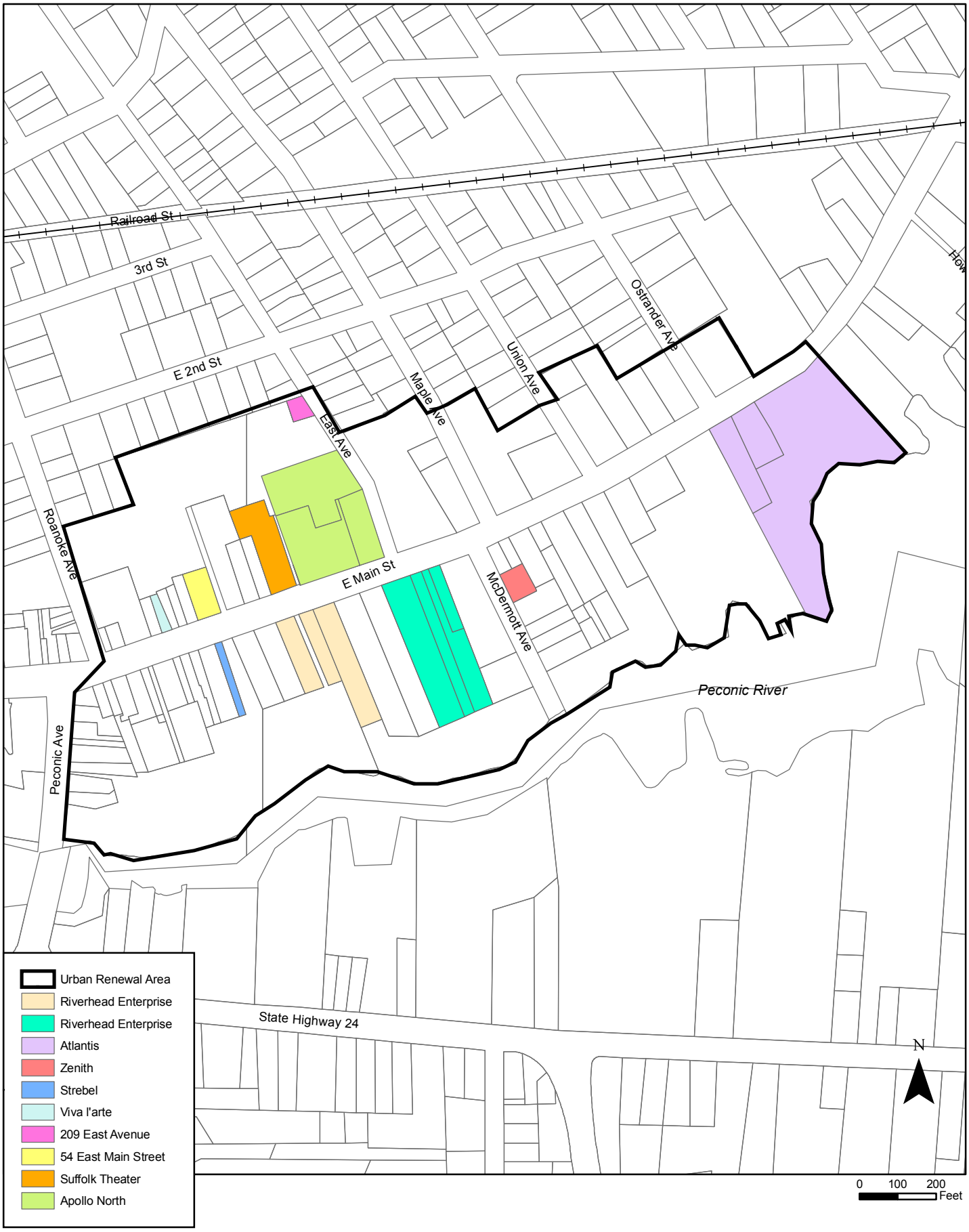


Figure 1-4
Location of Proposed Projects

The EMSURA, including all roadways and the 90 tax parcels, comprises approximately 41 acres of land area. The current zoning designation for the EMSURA is predominantly DC-1 while a small section of the EMSURA along the waterfront is zoned DC-2. For the purposes of this analysis, development projections for the entire EMSURA area follow the DC-1 zoning regulations only. The area situated in the DC-2 district is currently developed as a waterfront public access area and will remain in this state indefinitely. The DC-2 area is excluded from growth calculations.

According to the DC-1 regulations, the number of residential units permitted within the entire district may not exceed 500.[1] It should be noted that the DC-1 district includes the entire EMSURA as well as areas located west of the ESMURA. That area outside of the EMSURA and within the DC-1 district comprises approximately 5 acres or 12 percent of the total DC-1 district land area. Although this district extends outside of the EMSURA, for the purposes of this assessment it is assumed that 100 percent of the total 500 units would be developed within the EMSURA alone. This methodology allows for a worst case scenario approach.

The projected growth is analyzed for three development scenarios: short term, which encompasses a level of development that may occur within the next 5 years (2007-2012); interim, which includes development that may occur between 5 and 10 years into the future (2012-2017); and long term, which includes development that may occur between 10 and 15 years into the future (2017-2022).

EXISTING CONDITIONS

Parcels within the EMSURA were grouped into seven clusters of lots, hereinafter referred to as "Superblocks," which are based on roadway boundaries (see Figure 1-5). The existing condition analysis states baseline conditions in the year 2007, including an overview of land uses, building size and type, number of parcels, zoning, acreage, existing Floor Area Ratio (FAR), and lot coverage.

SHORT-TERM DEVELOPMENT SCENARIO

The short-term development scenario includes a level of development that is expected to occur approximately within the next five years (2007-2012). That level of development was determined for the purpose of potential impact evaluation based on the following assumptions that were made with respect to each Superblock during the short-term scenario:

- All currently vacant buildings and structures will be occupied. Their uses will be identical to prior uses, as recorded by the Town's Assessor and property records. The use of this assumption to calculate a level of short-term development does not mean that only "reuse" development is addressed by the GEIS analysis of the short-term scenario. As long as the cumulative impacts of a proposed project do not exceed the maximum short-term phase impacts evaluated in the GEIS, the analysis would constitute the necessary SEQRA review of that project even if it is not a renewed use of an existing vacancy; and
- All specifically identified, pending, and approved projects as they are described in this chapter would be implemented.

[1] Town of Riverhead, *Code of the Town of Riverhead*, Article LVI, "Downtown Center-1 Main Street Zoning Use District," November 3, 2004.

Of particular importance are the proposed housing units with respect to the maximum residential unit capacity of 500 units. Although some of the proposed and approved applications do provide a specific number of units, several have only given the Town the total square footage of all proposed residential space. For those projects, the number of units was conservatively estimated based on a unit size of 650 square feet, which is the regulated minimum space per unit as set forth in the DC-1 zoning regulations.[1]

Calculations indicate that approximately 366 residential units will be developed as a result of the projects. This is 73 percent of the total number of housing units permitted in the DC-1 zone within the EMSURA (500 units).

For the parking and traffic analysis, an additional analysis step was included. The traffic and parking analysis measured potential effects for the short term in two consecutive scenarios. The first scenario of Phase I measured all pending or proposed projects (see Table 1-1). The second scenario or Phase 2 measured the cumulative effects of Phase I and all in-fill of vacant existing buildings. The Phase 2 analysis will therefore reflect the cumulative impacts of pending and proposed projects and the in-fill of vacant existing buildings, which is estimated to occur by the end of the short-term scenario.

INTERIM DEVELOPMENT SCENARIO

The interim scenario encompasses a level of development that reasonably may be expected to occur within the EMSURA between 5 and 10 years into the future (2012-2017). The following steps were used to calculate the size and use of the projected new development that would occur during the interim build-out scenario:

1. For each parcel by Superblock, the difference between the existing lot coverage and the maximum lot coverage permitted under the DC-1 zone (80 percent) was calculated. For example, if a parcel's existing lot coverage is 50 percent, then the difference between the existing condition and the maximum permitted condition is 30 percent. It is important to note that certain parcels (Figure 1-6) and proposed project sites (Figure 1-4) are not expected to change during this analysis period.
2. Lot coverage for each parcel is assumed to increase by half the difference of the existing lot coverage and the maximum permitted lot coverage. Using the previous example, the same parcel's lot coverage would therefore increase by 15 percent, and total lot coverage for that parcel would be 65 percent in the interim scenario. Additionally, development on each parcel would reach a FAR of 4.0, not to exceed five stories in height. The growth constitutes new development that would occur in the interim scenario.
3. A portion of the projected new development is appropriated to new residential units. It is assumed that 400 residential units or 80 percent of the total number of residential units permitted in the DC-1 district would be developed in the interim period. Since 366 units would be developed in the short-term period, this allows for another 34 residential units that would be developed during the interim. For the purposes of this analysis, the 34 residential units were divided among the Superblocks, proportionate to the size of the block to the EMSURA (i.e., if a Superblock occupies 10 percent of the EMSURA then that block would

[1] Town of Riverhead, *Code of the Town of Riverhead*, Article LVI, "Downtown Center-1 Main Street Zoning Use District," November 3, 2004.

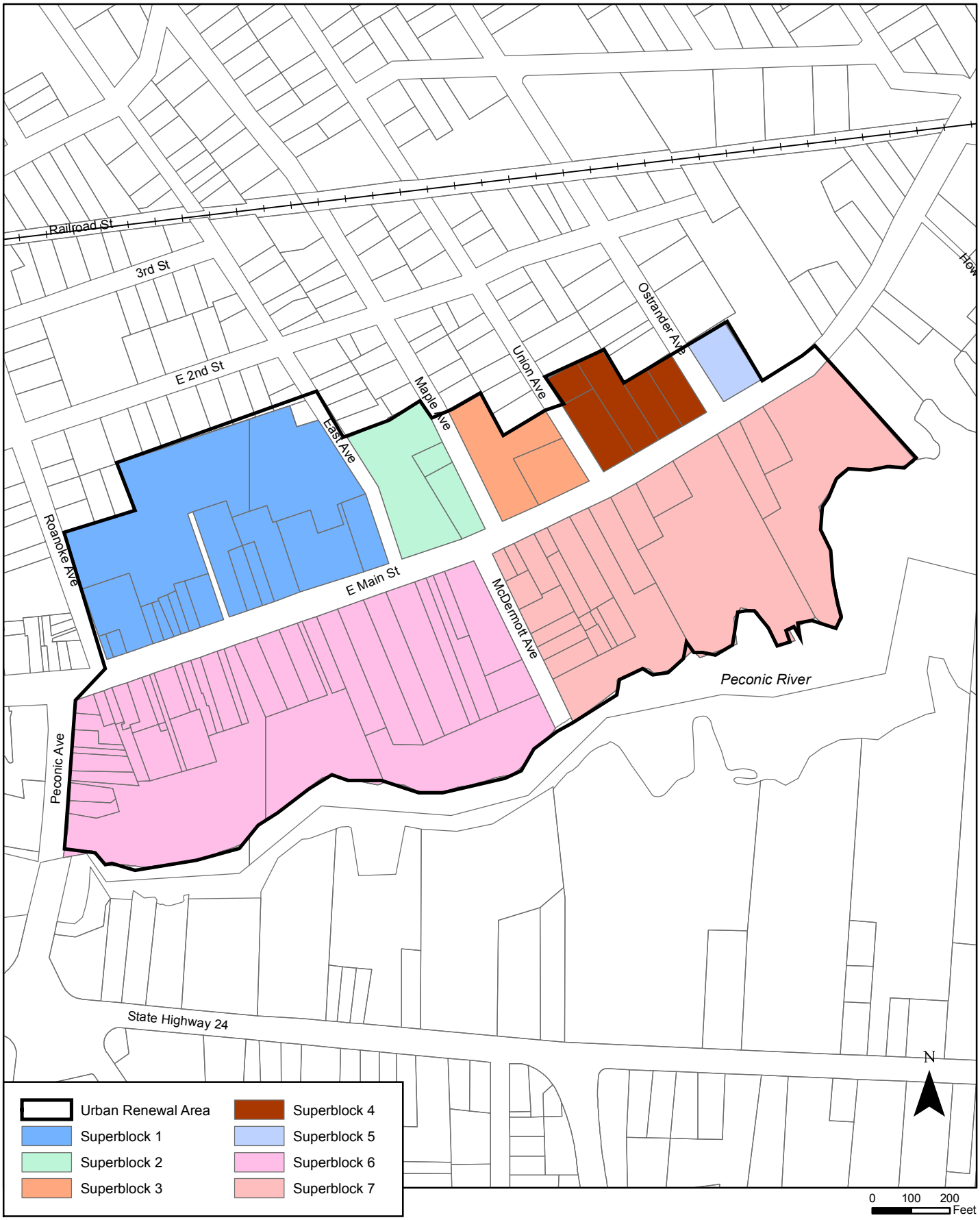


Figure 1-5
Superblocks

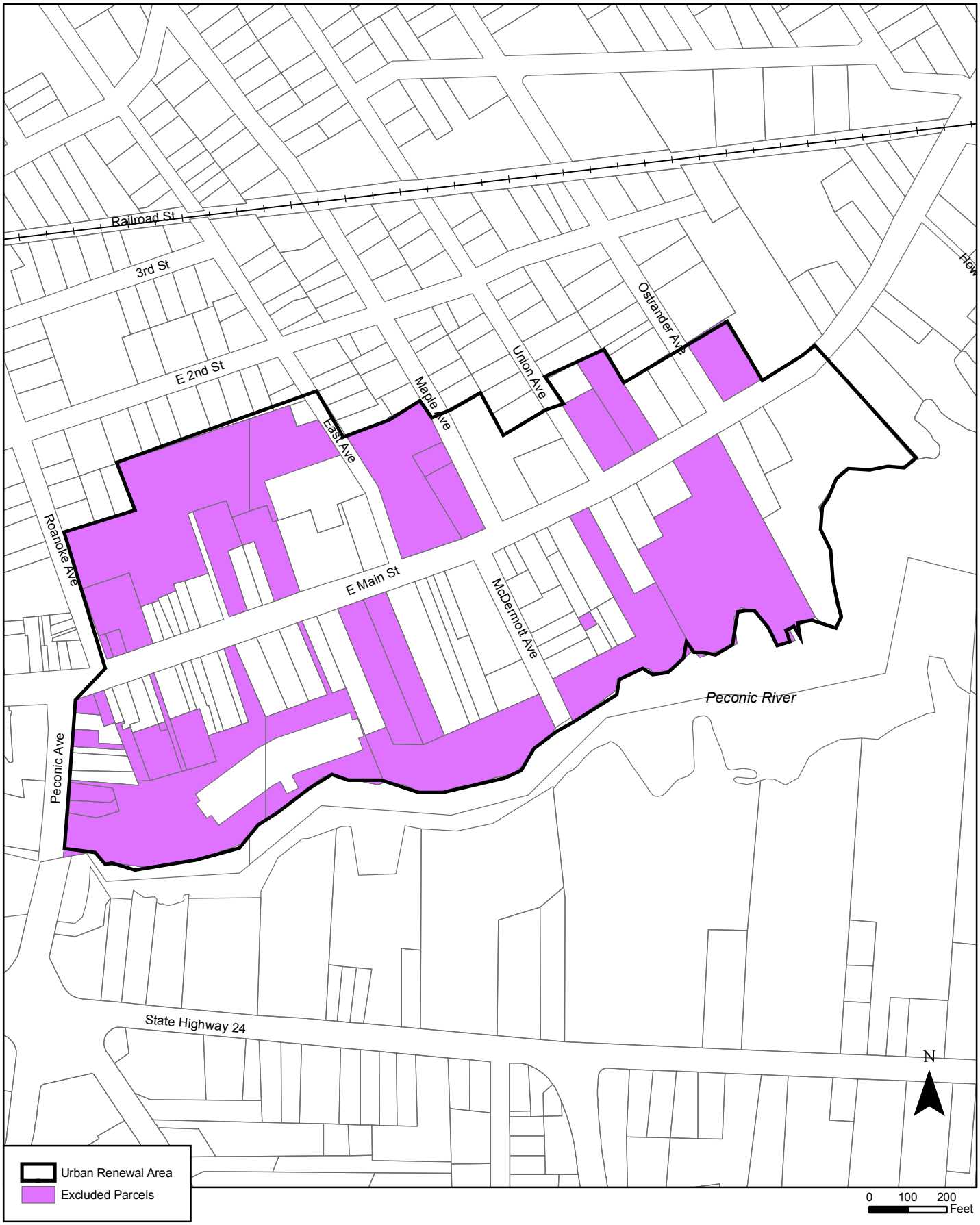


Figure 1-6
Excluded Parcels

receive 10 percent of the total residential units). Each residential unit was assumed to be 650 square feet, based on the DC-1 code's required minimum unit size for units on upper floors.

4. For the remaining new square footage, future land uses were assigned based on the 13 non-residential permitted uses in the DC-1 district. These land uses were distributed evenly over the remaining new development by Superblock and categorized as commercial, cultural/institutional, and recreational.

The following assumptions were made for the purpose of the interim analysis:

- Based on the short-term scenario projects and expected future development, it was assumed that 34 residential units, in addition to the 366 units developed during the short-term, would be developed in the interim scenario. Therefore, a total of 400 units would be developed at the end of the interim period. After the interim period, only an additional 100 units would be available for development in the EMSURA;
- Parcels depicted in Figure 1-6 were assumed to remain in the existing condition. Build-out projections are not calculated for certain Town-owned property, and all landmarks, places of worship, and parks, since it is assumed that these properties would not be altered with respect to development due to the nature of their respective uses (see Figure 1-6). Additionally, non-conforming single-family homes are phased out; and
- The mix of uses applied to development projected for the interim scenario is consistent with guidelines permitted as-of-right in the DC-1 zoning regulations.

LONG-TERM DEVELOPMENT SCENARIO

The long-term development scenario, including development that may occur between 10 and 15 years into the future (2017-2022), permits 80 percent lot coverage. The new square footage is appropriated to new residential units. It is assumed that 100 more residential units would be developed in the entire EMSURA during this phase. The methodology of assigning new square footage to land uses mimics the methodology used in the interim development scenario.

G. PUBLIC REVIEW

This DGEIS has been prepared pursuant to SEQRA and its implementing regulations. The State environmental review resolution provides a means for decision-makers to systematically consider environmental effects, as well as other aspects of project planning and design; evaluate reasonable alternatives; identify and, when practicable, mitigate significant adverse environmental effects. The environmental review process is outlined below.

- Establishment of a Lead Agency. Under SEQRA, the Lead Agency is the public entity responsible for conducting an environmental review. Usually, the Lead Agency is also the entity primarily responsible for carrying out, funding, or approving the proposed project. As previously stated, the Lead Agency for the proposed action is the Town of Riverhead CDA.
- Determination of Significance. The Lead Agency's first charge was to determine whether the proposed action might have a significant impact on the environment. The CDA determined that the proposed action might have a significant impact on the environment, requiring that a DGEIS be prepared, and issued a Positive Declaration.
- Scoping. Once the Positive Declaration was published, the Town prepared a Scope of Issues and the Applicant prepared a scope of the DGEIS contents. Scoping, or creating the Scope

of Issues, is the process of focusing the environmental impact analyses on the key issues to be studied. As part of the process, a public scoping hearing was held on October 25, 2006.

- DGEIS. In accordance with the Scope of Issues, this DGEIS was prepared. The Town of Riverhead will review the DGEIS for adequacy and completeness in relation to the adopted scope for the purpose of public review and issue a Notice of Completion. The Riverhead Town Board will issue the DGEIS for public review.
- Public Review. Publication of this DGEIS and issuance of a Notice of Completion will signal the start of the formal public review period. Other agencies, elected officials, and the public may review and comment on the DGEIS either in writing or at the public hearing. The Lead Agency will accept written comments for at least 30 days from the date of issuance of a Notice of Completion. A hearing on the DGEIS may be held as part of the public review process. If a hearing is held, comments will be considered no less than 10 days from the close of the hearing or 30 days from the issuance of the Notice of Completion, whichever is later. All substantive comments received will become part of the SEQRA record and will be included in the Final GEIS (FGEIS).
- FGEIS. After the close of the public comment period for the DGEIS, the FGEIS will be prepared. This document will include a summary restatement of each substantive comment made about the DGEIS. A response to those comments and revisions, including further studies as necessary, will be included. On determining that the FGEIS is complete, the Town of Riverhead Town Board will issue a Notice of Completion and circulate the FGEIS. There will be a 10-day consideration period for the FGEIS.
- Findings. The purpose of the findings is to demonstrate that the responsible public decision-maker has taken a hard look at the environmental consequences of the proposed action, State and local agencies responsible for a discretionary action regarding a project must adopt a formal set of written findings, reflecting their conclusions about the significant adverse environmental impacts of the proposed project, alternatives, and mitigation measures. The findings may not be adopted until 10 days after the Notice of Completion has been issued for the FGEIS. Once findings are adopted, the lead and involved agencies may take their actions (or take "no action"). ✷

Chapter 2: Land Use, Zoning, and Public Policy

A. INTRODUCTION

This chapter provides an overview of the existing land use, zoning, and special districts found within the EMSURA, as well as a summary of relevant Town of Riverhead and regional land use policies. Also summarized within this chapter are all pending and recently approved development applications for parcels within the EMSURA.

The purpose of this chapter is to analyze the potential effects of the *East Main Street Urban Renewal Plan Update 2008* (2008 Update) on existing land use and zoning in the EMSURA. Potential effects have been assessed for three consecutive time periods: the short term (2007-2012), interim (2012-2017), and long term (2017-2022).

Sources for the land use and zoning data include Suffolk County Real Property Geographic Information Systems data, Suffolk County Tax Maps, Town planning documents**,** the *Code of the Town of Riverhead*, and field visits carried out by AKRF on November 24, 2006 and December 11, 2006.

B. EXISTING CONDITIONS

LAND USE

TOWN OF RIVERHEAD

The Town of Riverhead is located on the East End of Long Island, New York and is bounded by the Long Island Sound to the north; the Town of Southold to the east; the Town of Southampton, Peconic River and Great Peconic Bay to the south; and the Town of Brookhaven to the south and west. In comparison to other East End towns, Riverhead has the highest percentage of land devoted to agricultural, industrial**,** commercial, and high-density residential uses and the lowest percentage of vacant land**.**

EMSURA

The geographic boundaries of the EMSURA are defined by the rear lot lines of parcels located along East Second Street to the north, Treasure Cove Resort and Marina to the east, the Peconic River to the south, and Roanoke and Peconic Avenues to the west.

The land area within the EMSURA measures approximately 41 acres, of which approximately 5 acres are roadways. The approximately 36 remaining acres comprise 90 separate Suffolk County tax parcels. As shown in Table 2-1 and Figure 2-1, the predominant land uses within the EMSURA are commercial, parking, and utilities. According to the *New York State Office of Real*

Property Services Assessor's Manual, commercial uses are "for the sale of goods and/or services."[1]

Table 2-1
Land Uses within the EMSURA

Land Use	Land Area (acres)	Percent of Total
Commercial[1]	9.4	26.1
Institutional and cultural	3.4	9.4
Mixed-use commercial[1,2]	1.6	4.4
Recreational	5.6	15.6
Single-family residential	1.0	2.8
Utilities and parking	9.6	26.7
Preserved parkland	5.4	15.0
Vacant land	0.2	0.6
Total without roadways	**36**	**100**
Total with roadways	**41**	**--**

Notes: [1]Several of the commercial and mixed-use commercial structures were vacant at the time of the field visit. Past use was used to categorize these parcels based on historical records held by the Town of Riverhead Assessor's Office.
[2]Converted residences or uses that have both a residential and commercial component.
Source: Town of Riverhead Assessor's Office.

Commercial uses found in the study area include dining establishments, a gas station, a storage-warehouse distribution facility, retail uses, banks or office uses, and several multi-occupant commercial uses. Mixed-use commercial uses are defined as uses that have one or more residential units in addition to one or more commercial establishments.[2] Several buildings identified as commercial or mixed-use are currently entirely or partially vacant.

Residential uses in the area exist either in the form of apartments on the second and third stories of mixed-use buildings or as single-family detached homes. Several apartments, as previously stated, are typically found in commercial and mixed-use buildings. According to field investigations, there are five single-family detached homes, four located on the east side of McDermott Avenue and one located on East Main Street.

Cultural and institutional uses attract visitors and tourists and give the EMSURA a sense of place. These uses include churches, schools, and civic spaces such as the East End Arts Council.

Privately held recreational uses in the area include Atlantis Marine World Aquarium, historic Suffolk Theater, and Vail-Leavitt Music Hall. Preserved parkland includes the newly constructed Peconic River Waterfront Park and John Lombardi Park, both of which are Town-owned and operated.

[1] New York State Office of Real Property Services, *New York State Office of Real Property Services Assessors Manual*, April 9, 2001, Vol. 6, p.2.

[2] Ibid.

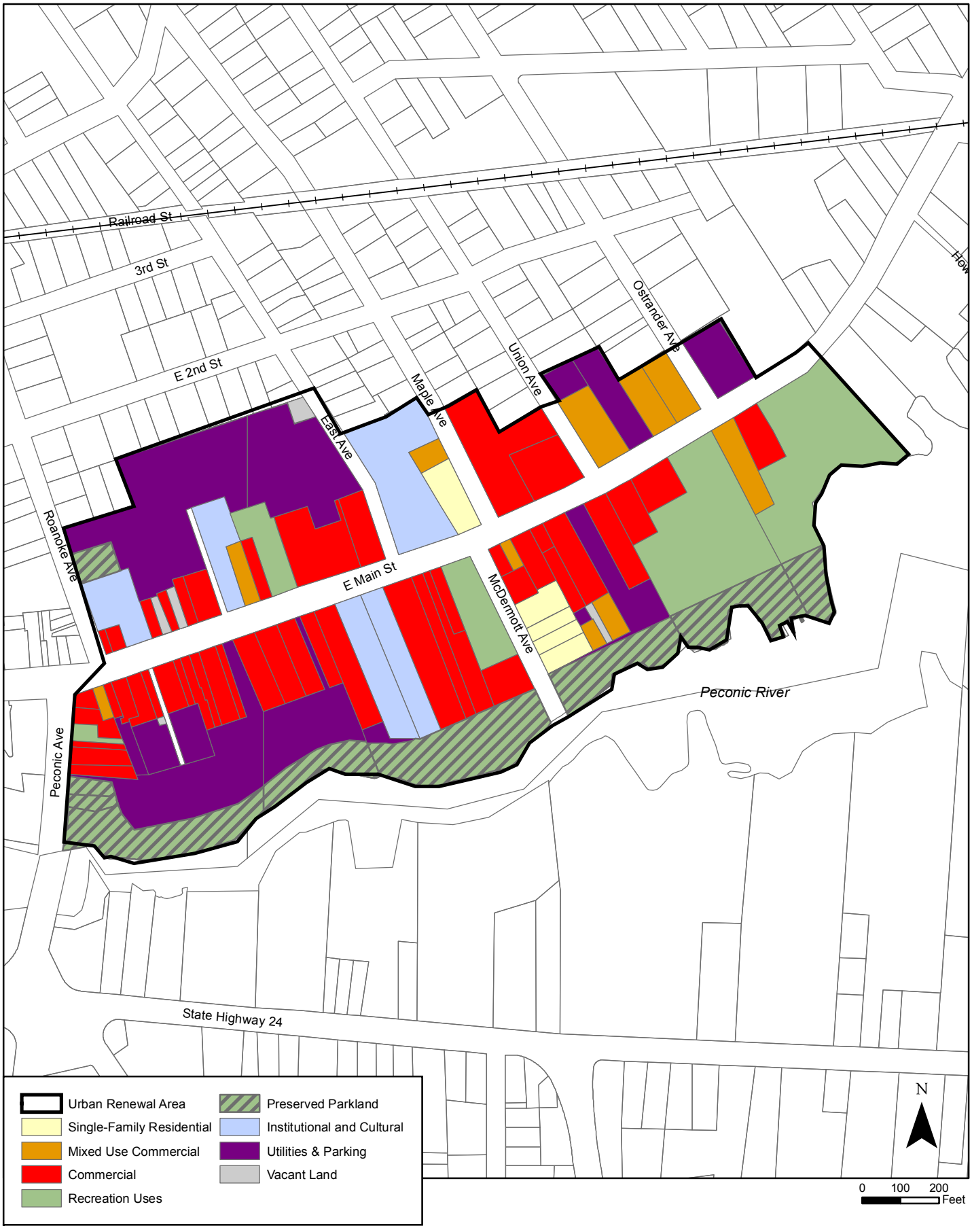


Figure 2-1
Land Use Map

ZONING

The proposed action recommends that the Town encourage the development of structures that conform to the permitted density as regulated by the applicable zoning ordinance. The EMSURA is predominantly zoned Downtown Center-1 (DC-1), which allows for relatively dense development characteristic of a typical downtown, thus encouraging taller buildings (maximum five stories) with higher lot occupancies (maximum lot occupancy of 80 percent). The height of the structures would accommodate development not traditionally found in the area, including mixed uses and hotels.

DOWNTOWN CENTER ZONING

In accordance with the recommendation of the Town of Riverhead 2003 Comprehensive Plan (2003 Comprehensive Plan), in the fall of 2004 the Town of Riverhead successfully adopted new zoning amendments to the *Code of the Town of Riverhead,* Chapter 108, "Zoning". The code amendments changed the zoning designation of several regions within the Town. The EMSURA was rezoned from Business D to DC-1: Main Street District and Downtown Center-2 (DC-2): Waterfront District.

The DC-1 district encompasses the entire EMSURA north of East Main Street and a large portion of the area south of East Main Street (see Figure 2-2), while the DC-2 district is featured along a small swath of land adjacent to the waterfront. Approximately 5.5 acres of the EMSURA are located within the DC-2 district, while the remaining 35.5 acres are located in the DC-1 district.

The DC-1 zoning ordinance, or Article LVI of Chapter 108, "Zoning," of the *Code of the Town of Riverhead* was adopted on November 3, 2004. The DC-1 ordinance, originally proposed in the 2003 Comprehensive Plan, is intended to create development around Main Street in a manner consistent with traditional downtown character providing for a mix of uses and a pedestrian-friendly streetscape. The DC-1 district permits the following 15 types of uses as-of-right:

1. Retail stores;
2. Banks;
3. Personal service businesses;
4. Indoor public markets;
5. Art galleries and studios;
6. Museums, libraries, aquariums, and other cultural attractions;
7. Restaurants, cafés, bakeries with retail sale on premises, banquet facilities, specialty food stores, ice cream parlors;
8. Theaters and cinemas;
9. Offices on upper stories;
10. Real estate and professional offices on the ground floor;
11. Schools (including business and secretarial);
12. Places of worship;
13. Residential units on upper floors with a minimum unit size of 650 square feet;

14. Bed-and-breakfast establishments; and
15. Townhouses on lots with frontage along public highways other than New York State Route 25.

Special permit uses are allowed in the DC-1 district contingent upon approval from the Town Board. Accessory uses, defined as those customarily incidental to any permitted use, are also allowed. It is important to note that the DC-1 zone allows for the development of no more than 500 residential units within the district, which extends beyond the EMSURA boundary to West Main Street just west of Griffing Avenue.[1]

The DC-2 zoning ordinance, or Article LVII of Chapter 108, "Zoning," of the *Code of the Town of Riverhead*, was also adopted on November 3, 2004. Consistent with the 2003 Comprehensive Plan, the intent of the ordinance is to "create a downtown waterfront area that meets the combined goals of the continuous pathways and public waterfront access, generous open space and landscaping, and watershed protection through limits on impervious surface."[2] This district permits only two as-of-right uses: marina/resort and retail stores. Special permit uses include lodging facilities such as hotels, inns, and bed-and-breakfast establishments as well as indoor recreation facilities. Currently, the entire district is located within the EMSURA and adjacent to the Peconic River. The Town has made improvements to this area by creating a public access route designed for pedestrian, bicycle**,** and recreational use.

DC-1 and DC-2 building and lot size requirements are provided in Table 2-2. The DC-1 district permits relatively dense urban development. Currently, none of the parcels are developed to the maximum requirements permitted in this zone. By contrast, the DC-2 district permits relatively less dense development. As such, the entire DC-2 district has been developed as a waterfront park by the Town of Riverhead.

The minimum lot size for both districts is 5,000 square feet. Within the EMSURA, there are about 35 lots that do not meet the 5,000 square foot requirement as shown in Figure 2-3. Most of these lots, as is the case with the EMSURA as whole, are developed.

Table 2-2
District Regulations

Zoning district	Minimum lot area (square feet)	Maximum lot coverage (percent)	Minimum lot width (feet)	Maximum impervious surface (percent)	Maximum height (feet)		Maximum floor area ratio (FAR)
					Feet	Stories	
DC-1	5,000	80	50	100	60	5	4
DC-2	5,000	35	50	50	35	--	1.25

Source: *Code of the Town of Riverhead,* Chapter 108, "Zoning."

[1] Town of Riverhead, *Code of the Town of Riverhead*, Article LVI, Downtown Center-1: Main Street (DC-1) Zoning Use District, 11-3-2004.

[2] Town of Riverhead, *Code of the Town of Riverhead*, Article LVII, Downtown Center-2: Main Street (DC-2) Zoning Use District, 11-3-2004.

Figure 2-2
Zoning Map

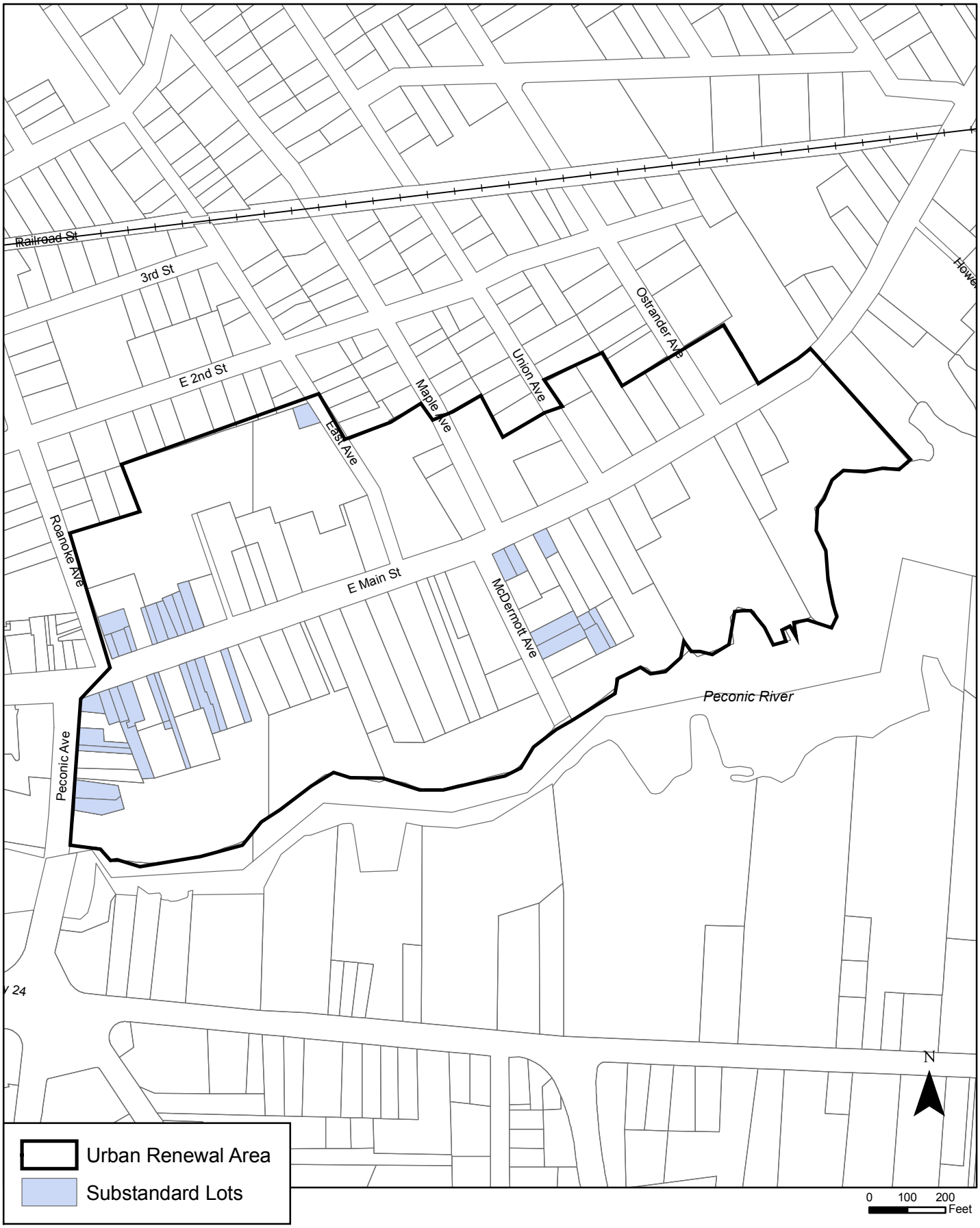


Figure 2-3
Substandard Lots

OVERLAY AND SPECIAL DISTRICTS

Several overlay and special districts are also found within the EMSURA**,** including the Business Improvement District (BID), New York State Economic Development Zone, Riverhead Parking District**,** Riverhead Sewer District, and Riverhead Historic District.

Business Improvement District (BID)

Members of the BID pay a special tax for beautification projects and events. The BID, comprised of more than 250 downtown Riverhead businesses and properties, was adopted to help create a plan for bringing retail tenants, shoppers, and tourists back to the downtown.[1] The BID is anchored by existing structures, including a transportation center, Riverhead Free Library, Suffolk County Historical Society, and the Long Island Rail Road station. At the east end is Atlantis Marine World Aquarium and the East End Arts Council. In the central area there are several banks and a County courthouse.

New York State Empire Zone-Riverhead Sub Zone

The Empire Zone Program, formerly known as the Economic Development Zone Program, was created by New York State in 1986 to stimulate growth in a number of the State's most severely distressed areas. The EMSURA is located within the downtown Riverhead sub zone (see Figure 2-4). The following excerpt was published on the Town of Riverhead Empire Zone website:[2]

> *The majority of the 61 acre downtown Riverhead sub zone lies within the boundaries of the Business Improvement District. The core of the downtown sub zone includes approximately 300,000 square feet of street level commercial space housing a mixture of retail, office, residential, service and quasi-public uses. There is approximately 40,000 square feet of vacant ground level retail space at this time (this may be according to older estimates). A more detailed inventory of the properties that lie within the sub zone can be found in both the East Main Street and Railroad Avenue Corridor Urban Renewal Plans.*
>
> *Encouraged uses in the Downtown designated zone areas are consistent with the permitted town zoning Tourism related uses such as cultural attractions, theaters, retail stores that are unique to the area, indoor public markets, art galleries, hotels/marinas/resorts, and residential/commercial mixed use, specialty food stores, and commercial projects committing to a significant capital investment or rehabilitation of currently vacant or blighted buildings. Businesses captive to a customer base for tourism will be targeted for certification.*
>
> *A Downtown Center Office District is also an element of the Downtown Riverhead Sub Zone. This district compliments the State Supreme Court and Suffolk County complex, adjacent to the sub zone area, by allowing a moderate-intensity mix of uses with ground floor offices and retail. Since these uses are considered inherent to the building of the court complex, they will not be encouraged with zone benefits. However, the Town of Riverhead is entertaining the private development of parking facilities to meet the needs of the complex in the Railroad Avenue portion of the sub zone such a project may be eligible for certification if combined as mixed use.*

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[1] Town of Riverhead, *Code of the Town of Riverhead*, Chapter 7 Business Improvement District, September 4, 1990.

[2] Town of Riverhead, Empire Zone, http://www.riverheadzone.com/, December 2006.

> *The zone program, through a variety of financial incentives and economic development benefits designed to attract new businesses and to enable existing businesses to expand, create new jobs and encourage private investment within the designated zones. Moreover, Empire zone localities facilitate access to job training, childcare and other assistance that will prepare individuals for the workplace. Specific benefits that the program provides are a combination of tax credits, reduced utility rates, authorization for special low-interest loans, and priority attention from State agencies for new and expanding businesses. Hence, this program enables The Suffolk County/ Riverhead Empire Zone to virtually be a tax-free zone in "best-case" scenarios.*

Riverhead Parking District

The Riverhead Parking District No. 1 was adopted as an official Town of Riverhead Special District regulated by Article 12, Section 190 of the New York State Town Law under the General Municipal Law. The parking district is a taxing jurisdiction. Figure 2-5 depicts the geographic boundaries of the parking district, which have been extended since its origination. Uses within the parking district are not subject to the same parking requirements as uses outside of the parking district boundaries. Rather, uses within the parking district are held to less stringent parking requirements. Owners of property within a parking district do not have to provide off-street parking as required by code.[1] The purpose of the parking district is to provide parking spaces which serve the entire downtown area. The Town Board, which serves as the regulating board of the parking district, may vote on issues including changing the parking district boundaries, maintenance, and improvement projects. An extension of the district requires a public hearing prior to a vote by the Board. Decisions of the Town Board must be based on the overall benefit of the district as a whole.

Riverhead Historic District

The Riverhead Historic District (see Figure 2-6) is the first historic district designation in the Town and was adopted in the summer of 2006. The purpose of the historic district is to maintain and preserve the historic character of an area. A historic structure that is designated as a landmark or part of a historic district cannot be significantly altered or demolished without review by the Riverhead Landmarks Commission, which is made up of seven Town Board-appointed members.[2] The Building Department maintains a map showing all designated landmarks and historic districts and notifies the Commission of permit requests or if the change proposed by the owner of a historic structure requires a building permit. The Commission has 60 days to approve, modify, or disapprove an application. The Town Board may call a hearing to review Commission actions.[3]

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[1] Town of Riverhead, *Code of the Town of Riverhead*, Section 108-60 (I) Zoning: Off-street Parking, September 24, 1970.

[2] Town of Riverhead, *Code of the Town of Riverhead*, Chapter 73, "Landmarks Preservation," June 20, 2006.

[3] Town of Riverhead, *Tourist Attractions and Destinations*, Landmarks Preservation Commission, Landmarks Preservation Committee, Riverhead Landmarks Brochures, http://www.riverheadli.com/riverhead-landmarks.pdf, December 2006.

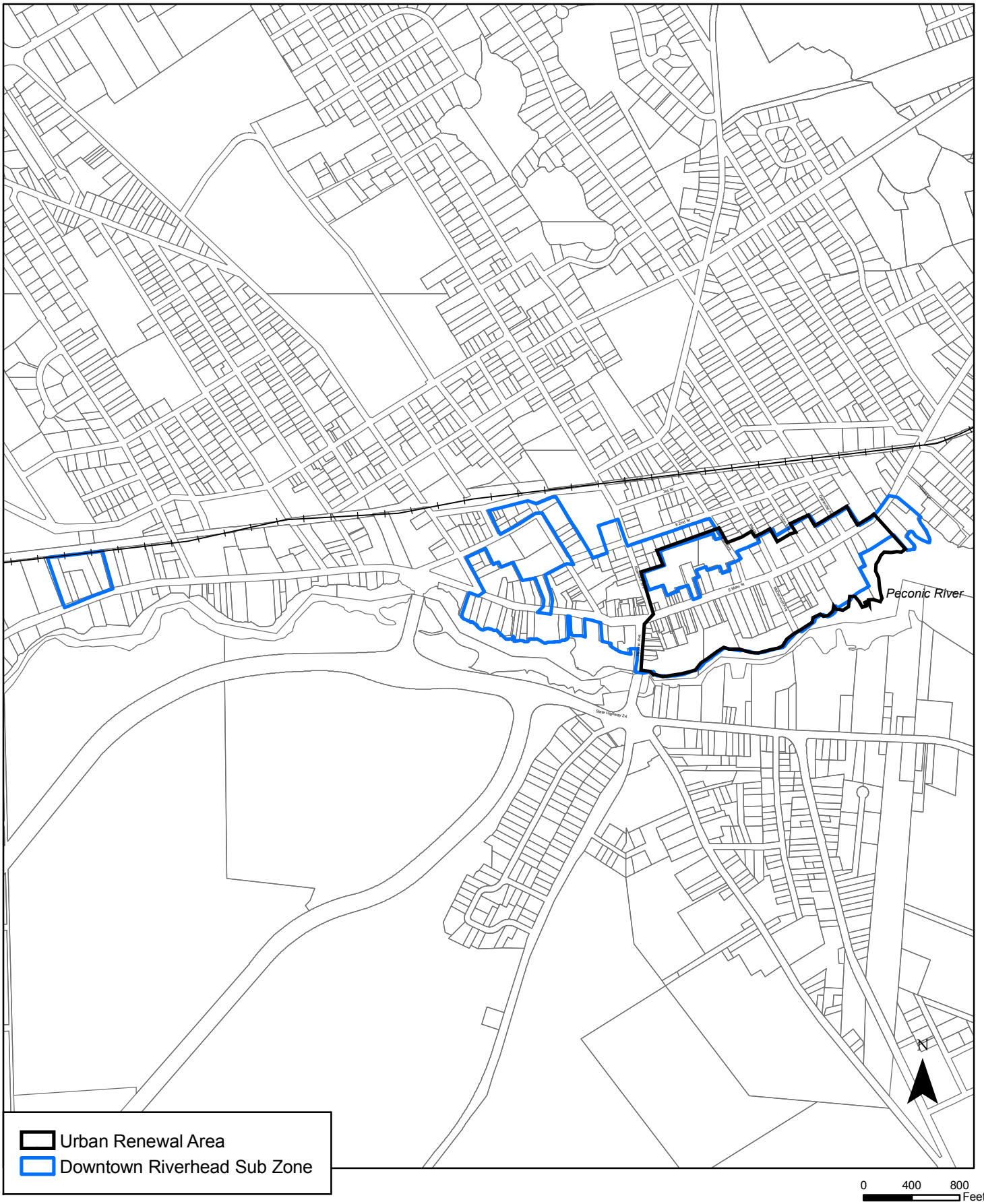

Figure 2-4
Empire Zone

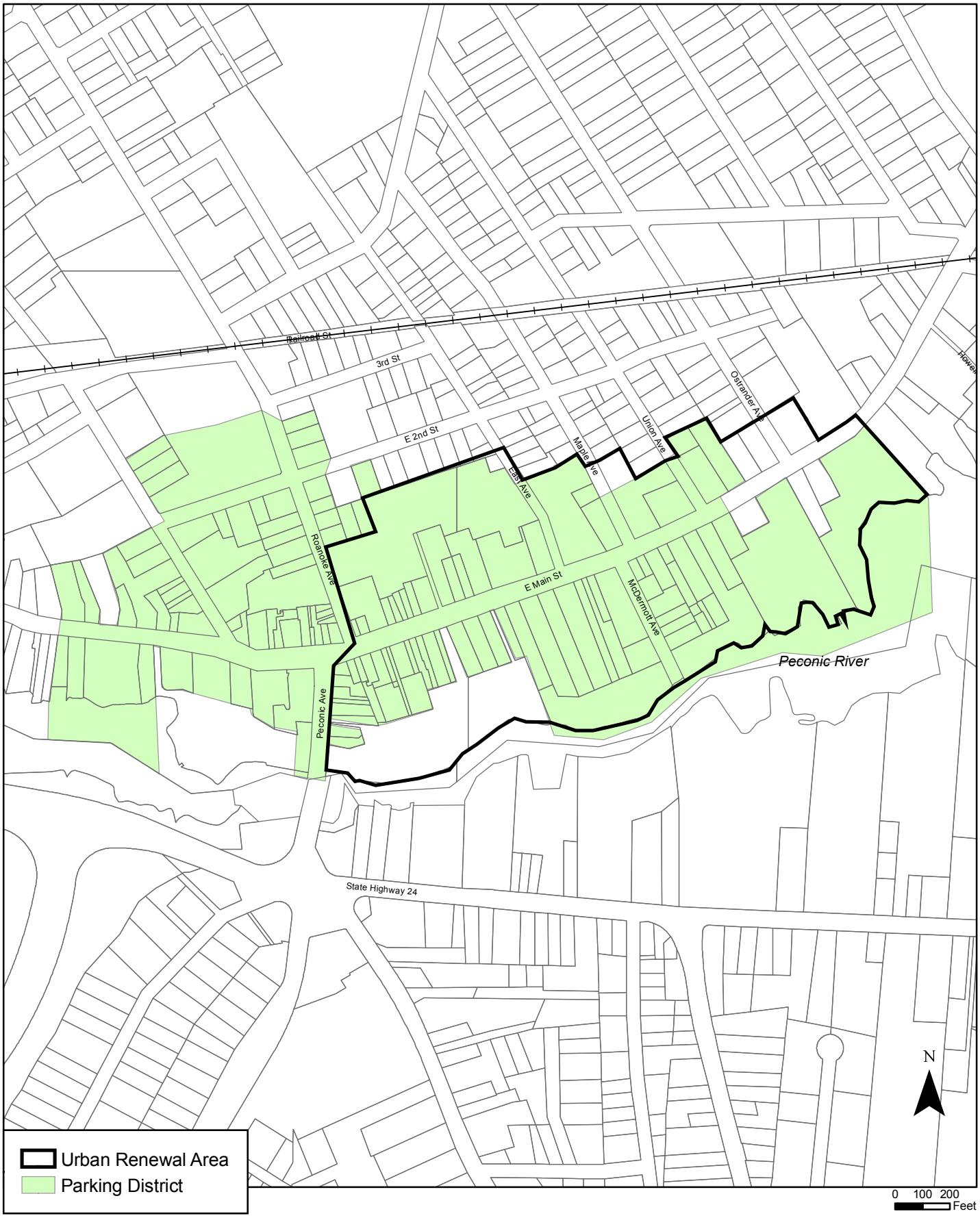

Figure 2-5
Riverhead Parking District No 1

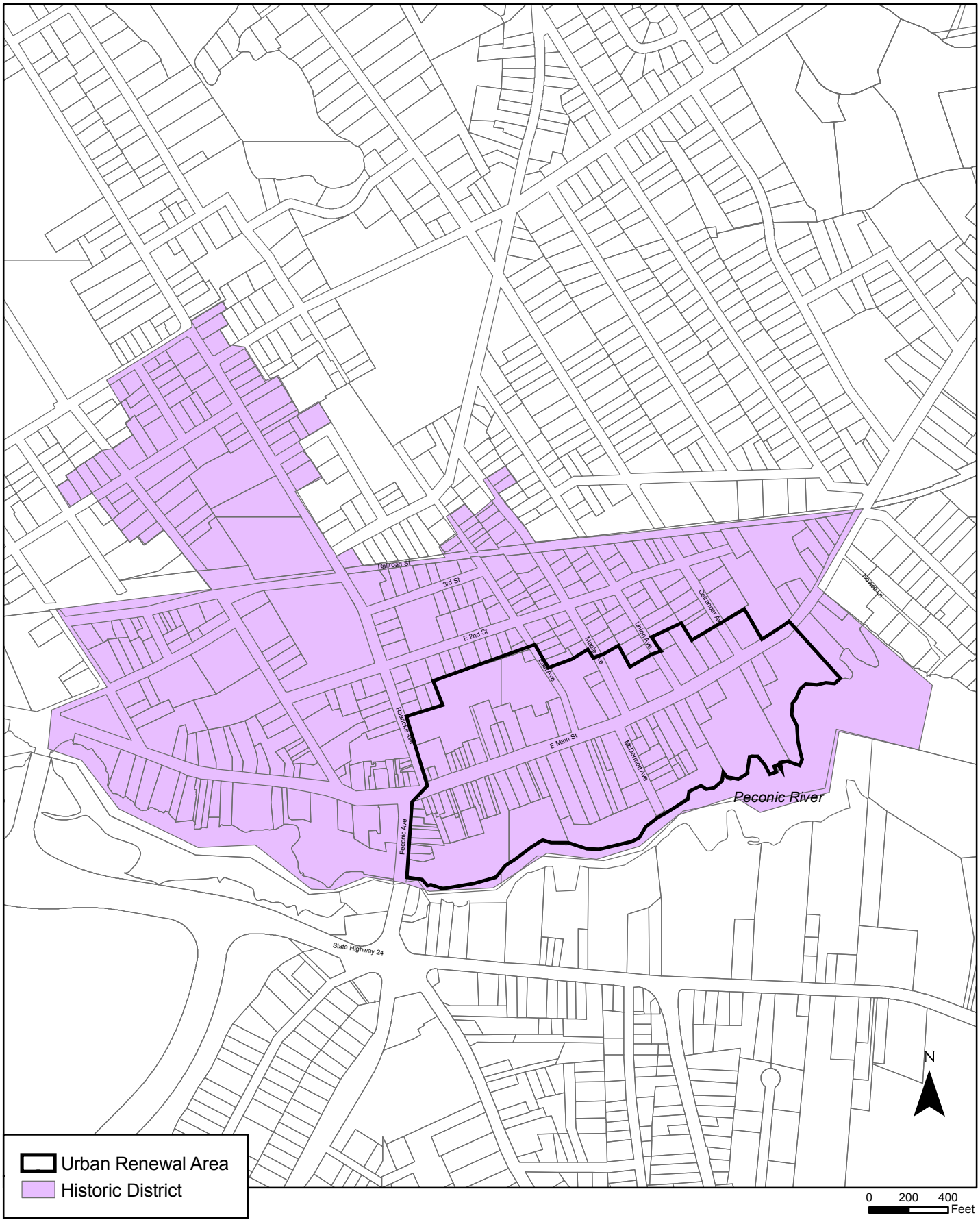

Figure 2-6
Historic District

Riverhead Sewer District

The Riverhead Sewer District boundaries include the southern portion of Riverhead hamlet as well as the central and eastern portions of Calverton hamlet (see Figure 2-7). There are 12 pumping stations and approximately 25 miles of sewer mains that transport sewage to the treatment plant.[1] The sewer district is also a taxing jurisdiction and is regulated as a Special District under New York State Town Law.

The Riverhead Sewer District plant was originally constructed in 1937 as a primary treatment plant with chlorination for disinfection. In 1959, the plant was upgraded to a secondary treatment facility with the installation of trickling filters and was upgraded again in 2000. The improvements included the installation of sequencing batch reactors and the use of ultraviolet light for disinfection. The permitted capacity of the Sewage Treatment Plant is 1.3 million gallons per day (gpd).[2] However, the sewer district's capacity is 1.2 million gpd with a current flow of about 800,000 gpd.[3] The 100,000 gpd difference between the permitted capacity and the sewer district's capacity is accounted for by the Riverhead Scavenger Waste Distribution Plant. That plant accommodates residential and commercial sanitary waste collected from the five East End towns. Further detail abut the district has been provided in Chapter 6, "Infrastructure."

Riverhead Water District

The Riverhead Water District covers a large portion of the Town of Riverhead serving, in 2005, about 40,000 residents. The source of water for the district is groundwater pumped from 13 wells located throughout the community that are drilled into the Glacial and Magothy aquifers beneath Long Island. Generally, the water quality of the aquifer is good to excellent, although there are localized areas of contamination. The total amount of water withdrawn from the aquifer in 2005 was 2.74 billion gallons, of which approximately 93.3 percent was billed directly to the residents of the district.[4]

PUBLIC POLICY

TOWN OF RIVERHEAD

Several regional municipal planning documents have shaped the current land use policy of the Town, as discussed in this section.

Town of Riverhead Comprehensive Master Plan of 1973

The Town published its first comprehensive master plan in 1964, which was updated for the first time in 1973. The *Town of Riverhead Comprehensive Master Plan of 1973* discusses town-wide issues such as the environment, particularly the preservation of open space and water resources; population and housing; promoting the Riverhead Business Center as an economic focus; the appropriation of land for the development of industrial parks; and improving traffic and the circulation infrastructure in the overall Town.

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[1] Town of Riverhead, Sewer District, http://www.riverheadli.com/sewer.html, December 2006.

[2] Riverhead's Sewage Treatment Plant State Pollutant Discharge Elimination System (SPDES) Permit.

[3] Town of Riverhead,.Water District, http://www.riverheadli.com/2005CCR.pdf, December 2006.

[4] Ibid.

Analysis of the Opportunity for the Revitalization of the Main Street Corridor (1993)

This report was drafted in the spring of 1993 and served as a market analysis of the downtown business district by assessing the amount of retail and other uses that could be supported in the downtown area consistent with the then-stated goals of the BID. Those goals were to "reorient the focus of the downtown around the riverfront," and to "encourage a tourist-oriented retail economy, and redevelop buildings that boast historic character." The findings of the report support the belief that an adequate market potential exists for significant retail revitalization in combination with development that affords organized recreation and tourist-oriented attractions.

Revitalization Strategy for Downtown Riverhead (2000)

In 2000, the Town of Riverhead released the *Revitalization Strategy for Downtown Riverhead.* The report recommended goal-based strategies for creating a cultural and institutional center at the mouth of the Peconic River in downtown. The premise of this report was that downtown Riverhead should be the cultural and institutional center of the East End of Long Island. A detailed review of planning issues and market analyses led to several policy goals. With respect to the EMSURA, these goals included the following:

> *"Land uses should attract tourists, boast specialty shopping, promote a mix of uses, and incorporate artist housing. Design and spatial setting should enhance the historic character, promote rational building layouts with variety in building design, promote pedestrian and bicyclist oriented design and overall emphasis on enhanced gateways."*

Town of Riverhead Comprehensive Plan, November 2003

The 2003 Comprehensive Plan institutes goals, policies, and recommendations that consider the future growth and development of the Town. Policies concerning the downtown area of Riverhead are summarized below.

The 2003 Comprehensive Plan was an outgrowth of a Town-administered public outreach process. Recommendations specific to the EMSURA and adjacent areas include "retooling Main Street for tourism, while protecting and enhancing the historic building fabric and managing traffic and parking demands." The plan provides specific guidelines for the development of the entire Town, and recommends the implementation of the Downtown Center Zoning Districts. The intent of the recommendation is to transform downtown Riverhead into a vital, high-density, mixed-use environment for shopping, dining out, cultural activities, entertainment, and professional services year-round. Chapter 6, "Business Districts Element," of the 2003 Comprehensive Plan provides several goals and policies for development within all of the Downtown Center Zoning District categories (DC-1 Main Street Zoning District, DC-2 Waterfront Zoning District, DC-3 Office Zoning District, DC-4 Office/Restaurant Transition Zoning District, and DC-5 Residential Zoning District). Goal 6.1 of the plan recommends that the Town "emphasize downtown as the civic, cultural, specialty shopping and historic center of Riverhead. Downtown should be bolstered as a regional tourism center. A mix of cultural, retail, civic, park, tourism, office, entertainment**,** and residential uses should be promoted to create a dynamic, 7-day-a-week, 4-seasons destination. Design standards should promote an historic, compact, pedestrian-oriented, high-amenity environment."

Other goals relevant to the EMSURA have been summarized and include the following:

- Goal 6.6: Develop tourist and specialty shopping niches and a variety of tourist attractions;
- Goal 6.7: Expand and improve the waterfront park;

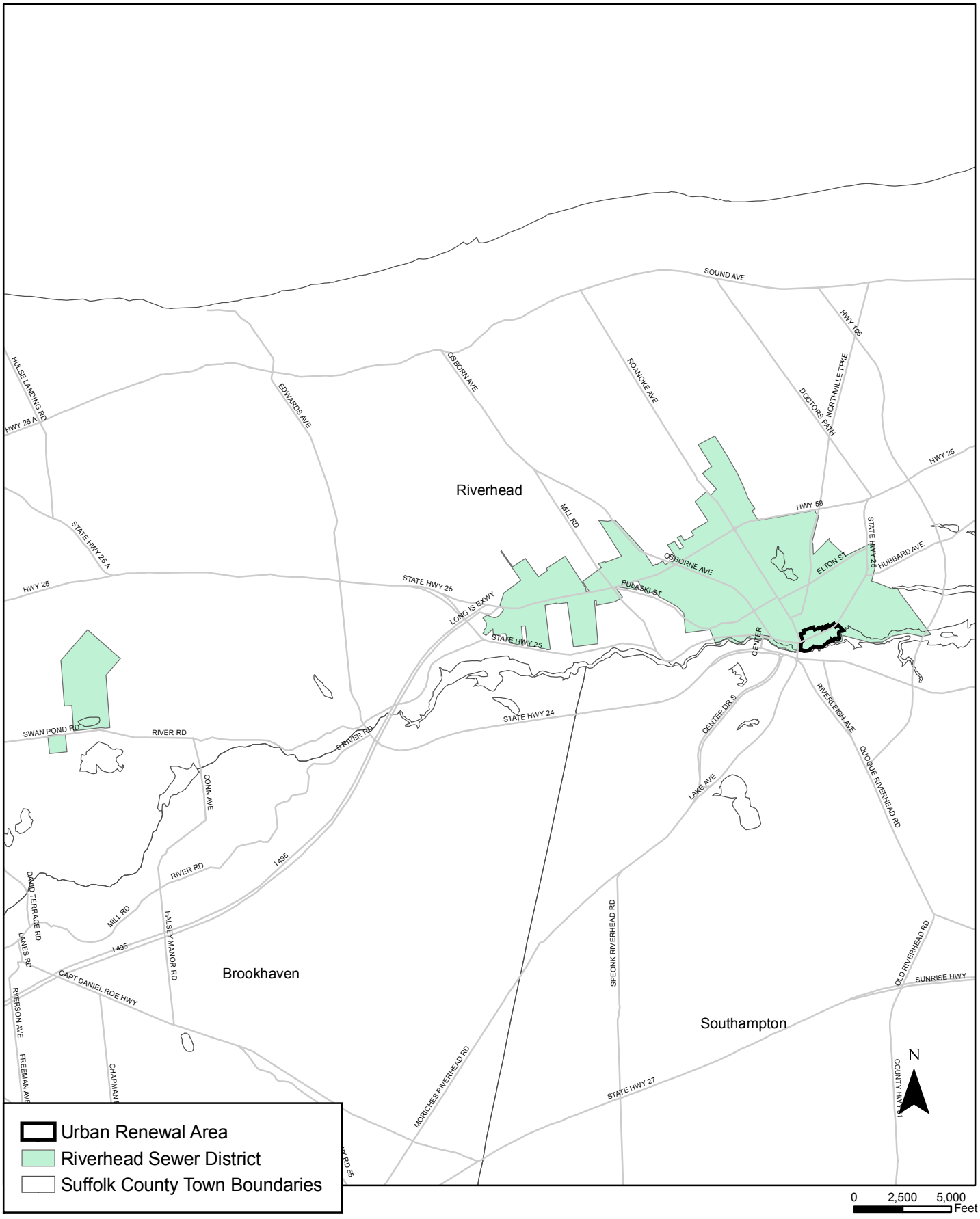

Figure 2-7
Riverhead Sewer District Map

- Goal 6.8: Establish a land use framework, while preserving and promoting a mix of uses;
- Goal 6.9: Promote housing revitalization and artist housing;
- Goal 6.10: Preserve and enhance the downtown's historic character;
- Goal 6.11: Preserve and promote traditional building layouts and development patterns, while allowing variety in building design;
- Goal 6.12: Promote pedestrian and bicycle access and circulation;
- Goal 6.13: Manage traffic circulation while maintaining auto access;
- Goal 6.14: Expand the facilities of the Riverhead Parking District;
- Goal 6.15: Design parking lots that are walkable, attractive, and integrated with downtown buildings; and
- Goal 6.16: Enhance gateways and arrival points.

Several environmental concerns or issues were also addressed by the 2003 Comprehensive Plan. The policies state that development should:

- Address flooding concerns throughout the Town, but particularly along the Peconic River;
- Implement impervious surface coverage limits to development town-wide to limit the amount of stormwater runoff;
- Increase installation of detention basins for commercial sites so that stormwater is prevented from flowing directly into nearby waterbodies and exacerbating floods;
- Limit new development and the addition of new impervious surfaces within flood hazard areas;
- Purchase land along the Peconic River waterfront for walking trails;
- Shift development from the agricultural greenbelt to areas north of Sound Avenue, as well as to the Town's hamlet areas, Enterprise Park, County Road 58, and areas within and around downtown;
- Coordinate scenic preservation initiatives with other community enhancement programs, including open space acquisition, natural resource conservation, park and recreation development, and business district improvement efforts;
- Promote downtown and hamlets as centers for specialty shopping and civic life, building on their historic and pedestrian character;
- Promote cultural attractions in downtown Riverhead, building off their historic character and unique setting, concentrate tourism-oriented retail in downtown Riverhead; and
- Allow second- and third-floor housing to be built above ground-floor "Main Street" retail uses, the development of small apartment buildings with rental units, and apartment buildings with rental units in a campus-like setting.

RECENT APPROVALS

The Town of Riverhead has recently approved several development applications consistent with the goals and objectives of the 2003 Comprehensive Plan that promote various uses for the downtown. Most notable of these approvals is the recent Suffolk County Community College Culinary Arts Institute and the transfer of Town-owned land to the Suffolk Theater Urban Renewal Project. The specialty school and theater both will serve as cultural and educational anchors in the community. Other projects that have recently been approved would increase the

number of uses that are classified as mixed use, i.e., those uses that have both a commercial and residential component within the same structure. Below is a description of each project identified by the submitted project name:

1. Zenith: This project is a five-story mixed-use building. The first floor would be occupied by a commercial retail use while the upper floors would contain nine apartments. The project would be located on McDermott Avenue at a site that currently has a single-family residential dwelling. The dwelling would be demolished.
2. Strebel: This project includes a two-story mixed-use building with retail commercial on the ground floor and a single apartment above. The building would be located on a parcel where a restaurant presently exists. The building would be located south of the restaurant, which fronts on the south side of East Main Street.
3. Viva L'Arte: This project is a two-story building with a cultural use on the ground floor and two residential units (specifically, artists' lofts) above. The proposed project would be located near the corner of East Main Street and Roanoke Avenue, fronting on the north side of East Main Street. The site is currently vacant.
4. 209 East Avenue: This project is a five-story mixed-use building, the first floor of which would be used for commercial retail and commercial office uses. Upper floors would include three residential units. The project would be located on East Avenue, just south of East Second Street. The parcel is currently occupied by a converted residence.

These recently approved projects were the first applications to be submitted following the 2004 rezoning of the EMSURA. The applications and subsequent approvals are an indication of the uses that would be proposed and approved in the future. These projects propose uses that warrant a larger building than that which currently exists.

REGIONAL

Peconic Estuary Program: Comprehensive Conservation and Management Plan (1999)

The study area of the *Peconic Estuary Program Comprehensive Conservation and Management Plan* (Peconic Estuary Program) includes more than 110,000 acres of land and covers portions of six towns, including the Town of Riverhead, and four villages. The purpose of the Peconic Estuary Program is to help preserve, protect, restore, and enhance natural resources and water quality. The Peconic Estuary Program emphasizes the importance of properly managing brown tide, nutrient loadings, habitat and living resources, pathogens, and toxins. In addition to these issues, the Peconic Estuary Program provides recommendations pertaining to public education, outreach, financing**,** and implementation of desired initiatives. With respect to land use, the Peconic Estuary Program recommends several action items, including the protection of ecosystems, the support of sustainable recreational and commercial activities, the development of a regional aquaculture plan, and the utilization of land use planning, Best Management Practices, and other management measures that reduce the negative impacts of human uses and development on the Peconic Estuary.[1]

[1] New York State Department of Environmental Conservation, *Peconic Estuary Program: Comprehensive Conservation and Management Plan*, September 1999.

Smart Growth Policy Plan for Suffolk County (2000)

The Suffolk County Legislature, in 2000, passed resolution No. 212-2000, requiring a Master Plan for smart growth in the County. In October 2000, the Suffolk County Planning Department drafted the *Smart Growth Policy Plan for Suffolk County*. This plan was prepared to describe smart growth principles that would "provide sensible growth, as well as balance jobs and economic development with the preservation of the natural environment and the historical community fabric." The smart growth initiative is a collaborative effort among Suffolk County, towns, hamlets, villages, and local citizens to promote development that considers all aspects of a community and ways for the community to prosper socially, culturally, economically, and ecologically. There are eight smart growth principles outlined in this document that help to further the County's goals for appropriate development, reduced sprawl, and preservation of natural features. These eight principles include:

1. Encourage consultation and collaboration among communities;
2. Direct development to strengthen existing communities;
3. Preserve open spaces, natural and historic resources, and working farms;
4. Encourage compact and orderly development;
5. Provide transportation choices;
6. Provide for a variety of housing choices;
7. Encourage permitting processes that are predictable, certain, efficient, and final; and
8. Encourage consistency of government policies and programs.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

INTRODUCTION

The proposed action is the adoption of the 2008 Update.

The 2008 Update puts forth several recommendations and methods, which are intended to:

> "*Encourage land uses that are consistent with the policies set forth in the 2003 Comprehensive Plan Update, the Town's zoning ordinance, and the Revitalization Strategy for Downtown Riverhead,"* and "*promote a mix of uses that foster a balance between residential, commercial, cultural, and tourist accommodations; reduce vacancy and blight; provide connectivity within the EMSURA; and incorporate the natural amenities of the area, including the waterfront."*

There are 74 proposed recommendations aimed at improving the mix of land uses, economic viability, environment, and overall quality of life within the EMSURA. Those recommendations (provided in Chapter 1, "Proposed Action," of this GEIS) seek to reduce vacancy rates, encourage appropriate development and growth of a vibrant downtown, and eliminate blight. Recommendations related to land use, zoning, and public policy encourage reuse and redevelopment of vacant and deteriorated structures; preservation of certain historic structures and regulation of heights of buildings in close proximity to historic places; and redevelopment of uses consistent with the DC-1 and DC-2 zoning district uses. Specifically, encouraged uses include mixed retail/office/multifamily residential development; personal service related to tourism; public or community spaces and amenities; maritime, including retail, restaurants, boat and canoe rentals; and commercial use of the Peconic River, in the portion of the EMSURA west

of Atlantis Marine World Aquarium. Additionally, the proposed action recommends integrating open space into all parking and community uses.

If adopted, the recommendations of the 2008 Update would be implemented by the Town and its respective agencies or departments. Implementation strategies outlined in the 2008 Update further the recommended goals and objectives and include land acquisition, demolition and clearance of blighted properties deemed not appropriate for rehabilitation, and regulation of air rights and easements. In addition, the Town would use other methods and techniques to carry out urban renewal activities including creation or improvement of public spaces, reuse of vacant buildings, beautification projects, and redevelopment.

The Town Board would ultimately be responsible for approving actions within the EMSURA. The Community Development Agency, in its capacity as the designated urban renewal agency, would have, for a period of three years from the adoption of the proposed action, regulatory or advisory authority on all applications to the Building Department.

LAND USE

This section assesses the potential outcome if the 2008 Update recommendations and proposed land uses are implemented. The 2008 Update provides a recommended timeline as to when actions aimed at meeting the intended goals should begin and conclude. For this reason, impacts have been evaluated as described in Chapter 1, "Proposed Action," for three phases or development scenarios. The three phases are consecutive 5-year periods following the adoption of the 2008 Update.

Land uses in the EMSURA are primarily commercial and characteristic of a suburban downtown. The proposed action puts forth recommendations that, if adopted, would change the land uses in the EMSURA to a mix of commercial, residential, cultural, and tourism that all aim to promote walkability and a vibrant community. As stated, the 2008 Update recommendations would be implemented in conformance with the proposed time schedule. Based on that time schedule, it is expected that the following effects would occur. It should be noted that the following assumes the worst case build-out scenario of the EMSURA (i.e., all lots were assumed to ultimately be built out by the last phase [long-term development scenario] with the exception of excluded and exempt sites). Excluded or exempt sites are those designated historic, preserved as open space, or are designated parking areas. It is also assumed that parcels for which an application is either pending or approved would be developed as set forth in the proposed application.

Appendix A provides the complete build-out tables for each superblock. The calculations in these tables assess the impact under worst case scenario, by assuming build-out of the EMSURA per DC-1 standards in three separate phases, as recommended in the 2008 Update.

SHORT TERM (2012)

The short-term development scenario analyzes the impact of development between 2007 and 2012. It was assumed in the short term that the proposed action would result in a decrease of vacancy rates and significant redevelopment. The 2008 Update identifies several partially or entirely vacant structures for which rehabilitation and reuse are recommended. High vacancy rates (38 percent in the EMSURA) are one of the many factors that contribute to blighted conditions in the EMSURA. By addressing the vacant structures as part of the first phase, the

proposed action would have a positive impact on the study area and the Town by changing vacant structures to active uses including commercial, multifamily residential, and mixed uses.

The proposed action encourages the Town's support of applications that help to redevelop the area, especially with uses that encourage urban renewal. In addition to redevelopment of vacant structures, the short-term scenario assumed all projects either approved or submitted to the Town pending approval would be developed. Currently, there are 10 development applications that have been approved or are awaiting approval from the Town. If all applications are approved, the types and sizes of land uses relative to the current condition would change. It should be noted upon the adoption of the 2008 Update and subsequent GEIS that all applications and certificates of occupancy for vacant structures would have to conform to the recommendations set forth in the 2008 Update, including building design, use, and layout requirements. It is expected that conformance to the recommendations set forth would have a positive impact on land uses within the EMSURA by ensuring the highest and best land use as well as environmentally sensitive building design for all new buildings.

Although the area would remain primarily commercial, there would be a significant increase in mixed-use (commercial and residential) and multifamily residential units (see Table 2-3). Table 2-3 presents the change in square footage for all uses within the EMSURA for the existing condition and each of the three development scenarios. Based on Table 2-3, the EMSURA would grow by 164 percent between 2007 and 2012. As stated, this growth is largely accounted for by commercial use, mixed use, and multifamily units. The increase in these uses would help to re-establish the area as a vibrant downtown, which is characteristic of the area's historical development.

Table 2-3
EMSURA Build-Out Summary

Land use category	Existing (2007) (sf)	Short-term (2012) (sf)	Interim (2017) (sf)	Long - term (2017) (sf)	2007-2012 percent change	2012-2017 percent change	2017-2022 percent change
Commercial	127,459	650,775	1,150,065	1,317,485	411	77	15
Mixed use	20,384	251,873	251,873	251,873	1,111	--	--
Single family	9,526	8,382	4,224	4,224	(12)	(50)	--
Vacant buildings	178,982	--	--	--	(100)	--	--
Cultural and institutional	49,339	49,339	182,483	227,128	--	270	24
Recreation	84,528	79,272	278,989	345,956	(6)	252	24
Multifamily residential	--	202,505	224,605	289,739	100	11	22
Totals	470,218	1,242,146	2,092,238	2,436,405	164	68	16

Sources: AKRF, Inc., 2007, Town of Riverhead Assessor's Office.

As shown in Table 2-3, multifamily residential uses would increase by 100 percent. Based on the approved and pending applications, there would be approximately 366 new multifamily residential units that would support local businesses and create an urban environment that contributes to the downtown's diversity, vitality, and function as a pedestrian-friendly community. Alternately, other proposed uses, particularly two full-service hotels, would foster tourism and downtown-oriented land uses.

Thus, in the short term, the proposed action would result in the preservation of additional buildings that contribute to the historical significance of the area. An increase in the number of designated historical uses would have a positive impact on preserving the historical integrity of the EMSURA, promoting cultural and tourist uses.

INTERIM (2017)

The interim scenario accounts for additional growth of existing structures between 2012 and 2017, with the exception of those properties that have been deemed "excluded." Consistent with the lot requirements in DC-1, it was assumed, for the purposes of the build-out analysis, that half of the permitted lot coverage (80 percent) would be developed while also building upon existing structures to five stories.

Based on these assumptions, considered to be natural growth of the EMSURA and development of vacant land, the interim scenario would increase new development by 68 percent over the short-term scenario. Land uses for additional growth were assumed to adhere to the permitted as-of-right land uses. As shown in Table 2-3, cultural, institutional, and recreational uses would significantly increase over the short-term condition. These uses would be associated with art galleries and studios, museums, libraries, aquariums, theaters, cinemas, schools, and places of worship. As stated, the DC-1 district prohibits development of more than 500 residential units. During the short term, 366 (or 73 percent) of those units would be developed. By the end of the interim scenario, an additional 34 units would be developed, or 400 total units consistent with DC-1 bulk restrictions. Units were calculated based on the minimum 650 square feet per unit requirement. The residential unit calculation assumed the worst case scenario because the DC-1 zoning district extends beyond the EMSURA. It is likely that some of the 500 allotted units would be developed in those areas west of the EMSURA.

By 2017, it was assumed that vacant developable lots and non-conforming uses would no longer exist. In the short-term development scenario, there would be 0.05 percent of vacant undeveloped land and several non-conforming uses, including single-family homes, a gas station and a drive-through bank. The 2008 Update recommends that nonconforming uses be phased out. For purposes of this analysis, it was assumed that by the short term, nonconforming single-family homes would be phased out and replaced with new structures and uses.

Owners of nonconforming uses, should they choose to remain, are protected by the *Code of the Town of Riverhead* and therefore would not suffer a significant adverse impact, so that "*any building, structure or use existing on the effective date of this chapter, or any amendment thereto, may be continued on the same lot held in single and separate ownership, although such building, structure or use does not thereafter conform to the regulations of the district in which it is located, and may thereafter be extended on the same lot by special permit of the Town Board. If the extent of the change is 10% or less, the public hearing requirement may be waived by the Town Board."* [1]

LONG TERM (2022)

The build-out calculations for the long-term development scenario assume that the EMSURA would be fully built out in conformance with DC-1 standards (i.e., maximum lot coverage of 80

[1] Town of Riverhead, *Code of the Town of Riverhead*, Article XIII, Section 108.51, Supplementary Use Regulations, September 24, 1970

percent and a FAR of 4). The long-term scenario also assumes that the EMSURA would have a maximum of 500 multifamily residential units. The full build-out of the EMSURA would result in 16 percent more development over the interim condition.

By the long term, land uses in the EMSURA would be predominantly commercial, residential, cultural, and recreational. This change would not have a significant adverse impact on land use in the area and in fact would benefit the area by attracting permanent residents, visitors, and tourists, who in turn would support commercial uses. This change in land use would give the EMSURA a sense of place and purpose. Compared to the existing condition, the EMSURA in the long term would resemble more of an urban environment than is currently evident. It is assumed that this change would emphasize the downtown aspect of the EMSURA, thereby rehabilitating its historic vibrancy.

Overall, the proposed action seeks to implement recommendations that would phase out nonconforming uses; redevelop and reuse vacant and/or deteriorated buildings; promote development of additional cultural and recreation uses such as open space, public spaces, and historic sites; encourage mixed-use, multifamily structures; and expand new commercial development such as maritime uses.

With regard to land uses surrounding the EMSURA (predominantly single-family residential and commercial uses), the increase in height and density of buildings as well as the improvement of their overall condition would benefit the surrounding area by improving property values and increasing diversity of uses consistent with a vibrant downtown community. Further, the improved mix and variety of uses would allow residents to shop and work downtown, versus driving to various destinations outside of the EMSURA.

ZONING

In 2004, the downtown was rezoned from Business D to DC-1 and DC-2. DC-1, unlike the previous district, allows for the development of multifamily apartments. The development applications considered in the short-term scenario and 2008 Update propose uses that are either consistent with the DC-1 ordinance or would require a variance or special permit.

By limiting the potential for high density development in close proximity to the Peconic River, the proposed action would further the goals and objectives of the DC-2 zoning ordinance. The parking lot, as it exists today, would be altered so that overall impervious coverage would decrease from the current condition and therefore the number of traditional parking spaces would likely decrease. However, most of the EMSURA is located within the Riverhead Parking District No. 1, which provides parking for the entire area.

The recommendations proposed maintain the intent of the zoning ordinance and would not have a significant adverse impact on zoning in the area. The proposed action is expected to improve the health, safety, and general welfare of the Town of Riverhead and increase property values. In fact, consistent with the goals of DC-1 and DC-2, the proposed action would improve the overall economic viability, character, and vibrancy of the area. Further, the proposed action would not alter the zoning designation of the area surrounding the EMSURA, including the Residence A-40 Zoning District to the north and Industrial C zoning district to the west.

Changes to the parking district have been discussed in Chapter 11, “Transportation and Parking.”

PUBLIC POLICY

As noted in the 2003 Comprehensive Plan, the area in which the EMSURA is located is part of Riverhead's downtown. The proposed action adheres to the policy recommendations set forth in the 2003 Comprehensive Plan relating to the downtown's redevelopment and overall character. The goals of the 2003 Comprehensive Plan were adhered to in the 2008 Update. Most importantly, the 2008 Update supports the enhancement of the waterfront by recommending a rezoning of parcels adjacent to the waterfront to a less intensive zoning district.

The conclusions and recommendations published in the *Analysis of the Opportunity for Revitalization of the Main Street Corridor* and *Revitalization Strategy for Downtown Riverhead* advocate the development of increased commercial uses that attract visitors and tourists to the area. Specifically, they promote recreational and cultural uses that incorporate the Peconic River waterfront. The statement of land uses in the 2008 Update recommends uses and design standards that promote additional open space, public spaces, and community facilities, while still encouraging tourist-oriented uses, as well as building design and orientation that incorporates the waterfront. Recommendations specifically state that the Town should encourage and promote "commercial and recreation uses that are more directly related to the waterfront," as well as "maritime uses including retail, restaurants, boat and canoe rentals," and "open space and community facilities for tourists and local residents."

As previously discussed, the Town has recently approved several applications for development within the EMSURA. The approved development applications are expected to be implemented in the short term or by 2012. The recommendations in the 2008 Update regarding development place height limits on structures in close proximity to historically significant buildings. The approved applications are not adjacent to historic structures within the EMSURA. Other recommendations that may affect the approved applications are requirements for buildings to follow green building design standards. At this time only one of the approved applications, the Strebel project, has begun construction. The remaining projects should not be impacted by this recommendation or policy as green building design is intended to benefit the surrounding community as well as the project itself. The recommendations would also require that projects incorporate connectivity with adjacent uses, designs that enhance pedestrian activity and safety, and maintain the intended integrity of the downtown atmosphere. If the proposed action is approved, these recommendations would be incorporated in all approved applications.

Regional plans, including the Peconic Estuary Program and the *Smart Growth Policy Plan for Suffolk County*, put forth recommendations and guidelines that enhance the environmental and development goals of the region. The 2008 Update provides recommendations that seek to improve both the environmental quality and local land use development of the EMSURA.

Downtown revitalization is at the heart of the proposed action. The recommendations made in the 2008 Update, specifically those that encourage and promote connectivity between buildings and/or uses, promote pedestrian access, encourage mixed-use building, and create aesthetically sound development, follow principles put forth in the *Smart Growth Policy Plan for Suffolk County*. ✷

A. INTRODUCTION

This chapter provides a summary of U.S. Census Bureau data for population and housing within the EMSURA for the years 1990 and 2000, and a comparative analysis with the projected short-term (2012), interim (2017), and long-term (2022) build conditions. The purpose of this chapter is to assess the proposed action's potential to affect population and housing in the EMSURA and identify the potential effects of those changes. Also provided are statistics on school-age children within the EMSURA and a comparative analysis of the EMSURA population and housing with the hamlet of Riverhead, the Town of Riverhead**,** and the other four East End Towns.

B. EXISTING CONDITIONS

POPULATION AND GROWTH

Population and housing data for the EMSURA were collected from reports published by the U.S. Census Bureau at the block level for census blocks within the EMSURA boundary, as shown in Figure 3-1. It should be noted that the census block areas are slightly larger geographically than the EMSURA, thus inflating the actual population and housing numbers within the EMSURA, and providing a very conservative estimate of those statistics. The study area for population and housing in the EMSURA includes Census Tract 1698, Block Group 4, Blocks 4001, 4012, 4013, 4014, 4015, 4033, and 4034.[1]

Table 3-1
Population

Area	1990 Total population	2000 Total population	1990-2000 Actual change	1990-2000 Percent change
EMSURA*	204	254	50	25
Riverhead hamlet	8,814	10,513	1,699	19
Town of Riverhead	23,011	27,680	4,669	20
Town of Southampton	45,351	54,712	9,361	20
Town of East Hampton	16,132	19,719	3,587	22
Town of Southold	19,836	20,599	763	4
Town of Shelter Island	2,263	2,228	(35)	(2)
Suffolk County	1,321,864	1,419,369	97,505	7

Note: *Defined by U.S. census blocks (see Figure 3-1). It is noted that the study area boundaries differ slightly from 1990 to 2000, due to changes in census block boundaries in 2000 as compared with 1990.
Sources: U.S. Census Bureau, *Census 2000 and 1990*.

[1] U.S. Census Bureau, American Fact Finder, http://factfinder.census.gov/home/saff/main.html?_lang=en

HOUSING

The census blocks used to define the EMSURA extend north and east of the actual boundary, including an area composed of almost all residential development. Therefore, the housing estimates provided in Table 3-2 overestimates the quantity of residential units in the EMSURA. Field visits and land use data obtained from Suffolk County Geographic Information Systems[1] identified approximately five single-family detached homes and several apartments located on the second and third stories of buildings.

Table 3-2
Housing Data 2000

Area	1990 Housing units	2000 Housing units	Percent change from 1990	Percent vacant	Median value ($)
EMSURA*	118	111	(5)	9	Not available
Riverhead hamlet	3,536	4,173	18	7	131,400
Town of Riverhead	10,801	12,479	16	14	166,000
Town of Southampton	33,622	35,836	5	40	245,400
Town of East Hampton	17,068	19,460	14	59	293,300
Town of Southold	12,979	13,769	6	39	218,400
Town of Shelter Island	2,148	2,370	10	58	285,900
Suffolk County	481,317	522,323	9	10	185,200

Note: *Defined by U.S. census blocks (see Figure 3-1).
Source: U.S. Census Bureau, *Census 2000*.

As shown in Table 3-2, housing units in the area decreased during the same time period by 5 percent even though population increased. This phenomenon may be explained by either of the following: existing units have unrecorded accessory units or apartments within the structure, and/or there has been an overall growth in the number of persons per household.

From 1990 to 2000, housing units decreased in the EMSURA by 5 percent while increasing in all other areas of study. For example, in the hamlet of Riverhead, the number of housing units increased by 18 percent, the Town experienced a growth in housing units by 16 percent, and all other East End Towns experienced growth rates ranging from 5 percent to 18 percent. The decline of housing units within the EMSURA may be attributed to a rise in commercial mixed uses or converted residences. A converted residence includes a residential component, but some of the former residential space is utilized for commercial use, such as a professional office. As noted, growth in housing units from 1990 to 2000 was highest in the hamlet of Riverhead.

Relative to the other East End Towns and Suffolk County as a whole, this growth may be attributed to lower housing costs, more land opportunity, diversity in residential development options (e.g., apartments versus single-family homes), and lot size requirements.

As shown in Table 3-3, the median value of a home in the hamlet and Town of Riverhead is relatively lower than the rest of the region. The prevalence of relatively lower-cost housing combined with low vacancy rates signifies that Riverhead is an area that has affordable year-

[1] County of Suffolk, Real Property Tax Service Agency, AREIS, received January 10, 2007.

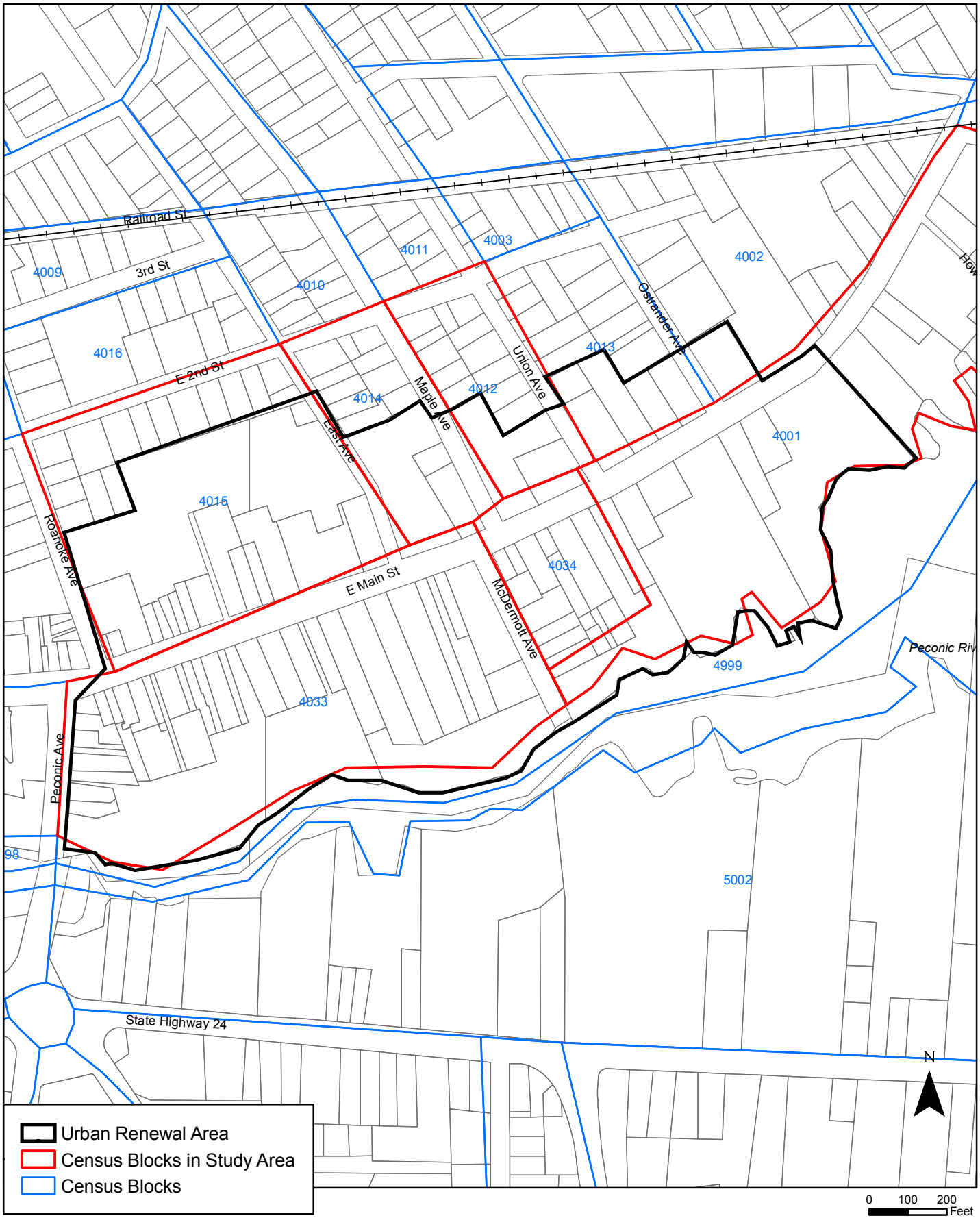

Figure 3-1
Census Blocks

round housing**,** a factor not present in other East End Towns. Additionally, Riverhead has the least amount of seasonal tourists.[1]

As shown in Table 3-3, in 2000, the EMSURA and Riverhead had relatively the highest proportion of multifamily units in the Town of Riverhead. The Town of East Hampton had similar rates of multifamily housing units while the other remaining towns had lower rates of multifamily units. It should be noted that multifamily units are described as two or more attached units within the same structure.

Table 3-3
Types of Units in Structure

Town	1990 Multi-family units (percent of total)	2000 Multi-family units (percent of total)	Percent change of multi-family units	1990 Seasonal housing (percent of total)	2000 Seasonal housing (percent of total)	Change in percent of seasonal housing units
EMSURA*	22	27	5	--	--	0
Riverhead hamlet	22	26	4	1	2	1
Town of Riverhead	11	12	1	12	9	(3)
Town of Southampton	9	8	(1)	32	35	3
Town of East Hampton	11	11	--	52	54	2
Town of Southold	7	7	--	32	34	3
Town of Shelter Island	1	3	2	47	55	8
Suffolk County	13	13	--	7	8	1

Note: The EMSURA data is based on the Census Tract 1698, Block Group 4 since block level data was not available for the types of housing units in structure.

Sources: U.S. Census, *Census 1990* and *Census 2000*.

The East End of Long Island is a seasonal tourist destination, and overall, has relatively low rates of multifamily units. In contrast to the County, seasonal housing makes up a significant portion of the housing stock in the East End towns. As shown in Table 3-3, the Town of Riverhead has historically had the least amount of seasonal housing relative to the other East End Towns. Seasonal residents often have a positive impact on the overall economy of an area as consumer spending traditionally increases.

[1] County of Suffolk, Department of Planning, *Saturation Population Analysis Eastern Suffolk County*, 2001.

SCHOOL-AGE PERSONS

Riverhead Central School District (Riverhead CSD), which administers the area's public education services, is a New York State public school district that provides education from grades Kindergarten through 12. The purpose of the school-age children statistics included in this chapter is to provide a projection of the anticipated growth as a result of the *East Main Street Urban Renewal Plan 2008 Update* (2008 Update). A more detailed description of the area's educational services is provided in Chapter 4, "Emergency Services and Community Facilities," along with an assessment of Riverhead CSD's ability to accommodate the additional growth in school-age children expected to result from the proposed action.

Most of the Town of Riverhead is served by Riverhead CSD. Table 3-4 shows trends with respect to the number of school-age children, defined as ages 5 through 17, by total population, housing unit, and household. As shown in Table 3-4, there are 25 school-age children who reside within the identified EMSURA census blocks. However, according to Riverhead CSD, there are 10 school-age children residing within the EMSURA, which indicates that 15 of the school-age children are within the census blocks but just outside of the EMSURA. Within the Town, hamlet, and EMSURA, there are more children per housing unit than there are per household. This may signify that there are multiple households within the housing units in all three areas.

Table 3-4
School-Age Population 2000

Area	School-age children (cohort 5-17 yrs)	Children per housing unit	Children per household
EMSURA*	25	0.22	1.7
Riverhead hamlet	1,860	0.18	2.1
Town of Riverhead	4,666	0.17	2.0

Note: *Defined by U.S. census blocks (see Figure 3-1).
Source: U.S. Census Bureau, *Census 2000*.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

If approved, the proposed action would improve the economic viability of the EMSURA, enhance land use, and increase both population and housing. The effects of these changes on the current population and housing characteristics are described below.

POPULATION AND GROWTH

The 2008 Update would encourage the development of residential structures as permitted by the Downtown Center-1 (DC-1) zoning district, causing an increase in the number of residents in the area.

The DC-1 zoning regulations permit a maximum of 500 residential units within the district boundaries. Although the district boundaries extend beyond the EMSURA, it was conservatively assumed that 500 units would be developed within the EMSURA in three phases: the short-term (2007-2012), interim (2012-2017), and long-term (2017-2022) development scenarios.

Table 3-5 presents the approximate increase in population that would occur as a result of the development of additional residential structures. The projected population increases are based on

recently submitted development applications and the build-out methodology described in Chapter 1, "Proposed Action." Based on pending and recently approved development applications, it was assumed that 366 residential units would be constructed by 2012. In the interim, an additional 34 units (totaling 400 units) would be developed. Finally, in the long term another 100 units (500 total) would be developed.

The minimum size for residential units per DC-1 zoning is 650 square feet. A residential unit of this size may serve as a studio or small one-bedroom apartment. However, when considering expected fluctuations in size and the larger size of apartments proposed in the development applications, a conservative two-bedroom category was assigned for all 500 units. Using this assumption, population estimates were calculated. Multipliers were used from three sources: Rutgers University Center for Policy Research, *Residential Demographic Multipliers,* 2006; National Multi Housing Council, *The Changing Demography of Multifamily Rental Housing,* 1999; and population and housing figures published by the U.S. Census Bureau in 2000.

Table 3-5
Population Growth

Projected time period	New housing units	National Multi Housing Council[1]	Rutgers University[2]	U.S. Census[3]	Average
2012	366	732	750	842	775
2017	34	68	70	78	72
2022	100	200	205	230	212
Total	**500**	**1,000**	**1,025**	**1,150**	**1,059**

Notes: 1) The mean household size for all apartments is 2 persons per unit.
2) Two-bedroom units valued between $135K and $329K generate 2.05 persons per unit.
3) The average household size in the EMSURA is 2.3 persons per unit.
Sources: National Multi Housing Council, 1999; Rutgers University, 2006; and the U.S. Census Bureau, 2000.

As Table 3-5 shows, the development of residential units would cause an increase in the overall population within the EMSURA. Specifically, in the short term, the average population would increase by approximately 775 persons. When compared to the existing condition, this is a significant change, especially when compared to the growth in population from 1990-2000 (only 50 persons). Additionally, it is important to note that the population estimates for the EMSURA provided in this chapter are based on an area that is larger than the EMSURA. The areas included in the larger area are primarily residential. The actual EMSURA boundaries contain few residential housing units. Thus, the estimated growth in population that would occur in the short term changes significantly over the present population. In the interim, the average population within the EMSURA is expected to grow by another 72 persons (totaling 847 persons), signifying a growth of 9 percent relative to the short term. This is a relatively small increase in population, especially when considering the rates of decennial population growth recorded in other communities (see Table 3-2). Finally, it is expected that in the long term, the population within the EMSURA would grow by approximately 212 persons (totaling 1,059 persons), signifying a 25 percent growth rate relative to the short term and the interim combined.

Currently, the EMSURA is a commercial community with a small percentage of residential use. By creating additional housing, as recommended in the 2008 Update, the proposed action would create a new population base, thereby making adverse impacts to the existing population impossible. This chapter has, however, provided an existing population for the EMSURA

defined by the more land area encompassing census blocks. According to census block level data, the EMSURA is lightly populated and the growth has been slow. Significant increases in population would occur if the EMSURA is developed as estimated Table 3-5. A combination of increased development, particularly residential, and population growth would turn the area into a more of an urban environment. Communities that are characteristic of urban environments possess a certain demographic that is slightly different from suburban settings. The proposed action, if adopted, could potentially alter the demographics to reflect these changes.

Within the surrounding regions, including the hamlet and Town, the population increase would not have a significant adverse impact on total population since it is estimated that most of the new residents would be existing area residents.

The existing population resides in the EMSURA year-round and seasonal housing is limited. This is different from other towns in the East End, which boast a larger seasonal population than the EMSURA, the hamlet, and even Riverhead Town. The presence of two hotels combined with additional cultural amenities could potentially change the population by creating a demand for seasonal housing, specifically by increasing the number of tourists and visitors to the area. Seasonal housing cause changes in population within a community. If seasonal housing does increase, it is expected that the warmer seasons will attract more seasonal residents then the colder seasons, as is traditionally the case in the East End Towns thus creating variations in population in annual cycles.

SCHOOL-AGE CHILDREN

The demographics of the EMSURA and surrounding area would remain unaffected since residents of the new multifamily units would be of diverse age groups, socio-economic status, and backgrounds. Measuring the exact demographic profile of this population is helpful in calculating or estimating the needs and/or demand created by the new residents on community services and public facilities. This is discussed in more detail in Chapter 4, "Emergency Services and Community Facilities." The estimated age of residents who would occupy new units is especially important as it relates to the types of facilities that would be needed. Published studies provide estimates that have been used to calculate the number of school-age children that could potentially occupy the 500 residential units (assumed two-bedroom) that would be developed in the long-term development scenario. The studies used to calculate this measure are the same sources used in measuring overall population growth in Table 3-5. Table 3-6 provides estimates of the number of school-age children who would reside in the 500 units, assuming that they would all be two-bedroom units.

Table 3-6
School-Age Children Based on New Housing

Projected time period	New housing units	National Multi Housing Council[1]	Rutgers University[2]	U.S. Census[3]	Average
2012	366	106	70	81	86
2017	34	20	13	14	16
2022	100	29	19	22	23
Total	**500**	**155**	**102**	**117**	**125**

Notes: 1) The mean household size for all apartments is 0.29 school-age children per unit.
2) Two-bedroom apartments valued between $135K-$329K generates 0.19 school-age children per unit.
3) The average household size in the EMSURA is 0.22 school-age children per unit.
Sources: National Multi Housing Council, 1999; Rutgers University, 2006; and the U.S. Census Bureau, 2000.

On average, the number of school-age children within the EMSURA should increase. As shown in the table above, the proposed action would cause an increase in three phases. During the short term, the school-age population would increase by and average of 86 students. During the interim it would grow by 16, and in the long term school-age population would grow by 23. The total growth expected to occur by 2022 is 125 children.

HOUSING

There are five single-family homes and at least eight apartments in the EMSURA. The proposed action would increase this small housing stock by promoting the development of 500 multifamily units. Table 3-7 shows the incremental change in housing units by type for each development scenario.

Table 3-7
Incremental Change in Residential Units by Superblock

Scenario	SB1	SB2	SB3	SB4	SB6	SB7
Existing SF homes	--	1	--	--	--	5
Existing MF units	--	--	--	0	--	--
Existing apartments	2	--	--	2	--	--
Short-term SF homes	--	--	--	0	--	--
Short-term MF units	--	--	--	0	165	--
Short-term apartments	66	1	--	1	118	11
Interim SF homes	--	--	--	0	--	(5)
Interim MF units	--	--	--	0	--	--
Interim apartments	8	--	1	2	13	10
Long-term SF homes	--	--	--	0	--	--
Long-term MF units	--	--	--	0	--	--
Long-term apartments	24	--	4	5	38	29
Total	**100**	**2**	**5**	**10**	**334**	**50**

Note: All interim and long term residential new development is assigned to apartments. SB 2 total includes one single family home that remains and SB 7 total includes five single family homes that are phased out in the interim.

The proposed action recommends the phasing out of non-conforming uses in the EMSURA, including single-family homes. It is expected that this housing would be replaced with multifamily units, including town homes, condominiums, and apartments, as permitted by the DC-1 zoning district. It is expected that the proposed action would improve the EMSURA's economic viability and likely increase home value within and surrounding the EMSURA. It is also expected that the EMSURA would offer existing and future residents with increased housing options, which would attract a demographically diverse population. ✷

Chapter 4: Emergency Services and Community Facilities

A. INTRODUCTION

This chapter describes the existing emergency services and community facilities serving the EMSURA. Such services include police, fire, and ambulance services as well as schools, libraries, places of worship, and recreational spaces, such as parks. The purpose of this chapter is to assess the potential increase in demand for such services as a result of the proposed *East Main Street Urban Renewal Plan 2008 Update* (2008 Update). Figure 4-1 shows all publicly owned and operated emergency services and community facilities found within the EMSURA.

B. EXISITING CONDITIONS

EMERGENCY SERVICES

POLICE SERVICES

The EMSURA is served by the Town of Riverhead Police Department, which was established in 1934 and covers approximately 68 square miles. Headquarters is located at 210 Howell Avenue in Riverhead. The police department is made up of several divisions, including Patrol (K-9, Rescue/SCUBA Team, and Bay Constable), Communication, Detective, and Juvenile Bureau (Police Athletic League, Drug Abuse Resistance Education, Youth Court, and Youth Counselor). In addition, several specialized units, including Community Oriented Policing Enforcement, Police Training, Neighborhood Watch/Crime Prevention, and Emergency Preparedness, make up the department.[1]

On November 28, 2006, AKRF sent a letter addressed to the current Chief of Police, requesting current information on existing police services. (All letters referenced in this report have been included as Appendix B.) On March 14, 2007, AKRF received a response stating that there are 84 uniformed officers and 39 support personnel. In 2006, there were approximately 1,143 calls from the EMSURA, with an average response time of 4 minutes, 28 seconds.

FIRE SERVICES

The EMSURA is served by the Riverhead Fire Department, a volunteer organization established in 1836 to provide fire protection for the approximately 48 square miles of the Riverhead Fire District. At present, the department's 210 members cover the Town of Riverhead and portions of Southampton and Brookhaven Towns. The department's headquarters is located at 24 East Second Street in downtown Riverhead. In addition, the department operates three other stations—Station 1 located on Hamilton Avenue in Riverhead, Station 2 located on Hubbard

[1]Town of Riverhead, Riverhead Town Police, http://www.riverheadli.com/town-police.html, December 2006.

Avenue in Riverhead, and Station 3 located on Twomey Avenue in Calverton. The department operates with the following equipment: six pumpers, one ladder truck, one tanker, one heavy rescue, two brush trucks, four Chief's vehicles, and six support trucks. The department consists of six companies including Reliable Hose & Engine Co. #1, Washington Engine Co. #2, Ever Ready Engine Co. #3, Eagle Hose Co. #4, Red Bird Hook & Ladder Co., and Fire Police & Patrol Co.[1] On March 20, 2007, a referendum was held and approved authorizing the purchase of a parcel on Roanoke Avenue and the subsequent construction of a new 43,000-square-foot district headquarters.

On November 28, 2006, AKRF sent a letter addressed to the Chief of the Fire Department requesting current information on existing fire services. On March 18, 2007, AKRF received a response stating that the area is served by Station #1 and Station #2, and on an annual basis, there are 50 responses to the area with an overall response time of no more than 3 minutes (see Appendix B).

AMBULANCE SERVICES

The Riverhead Town Volunteer Ambulance Corps (RTVAC), founded in 1978 and incorporated in 1996, serves the EMSURA. Current membership of the organization is approximately 72 active volunteer members who are available to respond to any medical emergency within the Town of Riverhead, and attend monthly training meetings. RTVAC's service area includes approximately 78 square miles and a population of 24,000. The organization operates four Advanced Life Support (ALS) equipped ambulances and one first responder vehicle. RTVAC has headquarters located at 1111 Osborn Avenue in Riverhead and operates a substation at 20 Manor Lane in Jamesport.[2] On November 28, 2006, AKRF sent a letter to RTVAC, requesting current information on existing ambulance services. On March 14, 2007, AKRF received a response stating that the RTVAC responded to a total of 2,500 calls in 2006 (see Appendix B).

COMMUNITY FACILITES

SCHOOLS

Enrollment and Capacity

The Riverhead Central School District (Riverhead CSD) serves the population within the EMSURA. On November 28, 2008, Riverhead CSD was contacted for information regarding existing conditions. According to Riverhead CSD, approximately 10 students reside in the EMSURA. In the 2006-07 school year, Riverhead CSD began offering to qualified students a free-of-cost Universal Pre-Kindergarten program at the Phillips Avenue School, with bus transportation. Currently, Riverhead CSD serves students in pre-kindergarten through twelfth grades. Pupils in grades kindergarten through twelve are divided into schools by grade cohorts. Within the district there are four schools that serve pupils in kindergarten through fourth grade, one school that serves all fifth and sixth grade pupils, one "middle school," serving pupils in seventh and eighth grades, and one high school. Riverhead CSD also encompasses alternative schools that serve pupils in ninth through twelfth grades. Riverhead CSD's response has been

[1]Riverhead Fire Department, http://www.riverheadfd.org/id91.htm, December 2006.

[2]Town of Riverhead, Riverhead Town Volunteer Ambulance Corps, http://www.riverheadli.com/ambulance.html, December 2006.

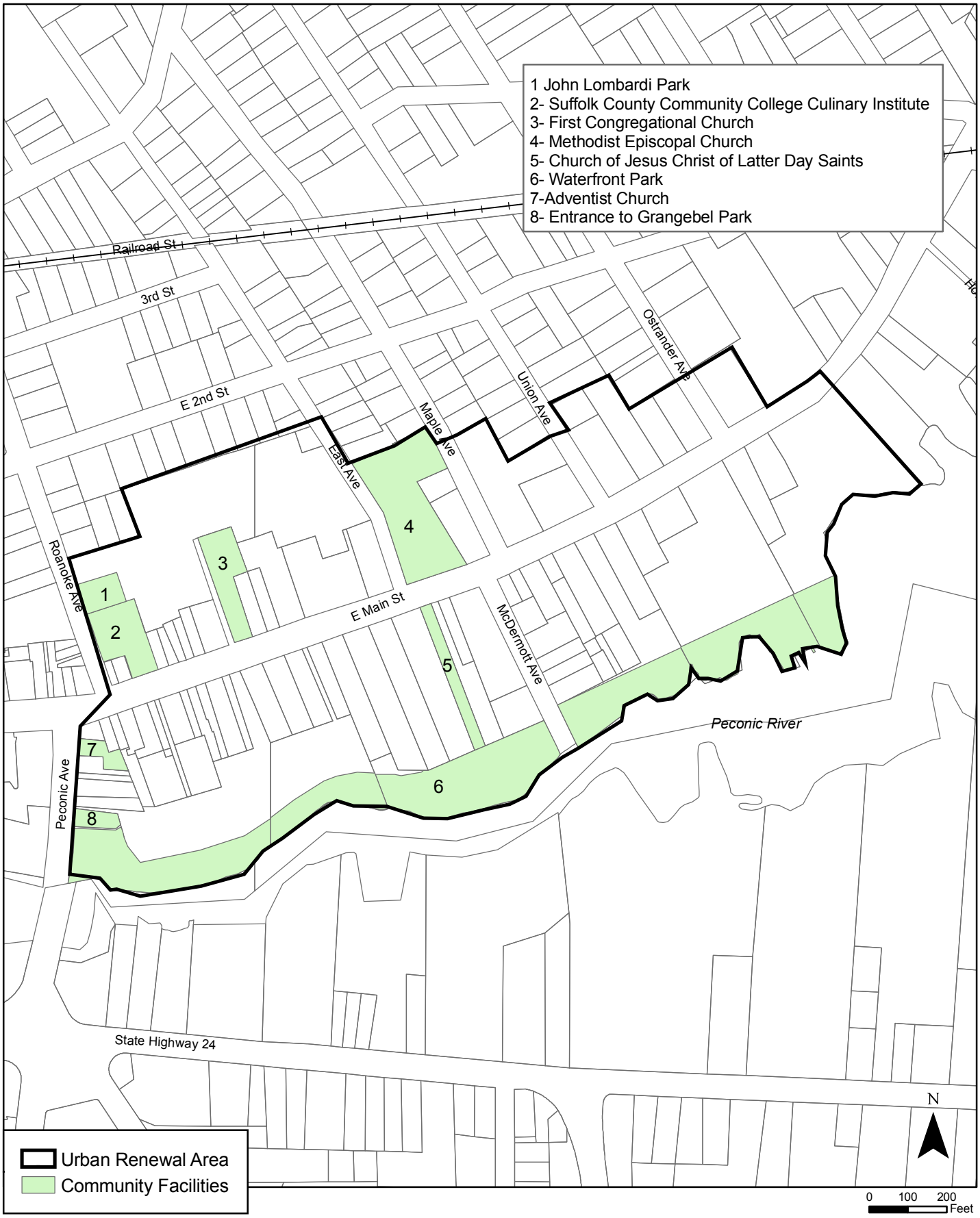

Figure 4-1
Community Facilities

included as Appendix B. Table 4-1 provides current enrollment and maximum capacity data for each of the schools within the district. Enrollment is defined as the total number of pupils attending the school, while capacity is defined as the maximum number of students the school was designed to serve.

As shown in Table 4-1, schools within Riverhead CSD are near or over capacity. Two of the schools, Riverhead Middle School and Riverhead High School, have an enrollment-to-capacity ratio of over 1.0, which indicates that student enrollment exceeds capacity of the building. The average enrollment-to-capacity ratio for the remaining schools (excluding Riverhead Alternative School, for which data was not available) is 0.92.

The district provides transportation to students who reside beyond a certain distance from the school they attend. Distance thresholds are positively correlated with grade levels so that younger students are given smaller distance thresholds and preference for transportation over older students. The thresholds are voted on by the Board of Education. At present, students attending kindergarten through fourth grade are provided transportation if residing more than 0.5 miles from school, students attending fifth through sixth grade are provided transportation if residing more than 0.8 miles from school, and all students beyond fifth grade are provided transportation if they reside more than 1.2 miles from school.[1]

Table 4-1
Riverhead Central School District: Enrollment and Capacity

School	Current enrollment	Building capacity	Enrollment-to-capacity ratio*	Grades served
Aquebogue Elementary School	424	510	0.86	K-4
Philips Avenue School	462	480	0.96	K-4
Pulaski Street Elementary School**	686	758	0.90	5-6
Riley Avenue School	571	607	0.94	K-4
Roanoke School**	318	338	0.94	K-4
Riverhead Middle School**	756	730	1.04	7-8
Riverhead Alternative School	85	Data not available	--	9-12
Riverhead High School**	1,471	1,221	1.2	9-12

Notes: *Enrollment-to-capacity ratio of 1.0 signifies enrollment is at capacity, a ratio of over 1.0 signifies that the school is over capacity, and a ratio of less than 1.0 signifies the enrollment is at less than capacity.
**Schools currently serving students residing in the EMSURA.
Source: Riverhead CSD.

Additionally, Table 4-2 provides enrollment trends for Riverhead CSD for the last five academic years. Overall enrollment from 2002 to the current year has decreased by 124 students, or approximately 3 percent. Declining enrollment creates challenges for school district budgets because the funding formulas are based on the number of pupils in the district.

[1]Riverhead CSD, Transportation Bus Information, http://www.riverhead.net/HTML/BusGarageTelephoneDir.html, 2007.

Table 4-2
Riverhead Central School District: School Enrollment 2002-2006

Academic year	Enrollment (kindergarten-12)	Change from prior year
2002-2003	4,897	1.4%
2003-2004	4,862	0.7%
2004-2005	4,801	-1.3%
2005-2006	4,818	0.4%
2006-2007	4,773	0.9%

Source: New York State Department of Education

Fiscal Data

This section presents fiscal data for Riverhead CSD. Table 4-3 provides an overview of fiscal indicator data, including total annual revenue, total expenditure, per pupil revenue, and per pupil expenditure for academic years 2002-2003 through 2006-2007.

The data is based on fiscal reports published by the New York State Department of Education, which are based on data from the *Annual Financial Report* (Form ST-3). The ST-3 is an unaudited document that displays a district's reported expenditures and revenues, and its intention is to provide fiscal accountability.

Table 4-3
Riverhead Central School District: Fiscal Data

Academic year	Total revenue	Total expenditure	Per pupil revenue	Per pupil expenditure
2006-2007*	$93,152,740	$93,152,740	$19,278	$19,278
2005-2006*	$85,508,661	$85,508,661	$17,616	$17,616
2004-2005	$88,871,795	$84,272,488	$16,873	$16,000
2003-2004	$78,612,715	$75,626,237	$15,585	$14,993
2002-2003	$74,369,897	$72,738,309	$14,568	$14,444

Sources: *Riverhead CSD
New York State Department of Education, 2007

From the baseline academic year 2002-2003, the total revenue per student has increased more in subsequent academic years than the total expenditure per student, thereby showing a positive fiscal trend.

In order to accommodate future students, Riverhead CSD is in the process of finalizing an expansion plan. According to an article posted on the district's website, the district is in the midst of choosing "between building a new, centrally located high school, coupled with renovating and expansion existing school buildings, or building at least one new elementary school and expanding the other existing facilities." It should be noted that the construction plans are designed to accommodate a 2 percent a year growth in student population, or 6,500 students projected to be enrolled in the district by 2020.

HIGHER EDUCATION AND INSTITUTES

The Town of Riverhead and the EMSURA are also served by one public institute of higher learning, Suffolk County Community College's Eastern Campus, located at 2 Speonk Road in Riverhead. The College is a two-year school with a current enrollment of 2,818 (including full- and part-time students). Since on-campus housing is not offered, all students commute. The College offers a broad range of liberal arts and business courses, and specialized programs in Graphic Design, Dietetic Technology, Culinary Arts, Horticulture, and Interior Design.[1]

Within the EMSURA, the County is currently constructing the Suffolk Community College Culinary Arts Institute, located on Roanoke Avenue with an entrance from East Main Street. The facility, which will be 28,583 square feet in size, will have six classrooms, two laboratories, and a lecture theater. The total maximum capacity of the nine teaching rooms is 260 students. Classes are expected to begin in the fall of 2007.

LIBRARIES

The Riverhead Free Library is a public facility located at 330 Court Street. This library is the central facility for the library system that serves Suffolk County. The library collection includes 140,029 volumes, circulates 296,815 items per year, and serves a population of 34,656 residents.[2]

HEALTH/PUBLIC WELFARE SERVICES

Suffolk County operates a Health Center facility located at 300 Center Drive in Riverhead. The Riverhead Health Center is open Monday through Friday and offers a range of health services such as adult medicine care, disease testing, radiological exams, health counseling and education services, dental, and vision screening.[3]

Additionally, a Suffolk County Department of Social Services office is located at 893 East Main Street. The Department of Social Services provides financial assistance and support services to eligible persons residing in Suffolk County while encouraging their independence and self-sufficiency. The Department provides temporary assistance, food stamps, Medicaid, child support enforcement, family and children's services programs, housing services, and home heating assistance.[4]

OTHER COMMUNITY FACILITIES

The EMSURA includes seven community facilities, including four places of worship and three Town-owned parks. In addition, the EMSURA includes several privately owned recreational facilities. Publicly owned and operated facilities are shown in Figure 4-1.

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[1]Suffolk County Community College, Campus Information, http://www3.sunysuffolk.edu/About/CampusInfo.asp, 2007.

[2]Riverhead Free Library, About Us, http://river.suffolk.lib.ny.us/index.php?page_content=about_us, 2007.

[3]Suffolk County Government, Health Services, http://www.co.suffolk.ny.us/webtemp3.cfm?dept=6&id=1039, March 2007.

[4]Suffolk County Government, Department of Social Services, http://www.co.suffolk.ny.us/webtemp3.cfm?dept=17&ID=617.

PLACES OF WORSHIP

A total of four places of worship are located within the EMSURA, including Methodist Episcopal Church, First Congregational Church, Adventist Church, and Church of Jesus Christ of Latter-Day Saints, all of which are situated on East Main Street.

In addition, other places of worship are located just outside the EMSURA, including Emmanuel Baptist Church at 941 Roanoke Avenue and First Congressional Church of Riverhead at 103 1st Street in Riverhead.

PARKS AND RECREATION

Within the EMSURA are three Town-owned parks or outdoor green spaces, including John Lombardi Park, the entrance to Grangebel Park, and the Riverhead waterfront park located along the Peconic River. John Lombardi Park is located on Roanoke Avenue and features a gazebo. The waterfront park includes a bike path, picnic benches, walk path, and other opportunities for active and passive recreation made available through the Town's beautification improvements.

Indian Island County Park is a larger County-owned and -operated park located on Route 105 in Riverhead. This 275-acre park, at the estuarine mouth of the Peconic River, is open to the public year-round for a variety of activities, including hiking and camping on permitted sites. Sites have restrooms, shower facilities, picnic tables, grills, comfortable benches, and views of Flanders Bay.[1]

In addition to Town-owned parks, the EMSURA also includes Atlantis Marine World Aquarium, a privately owned facility. Atlantis Marine World Aquarium is located in downtown Riverhead on 3.2 acres along the scenic Peconic River. Construction of Atlantis Marine World Aquarium began in late spring of 1999. The facility officially opened on June 15, 2000. It is estimated that more than one million people have visited Atlantis Marine World Aquarium.[2]

In addition to the aquarium, the EMSURA also encompasses the privately owned Treasure Cove Resort and Marina, held by the Peconic River Boat Basin Corporation. The marina is located directly north of the Peconic River and at the eastern end of the EMSURA. Other privately owned recreational uses include Vail-Leavitt Music Hall, Suffolk Theatre (proposed to open in early 2008), and Dinosaur Walk Museum.

Splish Splash, a privately owned water park, is located in Calverton, approximately 5 miles from the EMSURA. The 32-acre park opened in 1991. Since opening, the park has attracted over 5 million visitors.[3]

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[1]Suffolk County Government, Indian Island County Park, http://www.co.suffolk.ny.us/webtemp1.cfm?dept=10&id=883, March 2007.

[2]Atlantis Marine World Aquarium, http://www.atlantismarineworld.com/ 2007.

[3]Splish Splash Water Park, http://www.splishsplashlongisland.com/pages/information.html, 2007.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

INTRODUCTION

The proposed action is an update of the *Town of Riverhead East Main Street Urban Renewal Plan of 1993*. The intent of the proposed action is to improve economic viability, increase the number of land uses, and eliminate blight from the area. The action recommends that development occur in three phases. An increase in development would increase the number of residents, tourists, and visitors to the EMSURA, which would increase demand for community services and public facilities such as police, ambulance, fire department, school, library, parks, and other recreational uses.

EMERGENCY SERVICES

Emergency services, as described above, include the local police department, fire department, and ambulance service. The effect that the increase in demand would have on these services in the short-term, interim, and long-term scenarios has been described below. For the purposes of this report, additional letters were sent to police, fire, and ambulance services in June 2007, listing the estimated square footage increase of buildings in the EMSURA for each development scenario. The letters specifically requested information regarding the ability of each service to accommodate the potential increases.

POLICE

On June 5, 2007, AKRF sent a second letter to the Riverhead Police Department. Their response was received on July 31, 2007, from Chief Hegermiller. According to the department, the increase would constitute an approximately 20 percent population increase within the local police sector in which the EMSURA is located. The department has stated that this increase is significant and would require an increase in manpower.

FIRE

The Riverhead Fire Department sent a response on August 18, 2007, stating that the department would be able to provide service for new development. It should also be noted that a new fire headquarters will be located north of the Main Street corridor.

AMBULANCE

On July 9, 2007, the Riverhead Volunteer Ambulance Corps, Inc. responded via e-mail. The response stated that they would respond to all calls, and may need to adjust the Corps in order to accommodate growth.

SCHOOLS

A land use policy such as the proposed action may affect the local school district(s) in two manners: 1) by changing the amount or density of residential development permitted in the area, thereby potentially changing the number of school-age children who reside in the area; and/or 2) by changing the total tax revenue generated for Riverhead CSD.

The proposed action would not in itself cause an increase in the number of school-age population in the EMSURA, since the proposed action does not recommend changes to the

amount of housing that may be developed, or a change to the current zoning ordinance. The current Downtown Center-1 (DC-1) zoning district permits a maximum of 500 residential units in the entire district, most of which is within the EMSURA.

The proposed action does, however, recommend that the Town spread out the construction of new units into three phases—the short-term, interim, and long-term development scenarios. By the interim development scenario the proposed action recommends the Town phase out non-conforming single-family homes. For the purposes of this analysis, construction of new residential units was calculated by assuming that all applications, both approved and currently pending, would be adopted in the short term, and all vacant apartments (converted residence commercial uses) would be filled by 2012 or the short-term development scenario, yielding 366 units. In the interim it was assumed that 80 percent, or 400, of the 500 units permitted in the DC-1 zoning district would be developed, and all single-family homes not historically significant would be phased out. Finally, it was assumed that all 500 units permitted in the DC-1 zoning district would be developed within the EMSURA, which assumes a worst-case scenario. All units that would be constructed are assumed to be two-bedroom apartment units.

Table 4-4 provides the approximate number of school-age children who would reside in the EMSURA in each scenario. It should be noted that some portion of the school-age children would be current Riverhead residents who would move into the EMSURA. The remaining portion would be new residents who would add to the current and future student population.

The number of school-age children was calculated using multipliers obtained from three sources (Rutgers University, National Multi Housing Council, and the U.S. Census Bureau). The average of those numbers was used to determine the estimated number of school-age children who would reside in the EMSURA for each development scenario. Multipliers used to calculate the number of potential school-age children per residential unit are 0.19 (Rutgers University), 0.29 (National Multi Housing Family), and 0.22 (U.S. Census Bureau).

As shown in Table 3-7 of Chapter 3, "School-Age Children Based on New Housing," the proposed action would spread out the number of school-age children who would potentially reside within the EMSURA over a 15-year period. Impact assessment on the school district as a result of the proposed action was assessed by comparing growth shown in Table 4-4 with the district's own projected annual growth rate. Riverhead CSD's recent capital improvement plan, which is currently being finalized, is based on a projected growth rate of 2 percent per year. It is important to note that the growth rate assumes population growth in the district and includes growth in residential development. However, for the purposes of this report, worst-case scenario was assumed and the increase in the number of students was assumed to be in addition to the district's own projections. Table 4-4 shows the additional number of students who would be added to the district.

Table 4-4
School-age Children: Riverhead CSD Projected Growth

Year of projection	Projected additional school-age persons	Riverhead CSD projected growth	Total
2012	86	602	688
2017	16	559	575
2022	23	618	641
Total	**125**	**1,779**	**1,904**

Sources: Riverhead Central School District, 2007

As shown in the above table, the proposed action would increase the number of students by 125 over a 15-year period. Compared to the projected growth rate, the proposed action would increase the number of students by 7 percent over the 1,779 district projection. Therefore, it is assumed that the proposed action would not have a significant adverse impact on the school district.

The proposed action also recommends that the Town encourage increased development of the EMSURA, based on DC-1 zoning standards, in three phases. Table 4-5 provides an estimate of the increase in revenue that may be generated according to current assessment standards. The dollar amount generated from each site is calculated by multiplying the tax rate per $1,000 of assessed value. The estimated growth in total revenue was calculated by multiplying the estimated tax rate (EMSURA's total assessed value was divided by the total square footage, which yielded an assessed value of $22.55 per square foot of building space) by the total square footage for each development scenario.

The Riverhead CSD tax rate per $1,000 of assessed value is approximately $84.00.[1] However, the tax rate as calculated for the purposes of this report is $48.88 per $1,000 of assessed value (total assessed value divided by 1,000 and divided into the EMSURA's total tax rate for Riverhead CSD). The number was used to calculate the multiplier or tax rate per $1,000 of projected assessed value. It should be noted that the total square foot includes those properties that are tax exempt, thereby deflating the tax rate per $1,000.

Table 4-5
EMSURA Projected Tax Revenue Increase

Year of projection	Built space (square feet)	Total assessed value	Riverhead CSD tax generated	Percent change
2006*	441,635	$9,958.35	$486,757	Not applicable
2012	1,290,346	$29,097.30	$1,422,276	92
2017	2,140,438	$48,159.86	$2,345,054	65
2022	2,484,605	$56027.84	$2,738,641	17
Total increase	**2,042,970**	**$46,069.49**	**$2,251,884**	**362**

Note: ***** Values for 2006 do not include the Culinary Arts Institute; however 2012 rates do include the Institute since the building at the time of this report was still under construction.
Source: Town of Riverhead, 2007.

It should be noted that school district tax rates are calculated based on the total expenditure budgeted for the academic year. Therefore, a significant increase in expenditure generated by capital improvement projects would increase the overall tax burden throughout the district. By increasing development within the EMSURA, the tax burden would be spread out more than without the development. Therefore, the proposed action would not cause a significant adverse impact to the school district overall.

LIBRARY

The proposed action would potentially increase the number of patrons to the Riverhead Free Library due to population growth, as well as increase the overall revenue generated from the

[1] Town of Riverhead, Receiver of Taxes, Statement of Real Property Taxes, December 2006.

EMSURA as a result of the additional development. The proposed action would not have a significant adverse impact on library services, as the increase in demand for library services would be offset by the increase in the tax revenue generated from the EMSURA.

OTHER

Parks and recreational facilities are an important aspect of the Town of Riverhead and the East End communities. The proposed action recommends that the Town encourage the development of parks and recreation types of uses within the EMSURA. If implemented, the proposed action would increase the amount of space dedicated to parks and open space. The proposed action also recommends the acquisition of a parcel for the expansion of the existing waterfront park.

The proposed action, if approved, would increase the overall population of the EMSURA, which would potentially increase the demand for recreational uses and open space. However, the parks are not currently heavily utilized and have capacity to accommodate an increase in visitors.

Commercial recreation and cultural uses should also increase as a result of the proposed action. By adding to the inventory of existing commercial recreation uses, the proposed action would enhance the recreation component of the EMSURA. ✷

A. INTRODUCTION

This chapter provides an overview of existing economic and fiscal conditions for the EMSURA and the surrounding area. The summary of fiscal data or indicators includes employment, income, an analysis of the retail sector, and tax revenue. The purpose of this chapter is to describe existing conditions and assess the proposed action's potential impacts on the economic and fiscal attributes of the study area in the future.

B. EXISTING CONDITIONS

EMPLOYMENT AND INCOME

Employment trends in the area have been analyzed based on available data from the U.S. Census Bureau's *Census 2000*. Employment trend data, presented in Table 5-1 below, are presented for the EMSURA as well as for Riverhead hamlet, and the five East End towns, for comparative purposes. Data for the EMSURA was collected at the census block group level, the smallest level for which employment and income data is available (see Figure 5-1). In reviewing the census block groups geographically, it was determined that there is only one block group within the EMSURA, Census Tract 1698, Block Group 4. It should be noted that this block group is larger than the EMSURA.

Table 5-1
Employment and Income Data

Area	Percent of labor force unemployed	Median household income	Median family income	Percent of total individuals below poverty level
EMSURA*	4.7	$38,036	$29,176	21.2
Riverhead Hamlet	3.3	$35,330	$39,672	9.0
Riverhead Town	2.5	$46,195	$55,939	8.6
Southampton Town	2.5	$53,887	$65,144	5.3
East Hampton Town	3.4	$52,201	$60,743	6.7
Southold Town	2.5	$49,898	$61,108	4.1
Shelter Island Town	1.3	$53,011	$63,750	4.7
Suffolk County	2.6	$65,288	$72,112	6.0

Note: *EMSURA data is based on census data for Census Tract 1698, Block Group 4.
Source: U.S. Census Bureau, *2000 Census.*

As shown in Table 5-1, the EMSURA has the highest unemployment rate compared with the reference areas, 4.7 percent, and the highest percentage of persons living below the poverty level, 21.2 percent. The EMSURA also has relatively low median household and family

incomes—$38,036 and $29,176, respectively. Riverhead hamlet has one of the next highest unemployment rates in the area, second to East Hampton Town. In addition, Riverhead hamlet has the lowest household median income compared to the reference areas and the next highest poverty rate after the EMSURA.

These trends primarily measure and describe employment and income data for residents who live immediately surrounding the EMSURA, because the study area maintains few residences (single-family and apartments). Characteristic of a downtown area, the EMSURA is made up of commercial establishments, a large portion of which is vacant or underutilized. Of those currently occupied, it would appear that the largest employers based on presence and square feet are the Atlantis Marine World Aquarium, Suffolk County Community College Culinary Institute, Salvation Army, Tuthill Funeral Home, North Fork Bank, and a few professional offices. Several uses, however, are vacant due to either business relocating or closing. These vacancies have contributed to the lack of total number of employers and employment opportunities in the area and may have had an indirect adverse impact on employment and fiscal health of neighboring businesses due to a decline in patronage.

RETAIL

Riverhead's retail industry was recently assessed by the Suffolk County Department of Planning. Riverhead hamlet is home to 15 of the 24 shopping centers/business districts (63 percent) in the Town, located on approximately 202 acres. Of those commercial centers, 10 are located directly on County Road 58. The Town of Riverhead is home to 6 percent of all shopping centers in the County and 3 percent of all downtown districts. In 2005, there was 25 square feet of shopping center space per person in Suffolk County, compared with 73 square feet of shopping center space per person in the Town of Riverhead. Riverhead has traditionally been a center for shopping for much of eastern Suffolk, and with Tanger Outlet Center has greatly increased its geographic reach. Tanger Outlet Center comprises 24 of the 73 square feet per capita in the Town. However, even without Tanger, Riverhead would still have 49 square feet of shopping center space per capita—far greater than any other town.[1]

Retail sales information is only available for the County as a whole. In 2002, Suffolk County's 6,685 retail stores had sales of $18.5 billion, including payroll. Between 1997 and 2002, the County added 292 retail establishments, and the commensurate sales increase was 37 percent.[2]

Vacancy rates have been an ongoing issue in the Town of Riverhead, although there has been some improvement in recent years. Shopping centers have experienced a greater drop in vacancy than the downtown**,** which is plagued with vacancies. According to *Shopping Centers and Downtowns in Suffolk County*, in 2005 the vacancy rate in Riverhead's downtown was estimated at 9.8 percent**,** down from 13.1 percent in 2000 and 21.8 percent in 1996—an all-time high. The Town's shopping center vacancy rate in 2005 decreased to a low of 3.6 percent**,** a significant drop from the 10.2 percent rate recorded in 2000 and the 18 percent rate in 1996. The reasons for the improvements in vacancy rates include the overall improvement of the economy. Two indicators of the economy are consumer spending and employment. "Except for a slight decline during 2002 due to recession, employment in Suffolk County as whole has grown each year

[1] County of Suffolk, *Shopping Centers and Downtowns in Suffolk County* (May 2006).

[2] Ibid.

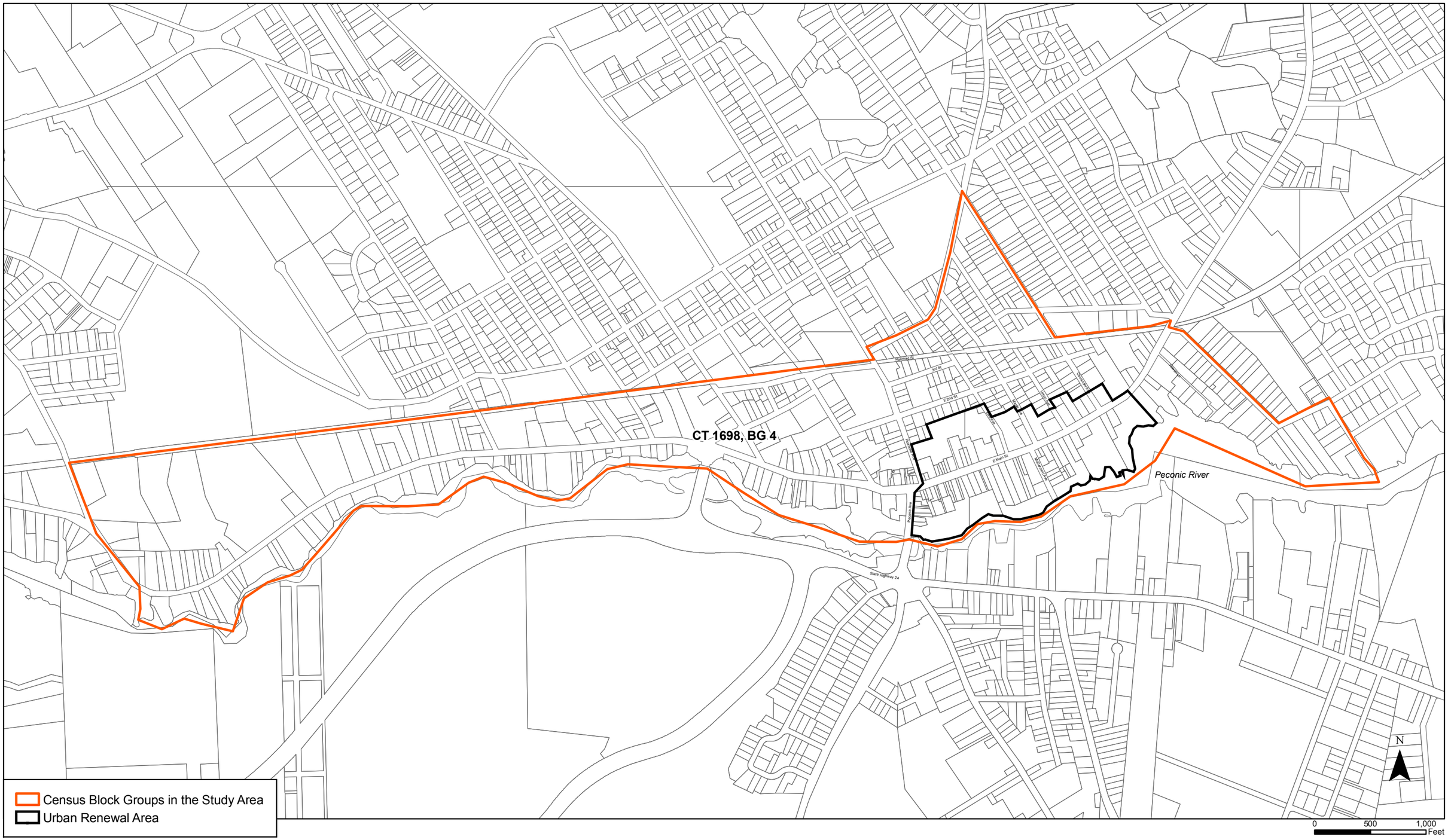

Figure 5-1
Census Block Groups in the Study Area

since 1992, with more than 120,000 jobs added by 2005."[1] Additionally, consumer spending, measured by fluctuations in sales tax revenue, has increased overall since 1993, with the exception of a negative growth in 2002, relative to 2001.[2]

TAXES

Based on the current property tax records for the 90 tax parcels located within the EMSURA, a total of $1,074,625 in property tax revenues was generated in fiscal year 2005-2006. Table 5-2 presents the existing tax revenue generated from the EMSURA, apportioned to the different taxing jurisdictions.

Table 5-2
2005-2006 EMSURA Tax Generation by Levy

Levy description	Tax rate per $1,000	EMSURA (actual Contribution)[1]	Total Town Taxes	Percent contribution
School				
Riverhead Central School District	84.052	$486,757	$57,927,575	1
Riverhead Free Library	2.772	$16,164	$1,910,537	1
County				
Suffolk County Tax	0.646	$3,755	$502,463	1
Town				
Riverhead Town Tax (Including highway)	33.883	$197,197	$21,996,185	1
Other				
NYS Real Property Tax Law[3]	1.262	$7,336	$975,227	1
NYS Mandated Expense[4]	1.704	$9,906	$1,331,278	1
Riverhead Ambulance	0.850	$7,192	$568,530	1
Riverhead Fire Zone 1	4.876	$24,897	$2,565,394	1
Parking District	12.850	$103,445	$182,632	57
Lighting District	0.854	$7,226	$729,319	1
Business Improvement District 1	5.400	$44,822	$96,664	50
Business Improvement District 2	N/A	$10,429	N/A	N/A
Riverhead Sewer Rent	4.433	$127,600	N/A	N/A
Riverhead Full Sewer Cap	0.444	$4,384	$90,569	5
Riverhead Water	0.712	$7,032	$249,199	3
Refuse & Garbage	N/A	$2,050	N/A	N/A
Pro Rata[5]	N/A	$10,844	N/A	N/A
Total	**N/A**	**$1,074,625**	**$89,125,572**	**N/A**

Notes: [1]The EMSURA actual contribution was calculated by totaling the taxes generated by each parcel in the EMSURA by levy.
[2]Percent contribution is the proportion of the total taxes for each levy generated by the EMSURA.
[3]NYS Real Property Tax Law is the County charge back, or refund for correction of errors.
[4]NYS Mandated Expense was created in 2002 to indicate the dedicated county mandated expense (i.e. Medicaid). As of 2006 this has been removed from the tax statements.
[5]Exemptions from prior year which were not applicable to the new owner but were granted anyway.
Source: Town of Riverhead, Receiver of Taxes, 2006.

[1] New York State Comptroller, September 2006.

[2] New York State Department of Taxation May 2007.

The EMSURA provides a small percentage of the total levy collected by the Town. Riverhead Central School District received the largest amount of tax dollars from the EMSURA ($486,757). With respect to percent contribution, the largest contributions made to the Town are from Parking and Business Improvement Districts (57 and 50 percent, respectively).

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

Implementation of the proposed action would result in a decrease in vacancy rates and the creation of new uses. The proposed action recommends that development occur in three consecutive five-year phases—the short term, interim, and long term. In Chapter 2, "Land Use, Zoning, and Public Policy," of this GEIS, Table 2-3 shows the increase in square footage by use in each development scenario. The creation of new office, commercial, recreation, and multifamily residential uses would generate full-time employment in several different categories and likely increase the overall household median income. It is anticipated that the redevelopment of the EMSURA would result in a gain in patronage and tourists that would also have an impact on revenue generated in the retail sectors.

The commercial components and development of the EMSURA is recommended to occur in a manner that emphasizes and encourages pedestrian activity in a downtown setting. In contrast to the existing development, the proposed action, if implemented, would result in the creation of uses that incorporate the waterfront and have an aesthetic appeal. Additionally, as permitted in the current zoning designation, the area would be developed with a higher floor-area-ratio (not to exceed five stories). The increase in density would also guarantee additional economic activity.

While it is impossible to realistically project future property tax revenues, it is anticipated that the property taxes generated by the *East Main Street Urban Renewal Plan 2008 Update* (2008 Update) would increase substantially over those currently collected. As discussed in the "Existing Conditions" section of this chapter, the EMSURA currently generates a total of $1,074,625. New development, which is assessed at different values, would contribute to higher revenues overall. It is important to note that specific future property tax projections would be possible when more detailed site plans, construction costs, and building programs are presented. As discussed in Chapter 4, "Emergency Services and Community Facilities," the proposed action would increase the amount of revenue to schools and other community services.

Overall, the 2008 Update, if implemented, could dramatically improve the economic conditions of the EMSURA and surrounding area. An increased number of jobs would be made possible as a result of new and better development, as well as on- and off-site spending by new residents. New residents, employees, and tourists in the area would also contribute to the increase in sales tax, which would serve as a significant economic benefit. ✷

A. INTRODUCTION

This chapter contains a review and evaluation of utility elements of the infrastructure within the EMSURA. Some of the utilities that will be examined, namely water, sanitary, and drainage, are under municipal jurisdiction while other utilities, namely electric, gas and telephone are under private or non-municipal jurisdiction. While the scope of this GEIS did not specifically include an evaluation of the electric, gas and telephone systems, limited information has been included for informational purposes. No recommendations regarding these utilities are included in this report. The other utilities are examined at a level of detail commensurate with a GEIS, as detailed in the final scope, developed under the SEQRA process. The following sections present the results of these efforts. Figures 6-1 through 6-4 depict the locations of the exiting utilities within the EMSURA. Supporting documentation is provided as Appendix C of this report, as appropriate.

B. EXISTING CONDITIONS

WATER SUPPLY

The Town of Riverhead's water supply system is served by the Riverhead Water District. A map of the water distribution system within and directly adjacent to the EMSURA is shown as Appendix C of this report. There are water mains of various sizes ranging from 6 to 10 inches, as well as a single 2-inch water main on McDermott Avenue. Most of the existing water mains are located within the roadway rights-of-way in the EMSURA; however, there is an 8-inch main located beneath the parking area north of the Peconic River. In addition, a 6-inch main runs along the right-of-way of the former East First Street, north of Main Street.

According to representatives of the district, at present the district has a pumping capacity of approximately 22 million gallons per day (mgd). It should be noted that there are currently no pumping caps imposed on the district. On average, approximately 7 mgd are consumed in the district with a peak usage of approximately 20 mgd. Peak usage occurs during summer months when water use for irrigation is highest.

The hydraulic parameters, defined as available pressures and flows, associated with the mains. The district was contacted to obtain flow test data. The data provided was for one flow test that utilized a hydrant at the intersection of Roanoke Avenue and First Street. The test measured the static and residual pressures and a hydrant on First Street as the flow hydrant. The sizes of the mains associated with these hydrants are 8 inches and 6 inches, respectively. A copy of the test report is included as Appendix C.

Based upon the data given in the test report, the static pressure prior to opening the flow hydrant was 75 psi. The residual pressure recorded when the flow hydrant was fully opened was 60 psi which corresponds to a flow of approximately 750 gallons per minute (gpm). From a fire protection standpoint, the flow of concern is the available flow when a hydrant is pulled down to

a residual pressure of 20 psi. Utilizing the data obtained from the flow test, the available flow is approximately 1,515 gpm. The recommended minimum flow is 500 gpm, therefore there would be ample flow available for fire-fighting needs.

Due to the fact that the water district is nearing capacity at periods of peak demand, the Town is presently seeking to undertake a test well program. As part of this program, test wells will be dug at various locations within the district. The test wells will help determine if a specified location can provide water of satisfactory quality and quantity and to allow for the installation of production wells that would increase the supply of water to the district.

SANITARY SERVICE

Sanitary service within the EMSURA and surrounding area is provided by the Riverhead Sewer District, which maintains a system of sewage lines and pump stations that collects and transports sewage to the district's Advanced Wastewater Treatment Facility (AWTF). The sewer district generally covers the portion of Riverhead east of the terminus of the Long Island Expressway, south of Middle Road. Waste from the areas of the Towns of Riverhead and Southampton not served by sewers is transported by tanker to the sewage treatment plant. H2M Group, which has served for several years as the consultant engineer to the Riverhead Sewer District, was authorized to review the district's "wastewater treatment capacity pertaining to the development of in-district vacant properties and the planned re-development of downtown Riverhead." Their draft report, *"Downtown Redevelopment Wastewater Flow Analysis"* (November 6, 2006), provides much of the relevant basis of this section of the GEIS, as well as subsequent discussions relative to future conditions within the district.

A map of the sewage district and the collection system within the EMSURA is shown in Figure 6-5, which is a reproduction of "Exhibit 1" from the H2M Group's report. As can be seen, there are lines of various sizes ranging from 8 to 12 inches, and the lines are either constructed of vitrified clay pipe or cast iron pipe. Vitrified clay pipe is generally utilized at locations where the lines are not influenced by the water table, and cast iron pipe is utilized where the water table is of concern. Therefore, the cast iron pipes are generally limited to those sewers located south of Main Street. Most of the lines are approximately 70 years old and date to the district's inception. Most are located within the existing roadway rights-of-way; however, there is a 12-inch sewer line beneath the parking area south of Main Street, and an 8-inch sewer main along the right-of-way of the former East First Street.

A maintenance program is conducted by the district that ensures that all of the sewer lines are regularly cleaned. The district has indicated that presently there are no extraordinary maintenance issues regarding sewer lines within the EMSURA. Of particular concern are those mains that can be regularly influenced by the presence of groundwater, as are those mains located beneath the parking lot south of Main Street. The presence of groundwater can result in significant intrusion of unwanted flow in such pipes. Analyses presented in the H2M Group report indicates that wet weather flows into the AWTF are considerably higher than dry weather flows, indicating infiltration from various possible sources. Representatives of the Sewer District indicated that the lines along Main Street and in the parking area to the south were last inspected through the use of video in the late 1990s. During the television inspection some instances of root intrusions through failed joints were noted, which can allow increased groundwater intrusion. The presence of scaling and build-up typical for the age of the cast iron pipes was also noted. The lines were cleaned at that time to remove roots and built up debris; however, it was concluded that repairs requiring excavation or replacement of pipes was unnecessary.

EAST FIRST ST. R.O.W.

PARKING AREA

ROANOKE AVE.

MAIN ST.

EAST

McDERMOTT AVE.

PECONIC AVE.

PARKING AREA

PARKING AREA

PARKING AREA

PECONIC RIVER

EMSURA BOUNDARY

2"G
15D T
6D T
8"S
10"W
4"G
8"W
8"S
12D T
8"S
6D T
2"G
10"S
6"G
8D T
8"S
10"C.I. S
12"S
6"G
6D T
2"G
6"W
12"C.I. S
8"W
10"W
12"C.I. S
8"S
15D T
2"W
12"C.I. S
2"G
10D T

NOTE:

ALL SANITARY SEWERS ARE VITRIFIED CLAY PIPE UNLESS OTHERWISE NOTED.

DUNN ENGINEERING ASSOCIATES, P.C.
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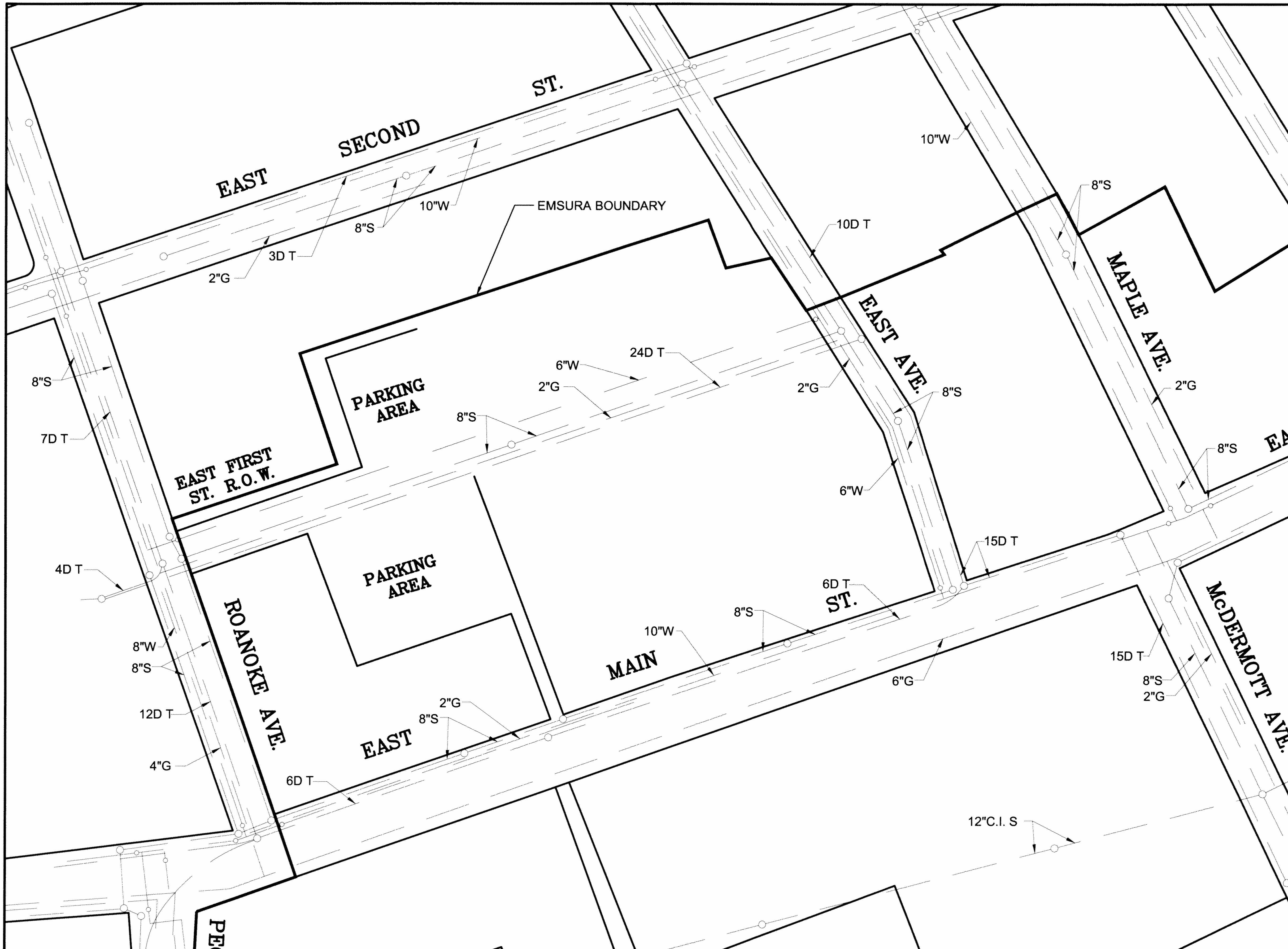
RIVERHEAD EMSURA

FIGURE 6-1
UTILITY PLAN

DATE	SCALE	DEA NO.
7/10/07	1" = 100'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
A.G.	A.G.	1 OF 4



NOTE:

ALL SANITARY SEWERS ARE VITRIFIED CLAY PIPE UNLESS OTHERWISE NOTED.

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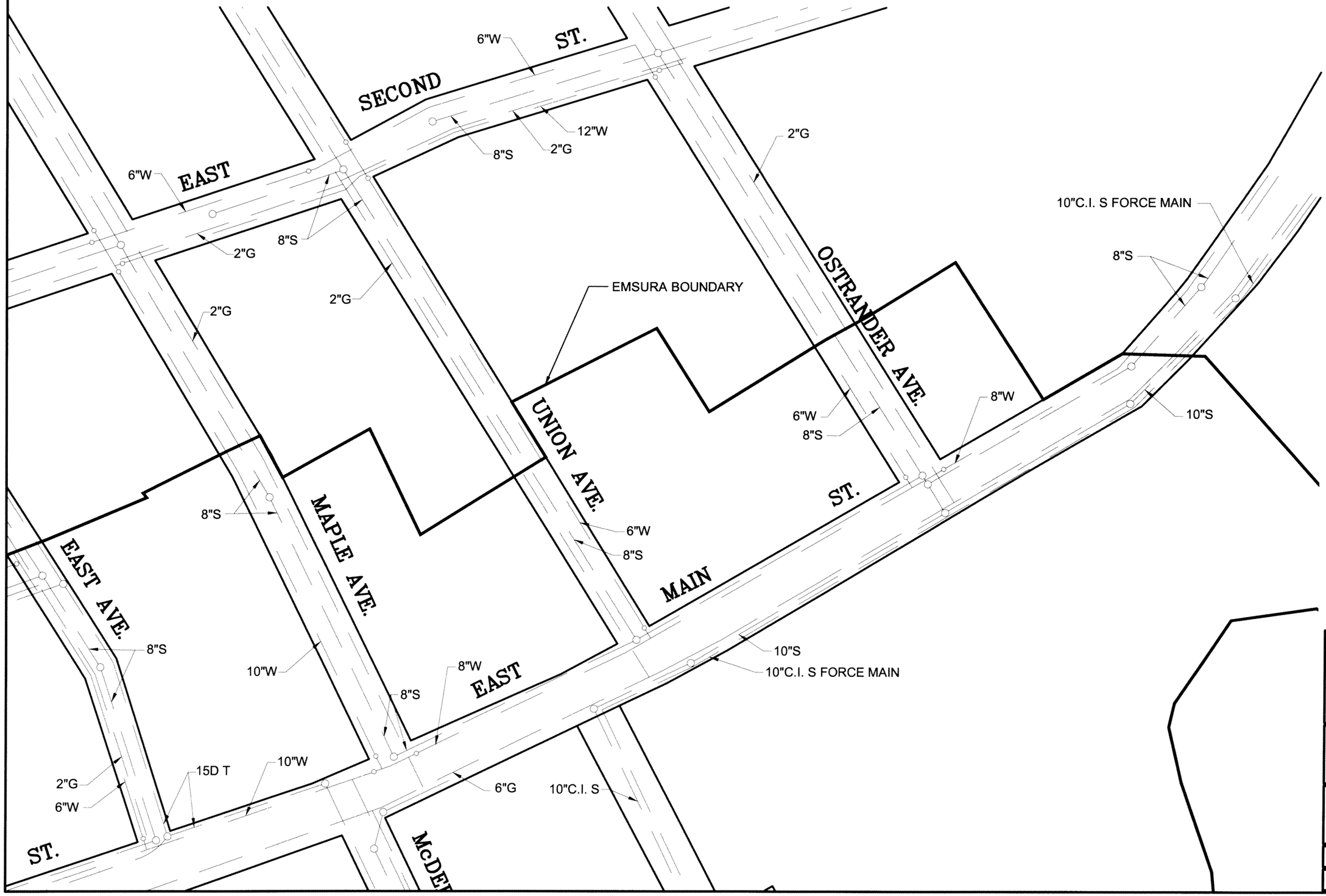
RIVERHEAD EMSURA

FIGURE 6-2
UTILITY PLAN

DATE	SCALE	DEA NO.
7/10/07	1" = 100'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
A.G.	A.G.	2 OF 4



NOTE:

ALL SANITARY SEWERS ARE VITRIFIED CLAY PIPE UNLESS OTHERWISE NOTED.

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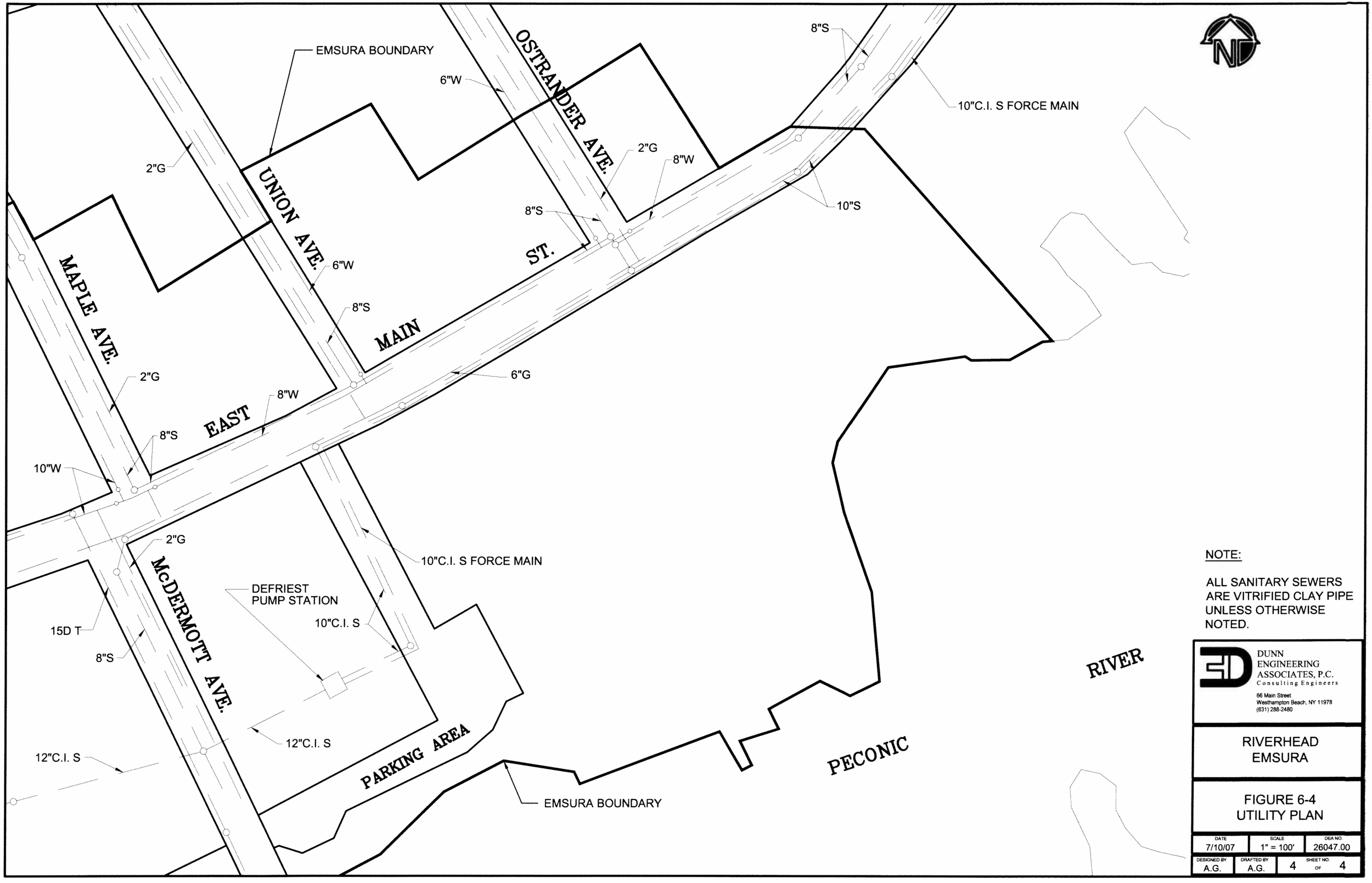
RIVERHEAD
EMSURA

FIGURE 6-3
UTILITY PLAN

DATE	SCALE	DEA NO.
7/10/07	1" = 100'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
A.G.	A.G.	3 OF 4



NOTE:

ALL SANITARY SEWERS ARE VITRIFIED CLAY PIPE UNLESS OTHERWISE NOTED.

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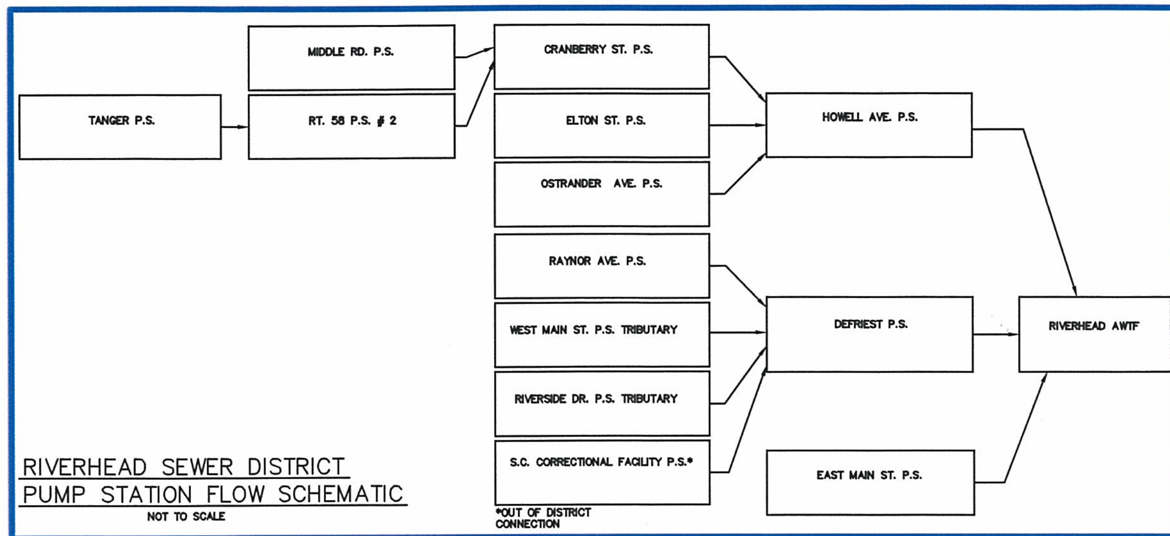
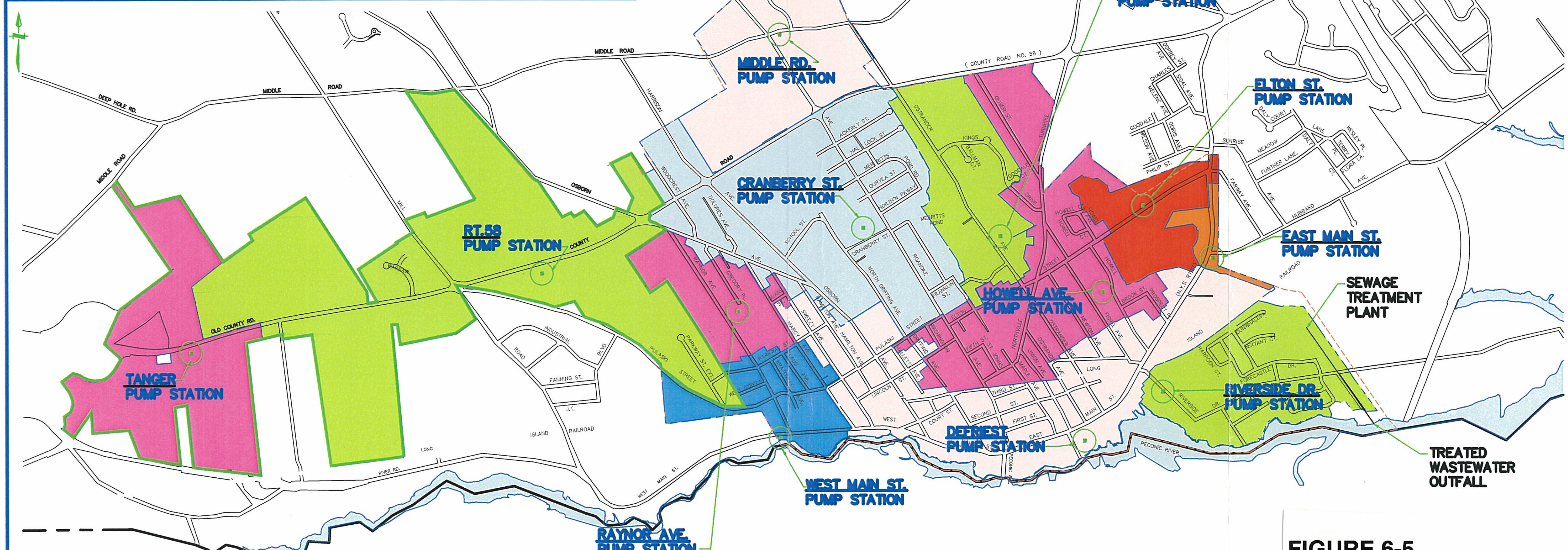
RIVERHEAD
EMSURA

FIGURE 6-4
UTILITY PLAN

DATE	SCALE	DEA NO.
7/10/07	1" = 100'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
A.G.	A.G.	4 OF 4





LEGEND

SEWER DISTRICT BOUNDARY

COMMERCIAL SEWER DISTRICT EXTENSION

PUMP STATION BOUNDARIES

NOTE:
SEPTAGE FROM ALL UNSEWERED AREAS OF THE TOWNS OF RIVERHEAD AND SOUTHAMPTON IS TREATED AT THE RIVERHEAD WASTEWATER TREATMENT AND SCAVENGER WASTE FACILITIES.

FIGURE 6-5

RIVERHEAD SEWER DISTRICT
SUFFOLK COUNTY, NEW YORK

X:\RDSD (Riverhead Sewer District) - 10805\RDSD0605 SEWER CONNECTION FEE\exhibit\district area.dwg October 30 2006 2:24pm By:rjh

H2MGROUP

As can be seen on Figure 6-5, flows from the sewer district flow to a series of pump stations located throughout the district in a "daisy-chain" fashion. Flows from several pump stations collect at downstream stations, where they are then pumped or flow by force of gravity toward the AWTF. Sewage that is collected within the EMSURA flows to the DeFriest pump station, which is located within the EMSURA as shown on the map of the district as Appendix C of this report. From this pump station, sewage is transported by a 10-inch cast iron force main to an 18-inch trunk gravity sewer that runs to the AWTF. In addition to receiving sewage from the EMSURA and other portions of the downtown area, the DeFriest pump station receives gravity flow from four other pump stations, the Raynor Avenue pump station, the West Main Street pump station tributary, the Riverside Drive pump station tributary and the Suffolk County Correctional Facility pump station. The Suffolk County Correctional Facility pump station is actually located outside both the district's and the Town of Riverhead's boundaries, and services the Suffolk County Government Offices, Courts, and Correctional Facility. The district does not maintain any flow monitoring equipment at the DeFriest Pump Station. Based on information provided by sewer district representatives, the pump station was last upgraded in 1994.The upgrade included replacing the three existing pumps and associated controls with larger 15-horsepower pumps and updated controls. Two of the pumps operate in an alternating lead/lag configuration while the third pump serves as a spare. Sewer district representatives indicate that the pump station has had no capacity problems related to the current flows.

As presented in the H2M report, the AWTF was designed for an average daily flow of 1.4 mgd. The treated effluent from the AWTF is currently discharged to the Peconic River. The district currently has a State Pollutant Discharge Elimination System (SPDES) permit from the New York State Department of Environmental Conservation (DEC) that limits flow from the district to a total of 1.3 mgd. This flow is proportioned between flow directly collected within the sewer district and flow collected by the Scavenger Waste District, which handles waste from unsewered portions of the Town and from Southampton Town. The sewer district allocated flow is currently 1.2 mgd and the Scavenger Waste District allocated flow is currently 0.1 mgd. The report also indicated that the current average winter wet weather flow is approximately 0.8 mgd,[1] which at present leaves the AWTF with approximately 0.4 mgd of unused flow capacity. No specific allocation among district properties is made regarding this remaining capacity.

Currently, the district is developing an effluent diversion for beneficial reuse project that would utilize up to 0.35 mgd of treated effluent for irrigation purposes at the nearby Indian Island County Park. This project, once fully operational, would greatly reduce the volume of treated effluent being discharged to the Peconic River during the months of May through September. Although beneficial to the annual level of discharge into the Peconic River, it would have no impact on daily effluent discharge during winter and early spring.

All properties within the EMSURA are included in the sewer district, capacity exists at the AWTF, and no major immediate infrastructure problems are evident.

The Peconic Estuary, of which the Peconic River is a part, has been identified as being impaired by nitrogen. Estuaries are areas where fresh water from the land and salt water from the oceans mix. These areas are considered to be among the most important ecosystems on earth and are highly valued by humans as well. Nitrogen comes from many sources, both natural and as a

[1] H2M Group Inc, *Downtown Redevelopment Wastewater Flow Analysis*, November 2006

result of human activities. Sources include wet and dry atmospheric deposition, sewage treatment plants, stormwater runoff, and groundwater that becomes enriched as a result of excess fertilizer being applied to landscaping and agricultural crops, as well as from on-site wastewater disposal systems (septic systems). While nitrogen is an important nutrient for a healthy ecosystem, excess nitrogen can lead to problems. Too much nitrogen can cause too much algae to grow. When algae blooms and then dies, the decomposition process consumes oxygen. The decomposition process, along with other factors, can cause dissolved oxygen levels to drop to low levels, a condition known as hypoxia. Aquatic animals need dissolved oxygen to live and low levels will cause some organisms to suffocate and die.

The Peconic Estuary Program of the Suffolk County Department of Health Services in conjunction with the EPA and the DEC recently released draft nitrogen Total Maximum Daily Load (TMDL) report for the Peconic Estuary. This report was the source of the preceding background information. It will also serve as the source of much of the subsequent discussion regarding the Riverhead Sewer District's role in helping to bring the load reduction scenario presented in the report to realization. It should be noted prior to this discussion that the total annual nitrogen load for all sewage treatment plants that discharge to the estuary represents only 1 percent of the total from all sources. The overwhelming majority of the nitrogen comes from non-point sources namely atmospheric deposition and groundwater.

The current SPDES permit for the AWTF authorizes a permitted flow of up to 1.3 mgd (1.2 mgd for Sewer District and 0.1 mgd for Scavenger Waste District) and a maximum nitrogen loading of 170 lbs. Total Nitrogen (TN) per day. The permit however does not specify concentration limits for nitrogen. If the maximum nitrogen load was discharged at the maximum permitted flow, it would translate to a concentration of 15.7 mg/L. Presently, the flow from the AWTF is 0.79 mgd with an average nitrogen concentration of 10.7 mg/L, which translates to a daily loading of 70.1bs TN/day. If the AWTF were to maintain this concentration at the permitted flow of 1.3 mgd the nitrogen load would be 116 lbs. TN/day. The previously mentioned effluent diversion program could reduce the nitrogen load by 30 lbs. TN/day at the current nitrogen concentration of 10.7 mg/L. This would translate to nitrogen loads of 40 lbs. TN/day and 86 lbs. TN/day for the current and permitted flows respectively.

While effluent flow levels are of concern, particularly in view of the current SPDES permit, the quality of the effluent being discharged is of equal or greater concern. States are required by Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency (EPA) implementing regulations (40CFR Part 130) to develop TMDL plans for waterbodies and pollutants where water quality standards are not being met. A TMDL specifies the allowable pollutant loading from all contribution sources (e.g., point sources, non-point sources, and natural background) at a level necessary to attain the applicable water quality standards. The TMDL also takes into account seasonal variations and a margin of safety that addresses any uncertainties regarding the relationship between the sources of a pollutant and water quality. Essentially, a TMDL defines the assimilative capacity of a water body to absorb a pollutant and still meet water quality standards.

Advanced treatment technologies could achieve an effluent quality of 5 mg/L, which the TMDL report refers to as the "practical load reduction" for the AWTF. Effluent at this practical load reduction rate would discharge 33 lbs. TN/day at the current flow or 54 lbs. TN/day at the permitted flow. If effluent quality were improved to the practical load reduction rate in conjunction with effluent diversion the nitrogen loads for the current and permitted flows would translate to 18 lbs. TN/day and 40 lbs. TN/day respectively.

In consideration of these numbers, as well as various modeling scenarios designed to achieve the desired water quality standards, the report has established a TMDL for the AWTF of 40 lbs. TN/day from May through September during which time hypoxia is of great concern. For the remainder of the year a baseline TMDL of 130 lbs. TN/day was established. These loads are achievable at the existing flow, continuing existing effluent quality and utilizing effluent diversion. They can alternatively be achieved for the permitted flow, at the practical load reduction rate and utilizing effluent diversion.

DRAINAGE

The existing drainage conditions within the EMSURA are complicated by several factors, most notably the preponderance of impervious surfaces comprised of buildings and paved areas, primarily consisting of roadways and parking areas. Other key factors include a high water table and significant storm surges along the waterfront that are further exacerbated by the tidal influences of the Peconic River. While the Peconic River is immediately adjacent to the EMSURA, State and federal legislation over the last 30 years prohibits the discharge of stormwater directly into the Peconic River or its tributaries.

Consistent with most municipalities in Suffolk County, Chapter 52, "Building Construction," of the *Code of Town of Riverhead* requires a site to contain a 2-inch rainfall event. This is the amount of water on a volume basis derived from 100 percent runoff of rainfall from a roof, pavement, or similarly impervious surface, and/or 10 to 15 percent runoff of rainfall from a grass or landscaped surface where percolation can occur into the ground. Much of the existing drainage facilities throughout the EMSURA pre-date the requirements for storage of a 2-inch rainfall event. The requirements for containing a 2-inch rainfall event are further complicated by the fact that many parcels have 100 percent lot coverage, which leaves no space for any drainage structures. As a result, the buildings that cover these parcels, as well as other buildings, have downspouts that discharge directly to adjacent roadways or adjoining parking areas, where the discharge eventually makes its way into the drainage system. In particular, several buildings along East Main Street have downspouts that discharge through the curb, and in some instances there are pipes that connect to drainage structures for the roadway. The roadways and parking areas are then forced to handle stormwater from beyond their own tributary area.

Drainage within the EMSURA is primarily handled by various leaching systems and individual leaching structures. These drainage facilities prevent much of the stormwater flow from being discharged directly into the Peconic River. There are indications that many of these facilities are not fully adequate to contain a 2-inch rainfall partly due to the age of the leaching structures and the high water table. In general, while the existing drainage facilities are incapable of preventing overflow from major storm events, they do curtail or eliminate flow from minor storm events.

Of particular concern is drainage within the parking area along the riverfront south of East Main Street. None of the parking area elevation exceeds more than 6 feet above sea level with the majority being less than 5 feet above sea level. The area is located in the Federal Emergency Management Area (FEMA) Flood Zone Area AE, defined by an elevation of 9 feet (see Figure 6-6). The 9-foot elevation indicates the anticipated flooding caused by a 100-year storm event. The FEMA Flood Zone Maps also depict a Flood Zone Area X, located beyond the limit of the Flood Zone Area AE. A Flood Zone Area X is characterized as an area subject to flooding at an average depth of less than 1 foot from a 100-year storm event. The boundary of this zone within the EMSURA is generally along the south side of East Main Street, except at the northeasterly corner of the EMSURA where it crosses to north of East Main Street just west of Union Avenue.

The approximate boundaries of both areas are shown on the existing utility plan drawings contained as Appendix C.

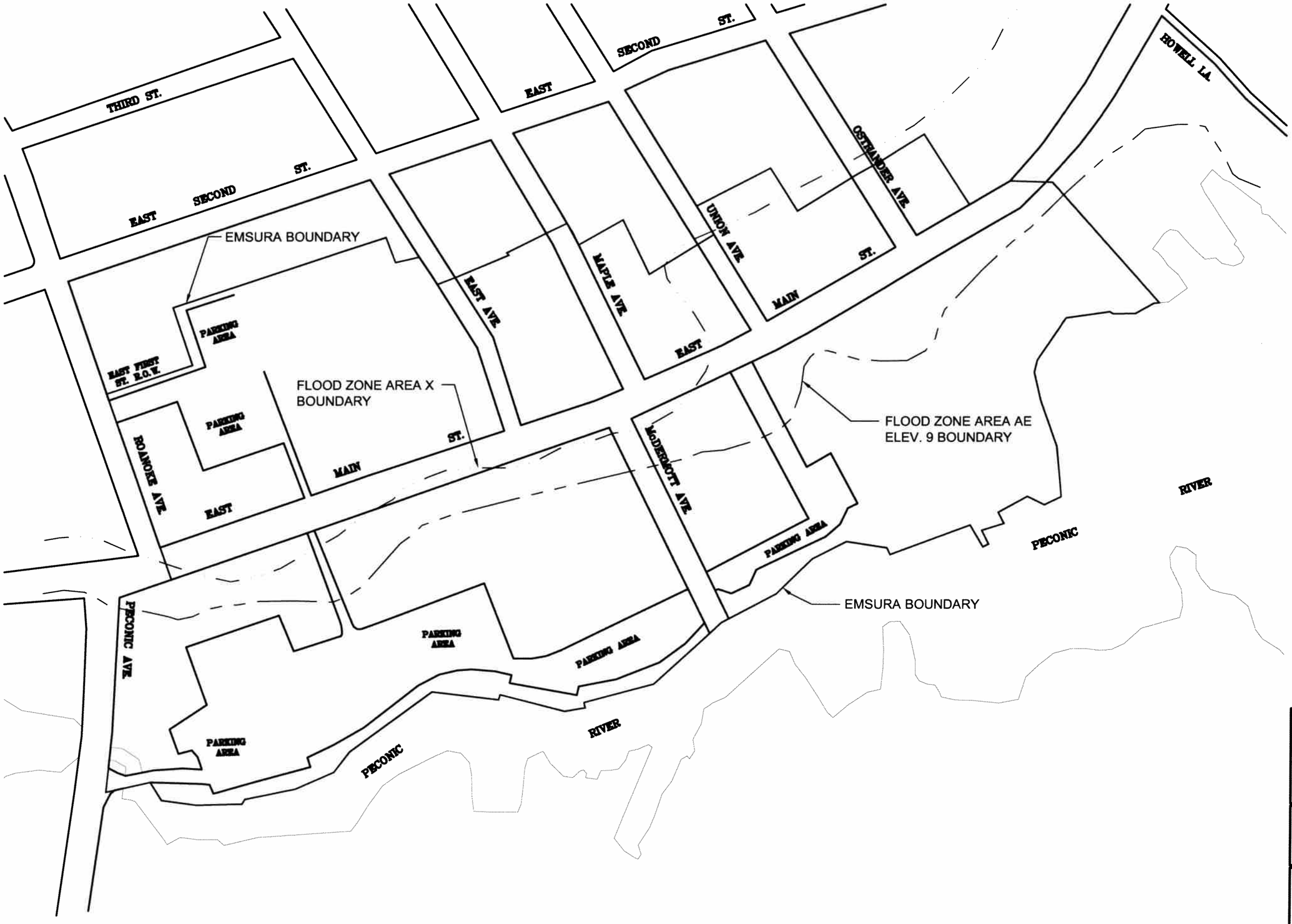
There is anecdotal evidence that flooding to an elevation of 9 feet has occurred at considerably shorter intervals in the parking area. Since much of the drainage system is located at the low points in the parking area, it is particularly susceptible to tidal flow that increases the height of the water table and thereby reduces the percolation rate and the capacity of the existing drainage system. The drainage system is temporarily rendered useless during severe flooding events, especially those accompanied by tidal flooding and storm surge.

The riverfront conditions are further exacerbated by additional stormwater from the areas north of East Main Street. Stormwater collects at a low point on Maple Avenue north of East Main Street and is piped across East Main Street via a 24-inch pipe to a bubbler catch basin at the corner of East Main Street and McDermott Street. From the catch basin, it runs down McDermott Street towards the riverfront area. Stormwater from East Main Street also makes its way to the riverfront area via McDermott Street and the driveway to the parking area behind East Main Street located approximately 400 feet east of Peconic Avenue. In addition to the overland flow to the riverfront area, there is a catch basin on the south side of East Main Street, approximately 300 feet west of East Avenue, which appears to be piped via an 18-inch pipe to a bubbler catch basin in the parking area behind the buildings along East Main Street.

The drainage facilities for the riverfront area south of East Main Street, as part of the Peconic Riverfront Bicycle and Pedestrian Improvement Project recently completed by the Town, have been upgraded along with existing catch basins that were to remain, were connected to two leaching fields that were constructed with parallel runs of 12-inch perforated polyethylene pipe. The improved drainage facilities now have a storage volume of approximately 5,000 cubic feet. The impervious area of the parking and access roadways of the riverfront area totals approximately 5.5 acres. Based upon these numbers, the storage volume provided corresponds to a rainfall of approximately ¼ inch, which is less than the 2-inch rainfall threshold. This implies that the impervious areas would flood even during relatively small storm event. The pervious landscaped areas adjacent to the bulkhead along the river provide additional relief during storms. These areas serve to dissipate and filter portions of the runoff as the rainfall makes its way to the river. Flooding within the parking area does occur during moderate storm events and overland flow can at times directly enter the river.

The intersection of Roanoke Avenue, Peconic Avenue, and East Main Street collects stormwater via a series of catch basins that are connected to a pipe running down Peconic Avenue. This pipe is connected to additional catch basins along Peconic Avenue and eventually directs discharge to the Peconic River. The tributary area to this system includes Roanoke Avenue between Second Street and East Main Street, and East Main Street between East Avenue and Roanoke Avenue/Peconic Avenue. Suffolk County Department of Public Works (SCDPW) will soon be commencing construction of a project that will install a stormwater treatment structure upstream of the discharge point, significantly improving the quality of the water being discharged. Based upon information obtained from SCDPW, this structure has a design flow of 5.0 cubic feet per second (cfs). The structure would allow the system to bypass greater flows to prevent flooding at upstream drainage structures.

The New York State Department of Transportation (NYSDOT) maintains drainage facilities along East Main Street that not only handle runoff from the roadways, as well as adjoining sites that do not sufficiently contain their runoff as previously noted. In addition to these existing facilities mentioned above there are also a series of catch basins located along East Main Street



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RIVERHEAD EMSURA

FIGURE 6-6 FEMA FLOOD ZONE MAP

DATE	SCALE	DEA NO.
4/25/08	1" = 200'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
A.G.	A.G.	1 OF 1

between Union Avenue and just east of Ostrander Avenue. Record plans obtained from NYSDOT indicate that these basins discharge to the south side of the roadway and presumably to the Peconic River. Since the time of these plans, the Atlantis Marine World Aquarium complex and a Mobil gas station were constructed on the south side of East Main Street. According to an inspection of the catch basins, the 15-inch and 18-inch pipes that outlet from these basins are still functioning. In order to ascertain the status of the outfalls in question, NYSDOT was contacted to obtain additional information. NYSDOT has indicated that these outfalls are functioning, however no additional information was available regarding any possible modifications that were made during the construction of Atlantis and the gas station.

GAS

Gas service is provided by KeySpan Energy. Gas mains within and adjacent to the EMSURA range from 2 to 6 inches. A map of the mains is provided as Appendix C of this report. The older mains are constructed of steel pipe while the newer mains are constructed of plastic pipe. The largest of the mains is a 6-inch plastic pipe that the runs along the south side of East Main Street. Two-inch steel and plastic mains exist throughout the remainder of the EMSURA. Roanoke Avenue contains a 4-inch steel main that runs along the westerly side of the road. Peconic Avenue contains a 6-inch steel main that runs along the westerly side of the road and a 2-inch main that runs along the easterly side of the road.

TELEPHONE

Telephone service is provided by Verizon, utilizing a system of both above ground and underground facilities comprised of copper and fiber optic cables. The above ground facilities are supported from utility poles and also run between several of the buildings within the EMSURA. The underground facilities consist of a system of manholes and interconnecting duct banks that contain both copper and fiber optic telephone cables. There are also several points of connection between the above ground and underground facilities with the underground facilities serving as the trunk of the telephone system. The underground facilities play an important role in the telephone system due to the Verizon Central Office located in close proximity to the EMSURA at the intersection of Griffing Avenue and West Second Street. Several large duct banks exist within the EMSURA because of the central office, although only a small number of the ducts are actually occupied by cables. The major components of the underground system within and adjacent to the EMSURA are depicted as Appendix C. Verizon has indicated that there are currently no plans to upgrade their telephone facilities within the area.

ELECTRIC

Electric service is provided by Long Island Power Authority, utilizing a system of both above ground and underground facilities, and is either single phase or three phase of various voltages depending on the requirements of the individual customer. Underground electric service is for the most part provided to all properties along East Main Street between Peconic Avenue/Roanoke Avenue and East Avenue. Several properties outside of this area also have underground services, however, the majority has aerial service. Due to the extensive nature of both above ground and underground facilities, no attempt has been made to reproduce the layout of these facilities. It should be noted that there are no transmission facilities within the EMSURA and that only 13 KV primary in addition to the secondary facilities exist.

C. POTENTIAL IMPACTS OF THE PROPOSED PROJECT

Chapter 2, "Land Use, Zoning, and Public Policy," Table 2-3 presents the amount of development that is expected to increase in the EMSURA at the end of each development phase. In accordance with the current zoning district regulations, residential uses in the EMSURA are expected to be limited to multifamily residential units or apartments and townhouses, while the existing single-family uses would be phased out.

In the short term, overall development is expected to increase by 164 percent. In the interim, development is expected to grow by 68 percent and in the long term by 16 percent. From 2007 to 2022, the EMSURA's overall development would grow by 2,014,387 square feet, or 418 percent over the existing condition. This predicted increase in development would create an increase demand on the existing infrastructure. A discussion of these impacts is presented below.

WATER SUPPLY

As previously stated, water service is provided to the EMSURA by the Riverhead Water District. The district has a pumping capacity of approximately 22 mgd. Currently, approximately 7.5 mgd are consumed on an average daily basis with a peak usage of approximately 20 mgd. Water demand projections for future consumption are typically estimated on a gallons per capita-day basis.

In view of the diverse nature of the proposed development within the EMSURA, the estimated future consumption was developed in a similar fashion to the methods utilized to determine wastewater flows. Some of the water flows was derived on a per capita basis while other flows was based upon certain square footages of the proposed development. As noted above, development within the EMSURA would be comprised of various uses ranging from residential apartments to restaurant and catering facilities. Appendix C of this document presents calculations based upon the ultimate long-term development proposed within the EMSURA. Based upon these calculations, approximately 0.35 mgd would be consumed within the EMSURA on an average day.

The vast majority of the nearly three-fold difference between the average and peak consumption rates within the water district as a whole is due to irrigation of landscaping. In view of the proposed development within the EMSURA, it is assumed that there will be relatively few opportunities for landscaping that would require extensive irrigation as compared to other areas of the water district. A modest increase of approximately 30 percent during the peak summer months would yield a consumption rate of approximately 0.46 mgd.

Given the current capacity of the water district, an increase of 0.35 mgd on an average daily basis from the EMSURA could be easily accommodated. However, given the margin of only 2 mgd between the peak demand and the current capacity, an increase of 0.46 mgd during the warmer months is a concern. This increase would only leave 1.54 mgd of future capacity for the remainder of the water district's service area, which includes other areas of the Town of Riverhead outside of Riverhead proper, such as Wading River, Baiting Hollow, and Aquebogue. The Town of Riverhead in general is experiencing tremendous growth in terms of both commercial projects, such as those under construction or planned within the Route 58 corridor, and residential projects, also either under construction or planned. This growth, of which the proposed development within the EMSURA is a part, easily has the potential to exceed the present excess capacity of the water district.

In order to help decrease the demand for water as a result of construction within the EMSURA as well as outside its boundaries, water conservation measures beyond those which are currently required by State and local codes are encouraged in the URP.

As previously discussed, the results of a hydrant flow test were obtained to acquire representative information pertaining to available pressures and flows of the existing water mains within the EMSURA. Based upon the static and residual pressures of 75 pounds per square inch (psi) and 60 psi respectively, there would be sufficient water pressure to support the proposed development within the EMSURA. Interpolating from the static and residual pressures obtained during the test, the available flow for fire fighting at a residual pressure of 20 psi is equal to 1515 gpm. The recommended minimum flow is 500 gpm, therefore it appears that there would be ample flow available for fire-fighting needs. In view of many of the proposed types of development within the EMSURA, it is likely that the applicable building and fire codes for these projects would require the installation of fire sprinkler systems for the protection of lives and property. Such systems would need to be designed based upon current hydrant flow test data as well as various other parameters in accordance with the codes and other applicable standards.

SANITARY

As previously discussed, wastewater discharge from the EMSURA is transported to and treated at the Riverhead Sewer District's AWTF, where the current average winter wet weather flow is approximately 0.8 mgd. Given these conditions, the AWTF has approximately 0.4 mgd of unused flow capacity under the existing SDPES permit. It should be noted that this remaining capacity has been allocated to all properties within the district's boundaries and at present no portion has been specifically allocated to development within the EMSURA. In order to evaluate the impact of the various build scenarios on the ability of the AWTF's available capacity, increased flows were estimated for the short-term, interim and long-term scenarios. These estimates considered the methodology utilized in the previously referenced H2M Group report "*Downtown Redevelopment Wastewater Flow Analysis*," DEC's requirements for SPDES permits, and the estimates of growth in development for the various land uses for each scenario as developed previously in this report. Table 6-1 presents a summary of the results of this additional wastewater flow analysis by scenario for the EMSURA.

Table 6-1
EMSURA Wastewater Flow Analysis

Scenario	Additional EMSURA Wastewater Flow (gpd)	Total Wastewater Flow (gpd)	Remaining Permitted Flow (1,200,000 max)	Remaining AWTF Capacity (1,400,000 max)
Short term (2012)	145,000	945,000	255,000	455,000
Interim (2017)	76,000	1,021,000	179,000	379,000
Long term (2022)	45,000	1,066,000	134,000	334,000

Notes: See Appendix for detailed calculations.

The underlying calculations can be found as Appendix C of this document. The development proposed under the short-term scenario, which included numerous specific projects planned or applied for in the EMSURA, as well as the development of a 174,800 square feet of mixed commercial use development on the north side of East Main Street, would result in additional wastewater flow of approximately 145,000 gallons per day (gpd). Note that this estimate

compares favorably with the results of the estimate of 166,000 gpd presented in the H2M report. Based on the stated maximum flow of the AWTF under the existing permit of 1,200,000 gpd (1.2 mgd), the short-term development scenario would utilize roughly 38 percent of the plant's remaining available permitted capacity, assuming no additional growth takes place in the balance of the district.

The short-term scenario envisions development based on information regarding likely projects in the EMSURA, and also assumes that all vacancies in existing buildings in the EMSURA would be filled by 2012, due to the beneficial effect of increased activity. As previously discussed in this document, the interim and long-term development scenarios are based on assumptions regarding development of the properties within the EMSURA to the fullest extent allowed under the new DC-1 zoning. As can be seen, the additional flow under the interim development scenario is estimated to be approximately 76,000 gpd, and that estimated for the long-term scenario is approximately 45,000 gpd additional flow, for a total estimated additional flow of 266,000 gpd, and a total flow of 1,066,000 or 89 percent of the available permitted treatment capacity of the AWTF. Therefore, under the existing SDPES permit, the AWTF has sufficient capacity to accommodate the additional flows estimated under the development scenarios described above. An underlying assumption is that there is no limit placed on how much of the plant's permitted excess capacity is available for development within the EMSURA.

However, the analysis estimates additional flows resulting from development within the EMSURA only, and the EMSURA physically represents a very small part of the sewer district. The H2M report indicated that additional flow from development of the portion of the sewer district outside the EMSURA was estimated at 335,000 gpd, which represents nearly 84 percent of the available excess permitted capacity. Assuming that full development of the area outside the EMSURA would coincide with the long-term development scenario, and that such development would take place in a linear development pattern, additional flow of 22,000 gpd per year could be expected to be generated in the area of the sewer district outside the EMSURA, or 110,000 gpd by 2012. Combined with the increased flow estimated under the short-term development scenario for the EMSURA of 145,000 gpd, a total new flow of 255,000 gpd would be expected, representing 64 percent of available permitted capacity. Therefore, the AWTF would theoretically accommodate the short-term flows under the existing SDPES permit. Under the interim scenario, a total of 441,000 gpd would be generated using the same assumptions, which would be 3.5 percent above the plant's permitted capacity, and finally, full development of the EMSURA combined with full development of the rest of the sewer district would result in increased flow of 597,000 gpd, and a total flow of 1,397,000 gpd. This total flow is just below the rated capacity of the AWTF, and it is within the margin of error for the methodology. However, the total flow at assumed full build-out of 1.4 mgd is nearly 17 percent above the flow permitted under the existing SDPES permit.

As previously stated, the sewer district is working on an effluent diversion for beneficial reuse project to utilize up to 0.35 mgd of treated effluent for irrigation purposes at the nearby Indian Island County Park. This project, once fully operational, would greatly reduce the volume of treated effluent being discharged to the Peconic River and enable the sewer district to operate within the SPDES permit. The effluent diversion would only be beneficial during the months of May through September when irrigation was being performed. During the remainder of the year the sewer district would need to obtain a SPDES permit modification for any discharge over the 1.2 mgd currently allowed.

Therefore, it is anticipated that the AWTF would provide the service needed under full development of the entire sewer district, including the EMSURA provided that a SPDES permit modification was obtained. This information is summarized in Table 6-2.

Table 6-2
Sewer District Wastewater Flow Analysis

Scenario	Additional District Wastewater Flow (gpd)	Total Wastewater Flow (gpd)	Remaining Permitted Flow (1,200,000 max)	Remaining AWTF Capacity (1,400,000 max)
Existing (2007)	-	800,000	400,000	600,000
Short term (2012)	255,000	1,055,000	145,000	345,000
Interim (2017)	186,000	1,241,000	(41,000)	159,000
Long term (2022)	156,000	1,397,000	(197,000)	3,000
Notes: See Appendix C for detailed calculations.				

In the event that the Town was unable to obtain a SPDES permit modification, flow at a future point in time to the AWTF would need to be reduced to accommodate proposed development within the EMSURA and the Town in general, or the amount of development-producing flows would need to be limited.

The recommendations in the URP set forth several methods that would accomplish reducing current flow. Effluent diversion program is a key component in meeting the TMDL levels at both the current and permitted flows. During the critical warmer months, for any flow greater than the current flow, the corresponding improvement in effluent quality in conjunction with effluent diversion would be necessary. It should be noted that if a SPDES permit modification was obtained to increase the flow from the currently permitted flow, a nitrogen concentration less than the practical load reduction would need to be achieved in order to meet the TMDL during the warmer months.

In order to ascertain the ramifications of any increase in flow to the AWTF above the current level, Michael Reichel, Sewer District Superintendent, was contacted. Mr. Reichel indicated that the plant is presently operating at its organic capacity. In other words, given the characteristics of the influent entering the plant, the nitrogen concentration of the effluent is as low as possible given the equipment and technology utilized at the plant. Therefore, the current average daily nitrogen concentration of 10.7 mg/L and corresponding nitrogen load could not be reduced without additional measures being taken. It should be noted that the TMDL levels contained in the report are only recommendations and their implementation would require enactment by the appropriate regulatory agencies. Although the TMDL levels have not yet been imposed, it is recommended that the ability of the AWTF to improve effluent quality as a result of any flow increase from the EMSURA or elsewhere within the sewer district should be further investigated by the Town.

DRAINAGE

As previously noted, the Town of Riverhead requires that a site fully contain the runoff generated from a 2-inch rainfall event. This is the amount of water on a volume basis derived from the component areas of the site multiplied by the appropriate coefficient reflecting the imperviousness of that area. Much of the existing drainage facilities throughout the EMSURA pre-date the requirements for storage of a 2-inch rainfall, however, new development projects

would be required to meet the current standards. The 2-inch rainfall requirement conflicts with the DC-1 zoning, which at present permits 100 percent lot coverage, leaving essentially no opportunity to install any conventional drainage structures to handle the runoff from the site. At present, many of the parcels within the EMSURA have 100 percent lot coverage, and these buildings have downspouts that discharge directly to adjacent roadways or adjoining parking areas. The roadways and parking areas are then forced to handle stormwater from beyond their own tributary area.

Maintaining the 2-inch rainfall requirement would necessitate that a certain portion of a site be allocated towards handling the runoff generated from the site precluding 100 percent coverage of the parcel. The maximum coverage allowable would vary depending on how efficiently the site was utilized to meet the 2-inch requirement. By reducing the 2-inch requirement to a lower amount, the greater would be the remaining area of the site available for the proposed development. The portion of runoff between 2 inches and the lower amount could be handled by one of the alternate means described below if it is desired to maintain the 2-inch requirement.

Continuing to allow full lot coverage with no regard for runoff would be undesirable from an environmental standpoint, however, there are several options for handling the runoff. There are numerous green construction practices, such as roof gardens and the installation of cisterns, which are increasingly being utilized to address the issue of roof runoff in highly developed urban environments. These could be employed to meet all or a portion of the 2-inch rainfall requirement. Runoff can also be handled by centralized drainage facilities owned and operated by a public authority similar to the parking district that provides parking for parcels that lack on-site parking. Taxes collected from members of a stormwater district could be utilized to construct and maintain new drainage facilities or to upgrade existing facilities that would support the proposed development. These new facilities could be located under land owned by the Town as part of the parking district. Conversely, the Town could grant easements to property owners for the installation of drainage facilities. Such facilities would be maintained by the property owner and would preclude the discharge of runoff to public facilities. If a stormwater district was not created, a one-time assessment could be collected during development of a project that would be utilized to mitigate some or all of the impacts of that project, depending on the amount of runoff not handled on-site. The funds generated would be utilized to improve the drainage facilities located within the adjacent parking areas or roadways that handle the excess runoff. Particular attention would be directed towards reducing the quantity and improving the quality of stormwater that is either directly or indirectly discharged to the Peconic River.

Regardless of the final resolution between the site plan requirements and zoning regulations any development within the EMSURA would result in an improvement of the drainage facilities. With the notable exception of the open space adjacent to the Peconic River, the land usage is generally characterized by 100 percent impervious surfaces. Under all of the stages of the proposed development the imperviousness of the surfaces within the EMSURA would remain essentially unchanged, resulting in no appreciable variation in the amount of runoff that must be handled. The conversion of some impervious areas, particularly parking areas, would undoubtedly decrease the amount of runoff that must be handled. At present, most of the existing drainage facilities are leaching-type structures that return a portion of the runoff to the ground, precluding direct discharge to the Peconic River during minor storm events. However, due to the age of the leaching structures and the accompanying loss of capacity, as well as the high water table, these structures are not adequate to handle a storm with a 2-inch rainfall. In addition to the leaching structures, there are some piped systems that discharge directly to the Peconic River. As previously noted, one such system is being upgraded with a pre-treatment structure by

SCDPW, however, there is potentially the opportunity to upgrade or eliminate other outfalls during future development.

In summary, anticipated redevelopment of properties within the EMSURA presents the opportunity to increase the ability to reduce runoff below present levels, and to handle more of the runoff by replacing existing inefficient structures, installing additional structures, and utilizing the latest stormwater management practices to more closely meet current requirements.✷

A. INTRODUCTION

This chapter describes the existing natural resources featured within the EMSURA, and assesses the potential impacts of the proposed *East Main Street Urban Renewal Plan 2008 Update* (2008 Update) on these resources.

B. EXISTING CONDITIONS

FLORA

The EMSURA is largely composed of impervious surfaces. Of the 41 acres, approximately 90 percent is impervious coverage. The exception is the parkland area along the southern study area boundary that abuts the Peconic River and a smaller town park on Roanoke Avenue. In addition, sporadic acres of turf and landscaped areas exist both north and south of East Main Street. The EMSURA may not exhibit large quantities of vegetative habitat, but the Peconic River, as part of the larger Peconic Estuary system, is host to a myriad of ecological communities providing habitat to 111 endangered, threatened, rare, or special concern plant and animal species, including 82 vascular plants.[1]

FAUNA

Wildlife, as defined for the purposes of this study, includes mammals, reptiles, amphibians, and birds.

MAMMALS

Due to the area's developed nature, very few mammals are likely to utilize the EMSURA for habitat outside of the Peconic River. Those that may be found as visitors are those more tolerant of habitat disturbance. A list of these mammals is provided in Table 7-1.

REPTILES AND AMPHIBIANS

A list of reptiles and amphibians known to occur in the vicinity of the EMSURA is provided in Table 7-2. This list was compiled based on the New York State Department of Environmental Conservation (DEC) Amphibian and Reptile Atlas Project, a 10-year survey (1990-1999) that documents the geographic distribution of New York State's amphibians and reptiles. Like the Breeding Bird Atlas (described below), this survey divided the state into large blocks, and used volunteers to survey those blocks for amphibians and reptiles. The data compiled in the Reptile Atlas Project was organized by U.S. Geological Survey (USGS) quadrangle. Since the entire

[1] New York State Department of Environmental Conservation, 2001.

EMSURA falls within the Riverhead quadrangle, the EMSURA was reviewed for potential occurrence of amphibians and reptiles. The adjacent Peconic River, as part of the Peconic Estuary system, and vast preserved lands further west and south of the river, including Cranberry Bog County Park and New York State Conservation Areas, are also present within this quadrangle and are the likely habitats for these species. Of the 70 species of amphibians and reptiles identified by the survey, 22 (or 31 percent) are expected to utilize the EMSURA. Of those, six species are listed as threatened, endangered, or special concern species.

Table 7-1
Mammals that may be found within the EMSURA

Common Name	Scientific Name
Raccoons	Procyon lotor
Opossum	Didelphis marsupialis
Short-tailed shrew	Blarina brevicauda
Masked shrew	Sorex cinereus
Pine vole	Microtus pinetorum
Eastern mole	Scalopus aquaticus
Eastern cottontail	Sylvilagus floridanus
Eastern gray squirrel	Sciurus carolinensis
Eastern chipmunk	Tamias striatus
Norway rat	Rattus norvegicus
White-footed mouse	Peromyscus leucopus

Sources: *The Comprehensive Plan Initiative for Groundwater and Pine Barrens Forest Preservation*, 1993; *Final Environmental Impact Statement for The Pines*, 1988.

Since the entire EMSURA comprises a built environment with little natural features, those species of reptiles and amphibians requiring wetlands and aquatic resources for a large percentage of their life cycle are unlikely to occur in the EMSURA. However, as stated, the potential presence of these species is high in the area south of the EMSURA in the vicinity of the Peconic River and the various preserved lands further west and south of the river.

AVIAN HABITAT AND SPECIES

Between 1980 and 1985 there were 87 possible, probable, or confirmed breeders in the "block" where the EMSURA is located (block 6953C).[1] The atlas was developed by covering the entire state with a grid made up of 5 kilometer (km) by 5 km blocks. Of the 87 species considered, 55 (or 63 percent) were confirmed in block 6953C. The atlas has since been updated and the interim data has been posted to the DEC website.[2] It is expected that the final atlas will be available in 2008. Based on the data collected between 2000 and 2005, a total of 78 possible, probable, or confirmed breeders are in the "block," including 37 confirmed, 36 probable, and 5 possible breeders. A list of these species is provided as Appendix D.

[1] Andrle, Robert F, Atlas of Breeding Birds in New York State, 1988.

[2] New York State Department of Environmental Conservation, Breeding Bird Atlas, http://www.dec.ny.gov/cfmx/extapps/bba/, 2005.

Table 7-2
Amphibians and Reptiles Known to Occur in the Riverhead Quadrangle

Common Name	Scientific Name	Status
Salamanders		
Marbled Salamander	*Ambystoma opacum*	Special Concern
Spotted Salamander	*Ambystoma maculatum*	
Eastern Tiger Salamander	*Ambystoma tigrinum*	Endangered
Red-spotted Newt	*Notophthalmus v. virdescens*	
Northern Redback Salamanader	*Plethodon cinereus*	
Frogs and Toads		
Fowler's Toad	*Bufo fowleri*	
Gray Treefrog	*Hyla versicolor*	
Northern Spring Peeper	*Pseudacris c. crucifer*	
Bullfrog	*Rana catesbeiana*	
Green Frog	*Rana clamitans melanota*	
Wood Frog	*Rana sylvatica*	
Southern Leopard Frog	*Rana sphenocephala utricularius*	Special Concern
Pickerel Frog	*Rana palustris*	
Turtles		
Common Snapping Turtle	*Chelydra s. serpentine*	
Common Musk Turtle	*Sternotherus odoratus*	
Spotted Turtle	*Clemmys guttata*	Special Concern
Eastern Box Turtle	*Terrapene c. Carolina*	Special Concern
Painted Turtle	*Chrysemys picta*	
Snakes		
Northern Water Snake	*Nerodia s. sipedon*	
Eastern Ribbon Snake	*Thamnophis sauritus*	
Eastern Worm Snake	*Carphophis a. amoenus*	Special Concern
Northern Black Racer	*Coluber c. constrictor*	

Sources: *New York State Amphibian and Reptile Atlas* (1990 – 1999).
Amphibians and Reptiles of Long Island, Staten Island and Manhattan, Hofstra University, Department of Biology http://people.hofstra.edu/faculty/Russell_L_Burke/HerpKey/list_regional-species.htm

The majority of bird species identified in the "block" by the 1988 Atlas are protected. Protected species as defined in Environmental Conservation Law 11-0103 are all wild birds except those named as unprotected. One species identified, Osprey (*Pandion haliaetus*), is a "special concern" species, or one not yet recognized as endangered or threatened but for which documented evidence exists relating to their continued welfare in New York State.[1] There are no ospreys within the EMSURA and the other avian species are likely to be mostly visitors, with the exception of songbirds and other species found in an urban environment.

[1] New York State Department of Environmental Conservation and Suffolk County Department of Health Services, *Peconic Estuary Program Comprehensive Conservation and Management Plan*, Peconic Estuary Program, 2001.

ENDANGERED AND THREATENED SPECIES AND OTHER SPECIES OF CONCERN

The State's Natural Heritage Program (NHP) maintains a database of endangered, threatened, and rare plants and animals in New York State as well as information on the location of such species within the State. The New York NHP is a partnership between DEC and the Nature Conservancy. The U.S. Fish and Wildlife Service (USFWS) maintains similar information for species of concern nation-wide.

Both the USFWS and NHP were contacted to inquire about the existence of designated endangered and threatened species and other species of concern within the EMSURA. According to telephone correspondence with NHP, the agency does not maintain any records for rare, threatened, endangered, or special concern species within the EMSURA.

On February 16, 2007, a letter was sent to USFWS requesting similar information. A response was received from USFWS on March 15, 2007 and has been included as Appendix B. The response states that no federally-listed or proposed endangered or threatened species under the jurisdiction of the agency are known to exist within the EMSURA. In addition, the agency reported that no currently designated or proposed critical habitats are located in the EMSURA.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

The proposed action as stated above is located within an urban environment. The proposed action would not have an adverse impact on the flora and fauna within the EMSURA since these natural resources occur only in a very limited extent. Additionally, the area does not serve as a habitat for species listed on the endangered or special concern list as published by the State. As a result of the proposed action, open space could increase overall, potentially increasing the quantity and diversity of flora and fauna found within the area.

Marine life present in the Peconic River would benefit as a result of the proposed action since the action would upzone existing parcels, which are currently within two zoning districts, Downtown Center-1 and Downtown Center-2. The upzone would prevent intensive development along the waterfront and increase the amount of overall open space.

Concentrating, or rather encouraging development in a pre-existing urban area would potentially prevent development of other areas in the Town, or possibly allow for preservation of green areas while enabling appropriate development. Additionally, the proposed action recommends that buildings follow Leadership in Energy and Environmental Design (LEED) standards and green building design. Buildings constructed according to LEED standards promote a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. The proposed action is expected to increase the amount of pedestrian activity in the EMSURA, potentially reducing vehicle miles traveled. ✷

A. INTRODUCTION

This chapter provides an overview of soils, geology, and water resources, including surface and groundwater resources of the EMSURA and the surrounding areas, and assesses the impacts of the proposed action on these resources.

B. EXISTING CONDITIONS

SOILS

The soil types of the EMSURA were reviewed based on the Town's Geographic Information Systems database and the *Soil Survey of Suffolk County, New York* (United States Department of Agriculture [USDA] Soil Conservation Service, April 1975). There are two soil classes mapped in the EMSURA—cut and fill land, gently sloping (CuB) and urban land (Ur). The soil types within and surrounding the EMSURA are indicated in Figure 8-1. Soil types are characterized by their composition (i.e., sands, clays, etc.), slope, erodability, permeability, and typical depth to groundwater. Based on this characterization, the soil survey provides a three-part measure of constraints on development divided into Slight, Moderate, or Severe for different potential site uses (paved surfaces, home construction, septic disposal). Moderate and Severe limitations do not in themselves create significant adverse environmental impacts, but reflect the likelihood of additional site preparation and site engineering, ongoing maintenance requirements, and costs necessary to utilize the land for an intended purpose.

The majority of the EMSURA (33 acres) is classified as urban land, while only 8 acres are dedicated to CuB soils. Ur soils consist of lands that are predominately covered by impervious surfaces such as building and parking lots, while CuB soils are designated as areas that have been altered in grading operations for housing developments, shopping centers, and similar non-farm uses. During the initial phase of grading, which consists of cut and fill for streets or parking lots, excess soil material is stockpiled for final grading and topdressing around houses or other buildings. Areas of CuB contain deep cuts in or near the sandy substratum of the soil or sandy fills of 28 inches or more. Generally, cuts are so deep or fills so thick that identification of soils by series is not possible.

HYDROGEOLOGIC SETTING

Most of Long Island's geology is defined by two terminal moraines—low, hill-like formations that are remnants of the advances of glaciers during the last ice age (the Pleistocene epoch). The two morainal ridges—the Harbor Hill Moraine and Ronkonkoma Moraine—run the length of Long Island and diverge to the east to form the North Fork and South Fork. The moraines are made of poorly sorted glacial till deposited at the glacial terminus. South of the moraines are outwash plain deposits of sands and gravel. The EMSURA is within the outwash plains between the Harbor Hill and Ronkonkoma Moraines.

Long Island is composed of many layers of sand, clay, and gravel, with southeasterly sloping bedrock below. These layers of subsurface geologic deposits are important in defining the groundwater aquifers that underlie Long Island. The interrelationships of the various geologic deposits dictate how the aquifer is recharged by rainfall, and also determine how activities on the land surface might affect the quantity and quality of the groundwater. As shown schematically in Figure 8-2, the geologic composition of most of Long Island consists of three distinct formations that lie atop bedrock.[1] The thickness of these unconsolidated glacial and deltaic deposits ranges from a few hundred feet in the northwestern sections of Nassau County to more than 2,000 feet along Suffolk's south shore barrier beaches. Beginning at the surface and extending down to bedrock, these formations include:

- Glacial Aquifer (Upper Pleistocene)—The Glacial Aquifer, comprising medium to coarse sand and gravel with occasional thin lenses of fine sand and brown clay, is the youngest of the formations and the closest to the surface. This aquifer generally has greater water transmitting properties than the underlying deposits. It was created 15,000 years ago from glacial deposits of sand and gravel from the retreating glaciers. Within the EMSURA, these deposits extend from grade down about 150 feet to the top of the Magothy Formation.
- Magothy Aquifer—Just below the Upper Pleistocene, the Magothy Formation was formed in the Cretaceous Age (70 to 140 million years ago). This formation consists of fluvial and deltaic deposits and is composed mainly of mixed layers of sand, silt, and clay. The Magothy contains some discontinuous clay layers ("lenses") with low permeability while the fine to coarse sand deposits are of high permeability. Gravel is also present, but limited primarily to the lower strata of the formation. Minerals (e.g., muscovite and pyrite) distinguish this formation from the upper glacial deposits, as does lignite, which is a signature feature of the Magothy. This formation is between 600 and 650 feet thick below the EMSURA and is the primary drinking water source for most of Long Island.
- Raritan Formation and the Lloyd Aquifer—Beneath the Magothy is a layer of clay, which comprises the upper strata of the Raritan Formation. This formation is between 150 and 200 feet thick in the vicinity of the EMSURA. Below the clay is the Lloyd Aquifer. The Lloyd is generally between 300 and 325 feet thick beneath the EMSURA. It consists primarily of fine- to coarse-grained sand and gravel, intermixed with clay. The Raritan Formation's confining unit of clay is quite thick and restricts the water flow between the Lloyd Aquifer and the Magothy Aquifer.
- Bedrock—Bedrock dates from the Precambrian and Paleozoic eras (more than 500 million years old). It begins about 1,250 to 1,275 feet below the EMSURA, and is composed of impermeable schist and gneiss.

TOPOGRAPHY

The ground surface in the EMSURA ranges between 0 and 22 feet above mean sea level (MSL). The area south of East Main Street ranges between 0 and 10 feet above MSL with the land closest to the roadway at 10 feet above MSL and decreasing to the shore. The area north of East Main Street and west of East Avenue is at 20 feet above MSL while the land area east of East Avenue is largely at 10 feet above MSL. As is typical with downtown areas along the coast, the EMSURA is relatively flat with little grade change over the entire area.

[1] Smolensky et al. 1989

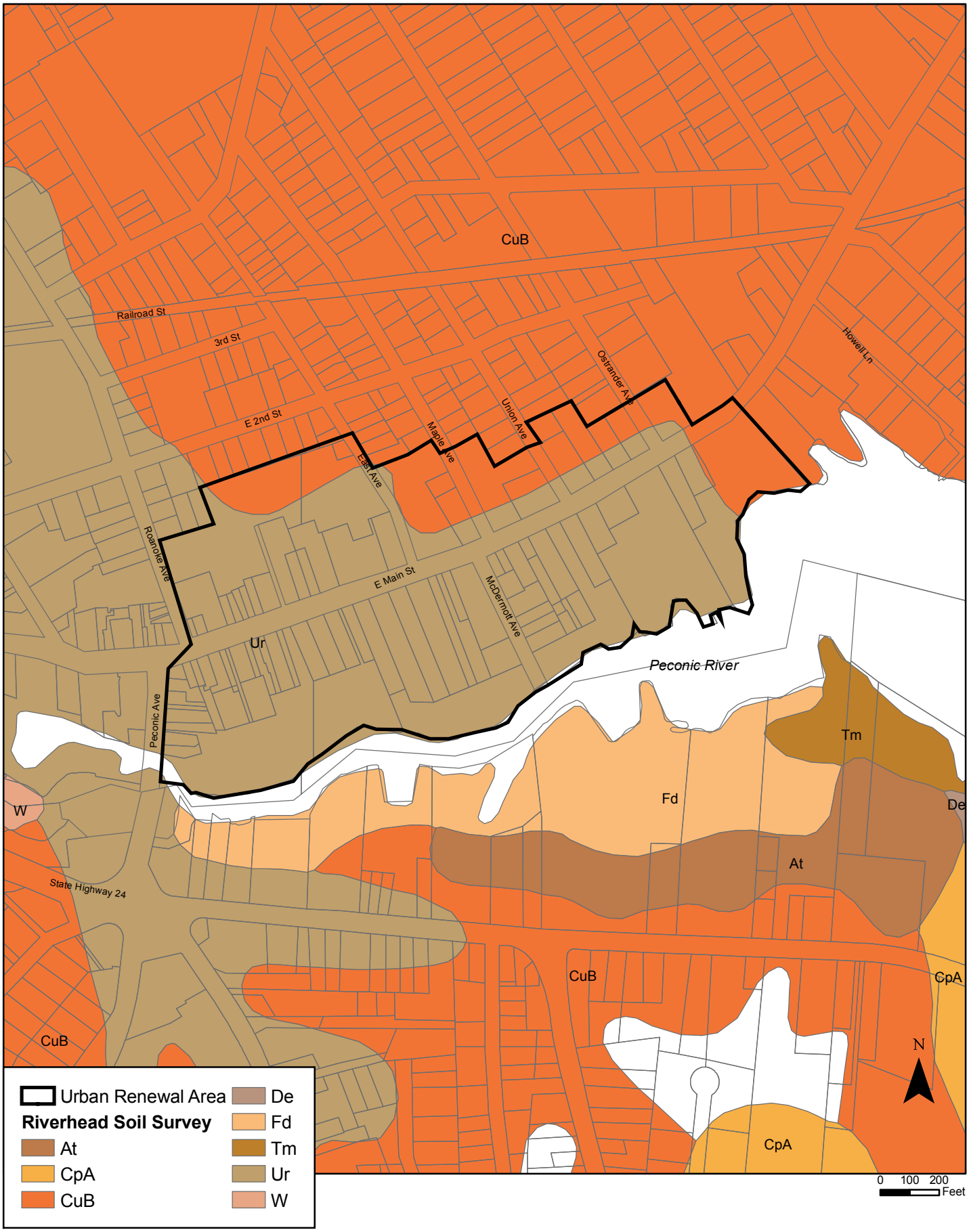
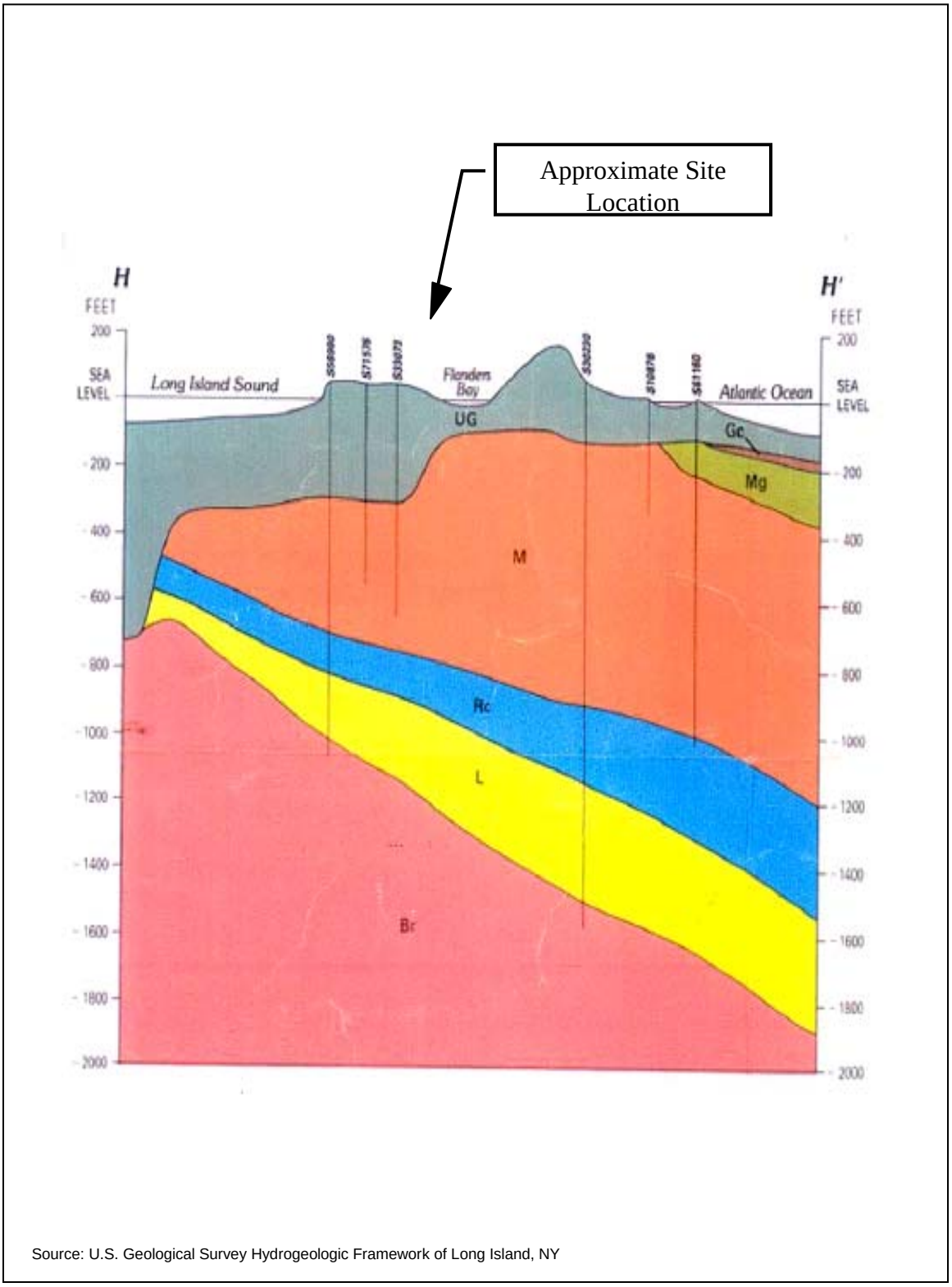


Figure 8-1
Soils



Source: U.S. Geological Survey Hydrogeologic Framework of Long Island, NY

Figure 8-2
Approximate Site Geologic Cross-Section

GROUNDWATER

OVERVIEW

In 1978, the aquifers of Long Island were designated by the U.S. Environmental Protection Agency (EPA) as a sole source aquifer,[1] with the finding that the system is the "principal source of drinking water" to the people of Long Island and "if contaminated, would create a significant hazard to public health."

Three main aquifers supply both Nassau and Suffolk Counties with potable water. Average rainfall on Long Island is approximately 44 inches per year, roughly half of which goes to evaporation or evapotranspiration. The remaining 22 inches recharge the aquifers, primarily during the months of October through April. The Upper Glacial Aquifer is used widely for water supply in areas of central and eastern Suffolk County. Because the Upper Glacial Aquifer in Nassau County is generally of degraded quality due to past sanitary and industrial waste disposal practices, the majority of Nassau County obtains its water supply from the deeper Magothy Aquifer. While the Magothy Aquifer also supplies the majority of Suffolk County with potable water, the Lloyd Aquifer supplies water to the south shore barrier beach communities. In the area of the EMSURA, potable water is primarily drawn from both the Upper Glacial and Magothy Aquifers.

DEPTH TO WATER

Depth to groundwater is generally equivalent to sea level at the north and south shorelines of Long Island and, following the topography, rises in elevation towards the center of the Island. These elevation changes form a parabola in the groundwater levels. The depth to groundwater on Long Island ranges from a few feet along the shorelines and stream/lake margins to more than 200 feet in the center of the Island, depending on the surface topography. The high point of the parabola is referred to as the groundwater divide that creates a hydraulic gradient causing groundwater to generally flow to the north (into Long Island Sound), or to the south (into the Atlantic Ocean). Groundwater flow in the vicinity of the EMSURA is generally southeast to the Peconic Estuary.

As discussed in detail below, the EMSURA is located within Hydrogeologic Zone IV as defined by the *Long Island Comprehensive Waste Treatment Management Plan* (208 Study), characterized as a deep flow system with a large vertical component of groundwater flow recharging the aquifer.

According to the Suffolk County Department of Health Services (SCDOH), the water table is at an elevation of approximately 18 feet above MSL near the center of the EMSURA, decreasing southward toward the Peconic River. The approximate depth to groundwater on average is 0 to 4 feet within this southerly portion of the EMSURA

[1] Federal Register, 43, June 21, 1978

GROUNDWATER PROTECTION AND PROGRAMS

Safe Drinking Water Act

The Safe Drinking Water Act of 1974 (SDWA) authorized EPA to regulate public water systems to protect the public's health. The EPA set standards for chemicals that might be found in water that could potentially have adverse effects. EPA has 25 drinking water standards, 10 of which are for synthetic organics. These drinking water protection measures are also written into the state and county regulations (see the discussion below).

Special Groundwater Protection Areas

Article 55 of the New York State Conservation Law (known as the Sole Source Aquifer Protection Act) designates areas on Long Island that are Special Groundwater Protection Areas (SGPAs). Prepared under the direction of the Long Island Regional Planning Board (LIRPB) and released in 1992, *The Long Island Comprehensive Special Groundwater Protection Area Plan* identifies nine SGPAs in the Nassau and Suffolk County regions. The SGPAs are watershed recharge areas important for the maintenance of large volumes of high-quality groundwater. SGPAs are usually located in largely undeveloped or sparsely developed areas of Long Island that provide recharge to portions of the deep flow aquifer system. The existing water supply policy is to ensure the future quantity and quality of groundwater recharge by controlling development and pumpage in these SGPAs. All SGPAs are designated Critical Environmental Areas (CEAs), which are areas of exceptional or unique natural settings which have an inherent ecological, geological, or hydrological sensitivity. The EMSURA is not located within a SPGA, however, the southwest corner of the EMSURA does touch the Central Suffolk SGPA. This SGPA, the largest of the nine SGPAs, comprises approximately 125,000 acres within the Towns of Brookhaven, Riverhead, and Southampton and a small portion of the Town of Southold. Almost all of the 100,000 acres designated as part of the Long Island Central Pine Barrens are included in the Central Suffolk SGPA.

New York State Department of Health Source Water Assessment Program

A mission of the New York State Department of Health (DOH) is to protect and promote the health of the citizens of New York State. Within the DOH, the Bureau of Public Water Supply Protection has the primary responsibility of administering the Public Water System Supervision program (PWSS) and for assuring that safe, potable water, in adequate quantities, is provided throughout the state. This is accomplished through:

- Oversight of local water supply regulatory programs;
- Training and certification of water supply operators;
- Maintenance of a statewide database on individual public water systems;
- Development and initiation of enforcement policies;
- Plan review;
- Maintenance of a water quality surveillance program; and
- Providing technical assistance to both regulatory units and water suppliers.

The regulatory agency that oversees New York's PWSS is EPA. The primary federal legislation governing public drinking water systems is the SDWA, including the 1986 and 1996 amendments.

The 1996 amendment of the SDWA places a strong emphasis on the protection of surface and groundwater sources used for public drinking water. As a result of these amendments, states must develop a Source Water Assessment Program (SWAP) and complete assessments of the sources of drinking water used by public water systems. Each source water assessment must include:

- A delineation of the source water assessment areas;
- An inventory of potential significant contaminant sources within the source water assessment area; and
- An evaluation of the source water's susceptibility to contamination.

The SWAP for Long Island has been performed by the DOH and Nassau and Suffolk County Departments of Health.

Groundwater and Surface Water Discharge Permits

In accordance with the Clean Water Act (CWA), direct discharges from point sources into surface waters of the United States are addressed by the National Pollutant Discharge Elimination System (NPDES) permitting program. NPDES permits are issued either directly by EPA or by an authorized state. A facility that intends to discharge into the nation's waters must obtain a permit prior to initiating its discharge. In 1987, the Clean Water Act (CWA) was amended to address storm water runoff from industrial sites.

The New York State Department of Environmental Conservation (DEC) administers the NPDES program at the state level, known as the State Pollutant Discharge Elimination System (SPDES) program and approved by EPA. The SPDES program serves to control wastewater and stormwater discharges in accordance with the CWA. The SPDES program is broader in scope than that required by the CWA in that it controls both point and non-point source discharges to groundwaters as well as surface waters.

Long Island Comprehensive Waste Treatment Plan (208 Study)

The 208 Study issued in 1978 by the LIRPB identified eight Hydrogeologic Zones in Nassau and Suffolk Counties with the objective of protecting groundwater quality. These eight zones were differentiated based on differences in underlying groundwater flow patterns and groundwater quality. Zones I through III occupy geographic areas that are primarily characterized by a deep flow system (or large vertical component of groundwater flow recharging the aquifer). The remaining five zones are characterized by a larger horizontal component of groundwater flow, which contributes to shallow recharge or transmits flows to surface waters.

The EMSURA is located in Hydrogeologic Zone IV, which extends eastward to the North and South Forks of Long Island. Zone IV is classified as a shallow flow system that discharges to streams and marine waters. Recommendations of the 208 plan relevant to the EMSURA are:

- Minimize population density by encouraging large lot development (one dwelling unit per acre or more);
- Reduce excessive use of irrigation water to minimize saltwater intrusion;
- Optimize pumping patterns to minimize saltwater upcoming;
- Optimize the timing of fertilizer application to reduce nitrate contamination from agriculture;
- Provide for routine maintenance of on-site disposal systems; and

- Control stormwater runoff to minimize contamination to surface and groundwater.

Suffolk County Water Pollution Control

Article 7: Water Pollution Control

The purpose of Article 7 of the Suffolk County Sanitary Code is to safeguard all the water resources of Suffolk County, especially in deep recharge areas and water supply sensitive areas, from discharges of sewage, industrial and other wastes, toxic or hazardous materials, and storm water runoff by preventing and controlling such sources in existence when the article was enacted, and also by preventing further pollution from new sources under a program which is consistent with maintaining and protecting the water resources. This article regulates the discharge of sewage, industrial wastes, toxic or hazardous materials, or other wastes to surface or groundwater. These discharges are prohibited in deep recharge or water supply sensitive areas. It also regulates the storage of toxic or hazardous materials. One of the most important aspects of this article is that it restricts the sanitary flow per acre within various Hydrogeologic Zones. In Hydrogeologic Zones III, V, and VI, or where public water supply is not provided, the maximum sanitary flow per acre is 300 gallons per day. This is the equivalent of 1-acre residential zoning and is based on a nitrogen loading equivalent to 6 mg/l with a drinking water standard of 10 mg/l. Densities in excess of these standards require the use of a sewage treatment plant (STP). In addition, DEC regulations require the use of a STP if the flow from a single facility is in excess of 30,000 gallons per day.

Article 12: Toxic and Hazardous Materials Handling

Article 12 regulates the storage of hazardous materials/wastes and petroleum products with requirements for spill cleanup to safeguard public health by preventing and controlling water pollution from toxic and hazardous materials. This article provides design details for underground storage tanks and outdoor aboveground storage. One exemption is underground storage tanks of a capacity of less than 1,100 gallons. The vast majority of home heating oil tanks are less than 1,100 gallons.

DRINKING WATER QUALITY

Drinking water within the Town of Riverhead is primarily provided by the Riverhead Water District. The entire district is serviced by 13 wells that are drilled into the Upper Glacial and Magothy Aquifers. In 2005, approximately 40,000 residents were served by the Riverhead Water District with 2.74 billion gallons of water withdrawn from the aquifers. The water quality of the aquifers is generally good to excellent with localized areas of contamination.

The Riverhead Water District regularly tests the water supply wells for coliform bacteria, turbidity, inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, total trihalomethanes, and synthetic organic contaminants. Of the parameters tested in 2005, only iron was detected over the regulatory limit. Because iron has no health effects, there is only a secondary drinking water standard and therefore, exceeding the standard for iron represents a level at which adverse aesthetic effects start to occur.

The Riverhead Water District treats all wells to reduce corrosion and minimize the potential for bacteria growth in the distribution system by adding lime to adjust the pH and chlorinating with calcium hypochlorite, respectively. Iron sequestering agents are also utilized at all of the wells to minimize water stains on laundry and plumbing fixtures. In addition, 2 of the 13 wells are retrofitted with a granular activated carbon filter to remove any volatile organic contaminants.

A source water assessment was completed for the Riverhead Water District and the system was rated as having a high susceptibility to industrial solvents, pesticides and nitrates, and microbial contamination. The elevated susceptibility ratings are due in large part to the various land uses and their related point sources of contamination. As stated, the District regularly tests for various contaminants and all wells meet New York State's drinking water standards.

SURFACE WATER CONDITIONS

SURFACE WATER QUALITY

Peconic River

The EMSURA is bordered to the south by the Peconic River, which is an extension of the Peconic Estuary. The Peconic Estuary Watershed is a system of almost 128,000 acres of land and more than 158,000 acres of surface waters with 340 miles of shoreline between the North and South Forks of Long Island. The Peconic River headwaters begin just west of William Floyd Parkway and continue east into Flanders Bay. The river transitions from a freshwater creek at its westernmost point to a tidal river in the study area vicinity. In the vicinity of the EMSURA, the Peconic River is used primarily for recreational purposes including boating. The key issue of concern for this waterbody in the vicinity of the EMSURA is the impact of stormwater runoff from the parking areas that are located along the northern shoreline of the river.

Segments of the Peconic River were designated as a Scenic and Recreational River under the Wild, Scenic, and Recreational Rivers System Act to help preserve the River's outstanding natural resources. However, the portion of the river south of the EMSURA is not designated as such.

The Peconic River is the sole surface water body in the study area. The river's water quality was assessed and published in the *Peconic Estuary Program Comprehensive Conservation and Management Plan* (1999) and then summarized for the public in the corresponding Public Summary Document. In that report, five threats to the entire estuary system were identified and discussed, namely, brown tide, nutrient pollution, threats to habitats and living resources, pathogen contamination, and toxic chemicals. The following are findings that are deemed relevant to water quality:

Brown tide, since its appearance in the 1980's has adversely impacted bay scallops, and to a lesser degree clams, finfish, and eelgrass. Brown tide bloom which was last reported to occur in 1995, is a microalgae bloom According to the report, the EMSURA is not an area that has been most inflicted with brown tide blooms.

Ninety-seven percent of the Peconic Estuary surface water is of high quality as measured against the state's dissolved oxygen (DO) standards and some other standards. Areas in the western portion of the estuary, which are located in the study area, do exhibit DO stresses. However, nitrogen input in these areas has decreased as a direct result of decreases in duck farms in the area in recent years.

Nonpoint source pollutants are the large contributor of pathogens to the estuary, while point sources are limited. Nonpoint sources contribute to the level of pathogens and degrade the quality of the water. The quality of the estuary is based on state codes which states that, "total organisms of the coliform group shall not exceed a logarithmic mean of 2400/100 ml for a series of five or more samples in any 30-day period or 20 percent of total samples during the period exceed 5000/100 ml." Bathing beaches are required to close if the water quality does not meet

this threshold. Only one bathing beach, namely the East Hampton town beach has been closed for excessive coliform values in the estuary's history. However, as a result of contamination over four percent of shellfish beds in the estuary are closed to shellfishing as a result of excessive pathogen occurrence.

Although the estuary has overall low levels of toxic contaminants, there are instance of elevated levels of toxic substances as a result of point and nonpoint sources. Water quality tests show a presence of various toxics at the mouth of the Peconic River.

Freshwater and Tidal Wetlands

New York's freshwater wetlands are protected under Article 24 of the Environmental Conservation Law (the Freshwater Wetlands Act). The Act directs the DEC to regulate land use in and around certain freshwater wetlands with a protective buffer area extending 100 feet upland of the wetland boundary. In general, to be protected under the Freshwater Wetlands Act, a wetland must be 12.4 acres or larger. Smaller wetlands may be protected by the Commissioner if they are deemed to have unusual local importance as defined by the DEC. The Act requires DEC to map all protected wetlands so as to identify those wetlands that meet the criteria set forth in the law, and to provide a mechanism by which affected property owners can be notified that a particular wetland in their area is protected. There are no freshwater wetlands within the EMSURA boundaries. However, freshwater wetlands are featured to the west of Peconic Avenue and to the southeast of McDermont Avenue

Tidal wetlands within New York State are regulated by Article 25 of the Environmental Conservation Law (the Tidal Wetlands Act) through DEC. With the intent to preserve and protect, the implementing Tidal Wetland Land Use Regulations (6 NYCRR Part 661) identifies tidal wetlands as those areas delineated as such on an inventory map including coastal fresh marsh; intertidal marsh; coastal shoals, bars and flats; littoral zone; high marsh or salt meadow; and formerly connected tidal wetlands. The area immediately adjacent to a tidal wetland within 300 feet is also regulated by DEC. A permit is required for almost any activity that would occur within or alter wetlands or the adjacent areas. Regulated structures include piers, bulkheads, platforms, and buildings. DEC also regulates activities in immediately adjacent uplands unless the site's uplands are separated from the wetlands by a significant man-made structure that was present before Article 25 was enacted in 1973 (e.g., a bulkhead).

According to the National Wetlands Inventory, the southern portion of the EMSURA exhibits tidal wetlands identified as Estuarine Subtidal Unconsolidated bottom (E1UBL). Various other tidal wetland classes are also present in the vicinity of the EMSURA to the east, south, and west (see Figure 8-3).

The Town of Riverhead regulates activities in and near freshwater and tidal wetlands within 150 feet through Chapter 107 of the Town code.

SURFACE WATER PROTECTION AND PROGRAMS

Peconic Estuary Program

In 1992, the Peconic Estuary was designated an "Estuary of National Significance" by EPA. The Peconic Estuary Program was then developed and a unique partnership of federal, state, and local government, citizens and environmental groups collectively drafted The Peconic Estuary Program Comprehensive Conservation and Management Plan (CCMP). The CCMP was approved and adopted by EPA on November 15, 2001. The Peconic Estuary study area, which

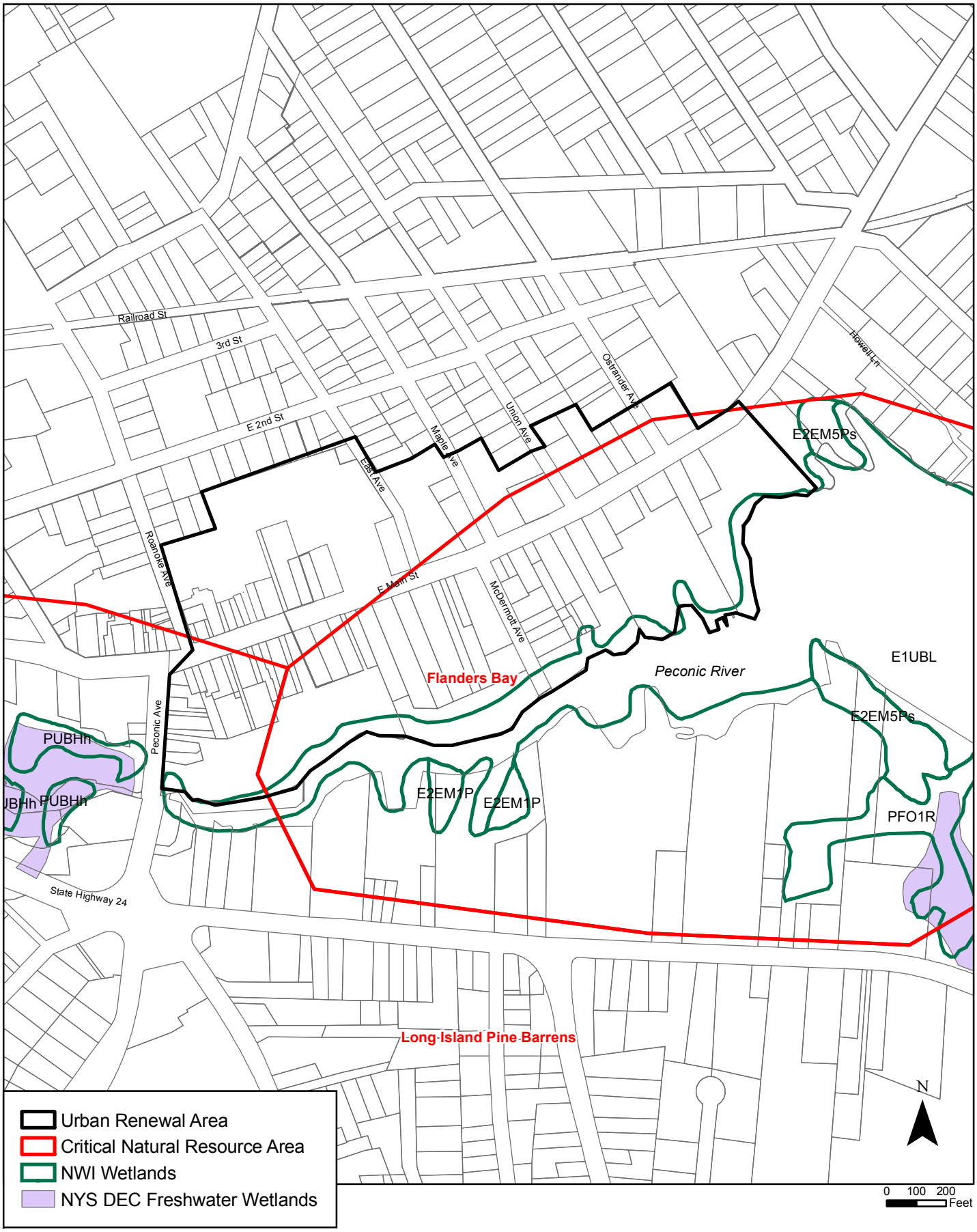


Figure 8-3
Wetlands

encompasses the EMSURA, includes more than 125,000 acres of land and 158,000 acres of surface water, including those within the Towns of Riverhead, Southold, Shelter Island, Southampton, and East Hampton as well as a small portion of the Town of Brookhaven. The Peconic Estuary Program's watershed encompasses both surface water and groundwater contributing areas.

The CCMP indicates that the management of habitats and living resources in the Peconic will require a combination of protecting existing natural areas and restoring or enhancing others to achieve a high quality ecosystem. To accomplish this, the CCMP established Critical Natural Resource Areas (CNRAs) that delineate specific locations with significant biodiversity in need of extra protection and management. The CNRAs encompass whole ecosystems and includes portions of the Peconic Estuary as well as freshwater and terrestrial zones. The southern portion of the EMSURA, generally south of East Main Street, is located within one of two CNRAs, as shown in Figure 8-3. Most of this area is located within a CNRA associated with Flanders Bay. A small portion of the EMSURA in the southwestern corner is located within a CNRA associated with Long Island Pine Barrens. Since portions of the EMSURA are located within CNRAs, "extra protection and management" may be warranted to preserve the potential for unique characteristics in relation to biodiversity.

The CCMP suggests that the most effective means of protecting natural resources is for government or private conservation organizations to acquire property and manage it for preservation purposes or purchase conservation easements. However, if neither of these options are viable, the CCMP recommends that local governments work with landowners and developers to maximize protection of resources through creative land development layouts to maximize protection of resources while allowing suitable use of properties. Within the EMSURA, this is integral for properties along the waterfront. According to the CCMP, the responsible entities for carrying out this initiative include DEC, New York State Office of Parks, Recreation and Historic Preservation, the Suffolk County Planning Department, the five East End towns, and the Town of Brookhaven. The CCMP also indicates that coordinated and comprehensive land use planning at the local level can be used to ensure protection of natural resources and habitats from cumulative impacts on the East End. It further states that the development of a master plan in each town and minimization of variances allowed are good measures for achieving such control. It is estimated that $330 million are necessary to implement the recommendations of the CCMP.

Town of Riverhead Phase II Storm Water Management Program

Pursuant to EPA's Phase II stormwater regulations under the Clean Air Act, in March 2003, the Town of Riverhead developed a Phase II Storm Water Management Program to control stormwater runoff discharges from Town facilities to the waters of the United States. In accordance with the Phase II regulations, the Town's program incorporates six measures that aim to reduce pollutants in stormwater runoff to the maximum extent practicable. These measures include:

Public Education and Outreach Activities

The public education measure would utilize several techniques to disseminate information on the impacts of stormwater runoff to water quality including maintaining material in local libraries; posting information on the Town's website; publishing press releases in local newspapers; and posting Town events related to stormwater education on the Town calendar.

As part of this initiative, the Town has identified numerous Best Management Practices (BMPs) to be encouraged by the education and outreach program. These BMPs include clean

streets/street sweeping; regular collection of segregated solid waste with hazardous waste to be disposed of at appropriate drop-off locations; water conservation; proper lawn and garden care; and pet waste management.

Public Involvement/Participation Program

The general public would be encouraged to participate in developing and implementing the Town's stormwater control programs by providing ample public notice before related activities commence; identifying a local point of contact; holding annual public meetings; providing a community hotline for complaints related to stormwater concerns; hosting stakeholder meetings; and organizing cleanup events.

Illicit and Illegal Connections to Storm Sewer Systems

Identification and awareness of all storm sewer systems within the Town and the area served by the system is a key element in detecting and eliminating illicit and illegal connections to storm sewers. The following techniques were identified as ways to address illicit and illegal connections: maintain a Town wide map of outfalls, catch basins, manholes, and water bodies; coordinate with Suffolk County on locations of illicit discharges; establish a list of exempt non-storm discharges; conduct a shoreline survey to detect illicit discharges; and educate municipal employees on techniques to identify such discharges.

Construction Site Stormwater Runoff Controls

This measure requires that construction activities occurring on property more than 1 acre must develop and adhere to a Storm Water Pollution Prevention Plan (SWPPP) that must meet applicable New York State standards related to erosion and sediment control and stormwater management.

Post-Construction Stormwater Management Program

It is in intent of this measure to control stormwater runoff impacts from sites undergoing new development or redevelopment by ensuring that the water quality effects are not significantly different after development. The Town has identified both structural BMPs (storage, infiltration, and vegetative measures) and nonstructural BMPs (sound planning practices and site-based controls) for these sites.

Pollution Prevention/Good Housekeeping for Municipal Operations

As part of regular or routine operations and maintenance of storm sewer systems, the Town has established a goal of preventing and reducing pollutants present in storm water runoff from municipal operations.

New York State Department of State (DOS) Coastal Zone Management Program

The State of New York has a Coastal Zone Management Program that is administered through the DOS. This program provides a state level of review and oversight for projects and actions that are proposed within the States coastal zone, which includes the entire EMSURA. When activities that require federal or state discretionary permits or approvals are proposed in the State's coastal zone, a coastal zone consistency analysis must be performed. There are 44 State policies that are reviewed as part of this process. Of particular importance in this review, the State has designated the Peconic River, west of the EMSURA, and Cranberry Bog County Park, southwest of the EMSURA, as significant coastal fish and wildlife habitats. This designation affords special protections for these areas with respect to a non-degradation policy for actions

that require state or federal decisions. Actions that could significantly adversely impact these habitats are generally not in conformance with the objectives of the State's coastal zone management plan.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

SOILS

The study area is already developed, so it is highly unlikely that implementation of the proposed action would result in a significant adverse impact to soils. Consideration, when assessing future potential impacts to soils within the study area, is based on the possibility for soil erosion to occur during construction, and the ability of the existing soil to accommodate development which is an engineering issue. Both of these potential issues are addressed during site design and site plan review.

Almost the entire EMSURA is impervious by way of buildings or paved surfaces. Only a small portion of the EMSURA is undeveloped or vacant. The areas within the DC-2 zone, which are undeveloped, would remain. The proposed action does not recommend any changes to elevation in any part of the EMSURA. Soil properties for the purposes of new and/or re-construction would not present any challenges as demonstrated by the existing EMSURA development.

HYDROGEOLOGIC SETTING

As noted in the Existing Conditions section of this chapter, the hydrological system under the EMSURA consists of a series of aquifers. Preserving the quality of the aquifers is crucial to the region's water supply. Land development and other types of human activity have the potential to change the quality of the groundwater in the aquifers.

The established system of recharge of stormwater and treatment of wastewater within the EMSURA will not be significantly altered, and therefore protection of the underground aquifer system will be maintained. Regulations and guidelines, which have been adopted to protect the surface and drinking water within the EMSURA and the Town, as described in the Existing Conditions section of this chapter, would be utilized and adherence ensured through the site plan review process.

Any required mitigation or site design modifications would occur during this process, maintaining the integrity of the aquifer system.

TOPOGRAPHY

Due to the developed nature of the EMSURA, steep slopes do not occur in this area. The area from Main Street south to the Peconic River will not be affected by the proposed action, and no modification to this grade will occur. Any changes to existing grades that would occur as a result of development would be evaluated on a site by site basis through the site plan review process.

GROUNDWATER

The depth to groundwater within the EMSURA is between 0 to 18 feet, indicating the close proximity of the water table and potential for significant impacts. Adverse impacts to groundwater occur as a result of poor stormwater management practices, decreased occurrence of natural filtration, increase in impervious coverage, a high net use of water, and inadequate

treatment of sewage or wastewater. Chapter 6 "Infrastructure" describes in detail the existing and future stormwater recharge and retention system within the EMSURA.

Almost the entire surface within the EMSURA is impervious. The proposed action encourages the development of public spaces such as courtyards and parks, also decreasing total impervious coverage in the area. The natural filtration process would be enhanced by increasing the total area of pervious surface and implementing resource management techniques previously identified. This would have an overall beneficial impact on the groundwater.

The proposed action anticipates development to occur in the EMSURA over a relatively long period. Build-out calculations show that wastewater from new development would be managed by the Riverhead Sewer District. The Riverhead Sewer District would be able to accommodate the future projected growth within the EMSURA since capacity has not been exceeded by the gallons per day (gpd) generated. All water used in the EMSURA will be treated by the sewer district prior to being released into the groundwater. Chapter 6 "Infrastructure" describes in detail the existing and future wastewater flows within the EMSURA.

Maintaining and even improving the quality or quantity of the groundwater is an integral part of the overall regions goals. The Town as well as the region has put forth several policy actions that protect the groundwater.

The depth to groundwater within portions of the EMSURA significantly limits the type and location of development that may occur in the future. The area south of Main Street, which is presently utilized for parking, currently experiences flooding during major precipitation events or storm surges along the Peconic River. There are no known viable solutions that would enable development of this area, and therefore the proposed action removes this area from consideration for redevelopment. The proposed action also recommends standards that would protect the groundwater in the area.

Due to the fact the regions groundwater serves as the water supply, water usage increases created by the proposed action, or development resulting from the proposed action, was evaluated. The water usage estimates have been based on wastewater flows calculated in Chapter 6 "Infrastructure." In order to accommodate for absorption, the wastewater flow calculations were increased by 10 percent to reflect approximate water demand. Estimated water usage or demand, in gallons per day, is provided in Table 8-1.

Table 8-1
Estimated Water Usage

Scenario	New Wastewater Flow* (gpd)	Estimated Water Usage** (gpd)
Short Term	145,000	159,500
Interim	76,000	83,600
Long Term	45,000	49,500
Total	**266,000**	**292,600**

Notes: *Based on Table 6-1 of this DGEIS.
**10 percent increase from wastewater flow.

Table 8-1 shows the amount of water usage demand that would be created in the short-term, interim, and long-term scenarios. Overall, the development resulting from the proposed action would by 2022 require an additional 292,600 gallons per day. This amount would not have a significant adverse impact on the groundwater since it would not create a significant burden on the groundwater supply. ✷

Chapter 9: Visual Resources

A. INTRODUCTION

According to New York State General Municipal Law, Article 15, the Urban Renewal Law, an urban renewal area is an area that is plagued with "slum or blight because of substandard, unsanitary, deteriorated or deteriorating conditions, factors, and characteristics, with or without tangible physical blight." Thus, characteristics that define an urban renewal area are often associated with an area's visual character. The EMSURA, as a whole, has several natural and man-made assets that contribute to the overall visual quality and attractiveness of the area. However, other factors, mostly man-made, hinder the area's appearance and attractiveness and provide the basis for the EMSURA's designation as an urban renewal area.

This chapter describes the visual quality of the EMSURA and assesses the proposed action's potential effects on the EMSURA's visual character. Visual character is defined by the overall appearance and condition of an area, including man-made structures and environmental features.

B. EXISTING CONDITIONS

The EMSURA is located in the south central portion of the Town of Riverhead, immediately adjacent to the Peconic River. Historically, Riverhead's downtown was located in and around the EMSURA and along most of Main Street. Although the downtown today is not as robust as it once was, the downtown style of development still is a defining characteristic of the area.

This typical "Main Street" development style is apparent at the western edge of the EMSURA and well into the center (close to McDermott Avenue), where buildings do not exceed three stories. The buildings throughout the EMSURA are located at the sidewalk edge, thus creating a pedestrian friendly atmosphere.

Provided below is a description of the area's visual character, which is defined by such elements as urban design, building arrangement, building bulk, use, and type, and the waterfront.

URBAN DESIGN

East Main Street is the sole east-west street within the EMSURA. Seven north-south streets within the EMSURA intersect perpendicularly to East Main Street. Five of those streets intersect the north side of East Main Street, and the remaining two intersect the south side. The resulting formation includes two off-set intersections—East Main Street with Peconic/Roanoke Avenues and with McDermott/Maple Avenues.

Another attribute of the street layout is the prevalence of alleyways or driveways found between buildings, linking pedestrians and vehicles on East Main Street with the Riverhead parking lots at the north and south edges of the western half of the EMSURA. The area also permits on-street parking and boasts crosswalks at several points.

The Peconic River defines the southern boundary of the EMSURA. While the waterfront is barely visible from East Main Street, its presence undoubtedly contributes to the EMSURA's overall sense of place. The disconnect between the streetscape and waterfront is the result of buildings that not only block the view of the River from East Main Street, but are situated in such a manner that only the rear of the buildings face the waterfront. A mass of asphalt parking spans almost 4.1 acres located directly south of the buildings on the south side of East Main Street. The parking lots and buildings ultimately create a divide between the waterfront and downtown's main corridor.

BUILDING ARRANGEMENT

Throughout the EMSURA, most of the buildings face East Main Street and are predominantly located at the sidewalk edge. The relatively small rectangular-shaped lots are often identical to the footprints of the buildings that occupy them. The buildings located in the western portion of the EMSURA, located west of McDermott and Maple Avenues, form a common street wall or appear to be attached to one another. The street wall style is characteristic of urban or downtown settings. Buildings located in the eastern portion of the EMSURA, east of McDermott and Maple Avenues, are situated in a manner that is more characteristic of a suburban setting. Buildings located in this area are unattached and situated in varying distances from the sidewalk, depending on the use and size of the lot.

BUILDING BULK, USE, AND TYPE

Almost the entire EMSURA is occupied by commercial uses, although a few single-family homes and recreational/cultural uses are located sporadically throughout the area. There are also two parks located in the EMSURA, one of which traverses the length of the Peconic River waterfront and creates a linear-shaped divide between the south parking lot and the waterfront (see Figures 9-2 and 9-3).[1]

WESTERN PORTION (WEST OF MCDERMOTT AVENUE AND MAPLE AVENUE)

In the western portion of the EMSURA, buildings rise up to three stories and are constructed in various building materials including brick, concrete, and siding. This portion of the EMSURA is plagued with high vacancy rates, primarily on the first floor. Non-commercial cultural and community oriented uses in the area include Suffolk County Community College Culinary Arts Institute (currently under construction), the East End Arts Council, two historically significant churches, and the municipal parking lots (see Figures 9-4 through 9-6). The mixed-use buildings with ground level retail and office and residential uses on the upper floors in the western portion of the EMSURA give the area an urban character.

EASTERN PORTION (EAST OF MCDERMOTT AVENUE AND MAPLE AVENUE)

The eastern portion of the EMSURA is defined by a mix of buildings that range from one to three stories and vary between contemporary and historic styles. Predominant uses include Atlantis Marine World Aquarium, Tuthill Funeral Home, a bank, a single-story multi-occupant commercial building, and Methodist Church of Riverhead. At the eastern end of East Main

[1] Figure 9-1 is Key to Photos. This figure depicts the approximate locations of photographed structures and places.

Street, uses tend to be more suburban in character. Issues that appear to plague the streetscape include vacant buildings, many of which are deteriorated, and the poor exterior condition of several occupied buildings (see Figures 9-7 through 9-9). Various building styles are also a defining element of the eastern portion of the EMSURA.

WATERFRONT

The Peconic River waterfront is located at the southern edge of the EMSURA. The waterfront appears disjointed from the EMSURA as it is hidden from East Main Street by buildings and municipal parking. From the waterfront, facing north, one can see the rear of commercial buildings and loading docks. The mass of buildings and their orientation does not contribute to the overall appeal of the waterfront (see Figure 9-10).

The Town has created a waterfront park that features picnic tables, sitting areas, and a bike and pedestrian path. The park is newly constructed and well maintained and is a visual asset to the area.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

The proposed action recommends strategies intended to provide linkages between Main Street and the waterfront, and improve the aesthetic quality of the EMSURA. The recommendations intended to accomplish this goal focus on the design of buildings and layout of the area, in order to encourage public spaces, enhancement of historic structures, and a greater connection between the river, park, and the business corridor.

Aesthetically pleasing building design and preservation of historic architecture serve vital roles in maintaining the visual quality of an area. The *East Main Street Urban Renewal Plan Update 2008* (2008 Update) recommends that the Town "redevelop and rehabilitate dilapidated buildings using contemporary and environmentally-friendly design" in conformance with Chapter 73, "Landmarks Preservation," of the *Code of the Town of Riverhead*, "preserve and maintain buildings, sites, and structures of historical, cultural, or architectural interest," and "review those structures that currently do not have a landmark designation but do possess historic significance for potential inclusion into the Town's list of official designated landmarks.[1]"

The 2008 Update also recommends that the Town encourage uses that are "directly related to the waterfront and incorporate site layout requirements, including minimum setback requirements from the waterfront so that public access is not inhibited," and "promote additional open space and community facilities for tourists and local residents."

If adopted, the proposed action would improve the overall visual quality of the EMSURA and therefore would have a significant positive impact on the visual resources. ✷

[1] Town of Riverhead, *Code of the Town of Riverhead*, Chapter 73, "Landmarks Preservation," June 20, 2006.

Figure 9-1
Key to Photos

Figure 9-2: View of the waterfront road, from the east side of Peconic Avenue.

Figure 9-3: Looking east from the eastern portion of waterfront park.

Figure 9-4: Western end of the EMSURA, facing the east side of Peconic Avenue.

Figure 9-5: Western end of the EMSURA looking to the south side of East Main Street, west of Benjamin Place.

Figure 9-6: Western end of the EMSURA on the south side of East Main Street, east of Benjamin Place.

Figure 9-7: Middle of the EMSURA looking south to the south side of East Main Street, west of the East End Arts Council.

Figure 9-8: Eastern end of the EMSURA on the south side of East Main Street, just east of the East End Arts Council.

Figure 9-9: Eastern end of the EMSURA on the south side of East Main Street, east of the East End Arts Council.

Figure 9-10: Eastern end of the EMSURA on the north side of East Main Street, by East Avenue.

Figure 9-11: Middle of the EMSURA on the north side of East Main Street, west of East Avenue.

Figure 9-12: Western end of the EMSURA on the north side of East Main Street, west of Benjamin Place.

Figure 9-13: Western end of the EMSURA on the northwest corner of East Main Street and Roanoke Avenue.

Figure 9-14: Eastern end of the EMSURA on the east side of McDermott Avenue.

Figure 9-15: Eastern end of the EMSURA facing west toward the south side of East Main Street, just east of McDermott Avenue.

Figure 9-16: Looking west at the eastern end of the EMSURA on the south side of East Main Street, west of Atlantis Marine World Aquarium.

Figure 9-17: Eastern end of the EMSURA, facing the main entrance of Atlantis Marine World Aquarium on the south side of East Main Street.

Figure 9-18: Eastern end of the EMSURA, facing the main entrance of the marina on the south side of East Main Street.

Figure 9-19: Eastern end of the EMSURA on the north side of East Main Street, just west of Ostrander Avenue.

Figure 9-20: Eastern end of the EMSURA looking east toward Union Avenue and the north side of East Main Street.

Figure 9-21: Eastern end of the EMSURA looking at the north side of East Main Street, just east of Union Avenue.

Figure 9-22: Eastern end of EMSURA looking northwest toward Maple Avenue and the north side of East Main Street.

Figure 9-23: Amenities on the waterfront park .

Figure 9-24: Western end of the EMSURA, looking north from the waterfront park toward the parking lot.

A. INTRODUCTION

Riverhead has a distinctive historic character, with numerous dedicated or potential historic buildings or landmarks, especially in the hamlet's downtown. This chapter identifies the historic features and analyzes the potential impacts of the proposed *East Main Street Urban Renewal Plan 2008 Update* (2008 Update) on cultural resources, including archaeological resources and standing historic structures. An overview of the development history of the Town and hamlet of Riverhead is also presented.

B. EXISTING CONDITIONS

HISTORICAL DEVELOPMENT

TOWN OF RIVERHEAD

The area now known as the Town of Riverhead was first settled about 10,000 years ago by Native Americans who were attracted to its abundant water resources.[1] The area's first two white colonists set up a saw mill in Riverhead in 1659. By 1690, grist and fulling (cloth finishing) mills were set up to harness water power from the Peconic River.[2]

Colonists declared Riverhead the seat of Suffolk County government in 1727. Sixty-five years later, Riverhead became a township created out of the west end of the Town of Southold, becoming the ninth of ten Suffolk towns.[3]

Throughout the 18th century, the Town grew several industries including cordwood; textiles; shipbuilding; ship anchor production for the Navy; button, chocolate, and cigar factories; and cranberry growing. Potatoes became the major crop in the 1880s.[4]

In the early 1900s, the Town transformed into a major commercial agricultural center. Commercial duck farms were important in the early 20th century, but gradually disappeared with post-World War II development.[5] Recreation also became important in the 20th century. In 1923, the Town accepted a gift of 14 acres on Long Island Sound, now known as Reeve's Park.[6]

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[1] "Riverhead History," http://www.riverheadli.com/historian.html, accessed on April 24, 2008.

[2] "Town of Riverhead," 1999.

[3] ibid

[4] ibid

[5] ibid

[6] "Riverhead History," http://www.riverheadli.com/historian.html, accessed on April 24, 2008.

By the late 1900s, Riverhead had a population of approximately 24,500 and approximately 11,000 of Suffolk's 32,000 agricultural acres. In 1863, the Farmer's Club was formed, which later became known as the Riverhead Town Agricultural Society. The Society was the nation's oldest cooperative when it parted in the 1950s.[1]

In more recent years, Riverhead established shopping and recreational facilities such as an aquarium, outlet center, and water park to encourage tourism. Some county offices and facilities were relocated to Hauppauge and elsewhere, although Riverhead remained the county seat.[2]

RIVERHEAD HAMLET

In the early 1800s, Riverhead's "downtown" consisted of a courthouse, two mills, and a few decaying buildings and houses along the river. The Suffolk County Court House was built in 1727, when the area was designated as the county seat. Early annual town meetings were held at John Griffing's home-and-tavern. The first meeting house in the area that became Riverhead was Old Aquebogue Presbyterian Church, built in 1731, which later became known as the Jamesport Congregational Church. The first school was established in 1810 and the first county clerk's office was built in 1846.[3]

In the early years, Riverhead was dependent on river water power, and more mills eventually emerged to perform various functions, including cutting logs, grinding grain, and finishing cloth. Farming was the dominant family occupation, but Riverhead residents also produced shoes, harnesses, cigars, and coffins. Later, the population grew to include carpenters and shipbuilders.[4]

By the mid 1800s, the Long Island Rail Road arrived and significantly stimulated the farm economy. In 1856, to replace the original courthouse, a new courthouse was built on Griffing Avenue. This structure was later damaged by fire and replaced in 1929 by the present courthouse at the Griffing Avenue complex. In the 1960s, many county offices and facilities were relocated outside of the hamlet.[5]

Close to the turn of the 21st century, Riverhead hamlet had a population of about 8,730.[6]

HISTORIC RESOURCES

There are three tiers of recognition and regulatory protection for historic resources—the National Register of Historic Places (NRHP), the State Register of Historic Places held by the State Historic Preservation Office (SHPO), and local recognition. Resources that have been identified at each level are described below.

[1] "Town of Riverhead," 1999.

[2] ibid

[3] Morris, Tom, "Riverhead Hamlet: At the Center of Power," 1999.

[4] ibid

[5] ibid

[6] ibid

NATIONAL REGISTER OF HISTORIC PLACES

A search of properties in the National Register Information System revealed five historic properties listed on the NRHP within the Town of Riverhead.[1] Only one of these properties is within the EMSURA—the Vail-Leavitt Music Hall on Peconic Avenue just south of East Main Street (see Figure 10-1). The U.S. Post Office at 23 West Second Street is located just outside of the EMSURA to the northwest. The Suffolk County Historical Society building is the next closest designated national historic resource, located at 300 West Main Street.

This determination is confirmed by information contained in the *Town of Riverhead Comprehensive Master Plan*, November 2003 (hereinafter referred to as the "2003 Comprehensive Plan") and information provided by the Town's Landmarks Preservation Commission.[2]

STATE REGISTER OF HISTORIC PLACES

A review of the State Preservation Historical Information Network Exchange (SPHINX) indicated that the Vail-Leavitt Music Hall is also the only State-designated historic resource located within the EMSURA, as shown in Figure 10-1.[3] The next closest State-designated historic resources are the same as those listed above. The State-designated historic resources within the EMSURA were also identified in the 2003 Comprehensive Plan.[4]

In addition, according to the 2003 Comprehensive Plan and the *Survey Listing of Historic Sites throughout the Town of Riverhead* database maintained by SHPO, approximately 210 houses, two prehistoric sites, one historic site, one cemetery, and many other structures and sites, including a wide assortment of historic commercial and civic buildings and sites, churches, and farms are located in Riverhead hamlet.[5] These resources are not designated on the State Register of Historic Places, but may have the potential to be designated. This inventory presents resources that are listed, eligible for listing, not yet determined, and not eligible for listing. Based on a review of SHPO's survey inventory conducted in January 2007, there are 35 resources within the EMSURA identified on this inventory. Of the 35 resources identified, 1 is listed on the state register—Vail-Leavitt Music Hall; 2 are eligible for listing; and a determination has yet to be made on the remainder of the inventoried resources. The two eligible listings and those yet to have determinations are not designated resources but do have the potential to be designated.[6]

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[1] National Register Information System, http://www.cr.nps.gov/nR/research/nris.htm, accessed on January 5, 2007.

[2] Town of Riverhead, *Town of Riverhead Comprehensive Plan*, November 2003 and Town of Riverhead Landmarks Preservation Commission, *Riverhead Survey of Historic Resources*, December 13, 2006.

[3] SPHINX, http://nysparks.state.ny.us/shpo/resources/index.htm, accessed on January 5, 2007.

[4] Town of Riverhead, *Town of Riverhead Comprehensive Plan*, November 2003.

[5] Town of Riverhead, *Town of Riverhead Comprehensive Plan*, November 2003 and SPHINX, http://nysparks.state.ny.us/shpo/resources/index.htm, accessed on January 5, 2007.

[6] SPHINX, http://nysparks.state.ny.us/shpo/resources/index.htm, accessed on January 5, 2007.

LOCAL LANDMARKS AND HISTORIC DISTRICTS

In 1975, the Riverhead Town Board adopted a Landmarks Preservation ordinance for the "conservation, protection and preservation" of sites and structures in the Town "of special historical significance or which by reason of famous events, the antiquity or uniqueness of architectural construction and design are of particular significance to the heritage" of the Town.[1] This ordinance, Chapter 73 of the *Code of the Town of Riverhead*, established the Landmarks Preservation Commission and enabled the designation of landmark sites and structures as well as historic districts that encompass a number of landmark-quality structures.[2]

The Landmarks Preservation Commission has the authority to nominate potential historic landmarks or districts for designation and review nominated buildings and districts to determine eligibility and make recommendations to the Town Board. In accordance with Chapter 73 of the Town Code, a designated landmark or historic district must meet one of the following criteria:

- It possesses special character or historic or aesthetic interest or value as part of the cultural, political, economic, or social history of the locality, region, or state;
- It identifies with historic personages;
- It embodies the distinguishing characteristics of an architectural style; or
- Because of the unique location or singular physical characteristic, or it represents an established and familiar visual feature of the neighborhood.[3]

The Town Board officially declares both individual landmarks and historic districts, after appropriate notifications and public hearings. Building or demolition permit applications for designated structures or one in a historic district are subject to review by the Commission. The Commission has 60 days to approve, modify, or disapprove an application. The Town Board may call a hearing to review Commission actions.[4] Additionally, the Town has a Town Historian who provides input regarding historic sites and cultural resources. To date, Riverhead has designated 46 landmarks, five of which are listed on the NRHP, as discussed above, and one historic district.[5] Four of the Town-designated landmarks are within the EMSURA, as shown in Table 10-1 and Figure 10-1.

On July 5, 2006, the Town Board designated Main Street and nearby neighborhoods as the Town's first historic district (see Figure 10-1). The newly formed historic district traverses east and west along both sides of Main Street from the railroad crossing at Riverside Drive (at the easternmost border) to just west of Osborn Avenue (at the westernmost border), north to Pulaski Street between Roanoke and Osborn Avenues, and south to the Peconic River. The district contains 220 structures that could be considered historic under U.S. Department of Interior

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[1] Town of Riverhead Landmarks Preservation Commission, "Landmarks Preservation in Riverhead: What, Why and How" at http://www.riverheadli.com/riverhead-landmarks.pdf, accessed on April 25, 2008.

[2] ibid

[3] Chapter 73, "Landmarks Preservation Commission," Code of the Town of Riverhead at http://www.e-codes.generalcode.com/codebook_frameset.asp?t=tc&p=RI0508%2D073%2Ehtm&cn=736&n=[1][262], accessed on April 25, 2008.

[4] ibid

[5] Town of Riverhead Landmarks Preservation Commission, "Riverhead Town Landmarks," December 13, 2006.

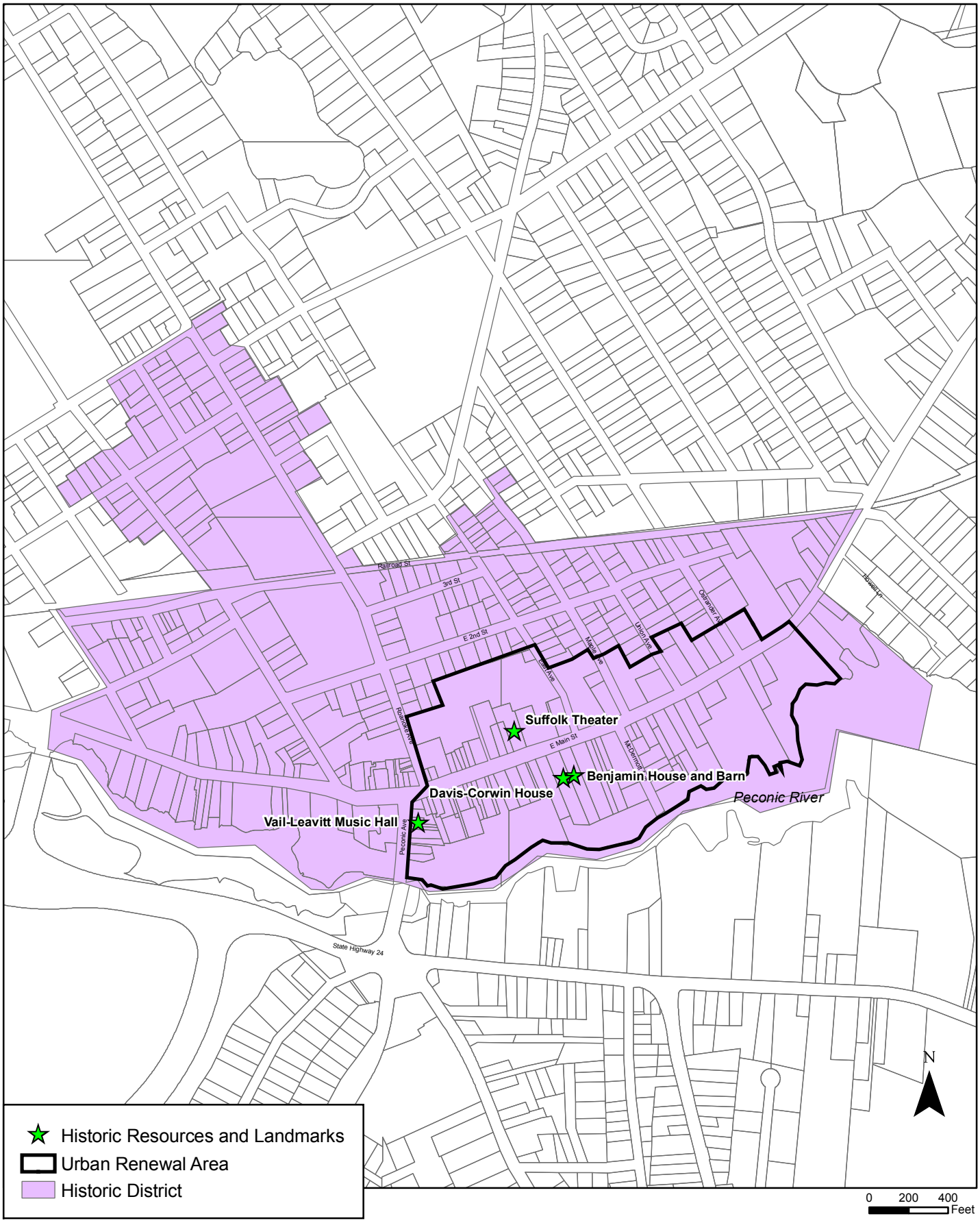

Figure 10-1
Designated Historic Landmarks

guidelines, representing 63 percent of the 350 primary structures in the district.[1] National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States.

Table 10-1
Town-Designated Landmarks

Landmark	Address	Building date	Year designated
Suffolk Theater	118-120 E. Main St	1933	2004
Vail-Leavitt Music Hall	18 Peconic Ave	1881	1977-2003
Davis-Corwin House	133 E. Main St	c. 1840	1977-2003
Benjamin House and Barn	141 E. Main St	c. 1860	1977-2003

Source: Town of Riverhead Landmarks Preservation Commission, *Riverhead Town Landmarks*, 2006.

A survey of historic sites was conducted by the Society for the Preservation of Long Island Antiquities in 1977 for historic structures in the Town. Currently, a historic structures survey is being conducted by the Town's Landmarks Preservation Commission, which covers both designated and potential Town landmarks. Table 10-2 lists the 32 potential local historic resources within the EMSURA, as identified in the survey.[2] Figure 10-2 depicts the locations of these sites by tax lot.

Table 10-2
Listing of Potential Historic Resources Surveyed by Riverhead Landmarks Commission

Address	Building Name	Building Date
204 East Ave	Bunce-Tuccio House	c. 1660
1 East Main St	"Commercial building"	1929
4 East Main St	Brown's General Store/Star Confectionary	1882
17 East Main St	Sullivan Hotel/Tweeds	1896
19 East Main St/NY 25	Camera Concepts	
8 East Main St/NY 25	Suffolk County Trust Co. Building	1910
21 East Main St/NY 25	Queen Anne commercial building (shoe store)	
36 East Main St/NY 25	One-Story commercial (Hole in the Wall)	
33 East Main St		1920s
41 East Main St	Carol Jewelers	1920s
47-49 East Main St	RIFTA	1920s
55-59 East Main St/ NY 25	Lee building (Carl & Bob's Store)	Before 1919
85 East Main St/NY 25	Riverhead Grill	
106 East Main St/NY 25	First Congregational Church	1841-1909
108 East Main St/NY 25	Tooker building	
127 East Main St/NY 25	Sigal building	

[1] Stefans, John, "Downtown made 'historic,'" 2006.

[2] Town of Riverhead Landmarks Preservation Commission, *Riverhead Survey of Historic Resources*, December 13, 2006.

Table 10-2 continued
Listing of Potential Historic Resources Surveyed by Riverhead Landmarks Commission

Address	Building Name	Building Date
141 East Main St/NY 25	Moses Benjamin House	Before 1870
141 East Main St/NY 25	Fresh Pond School	1821
204 East Main St/NY 25	Methodist Parsonage	1874
204 East Main St/NY 25	United Methodist	1869-71
220 East Main St/NY 25	Young Doroszka House	1902
301-316 East Main St/NY 25	Frame commercial building (Swahn Insurance)	
333-335 East Main St/NY 25	Nathan Corwin House	1890
406 East Main St/NY 25	Dr. Johnson/R.H. Tuthill Funeral Home	1876
420 East Main St/NY 25	Howell House	
428 East Main St/NY 25	Blue House	
103 First St	First Congregational Church Offices	
123 Maple Ave		
23-34 McDermott Ave	Camp Upton houses (4)	1917
10 Peconic Ave		
30 Peconic Ave	Rainbow Bar and Grill	
40 Peconic Ave	Yetter & Moore building (Male Image)	

Source: Data was excerpted from the Town of Riverhead Landmarks Preservation Commission's *Riverhead Survey of Historic Resources* (December 13, 2006). The survey is a work in progress.

ARCHAEOLOGICAL RESOURCES

In pre-colonial times, Riverhead was an attractive fishing, hunting, and gathering grounds for local Native Americans, due to its location along the Peconic River and Flanders Bay. According to the 2003 Comprehensive Plan, many archaeological sites have been identified since the 19th century and are recorded in SHPO files.[1]

According to SHPO's online GIS system, the entire EMSURA is located within an archaeo-sensitive area.[2] Downtown Riverhead's vast history makes the area sensitive to finding historic archaeological resources.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

Applicants for projects that involve permits, approvals, or funding by federal or State agencies must consult with SHPO regarding potential impacts to cultural resources and mitigation measures.

HISTORIC RESOURCES

As discussed above, the EMSURA, in addition to being located in a historic district, contains several designated as well as unofficial places of historical significance. The proposed action

[1] Town of Riverhead, *Town of Riverhead Comprehensive Plan*, November 2003.

[2] SPHINX, http://nysparks.state.ny.us/shpo/resources/index.htm, accessed on January 5, 2007.

SITE	ADDRESS
1	204 East Ave
2	1 East Main St
3	4 East Main St
4	17 East Main St
5	19 East Main St
6	8 East Main St
7	21 East Main St
8	36 East Main St
9	33 East Main St
10	41 East Main St
11	47-49 East Main St
12	55-59 East Main St
13	85 East Main St
14	106 East Main St
15	108 East Main St
16	127 East Main St
17	141 East Main St
18	141 East Main St
19	204 East Main St
20	204 East Main St
21	220 East Main St
22	301-316 East Main St
23	333-335 East Main St
24	406 East Main St
25	420 East Main St
26	428 East Main St
27	103 First St
28	123 Maple Ave
29	23-34 McDermott Ave
30	10 Peconic Ave
31	30 Peconic Ave
32	40 Peconic Ave

Figure 10-2
Potential Historic Resources

recommends that the Town protect and enhance these resources by restricting development close to historic sites and furthering the goals of the Town's Landmarks Commission by continuing the current advisory role of the Landmarks Commission in reviewing development applications. Recommendations for designating additional sites as historic landmarks should be encouraged, as appropriate. Therefore, the proposed action would not have a significant adverse impact on the historic resources within the EMSURA.

ARCHAEOLOGICAL RESOURCES

As discussed above, the entire EMSURA is located within an area designated by SHPO as being sensitive for archaeological resources. SHPO recommends that a Phase I archaeological survey is warranted for any future development that involves ground disturbance to undeveloped sites. However, to the extent that the entire EMSURA is developed, the discovery or disturbance of archaeological resources during redevelopment is remote. The build-out of the EMSURA would increase the developed footprint on some lots and the few vacant lots that do exist. Significant disturbance of previously virgin property is highly unlikely. In those instances, a Phase I Survey would be required, which would identify any potentially significant archaeological resources. ✷

A. INTRODUCTION

The EMSURA encompasses those parcels of land with frontage on or access to the north or south side of New York State (NYS) Route 25, referred to as East Main Street within the EMSURA, from Peconic Avenue/Roanoke Avenue in the west to just east of Ostrander Avenue in the east and is bounded on the south by the Peconic River. While the purpose of this chapter is the examination of the impact of the proposed action on the transportation system serving the EMSURA, transportation issues almost without exception transcend political boundaries. Therefore a secondary study area, extending from County Road (CR) 94A Center Drive Spur/Court Street in the west to Riverside Avenue in the east and from CR 94 Center Drive/Nugent Drive in the south to just south of Second Street in the north has been defined. The EMSURA boundaries and secondary study area are shown on Figure 11-1.

NYS Route 25 is a two-lane east-west highway that extends from western Long Island to the North Fork of eastern Long Island. The portion of NYS Route 25 within the downtown Riverhead area is also known as Main Street, and is West Main Street west of Peconic Avenue/Roanoke Avenue and East Main Street east of that line. Within the EMSURA, Main Street is lined with shops and businesses for much of its length, many built to the limits of property lines. As previously discussed, many of these buildings are vacant and thus are not generating demand on the existing transportation system. The Atlantis Marine World Aquarium is located at the eastern end of the EMSURA, on the south side of Main Street. The aquarium is well attended and draws a considerable number of visitors from all over Suffolk County, including many school buses transporting elementary school students on field trips to the aquarium.

Between the river and the rear of the buildings along East Main Street, the Town of Riverhead maintains several parking lots and a riverfront park. Traffic enters and leaves the EMSURA via East Main Street, as well as via several north-south roadways that intersect with NYS Route 25. The river, which also forms the border between the Townships of Riverhead and Southampton, presents a challenge to mobility in the area of the EMSURA, in that the number of opportunities to access the EMSURA from the south is limited to the number of bridges that cross the river.

The westernmost north-south intersecting roadway, and one of particular importance, is Suffolk County Road 63 (Peconic Avenue). Peconic Avenue crosses the Peconic River via a 65-foot wide bridge located 300 feet south of NYS Route 25, and carries traffic north and south across the Peconic River. It is the major route into and out of the EMSURA and the center of Riverhead, and collects and disperses traffic from points east and west along the south shore. Approximately 700 feet south of NYS Route 25, Peconic Avenue intersects with several major County and State highways at a traffic circle with 5 approaches: less than 75 feet east of the intersection of Peconic Avenue at NYS Route 25, Roanoke Avenue (CR 73), intersects with East Main Street from the north. Roanoke Avenue is also a two-lane Suffolk County highway facility that provides access to the EMSURA from the north. Roanoke Avenue is one of several north-

south roadways that connect the downtown Riverhead area, including the EMSURA, to the major commercial corridor along CR 58, Old Country Road. The intersections of Peconic Avenue and Roanoke Avenue with Main Street are so close together that they are controlled by a single traffic signal, and their proximity results in significant inefficiencies in the timing pattern of the signal.

There are only two other points within a roughly two-mile stretch of the river where traffic can cross. The nearest bridge to the west carries Court Street across the river 1,800 feet west of Peconic Avenue; the nearest bridge to the east carries CR 105 across the river, 1.4 miles east of Peconic Avenue.

In the EMSURA, four Town roads intersect with East Main Street from the north—East Avenue, Maple Avenue, Union Avenue, and Ostrander Avenue, listed from west to east. McDermott Avenue provides access to the Town-owned parking areas south of East Main Street, via a signalized intersection with East Main Street roughly opposite Maple Avenue, and controlled by the same traffic signal as Maple Avenue.

Through traffic utilizes NYS Route 25 to travel to and from parts of Long Island east of downtown Riverhead, due to the lack of a timely alternate route. Although CR 58 was originally constructed to serve as a bypass route for NYS Route 25, travel time measurements taken in prior studies along CR 58 and NYS Route 25 between the Long Island Expressway (LIE) and CR 105 indicate that NYS Route 25 has become the faster of the two routes. Essentially, the bypass route, CR 58, has become congested to the point that it is now faster to travel on NYS Route 25. This complex combination of traffic activity and roadway geometry leads to a certain amount of congestion, which is not solely due to the volume of traffic. A good deal stems from geometric features, to which the signalized intersection of Peconic Avenue/Roanoke Avenue at East Main Street and the traffic circle south of the Peconic River are major contributors.

Generally, on-street parking is permitted on all the roads within the EMSURA, with various restrictions as to hour and duration, with the exception of East Avenue. Due to the posted time restrictions, the on street parking along East Main Street generally serves short stays, such as coffee shops, etc. The Riverhead Parking Improvement District also provides substantial off-street parking in a number of facilities within and nearby the EMSURA.

The Long Island Rail Road (LIRR), a subsidiary of the Metropolitan Transit Authority, provides passenger rail service to Manhattan, Queens, Brooklyn, Nassau and Suffolk Counties, including Riverhead. Riverhead is on the Ronkonkoma (Main) Branch of the LIRR, and the Riverhead station is the only LIRR station in the Town. The station is located north of the EMSURA on Railroad Street between Osborn Avenue and Griffing Avenue.

Suffolk County Transit (SCT) provides public bus service to and from various locations in Suffolk County. Five SCT bus routes run through the Town of Riverhead, and three of those routes are within the immediate vicinity of the EMSURA.

Transportation analyses have been performed to evaluate the existing baseline conditions as well as future conditions expected to prevail for the short-term, interim, and long-term development scenarios. These development scenarios are defined in Chapter 1, “Proposed Action” of this report. Analyses were performed to evaluate the following elements of the transportation system:

- Traffic
- Parking
- Public Transportation and

KEY

Transportation Study Area

EMSURA Boundary Line

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RIVERHEAD EMSURA

FIGURE 11-1 TRANSPORTATION STUDY AREA MAP

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- Pedestrians

The following sections describe the results of these analyses.

B. EXISTING CONDITIONS

TRAFFIC

ROADWAY NETWORK

As previously stated, there are several principal roadways that serve as major points of ingress and egress for the EMSURA—East Main Street, Peconic Avenue, and Roanoke Avenue. In the EMSURA, East Main Street is a two-lane, two-way, east-west NYS highway facility with parking allowed on both sides and with additional turning lanes at major intersections. Roanoke Avenue and Peconic Avenue also provide one lane in each direction, and form an offset intersection with East Main Street. East Avenue, Maple Avenue, Union Avenue, and Ostrander Avenue are all two-lane north-south Town of Riverhead roadways that form T-intersections at their southerly termini with East Main Street within the EMSURA. Each provides one lane in each direction. McDermott Avenue is also a north-south Town of Riverhead roadway that extends from the Peconic River waterfront to East Main Street, where it forms an offset intersection with East Main Street just west of Maple Avenue. Traffic signals are located at the intersections of Main Street at Peconic Avenue/Roanoke Avenue, and Maple Avenue/McDermott Avenue.

In order to provide a comprehensive evaluation of transportation issues within the EMSURA, for the purposes of the transportation analysis, the secondary study area described in the preceding section was examined. It encompasses those roadway facilities upon which EMSURA traffic would have the most impact, and whose performance and operational characteristics would have the greatest impact on traffic flows within the EMSURA. Of particular importance is the interaction of the intersection of Main Street at Peconic Avenue/Roanoke Avenue with the traffic circle located south of the river at the intersection of Peconic Avenue with CR 94, NYS Route 24, CR 63, and CR 104. In addition to these major approaches, Woodhull Avenue intersects with CR 94 just west of its approach to the traffic circle.

EXISTING TRAFFIC FLOWS

In order to establish existing baseline traffic flows and operating conditions on the roadways in and around the EMSURA, a data collection plan was developed. Traffic volume data, including vehicle classification data, was obtained and analyzed for critical periods within the study area (see Appendix E). The traffic flow data consisted of intersection turning movement counts, Automatic Traffic Recorder (ATR) counts, and a review of data available from New York State Department of Transportation (NYSDOT) and Suffolk County Department of Public Works (SCDPW). Based on the results of the traffic counts, the following critical peak periods were identified for analysis:

Weekdays

- 7:00 AM to 9:00 AM
- 11:00 AM to 1:00 PM
- 4:00 PM to 6:00 PM

Saturday

- 11:00 AM to 2:00 PM

Turning movement counts were collected during the fall of 2006 at the following locations for the critical time periods identified above:

1. NYS Route 25 Main Street at CR 94A Center Drive Spur/Court Street
2. NYS Route 25 Main Street at Osborn Avenue
3. NYS Route 25 Main Street at Griffing Avenue
4. NYS Route 25 Main Street at CR 63 Peconic Avenue/CR 73 Roanoke Avenue
5. NYS Route 25 Main Street at East Avenue
6. NYS Route 25 Main Street at Maple Avenue/McDermott Avenue
7. NYS Route 25 Main Street at Union Avenue
8. NYS Route 25 Main Street at Ostrander Avenue
9. Court Street at Osborn Avenue
10. Roanoke Avenue at Second Street
11. NYS Route 25 at Riverside Drive (unsignalized)
12. CR 94 Nugent Drive at CR 94A Court Street (unsignalized)
13. CR 51 Center Drive at CR 94 Nugent Drive (unsignalized)
14. CR 94/CR 104/CR 63/NYS Route 24 Traffic Circle

ATR counts were collected during the fall of 2006 at the following screenline locations:

1. NYS Route 25 west of Court Street
2. NYS Route 25 east of Ostrander Avenue
3. Osborn Avenue north of Second Street
4. Griffing Avenue north of Second Street
5. Roanoke Avenue north of Second Street
6. Ostrander Avenue north of Second Street
7. CR 63 Peconic Avenue south of NYS Route 25

Agency count data consisting of 24-hour machine traffic counts from various recent years were obtained for the following routes:

1. CR 94 Nugent Drive
2. CR 63 Riverhead Moriches Road
3. CR 104 Riverhead Quogue Road
4. NYS Route 24 Flanders Road
5. NYS Route 25 Main Street

These locations are shown on Figure 11-2. The data obtained was utilized to develop traffic flow maps for the 2006 existing condition, for the critical analysis hours identified above. These traffic flow maps are presented in Figures 11-3 through 11-6 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

A review of the traffic flow maps indicates that total traffic flows into and out of the EMSURA are highest during the Saturday midday peak hour, followed closely by the weekday PM peak

KEY

EMSURA Boundary Line

Traffic Study Intersections

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RIVERHEAD EMSURA

FIGURE 11-2 TRANSPORTATION COUNT LOCATIONS

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EMSURA Boundary Line

Traffic Study Intersections

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RIVERHEAD EMSURA

FIGURE 11-3
TRAFFIC FLOW MAP
2006 EXISTING CONDITIONS
WEEKDAY AM PEAK

DATE	SCALE	DEA NO.
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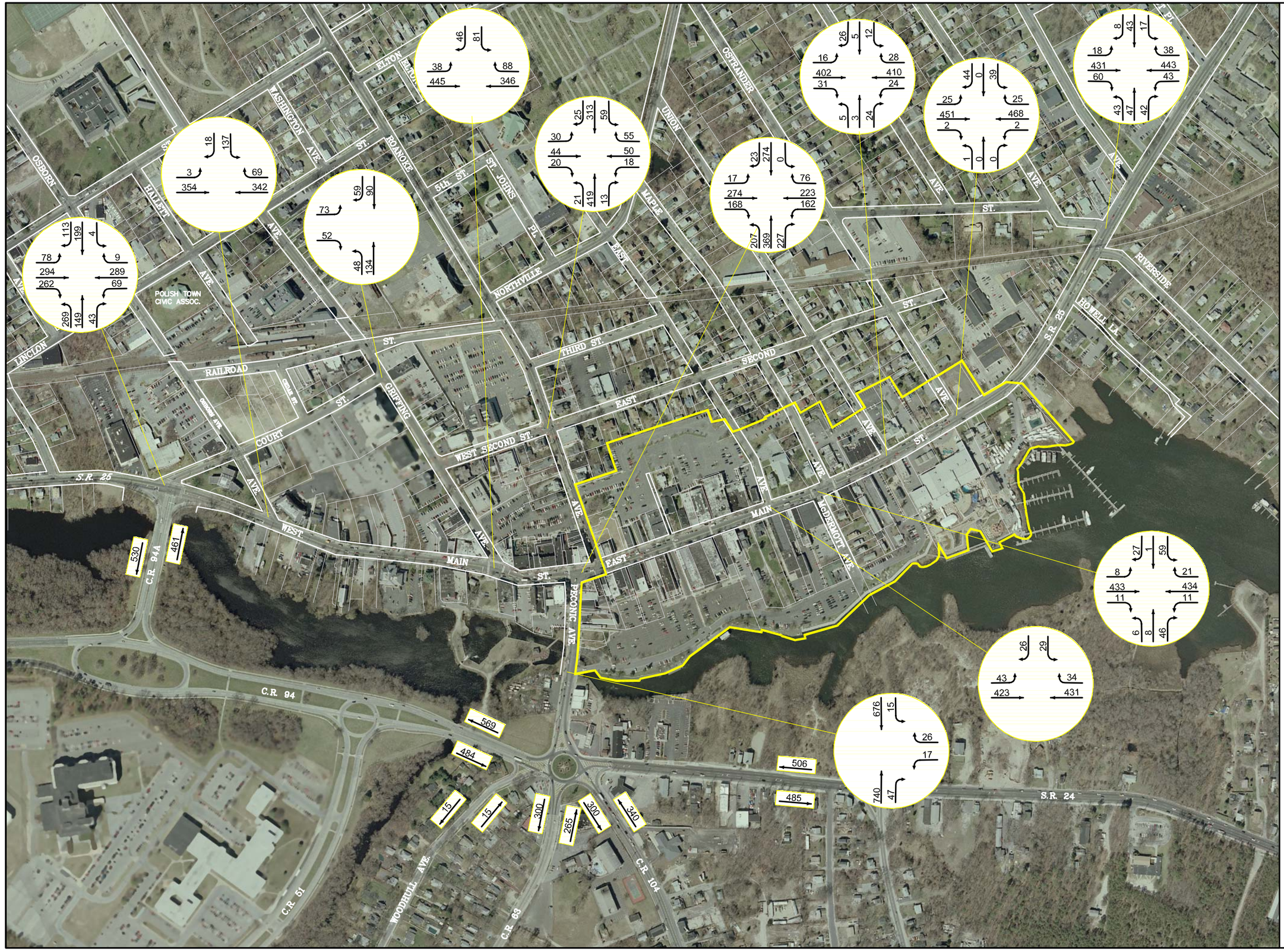

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EMSURA Boundary Line

Traffic Study Intersections

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RIVERHEAD EMSURA

FIGURE 11-4
TRAFFIC FLOW MAP
2006 EXISTING CONDITIONS
WEEKDAY MIDDAY PEAK

DATE	SCALE	DEA NO.
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RIVERHEAD EMSURA

FIGURE 11-5
TRAFFIC FLOW MAP
2006 EXISTING CONDITIONS
WEEKDAY PM PEAK

DATE	SCALE	DEA NO.
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EMSURA Boundary Line

Traffic Study Intersections

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RIVERHEAD EMSURA

FIGURE 11-6
TRAFFIC FLOW MAP
2006 EXISTING CONDITIONS
SATURDAY MIDDAY PEAK

DATE	SCALE	DEA NO.
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hour. The weekday AM and midday peak hours showed the lowest and second lowest total traffic flows, respectively. Since weekday midday and Saturday midday flows displayed essentially similar directionality and volumes, and that the land uses allowable under Downtown Center-1 (DC-1) zoning tend to generate their highest traffic volumes during either the weekday PM or Saturday midday peak hours, these two time periods are considered the critical time periods for traffic analysis. Therefore the weekday PM and Saturday midday peak hours have been chosen for detailed analysis of existing conditions, as well as for determination of the impacts on the transportation system likely to occur under the scenarios analyzed in this document. Analyses would thus represent an examination of the critical time periods wherein the peak composite traffic flows are present on the roadway network.

HIGHWAY SYSTEM TRAFFIC ANALYSIS

Although static analysis tools can calculate delays and levels-of-service (LOS) for individual components of a highway network, such as signalized and unsignalized intersections or highway segments, there are often situations where the interactions between movements can be critical, but are not accurately represented in such a static analysis. This is particularly true when a combination of complex geometric features (traffic circles, offset intersections) as are found within the study area, is present. In order to better assess the operation of the highway system serving the EMSURA and the interaction of its various components, a microscopic simulation was performed. Simulation allows the entire operation to be viewed at once, including the interaction of various traffic movements with one another. VISSIM 3.70 was selected as the preferred simulation tool. VISSIM is a microscopic, behavior-based simulation model developed by PTV AG of Karlsruhe, Germany. In general terms, it is capable of simulating individual vehicle movements on a stochastic basis (in steps as low as 1/10 second) based on certain driver behavior inputs and control devices (signals, stop signs, etc.). VISSIM also provides a high-end graphical output, which permits three-dimensional representations of the network and superimposes simulated traffic over aerial photographs, plans, or other backgrounds.

A key feature of VISSIM that makes it desirable for analyzing roundabouts and other complex geometries, which can be problematic in other simulation packages, is that it is not based on a link-and-node configuration, but rather models traffic flows at intersections based on detailed priority and lane changing rules.

Through the application of the VISSIM computer traffic simulation software, a simulation model was constructed as a means to study and evaluate traffic operations across the entire study area in real time (included as Appendix E). The simulation model encompassed signalized and unsignalized intersections and the existing traffic circle at Peconic Avenue/CR 94/NYS Route 24. VISSIM permitted development of a simulation model that replicated intersection geometric conditions, observed vehicle fleet composition and driver behavior characteristics, and traffic signal and sign control.

The VISSIM network was coded based on existing geometries and operating characteristics such as signal timing, etc. Fall 2006 traffic volumes were loaded onto the network, and the existing condition was simulated. The results produced by the simulation for the existing conditions were validated based on field observations of queue length during various observations. For example, field observations indicated that significant queues develop soon after the weekday PM peak hour on the northbound CR 104 approach to the traffic circle. Additional, though less extensive queuing is also present on eastbound CR 94 and on northbound CR 63. Similarly, at the intersection of Main Street at Peconic Avenue/Roanoke Avenue, queues were noted on the

southbound approach to Main Street and, to a lesser extent, on the eastbound and westbound Main Street approaches. These observed field conditions were replicated on the simulation.

In addition to the powerful visual analysis tool provided by the graphical representation of the roadway network, VISSIM also enables evaluation based on conventional measures of effectiveness (MOE) related to performance of the corridor, such as the average speed of vehicles moving through the network. These MOE are available at individual nodes such as the traffic circle, or any other intersection, within the network, and also for the network as a whole. Average speed describes the speed in miles per hour for all vehicles traveling through a given corridor segment during the various peak hours, and delay describes the average delay in seconds experienced by each vehicle. LOS as presented in the standard system of letter grades (A through F), can be assigned to describe the operation of the corridor segment based on the average vehicle speed and on the delay per vehicle. Combined with the review of the simulation, these MOE results provide a means of determining the causes of the various operational deficiencies.

The results of this analysis indicates that the average travel speed in the entire network during the weekday PM and Saturday peak period is 12.8 and 13.6 mph, respectively, which equates to LOS F overall for the corridor. While this low travel speed might be seen as an indication that the overall roadway network is providing poor LOS for vehicles traveling through and within the EMSURA, as previously discussed, low travel speeds through a busy downtown business area can also be considered desirable, if they are a result of commerce. If, however, the low travel speeds result from deficiencies in geometry or capacity, they can act as a detriment to commerce, and a constraint on the economic growth in the corridor, and warrant further scrutiny. Therefore, the operations of several critical locations on the network were more closely examined, the traffic circle, the intersection of Main Street at Peconic Avenue/Roanoke Avenue, the intersection of Main Street at East Avenue, the intersection of Main Street at McDermott / Maple Avenue, and the intersection of Main Street at Court Street. Main Street at Court Street is considered a critical location because it serves as the nearest alternative location to cross the Peconic River. Table 11-1 presents the LOS and delay at these three critical locations. As can be seen from Table 11-1, vehicles are experiencing considerable delay during the peak hours at the traffic circle, confirming the observations made as a result of the review of the simulation, and at the intersection of Peconic Avenue/Roanoke Avenue at Main Street.

Traffic circles tend to function most effectively when the approach and departure volumes on the various legs are nearly balanced. In this fashion, vehicles exiting the circle at any given point provide a gap for entering vehicles at the adjacent entry point. When volumes are unbalanced, one or more approach leg can be deprived of suitable gaps in the traffic stream within the circle and experience delays due to the inability to enter the circle. An outgrowth of this is an increase in accidents, since drivers on the approach experiencing the delays may have a tendency to force their way into the traffic stream utilizing inadequate gaps. This type of delay currently occurs on the northbound CR 104 approach into the circle. The combined volumes on the CR 63 and CR 94 approaches are sufficient to reduce number of gaps in traffic within the circle available to CR 104 to the extent that northbound vehicles on CR 104 are not able to enter the circle in any significant number, thus resulting in extensive queues on CR 104.

Table 11-1
Critical Intersection Levels of Service 2006 Existing Condition

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at Peconic Avenue/Roanoke Avenue	Peconic Avenue NB	38.0	D	58.5	E
	Main Street EB	95.0	F	121.7	F
	Main Street WB	51.5	D	47.2	D
	Roanoke Avenue SB	188.9	F	177.6	F
	Entire Intersection	77.0	E	90.4	F
Main Street at Court Street/CR 94A (County Center Spur)	CR 94A (County Center Spur) NB	30.4	C	22.8	C
	Main Street EB	8.7	A	6.7	A
	Main Street WB	24.0	C	13.5	B
	Court Street SB	37.1	D	43.9	D
	Entire Intersection	22.8	C	16.4	B
Street at East Avenue/ McDermott Avenue/Maple Street (note: East Ave One –Way NB)	Main Street EB	3.0	A	3.6	A
	McDermott NB	28.4	C	29.7	C
	Maple SB	36.9	D	54.1	D
	Main Street WB	0.0	A	0.1	A
	East Avenue SB	8.9	A	12.7	B
	Entire Intersection	4.4	A	9.3	A
Traffic Circle	CR 63 NB	58.3	E	29.1	C
	CR 104 NWB	182.5	F	97.6	F
	NYS Route 24 WB	45.3	D	85.0	F
	Peconic Avenue SB	59.4	E	19.6	B
	CR 94 EB	65.5	E	19.5	B
	Woodhull NB	37.3	D	32.8	C
	Entire Intersection	73.2	D	47.4	D
Entire Network		**52.2**	**D**	**46.4**	**D**

As the peak hour progresses eastbound volumes diminish, more gaps are available to CR 104, and the extensive queue begins to quickly discharge. This discharge in turn reduces the number of gaps available for westbound NYS Route 24, and queues soon develop on this approach. The weekday PM peak hour analysis results indicate an approach LOS F for CR 104, and LOS E for CR 63 and southbound Peconic Avenue. Overall, the traffic circle performs at LOS E, but the delay values indicate that it is nearing overall LOS F.

At the intersection of Main Street at Peconic/Roanoke Avenues, the offset configuration requires that additional phases be provided to process the traffic demand safely. The signal timing is set such that the eastbound and westbound approaches are provided with most of the remaining green time, leaving the southbound approach without enough green time to efficiently process demand. Spillbacks from the traffic circle occasionally were observed to impact on the intersection's operation as well. Analysis results for the weekday PM peak hour indicate approach LOS F for eastbound Main Street and southbound Roanoke Avenue. The poor levels of

service for eastbound Main Street occur primarily as a result of the spillback of the eastbound right turn lane impeding through traffic.

PARKING

An adequate and convenient off-street and on-street parking supply is critical to the commercial success of a downtown center in the absence of robust public transportation systems as are present in many urban areas. Inadequate parking supply results in prolonged parking searches, congestion due to increased side friction as vehicles wait for spaces to be vacated and maneuver into and out of on-street spaces, and increased driver frustration which can result in patrons choosing to seek goods or services elsewhere.

With the exception of the parkland along the Peconic River waterfront, all the property within the EMSURA is within the DC-1 zoning district. As such, developers of these properties are technically required to provide off-street parking based on land use in accordance with the Parking Schedule contained in the Town's zoning code. However, within the downtown area, and including the EMSURA, the Town has created a parking district, whereby property owners pay a fee in lieu of providing off-street parking. As nearly all properties within the EMSURA are members of the parking district, few properties provide off-street parking for patrons and visitors. Rather, their parking demands are met by a combination of on-street and off-street parking in lots maintained by the Riverhead Parking District No. 1 (see Figure 2-5). In this manner, fragmented off-street parking, a proliferation of access driveways onto the roadways to serve small amounts of parking located on individual properties, and the utilization of valuable downtown property for parking rather than usable business space, is avoided.

In order to establish the adequacy of the existing parking supply to meet current demand, and its capability to meet future parking demand, a parking inventory and occupancy study was conducted.

EXISTING PARKING SUPPLY

Existing parking supply and facilities within and immediately around the EMSURA were inventoried. Parking in the downtown area in general and within the EMSURA is provided through a combination of at-grade parking lots and on-street parking spaces. There are no parking structures within the EMSURA, either privately or publicly owned. Parking is generally permitted along streets in the EMSURA, with the exception of East Avenue (parking is prohibited due to a narrow right-of-way and pavement), and at street corners for safety purposes. The Town of Riverhead maintains several parking lots within and in the immediate vicinity of the EMSURA. As shown on Figure 11-7, a total of 715 off-street parking spaces are provided in six Town-owned lots within the EMSURA boundaries. In addition, there are 75 to 100 on-street parking spaces in the EMSURA. Table 11-2 shows the location of and number of spaces provided in each of these parking areas.

Table 11-2
Town-Owned Parking Supply Inside EMSURA

Parking Area	1	2	3	4	5	6	Total Spaces
Number of Spaces Provided	287	19	58	45	301	55	715

Outside the EMSURA, but within easy walking distance, a parking district lot with 141 parking spaces is located on the west side of Roanoke Avenue, north of Main Street, and another district

AREAS	MARKED PARKING SPACES
1	287
2	19
3	58
4	45
5	301
6	55
TOTAL	715

ON-STREET PARKING = 72 SPACES

LEGEND:

EMSURA

Town Owned Parking

DUNN ENGINEERING ASSOCIATES, P.C.
Consulting Engineers
66 Main Street
Westhampton Beach, NY 11978
(631) 288-2480

RIVERHEAD EMSURA GEIS

FIGURE 11-7 TOWN-OWNED PARKING WITHIN THE EMSURA

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lot, with 73 spaces, is located on the west side of Griffing Avenue. In addition to these district lots, there are several large municipally owned parking areas used by the County court facilities located to the north and west of the EMSURA. These County-owned facilities provide over 400 parking spaces for use by the courts. Figure 11-8 shows the additional Town- and County-owned parking facilities in the study area. The locations and number of spaces provided within these parking areas are shown in Table 11-3.

Table 11-3
Municipal-Owned Parking Supply Outside EMSURA

Parking Area	A	B	C	D	Total
Number of Spaces Provided	237	180	141	73	631

EXISTING PARKING DEMAND

The facilities described above were surveyed on a weekday and on a Saturday to determine existing parking demand. The results of this survey for weekday and Saturday are summarized in Tables 11-4 and 11-5 and shown on Figure 11-9 for the parking areas within the EMSURA. As can be seen, on a weekday, 292 (or 41 percent) of the 715 spaces in Town-owned lots within the EMSURA were occupied. On Saturday, 273 (or 38 percent) of the spaces in these lots were occupied. This indicates that more than adequate parking is provided by the district to accommodate the existing parking demand within the EMSURA.

Table 11-4
Observed Weekday Parking Demand
Town-Owned Parking Supply Inside EMSURA

Parking Area	1	2	3	4	5	6	Total
Number of Spaces Provided	287	19	58	45	301	55	715
Number of Spaces Occupied	112	1	37	4	105	33	292
Percent Spaces Occupied	39%	5%	64%	9%	35%	60%	41%

Table 11-5
Observed Saturday Parking Demand
Town-Owned Parking Supply Inside EMSURA

Parking Area	1	2	3	4	5	6	Total
Number of Spaces Provided	287	19	58	45	301	55	715
Number of Spaces Occupied	70	6	25	13	108	51	273
Percent Spaces Occupied	24%	32%	43%	29%	36%	93%	38%

Tables 11-6 and 11-7 present the results of the parking occupancy study for the municipally owned parking facilities located outside the EMSURA, but within the study area. Figure 11-10 presents this information graphically. As can be seen, on weekdays the County-owned lots serving the courts are completely full, while the two district lots have spare capacity. On Saturday, parking analysis shows that the County-owned lots are nearly empty, consistent with the fact that the courts are not in session. Therefore, considerable excess parking is available on Saturdays within the study area, albeit at a distance of 800 or more feet from the EMSURA. This supply could be utilized for special events, and would be likely to become more attractive to

visitors to the EMSURA as additional development takes place, and pressure increases on the more convenient parking supply within the EMSURA boundaries.

Table 11-6
Observed Weekday Parking Demand
Municipal-Owned Parking Supply Outside EMSURA

Parking Area	A	B	C	D	Total
Number of Spaces Provided	237	180	141	73	631
Number of Spaces Occupied	237	180	104	37	558
Percent Spaces Occupied	100%	100%	74%	51%	88%

Table 11-7
Observed Saturday Parking Demand
Municipal-Owned Parking Supply Outside EMSURA

Parking Area	A	B	C	D	Total
Number of Spaces Provided	237	180	141	73	631
Number of Spaces Occupied	2	2	57	14	75
Percent Spaces Occupied	1%	1%	40%	19%	12%

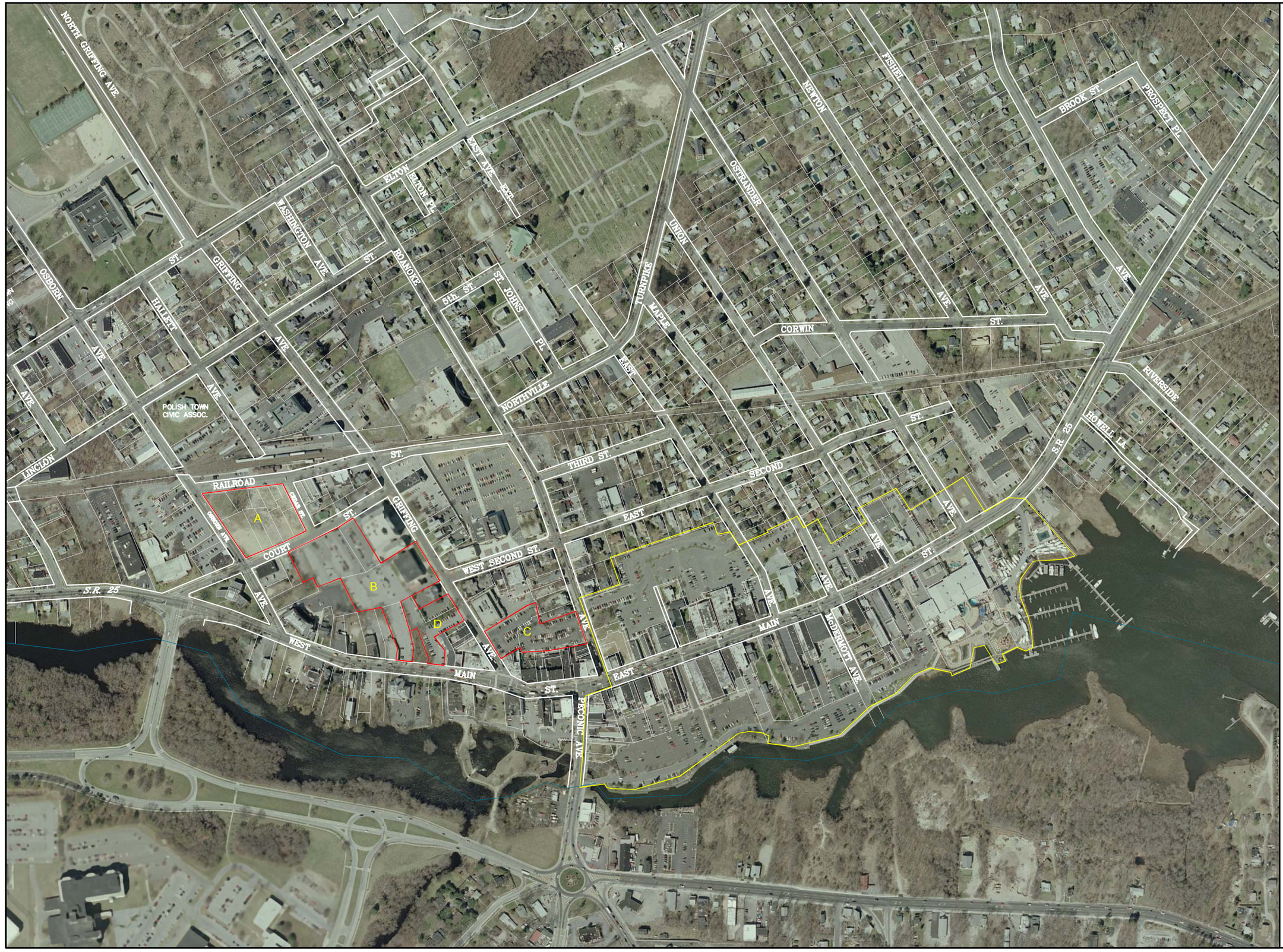
PUBLIC TRANSPORTATION

LONG ISLAND RAIL ROAD

The LIRR, the largest commuter railroad in the country, provides rail service to the Town of Riverhead on the Ronkonkoma Branch. Diesel-hauled trains operate between Ronkonkoma and Riverhead. As shown on Figure 11-11, the Riverhead station is located on Railroad Street, west of Griffing Avenue, northwest of the EMSURA. The station was restored approximately 5 years ago by LIRR as part of a historic restoration project.

Persons traveling to the west of the Ronkonkoma train station board connecting electric powered LIRR trains at that station. Train schedules are designed to meet connecting trains at Ronkonkoma for one of the City Terminal Zone stations (i.e., Pennsylvania Station in Manhattan, Flatbush Avenue in Brooklyn, Long Island City in Queens, and Hunterspoint Avenue in Queens). Railroad operations are geared toward commuters to New York City. Thus, due to the long travel time and perceived lack of demand, service to Riverhead is limited and inconvenient. On weekdays, three eastbound trains (9:54 AM, 2:32 PM, 7:37 PM) stop at the Riverhead station. On two of these trains, the 9:54 and the 2:32, the trip between Ronkonkoma and Riverhead is completed by bus, and only the 7:37 completes the trip by diesel train after a transfer at Ronkonkoma. Westbound, there are four trains leaving Riverhead (6:08 AM, 12:21 PM, 3:16 PM and 10:22 PM). Two of the four (12:21 and 3:16) begin the trip by bus from Riverhead to Ronkonkoma, where transfer is made to electric train service. No coordination with local bus service exists, and weekend service is also sparse. On Saturdays and Sundays, there are two trips in each direction daily, at 11:23 AM and 4:23 PM eastbound and at 1:56 PM and 6:56 PM westbound. No bus transfers are required on weekends (see Appendix E).

Because of its distance from New York City's major employment centers in the west and its relatively small population, there are not as many long distance commuters from Riverhead as



AREAS	MARKED PARKING SPACES
A	237
B	180
C	141
D	73
TOTAL	631

LEGEND:

EMSURA

Publicly Owned Parking Areas

DUNN ENGINEERING ASSOCIATES, P.C.
Consulting Engineers
66 Main Street
Westhampton Beach, NY 11978
(631) 288-2480

RIVERHEAD EMSURA GEIS

FIGURE 11-8 ADDITIONAL PUBLICLY OWNED OFF-STREET PARKING OUTSIDE EMSURA

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

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V.C.	K.Z.	1 XX

AREAS	MARKED PARKING SPACES	OCCUPIED SPACES WEEKDAY	OCCUPIED SPACES SATURDAY
1	287	112	70
2	19	1	6
3	58	37	25
4	45	4	13
5	301	105	108
6	55	33	51
TOTAL	715	292	273

LEGEND:

EMSURA

Town Owned Parking

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RIVERHEAD EMSURA GEIS

FIGURE 11-9 OBSERVED OFF-STREET EMSURA PARKING DEMAND

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

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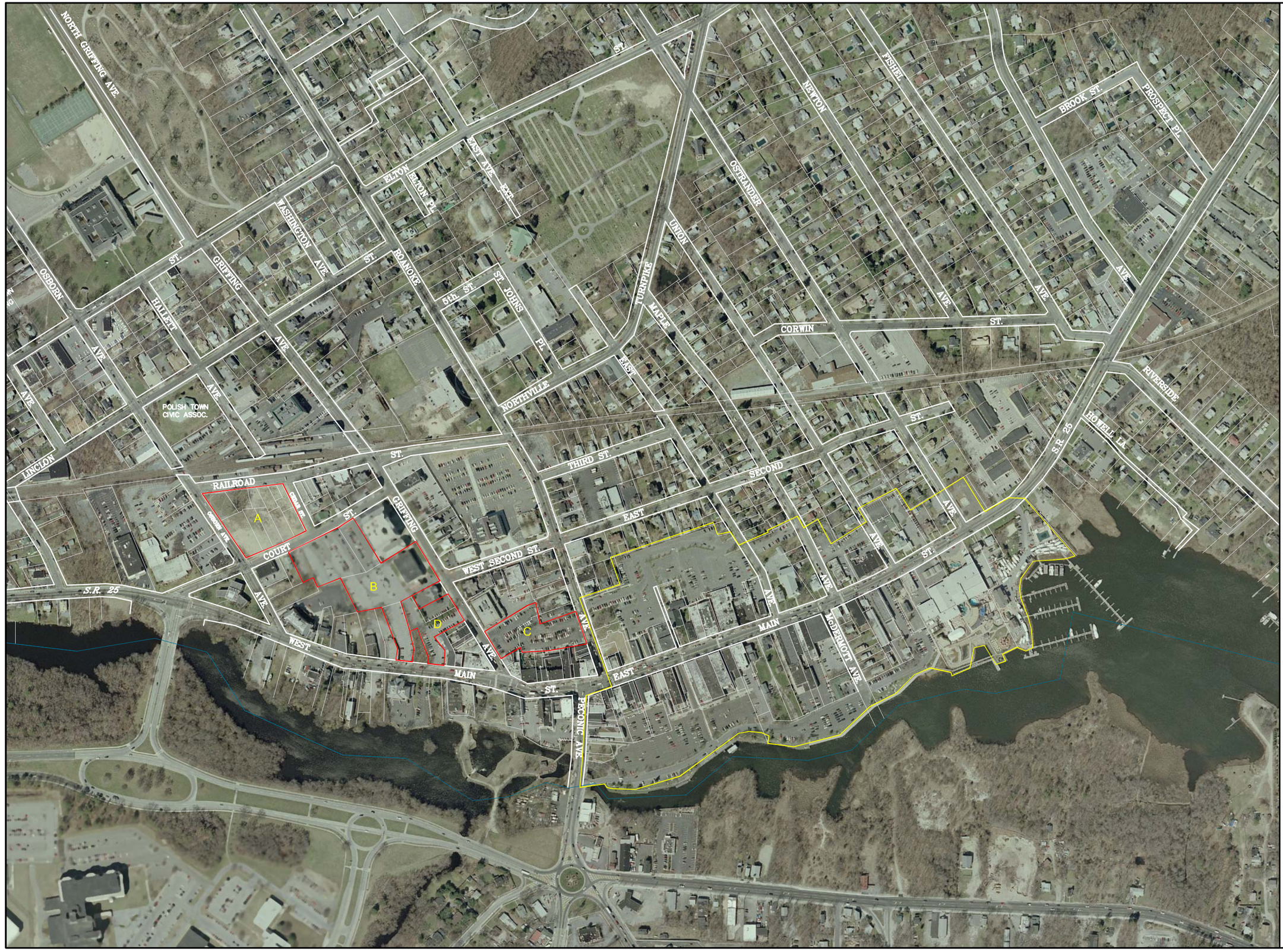

AREAS	MARKED PARKING SPACES	OCCUPIED SPACES WEEKDAY	OCCUPIED SPACES SATURDAY
A	237	237	2
B	180	180	2
C	141	104	57
D	73	37	14
TOTAL	631	558	75

LEGEND:

EMSURA

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RIVERHEAD EMSURA GEIS

FIGURE 11-10 OBSERVED OFF-STREET PARKING DEMAND OUTSIDE EMSURA

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO. OF
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KEY

EMSURA BOUNDARY

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RIVERHEAD EMSURA

FIGURE 11-11 LONG ISLAND RAILROAD

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
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there are from Nassau County and other areas of Suffolk County. The LIRR is predominantly a commuter railroad. Approximately 64 percent of the railroad's total ridership consists of commuters who ride the railroad daily.[1] Furthermore, station counts performed in 2000 indicated that only 18 passengers boarded westbound LIRR trains during the weekday AM peak at all the North Fork stations combined (Riverhead, Mattituck, Southold and Greenport) while more than 6,000 boarded at Ronkonkoma alone. While infrequent service no doubt plays a part in the low ridership, it is not likely that a significant number of new riders would materialize no matter what the frequency of service. However, the train schedule is also so infrequent that many passengers cannot make the trips that they desire.[2]

SUFFOLK COUNTY TRANSIT

SCT provides public bus service to and from various locations in Suffolk County. There are three SCT bus routes that either travel through or within the immediate vicinity of the EMSURA—buses 8A, S90, and S92 (see Appendix E). The buses run Monday through Saturday only, with no service on Sundays. In addition, some bus routes provide reduced service on Saturdays. The following sections describe the bus routes providing service to the EMSURA.

- The 8A is the Calverton-Riverhead-Suffolk County Community College (SCCC) route. It runs between Calverton Hills and SCCC East. Stops along this route include Central Suffolk Hospital, downtown Riverhead, and Riverhead County Center. In the EMSURA, the 8A route runs down East Main Street. The bus operates on hourly headways in both directions, that is, the time between buses is 1 hour. This route provides limited service on Saturdays.
- The S90 is the Center Moriches-Riverhead route. It runs between the Center Moriches railroad station and Riverhead County Center. Stops along this route include Eastport, Speonk, the Riverhead County Center, Westhampton, and Quogue. In downtown Riverhead, the S-90 route runs along the Peconic Avenue to Main Street, on the western boundary of the EMSURA, and turns west to cross the Peconic River at Court Street to continue its route. Two buses are provided in the morning, approximately 2 hours apart; one during the midday and three during the afternoon, again at approximate 2-hour headways.
- The S92 is the Orient Point-East Hampton route. It runs between the Cross Sound Ferry Terminal in Orient and the East Hampton railroad station. Stops along this route include Greenport, Mattituck, downtown Riverhead, Riverhead County Center, and Sag Harbor. Several buses on this route take an alternate route through downtown Riverhead, which travel along East Main Street in the EMSURA. Headways are hourly.

For the purposes of this DGEIS, the most recent ridership information available was obtained from Suffolk County Transit. Table 11-8 presents the annual ridership data for these three bus routes for the most recent five-year period available. As can be seen, ridership varies considerably from route to route, and all three routes experienced considerable growth over the time period examined. Suffolk County Transit is in the process of obtaining new ridership data for the entire system. It is anticipated that daily or weekly ridership data would be included in this data collection effort.

[1] AKRF, Inc., *Long Island Rail Road East End Transportation Study*, September 2000

[2] Ibid.

Table 11-8
Suffolk County Transit Bus Ridership

Bus Route	Annual Ridership				
	2002	2003	2004	2005	2006
S - 8A	30,934	38,753	44,281	47,561	45,760
S – 90	10,477	10,649	16,413	18,571	20,136
S – 92	226,205	280,717	338,015	367,172	403,296

Suffolk County Accessible Transportation (SCAT) provides permanently or temporarily disabled passengers curb-to-curb public bus service to any location within ¾ mile of a Suffolk County public bus route. SCAT also provides rides to the companions and personal care attendants of disabled passengers. Reservations must be made one to seven days in advance of the trip by calling the reservation office.

PEDESTRIANS

While some pedestrian activity is evident within the EMSURA, especially in the vicinity of Atlantis Marine World Aquarium at the east end of the EMSURA, it is not at the levels that might be expected in a busy downtown area. Even at the existing levels, it is noted that 10 accidents involving pedestrians or bicyclists were reported within the EMSURA during the most recent 3-year period for which data was available from NYSDOT. The streets in the EMSURA are provided with varying degrees of accommodations for pedestrians. The traffic signals located at the intersections of Roanoke Avenue/Peconic Avenue at Main Street and at McDermott Avenue at Main Street both provide pedestrian pushbuttons, but neither location is provided with pedestrian signals. At the Roanoke/Peconic intersection, striped pedestrian crossings are provided to cross both the westerly leg of Main Street west of Peconic Avenue and the easterly leg of Main Street east of Roanoke Avenue. Pedestrian crosswalks are also provided to cross Peconic Avenue on the south or Roanoke Avenue on the north. The McDermott Avenue intersection also provides crosswalks across all four legs of the intersection. Pedestrians actuating the pedestrian button to cross at these locations are provided with an extended green signal to do so, when the appropriate phase comes up within the signal's operating program. If no vehicle is present to actuate the appropriate phase, actuating the pedestrian pushbutton would ensure that the green phase comes up at the appropriate time within the signal's operation, thus giving pedestrians the opportunity to cross with the green indication. However, the absence of pedestrian signals means that no positive reinforcement is given to pedestrians waiting to cross at these locations.

In addition to these signalized intersections, pedestrian crosswalks are provided at four unsignalized locations. These pedestrian crosswalk locations are shown on Figure 11-12. With the exception of the crosswalk in front of the aquarium, each of these locations, as well as the signalized intersection locations, is provided with handicap ramps. A crossing guard is stationed at the aquarium location to assist pedestrians in crossing Main Street. No information was available as to schedule for the crossing guard.

LEGEND:

EMSURA

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RIVERHEAD EMSURA GEIS

FIGURE 11-12 EXISTING PEDESTRIAN ACCOMODATION

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

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C. IMPACTS OF THE PROPOSED ACTION

OVERVIEW

The proposed action is the adoption of the *East Main Street Urban Renewal Plan Update 2008* (2008 Update). The plan, as described in Chapter 1, "Proposed Action," sets forth several recommendations intended to improve the EMSURA. As discussed previously in this report, three future development scenarios were developed for analysis in the study. These scenarios are referred to as short-term, interim and long-term scenarios. The short-term scenario is intended to reflect completion of a number of projects that have been specifically identified as pending or approved projects and to reflect full occupation of existing vacant buildings within the EMSURA. In order to determine the impacts of those projects that are pending or approved, an additional analysis step was included, essentially dividing the short-term scenario into two phases; Phase 1 to include all pending or proposed specific projects, and Phase 2 to include in-fill of vacant existing buildings. The Phase 2 analysis will therefore reflect the cumulative impacts of the pending and proposed projects, and the if-fill of vacant existing buildings.

As allowable under the recently adopted DC-1 zoning district, the short-term scenario also includes at total of 366 residential units, all of which are reflected in the Phase 1 analysis, since they are all included in the planned or approved projects. An analysis year of 2012 for the short-term scenario has been selected.

The interim scenario, with an analysis year of 2017, envisions additional development within the EMSURA to reflect increased lot coverage as allowable under the DC-1 zoning district, since most if not all properties within the EMSURA are underdeveloped with respect to allowable limits of the DC-1 zoning district. The interim scenario also includes additional residential development, for a total of 400 residential units within the EMSURA at the full build out for this analysis period.

Finally, the long-term scenario includes development of an additional 100 residential units, bringing the number of residential units to 500, the maximum number of residential units allowable under the DC-1 zone, as well as additional commercial development under the zoning district. An analysis year of 2022 has been selected for the long-term scenario. Chapter 1, "Proposed Action," provides a detailed discussion of the methodology utilized in defining these land use scenarios.

Analyses have been conducted to determine the impact of the land use scenario in conjunction with the recommendations set forth in the 2008 Update on traffic, parking demand, pedestrian activities, and public transportation. The following sections discuss the results of these analyses.

TRAFFIC

FUTURE TRAFFIC CONDITIONS

CR 58, Old Country Road, which extends from the terminus of the Long Island Expressway to a point several miles east of the downtown area, was originally constructed to serve as a bypass to NYS Route 25, so that vehicles with origins or destination east of Riverhead would not have to travel through downtown Riverhead on NYS Route 25 to do so. In recent years, however, significant development has taken place along CR 58. The proliferation of commercial access points and traffic volumes associated with this development has resulted in increased congestion and longer travel times along the route. The popularity of the North Fork of Long Island as a

tourist destination has also increased, further exacerbating this condition, as CR 58 is the main route to the North Fork from points west. This has resulted in travel times along CR 58 exceeding those along NYS Route 25, and consequently, travelers are now using NYS Route 25 to avoid congestion of CR 58. Suffolk County has recognized this paradox, and recently concluded a long-term corridor planning study for CR 58. The corridor study developed several short-term and long-term improvement alternatives for CR 58. Detailed analyses conducted for the corridor study indicates that improvements to CR 58 could result in significant reduction in congested conditions and reduced travel times along the CR 58 corridor. Increased through capacity and the resulting beneficial impacts on speeds and reduced travel times on CR 58 would in turn be likely to attract a number of the vehicles currently using NYS Route 25 to avoid congested conditions on CR 58 back to CR 58, thereby reducing the number of vehicles traveling through the EMSURA on Main Street. The County is currently accepting bids for the design of an Early Implementation Project (EIP) to increase capacity and safety and improve traffic flow on CR 58. It is anticipated that this will be completed by 2012.

Note also that Suffolk County has recently commissioned a study of the operation of the traffic circle, and it is likely that the study would recommend mitigation measures to improve traffic flows at the circle. However, no information as to potential improvement strategies being considered by the County was available at the time of this report. Therefore, for the purposes of this study, no improvements to the traffic circle have been assumed.

Finally, for the purposes of this study, an annual background growth rate of 1.75 percent has been utilized, based on the information provided by the NYSDOT.

DEVELOPMENT GENERATED TRAFFIC VOLUMES

In order to estimate the amount of traffic that would be generated by the levels of development anticipated under the future land use scenarios identified above, a trip generation analysis was performed. Information for this analysis was obtained from the publication, "*Trip Generation*," 7th edition, published by the Institute of Transportation Engineers (ITE). The ITE report provides information on trip-making characteristics for numerous common land uses, and is the industry standard for analyses of this type. The analyses were performed separately for each development scenario.

The short-term scenario includes several projects for which specific information regarding future use of the property was available. When information on the land uses proposed in the project description was available in the ITE report, it was utilized in preparing the future trip generation estimates. In other cases when specific information was not available regarding future land use, the gross yield calculations discussed in Chapter 1, "Proposed Action," were utilized to estimate trip generation. Obviously, for the interim and long-term scenarios, only the number of additional residential units and the gross number of square feet of development of unspecified nature were available. Therefore, the trip generation analysis considered the residential development, and used information regarding trip making at shopping centers as a base rate for commercial development. However, several adjustments were made to this rate of trip making. These adjustments were made in order to reflect the fact that a significant proportion of the trips to a downtown area would be multi-purpose trips, that is, a single trip to the area with multiple destinations within the EMSURA and to reflect the impact that residential development within the EMSURA on the number of vehicle trips would have. In order to account for these two aspects of the EMSURA's trip generation capacity, the commercial development in each scenario was treated as an incremental increase in center size, rather than as a new discrete

element. In addition, to account for internal capture, total future trip generation was reduced by 20 percent.

For the short-term scenario, separate trip generation analyses were performed for the projects specifically identified in Table 1-1 (see Chapter 1, "Proposed Action"), referred to as Phase 1 of the short-term scenario. The results of this analysis are presented in Table 11-8.

Table 11-8
Estimated Additional Traffic Volumes: Short-Term Development Scenario

Scenario Component	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Short-term Phase 1 (projects pending/approved, see Table 1-1, Chapter 1, "Proposed Action")	85	150	235	400	261	661	444	267	711
In-fill of vacant existing buildings	53	33	86	198	215	413	344	285	629
Total short-term additional traffic	138	183	321	598	476	1,074	788	552	1,340

As can be seen, the Phase 1 projects (for which information on future proposed land use information was provided) would generate approximately 235 new trips to the downtown area during the weekday AM peak hour, 661 during the weekday PM peak hour, and 711 during the Saturday midday peak hour. Forty-two of the AM trips, 258 of the weekday PM trips, and 328 of the Saturday midday peak hour trips would be generated by the Apollo project, with remaining trips attributable to the other projects identified in this study.

The additional Phase 2 short-term development, due to the projected in-fill of vacant existing buildings, would add 86 trips to the AM peak hour, 413 to the weekday PM peak hour, and 629 to the Saturday midday peak hour. Thus, the total new traffic volumes, after the adjustments discussed above, would be approximately 321 new trips during the weekday AM peak hour, 1,074 during the weekday PM peak hour, and 1,340 during the Saturday midday peak hour. This represents an increase in traffic volumes entering and exiting the EMSURA of approximately 30 percent during the weekday PM peak hour and 40 percent during the Saturday midday peak hour, the critical time periods examined in this study.

The interim scenario envisions additional development under the DC-1 zone. Table 11-9 shows the results of the trip generation analyses conducted for the Interim scenario. As can be seen, 225 new trips would be added to the EMSURA during the weekday AM peak, 1,072 during the weekday PM peak, and 1,407 during the Saturday midday peak hour, in addition to the traffic volumes due to the short-term development. Overall, traffic volumes entering and exiting the EMSURA increase approximately 55 percent during the weekday PM peak hour and 80 percent during the Saturday midday peak hour.

Finally, the long-term development scenario land uses would add 102 trips during the weekday AM peak hour, 383 during the weekday PM peak hour, and 477 during the Saturday midday peak hour, as shown in Table 11-10. Again, this is new traffic added to the interim traffic volumes. This represents an increase in traffic volumes entering and exiting the EMSURA of approximately 65 percent during the weekday PM peak hour and 85 percent during the Saturday midday peak hour.

Table 11-9
Estimated Additional Traffic Volumes: Interim Development Scenario

Scenario Component	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Interim additional traffic volumes	130	95	225	519	553	1,072	732	675	1,407
Total new traffic volumes	268	278	546	1,117	1,029	2,146	1,520	1,227	2,747

Table 11-10
Estimated Additional Traffic Volumes: Long-Term Development Scenario

Scenario Component	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Long-term additional traffic volumes	44	58	102	196	187	383	249	228	477
Total new traffic volumes	312	336	648	1,313	1,216	2,529	1,769	1,455	3,224

These new traffic volumes were distributed on the roadway network, using directional distributions developed at a level of detail commensurate with planning studies of this nature. Separate directional distributions were developed for the critical weekday PM and Saturday midday peak hours. The distributions were based on the existing traffic patterns that prevailed during data collection efforts for this study. Figures 11-13 and 11-14 present the additional traffic volumes for the short-term Phase 1 scenario, for the weekday PM and Saturday midday peak hours, respectively. Similarly, Figures 11-15 and 11-16 present the information for the full build out of the short-term scenario, that is, combined Phase 1 and Phase 2 additional traffic volumes. Finally, Figures 11-17 through 11-20 present the traffic assignments for the interim and long-term scenarios.

NETWORK SIMULATION RESULTS

In order to examine the ability of the roadway network to accommodate future traffic demand, the simulation model developed for this study was modified to reflect the future conditions. First, the simulation was run to examine 2012 conditions on the study area's roadway network if only background traffic growth of 1.75 percent per year were to occur. Thru traffic volumes on NYS Route 25 were reduced to reflect the anticipated impact of improved conditions on CR 58, whereby vehicles with origins and destinations east of the EMSURA would return to CR 58, as discussed above.

The results of this simulation, presented in Table 11-11, indicate that significant operating deficiencies would occur on the roadway network. As can be seen, the simulation results indicate deterioration in levels of service and increase in delays throughout the network. Significant delays and substantial queues are projected at most approaches to the critical intersection locations examined. Both the intersection of Roanoke Avenue/Peconic Avenue at Main Street and the traffic circle effectively function at LOS F during both time periods examined. Long delays and significant queuing was observed in the simulation results.

KEY

EMSURA Boundary Line

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RIVERHEAD
EMSURA

FIGURE 11-13
PHASE 1
SHORT TERM SCENARIO
NEW TRAFFIC VOLUMES
WEEKDAY PM PEAK

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

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FIGURE 11-14
PHASE 1
SHORT TERM SCENARIO
NEW TRAFFIC VOLUMES
SATURDAY PEAK

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
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FIGURE 11-15
PHASE 2
TOTAL SHORT TERM SCENARIO
NEW TRAFFIC VOLUMES
WEEKDAY PM PEAK

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

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RIVERHEAD EMSURA

FIGURE 11-16
PHASE 2
TOTAL SHORT TERM SCENARIO
NEW TRAFFIC VOLUMES
SATURDAY PEAK

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO. OF
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RIVERHEAD EMSURA

FIGURE 11-17
ADDITIONAL INTERIM SCENARIO TRAFFIC VOLUMES WEEKDAY PM PEAK

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

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FIGURE 11-18
ADDITIONAL INTERIM
SCENARIO TRAFFIC VOLUMES
SATURDAY PEAK

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

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RIVERHEAD EMSURA

FIGURE 11-19
ADDITIONAL LONG TERM SCENARIO TRAFFIC VOLUMES WEEKDAY PM PEAK

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

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FIGURE 11-20
ADDITIONAL LONG TERM
SCENARIO TRAFFIC VOLUMES
SATURDAY PEAK

DATE	SCALE	DEA NO.
APRIL 2008	1" = 400'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.	OF
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Table 11-11
Critical Intersection Levels of Service
2012 Base Condition
Background Traffic Growth and Existing Roadway Network

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at Peconic Avenue/Roanoke Avenue	Peconic Avenue NB	34.0	C	63.6	E
	Main Street EB	166.5	F	117.3	F
	Main Street WB	49.6	D	167.9	F
	Roanoke Avenue SB	232.4	F	206.3	F
	Entire Intersection	94.8	F	118.9	F
Main Street at Court Street/CR 94A (County Center Spur)	CR 94A (County Center Spur) NB	42.7	D	19.8	B
	Main Street EB	63.3	E	7.2	A
	Main Street WB	36.0	D	15.0	B
	Court Street SB	76.7	E	44.9	D
	Entire Intersection	54.8	D	16.5	B
Main Street at East Avenue / McDermott Avenue / Maple Street	Main Street EB	2.7	A	3.7	A
	McDermott NB	20.3	B	62.2	E
	Maple SB	31.0	C	151.8	F
	Main Street WB	0.0	A	95.3	F
	East Avenue SB	11.1	B	330.4	F
	Entire Intersection	4.0	A	67.9	E
Traffic Circle	CR 63 NB	101.5	F	111.2	F
	CR 104 NWB	217.5	F	209.9	F
	NYS Route 24 WB	86.0	F	128.2	F
	Peconic Avenue SB	65.5	E	16.6	B
	CR 94 EB	111.0	F	91.3	F
	Woodhull NB	56.5	E	78.4	E
	Entire Intersection	105.1	F	98.0	F
Entire Network		**75.7**	**E**	**79.9**	**E**

The recommendations set forth in the 2008 Update provide some degree of improvements to the EMSURA roadway network. These measures include strategies such as revisions to signal timing at existing traffic signals, installation of new traffic signals, installation of new turning lanes that do not require additional right if way, and imposing one way operation on several EMSURA roadways.

The simulation network was revised to reflect the recommendations. The results of this simulation, summarized in Table 11-12, indicate that improved levels of service would be expected at the intersections of Main Street at Roanoke Avenue and Main Street at Court Street/County Center Spur. In fact, better levels of service could be expected than under existing conditions. Significant queuing would continue to prevail at the traffic circle, although delays would be reduced somewhat. Therefore, while the short-term mitigation measures outlined

above would successfully provide capacity on the EMSURA network to accommodate the expected growth in background traffic volumes, the traffic circle would continue to operate poorly, and vehicles traveling to and from the downtown Riverhead area, including the EMSURA and the court complex, would encounter delays at the circle.

Table 11-12
Critical Intersection Levels of Service
2012 Base Traffic with Short-Term Mitigation

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at Peconic Avenue/Roanoke Avenue	Peconic Avenue NB	25.0	C	69.6	E
	Main Street EB	48.1	D	101.3	F
	Main Street WB	32.7	C	53.1	D
	Roanoke Avenue SB	46.8	D	50.3	E
	Entire Intersection	36.2	D	72.5	D
Main Street at Court Street/CR 94A (County Center Spur)	CR 94A (County Center Spur) NB	32.7	C	24.4	C
	Main Street EB	7.5	A	15.4	B
	Main Street WB	15.4	B	15.8	B
	Court Street SB	35.4	C	39.4	D
	Entire Intersection	20.7	C	20.7	C
Main Street at East Avenue / McDermott Avenue / Maple Street (note: East Ave One –Way NB)	Main Street EB	4.1	A	38.3	D
	McDermott NB	19.4	C	82.2	F
	Maple SB	40.6	F	34.3	D
	Main Street WB	0.0	A	16.1	B
	Entire Intersection	5.6	A	63.1	E
Traffic Circle	CR 63 NB	59.1	E	96.3	F
	CR 104 NWB	183.5	F	246.8	F
	NYS Route 24 WB	87.1	F	128.1	F
	Peconic Avenue SB	28.3	C	15.2	B
	CR 94 EB	165.6	F	149.7	F
	Woodhull NB	89.7	F	99.5	F
	Entire Intersection	93.5	F	108.9	F
Entire Network		**48.5**	**D**	**68.0**	**E**

The simulation was then rerun to reflect the distribution of traffic estimated to be generated by Phase 1 of the short-term scenario on the roadway network. The results of this simulation are presented in Table 11-13. Note that the short-term Phase 1 traffic assignment reflects the elimination of approximately 200 parking spaces from the Town-owned parking area along the Peconic River waterfront, as discussed previously in "Existing Conditions." In addition, the distribution reflects the construction of significant additional parking supply located north of Main Street between Roanoke Avenue and East Avenue, with access to both Roanoke Avenue and East Avenue. These changes in the location of the parking available to the EMSURA result in a traffic pattern that directs vehicles to the parking garage via Roanoke Avenue and East Avenue. As can be seen from the results of this simulation, levels of service and delays at the

critical intersections along Main Street remain reasonable, and in fact continue to be somewhat improved over the existing conditions. Note further that, while the simulation results indicate that the intersection of Main Street at East Avenue will provide reasonable levels of service, the introduction of the high number of left turning vehicles destined to the assumed parking garage location, and the resultant potential increased pedestrian flow between the north and south sides of Main Street, might result in the need to install a traffic signal at this location. The need for signalization should be investigated thoroughly as details of the parking garage become available.

Table 11-13
Critical Intersection Levels of Service
2012 Short-Term Phase I Traffic with Short-Term Mitigation

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at Peconic Avenue/Roanoke Avenue	Peconic Avenue NB	30.2	C	40.4	D
	Main Street EB	72.4	E	107.0	F
	Main Street WB	42.2	D	84.5	F
	Roanoke Avenue SB	52.8	D	50.4	D
	Entire Intersection	47.6	D	68.0	E
Main Street at Court Street/CR 94A (County Center Spur)	CR 94A (County Center Spur) NB	26.2	C	23.0	C
	Main Street EB	8.9	A	32.5	C
	Main Street WB	18.1	B	19.9	B
	Court Street SB	37.0	D	38.4	D
	Entire Intersection	20.2	C	28.6	C
Main Street at East Avenue / McDermott Avenue / Maple Street (note: East Ave One –Way NB)	Main Street EB	11.2	B	36.2	D
	McDermott NB	43.3	D	34.4	C
	Maple SB	35.6	B	48.7	D
	Main Street WB	6.8	A	12.3	B
	Entire Intersection	13.8	D	30.7	C
Traffic Circle	CR 63 NB	127.8	F	157.0	F
	CR 104 NWB	191.6	F	184.9	F
	NYS Route 24 WB	93.3	F	119.5	F
	Peconic Avenue SB	16.7	B	11.8	B
	CR 94 EB	163.6	F	102.2	F
	Woodhull NB	96.7	F	104.7	F
	Entire Intersection	101.6	F	97.6	F
Entire Network		**52.7**	**D**	**60.6**	**E**

Based on the results of the simulation, it is anticipated that the roadway network within the EMSURA can accommodate the addition of traffic generated by the projects included in the Phase 1 short-term scenario. However, conditions at the traffic circle are shown to continue to deteriorate, with nearly all approaches to the circle providing level of service F during both the weekday PM and Saturday midday peak hours. As previously stated, the traffic circle is not located within the Town of Riverhead. Three Suffolk County, one New York State, and one

Town of Southampton highway facilities intersect at this location. Congestion prevails during the peak hours at the traffic circle in the existing condition, not in small part due to the presence of the County Center complex west of the circle.

A study is currently underway by the SCDPW to evaluate the conditions at the circle. It is anticipated that the study will result in recommendations to improve the flow of traffic at this location; however, the results of the study were not available at the time of this writing.

Next, the simulation was rerun with the traffic volumes expected to be present on the study area roadways after completion of the development envisioned under the short-term scenario. This includes traffic estimated to be generated by the addition of Phase 2 of the short-term scenario, which reflects in-fill of existing vacancies within the EMSURA. The results of this simulation are presented in Table 11-14.

Table 11-14
Critical Intersection Levels of Service
2012 Short-Term Full Build Traffic with Short-Term Mitigation

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at Peconic Avenue/Roanoke Avenue	Peconic Avenue NB	35.6	D	31.8	C
	Main Street EB	88.9	F	133.1	F
	Main Street WB	39.3	D	80.2	F
	Roanoke Avenue SB	51.8	D	199.3	F
	Entire Intersection	52.8	D	99.6	F
Main Street at Court Street/CR 94A (County Center Spur)	CR 94A (County Center Spur) NB	34.5	C	24.1	C
	Main Street EB	9.5	A	87.4	F
	Main Street WB	16.5	B	20.1	C
	Court Street SB	35.0	C	43.6	D
	Entire Intersection	21.5	C	51.2	D
Main Street at East Avenue / McDermott Avenue / Maple Street (note: East Ave One –Way NB)	Main Street EB	5.0	A	36.1	D
	McDermott NB	23.3	C	218.0	F
	Maple SB	321.7	F	42.4	D
	Main Street WB	1.9	A	43.6	D
	Entire Intersection	22.4	A	53.3	D
Traffic Circle	CR 63 NB	148.1	F	162.4	F
	CR 104 NWB	265.9	F	266.0	F
	NYS Route 24 WB	98.9	F	115.1	F
	Peconic Avenue SB	12.7	B	1.1	B
	CR 94 EB	118.5	F	107.4	F
	Woodhull NB	79.7	E	82.3	F
	Entire Intersection	109.6	F	106.9	F
Entire Network		**56.9**	**E**	**81.9**	**F**

As can be seen, the addition of the short-term Phase 2 traffic results in significant deterioration in operating conditions on the network, particularly during the Saturday midday peak hour.

System-wide delays increase significantly, and many approaches to the traffic circle experience substantial delays, and long queues. Importantly, operating conditions at the intersections along Main Street also deteriorate significantly, again particularly during the Saturday midday peak hour. Conditions such as those predicted by this simulation would likely have a detrimental impact on the business community, and additional long term measures of a significantly more robust nature would be needed to provide improved operating conditions. Again, such measures will require coordination of multiple agencies.

At the intersection of NYS Route 25 at Roanoke Avenue, additional phases and clearances must be included in the timing pattern of the existing traffic signal to allow for safe operation due to the misalignment of the northbound and southbound approaches. This results in inefficient use of green time at this intersection. While the imposition of one-way operation as discussed above alleviated some of the phases, and thus ameliorated the inefficiencies somewhat, the added capacity is shown to be insufficient to accommodate the significant additional traffic estimated to be generated by the completion of the Short Term scenario. Additional analyses indicated that the only way to provide the service necessary to accommodate these traffic volumes is to eliminate the offset configuration by aligning the northbound and southbound approaches to the intersection. This realignment could be accomplished by shifting the southbound Roanoke Avenue approach to the west to align with Peconic Avenue, or by shifting northbound Peconic Avenue to the east to align with Roanoke Avenue. These two configurations are shown conceptually on Figure 11-21 and 11-22. As can be seen, realigning the southbound Roanoke Avenue approach would require obtaining several properties on the northwest corner of the intersection, demolition of several existing buildings, and construction of a new roadway. The existing roadway alignment would become surplus property, which could be sold by the town, or used to provide additional public space. Realigning the northbound approach would also require obtaining additional property and demolition of buildings on the south side of Main Street, and could possibly have impact on the bridge carrying CR63 over the Peconic River. Again, the existing roadbed would become surplus property. Results of the analyses performed to evaluate the effectiveness of this improvement strategy are summarized in Tables 11-15 and 11-16.

Table 11-15
Critical Intersection Levels of Service
2012 Short-Term Full Build Traffic
Realigned Intersection at Roanoke/Peconic Avenues

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at Peconic Avenue/Roanoke Avenue	Main Street EB	23.5	C	29.1	C
	Peconic Avenue NB	29.2	C	29.4	C
	Main Street WB	37.6	D	36.4	C
	Roanoke Avenue SB	28.8	C	27.5	D
	Entire Intersection	29.8	C	30.6	C
Main Street at Court Street/ CR 94A (County Center Spur)	Main Street EB	32.5	C	22.9	C
	Court Street SB	9.6	A	9.7	A
	Main Street WB	16.6	B	11.6	B
	CR 94A (County Center Spur) NB	34.8	C	38.8	D
	Entire Intersection	20.8	C	16.0	B

Table 11-15 continued
Critical Intersection Levels of Service
2012 Short-Term Full Build Traffic
Realigned Intersection at Roanoke/Peconic Avenues

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at East Avenue / McDermott Avenue / Maple Street	Main Street EB	4.0	A	4.5	A
	McDermott NB	35.4	D	53.4	D
	Maple SB	38.1	D	72.8	E
	Main Street WB	0.7	A	1.6	A
	East Avenue SB	21.0	C	19.4	B
	Entire Intersection	7.8	A	13.1	B
Traffic Circle	CR 63 NB	136.9	F	159.3	F
	CR 104 NWB	230.6	F	255.9	F
	NYS Route 24 WB	92.8	F	102.5	F
	Peconic Avenue SB	16.3	B	9.9	A
	CR 94 EB	143.6	F	114.6	F
	Woodhull NB	63.1	E	79.8	E
	Entire Intersection	106.4	F	104.9	F
Entire Network		**48.2**	**D**	**47.1**	**D**

Note: *The upper threshold delay for LOS C is 35 seconds, the upper threshold for LOS d is 55 seconds.

As can be seen, significant improvement in operating conditions at the intersection of Roanoke Avenue/Peconic Avenue with Main Street and levels of service and delay are improved beyond those projected for the 2012 base condition, without any of the new projected EMSURA traffic. However, significant deficiencies would remain at the traffic circle.

As previously noted, the traffic circle is the subject of a study commissioned by Suffolk County. However, no information was available from the County as to the status of that study, nor any possible recommendations regarding future improvements to the circle. Therefore, several different conceptual alternatives for improvements to the circle were investigated, and tested using the simulation model. Two of these alternatives were shown to provide the improvements in service. First, a two-lane roundabout was examined. Because there are five major approaches to the existing traffic circle, installation of a two-lane roundabout, which was in compliance with NYSDOT's roundabout design guidelines, would require a very large diameter roundabout. The large diameter would be needed to provide the necessary separation between adjacent approaches. Provision of a roundabout of this diameter would require significant property takings, and is not considered a feasible alternative. Next, a two-lane roundabout with four approach legs was investigated. The elimination of one approach leg can be accomplished by combining the CR 104 and CR 63 approaches to the roundabout at a point south of the existing traffic circle, as shown on Figure 11-23. The results of the simulation performed to evaluate this alternative improvement indicate that a two-lane roundabout with four approach legs could accommodate the future traffic volumes associated with the short-term development scenario. The results of this simulation are summarized in Table 11-15. Note that this simulation assumes the realignment of the intersection of Roanoke Avenue/Peconic Avenue has been implemented.

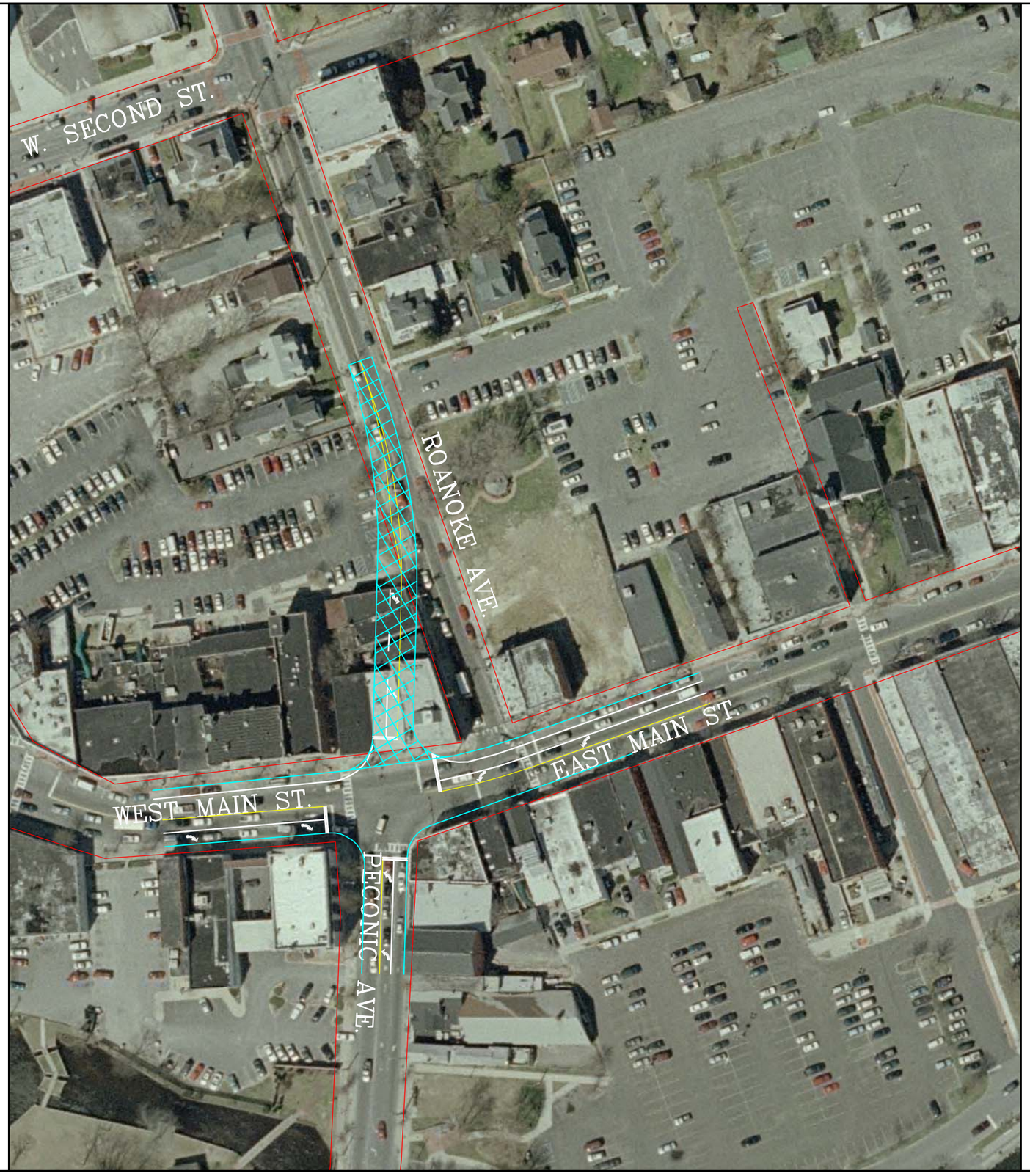

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FIGURE 11-21
ROANOKE AVE/PECONIC AVE & MAIN STREET (ROUTE 25)
CONCEPTUAL REALIGNMENT

DATE	SCALE	DEA NO.
APRIL 2008	1" = 100'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
A.G.	A.G.	1 OF XX

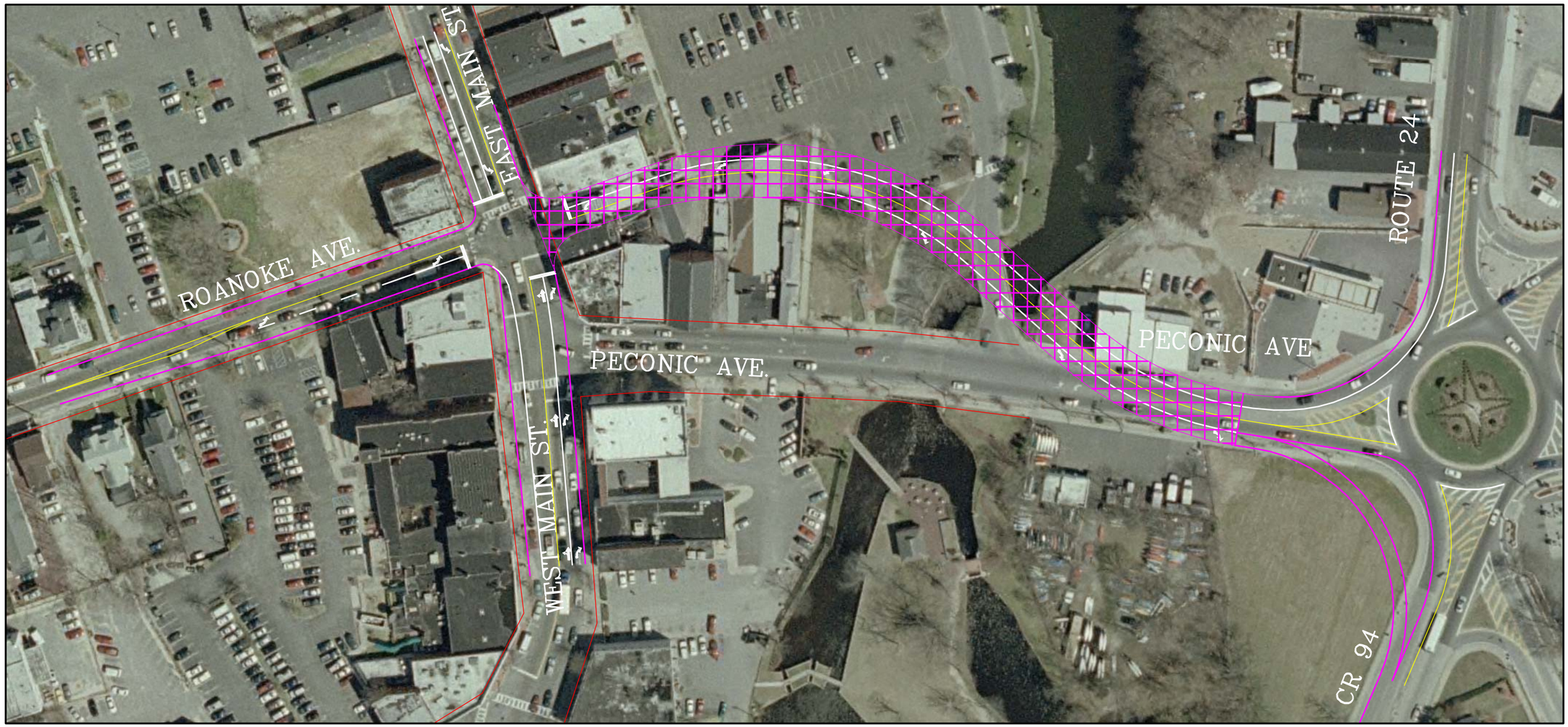

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FIGURE 11-22
ROANOKE AVE/PECONIC AVE &
MAIN STREET (ROUTE 25)
CONCEPTUAL REALIGNMENT

DATE	SCALE	DEA NO.
APRIL 2008	1" = 100'	26047.00

DESIGNED BY	DRAFTED BY	SHEET NO.
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FIGURE 11-23
PECONIC AVE/CR 104/CR94/RT 24
TWO LANE ROUNDABOUT

DATE	SCALE	DEA NO.
APRIL 2008	1" = 120'	26047.00

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Table 11-16
Critical Intersection Levels of Service
2012 Short-Term Full Build Traffic
Two-Lane Roundabout and Roanoke Realigned

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at Peconic Avenue/ Roanoke Avenue	Peconic Avenue NB	30.4	C	44.0	D
	Main EB	30.1	C	36.4	D
	Main Street WB	49.8	D	38.7	D
	Roanoke Avenue SB	25.3	C	27.4	C
	Entire Intersection	34.7	C	38.5	D
Main Street at Court Street/CR 94A (County Center Spur)	CR 94A (County Center Spur) NB	133.9	F	25.2	C
	Main EB	10.8	B	9.8	A
	Main Street WB	18.9	B	13.5	B
	Court Street SB	34.5	C	38.1	D
	Entire Intersection	48.4	D	16.8	B
Main Street at East Avenue / McDermott Avenue / Maple Street	Main Street EB	4.2	A	4.8	A
	McDermott NB	35.8	D	53.4	D
	Maple SB	44.1	D	71.3	E
	Main Street WB	0.4	A	1.5	A
	East Avenue SB	19.3	B	19.9	B
	Entire Intersection	7.6	A	12.8	B
CR 94/NYS Route 24/Peconic Avenue (Two Lane Roundabout)	CR 63/CR 104 NB	11.0	B	60.2	E
	NYS Rte. 24 WB	31.9	C	385.8	F
	Peconic Avenue SB	9.5	A	6.3	A
	CR 94 EB	8.8	A	13.8	B
	Entire Intersection	15.4	B	89.5	F
Entire Network		**27.4**	**C**	**44.8**	**D**

Note: *The upper threshold delay for LOS C is 35 seconds, the upper threshold for LOS d is 55 seconds.

Finally, replacement of the traffic circle with a conventional signalized intersection was tested, as shown in Figure 11-24. Again, this scenario assumes the combination of two of the major approaches to the intersection, as discussed in the two-lane roundabout alternative, and the alignment of the Roanoke Avenue/Peconic Avenue intersection. The results of these analyses are summarized in Table 11-17.

As can be seen, the overall impact of either improvement strategy at the traffic circle combined with the realignment of the Roanoke Avenue/Peconic Avenue intersection, results in significantly improved levels of service and reduced delays throughout the study network. Traffic volumes estimated to be generated by the short-term development scenario are accommodated on the roadway network at levels of service better than those prevailing in the existing condition. Thus, it is concluded that a robust program of roadway improvements, involving the Town of Riverhead, Suffolk County, the NYSDOT and the Town of Southampton

would be necessary to ensure that the roadway network would provide the capacity necessary to encourage development within the EMSURA.

Table 11-17
Critical Intersection Levels of Service
2012 Short Term Full Build Traffic Signal at Circle and Roanoke Realigned

Location/Approach		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		Delay (sec)	Level of Service	Delay (sec)	Level of Service
Main Street at Peconic Avenue/ Roanoke Avenue	Peconic Avenue NB	47.3	D	37.3	D
	Main EB	35.7	D	29.6	C
	Main Street WB	40.6	D	68.3	E
	Roanoke Avenue SB	27.8	C	25.1	C
	Entire Intersection	40.0	D	42.0	D
Main Street at Court Street/CR 94A (County Center Spur)	CR 94A (County Center Spur) NB	34.3	C	118.9	F
	Main EB	10.5	B	10.7	B
	Main Street WB	14.2	B	19.5	B
	Court Street SB	37.0	D	34.0	C
	Entire Intersection	19.3	B	44.7	D
Main Street at East Avenue / McDermott Avenue / Maple Street	Main Street EB	4.4	A	4.1	A
	McDermott NB	53.4	D	35.9	D
	Maple SB	73.6	E	37.2	D
	Main Street WB	2.1	A	0.6	A
	East Avenue SB	20.1	C	20.5	C
	Entire Intersection	12.9	B	7.6	A
CR 94/NYS Route 24/Peconic Avenue (Two Lane Roundabout)	CR 63/CR 104 NB	110.5	F	48.7	D
	NYS Rte. 24 WB	29.2	C	26.7	C
	Peconic Avenue SB	26.1	C	25.0	C
	CR 94 EB	28.0	C	35.0	C
	Entire Intersection	45.7	D	34.0	C
Entire Network		**32.4**	**C**	**34.8**	**C**

D. OTHER POTENTIAL TRAFFIC IMPACTS

It is recognized that there are other strategies that would alleviate congestion at this location that have not been examined in detail by this study. Among those strategies would be the diversion of some of the traffic utilizing this intersection to enter the downtown area to alternate routes. However, diversion of traffic is complicated by the presence of the Peconic River, and the availability of only two bridges in reasonable proximity to the downtown area, the Peconic Avenue bridge and the Court Street/County Center Spur bridge. A good deal of the traffic destined to and from the County Center, and the court houses north and west of the EMSURA already utilizes the Court Street bridge, limiting its availability as an alternate route to the EMSURA. For example, a strategy that envisioned some combination of one-way operations on the bridges could be considered. One such strategy would be utilizing the two bridges as complementary components of a one-way couplet system, wherein one of the bridges operated

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FIGURE 11-24
PECONIC AVE/CR 63/CR 94/RT 24
TRAFFIC SIGNAL

DATE	SCALE	DEA NO.
APRIL 2008	1" = 120'	26047.00

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in the northbound direction and the other operated in the southbound direction could be simulated. However, such an operation would either bring all the southbound traffic crossing the Court Street Bridge through the intersection of Roanoke Avenue at Main Street, and then through the traffic circle, and all the northbound traffic now crossing the river via Peconic Avenue through the County Center Spur intersection, over the river, and then through the intersection of Main Street at Roanoke Avenue from the west, were that the configuration considered. Were the opposite configuration considered, wherein Peconic Avenue operated northbound and County Center Spur southbound, all the County Center Spur traffic heading north would need to travel through the intersection of Main Street at Peconic Avenue, which would have serious implications during the weekday PM peak hour, when the County Center traffic releases. Operating either of the bridges in a one-way direction and retaining two-way operation at the other might also be considered, but obviously, similar concerns arise.

Therefore, a strategy that envisioned significant diversion of traffic away from the Peconic Avenue bridge would need to consider construction of another bridge over the Peconic River into the downtown area. Construction of such a bridge is likely to have significant beneficial impact on accessibility and mobility within the EMSURA, and would also provide relief to the operation of the traffic circle by diverting traffic away from Peconic Avenue. However, it would also have major economic, environmental and design considerations, which would likely dwarf those impacts of the improvement strategies that have been considered. Therefore, the realignment strategies discussed above have been chosen for detailed analysis in this study.

Further note that, even if the bridge congestion were to be alleviated, Main Street could not accommodate the addition of the large amounts of traffic projected under these scenarios under its current configuration, and would have to be widened to provide at least two lanes in each direction with turning lanes at major intersections. While this configuration could be achieved through some combination of the elimination of on street parking and pavement widening, the elimination of parking is not conducive to attracting commerce to Main Street, and the four-lane configuration is not in keeping with a walkable, pedestrian-friendly downtown business district, especially one in which a mix of commercial and a significant number of residential properties is envisioned. In addition, many of the buildings along Main Street are built down to the property line, and any widening could require acquisition and demolition of the buildings, or a narrowing of the existing sidewalks.

Since the hypothetical additional roadway improvements of the nature discussed above would result in a roadway network not appropriate to a thriving downtown business district, and the impediments to their implementation make it extremely unlikely that they would ever come about; no additional traffic simulations have been performed to evaluate their effect on the network.

PARKING

As previously discussed, in the EMSURA, the parking district provides approximately 715 off-street parking spaces in several parking areas. In addition, outside the EMSURA but within reasonable walking distance, there are 214 off-street municipal parking spaces. During data collection efforts for this study, a maximum of 292 of the spaces within the EMSURA and 141 of the other spaces were occupied. Therefore, discounting on-street parking, consistent with the methodology described above, there are approximately 929 parking spaces either within or in close proximity to the EMSURA, of which approximately 496 parking spaces are available to accommodate new demand within the EMSURA.

Note that data regarding commercial land uses such as retail stores indicate demand ratios of 3.6 to 4.0 parking spaces per 1,000 square feet of leasable area, for office space, demand ratios of 3.4 spaces per 1,000 square feet have been observed. In a Central Business District (CBD) there are numerous factors that affect parking demand, including building occupancy, use of transit, walking trips, bicycling trips, multipurpose trips such as shopping trips that include a restaurant meal, and captive market trips, such as employees having lunch at a restaurant or shopping during lunch hour, or a hotel patron walking down the street for dinner. While these factors obviously have an impact on parking demand in the EMSURA, this existing parking demand was found to be the equivalent of approximately 1.49 spaces per 1,000 square feet of occupied mixed use development, based on a total of 291,236 square feet of occupied developed space, and a peak parking demand for 433 spaces. Given that the majority of the existing land uses within the EMSURA are commercial in nature, and that commercial space generally has a base parking demand rate above 3.0 spaces per 1,000 square feet, this parking demand is considered well below what might be expected. This low parking demand ratio is likely in part attributable to the underperformance of many of the downtown businesses, due to prevailing economic conditions in the EMSURA. If so, it is possible that the successful revitalization of the EMSURA would result in increased parking demand rates for existing underperforming land uses.

In order to estimate the amount of parking that might be needed to meet the demands of a more densely developed, revitalized downtown business district, a parking demand analysis was performed. Information for this analysis was obtained from the reports, "*Shared Parking*," published by the Urban Land Institute, and "*Parking Generation*," published by ITE. Both of these documents provide data regarding parking demand for a variety of land uses, including many of those typical of downtown areas, such as the EMSURA. The demand rates are provided based on a number of different characteristics of the land use in question, referred to as independent variables. Examples of such independent variables include the number of seats in a movie theater, the size in square feet of a shopping center or retail operation, or the number of units in a multi-family residential development. Table 11-18 presents a number of land uses and the independent variables typically utilized in determining the base rate of parking demand. In some cases, the development anticipated in the various land use scenarios analyzed for the EMSURA in this study was a reasonably close fit with the land use descriptions for which data is available in these publications. However, in cases where no data was available for a specific land use, mostly those included under specific projects proposed in the EMSURA in the short-term analysis, assumptions were made to provide the closest fit possible. Examples of such land uses include the performing arts theater proposed in the short term, and the expansion of the existing Atlantis Marine World Aquarium.

Table 11-18
Parking Demand Variables

Land Use	Typical Independent Variables
Movie Theater	Seats
Apartments	Dwelling units
Shopping Center	Square feet (SF). Gross Leasable Area (GLA)
Restaurants	Seats; 1,000 S.F. GLA
Offices	Employees; S.F. GLA

The base parking demand rates have also been adjusted to reflect their presence in the CBD. The ITE's, "*Shared Parking Planning Guidelines*," and the American Planning Association's report, "*Flexible Parking Requirements*," provide information from case studies indicating a broad range of potential reductions in base parking demand rates for land uses within CBD's. Reductions in demand of 50 percent or more when compared to ULI or ITE "Parking Generation" base rates are not uncommon in the literature. However, in light of the low rates of existing demand measured in the EMSURA, very conservative base rate reduction factors have been utilized in this analysis, in part to compensate for the potential increase in parking demand that revitalization might precipitate. The CBD adjustment factors are presented in Table 11-19, as are the final base parking demand rates utilized in the demand analysis.

Table 11-19
Parking Demand Rates

Land Use	CBD Adjustment Factor	Adjusted Base Demand Rate	
		Weekday	Weekend
Restaurant	0.8	8.4/KSF	8.4/KSF
Commercial	0.8	3.24/KSF	3.6/KSF
Theater	0.9	0.9/5 Seats	0.9/5 Seats
Residential	0.9	1.49/Unit	1.49/Unit
Office	0.9	3.42/KSF	0.34/KSF
Banquet/Convention	0.7	10.5/KSF	10.5/KSF

The analysis also considered the effect of shared parking. Shared parking is defined in the ULI report as "the use of a parking space to serve two or more individual land uses without conflict or encroachment."[1] Shared parking analyses take advantage of the variations in parking demand at different land uses by the hour, day or season, as well as the combinations of different land uses that result in multi-purpose trips, for which a single parking space can serve several land uses. Due to its location in the CBD of Riverhead, various factors are likely to affect parking demand. These factors include building occupancy, use of transit, walking trips, bicycling trips, multipurpose trips such as shopping trips that include a restaurant meal, and captive market trips, such as employees having lunch at a restaurant or shopping during lunch hour, or a hotel patron walking down the street for dinner. The parking analysis also considers these factors.

Utilizing data and information provided in these two documents, adjusted to reflect the factors discussed above, the peak number of new parking spaces that would be required to accommodate the levels of development was estimated, for the short-term, interim, and long-term development scenarios. The following sections discuss the results of these parking demand analyses.

SHORT-TERM SCENARIO

Included in the short-term scenario analysis are all the previously described projects for which application has been made, including those proposed by Apollo (see Table 1-1 in Chapter 1, "Proposed Action"), and the in-fill of existing vacant buildings in the EMSURA. Similar to the traffic impact analysis, the short-term parking demand has been examined in two phases: Phase

[1] Smith, Mary S., *Shared Parking*, Second Edition, Urban Land Institute and the International Council of Shopping Centers, 2005

1, which examines the impact of planned or approved projects, and Phase 2, which adds the in-fill of existing vacant buildings. The results of the parking demand analyses performed for Phase 1 of the short-term scenario are presented in Table 11-20 for the peak weekday and weekend demand. As can be seen, the future parking demand generated by the EMSURA would be higher on weekdays than on weekends. While the mix of land uses included in the short-term scenario analysis is projected to generate greater demand during weekends, this additional demand is not sufficient to result in total demand being greater on weekends, and thus the peak projected parking demand would still occur on weekdays, when a peak total of 1,827 parking spaces would be required to meet demand. This peak demand is anticipated to occur during the later evening hour around 8:00 PM, when movie theater demand coincides with high demand at restaurants, and residential parking demand is nearing 100 percent of its peak. The Apollo project, to be located on the northwest corner of Main Street at East Avenue, envisions the development of a six-screen multiplex with 1,500 seats, a 100-room hotel, 20,000 square feet of retail space, and 33,400 square feet of banquet/restaurant space. Other developments include a culinary arts facility, 366 residential units, a second hotel, and additional retail space.

Based on the results of this analysis, the Apollo project would generate a demand for 670 parking spaces during the weekday peak demand time, while the other planned projects would require 724 spaces. Combined with the existing demand for 433 spaces, 1,827 spaces would be required to accommodate short-term Phase 1 peak parking demand on a weekday, and 1,725 spaces would be needed during the weekend peak. It has been estimated that there are 929 parking spaces available in off-street facilities to serve the EMSURA. Thus, development of Phase 1 of the short-term scenario would result in a deficit of 898 spaces during the weekday peak demand times, and 796 spaces during the weekend.

As part of the Apollo project, construction of a 1,186 space parking structure on town-owned property currently being utilized for municipal parking has been proposed. The property is located north of Main Street, adjacent to the site of the proposed Apollo project, and in fact, preliminary design envisions the parking structure being integral to the Apollo building. While details of the design of this structure have not yet been developed, nor has financial responsibility, it has been estimated that the footprint of this structure would result in the displacement of approximately 87 existing spaces, so construction of the parking garage would result in a net increase in parking supply of 1,099 spaces. Increasing the parking supply by 1099 spaces would effectively eliminate the parking deficit and provide a surplus of 201 spaces on weekdays and 303 spaces on weekends. Note that this would result in the concentration of off-street parking to the area north of Main Street, and would have an impact on the patterns of traffic visiting the EMSURA. This impact has been considered in the traffic flow analysis conducted for this study.

However, the largest parking lot maintained by the Town is located along the Peconic River waterfront, between the rear of existing properties facing Main Street, and the riverfront park recently rehabilitated by the Town. While providing sufficient convenient parking is important to the viability of the businesses in the EMSURA, of equal importance is the enhanced use of the major asset presented by the Peconic Riverfront. It is the stated desire of the Town to reduce the use of riverfront property as off-street parking, to increase the amount of public space and enhance the aesthetics of the riverfront by eliminating some of the parking located there. Any reduction in the number of spaces provided in the riverfront parking facilities would increase the projected parking deficit accordingly. It should be noted that, as previously discussed, the planned and approved projects considered in the short-term Phase 1 analysis include 366 residential units of various formats. Some projects include a small number of units, presumably

on upper floors of mixed-use buildings, while several envision multiple unit residential developments of over 100 units. Residential development by its nature has a more pronounced impact on the parking supply than many other land uses, in large part due the fact that vehicles tend to remain parked at residences for longer periods of time, as compared to the more transient nature of parking demand, especially by patrons, at commercial land uses.

Table 11-20
Parking Demand Aanalysis Results
Short-Term Phase 1 Development

Parking Demand Factor	Weekday	Saturday
Parking Demand		
Projected additional demand Apollo	670	731
Projected additional demand projects	724	659
Observed parking demand	433	335
Future number of spaces required for short-term Phase 1	**1,827**	**1,725**
Parking Supply		
Available parking supply (not including on-street parking)	929	929
Current available parking	(898)	(796)
Proposed parking structure	1,099	1,099
Proposed available parking	201	303
Total proposed parking spaces	**2,028**	**4,985**

The 2008 Update recommends that developments that envision more than a small number of units be required to provide parking on-site. Providing parking on-site for larger residential developments will reduce the impact on the Town-owned parking supply due to this type of development. In cases where multiple uses are proposed within the same development, the parking demand generated by the non-residential portion of the development can be accommodated by the parking provided through the parking district. Depending on the rate at which these developments would be required to provide parking, application of this strategy to the projects included in the short-term Phase 1 parking demand analysis would result in a considerable reduction in demand in town owned facilities. Under current Town of Riverhead zoning code standards, assuming this strategy were applied to 300 new residential units of the 366 proposed, 450 additional parking spaces would be required. This would more than offset the reduction in available parking due to the Town's desire to eliminate parking from riverfront areas.

In-fill of existing vacancies, as considered under Phase 2 of the short-term scenario, would result in demand for 352 additional spaces on weekdays and 340 spaces on weekends (see Table 11-21). Thus, Phase 2 of the short-term scenario would result in a deficit of 1,250 spaces during weekday peak demand and 1,136 during the weekend. Again, construction of the parking garage providing 1,099 spaces would reduce the deficit considerably, to 151 spaces during the week and 37 spaces during weekends.

Note that the parking demand analysis results in a commercial use generation rate of 1.58 spaces per 1,000 square feet, 6.5 percent higher than the rate of current demand in the EMSURA. Providing parking at this higher demand rate, coupled with the decision made in the analysis to ignore the effect of on-street parking on the demand as well as on the supply side of the equations, would provide a buffer to offset the potential increase in parking demand rates due to

the elimination of the depressed economic conditions in the EMSURA, resulting in a conservative estimate of future parking needs. Were parking demand calculated at the prevailing rate of 1.49 spaces per 1,000 square feet of commercial development, the commercial aspect of the short-term scenario would be 1,555 spaces, or 191 fewer than calculated in the demand analysis.

Table 11-21
Parking Demand Aanalysis Results
Short-Term Phase 2 Development

Parking Demand Factor	Weekday	Saturday
Future number of spaces required for short-term Phase 1	1,827	1,725
Projected additional demand for short-term Phase 2	352	340
Total projected short-term demand (includes existing)	**2,179**	**2,065**
Current available parking supply (not including on-street parking)	929	929
Current parking surplus	(1,250)	(1,136)
Proposed parking structure	1,099	1,099
Parking surplus	(151)	(37)
Total proposed parking spaces	**2,028**	**2,028**

Due to the conservative nature of these analyses, including the decision to exclude on-street parking from the supply calculations, it is likely that these deficits would not arise, and that the parking supply would be sufficient to accommodate short-term development, provided the parking garage were constructed. Furthermore, by requiring that large residential developments provide off-street parking as discussed above, demand would be considerably reduced, and the parking supply would be more than sufficient to meet demand. The desire by the Town to eliminate parking along the riverfront could also be accommodated.

INTERIM SCENARIO

The interim scenario, with a projected horizon year of 2017, examines continued development under the DC-1 zone, including an additional 34 residential units for a total of 400 residential units, and significant additional mixed use commercial, cultural and recreational development, as described in Chapter 2, "Land Use, Zoning, and Public Policy." The results of the parking demand analysis are presented in Table 11-22. The information in this table includes existing demand, the demand generated by the short-term (Phase 1 and Phase 2) land use scenario, and the demand generated by the interim scenario. As there is no specific plan to provide additional parking, it is assumed that the parking supply would remain stable, that is, no new on-site parking would be provided by any of the new development. Note that in the interim scenario, the parking demand generated by the large amount of new commercial space is higher during the Saturday midday period, but the total peak demand still occurs during the weekday PM due to residential uses, the movie theater, and retail activities. As can be seen, the interim scenario land uses generates a total demand for 4,506 parking spaces, which exceeds the amount of parking available by 2,478 spaces, assuming construction of the parking garage. Note that the previously discussed reduction of parking along the riverfront would further increase the parking deficit, and the requirement to provide on-site parking for larger residential projects would decrease the projected parking deficit. However, neither of the factors is significant in light of the magnitude of the projected parking deficit.

Table 11-22
Parking Demand Analysis Results
Interim (2017) Development Scenario

Parking Demand Factor	Weekday	Saturday
Future number of spaces required for short-term	2,179	1,757
Projected additional demand for interim development	2,327	2,699
Total projected interim demand (includes existing)	**4,506**	**4,456**
Available parking supply (not including on-street parking)	929	929
Parking surplus (deficit)	(3,577)	(3,527)
New parking structure	1,099	1,099
Parking surplus (deficit)	(2,478)	(2,428)
Total	**479**	**529**

LONG-TERM SCENARIO

The long-term scenario, with a projected horizon year of 2022, examines continued development under the DC-1 zone, including an additional 100 residential units for a total of 500 residential units, and approximately 280,000 square feet of additional mixed-use commercial, cultural and recreational development. This represents the hypothetical full build out of the EMSURA under the DC-1 zoning as presently written. The results of the parking demand analysis are presented in Table 11-23. As with the interim scenario, the information in this table is cumulative, that is, it includes existing demand, the demand generated by the short-term and interim land use scenarios, and the demand generated by the long-term scenario. Again, there are no specific plans to provide additional parking, so it is assumed that the parking supply would remain stable. Under this scenario, the parking demand generated by the new commercial space is higher during the Saturday midday period, and is sufficient to shift the peak demand to the Saturday midday hour. As can be seen, the long-term scenario land uses would generate a total demand for 5,413 parking spaces. This demand would exceed the amount of parking available by 3,435 spaces.

Table 11-23
Parking Demand Analysis Results
Long-Term (2022) Development Scenario

Parking Demand Factor	Weekday	Saturday
Future number of spaces required for interim	4,506	4,456
Projected additional demand for long-term development	907	997
Total projected long-term demand (includes existing)	**5,413**	**5,453**
Available parking supply (not including on-street parking)	929	929
Parking surplus (deficit)	(4,484)	(4,534)
New parking structure	1,099	1,099
Parking surplus (deficit)	(3,385)	(3,435)
Total	**(428)**	**(488)**

DISCUSSION

As previously stated, the existing parking, combined with the proposed 1,186 space parking structure, is considered to be sufficient to accommodate the parking demand estimated under the short-term scenario. Requiring that larger residential projects provide off-street parking to meet the needs of the residential portions of the development would further reduce the parking demand, and would allow for the elimination of some of the parking from the riverfront areas. Riverfront property thus reclaimed could be put to more aesthetic uses, such as parkland. However, parking deficits of 2,478 spaces in the interim scenario and 3,435 spaces under the long-term scenario are forecast. Utilizing the methodology in the ULI "Shared Parking" report, over 740,000 square feet of at-grade parking or more than 17 acres would be required to provide enough parking to meet the interim demand, and an additional 6 acres would be needed to meet the long-term parking demand. Note that the entire EMSURA is only 41 acres in size. Therefore, meeting the parking demand through the addition of at-grade parking is not logical.

A five-level parking structure providing 2,500 spaces would require a 3.3-acre footprint, and would cost $37,500,000.00 to construct, in 2004 dollars,[1] not including property cost. Providing an additional 1,000 spaces to accommodate the long-term demand would add approximately $14 million to the cost of the parking structure.

Parking intended to serve the EMSURA would need to be within reasonable distance from the land uses it would serve. However, it is not desirable to construct such a parking structure along the riverfront, nor is a large at-grade parking lot considered an appropriate use for developable property within the EMSURA. The ULI considers a 1,600-foot outdoor walking distance between a parking facility and the destination to be the maximum acceptable distance. As previously discussed, there is a significant amount of public parking located outside the EMSURA that is underutilized on weekends, evenings and other times when courts are not in session. This parking supply could be utilized to offset demand generated by redevelopment of the EMSURA during those time periods. Due to the proximity to the courts, train station, and riverfront, these locations are also considered more desirable locations for potential future parking structure. Since this parking supply is outside the maximum acceptable walking distance recommended by ULI, a shuttle service would be needed to encourage maximum usage of this available and potential future parking supply.

It should be noted that a demand analysis makes no assumption as to whether or not individual properties would provide parking on-site, and therefore considers only the magnitude of the future parking demand, not the possible location of the future parking supply. The analysis scenarios examined in this report make assumptions regarding future lot coverage in the EMSURA. Specifically, in order to examine the worst case development scenario, the land use scenarios assume that future development that takes place under the DC-1 zoning in the EMSURA would result in 80 percent lot coverage and a floor area ratio (FAR) of 4.0 build out. It is further assumed that 50 percent of such potential development under the DC-1 zoning would occur by the short-term horizon year of 2017. These land use assumptions have significant parking implications, not only because they result in substantial intensification of use, but also because the 80 percent lot coverage limits the amount of property available on individual properties within the EMSURA. Furthermore, residential land uses would present additional parking complications due to the fact that a luxury condominium project located along

[1] Smith, Mary S., 2005

the riverfront would likely require a convenient dedicated parking supply in close proximity to the units in order to attract buyers. Insofar as properties within the EMSURA are also included in the parking district, and that once included in the district a property remains so regardless of future parking requirements, it is possible that a large burden would be placed on the district to provide adequate parking in the future. For example, a 1-acre parcel zoned DC-1 could support a building with a footprint of 34,848 square feet, and a total leasable area four times that, or 139,392 square feet. At a conservative demand rate of 2.0 spaces per 1,000 square feet, retail use of such a building would require approximately 280 parking spaces. Based on ULI methodology, calculated at the base demand rate of 3.6 spaces per 1,000 square feet of leasable area, the property would need 500 spaces. However, at 80 percent coverage, only 8,712 square feet would remain outside the building envelope, and only a portion of that would be available for parking. At a relatively generous allowance of 250 square feet per parking space including aisles, sidewalks, etc, 35 spaces would be provided on-site, which would require the parking district to provide 245 parking spaces to meet the needs of this property. Note further that even if the future parking demand were to be calculated at the observed prevailing rate for mixed-use development of 1.49 spaces per 1,000 square feet leasable area, such a development as described above would still generate a demand for 208 parking spaces, while only physically being capable of providing 35 spaces. In addition, the DC-1 zoning allows parking to be provided at-grade level, with leasable space on floors above. Under such a scenario, and allowing again for 250 square feet per parking space, a 1-acre lot would provide approximately 175 parking spaces. Such a configuration would reduce the amount of leasable area on the lot to 104,500 square feet, and the parking demand to between 155 spaces (at 1.49 spaces per 1,000 square feet) to 209 spaces (at 2.0 spaces per 1,000 square feet).

PUBLIC TRANSPORTATION

As previously discussed, the EMSURA is reasonably well served by public transportation through the LIRR and Suffolk Transit. However, LIRR service to the Town of Riverhead, including the EMSURA, is geared more toward long distance commutes. Sparse service on the LIRR is reflective of the MTA's long time focus on providing service for those commuters traveling to and from New York City during the traditional workday peak hours. Because of its distance from New York City, and the need to change trains at least once and often twice to travel to and from New York City, demand for this trip type has always been low, and the trains on this schedule are never near full capacity. Reverse commuting is just about impossible using the LIRR, and the scarcity of service makes use of the LIRR to travel between Riverhead and any other destination on Long Island for employment equally difficult.

Development of the EMSURA as envisioned in this study is expected to increase travel demand in general considerably, and it is desirable that as much of this demand as possible be accommodated on public transportation. However, the nature of the trip type generated would continue to be ill-served by the existing LIRR service. The LIRR has long been reluctant to increase service, citing lack of demand, and indeed MTA points to the ample capacity available on the existing trains. Prior studies conducted in the area as well as other communities on the eastern end of Long Island have recommended that shuttle-type service be offered by the LIRR, making numerous shorter distance round trips between destinations within the region. However, until recently, LIRR has been reluctant to provide this service, even on trial basis, citing scarce funds and the need to focus on the NYC commute, which provides an overwhelming majority of income through train fares.

However, during the recent reconstruction of CR 39 in the Town of Southampton, the LIRR initiated a shuttle service between Speonk and Montauk on the Montauk Branch. As part of the enhanced South Fork service initiative, the LIRR added trains and modified its fare structure to provide additional service and to allow customers to pay a uniform intra-zone fare for travel between Speonk and Montauk. Under this plan, the fare is the same whether customers are traveling from Speonk or Westhampton during the enhanced service period. While this service has been widely heralded as a success, it must be noted that the enhanced service to the South Fork is estimated to cost the LIRR approximately $84,000 per month. Included in this estimate are the costs of fuel, cleaning and maintenance, and crew costs. For the planned 7-month service period, the total LIRR cost is estimated at $588,000. With the special South Fork Commuter Shuttle set to end on May 22, 2008, State and local officials have asked the MTA to keep the service running until the end of the school year in June. More than 26,000 people have taken the shuttle since it was put into service on October 23, 2007 as a way to deal with the traffic congestion caused by road construction in Southampton. The trains run between Speonk and East Hampton and Montauk with buses meeting passengers at the various stations. The county roadwork, which is adding a second eastbound lane to CR 39, is expected to be completed before Memorial Day 2008.

Southampton town officials are looking into the possibility of creating a bus service to replace the shuttle once it stops. Railroad officials said the service has to end on Memorial Day because the three trains a day it provides are needed.

As previously discussed, ridership on all the Suffolk Transit bus routes serving the EMSURA and its vicinity has increased significantly in recent years. Discussions with representatives of Suffolk Transit indicate that much of the increase is thought to originate in the growth in the immigrant population attracted to the east end of Long Island by the availability of employment in the service industries, such as landscaping, nurseries, wineries, vineyards, hotels and restaurants. The trip-types associated with this sector of the economy tend to be better serviced by buses than by trains, insofar as the trips are usually shorter and occur at various times on the day. One of the desired results of development in the EMSURA as envisioned in the various scenarios discussed and analyzed in this study is an increase in employment opportunities within the EMSURA, a proportion of which is likely to be in those economic sectors that have been found to generate demand for public transportation, as described above. While it is desirable that some of these new employees live in the EMSURA, in the residential developments being encouraged, it is also likely that many will not, and will contribute to the rising demand for bus service on those routes serving the EMSURA.

Suffolk County has recently increased service on several of the lines in eastern Suffolk, and is considering further increases. A study is underway to quantify demand on the system as a whole, and to guide the County in the best use of resources to accommodate the increased demand.

PEDESTRIANS

Development as envisioned under the land use scenarios examined in this report would result in considerable increase in pedestrian activity in the EMSURA. Since opportunities for parking are limited, and a considerable amount of new parking is likely to be provided through the construction of a parking structure north of Main Street, visitors to attractions, customers, etc destined to locations on the south side of Main Street would increase the number of street crossings considerably. Lateral pedestrian movements, parallel to Main Street, would result in

increased pedestrian crossings of the side streets. In addition, the Town has a current project to rehabilitate Grangebel Park, located on the west side of Peconic Avenue, just south of West Main Street. Although Grangebel Park is just west the EMSURA boundary, the park project it would have an impact on the pedestrian movements within the EMSURA. There is no parking provided within Grangebel Park, nor would parking be added under the Town's current rehabilitation project. While the development of additional housing within the EMSURA is intended to, and likely would, foster use of the parks by residents who would walk to most destinations within the EMSURA, parking for park visitors from outside the EMSURA would be provided either in the municipal parking lot located north of West Main Street, or in the existing municipal parking lot located just east of Peconic Avenue, south of East Main Street. Park visitors would need to cross either Main Street of Peconic Avenue to get to and from their parked vehicles.

The recommendations in the 2008 Update foster an enhanced pedestrian environment within the EMSURA that facilitates a safe movement of pedestrians among the parks, stores, residences, and remote parking facilities, and to encourage patrons, employees, residents and visitors to the many attractions envisioned in the plan to walk rather than drive to or among such attractions. The Town of Riverhead has applied to the Suffolk County Department of Public Works to allow the installation of a mid-block pedestrian crossing between Grangebel Park on the west side of Peconic Avenue and Riverfront Park on the east side of Peconic Avenue. This mid-block crossing is recommended with a crosswalk made of contrasting materials, and mast arm mounted overhead signs instructing motorists to yield for pedestrians.

In recent years, NYSDOT administered the Local Safe Streets and Traffic Calming Program, which provides funding to local governments to investigate and implement pedestrian safety improvements. The Town of Riverhead has used this program to finance pedestrian safety and traffic calming improvements at the intersection of Middle Road at Osborne Avenue. While this program was not funded for the current fiscal year, it is expected that funds would be available in the future.

E. CONCLUSIONS

TRAFFIC

Based on the forgoing, it is concluded that congested conditions currently prevail during various peak hours in the EMSURA, and that this congestion can be expected to worsen due to growth in traffic in the coming years, even without significant new development within the EMSURA. The results of the traffic analyses further indicate that the traffic generated by only those known project planned or applied for (Phase 1 short term) would result in considerable increase in traffic volumes and congestion. Beyond the Phase 1 short-term impacts, the full occupancy of vacant buildings (Phase 2 short term) would result in further increases in traffic volumes, congestion, and delay. Since over-congested conditions can have a constraining effect on growth, mitigation measures were investigated to provide congestion relief. Over-congested conditions can have a constraining effect on growth. The results of the traffic simulations conducted for this study indicate that the traffic generated by only those known project planned or applied for would result in considerable increase in traffic. The recommendations in the URP provide relief for existing congested conditions, and allow for planned or proposed development to proceed in the short term. These roadway improvements all require approval of and permits issued by either NYSDOT or SCDPW or both. Discussions with both of these agencies should

be commenced immediately to investigate funding and to initiate the review and approval process.

Implementation of these roadway improvements would provide levels of service on the roadway network within the EMSURA that would accommodate normal background traffic growth, as well as additional traffic volumes on the order of those estimated to be generated by the development of the short-term Phase 1 projects. However, the roadway improvements recommended above would not be sufficient to accommodate the traffic demand beyond that generated by the known projects. In addition, the roadway improvements do little to address the traffic circle south of the Peconic River, where congestion conditions would continue to prevail.

Therefore, additional traffic volumes on the order of those estimated to be associated with full occupancy of all existing vacancies in the EMSURA, as analyzed in Phase 2 of the short term, will require improvements to the roadway system of a considerably more robust nature. Furthermore, traffic volumes associated with full build out of the interim and long-term scenarios are found to be virtually impossible to accommodate on a roadway network appropriate to a thriving downtown business district, and the impediments to their implementation make it extremely unlikely that they would ever come about.

PARKING

The majority of the off-street parking serving the EMSURA is provided in Town-owned parking lots maintained by the Riverhead Parking District. One of the largest parking lots maintained by the parking district is located on the Peconic Riverfront, south of Main Street in the EMSURA. The parking demand associated with the development scenarios was also estimated, and the ability of the planned and available parking within the EMSURA to accommodate the demand was evaluated. The parking evaluation in the GEIS considered the fact that, as part of the Phase 1 short-term scenario, a parking garage with 1186 parking spaces is envisioned, tentatively planned on town-owned property north of Main Street, between East Avenue and Roanoke Avenue. The footprint of this garage as conceptually presented would eliminate 87 spaces in the Town-owned lot, so a net increase of 1099 spaces would be realized. Combined with the approximately 900 existing parking spaces available to serve the EMSURA, and the recommendations in the 2008 Update, construction of this garage would provide sufficient parking to accommodate the parking demand generated by the proposed developments included in the Phase 1 scenario, and the addition of parking demand generated by complete occupancy of existing vacancies. ✷

A. INTRODUCTION

This chapter qualitatively discusses existing conditions and assesses potential impacts of the proposed *East Main Street Urban Renewal Plan: 2008 Update* ("2008 Update" or "proposed action") on ambient air quality conditions or noise within the EMSURA. Air quality impacts can be either direct or indirect. Direct impacts stem from emissions generated by stationary sources such as emissions from fuel burned on site for heating, ventilation, and air conditioning (HVAC) systems. Indirect impacts are caused by potential emissions due to mobile sources/vehicles generated by the proposed project. The main component to consider in assessing a potential noise impact associated with the proposed action is the change in traffic volume. Additional vehicle trips are typically considered significant, as related to noise, when the resulting traffic volume is doubled over the No Build condition. The proposed action's potential to result in operational and construction noise and air quality impacts is also discussed.

B. EXISTING CONDITIONS

AIR QUALITY

Under the Federal Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) established standards for air pollutants of nationwide concern. As part of the CAA, six "criteria" pollutants were identified with National Ambient Air Quality Standards (NAAQS) established for those pollutants. The six pollutants are sulfur dioxide (SO_2), carbon monoxide (CO), photochemical oxidants (ozone), nitrogen dioxide (NO_2), total suspended particulates (TSP), and lead (Pb). In addition, New York State has established its own set of standards (Ambient Air Quality Standards or AAQS), which are equal to and in some cases more stringent than the NAAQS. CO is the pollutant that is most associated with gasoline powered mobiles sources such as cars and trucks.

EPA has designated Suffolk County as in attainment for CO, NO_2, SO_2, PM_{10} and lead. The CAA requires that a maintenance plan ensure continued compliance with the CO NAAQS for former non–attainment areas.

On December 17, 2004, EPA took final action designating Suffolk County, among other counties, as a $PM_{2.5}$ non-attainment area under the CAA. State and local governments are required, by early 2008, to develop state implementation plans (SIPs) designed to meet the standards. On September 21, 2006, EPA revised the NAAQS for PM, effective December 18, 2006. The revision included lowering the level of the 24-hour $PM_{2.5}$ standard from 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$, and retaining the level of the annual fine standard at 15 $\mu g/m^3$. The PM_{10} 24-hour average standard was retained and the annual average PM_{10} standard was revoked. $PM_{2.5}$ attainment designations will be effective by April 2010, $PM_{2.5}$ SIPs will be due by April 2013, and will be designed to meet the $PM_{2.5}$ standards by April 2015, although this may be extended in some cases up to April 2020.

Suffolk County had been designated as severe non-attainment for the ozone 1-hour standard. Ozone results from the chemical reaction between sunlight and nitrogen oxide, which forms with the partial combustion of fossil fuels and emissions from chemicals and certain solvents. In Suffolk County, the non-attainment status is caused for the most part by its proximity to ozone-producing areas. Suffolk County is downwind of New York City and New Jersey, which are primary sources of emissions of hydrocarbons and oxides of nitrogen. Together, in the presence of sunlight and high temperatures, ozone is created, which then blows over Suffolk County.

In November 1998, New York State submitted its *Phase II Alternative Attainment Demonstration for Ozone*, which was finalized and approved by EPA effective March 6, 2002, addressing attainment of the 1-hour ozone NAAQS by 2007. New York State has recently submitted revisions to the SIP. These SIP revisions included additional emission reductions that EPA requested to demonstrate attainment of the standard, and an update of the SIP estimates using the latest versions of the mobile source emissions model, MOBILE6.2, and the non-road emissions model, NONROAD—which have been updated to reflect current knowledge of engine emissions—and the latest mobile and non-road engine emissions regulations.

On April 15, 2004, EPA designated Suffolk County, among other counties, as moderate non-attainment for the new 8–hour ozone standard which became effective as of June 15, 2004. EPA revoked the 1-hour standard on June 15, 2005; however, the specific control measures for the 1-hour standard included in the SIP will be required to stay in place until the 8-hour standard is attained. The discretionary emissions reductions in the SIP will also remain but could be revised or dropped based on modeling. A new SIP for ozone will be adopted by the State no later than June 15, 2007, with a target attainment deadline of June 15, 2010.

NOISE

The EMSURA is a developed, urbanized area with noise levels expected to be typical of similar urban areas. During the public scoping, a qualitative assessment of noise levels for this reason was deemed a sufficient method of assessment, which was subsequently incorporated into the Final Public Scope. The predominant route of travel within the EMSURA is East Main Street, which traverses the EMSURA from east to west. Existing traffic volumes are presented in Chapter 11, "Transportation and Parking." The principal source of noise within the EMSURA is vehicle and truck traffic, particularly along East Main Street. Noise levels are expected to decrease as one moves farther away from East Main Street.

C. POTENTIAL EFFECTS OF THE PROPOSED ACTION

AIR QUALITY

Air quality impacts from mobile sources (i.e., automobiles and other on-road vehicles) can occur when vehicle emissions are increased or if there is a reduction in the distance between the roadway and nearby sensitive receptors. The primary constituents of vehicle emissions include carbon monoxide (CO), hydrocarbons (HC), and nitrogen oxides (NO_X). Studies of traffic-related air quality impacts typically focus on CO because it is a major component of vehicle emissions and can cause adverse health effects over short-term exposure periods. CO is also accepted as the primary target compound for mobile source studies by the EPA. Increases in vehicle CO emissions can be due to higher traffic volumes associated with local development, decreases in vehicle speeds, longer queuing at signalized intersections, and changes to the vehicle mix.

Based on the results of the traffic analysis presented in Chapter 11, "Transportation and Parking" it was determined that both the weekday PM and Saturday midday peak hours would produce the largest amount of traffic generated by potential development projects in the future. Three future year scenarios were analyzed as part of the traffic analysis presented in the GEIS: Short-term, Interim, and Long-term. Significant increases in traffic volumes over the 2006 base year are expected for these three traffic analysis scenarios. As a result of these findings, a number of recommendations have been put forth in the form of proposed traffic improvements that will accommodate the increased volumes in the short-term scenario. To demonstrate the affects of these improvement measures, the traffic analysis provides a comparison between the levels of service (LOS) for various intersections in the project area for the year 2012 base case without the proposed action (i.e., without proposed improvements) and the year 2012 with the proposed action and its proposed short-term scenario improvement measures. The result of this comparison shows that the proposed actions would improve intersection LOS over the base case without the proposed action.

Improvements to the LOS for project area intersections would have a positive affect on localized air quality by improving the flow of traffic (i.e., free flowing vehicles have lower CO emissions than idling vehicles). As stated in the traffic analysis, the roadway improvements are expected to accommodate the increased traffic volumes associated with the year 2012 short-term scenario. Consequently, it is expected that there would be no significant adverse air quality impacts for this scenario. For the interim and long-term scenarios, a closer examination would be required as more data becomes available.

NOISE

Based on New York State Department of Environmental Conservation criteria, a significant noise impact would occur if the proposed actions increase noise levels by six or more decibels. The dominant source of noise due to the proposed actions would be vehicular traffic travelling to and from the downtown EMSURA. In order for vehicular traffic to increase existing noise levels by 6 decibels, the proposed actions would need to more than triple the existing roadway volumes. Additionally, a substantial change in vehicular speed and/or an increase in the percentage of trucks, in combination with less than a tripling of roadway volumes, may result in an increase of 6 or more decibels. Based on the results of the traffic analysis presented in Chapter 11, "Transportation and Parking," it was determined that both the weekday PM and Saturday midday peak hour would produce the largest amount of project generated traffic. Three scenarios were analyzed as part of the traffic analysis presented in the GEIS: short term, interim, and long term. These three traffic analysis scenarios are representative of the completion of different phases of the proposed actions. According to the results of the traffic analysis, the following would occur as a result of the proposed actions:

- The short-term scenario would result in an increase in traffic volumes entering and exiting the EMSURA of approximately 30 percent during the weekday PM peak hour and 40 percent during the Saturday midday peak hour.
- The interim scenario would result in an increase in traffic volumes entering and exiting the EMSURA approximately 55 percent during the weekday PM peak hour and 80 percent during the Saturday midday peak hour.
- The long-term development scenario would result in an increase in traffic volumes entering and exiting the EMSURA of approximately 65 percent during the weekday PM peak hour and 85 percent during the Saturday midday peak hour.

Consequently, in terms of noise:

- In general, the short-term scenario would result in an increase in noise levels of approximately 1.1 dBA during the weekday PM peak hour, and approximately 1.5 dBA during the Saturday midday peak hour.
- In general, the interim scenario would result in an increase in noise levels of approximately 1.9 dBA during the weekday PM peak hour, and approximately 2.6 dBA during the Saturday midday peak hour.
- In general, the long-term development scenario would result in an increase in noise levels of approximately 2.2 dBA during the weekday PM peak hour, and approximately 2.7 dBA during the Saturday midday peak hour.

Therefore, the proposed actions would not be sufficient to increase existing noise levels by six decibels. In addition, the proposed actions are not expected to substantially change vehicle speeds or vehicle mixes. As a result, a significant noise impact is not predicted to occur due to the proposed actions. ✷

Chapter 13: Solid Waste Management

A. INTRODUCTION

This chapter focuses on solid waste management within the EMSURA, including collection, transfer, and recycling, and assesses the potential impacts to these systems from the implementation of the proposed action. In addition, this chapter includes an assessment of the proposed action's conformance with the *Town of Riverhead Comprehensive Plan*, November 2003 (hereinafter referred to as the "2003 Comprehensive Plan"), as it relates to solid waste and recycling, the *Code of the Town of Riverhead*, and the *Town of Riverhead Solid Waste Management Plan Update, 2005.*

B. EXISTING CONDITIONS

The Town of Riverhead contracts with a private licensed carter to provide garbage collection services to its residential uses. Nonresidential uses must in contrast, directly contract with private licensed carters for their garbage collection on an individual basis.

The EMSURA is a commercial downtown area and includes only a limited number of residential uses. Regulations pertaining to residential uses have been briefly summarized below. In contrast, the description of regulations and policies that focuses on nonresidential uses provides more detail due to its relevancy to the study area.

REGULATIONS

RESIDENCES

The Town of Riverhead contracts with a private carter for pickup and disposal of all residential solid waste including recyclables and, as of 1999, yard waste. In late 1996, the Town created six residential garbage districts identified by a letter designation, specifically A through F. The EMSURA is located within Solid Waste District "D", which encompasses a portion of the Town's southern region, east of Osborn Avenue and west of Doctors Path, and south of County Road 58 to the Peconic River.

Prior to the 1999 SWMP, the Town identified six solid waste collection districts for residential solid waste and recycling collection. The Town solicits bids for each district. The selected carter(s) must provide the Town Clerk's Office with quarterly tonnage reports for tracking quantities of residential household waste and recyclables for each district.

Solid waste collection within all garbage districts is regulated by Chapter 103, "Solid Waste Management," of the *Code of the Town of Riverhead,* as well as the terms of agreement the Town has with the private carters. Under Chapter 103, source-separated/curbside recycling is mandatory in Riverhead for residential properties. For example, the Town requires paper/cardboard and co-mingled materials (plastics, glass, tin, and aluminum) to be recycled. Paper products, including newspapers, magazines, and corrugated cardboard, must be bundled

together or placed in brown paper bags and brought curbside for collection on designated pickup days. Residents may also purchase their own garbage bins for recyclables, which must be clearly marked "Recyclables" with a permanent marker and covered securely.

The Town of Riverhead's Sanitation Department functions as a liaison between carters and residents, operates a yard waste disposal facility at the former Riverhead Town Landfill on Young's Avenue in Calverton, and runs a hazardous waste disposal program. The Stop Throwing Out Pollutants (STOP) program for residential homeowners also operates at the former Riverhead Town Landfill facility. The facility accepts electronic equipment and household pollutants such as adhesives, alcohol, anti-freeze, aerosols, paint solvents, waxes, stains, cleaners, motor oil, batteries, kerosene, etc. in clearly labeled, sealed containers. Explosives, medical waste, and commercial or institutional waste are not accepted.

NONRESIDENCES

Chapter 103, "Solid Waste Management," of the *Code of the Town of Riverhead* sets forth separate regulations for nonresidential uses. Several sections of the Town Code include regulations on matters pertaining to litter, refuse storage, collection, recycling, licenses, and collection/disposal fees for nonresidential uses. The most significant difference between the two uses is that the Town does not provide solid waste pickup services to nonresidential uses. These uses must instead contract with licensed carters, as required by Chapter 103, Article V, for the disposal of their solid waste.

Land uses in the EMSURA are predominantly nonresidential in nature. Therefore, regulations pertaining to nonresidential uses are pertinent to this DGEIS. It is important to note that licensed carters are required to dispose of solid waste in compliance with 6 New York Code of Rules and Regulations (NYCRR) Part 360, the Solid Waste Management Facilities Rules and Regulations of the New York State Department of Environmental Conservation (NYSDEC). State law mandates commercial entities to separate recyclables from the solid waste stream, if an economic market exists. Commercial facilities are also subject to the Town's requirements under Chapter 103, "Solid Waste Management," of the *Code of the Town of Riverhead*, which mandates source separation of recyclables. Provided below is a summary of the Town's refuse and solid waste management ordinances that apply to nonresidential uses and other Town ordinances which include solid waste management references and which apply to nonresidential uses.

Chapter 46A of the Code of the Town of Riverhead, New York: Architectural Review

Chapter 46A, "Architectural Review," of the *Code of the Town of Riverhead* outlines the requirements for site plan review of commercial establishments. As part of the site plan review process, the applicant must submit structural, topographical, and design drawings to the Architectural Review Board (ARB). These drawings may also include the location and method of refuse storage, as deemed necessary by the ARB.

Chapter 98 of the Code of the Town of Riverhead, New York: Littering

Chapter 98 "Littering" states that "every owner of a shopping center, shopping mall, retail establishment, restaurant, commercial establishment or office complex shall keep the pedestrian walkways, parking areas, landscape and curbsides clean and free of litter, paper waste, rubbish and debris of any nature". Section 98-8 "Dumpsters" which discusses dumpsters, states that, "All dumpsters shall be fully enclosed by an appropriate screening enclosure of no less than 5

feet and no more than 6 feet in height. Said dumpster shall be equipped with a lid and shall be of durable construction. Said lid shall be closed and locked when not physically in use. In addition, the fence enclosure shall meet all of the fence specifications as set forth by the ARB. All enclosures will remain in working condition and must function properly at all times. All dumpsters in use before the effective date of this chapter shall be in compliance with said specifications set forth within six months of the effective date of this chapter. Site plan review may be waived if the enclosure meets all requirements set forth by the ARB. All application forms shall be received by the Building Department of the Town of Riverhead."

Chapter 103 of the Code of the Town of Riverhead, New York: Solid Waste Management

Section 103-31 "Recyclables" states that, "the owners, lessees, tenants or other occupants of all nonresidences within the Town shall separate all recyclables designated by the Town Board from all other solid wastes and shall place such designated recyclables in a separate, covered container for collection by the provider of solid waste services on such day or days as the provider of solid waste services shall designate for collection of recyclables. All recyclables shall be clean and dry and, in the case of designated recyclable containers and cans, the contents removed therefrom."

Section 103-32 "Yard wastes" states that "the owners, lessees, tenants or occupants of all nonresidences within the Town shall separate all yard wastes as herein defined from all other solid waste and shall place the same at curbside for collection on such day or days as the Town Board may designate for collection by the Town or its duly authorized contractor. Such wastes shall be placed out for collection in such a manner so as not to impede the flow of vehicular or pedestrian traffic on public streets and sidewalks and shall be placed in such containers as the Town Board or the Sanitation Supervisor shall authorize."

ARTICLE LVI DOWNTOWN CENTER 1: MAIN STREET (DC-1) ZONING USE DISTRICT

The entire EMSURA, with the exception of a linear portion of waterfront land located along the Peconic River, is located within the DC-1 zoning district. According the DC-1 code, trash and/or dumpster areas should be screened by wood fences or landscaping, or a combination thereof pursuant to Section 98-8 "Dumpsters."

APPLICABLE PUBLIC POLICY

TOWN OF RIVERHEAD SOLID WASTE MANAGEMENT PLAN

The Town drafted and approved a solid waste management plan in 1999. The NYSDEC reviewed the *1999 Solid Waste Management Plan* (SWMP) and is currently in the process of providing feedback to updated drafts submitted in 2004 and again in 2005. The most recent version of the report incorporates NYSDEC's recommendations and comments. At this time, the proposed 2005 plan update has not been adopted by the NYSDEC.

The Town, in concert with the NYSDEC, is currently in the process of updating the SWMP to reflect the Town's future approach to solid waste management. The update, although not approved by NYSDEC, includes information on the comprehensive recycling program, updated trends in solid waste as reflected in the six district tonnage reports, and identification of future solid waste collection, disposal, and facility requirements.

Regarding nonresidential solid waste collection and disposal, the plan states that the major ongoing concern is the lack of documentation reporting the actual types and quantity of waste

from carters, and the need for greater code enforcement of mandatory rules to separate recyclables. Recommendations to improve on both issues have been made in the draft plan.

TOWN OF RIVERHEAD COMPREHENSIVE PLAN, NOVEMBER 2003

A stated goal in the 2003 Comprehensive Plan, with regard to solid waste management, included continuing to provide high quality solid waste disposal and recycling programs that would strive to reduce the amount of solid waste Riverhead sends to landfills. Specific policies to achieve these goals include preparation and update of the SWMP, performance review of solid waste and recycling pickup by the Sanitation Department, and analysis of quarterly tonnage reports from the collection districts. Beyond continuing the current range and quality of the SWMP's existing performance, additional policies to be considered during the update for expansion and improvement of services will include continued monitoring and improvement of the recycling program along with State and County officials with the possible expansion of the list of recyclable items; mandating recycling of construction and demolition debris; adjusting pick-up schedules to better serve the public; identifying possible locations for municipal facilities for leaf and yard waste composting, recycling bins, and battery drop offs; and the consideration of more residential STOP dates or more permanent drop off facilities.

In essence, adherence to the requirements of the approved SWMP and its subsequent revisions is the mechanism by which the EMSURA update conforms to the 2003 Comprehensive Plan with respect to solid waste disposal and recycling.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTION

The purpose of the proposed action is to encourage development of the EMSURA in accordance with the current zoning designation in three consecutive five-year phases—the short term, interim, and long term. Based on this recommendation, projection of development in the EMSURA would increase in three phases. In Chapter 2, "Land Use, Zoning, and Public Policy," Table 2-3 presents the amount of development that is expected to increase in the EMSURA at the end of each development phase. In accordance with the current zoning district regulations, residential uses in the EMSURA are expected to be limited to multifamily residential units located above commercial uses, while single-family uses that are not classified as historically significant would be phased out.

According to Town policy, the multifamily units would be treated as nonresidential uses with regard to solid waste management. This classification is based on the density of multifamily uses as well as the unavoidable co-mingling of solid waste between commercial uses and multifamily dwellings.

As stated in the SWMP, nonresidential uses do not provide tonnage reports to the Town. Estimates of baseline data potential increases have been based on development increases. It is estimated that the total solid waste generated from the EMSURA would increase in proportion to the increase in development. In the short term, overall development is expected to increase by 174 percent. In the interim, development is expected to grow by 66 percent and in the long term by 16 percent. From 2007 to 2022, the EMSURA's overall development will grow by 1,966,187 square feet, or 318 percent over the existing condition. This predicted increase in development would not have an impact on the existing solid waste system due to the fact that regulations intended to manage solid waste in the EMSURA and Town-wide are in place and all new

development must be in conformance to the established ordinances. Further, the commercial and multifamily uses would utilize and pay for private carters.

It is expected that as a result of the increase in overall development, the demand on collection, transfer, and recycling services would increase. Specific issues such as existing carting routes, the number and size of refuse storage containers or dumpsters, and the location of on-site dumpsters on parcels with extensive lot coverage (up to 100 percent in some cases) would need to be addressed as part of the site plan review process.

The *East Main Street Urban Renewal Plan Update 2008* (2008 Update) brings to the forefront the impact that individual dumpsters and varying collection schedules have on the EMSURA's visual quality. Specifically, the 2008 Update states that, "the presence and frequency of those dumpsters creates a negative aesthetic component in the EMSURA, especially near the Peconic River waterfront. Other issues presented by the current collection method include lack of coordinated collection days, and thus, a lack of tonnage reports."

The 2008 Update does, however, make certain recommendations intended to improve the existing system by creating additional requirements pertaining to container location and maintenance, litter, reporting, code enforcement, and screening. The 2008 Update also recommends that existing uses develop a system where dumpsters may be consolidated and pickup times would be better coordinated to meet demand in an efficient manner.

Based on the recommendations above, solid waste management within the EMSURA should improve overall. The growth would be mitigated with the implementation of such recommendations. For example, although the growth would create more solid waste in the EMSURA, the improvements to management and enforcement of recycling would offset the impacts caused by the increase. ✷

Chapter 14: Construction

A. INTRODUCTION

This chapter describes construction activities that would occur as a result of the proposed action or the adoption of the *East Main Street Urban Renewal Plan 2008 Update* (2008 Update). The proposed action is not a site specific project and therefore would not directly result in construction activities. However, the proposed implementation of the 2008 Update would induce construction activities in the EMSURA. A qualitative analysis of the effects of construction on the EMSURA is provided, as well as a description of the techniques that would be used to minimize any short-term construction impacts.

All future construction activities are expected to conform to local and regional regulations.

B. CONSTRUCTION ACTIVITIES

Construction activities would involve preconstruction site preparation, including demolition, clearing, grading, erosion control, and installation of a drainage system, followed by building construction, utility connections, and driveway paving and landscaping.

C. CONSTRUCTION SCHEDULE

Construction of the proposed action is expected to occur over a period of three development phases—the short term (2012), interim (2017), and long term (2022).

D. POTENTIAL IMPACTS OF THE PROPOSED ACTION DURING CONSTRUCTION

LAND USE

Land uses in the EMSURA are characteristic of a downtown setting, which include main street-type retail, office, and restaurant uses, some of which include residential units on the second and third stories. Most of the structures, typical of a downtown setting, are either attached or separated by narrow alleys. It is expected that construction activities would be limited to the sites being redeveloped and not require the continuous use of neighboring properties. It is expected that staging would occur on the construction site. Therefore no significant adverse impact to land use is expected.

NATURAL RESOURCES

SOIL EROSION AND SEDIMENTATION CONTROL

The ground cover within the EMSURA is predominantly developed and impervious. Therefore the potential for increased stormwater runoff from areas cleared of natural vegetation would be

negligible during the construction period. However in order to minimize erosion, all construction activities would adhere to the *New York State Standards and Specifications for Erosion and Sediment Control* (August 2005), and the Best Management Practices (BMPs) developed by the New York State Department of Environmental Conservation (NYSDEC) as described in *Reducing Impacts of Stormwater Runoff from New Development* (1993). The proposed action would also adhere to any Town guidelines regarding erosion and sediment control.

By implementing these methods and working with existing grades, where feasible, no significant adverse impacts are anticipated.

CULTURAL RESOURCES

Impacts on historic and cultural resources in the EMSURA could potentially occur during in-ground disturbance or vibrations due to construction activities if they occur adjacent to or in very close proximity to the historic sites. However, construction activities would be regulated by local and regional agencies and the developer would be required to provide construction management to prevent adverse impacts on historic resources.

TRAFFIC AND PARKING

Construction activities induced by the proposed action may cause some short-term increased local truck traffic due to the delivery and removal of construction materials and equipment from the EMSURA. Typically, these activities occur during off-peak travel times, minimizing potential impacts. It is anticipated that most construction equipment and deliveries would have on-site staging areas during construction for loading and unloading of materials to avoid off-site impacts. Any loss in parking would be temporary and would therefore not have an adverse significant impact on the parking.

AIR QUALITY AND NOISE

The use of construction equipment coupled with the movement of delivery vehicles traveling to and from the site would cause a temporary increase in noise and vibration in the EMSURA. Noise and vibration levels at a given location would depend on the type of equipment used and number of construction vehicles entering/exiting the site on a daily basis, as well as the distance from the construction site. The level of impact of these noise sources depends on the noise characteristics of the equipment and activities involved the construction schedule, and the location of potentially sensitive noise receptors. In general, like most construction projects, construction of the proposed action would result in increased noise and vibration that could be considered intrusive only for a short distance, typically 50 feet off site. It is expected that these impacts, which would be temporary, would vary widely, depending on the phase of construction and the specific task being undertaken.

Typical noise levels of construction equipment expected to be employed during the construction process are presented in Table 14-1.

Increased noise levels caused by construction activities can be expected to be most significant during the early phases of construction. Peak construction noise levels would persist for only a limited time period in the early phase of construction. During the later phases of construction, much of the construction activity would take place within the building structures, and noise levels would be less.

Table 14-1
Typical Noise Emission Levels For Construction Equipment

Equipment Item	Noise Level at 50 Feet (dBA)
Air Compressor	81
Asphalt Spreader (paver)	89
Asphalt Truck	88
Backhoe	85
Bulldozer	87
Compactor	80
Concrete Plant	83(1)
Concrete Spreader	89
Concrete Mixer	85
Concrete Vibrator	76
Crane (derrick)	76
Delivery Truck	88
Diamond Saw	90(2)
Dredge	88
Dump Truck	88
Front End Loader	84
Gas-driven Vibro-compactor	76
Hoist	76
Jack Hammer (Paving Breaker)	88
Line Drill	98
Motor Crane	93
Pile Driver/Extractor	101
Pump	76
Roller	80
Shovel	82
Truck	88
Vibratory Pile Driver/Extractor	89(3)

Notes: [1] Wood, E.W., and A.R. Thompson, Sound Level Survey, Concrete Batch Plant; Limerick Generating Station, Bolt Beranek and Newman Inc., Report 2825, Cambridge, MA, May 1974.

[2] New York State Department of Environmental Conservation, *Construction Noise Survey, Repot No. NC-P2*, Albany, NY, April 1974.

[3] F.B. Foster Company, Foster *Vibro Driver/Extractors, Electric Series Brochure*, W-925-10-75-5M.

Sources: Patterson, W.N., R.A. Ely, And S.M. Swanson, *Regulation of Construction Activity Noise*, Bolt Beranek and Newman, Inc., Report 2887, for the Environmental Protection Agency, Washington, D.C., November 1974, except for notated items.

Construction noise is regulated by the U.S. Environmental Protection Agency's noise emission standards for construction equipment. These federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emission standards and that construction material be handled and transported in such a manner as not to create unnecessary noise. These regulations would be carefully followed. In addition, construction activities would be restricted to occur within the hours of 7 AM and 8 PM on weekdays and Saturdays, in accordance with Chapter 8, "Noise Control," of the *Code of the Town of Riverhead*. Overall, noise and vibration impacts are not anticipated to be significant and would not be permanent.

SOCIOECONOMIC CONDITIONS

Construction directly resulting from the adoption of the 2008 Update is estimated to create a number of direct construction employment opportunities as the area is revitalized and redeveloped. In addition to direct employment, construction of the proposed action would create additional jobs off-site in Riverhead and Suffolk County. In the broader New York State economy, total employment from construction of the proposed action would be even greater.

Direct wages and salaries from implementation of the 2008 Update will be significant, but until actual site plans are developed and projects are identified, this number can not be accurately calculated. Including off-site effects, total direct and indirect wages and salaries from constructing the proposed action would be greater. In the broader state economy, total direct and indirect wages and salaries from construction would be greater still.

Constructing directly resulting from the adoption of the 2008 Update would also create tax revenues for Suffolk County, the Metropolitan Transportation Authority (MTA), and New York State. These taxes include sales tax, personal income tax, corporate and business taxes, and numerous miscellaneous taxes. Construction is estimated to create hundreds of thousands of dollars in non-property related taxes for Suffolk County, the MTA, and New York State. In addition, the Town, County, and local taxing jurisdictions would receive property taxes. ✷

Chapter 15: Alternatives

A. INTRODUCTION

This chapter provides an impact analysis for the No Action Condition for the EMSURA. This alternative is presented for the purposes of comparison to the impacts or effects of the *East Main Street Urban Renewal Plan Update 2008* (2008 Update), should it be adopted.

B. NO ACTION CONDITION

The No Action Condition assumes no actions are taken by the Town and assumes development and build-out of pending projects, reuse, and development of existing lots occurs in a manner that is consistent with current zoning. The No Action Condition represents a projected future condition that may occur by 2022, which is the last build-out year of the 2008 Update analysis.

ENVIRONMENTAL IMPACT ANALYSIS

LAND USE, ZONING, AND PUBLIC POLICY

In the No Action Condition, there would be an increase in development in the EMSURA according to what is permitted under the current zoning. However, it is expected that new development would occur in a manner that does not encourage reuse of vacant structures, preserve historically and culturally significant sites, promote waterfront oriented uses and scenic vistas, improve parking, address transportation concerns, and infrastructure-related issues. It is expected that under the No Action Condition, development would occur in a haphazard manner, and therefore potentially have a significant adverse impact on land use in the EMSURA.

In the No Action Condition, it is expected that the zoning districts would remain. However, it is expected that development would not occur in a manner that is consistent with the objective of the Downtown Center-1 (DC-1) and Downtown Center-2 (DC-2) zoning districts. For example, nonconforming uses would not be discouraged or phased out.

Furthermore, in the No Action Condition, there would be no recommendation of requirements for buildings to follow Leadership in Energy and Environmental Design (LEED) standards and green building design. Improvements for pedestrian access would not be required, therefore pedestrian activity would not increase. It is important to note that adequate pedestrian access often results in reduced vehicle miles traveled.

In the No Action Condition, development would not occur in conformance with existing local and regional public policy. The intended uses and development, described by the policies summarized in Chapter 2, "Land Use, Zoning, and Public Policy," for the EMSURA would not be encouraged. Development would occur in a manner that would be inconsistent with the goals and objectives of the Town and regional plans due to the fact the development would be limited by the constraints that currently exist and would continue to exist in the future. These constraints

are a high number of vacancies, underutilized waterfront, low density development, lack of adequate infrastructure to accommodate future growth, and transportation related issues.

POPULATION AND HOUSING

Currently, the EMSURA has a limited number of residents and housing units. In the future No Action condition, there would be a small increase in population and housing for the area associated with anticipated growth trends. The number of persons and residential units in the area would increase as a result of increased development and natural growth. However, limits to development would occur as a result of existing development constraints that would continue in the future condition and there would not be an improvement to housing conditions overall. However, the No Action Condition would not have a significant adverse impact on existing or future population and housing.

EMERGENCY SERVICES AND COMMUNITY FACILITIES

The No Action Condition would not significantly change community facilities or emergency services within the EMSURA. Based on existing zoning it is expected that the number of school children and need for increased services would rise. However, constraints to development would prevent the EMSURA from realizing on its entire potential tax base. However, any increase in demand would not have a significant adverse impact on emergency services and community facilities.

ECONOMIC AND FISCAL CONSIDERATION

In the No Action Condition, vacancy rates could decrease, and significant new development is unlikely to occur, partially due to the constraints of the EMSURA. Without increased development, the EMSURA would not have an increase in pedestrian activity and uses that incorporate the waterfront both of which are vital to generating economic activity in a downtown setting.

While it is impossible to realistically project future property tax revenues, it is anticipated that the property taxes generated in the No Action Condition would not increase substantially over those currently collected.

INFRASTRUCTURE

In the No Action Condition it is expected that demands on infrastructure, including water supply, sewer/sanitary systems, and drainage would increase. With regards to water supply, there would be sufficient water pressure to support increased development within the EMSURA. With regards to the sewer/sanitary system, as stated in Chapter 6, “Infrastructure,” the existing Suffolk SDPES permit, the Advanced Wastewater Treatment Facility would have sufficient capacity to accommodate some additional flows. However, flow would be limited due to the fact that areas outside of the EMSURA also rely on the same system. In the No Action condition, sanitary flow would not be improved by system improvements/updgrades. Any increase from what is permitted in the existing State Pollution Discharge Elimination System (SPDES) permit would therefore require a new permit for modification to the existing system. If this permit is not obtained, the existing system would be overburdened which could result in a significant adverse impact on the ability to manage sewage treatment.

Natural Resources

The areas anticipated for redevelopment occur in a downtown urban setting and do not serve as a habitat for species listed on the endangered or special concern list as published by the State.

However, in the No Action Condition, marine life present in the Peconic River could be adversely impacted as a result of potentially intensive development along the waterfront and decrease in increase the amount of overall open space.

SOIL, GEOLOGY, AND WATER RESOURCES

In the No Action Condition, the study area, which is already developed and almost entirely impervious, would not result in a significant adverse impact to soils. The established system of recharge of stormwater and treatment of wastewater within the EMSURA would not be significantly altered, thus protection of the underground aquifer system would be maintained. Regulations and guidelines, which have been adopted to protect the surface and drinking water within the EMSURA and the Town, as described in the "Existing Conditions" section of this chapter, would be utilized and adherence ensured through the site plan review process. Any required mitigation or site design modifications would occur during this process, maintaining the integrity of the aquifer system.

With regards to topography, any changes to existing grades that would occur as a result of development would be evaluated on a site by site basis through the site plan review process.

The No Action Condition would not encourage the development or implementation of policies that protect the groundwater. However, due to the high percentage of the EMSURA being impervious, it is expected that in the No Action Condition no significant adverse impact to groundwater would occur.

VISUAL RESOURCES

The EMSURA is a downtown area in a waterfront setting. Currently the visual resources in the area are affected by blight and substandard buildings, in addition to an underutilized waterfront. In the No Action Condition, these issues would most likely remain or worsen. In the No Action Condition visual resources would not improve. If developed under existing zoning, and without improvements, in the No Action Condition there is potential for the waterfront views and other important visual resources in the area to decline. Thus, the No Action Condition could have a significant adverse impact on the visual resources.

CULTURAL RESOURCES

No significant impacts to cultural resources would occur under the No Action Condition. However, without the successful revitalization of the area, historic structures may decline as a result of a lack of a high tax base often associated with redevelopment activities.

TRANSPORTATION

In the No Action Condition, build out under current zoning would occur without improvements to parking, roadways, public transportation, and pedestrian amenities. Due to the nature/design of the current roadways, as described in Chapter 11, "Transportation and Parking," it is expected that development would create decreased levels of service and increased traffic and congestion within the EMSURA. Additionally, due to the current regulations of the parking district requiring no on-site parking, development would create a substantial demand on the parking district, thereby having a significant adverse impact to parking in the area. Without

improvements necessary to accommodate new development, the transportation and parking conditions in the EMSURA would decline. Therefore, in the No Action Condition it is expected that there could be a significant adverse impact on transportation and parking.

AIR QUALITY AND NOISE

No significant changes to air and noise resources would result from the No Action Condition.

SOLID WASTE MANAGEMENT

No significant changes to solid waste management are expected from the No Action Condition.

CONSTRUCTION IMPACTS

Similar to the proposed action, it is not expected that this alternative would result in significant construction impacts, which are temporary in nature. It is expected that certain construction techniques would be employed to minimize the adverse effects of construction. ✷

Chapter 16: Mitigation and Unavoidable Adverse Impacts

A. INTRODUCTION

Unavoidable adverse impacts occur when a proposed action results in significant adverse impacts for which there are no reasonable or practicable solutions, and for which there are no reasonable alternatives that would meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant adverse impacts.

The proposed action would encourage redevelopment in the EMSURA that would potentially create short-term adverse impacts. Those short-term adverse impacts would be mitigated by the implementation of mitigation measures, to the maximum extent practicable. Temporary or short-term impacts are those that occur during the construction phases of the proposed action (see Chapter 14, "Construction").

The following are examples of short-term impacts anticipated as a result of the redevelopment of the EMSURA:

- Presence of construction vehicles on the site and area roads; and
- Localized noise from construction vehicles and equipment.

As discussed in more detail in Chapter 14, "Construction," all potential short-term adverse impacts would be mitigated to the maximum extent practicable.

Staging areas for loading and unloading of materials would be utilized to avoid off-site traffic impacts during construction.

Finally, all construction activities would be conducted in full compliance with applicable regulations and local day and hour construction limitations. State and federal requirements mandate that certain classifications of construction equipment and motor vehicles be used to minimize adverse impacts. Thus, construction equipment would meet specific noise emission standards.

These construction conditions are temporary and would end when the initial phases of construction are complete.

As described in the previous chapters, the proposed action would not result in any unavoidable significant adverse environmental impacts. ✷

Chapter 17: Growth-Inducing Impacts

A. INTRODUCTION

Growth inducing aspects are generally described as the long-term secondary impacts of a proposed action that trigger further development. Secondary impacts may include growth of physical development, population increases in the surrounding community, increases in economic growth, and/or social or cultural expansion. Proposals that add substantial new land use, new residents, or new employment could induce additional development of a similar kind or of support uses (e.g., stores to serve new residential uses). Actions that introduce or greatly expand infrastructure capacity (e.g., sewers, central water supply) might also induce growth.

B. GROWTH-INDUCING IMPACTS

The proposed action is the adoption of the *East Main Street Urban Renewal Plan 2008 Update* (2008 Update). This report is intended to improve the economic viability and overall appearance of the south and north sides of East Main Street located between Peconic Avenue and Ostrander Avenue. This area is considered a part of the larger downtown region of Riverhead. The redevelopment and improvement of this area has been an ongoing concern in the Town due to its high number of vacant storefronts, declining downtown, and blight. The area has not only been the focus for redevelopment activities but has been identified as a potential site for maritime recreational, economic, and tourism uses due to its location adjacent to the Peconic River.

The implementation of the 2008 Update would facilitate or result in the following:

- An economic resurgence in the community by encouraging new mixed-use, retail, residential, and commercial development or a reutilization of vacant businesses.
- Tourism and visitors who would be expected to invest monies in the local economy.
- Increased employment and tax base for the Town, Suffolk County, and New York State. Additional property tax revenue for New York State, Suffolk County, the Town of Riverhead, and local taxing jurisdictions. New job opportunities would be created, resulting in an increase in payroll taxes and disposable income for the local economy. In addition, the proposed project would generate additional sales tax revenue.
- Infrastructure and transportation improvements which may encourage new commercial and residential development and reuse of existing vacant structures.

Associated construction resulting from the implementation of the proposed action would create short-term economic incentives for companies in the area and on Long Island. These economic opportunities are spurred by the plan's increased demand for supplies, equipment, and goods. Such demand would create new short-term job opportunities in construction. As a result of this temporary employment, there would be an increase in payroll taxes and disposable income from these jobs and monies would be spent on local goods and services.

No significant adverse impacts with respect to growth inducing aspects of the proposed project are expected.

C. DISPLACEMENT

Primary displacement is the removal and possible relocation of those uses currently located on the project site, which in the case of this proposed action, is the entire EMSURA. Preliminary displacement occurs when one use is directly and intentionally replaced by another. The implementation of the 2008 Update would revitalize, reuse, and redevelop these underperforming portions of the EMSURA

Secondary displacement refers to involuntary dislocation of people, businesses, institutions, community facilities, or establishments that result from an action, even though these entities are not located on the project sites. It is expected that implementation of the 2008 Update would have only a positive effect in the area and would result in no secondary displacement. ✷

Chapter 18: Irreversible and Irretrievable Commitment of Resources

A. INTRODUCTION

Irreversible and irretrievable commitment of resources refers to both the built and natural resources that would be expended in the construction resulting from the adoption of the *East Main Street Urban Renewal Plan Update 2008* (2008 Update). The adoption of the 2008 Update would encourage the redevelopment of the EMSURA. This expected redevelopment would result in the use of raw materials such as fossil fuels, lumber, and metals. Actual building materials to be used include concrete, masonry, and aluminum. Construction resulting form the adoption of the proposed action would require the commitment of energy in the form of petroleum products, gas, and electricity consumed during construction and operation of the buildings and the human effort required to develop, construct, and manage the redevelopment. Raw construction materials are considered irretrievable committed resources because once they are utilized for the construction of buildings and parking facilities, their reuse for some purpose other than the proposed action would be highly unlikely.

The proposed action would result in development that is consistent with the recommendations of the 2008 Update. It would require the commitment of energy during construction and operation of buildings. Furthermore, if the area is developed it is expected that reuses and redevelopment of vacant and underutilized buildings would occur. ✷

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