

Village of Hempstead Brownfield Opportunity Area (BOA) Step 2 Nomination

Prepared for

Incorporated Village of Hempstead
Elevate Hempstead
Community Development Agency

Prepared by

AKRF

July 2020

VILLAGE OF HEMPSTEAD:
VILLAGE OF HEMPSTEAD BROWNFIELD OPPORTUNITY AREA (BOA) STEP 2 NOMINATION

Final Report

This document was prepared for the Village of Hempstead, the New York State Department of State, and the New York State Department of Environmental Conservation with state funds provided through the Brownfield Opportunity Areas Program

Date: July 2020
Prepared by: AKRF, Inc.,
with Sharon Mullon, Boomi Environmental, and Metropolitan Urban Design Workshop.
Submitted to: The Village of Hempstead Community Development Agency

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STEP 2 NOMINATION

Executive Summary

This document was prepared for the Village of Hempstead Community Development Agency and the New York State Department of State, with state funds provided through the Brownfield Opportunity Areas Program.

Date: July 2020

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Executive Summary

A. INTRODUCTION

The Incorporated Village of Hempstead (the Village) has been actively facilitating the redevelopment and revitalization of downtown Hempstead for over a decade. As a continuation of these efforts, the Village has prepared this Nomination for the proposed Village of Hempstead Brownfield Opportunity Area (BOA) under Step 2 of the State of New York's Brownfield Opportunity Areas Program (i.e., BOA Program). An initiative of the New York State Department of State (NYSDOS) in coordination with the Department of Environmental Conservation (NYSDEC), the BOA Program delivers financial assistance and expertise to enable downtown revitalization and economic development initiatives, especially in distressed communities.

This Nomination report includes an in-depth existing conditions assessment and presents recommendations for land use, transportation, infrastructure, and other improvements to foster community revitalization. This Step 2 Nomination will set the stage for Step 3 of the BOA Program, which will investigate implementation strategies to achieve the proposed recommendations, and will ultimately be aimed at fostering the continued revitalization of the Village's downtown area.

The proposed project is intended to further the implementation of the ongoing community-based redevelopment and revitalization efforts for the Village by identifying Strategic Sites for redevelopment and potential site-specific uses, as well as selecting sites recommended for Phase II—Environmental Site Assessments (ESAs) or other redevelopment-oriented funding under Step 3 of the BOA Program. Site Profiles have been developed and will serve as preliminary marketing tools to attract developers and ensure full environmental disclosure. With this Step 2 Nomination, the Village is taking action to return potentially contaminated, abandoned, underutilized, or vacant properties to active use, by fostering redevelopment of Strategic Sites and land use districts to catalyze revitalization within the BOA.

B. LEAD PROJECT SPONSORS AND INVOLVED COMMUNITY ORGANIZATIONS

The Incorporated Village of Hempstead Community Development Agency (CDA) is the lead project sponsor. The CDA's ongoing efforts to transform vacant properties and improve business conditions within the downtown, along with work coordinating various government and community stakeholders makes the CDA uniquely qualified to successfully implement the BOA Program within the Village of Hempstead.

Initial efforts undertaken by the CDA in the 1960s involved the removal of substandard housing in areas surrounding the downtown. In the 1970's the CDA was part of the effort to realign Greenwhich Street and Main Street. This allowed for a smooth flow of traffic into the downtown of the Village from the south. In the years since, the CDA has been a vital partner in the creation of affordable housing, business development, workforce development, and the re-development of commercial spaces. This work has been recognized with awards from Nassau County and the State of New York.

As the Village of Hempstead's economic and community development agency, the CDA has a strong relationship with the various municipal departments within Village government, as well as counterparts in the Town, County, and New York State government. The CDA has also fostered strong relationships with local non-profits, and other community-based organizations that provide crtical support to the CDA's work and the BOA process.

C. PROJECT OVERVIEW AND DESCRIPTION

The proposed BOA is located in the Village of Hempstead, Nassau County, New York. The Village is situated in the center of the county, approximately 16 miles east of the Borough of Queens, New York City. The proposed BOA is coterminous with the area identified as the Central Business District (CBD) in the 2008 *Village of Hempstead Downtown Vision and Comprehensive Plan Update*, and includes approximately 280 acres and 608 tax lots, with approximately 553 known and potential brownfield sites (including vacant, abandoned, underutilized, and potentially contaminated sites), of which 235 have identified potential environmental conditions. The proposed BOA boundary is represented in **Figures S-1 and S-2**.

In response to the planning recommendations set out in the 2008 *Village of Hempstead Downtown Vision and Comprehensive Development Plan Update*, the Village of Hempstead, through the CDA, began an effort to engage and redevelop the downtown core. This culminated in 2012 with an area-wide rezoning of the downtown, which created the Downtown Overlay Zone (DOZ) to support the coordinated redevelopment of the Village of Hempstead. Then, in 2012, the Village of Hempstead entered into a Master Developer Agreement (MDA) with Renaissance Downtown Urban America LLC (RDUA), a private development company, to facilitate its program for the acquisition, clearance, building demolition, re-planning, reconstruction, and neighborhood rehabilitation of certain areas in the Village. This MDA established RDUA as the coordinating developer for the Village of Hempstead and the North Main Street Urban Renewal Area (see **Figure S-3**). To support RDUA, the Village of Hempstead and CDA deeded Village property within the downtown area to RDUA for the purposes of redevelopment. In total, RDUA was deeded approximately 26 acres of downtown property for redevelopment, primarily the interior surface parking lots. However, RDUA has not as of yet engaged in substantial redevelopment downtown.

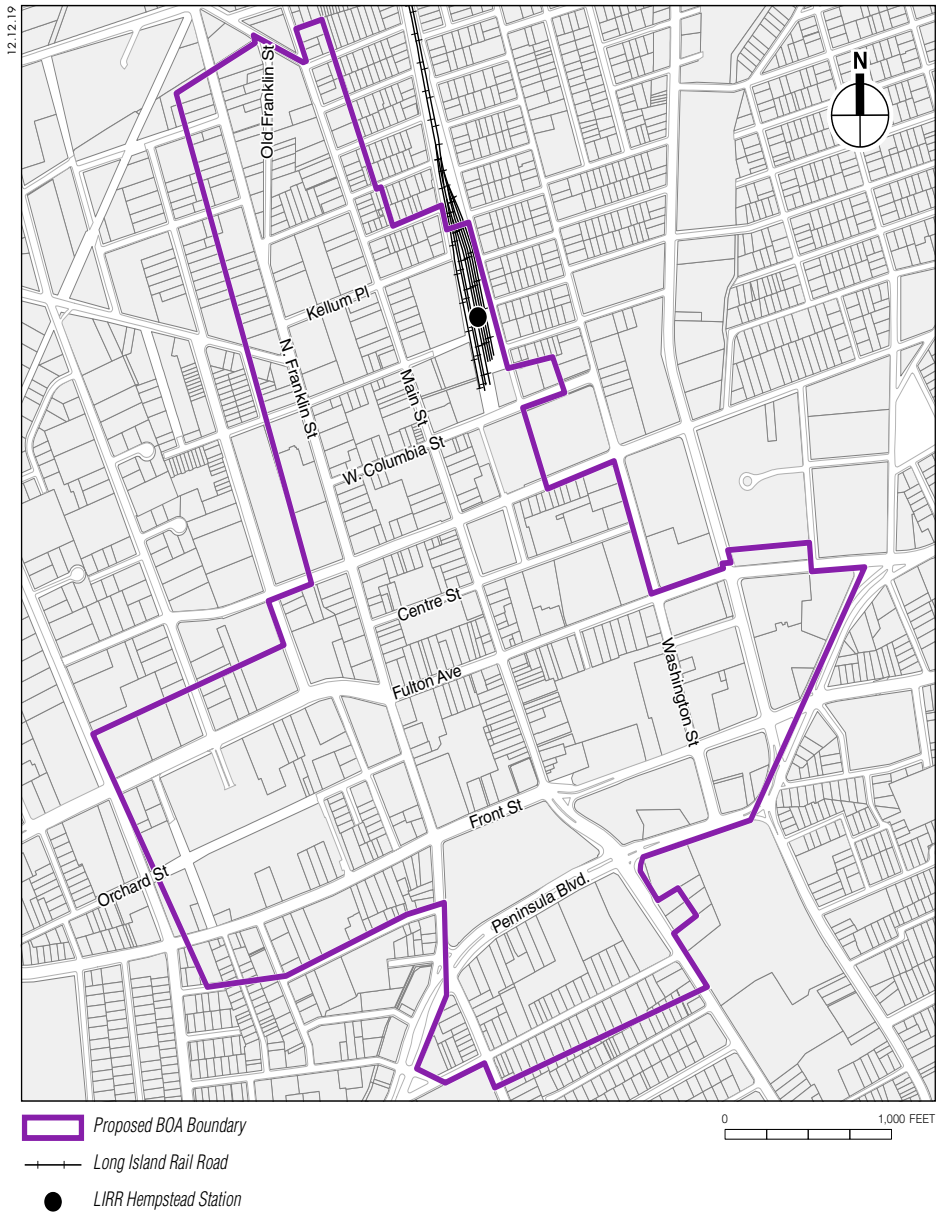

Figure S-1
Proposed BOA Boundary

The numerous vacant and underutilized sites as well as the limited supply of open space and recreational opportunities in the proposed BOA present many more opportunities for redevelopment and revitalization of the area. With this Nomination, the CDA seeks to continue its efforts to transform contaminated, underutilized, and deteriorated properties into vibrant mixed uses, new affordable housing, business incubators, and recreational areas.

D. COMMUNITY VISION, GOALS AND OBJECTIVES

Community Vision

Through various community-based planning initiatives, the community developed a unified vision for a revitalized downtown Hempstead, with a focus on providing children and families with a stable environment that promises economic mobility; community space that can provide services for residents; improving the urban design, connectivity, and safety of its streets; key transit-oriented development (TOD) to invigorate the community; and improving and broadening the housing stock with a range of densities and prices. Overall, the community's vision is to create an inclusive and prospering downtown where all residents thrive and enjoy an enhanced quality of life in a safe, walkable com-

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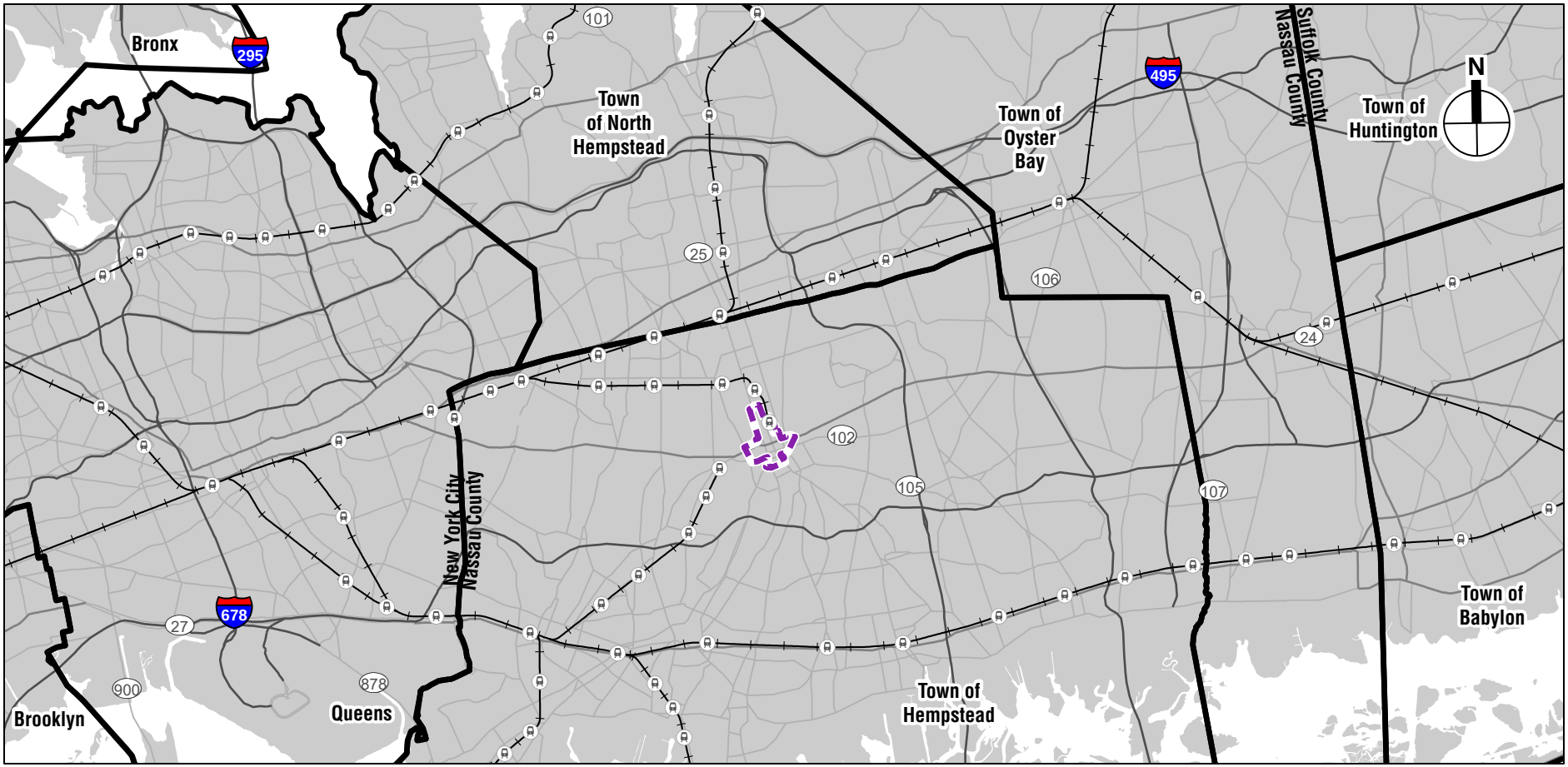

0 5 MILES

Proposed BOA Boundary

Municipality Boundary

Limited Access Highway

Highway

Major Road

LIRR Stations

LIRR Tracks

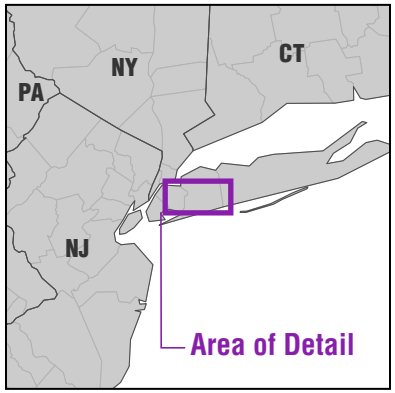

Figure S-2
Community Context Map

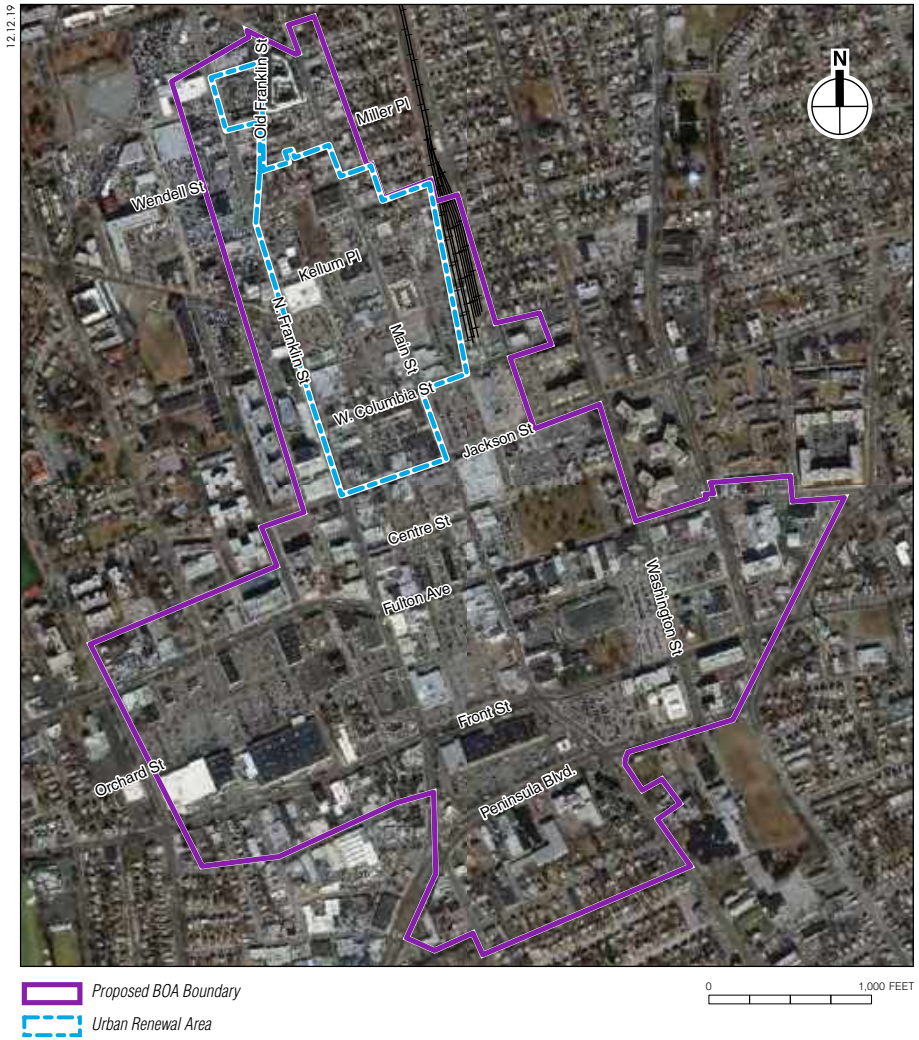

Figure S-3
North Main Street Urban Renewal Area

munity with job opportunities, economic stability, and access to healthcare and social amenities.

Goals and Objectives

Since 2008, the Village has been taking steps to implement the community vision, such as by adopting a DOZ, designating an urban renewal area, and entering into a MDA with a private developer. This Nomination builds on the community goals and objectives set out in the *Village of Hempstead Downtown Vision and Comprehensive Development Plan Update* and continues the Village's efforts to redevelop and revitalize downtown Hempstead. Specifically, the project goals and objectives are to:

- Create housing options for all income levels while discouraging gentrification and implementing anti-displacement mechanisms;
- Address overcrowding and absentee landlord issues;
- Attract public and private sector investment to improve infrastructure physical, social and business opportunities;
- Advance economic growth by increasing job training and employment opportunities, and adding new businesses such as technology companies;
- Connect to local and regional assets by improving transit;
- Develop a dedicated community meeting space for commerce and family entertainment;

- Create a medical/healthcare cluster to provide better and more accessible care for residents as well as a potential source of jobs and revenue for the Village;
- Address needs of single-parent households such as childcare; and
- Provide opportunities for enhanced educational training/job readiness skill development and identify businesses to create "training incubators" for residents.

A. BROWNFIELD OPPORTUNITY AREA BOUNDARY AND JUSTIFICATION

The proposed BOA is generally bounded by Grove Street to the south, President Street to the west, just south of Meadow Street to the north, and Peninsula Boulevard and Bennett Avenue to the east. The proposed BOA is inclusive of the North Main Street Urban Renewal Area (**Figure S-3**) and Village of Hempstead Opportunity Zones (**Figure S-4**). A total of 553 brownfield sites were identified within the proposed BOA, of which 224 have identified potential environmental conditions.

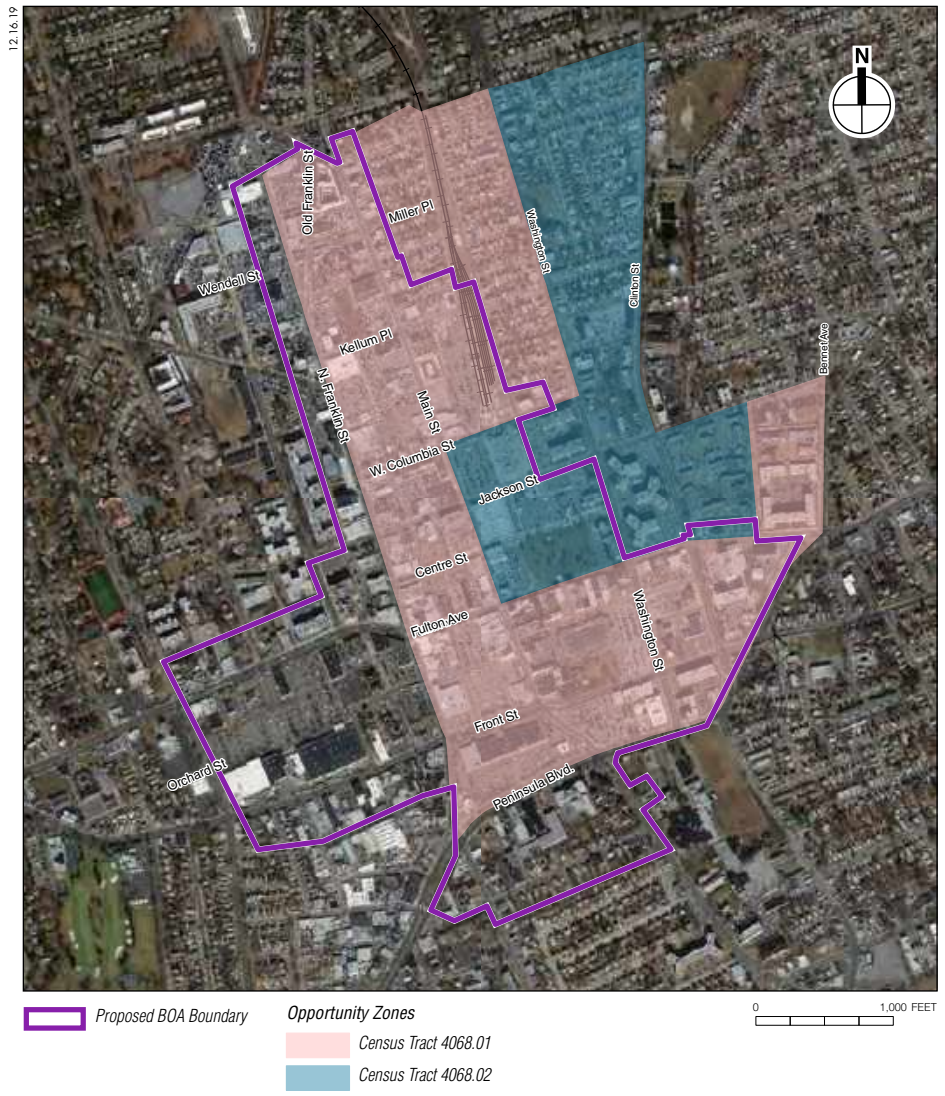

Figure S-4
Opportunity Zones

E. PUBLIC PARTICIPATION PLAN AND TECHNIQUES TO ENLIST PARTNERS

Public Participation Plan

The public participation plan for the proposed BOA builds on the extensive outreach, studies, and visioning that the Village of Hempstead has previously undertaken. The CDA's general community outreach and participation strategy focused primarily on the following principal elements when fostering public involvement and participation in the Village of Hempstead BOA process:

- **BOA Steering Committee Meetings** to capture the attention of community thought leaders and activists;
- **BOA Public Meetings** to inform the public about the BOA process and its benefits and to solicit input into the plan; and
- **Individual outreach meetings** with local institutions and stakeholders to encourage partnerships and collaboration.
- The Public Participation Plan included the development of a strong steering committee made up of key community stakeholders based on the CDA's expansive network and existing relationships with area residents, to guide preparation of the Step 2 Nomination. The CDA and its consultant team led by AKRF, Inc. (the "AKRF team") established a Steering Committee that included government and business representatives, as well not-for-profit and civic leaders. The committee included Village officials and representatives from the Chamber of Commerce, Hispanic Civic Association, Coordinating Council of Civic Associations, the Town of Hempstead Industrial Development Agency (IDA), CDA board and staff members, Village of Hempstead, Operation Get Ahead, and the Hempstead Boys and Girls Club.
- Public meetings are an essential component of the outreach plan. Community-wide outreach took advantage of the existing networks of the Steering Committee members and local leaders. To ensure public engagement was meaningful and inclusive, outreach materials were available in both English and Spanish so they could be more easily understood by all residents of the community. The public meetings were conducted to introduce the BOA Program to the entire community, solicit input, and present outcomes. A particular effort was made to ensure presentations were clear and easy to understand by the general public, avoiding the use of jargon in order to engage attendants and to generate increased participation.

Techniques to Enlist Partners

To enlist partners, the CDA has utilized a variety of techniques, including the following:

- Engaging community partner organizations to form the BOA Steering Committee, thus ensuring that the interests of local residents and businesses are represented in the BOA process;

- Reaching out to elected officials for support of the BOA and its subsequent recommendations;
- Becoming educated on the New York State Brownfield Cleanup Program (BCP) so that the CDA can promote the benefits of the program and advise property owners of identified Strategic Sites on how to best implement cleanup and redevelopment in a responsible and economically viable manner;
- Engaging Village, County, and Town agencies (e.g., the Village of Hempstead Building Department, the Village of Hempstead Department of Public Works, the Town of Hempstead Department of Planning & Economic Development, the Town of Hempstead IDA, the Nassau County Office of Community Development, Nassau County Department of Planning, and the Nassau County IDA) to coordinate and focus the deployment of scarse resources;
- Attending events sponsored by the U.S. Environmental Protection Agency, the U.S. Department of the Treasury, U.S. Deparpartment of Housing and Urban Development, the U.S. Economic Development Administration, the Council of Development Finance Agencies, and the Leadership Inistitute for Nassau County, such as Opportunity Zone-related events in order to stay abreast of policy issues related to the BOA Program and brownfields development;
- Engaging in discussions with outside community development organizations on additional programming, such as JP Morgan's Advancing Cities initiative and the Long Island Regional Economic Development Council that foster and encourages community engagement and economic development in disadvantaged communities;
- Connecting and cooperating with regional institutions, such as Hofstra University, Adelphi University, Nassau County Community College, Long Island Education Opportunity Center at Farmingdale State College and State Unviersity of New York at Old Westbury to partner on a future program to advance the skill sets of the local workforce; and
- Identifying property owners and potential developers that could participate and help effectuate the redevelopment of the sites within the proposed BOA.

F. ANALYSIS OF THE PROPOSED BROWNFIELD OPPORTUNITY AREA

An existing conditions assessment was conducted for a range of topic areas including: land use, zoning, and economic designations; brownfield, abandoned, and vacant sites; land ownership; parks and open space; key buildings; historic and archaeologically significant areas; transportation systems; water and sewer infrastructure; natural resources; and demographic, housing, and market conditions. Coupled with the public participation plan, the existing conditions assessment

of the proposed BOA was used to identify Strategic Sites for redevelopment and key recommendations for implementation strategies.

Community and Regional Setting

Figure S-2 shows the regional context of the proposed BOA. Background information related to the BOA's regional government, transportation, educational and institutional, and cultural assets, community size and population characterisitics, educational attainment and labor force paritciation, household income, housing, and challenges and opportunities are presented in detail in Chapter 3, Section B.

Inventory and analysis

Existing Land Use, Zoning, and Economic Designations

Land Use

The proposed BOA occupies the majority of the Village's downtown commercial district, and includes approximately 280 acres and 608 tax lots, characterized with approximately 553 known and potential brownfield sites (including vacant, abandoned, underutilized, and potentially contaminated sites) of which 224 have identified potential environmental conditions (see **Appendix C**).

Land use information for the parcels in the proposed BOA was gathered based on field visits between the summer of 2017 and fall 2018, aerials, and GIS mapping (see **Figure S-5**).

The proposed BOA is mostly composed of institutional uses, including religious institutions, not-for-profits, community organizations, government uses, and commercial uses, most of which are retail uses. In general, institutional uses do not generate taxes for the Village or the local school district; however, most offer services to Village residents, in the form of government, educational, religious, or cultural services. Institutional uses take the form of churches, museum, and schools or government uses such as Town of Hempstead Receiver of Taxes on Bedell Street and Franklin Avenue and the Nassau County District Court and Traffic and Parking Violations Agency on Main Street between Jackson and Center StreetsThe downtown also has a large number of surface parking lots. There are few residential uses within the BOA, with the exception of the new development at 303 Main Street ("Metro 303") and the Rivoli Affordable Housing Complex at Main and Columbia Streets. Commercial and retail uses are prominent along Fulton Avenue, west of North Franklin and Front Streets and Peninsula Boulevard. In addition, the majority of the two downtown corridors (Franklin Avenue and Main Street) are dominated by retail uses.

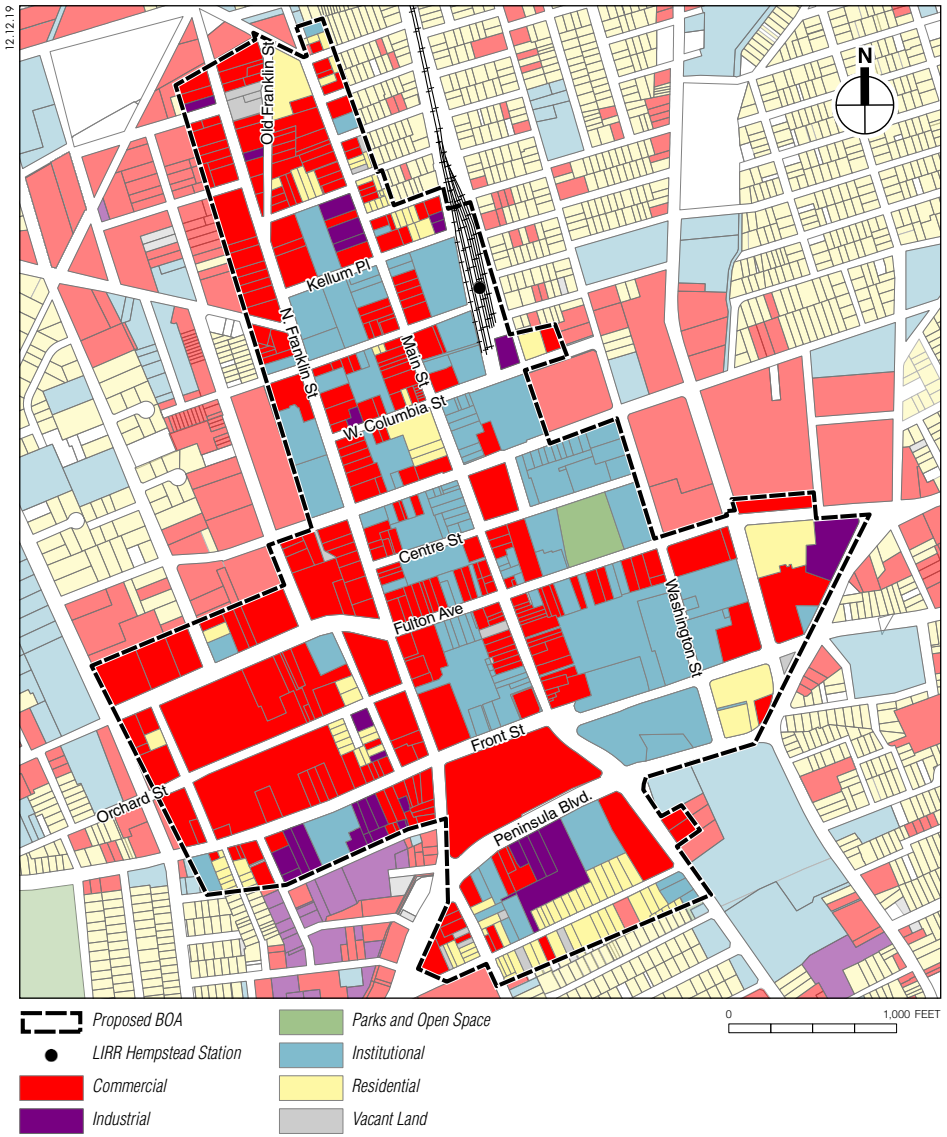

Figure S-5
Existing Land Use

Zoning

Figure S-6 illustrates the underlying zoning districts within the proposed BOA. The vast majority of the BOA is zoned for Business B District. Residential zoning districts are located in the southern portion of the study area (primarily south of Front Street) including Residence AA, Residence A, Residence B, Residence C, Residence E, and Residence G. An industrial zone is located along Newmans Court in the southwestern portion of the study area.

The Village adopted the DOZ ordinance and Zoning Map Amendments following the 2009 Comprehensive Plan Update. The purpose of the DOZ ordinance was to implement redevelopment and revitalization initiatives as outlined in the Village's Comprehensive Plan Update. The BOA boundary is congruent with the Downtown Overlay Zone (DOZ), as shown in **Figure S-7**. The DOZ is divided into the following Overlay Districts, shown as "DO-1," "DO-2," "DO-3," and "DO-4."

Economic Designations

The BOA is inclusive of the North Main Street Urban Renewal Area, as shown in **Figure S-3**. The objective of the North Main Street Urban Renewal Area was to create a mixed-use downtown, while also increasing open space, and enhancing pedestrian links within the community.

The Village has two geographic regions that have been designated as federal Opportunity Zones and which partially overlap with the proposed BOA, as

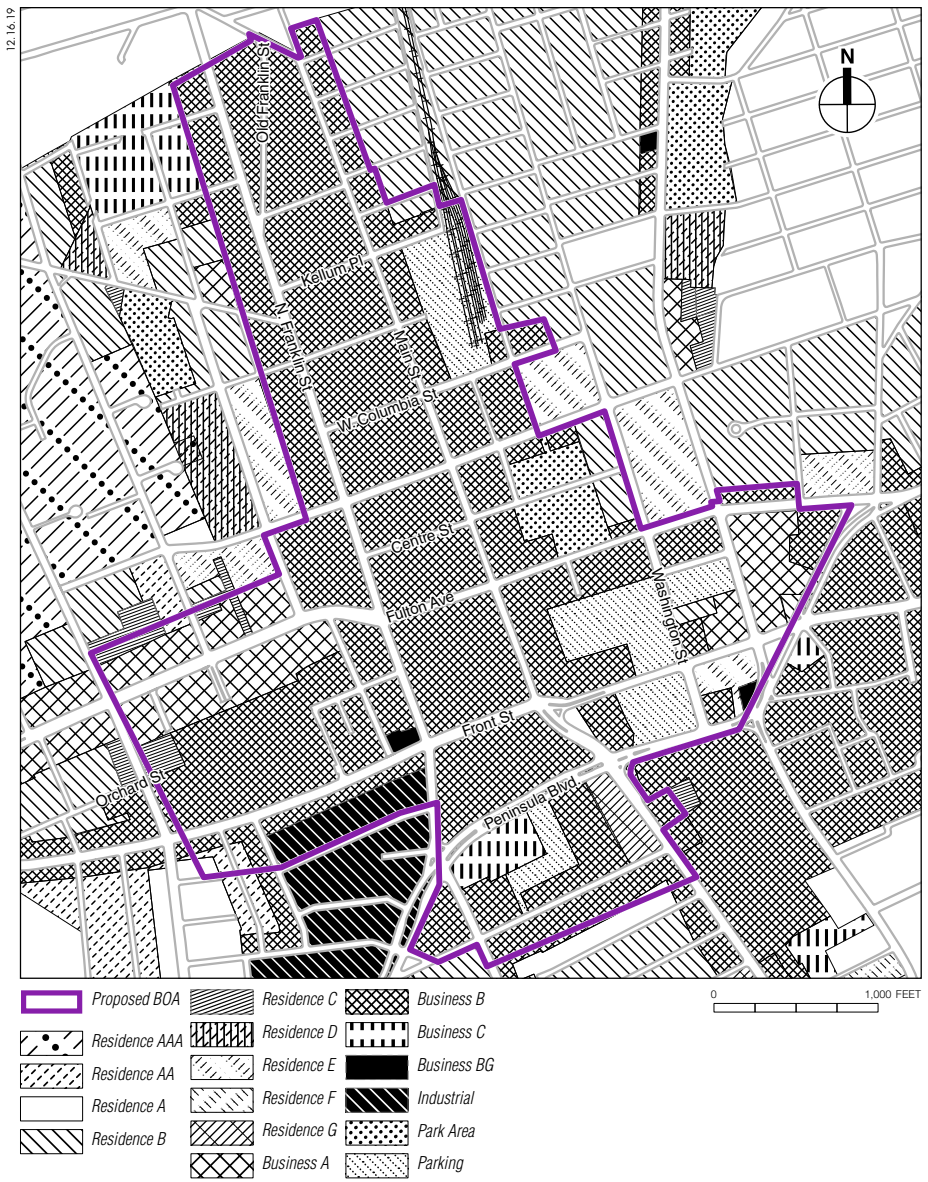

Figure S-6
Existing Zoning

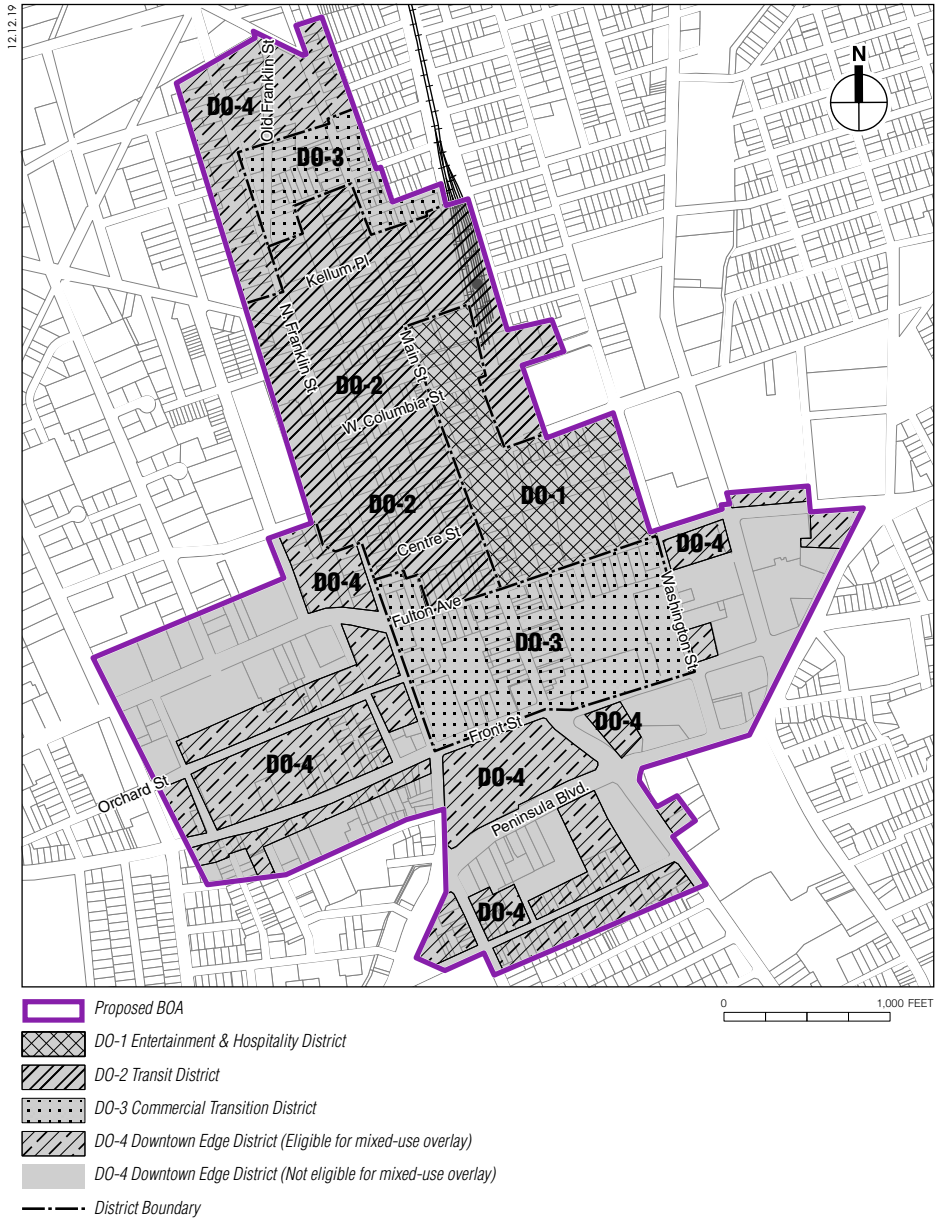

Figure S-7
Downtown Overlay Zone

shown in **Figure S-4**. The Hempstead Opportunity Zone is inclusive of Census Tract 4068.01 and Census Tract 4068.02. Brownfields are now eligible to receive tax incentives under the Opportunity Zone (OZ) program. The Hempstead BOA is prime for OZ investment, which provides tremendous potential to put capital to work in the critical pre-development phase, such as for site assessment and remediation.

Brownfield, Abandoned, Vacant, and Underutilized Sites

The potential for the presence of hazardous materials resulting from previous or existing uses in or near the proposed BOA and potential risks from any such materials that could arise during related future development and construction within the proposed BOA were assessed.

As defined by New York State, a "Brownfield" is any real property, the redevelopment or reuse of which may be complicated by the presence or *potential* presence of a contaminant. In the context of the New York State BOA Program, a "Brownfield" includes any vacant, abandoned, or underutilized property with actual *or perceived* contamination. In other words, the "Brownfields" targeted for redevelopment may not actually be contaminated. Examples of potential brownfield sites would include industrial sites, abandoned gasoline stations, or, in many cases, vacant land. A total of 553 brownfield sites were identified within the proposed BOA, of which 224 have identified potential environmental conditions. The universe of known or potential brownfield, abandoned, vacant, or underutilized sites identified to date within the proposed BOA are represented in **Figure S-8** (see also **Appendix C**).

As would be anticipated, the majority of sites with known or potential contamination are located within the northern portion of the proposed BOA and industrial facilities located southwest of Main and Front Streets. The most commonly identified sources of contamination or potential contamination were related to the prior use, storage, disposal, or release of petroleum and/or leaking underground petroleum or bulk chemical storage tanks. Although not addressed in Appendix C, the majority of existing structures in the proposed BOA are old enough to likely include asbestos-containing materials (ACM) and/or lead-based paint (LBP), existing regulatory programs address mitigation of these prior to or as part of demolition.

To reduce the potential of adverse impacts associated with development resulting from the proposed actions, further environmental investigations will likely be required at brownfield sites with known or potential contamination (as indicated in the "Environmental Conditions Identified" column within **Appendix C**). This may include a comprehensive Phase I ESA in accordance with current regulatory/industry standards (including ASTM 1527-13) and/or a Phase II (Subsurface) Investigation, based on site-specific conditions. For sites owned

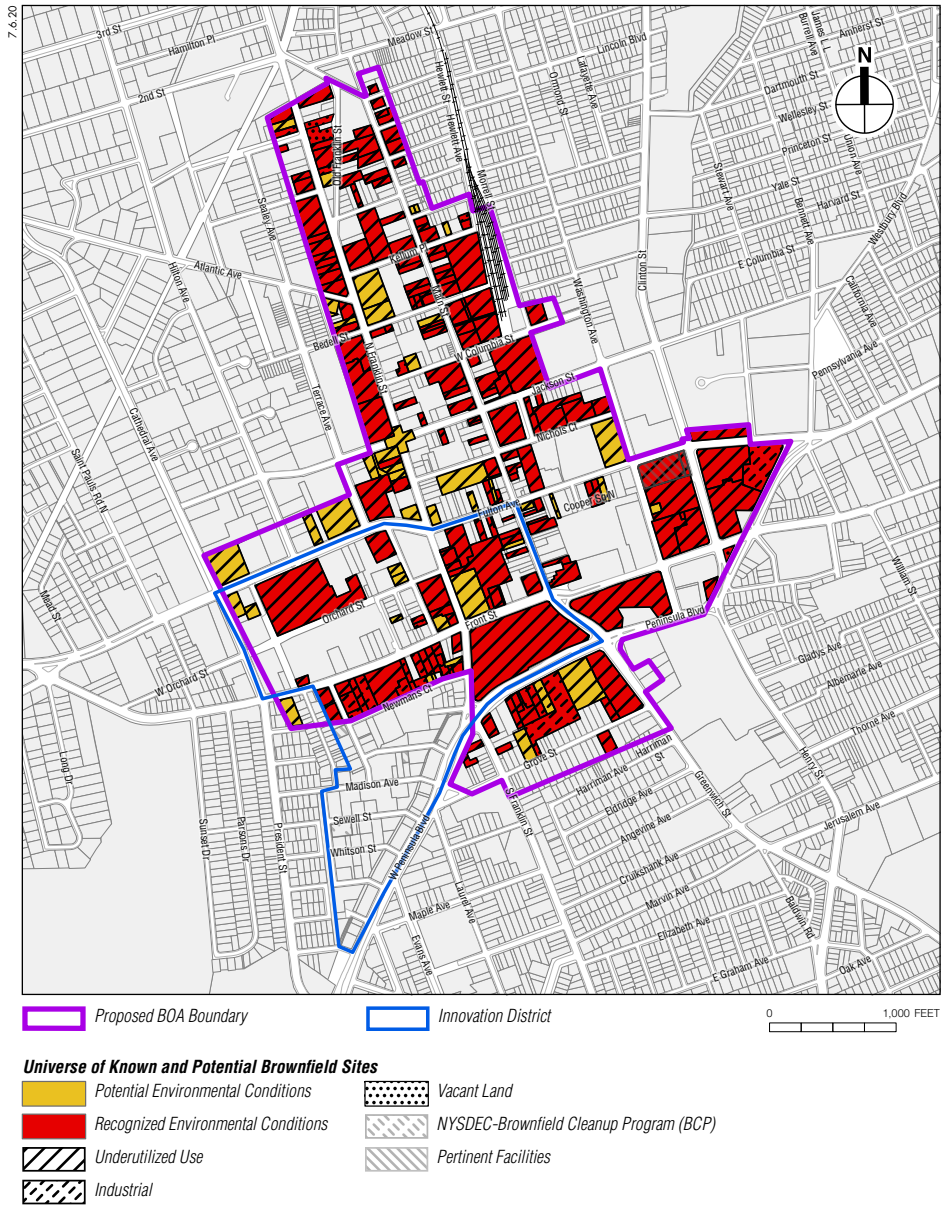

Figure S-8
Location Map - Universe of Brownfield and Underutilized Sites

by the Village, BOA Step 3 funding could be pursued and utilized for Phase II Investigations.

Strategic Sites

Ten Strategic Sites were identified based on their catalytic potential to spur additional development and community redevelopment. Some of these sites are already existing approved projects, such as the Dell Bus project and Conifer-Carman Place development, with potential to serve as anchors for new development. Other Strategic Sites are underutilized commercial buildings within downtown Hempstead that are primed for revitalization. As seen in **Figures S-9a and S-9b,** these Strategic Sites are located at important locations and intersections within the Village. **Table S-1** provides an inventory of the identified Strategic Sites within the Village accompanied by a summary of information of known or potential contamination for each site (see also Table C-2 in **Appendix C**).

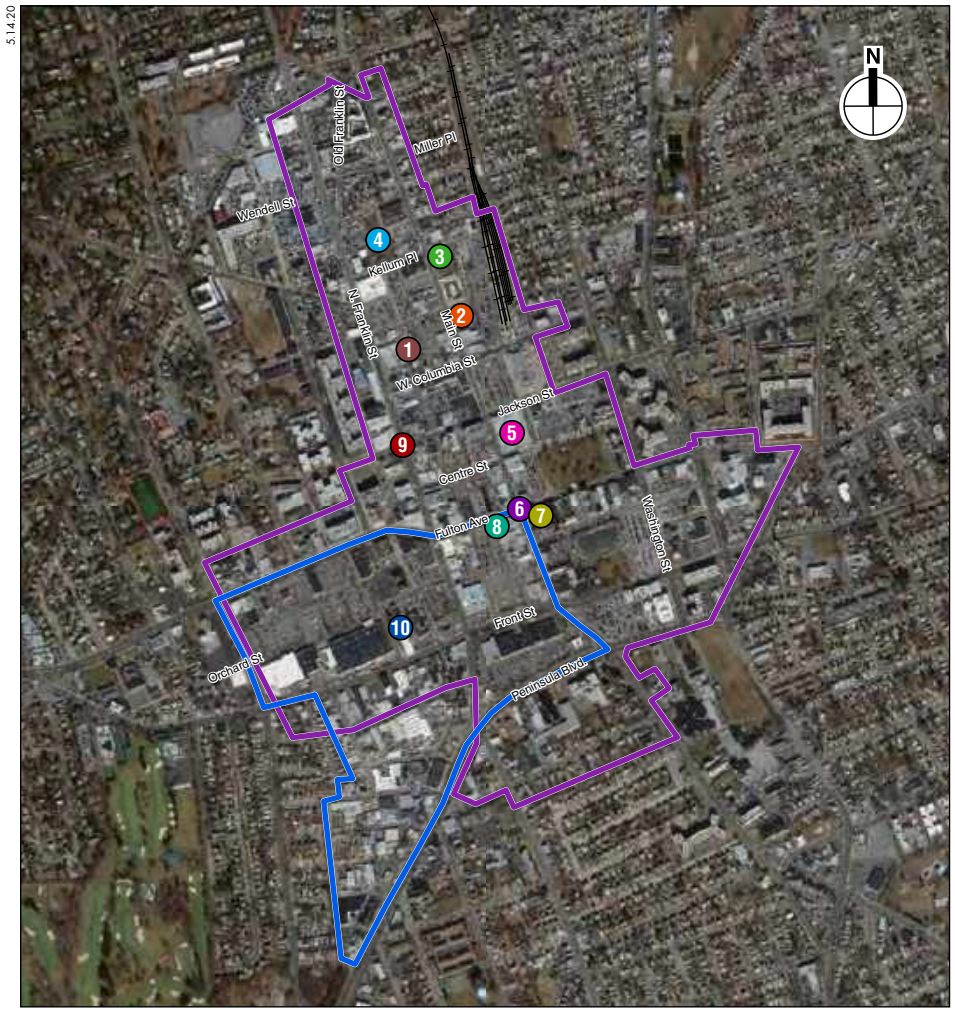

Figure S-9a
Strategic Sites - Aerial View

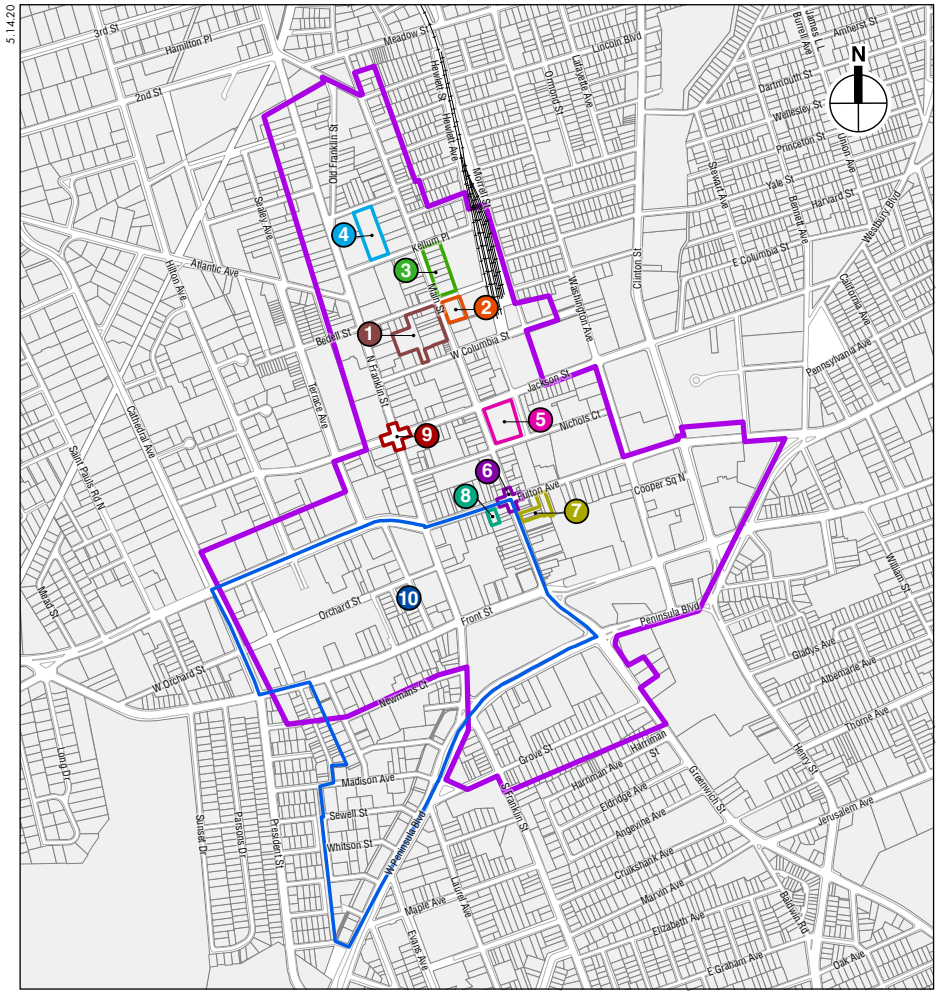

Figure S-9b
Strategic Sites - Map View

Table S-1
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
1	34-195-8	Conifer-Carman Place	155-179 Main Street	2.54	LAU Investment Group & RDUA Parcel 3 LLC	2.5-story dwelling (1909–1970), two ground stores (1925–1970)	Transformer oil spilled near property due to car hitting a utility pole, approx. 60 gallons leaked	Potential
	34-195-9					Double dwelling (1904–1963), parking lot (1970)	No records	Yes
	34-195-10					2-story dwelling (1909–1963), parking lot (1970)	Closed status spill (1411628), No. 2 fuel oil	Yes
	34-195-111					Sign painting (1970)	Closed-status spill No. 1411628 - removal of 1,000-gal No. 2 fuel oil UST and contaminated soil (reportedly all removed)	Yes
	34-195-116					N/A	N/A	No
	34-195-129					N/A	N/A	No
	34-195-130					N/A	N/A	No
	34-195-131					N/A	N/A	No
	34-195-132					Unknown	Unknown	Unknown
	34-195-135					N/A	N/A	Unknown
	34-195-138					N/A	N/A	No
2	34-522-5	Estrella	Bedell and Main Streets	0.63	CPK Transportation LLC	Part of a lumber yard (1892–1937); auto parts storage (1963); used auto sales (1970)	N/A	Yes
	34-522-327					Part of a lumber yard (1892–1937)	N/A	Yes

Notes:
Recognized Environmental Condition (REC); Village of Hempstead Community Development Agency (CDA); Fire Department (FD); New York State Department of Environmental Conservation-Brownfield Cleanup Program (NYSDEP's BCP; Large Quantity Generator (LQG).
*See Table C-2 in Appendix C for more detail.
**The AKRF team suggests the creation of an innovation anchor sponsored by the Village of Hempstead/CDA/partner organization to kick off investment within the area. The AKRF team suggests using RDUA Parcel 4 LLC as an anchor site for larger district. Alternative site for anchor identified at Town of Hempstead parking lot or HVCA LLC property.

Table S-1 (cont'd)
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
3	34-194-4*	BRP – Alta	257 Main Street	1.37	Main View LLC	Taxi storage (1970)	Historic LQG of solid ignitable waste (D001) in 1991 (RSBL Corporation/204 Main Street); Spill No. 1711151 (active)	Yes
	34-194-8					Carpenter (1909–1919); auto repair (1970)	Same listings as lot 4 above.	Yes
	34-194-3					None.	No listings.	No
	34-194-6					Carpet cleaning (1937)	No listings.	Yes
	34-194-2					Auto repair (1950–1970)	No listings.	Yes
	34-194-1					Service station (1937); part of the service station on Lot 7 (1950–1970).	No listings.	Yes
	34-194-7*					Hempstead Brass Co. with machine shop and plating (1909); Brayshaw's Laundry (1919); Auto service station (1937–1970).	Unspecified RCRA generator, historic SQG 1995 and 2002; FD listing for one active UST; FD listing for three in-service AST; Closed-status Spill No. 0700162	Yes
4	34-192-11	Dell Bus Project	Main Street between Kellum Place and Union Place	1.37	RDUA Parcel 2 LLC	Dubois Model Laundry and coal house (1909).	No listings.	Yes

Notes:
Recognized Environmental Condition (REC); Village of Hempstead Community Development Agency (CDA); Fire Department (FD); New York State Department of Environmental Conservation-Brownfield Cleanup Program (NYSDEP's BCP; Large Quantity Generator (LQG).
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Table S-1 (cont'd)
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
5	34-33303-2*	Former Bus Station	100 Main Street	1.50	100 Main Street Reality LLC	On Sanborns, Lot 329 contained a coal yard on 1892 map, and was traversed north-south by Long Island Railroad tracks and contained a freight depot (1904–1961).	Closed-status Spill No. 9005490	Yes
6	34-340-19	Main and Fulton (Hempstead Bank Building)	Intersection of Main Street and Fulton Avenue	0.12	Fulton Ave LLC, Main and Fulton Corner LLC, SRA Reality Corp, 281-283 Fulton Street LLC	Print Shop (1892–1904), Photo (1897)	Small Closed Spills (9411909, 011965, 9309474)	Potential
7	34-340-14	Woolworth Building	40 and 48 Main Street	0.60	Three Arrows Hempstead LLC	Marble Works (1886–1897), Stone Cutting (1904), Tin Shop (1919–1925), Paint Shop (1925)	N/A	Yes
8	34-339-148	Nagasaki Building	276 Fulton Avenue	0.18	276 Fulton Corp	N/A	N/A	No
9	N/A	Franklin and Jackson	Intersection of Franklin Avenue and Jackson Street	0.60	107 Hempstead Reality Corp, Kanoff Carol, Universal Tabernacle Love Peace & Joy, County of Nassau, Kaileh Mazen & Eyad	N/A	Nearby petroleum spills and vehicular spills, pole-mounted transformer spills	Potential

Notes:
Recognized Environmental Condition (REC); Village of Hempstead Community Development Agency (CDA); Fire Department (FD); New York State Department of Environmental Conservation-Brownfield Cleanup Program (NYSDEP's BCP; Large Quantity Generator (LQG).
*See Table C-2 in Appendix C for more detail.
**The AKRF team suggests the creation of an innovation anchor sponsored by the Village of Hempstead/CDA/partner organization to kick off investment within the area. The AKRF team suggests using RDUA Parcel 4 LLC as an anchor site for larger district. Alternative site for anchor identified at Town of Hempstead parking lot or HVCA LLC property.

Table S-1 (cont'd)
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
10**	N/A	Village of Hempstead Innovation District**	Southern portion of the BOA reaching south down Peninsula into the more industrial neighborhood cluster. Bisected by Front Street	N/A	Larger area with various owners.	N/A	Several closed spills related to fuel oil tanks and vehicular spills, etc., and sites with known contamination including the NYSDEP BCP site Former Husslein Plating Corp. & Sempke Bus Garage at 48 Sewell Street (heavy metals contamination). Additional sites included large hazardous waste generators including Auromet Corp Facility Id: NYD001234087 37 Chasner St and General Refining & Smelting Corp Facility Id: NYD082780446 at 106 Taft Avenue (generators of spent cyanides and other electroplating wastes)	Yes

Notes:
Recognized Environmental Condition (REC); Village of Hempstead Community Development Agency (CDA); Fire Department (FD); New York State Department of Environmental Conservation-Brownfield Cleanup Program (NYSDEP's BCP; Large Quantity Generator (LQG).
*See Table C-2 in Appendix C for more detail.
**The AKRF team suggests the creation of an innovation anchor sponsored by the Village of Hempstead/CDA/partner organization to kick off investment within the area. The AKRF team suggests using RDUA Parcel 4 LLC as an anchor site for larger district. Alternative site for anchor identified at Town of Hempstead parking lot or HVCA LLC property.

Strategic Sites 1-4 were selected as they are previously approved development projects located in proximity to the Hempstead LIRR station and Transit Center, although as of fall 2019, their site plan approvals have expired. These sites can serve to anchor the northern portion of downtown, increasing residential density near transit, as well as provide an example of a new mixed-use development within the Village. Further, the Dell Bus project (school bus operators headquarters and training facility) is anticipated to bring new transportation workers to the area, promoting commercial activity in the midday hours as well as the evening.

Site 5, the former Hempstead Bus Station, was selected for its proximity to both the Transit Center (see **Figure S-10**) and downtown businesses and commercial activity. This space, already built out with retail and office space could become a link between the two areas, closing the perceived distance between downtown and the Transit Center. The Bus Station could be tenanted with a range of office uses, including social service providers, or it could continue to be used for educational programming. Open space on the ground level and other retail spaces within the building could be re-tenanted with restaurants and smaller flexible retail spaces. Interior improvements could invite people into the space and promote circulation through the building between Main Street, the Transit Center, Village Hall, and government offices.

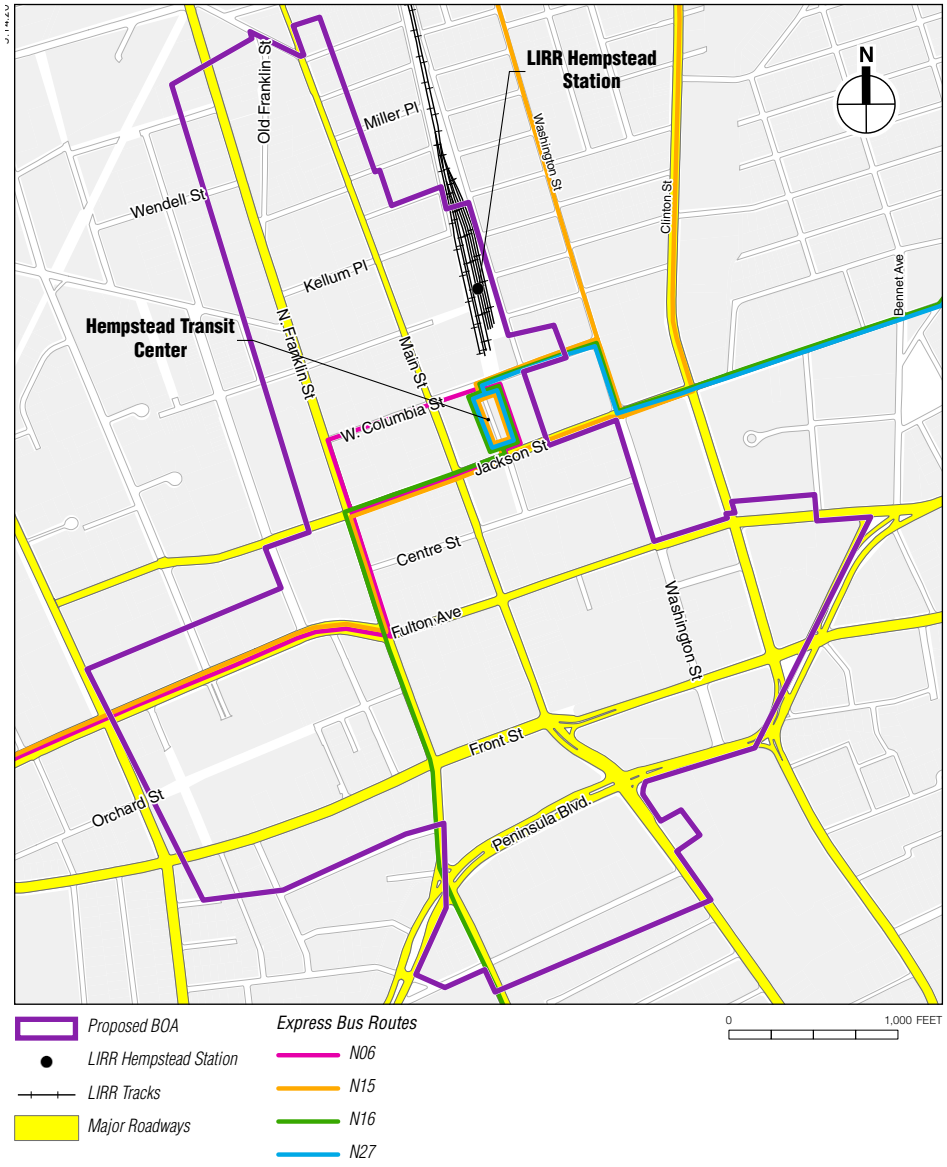

Figure S-10
Transportation Systems

Site 6, the intersection of Main Street and Fulton Avenue represents a different type of Strategic Site, one that focuses on the existing interconnected linkages of the Village and tries to expand on these connections and networks to spur development. At the heart of downtown, this intersection represents the center of retail development within Hempstead. The intersection includes large commercial buildings, which have been partially restored. Most importantly, this intersection includes the former Hempstead Bank Building, which is recommended for further environmental investigation and redevelopment, and is primed for reinvestment given its presence in the Hempstead Opportunity Zone as well as the BOA. This intersection also includes Children's World—a clothing store that has operated within the Village for over 50 years. Promoting development at the intersection will help create a strong retail and commercial cluster in the area.

Two specific sites—Site 7, the Woolworth Building and Site 8, the Nagasaki Building—were identified as strategic development sites. Both sites, located at the intersection of Main Street and Fulton Avenue, can increase the commercial density in the area, potentially expanding shopping and retail options in the center of downtown with a robust mix of uses including restaurants and other retail. At Site 8, the CDA is engaged with potential tenants seeking to provide educational programming as well as a commercial business on the site.

Site 9, the intersection of Franklin Avenue and Jackson Street, was identified because it anchors the western corridor through downtown, between the Hempstead LIRR station and Terrace Avenue and the western residential neighborhood. It is anticipated that this catalytic strategic development site will be utilized by the community for daily shopping and personal services, as well as other social services. As the intersection links the western areas of the Village to downtown and transit options it is likely to have high levels of pedestrian traffic, particularly during the morning and evening. This site already includes two potential anchor institutions, the African American Museum of Nassau County at the southeast corner and the Academy Charter School at the northwest corner. The African American Museum provides a range of cultural activities and exhibits within the community. The redevelopment of this site and the surrounding area could provide opportunities to provide new funding to the museum, which is in need of repairs, and provide the museum a newer, more modern facility.

Site 10, the Village of Hempstead Innovation District, is a larger strategic overlay zone, which is intended to link downtown with the industrial area along Peninsula Boulevard. The innovation district would both promote physical linkages between downtown and Peninsula Boulevard, as well as create economic linkages, through the creation of new light and high-tech manufacturing spaces

and expanding economic opportunities for Village residents in these white collar, technology jobs. The innovation district program could be anchored with an incubator and educational center, providing space for apprenticeships and educational programming, supported by local educational institutions. Further physical linkages will expand downtown Hempstead and better connect downtown retail, restaurants, and other commercial services to the large daytime worker population found within the industrial district.

LAND OWNERSHIP PATTERNS

Private and public land by ownership status in the proposed BOA is depicted in **Figure S-11**. As shown in the figure, the Village (or the master developer) currently controls a number of the sites, particualry within the central core.

PARKS AND OPEN SPACE

Only one park was identified in the proposed BOA: Denton Green Park across from Village Hall (see **Figure S-12**).

BUILDING INVENTORY

Key buildings include those with potential for reuse or redevelopment, buildings that may serve as anchors to new development such as new or residential buildings, or buildings that house community, recreational, or institutional facilities, such as Village Hall and churches and other places of worship. Key buildings in the proposed BOA are shown in **Figure S-13** and listed in **Table S-2**.

Table S-2
Key Buildings

Map ID Number	Name	Use	Condition	Owner	Gross Square Footage	No. of Stories
1	Village Hall	Institutional	Good	Village of Hempstead	11,837	1
2	Town Hall	Institutional	Good	Town of Hempstead	21,932	5
3	Hempstead Hispanic Methodist	Institutional/ Cultural	Fair	United Methodist Church of Hempstead	10,460	2
4	Nassau County District Court	Institutional	Fair	Nassau County	50,213	3
5	Nassau County Traffic and Parking Violations Agency	Institutional	Fair	Nassau County	26,873	2
6	African American Museum	Institutional/ Cultural	Good	Nassau County	8,836	1
7	Hempstead Bank Building	Institutional	Fair	Main and Fulton Corner LLC	1,481	3
8	Wollworth Department Store Building	Cultural	Poor	Three Arrows Hempstead LLC	25,991	2

HISTORICALLY OR ARCHEOLOGICALLY SIGNIFICANT AREAS

A number of structures in the Village are more than 100 years old, reflecting the historic quality of churches homes and other buildings constructed in the mid-1800s and earlier. Given the number of potential historic properties, the Village should comprehensively survey historic resources and evaluate its historic landscape to determine sites of significance. **Figure S-14** illustrates the historic resources within the proposed BOA.

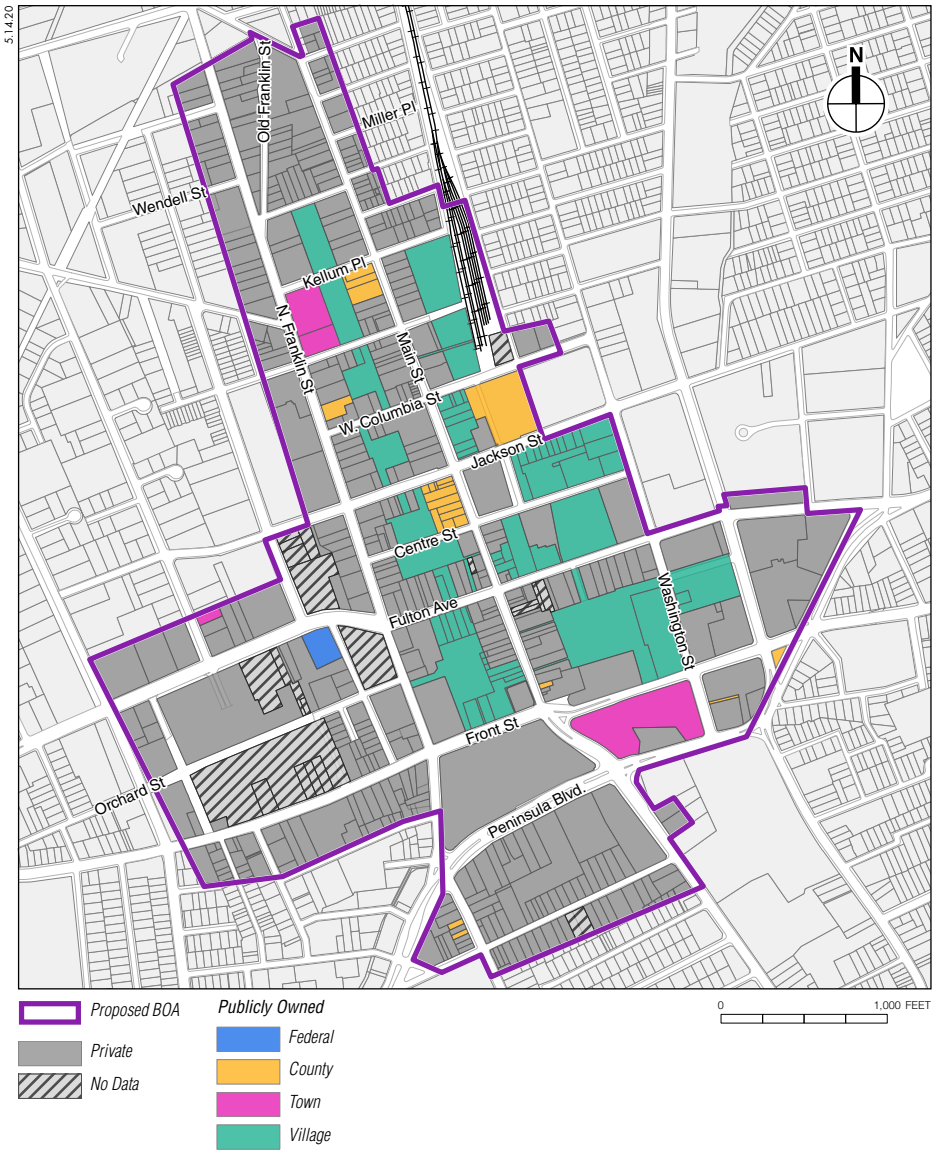

Figure S-11
Land Ownership

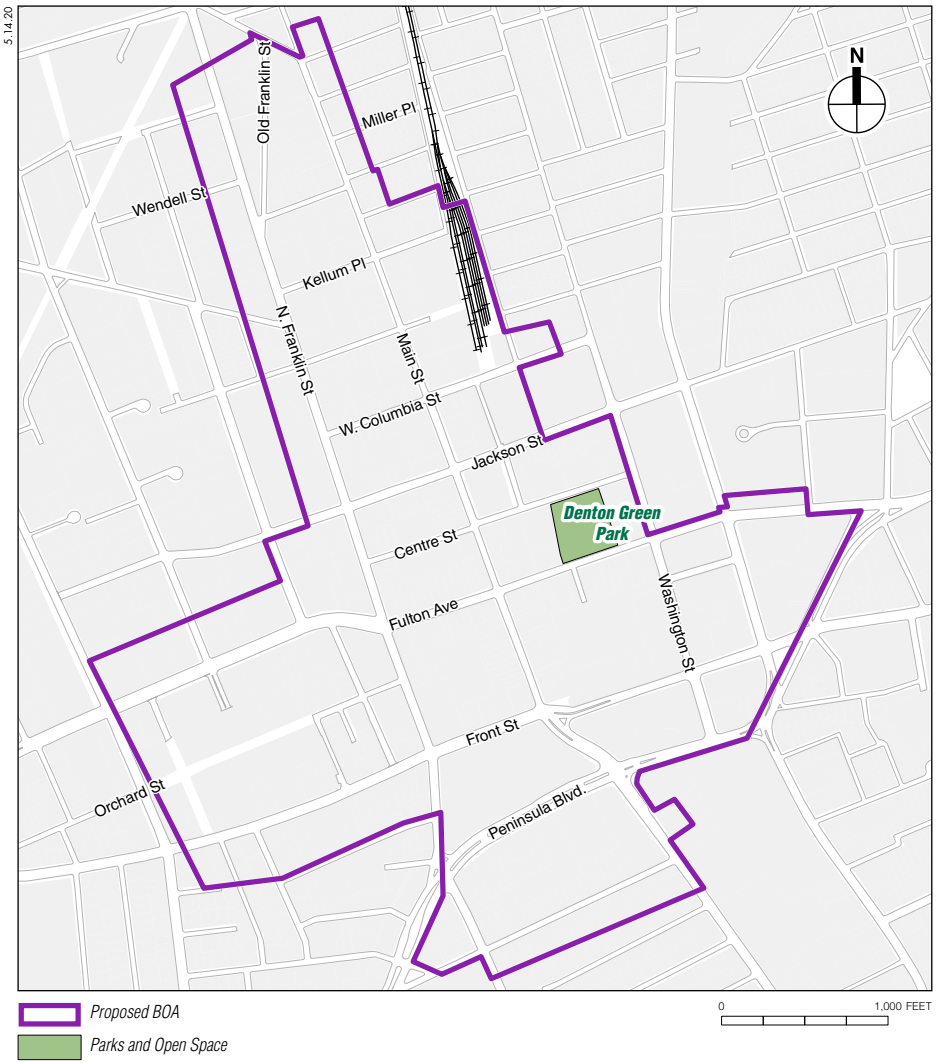

Figure S-12
Parks and Open Space

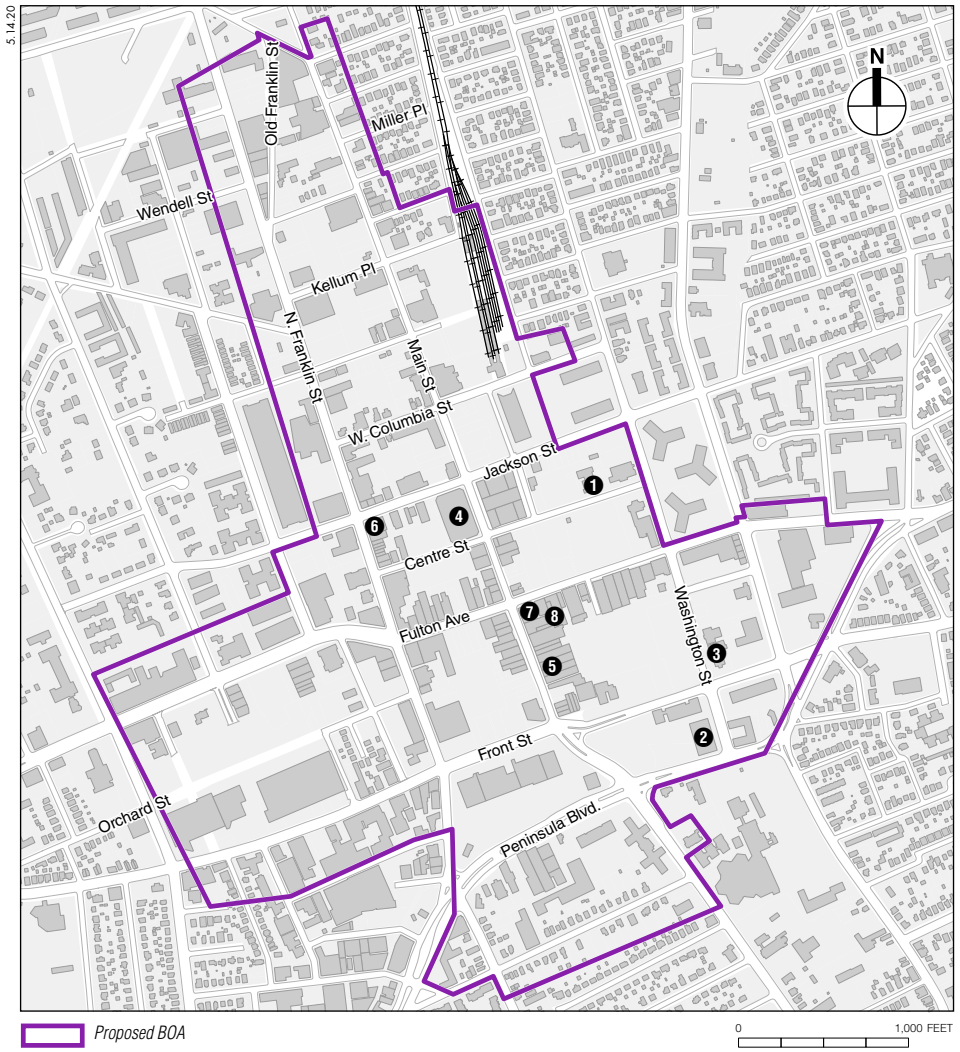

Figure S-13
Building Inventory

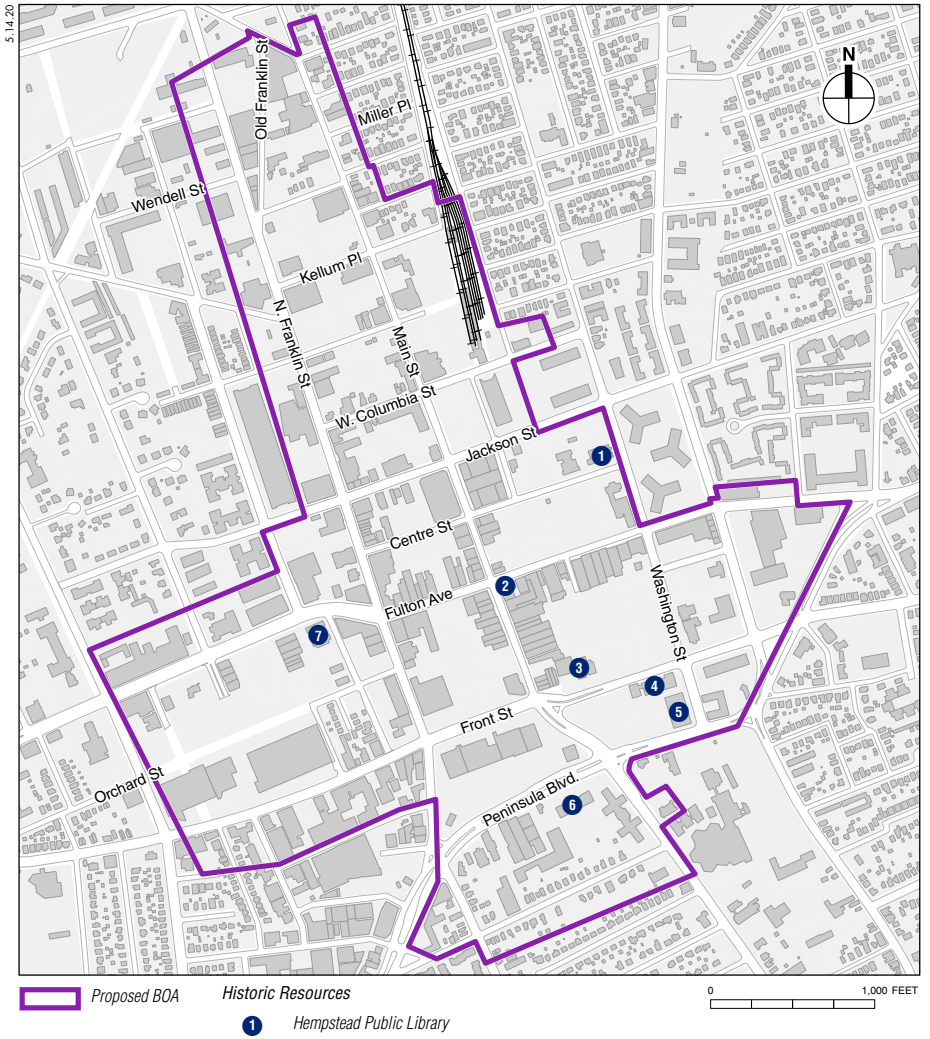

Figure S-14
Historic Resources

TRANSPORTATION SYSTEMS

The proposed BOA experiences significant traffic congestion, has unique transit assets, and is primed for transportation improvements. A **Transportation Systems Map** that shows the transportation systems within the proposed BOA is depicted in **Figure S-10**.

WATER AND SEWER INFRASTRUCTURE

Figure S-15 depicts the location of deficient sewers within the Village. A full water and sewer infrastructure analysis including figures and supporting engineering reports were prepared. Based on this analysis, the proposed BOA is in dire need of funding for a sewer improvement plan.

NATURAL RESOURCES AND ENVIRONMENTAL FEATURES

Given the predominance of surface parking, buildings, and vacant lots in the BOA, and the fact that most of the green space is in the form of cemeteries (there is a lack of wetlands, floodplains, or other natural resources within the propsed BOA that would otherwise have regulatory implications for development) downtown Hempstead is prime for redevelopment from a natural resources standpoint.

ECONOMIC AND MARKET TRENDS ANALYSIS

A comprehensive economic and market trendsanalysis wsa prepared for the Hempstead BOA, utilizing a range of data sources, including the U.S. Census

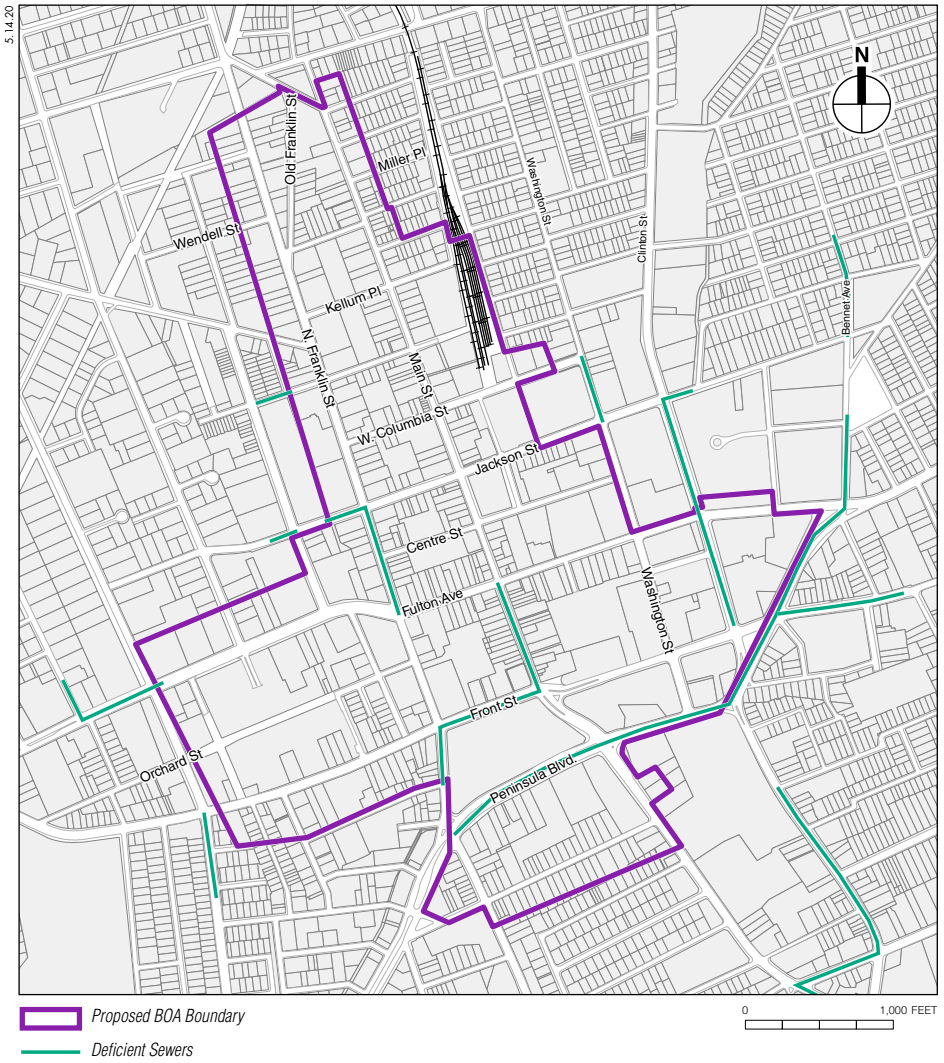

Figure S-15
Infrastructure

Bureau's American Community Survey (ACS), ESRI Business Analyst, and other public databases. These data sources were supplemented by fieldwork within the Village, which included an inventory of downtown businesses, and interviews with educational professionals, including Mark Lesko and Lawrence Levy of Hofstra University, and Dawn Nolan of Nassau County Community College. The AKRF team identified the following topics as priorities for the CDA, and focal points for the BOA program:

- Social infrastructure for single-parent households, and for households where English is not spoken as a first language.
- Job training programs for Hempstead residents. The focus should be to connect residents with area educational institutions and employers, both within the Village and across Nassau County.
- Programs to address the Village's housing problems. These programs must tackle residential overcrowding and could include renovating and redeveloping the Village's depleted housing stock and providing more housing options, at a range of densities and price points.
- Develop a strategic vision for the BOA that can fit into and support the Village's existing economic activity.
- Identify Strategic Sites to promote catalytic development within the BOA.

COMMERCIAL MARKET ASSESSMENT

A business inventory of the identified BOA areas was conducted by the AKRF team during the spring of 2018. During this survey, 353 individual commercial businesses located within the Village were identified.[1] Of the 353 businesses identified within the BOA area, approximately 19 percent (61) were restaurants or bars, 17 percent (55) were automotive-related businesses, such as auto dealerships and repair shops, and 13 percent (41) were personal services, including nail salons, tattoo parlors, and dry cleaners. Another 11 percent (35) of businesses were specialty retail, including small grocery stores and other business catering to cultural activities. In total, these personal consumer goods and services constituted approximately 60 percent of all downtown businesses surveyed. Beyond these, religious institutions comprised another 10 percent (33) of downtown businesses.

Opportunity for limited, niche office space exists in the downtown, which can be complemented byother amenities, such as restaurants, that are well connected via public transportation. The Village has the potential to absorb smaller-scale niche office space, including medical and institutional office space. In addition, startup companies may find denser older office stock within the Village

1 This count is likely not inclusive of all businesses located within the BOA, as identifying specific businesses (particularly smaller businesses, or companies renting office space), is difficult to capture. The survey was conducted utilizing recent street-level imagery, confirmed with field visits and then linked to Nassau County parcel data to provide for geolocation of these businesses.

desirable. The Village is positioned to support "feeder" businesses and smaller companies which engage with larger regional institutions, including white coat, technical services companies.

Available jobs within the Village are primarily within five industry sectors: a) educational services, b) healthcare and social assistance, c) public administration, d) other services, and e) retail trade. These five sectors employ approximately two-thirds of the Village's workforce, with the education sector employment representing approximately 30 percent of all workers. The Village also has a number of manufacturing businesses, including specialty food preparation such as Golds Pure Foods, and smaller specialty manufacturing businesses like Century-Tech, and Moreland Hose and Belting.

The BOA's high proportion of personal service businesses (12 percent), such as nail salons and hair salons, and automotive services (16 percent) may become an area of concern for future development within the Village. Both of these sectors are closely connected to larger economic trends, as they rely on customers having disposable income to spend on personal services and cars. During periods of recession when there is less consumer spending these businesses will likely experience a loss in sales and would be vulnerable to closing.

WORKFORCE ASSESSMENT

Residents of the Village are primarily employed in blue-collar, and support service occupations including construction (10 percent), building and grounds maintenance (13 percent), food preparation (10 percent), and office and administrative support (12 percent). Village residents are employed more heavily in healthcare support roles (5.5 percent), compared with Nassau County residents (2.2 percent). Further, 27 percent of Nassau County residents are employed in professional occupations, compared with only 12 percent of Village residents.

2016 ACS data indicates that residents within the Village over 25 have a lower average educational attainment than Nassau County residents.

This data coupled with data on workforce composition above suggest that a large share of resident's lack the skills and knowledge necessary to access a wider range of jobs. Within the Village, approximately 30 percent of residents are employed in labor positions, and this closely matches with the number of residents that lack a high school education, while professional employment seems to trend with the number of residents with a college or post-graduate degree.

A large share of residents in the Village workforce are employed by companies within Nassau County and only a few commute to Suffolk County or New York City. Of the approximately 20,800 employed Village residents, approximately 91 percent leave the Village for employment. Many are employed within the larger regional economic hubs including the Roosevelt Field Mall, the Feinstein Institute for Medical Research, and John F. Kennedy (JFK) airport. Others are

employed more locally in neighboring communities such as Freeport, Baldwin, Uniondale, and Mineola.

Approximately 89 percent of those employed within the Village are not residents of the Village. These workers largely commute to Hempstead from across the Town of Hempstead. This large influx of workers into the Village suggests jobs within the Village have the ability to attract workers, and the Village's central location and roadway network makes commuting to the Village practical.

Based on the data presented, employment and career growth can occur within the Village in a few ways:

- The CDA can encourage employers to hire Village residents with matching skill sets and educational attainment, in order to provide more opportunities for residents to work within the Village and reduce employment-related travel.
- The CDA can assist Village residents in accessing jobs they are qualified for outside of the Village.
- The CDA can promote workforce development and training opportunities that already exist, or create new programs in order enhance the qualifications of Village residents so they can find employment within the Village.

SUMMARY OF ANALYSIS, FINDINGS, AND RECOMMENDATIONS

This section describes recommendations for the proposed BOA that will form the basis for an Implementation Strategy under Step 3 of the BOA Program. These recommendations are intended to help realize the goals associated with downtown revitalization, such as job creation, housing, and redevelopment of potential brownfield, vacant, abandoned and underutilized properties.

The Village and the AKRF team have developed recommendations for a number of Strategic Sites as well as for area-wide redevelopment that would have the greatest impact in terms of achieving the community's vision. **Table S-3** describes the recommended implementation strategies for each of the identified Strategic Sites, that will be required to achieve the site-specific goals. All of the recommended projects should be considered a high priority, but their timing will differ depending on such factors as site control; consistency with zoning (or need for rezoning or implementation of an overlay district); cooperation and coordination with property owners and with other governmental agencies and county, State, and Federal authorities; and funding availability.

Table S-3
Proposed Strategic Sites and Implementation Strategies

Implementation Strategy	Description	Recommended Actions	Applicable Sites	Funding Sources
1. Market the BOA and Strategic Sites as Targets for Developers and Investors, including Opportunity Zone Funds	The Village should create a marketing strategy to highlight both area-wide strategies and conceptual districts, as well as to advertise individual Strategic Sites, assemblages, and intersections based on the goals and objectives identified by the Village.	• Build on the Strategic Site Profiles • Provide opportunities for enhanced educational training/job readiness/skill development and identify businesses to create "training incubators" for residents • Engage with consultants and capital markets brokers to better understand who the potential targets of the Village's marketing efforts are and how they can best be reached (e.g., conferences, forums, organizations, networks) • Promote the Village's overall assets and strengths and highlight individual strategic development sites	ALL	BOA Program; Downtown BID membership dues; contributrions from the Town or Individual Property Owners
2. Identify and Pursue Funding to Improve Water and Sewer Infrastructure	The Village of Hempstead faces critical water and sewer infrastructure challenges. The system is already capacity-strained and needs to be upgraded to sustain current service levels. If the Village hopes to attract investment for development, a master plan for Village-wide water and sewer infrastructure improvements and funding to make the requisite upgrades is necessary.	Water: • An additional capacity of 2.32 MGD in the near term (less than 5 years), cumulative additional capacity of 2.70 MGD in the mid-term (10 to 15 years) and an overall additional capacity of 5.37 MGD over the longer term (20 to 30 years) needs to be added to the water system. • The proposed new wells planned at the Kennedy Park and the storage tanks proposed in place of the water treatment basins at the Clinton Street plant, as part of the capital improvement projects in the Village, are aimed at meeting these additional capacity requirements. • One or two large diameter (16" or 24") mains from the Clinton Street plant westwards towards the Main Street for a total length of 100 linear feet (LF) is to be added to the distribution system. • Additional 12" mains should be constructed on the streets being redeveloped, to adequately serve the redevelopment areas. • Periodic maintenance of the treatment systems and timely replacement of the iron removal filters for the wells will help increase the reliability of the water system. • The New York State Plumbing Code requires the use of water conserving fixtures. • Use of Green Infrastructure (GI) techniques, such as installing Cisterns locally and using the stored stormwater for secondary usages would bring down the per capita consumption demand on the water system.	ALL; Sites 6, 7, 8, 9, and 10	Village of Hempstead Capital Improvement Funding

Notes: Brownfield Opportunity Area (BOA); Downtown Revitalization Initiative (DRI); Consolidated Funding Application (CFA); Transit-Oriented Development (TOD).

Table S-3 (cont'd)
Proposed Strategic Sites and Implementation Strategies

Implementation Strategy	Description	Recommended Actions	Applicable Sites	Funding Sources
Identify and Pursue Funding to Improve Water and Sewer Infrastructure	Even under existing conditions the water and sewer system in Hempstead is facing serious issues. The current system is already capacity-strained and needs to be upgraded to sustain service level at the existing condition. If the Village plans to attract future development, additional measures will be necessary.	Sewer: • The sewer main along Main Street from Stowe Street on the north to Fulton Avenue on the south (approximately 3500 LF) needs to be upgraded to a 24" sewer in order to adequately convey the existing flows as well as take the future additional flows from the redevelopment projects envisaged along the Main Street. • As part of diverting the flow to Cedar Creek WPCP from the Newman's Pumping Station tributary area, a 30" sewer connecting the proposed flow diversion pumping station and the Fulton Avenue-North Franklin Street junction needs to be constructed (for an approximate length of 3200 LF). • As part of the capital improvements related to the planned redevelopment projects, the sewers running East-West on Stowe, Sammis, Miller, Union, Kendig, Kellum, Bedell, West Columbia, Jackson, and Nicholas Streets, connecting to the sewer main along the Main Street, need to be upgraded to 16" sewers at a later stage. • Construction of a new flow diversion pump station near the Weekes Pump Station to divert some of the flows going into the Bay Park Sewage Treatment Plant needs to be executed at the earliest possible stage during implementation. • Identification and removal of inflow from cross connections with stormwater systems, storm water ponding on streets over sewer lines, roof leader and gutter piping, and similar types of unapproved connections can create capacity within the existing collection system. • Periodic maintenance of the collection system to identify any defects in the physical condition of the sewers would ensure there are no bottlenecks in the collection capacity of the system. • For the proposed redevelopment projects, sustainable features should be incorporated into the project design to minimize the project demands on the water and sewer infrastructure. • To reduce the stormwater discharges from the existing sites, site-specific stormwater management approaches including the use of water conserving fixtures, on-site detention and retention tanks for stormwater, and reuse of the captured stormwater within the site are recommended. • Since the proposed redevelopment projects impose considerable demands on the water and sewer infrastructure, the Master Drainage Plan should be amended in consultation with the Village and the County. • As more redevelopment projects are envisaged in the downtown redevelopment area, an additional study on the sewer system may be needed to assess the sewer improvements needed to service the additional flows from specific project sites. Therefore, the Village should pursue funding to develop a Master Infrastructure Plan.		
3. Establish an Innovation District	The Village has a great number of physical, institutional, and demographic assets that are currently disjointed and underperforming. Connecting and leveraging these assets will likely produce a higher value than the sum of its parts. Creating an innovation district would provide a framework for linking these assets to ultimately grow existing and attract new businesses, create jobs, and uplift the entire community.	As part of Step 3, the Village should take the next steps that will lead to an innovation district. The Village should create a plan that evaluates the existing economic, networking, and physical assets within the Hempstead BOA. The plan needs to identify: • Intermediary and community organizations (i.e., incubators, accelerators, shared workspace, work training centers); • Physical assets; • Specific industries to attract, if any; • Linkages so the community will benefit to the highest degree possible; • How to fund and sustain the district over the years to come; and • The amenities and space a (skilled) workforce seeks.	Site 10	TBD

Notes: Brownfield Opportunity Area (BOA); Downtown Revitalization Initiative (DRI); Consolidated Funding Application (CFA); Transit-Oriented Development (TOD).

Table S-3 (cont'd)
Proposed Strategic Sites and Implementation Strategies

Implementation Strategy	Description	Recommended Actions	Applicable Sites	Funding Sources
4. Encourage Social Infrastructure to be Included in Site Programming	The community and market assessment has shown that there is a need within the community for services that improve the quality of life of residents and their ability to participate in the labor force (e.g., day care). Integrating these social infrastructure elements into the future development programs is a unique opportunity for the Village to improve the lives of community members. In addition, residents voiced a concern over the lack of medical services (e.g., specialists).	As part of Step 3, the Village should assess how these uses can be incorporated in the proposed development programs. The Village should: • Assess whether and how community facilities can be encouraged through the Village zoning code. • Identify the best locations within the BOA that are most conducive to house these uses. • Identify providers and funding. • Pursue funding for a transit-oriented child care plan.	Sites 5, 8, and 9	TBD
5. Pursue DRI Funds to Develop a Comprehensive Downtown Revitalization Plan to Complement the BOA Goals	DRI is a state-funded program aimed at transforming downtown neighborhoods into not only livable, but vibrant and desirable communities.	The proposed BOA including the Strategic Sites located on North Main Street within walking distance to the Hempstead LIRR station and Transit Center is primed for downtown revitalization. If additional funding becomes available, the Village plans to pursue State of New York Downtown Revitalization Initiative (DRI) funds to build upon the BOA designation process and develop a community-driven, comprehensive downtown revitalization with implementation strategies complementing the highlighted goals. Additional projects may be implemented through the CFA or other funding sources.	Sites 6 and 9	DRI, CFA
6. Revitalize Critical Intersections through the Consolidated Funding Application (CFA) Process	The intersections of Main Street and Fulton Avenue and Franklin Avenue and Jackson Street are important connectors for the community and could play an important role in revitalization.	If additional funding becomes available, the Village plans to pursue DRI funds to revitalize these two key Strategic Site intersections as gateways to the community that will encourage pedestrial activity and house social infrastructure elements such as childcare.	Sites 6 and 9	DRI, CFA
7. Capitalize on Federal Opportunity Zone Designation	The Village has two geographic regions that have been designated as Opportunity Zones, which partially overlap with the proposed BOA. Further incentives for the redevelopment of properties within this designated area are available.	Recent legislation has further incentivized investing in brownfield properties within Opportunity Zones by allowing taxpayers with taxable capital gains from the sale of any asset, who reinvest those gains within 180 days of the date of sale into a "Qualified Opportunity Zone Property," to become eligible to receive significant tax benefits. All of the Strategic Sites identified (apart from a portion of the Innovation District-Strategic Site 10) are located within the Hempstead Opportunity Zone. State and Federal grant opportunities give priority to redevelopment projects that are within an Opportunity Zone and/or a BOA, thereby providing the maximum incentive for leveraging of funding streams and redevelopment of the Strategic Sites within downtown Hempstead. It is important to convey the availability of these additional incentives to investors/developers when encouraging redevelopment in the Village of Hempstead.	ALL	Tax Incentive
8. Redesign Strategic Intersections to Foster Placemaking and Improve Connectivity	Visualizing how the intersection may look and how it will affect the surrounding community and the people in the Village will be important. Providing sketches that will show the transition from the residential area to a vibrant commercial downtown neighborhood will help to generate community support and provide public agencies and elected officials with much needed information to dedicate additional funding to the project.	Engage consultants to develop visuals. Visuals will be created for two of the most important strategic intersections identified in the BOA study: 1) the intersection at Fulton Avenue and Main Streets (Strategic Site 6); and 2) the intersection at Franklin Avenue and Jackson Street (Strategic Site 9).	Sites 6 and 9	BOA Program
9. Better Integrate the Train Station and the Multi-modal Bus Facility to Take Advantage of TOD Opportunities	There's an opportunity to develop new residential housing, office, and supportive retail proximate to the train station and multi-modal bus facility to take advantage of the Village's tremendous access to Long Island's extensive transportation network.	Strategic Sites 1-4 were selected as they are previously approved development projects located in proximity to the Hempstead LIRR station and Transit Center, although as of Fall 2019, their site plan approvals have expired. These sites can serve to anchor the northern portion of downtown, increasing residential density near transit, as well as provide examples of new mixed-use development within the Village. The Dell Bus project is anticipated to bring new transportation workers to the area, promoting commercial activity in the midday hours as well as the evening.	Sites 1 through 4	Private Developers

Notes: Brownfield Opportunity Area (BOA); Downtown Revitalization Initiative (DRI); Consolidated Funding Application (CFA); Transit-Oriented Development (TOD).

Chapter 1: Project Description and Boundary

A. INTRODUCTION

The Incorporated Village of Hempstead ("the Village") has been actively facilitating the redevelopment and revitalization of the Village's Downtown area for over a decade. This report builds on various planning efforts, including: the *Village of Hempstead, NY: Downtown Vision and Comprehensive Development Plan Update* (2008); *The Story of Hempstead Rising* (2011); the *RenewHempstead* initiative[1] (started in 2012); and the Downtown Overlay Zones (DOZ) ordinance and Zoning Map Amendments (2012).

As a continuation of those efforts, the Village has prepared this Nomination Report for the proposed Village of Hempstead Brownfield Opportunity Area (BOA) under Step 2 of the State of New York's Brownfield Opportunity Areas Program (i.e., BOA Program), administered by the New York State Department of State (NYSDOS). Step 2: Nomination of the BOA Program is one of three steps in the BOA process. Step 1: Pre-Nomination Study "provides a basic and preliminary analysis" of a BOA.[2] Step 2: Nomination of the BOA Program "provides an in-depth and thorough description and analysis, including a market trends analysis, an analysis of existing conditions, opportunities, and reuse potential for properties located within the BOA with an emphasis on the identification and resuse potential of strategic brownfield sites ("Strategic Sites") that may be catalysts for revitalization." Step 3: Implementation Strategy "provides a description of the techniques and actions to implement the area-wide plan, and compliance with the New York State Environmental Quality Review Act (SEQRA) regulations. Site assessments on Strategic Sites within the BOA may be eligible for funding if additional environmental information is required to assist in determining future land use." The BOA Program allows applicants to enter the program at either Step 1 or Step 2, although an applicant typically must prepare a Pre-Nomination Study with the Step 2 grant funding application. As the Village has already conducted extensive outreach and has undertaken numerous planning and implementation efforts (to be described in more detail in this report), NYSDOS determined that the Village would be able to enter the BOA Program under Step 2: Nomination, which the Village is currently pursuing with the preparation of this Nomination Report.

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[1] *RenewHempstead* was a community-driven initiative focused on promoting a vision for the future of the Village of Hempstead's downtown that is vibrant, inspiring, and representative of its people's aspirations. The purpose of this crowdsourced placemaking program was to establish a partnership between Renaissance Downtowns and UrbanAmerica (RDUA) and the Village of Hempstead community, in collaboration with the Village government, in defining its vision for revitalization.

[2] New York State Department of Environmental Conservation (DEC). (2008). Brownfield Opportunity Areas Program: Guidance for Applicants. Retrieved from:

https://www.dos.ny.gov/opd/programs/pdfs/Reports_Forms/2008_Guidance_2010_Site_Assessment.pdf, last visited 10/2019.

Designation of the BOA by the New York State Secretary of State would occur following successful application to NYSDOS for designation, and would allow the Village to apply for additional BOA Program funding under Step 3.

This Step 2 Nomination Report includes an in-depth existing conditions assessment and sets forth recommendations for land use, transportation, and infrastructure improvements, to foster community revitalization. This Step 2 Nomination will set the stage for Step 3 of the BOA Program, which will investigate the implementation strategies to be taken to achieve the recommendations proposed in this Step 2 Nomination. The aim of which will be to foster the continued revitalization of the Village's Downtown area. The Step 2 Nomination is intended to further the implementation of the ongoing community-based redevelopment and revitalization efforts for the Village by identifying Strategic Sites for redevelopment and potential site-specific uses as well as selecting sites recommended for Phase II—Environmental Site Assessments (ESAs) or other redevelopment-oriented funding under Step 3 of the BOA Program.[3] Strategic Site Profiles have also been developed which will serve as marketing tools to attract developers and ensure full environmental disclosure (see **Appendix B**). With this Step 2 Nomination, the Village of Hempstead is taking action to return potentially contaminated, abandoned, underutilized, or vacant properties to active use, by fostering redevelopment strategic sites to catalyze revitalization within the BOA.

The BOA Program puts participating communities at the forefront of revitalization and urban economic development initiatives, especially in distressed communities. It facilitates the delivery of State money for area-wide and individual site redevelopment and reinvestment, and acts as a catalyst for an area's physical, social, and economic revitalization. This program blends NYSDOS's expertise, working in partnership with various interests on community-based planning projects with the complimentary expertise of the New York State Department of Environmental Conservation (DEC) that is focused on assessing and cleaning up brownfields.

This chapter introduces the BOA project, project sponsors, and proposed BOA boundary and justification. The chapter also provides an overview of the community vision, goals, and objectives for the Village's BOA and Downtown area. The adoption of the *Downtown Vision and Comprehensive Development Plan Update* in 2008 resulted in a unified vision for a revitalized downtown for the Village of Hempstead. Since that time, the Village, through its Community Development Agency (CDA), has been taking steps to implement this Downtown Vision to improve the quality of life, diversity, and vitality of the Downtown economy, addressing the increasing need for a broad range or housing options for various income levels and demographic groups and allowing high intensity, multi-functional uses (commercial/office, recreational, institutional, and residential) in a pedestrian-oriented setting; and promoting quality streetscaping and landscaping improvements. Some recent renewal efforts have strengthened the Village of Hempstead's transportation assets, generated new mixed-use development and attracted several big box retail stores. The Village retains a strong downtown center, surrounded by industrial and institutional uses along radial corridors. The Village seeks to leverage public and private investments to transform its downtown into a regional economic engine supporting additional strategic paternships, and public and private equity investment. Objectives include a comprehensive assessment, infrastructure improvements and redevelopment of abandonded and underutilizied properties within the downtown area. Strategic Sites will be repositioned to serve

[3] Strategic Sites are sites identified for their reuse potential that may be catalysts for revitalization of the larger area.

as catalysts to spur economic growth and investment leading to further business development and sustainable job creation.

Specific activities undertaken by the Village include creating a Downtown Overlay Zone (DOZ), which was adopted as local law on July 3, 2012 to promote the health, safety and general welfare of the Village by creating a holisitic and comprehensive economic development strategy that utilizes the principles of social, economic and environmental responsibility to reestablish the downtown as a center of vibrancy within a mixed-use, transit-oriented setting. Parcels totaling 35.1 acres have been targeted for revitalization and development within the DOZ. Commercial, light industrial, residential and mixed-use projects developed within the DOZ are subject to the Community Benefits Agreement adopted by the Incorporated Village of Hempstead in February of 2013. Additionally, the Village has successfully petitioned to have two of its eligible census tracts within the Downtown Overlay Zone, designated as Federal Opportunity Zones under the Investing in Opportunities Act of 2017, which will enable the Village to leverage private investments to maximize economic opportunities within the downtown area.

1. Census Tract 36059406801 (4068.01)—The majority of this census tract falls within the previously designated DOZ and the contiguous Brownfields Opporunity Area (BOA). At the time of this submission, three mixed-use and one commercial development are "shovel-ready." Significant public and private ivestments have already been secured for infrastructure improvements which would maximize development opportunities within this, as well as contiguous census tracts.

2. Census Tract 36059406802 (4068.02)—The southwest portion of this eligible census tract falls within the DOZ and encompasses the heart of the Village's Main Street downtown transit hub. The Rosa Parks Hempstead Transit Center is the terminus for the Hempstead Line of the Long Island Rail Road, serves more than 55,000 commuters daily and offers direct service into Manhattan. The transit center also serves 19 bus routes for the Nassau Inter-County Express and is a major transfer point, offering ideal opportunities for transit-oriented development. Several large commercial spaces are prime assets for redevelopment.

The Village plans to continue its efforts to transform blighted and contaminated areas into a thriving location where mixed-use residential and retail development, new affordable housing, business incubators, and recreational areas exist. This Step 2 Nomination Report will build upon the community goals and objectives identified in the Downtown Vision and Comprehensive Development Plan and will serve as a continuation of the Village's ongoing efforts to redevelop and revitalize the downtown area, and support local revitalization efforts.

B. LEAD PROJECT SPONSORS AND INVOLVED COMMUNITY ORGANIZATIONS

This section describes the organizational structure of the Incorporated Village of Hempstead Community Development Agency (CDA) as the local community development agency sponsoring the proposed BOA, its relevant experience, and achievements in this field, and its relationship to other local entities and government agencies.

As the local community development agency of the Village of Hempstead, the CDA's ongoing efforts to transform vacant properties and improve business conditions within the downtown, along with work coordinating various government and community stakeholders makes the CDA uniquely qualified to successfully implement the BOA Program within the Village of Hempstead. The BOA Program marries the area-wide brownfield planning process and community vision with

site-specific developments, which supports the overall mission and specific goals of the CDA. The CDA's function is to plan and implement programs involving the rehabilitation of both residential and commercial sectors of the Village, foster economic growth, provide assistance to community-based public service organizations, eliminate blight and improve opportunities for low- and moderate-income residents. The CDA seeks to foster a more viable Village community by promoting integrated solutions for a healthy, safe and sustainable living environment. The CDA plans and implements programs to boost the Village economy, improve opportunities for Village residents and business owners, as well as support community-based public service organizations.

The CDA's mission statement is "To plan, execute, and effectuate projects, programs, and policies which address community revitalization; prevent and/or arrest conditions that create blight and deterioration; develop a viable community; create opportunities for economic development, affordable housing and a better quality of life for the residents of the Incorporated Village of Hempstead."

Under the direction of Mayor Don Ryan and the CDA's Board, Commissioner Charlene Thompson seeks to maximize the opportunities for economic empowerment of the residents of the Village as well as support the creation of jobs through local business growth and development. Commissioner Thompson sees the Agency as an engine to drive economic, housing and community development, job creation and revitalization for the Village. With the support of Mayor Ryan and the CDA's Board, Commissioner Thompson seeks to actively engage key community stakeholders to attract additional funding, leverage resources and promote opportunities for economic advancement for Village residents and local business owners. Commissioner Thompson will also work diligently to secure resources to eliminate barriers to existing revitalization efforts.

ORGANIZATIONAL BACKGROUND

The Incorporated Village of Hempstead Community Development Agency is a public benefit corporation established in 1964 under Title 15 Section 585-A of the General Municipal law of the State of New York.

Initial efforts undertaken by the CDA in the 1960s involved the removal of substandard housing in areas surrounding the downtown. Included in this effort was the Mitchell-Lama apartments on Jackson Street and Washington Street and the Washington Square apartments between Washington Street and Clinton Street south of Jackson Street. Commercial redevelopment centered around the construction of a Holiday Inn and a seven story office building on Clinton Street south of Fulton Street. The Holiday Inn was converted into subsidized apartments for seniors and families.

In the 1970's the CDA was part of the effort to realign Greenwhich Street and Main Street. This allowed for a smooth flow of traffic into the downtown of the Village from the south.

In the years since, the CDA has been a vital partner in the creation of affordable housing, business development, workforce development, and the redevelopment of commervial spaces. This work has been recognized with awards such as the Small Business Advocate Award. On May 13, 2019, the United States Conference of Mayors and the Partner America Program presented Mayor Don Ryan with the Small Business Advocate Award for his dedication to the small business community.

RELEVANT COMMUNITY REVITALIZATION AND BROWNFIELD DEVELOPMENT EXPERIENCE

The CDA's strong relationship with local community groups, non-profits, and other regional stakeholders allows the CDA to take on a comprehensive approach to community redevelopment, drawing on the vast network of resources and support the CDA has fostered since its establishment. These qualities make the Village of Hempstead CDA an ideal applicant and development partner for the BOA program.

As part of its mission to expand economic opportunities for the Village of Hempstead and support local development, the CDA has gained experience in urban redevelopment and revitalization. A few relevant examples are provided below:

COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

The Village of Hempstead is a member of the Nassau County Urban Consortium which consists of towns, cities, and villages located in Nassau County. The Consortium is an "entitlement community" under federal law and its members are eligible for grants awarded by the United States Department of Housing and Urban Development (HUD) under the Community Development Block Grant (CDBG) program. Community Development Block Grants enable entitlement community members to carry out a wide range of community development activities that are directed towards improving community facilities and services, revitalizing neighborhoods and increasing economic development.

VILLAGE OF HEMPSTEAD EMPIRE STATE POVERTY REDUCTION INITIATIVE: HEMPSTEAD ANTI-POVERTY TASK FORCE

The Village of Hempstead was selected as one of 16 communities statewide to participate in the Empire State Poverty Reduction Initiative (ESPRI):

- ESPRI is modeled after the Rochester-Monroe Anti-Poverty Initiative and is an exciting opportunity for community members to work together to develop and execute an innovative plan to reduce the number/percentage of households residing in poverty and increase the number/percentage of households with earned income above poverty.
- The Village of Hempstead will establish an anti-poverty task force to identify common issues that significantly contribute to individuals living in poverty and develop recommended interventions to address these issues

RELATIONSHIP TO LOCAL GOVERNMENT AND COMMUNITY BASED ORGANIZATIONS

As the Village of Hempstead's economic and community development agency, the CDA has a strong relationship with the various municipal departments within Village government, as well as counterparts in the Town, County, and New York State government. The CDA has also fostered strong relationships with local non-profits and other community-based organizations thatprovide critical support to the CDA's work and to the BOA process.

As the CDA proceeds through the BOA Program, it continues its ongoing collaboration with the following government officials, municipal agencies, and local community-based partners within and surrounding the Village of Hempstead:

GOVERNMENT OFFICIALS

County of Nassau

Evlyn Tsimis, Deputy County Executive for Economic Development, Office of the Nassau County Executive

Sean E. Sallie, AICP, Deputy Commissioner, Nassau County Department of Public Works

Kevin J. Crean, Director, Nassau County Office of Community Development

Kennetha A. Pettus, Director of Housing, Nassau County Office of Housing & Community Development

Town of Hempstead

Richard Ramos, Deputy Comptroller, Town of Hempstead

George Bakich, Commissioner, Town of Hempstead Department of Planning & Economic Development

Town of North Hempstead

Rosemary A. Olsen, Esq., AICP, Executive Director, Town of North Hempstead Community Development Agency

VILLAGE OF HEMPSTEAD GOVERNMENT OFFICIALS AND MUNICIPAL AGENCIES

Don Ryan, Mayor

Village of Hempstead Board of Trustees, Deputy Mayor Charles Refroe, Trustee LaMont Johnson, Trustee Jeffrey Daniels and Trustee Waylyn Hobbs, Jr.

Joseph Gill, Treasurer

Patricia Perez, Village Clerk

Stacey Hargraves, Village Assessor

Village of Hempstead Building Department, Joseph Simone, Jr., Superintendent

Village of Hempstead Housing Authority, Shereen Goodson, Executive Director

Village of Hempstead Human Relations Department, Juanita Hargwood, Director of Human Relations/Community Relations

Village of Hempstead Library, Irene Duszkiewicz, Director

Village of Hempstead Law Department, Cherice P. Vanderhall, Esq., Village Attorney

Village of Hempstead Parks & Recreation, George Sandas, Superintendent

Village of Hempstead Police Department, Chief Paul Johnson

Village of Hempstead Department of Public Works, Frank Germinaro, Director of Public Works

Village of Hempstead Tax & Water Department, Verlene Holder, Superintendent

Village of Hempstead Water Plant, Michael Taylor, Supervisor, Water Plant and Ralph Fraile, Supervisor, Water Department

Village of Hempstead Public Schools, Ms. Regina Armstrong, Acting Superintendent

Village of Hempstead Public Schools, Mr. James Clark, Assistant Superintendent for Strategic Initiatives

COMMUNITY PARTNERS

The CDA has established quarterly Inter-Agency Council meetings to identify current and emerging issues impacting the community, keep local organizations informed about upcoming activities and to foster collaboration and leveraging of resources. The CDA actively partners with numerous community-based organziations, agencies and institutions to provide various services to Village residents and business owners. The community partners include, but are not necessarily limited to:

Table 1-1
Community Partners and Collaborative Efforts

No.	Organization	Funding Support/Joint Initiatives/Collaboration with the CDA
1	Hempstead Community Land Trust (HCLT)	The CDA facilitated the relaunch of the HCLT to support the objectives of creating an inventory of affordable residential and commercial properties to remove blight and foster downtown revitalization. The HCLT has filed and is awaiting confirmation of its status as a 501(c)(3) and will then pursue designation as a Community Housing Development Agency.
2	Interfaith Nutrition Network (INN)	As a not-for-profit, volunteer-based organization, the INN provides a broad variety of essential services to assist those challenged by hunger, homelessness and profound poverty. The INN partners with those in need in a dignified and respectful manner in order to help them achieve self-sufficiency. Grant funding provides mental health/substance abuse services for very low-income and homeless individuals who face multiple barriers to accessing services.
3	Leadership Training Institute (LTI)	LTI's mission is to provide hard and soft skills training, cognitive behavioral training, support groups, professional mentorship, vocational training materials and additional resources. Grant funding provides vocational training leading to gainful employment for harder to employ individuals 18 years of age and older. Additional funds have been used to cover the costs and supplies for the Building for Success Afterschool Program. Participants are from the David Patterson Elementary School, AGBS Middle School, and Hempstead Hispanic Civic Association.
4	Economic Opportunity Commission of Nassau County	Grant funds used to support anti-gang activity via a soccer program. Costs include but are not limited to; uniforms, registration fees, materials, supplies and travel for low to moderate income youth.
5	A.B.B.A. Leadership Center	The CDA works with ABBA to provide support to reunite men and women with their families that naturally combats the negative influence of drugs, crime, violence, gangs and poverty and reduce entanglement in the criminal justice system to reduce the high rate of recidivism. The CDA has provided specific funding for OSHA 10, OSHA 30 & Flagger Certification Programs facilitated by ABBA. ABBA works directly with trainee and employers to support successful transition to the workforce.

Notes: Village of Hempstead Community Development Agency (CDA); Able Body Believer's Alliance (A.B.B.A.); Occupational Safety and Health Administration (OSHA); Police Athletic League (P.A.L.); Partnerships in Education to Avoid Criminal justice system Entry (PEACE); Science, Technology, Engineering, Art, and Math (STEAM); Science, Technoligy Engineering, and Math (STEM); Empire State Poverty Reduction Initiative (ESPRI); Test Assessing Secondary Completion/General Education Development (TASC/GED); Empower. Assist. Care. (E.A.C.);

Table 1-1 (cont'd)
Community Partners and Collaborative Efforts

No.	Organization	Funding Support/Joint Initiatives/Collaboration with the CDA
6	Hempstead Hispanic Civic Association	Funds used for costs associated with the summer camp program. Costs will include but not be limited to payroll, field trip admissions, transportation, and supplies. Participants are primarily for families where Spanish is the primary language.
7	Hempstead P.A.L.	Funding supports programs for local youth (ages 5-14) in track and field events, karate, and basketball.
8	Women's Opportunity Rehabilitation Center (W.O.R.C.)	The WORC program is utilized as an alternative to a jail sentence. Through assessment, tutoring, counseling and ultimately employment, WORC ends the women's need for public assistance. Grant funding supports vocational job training and soft skills training for women who are at risk of incarceration and female ex-offenders. WORC also provides Court Advocacy for Pre-sentence Female Offenders, Educational Assistance, Life-skills Workshops, Assessment and Referrals.
9	P.E.A.C.E. Afterschool & Summer Camp Programs	Grant funding supports P.E.A.C.E. Afterschool Program, Inc., which operates a year round program consisting of an after school program where children are provided with free homework assistance, social/character development, academic enrichment and community service projects. Ongoing workshops engage cognitive skills that enable the students to say no to gangs. A Summer Program is also operated as a fun environment full of STEAM and sports experiences that promote academic, character, and physical enrichment. The Summer Camp provides field-trips, daily club activities, swimming, Career Day, and Camp Day to help the children develop their learning skills as they prepare for the upcoming school year.
10	Hempstead Hispanic Counseling Center (HCC)	HCC enhances the strengths of Long Island's families and children through bilingual, bicultural counseling, prevention, vocational and educational services to enrich their lives, foster economic independence and nurture dreams. ESPRI funding provides Community Health Workers to connect residents to resources and systems of care.
11	Hempstead Dons	Grant funding supports a youth basketball program for low to moderate income boys and girls between the ages of 5 and 12 in the Village of Hempstead.
12	Circulo de la Hispanidad	Circulo de la Hispanidad offers provides community programs and comprehensive human resources to the vulnerable families and individuals residing in underserved communities on Long Island. Circulo de la Hispanidad offers educational training in food services and hospitality; referrals services to help individuals with career and employment; and literacy classes, educational classes to preparation for the equivalency diploma and classes in computer literacy. Additional funding used to cover costs related to the implementation of adult education for low/mod income individuals including TASC/GED.
13	Reign 4 Life	Grant funding supports programs and gang prevention/intervention and alternatives to incarceration initiatives for at-risk youth from the Village of Hempstead.

Notes: Village of Hempstead Community Development Agency (CDA); Able Body Believer's Alliance (A.B.B.A.); Occupational Safety and Health Administration (OSHA); Police Athletic League (P.A.L.); Partnerships in Education to Avoid Criminal justice system Entry (PEACE); Science, Technology, Engineering, Art, and Math (STEAM); Science, Technoligy Engineering, and Math (STEM); Empire State Poverty Reduction Initiative (ESPRI); Test Assessing Secondary Completion/General Education Development (TASC/GED); Empower. Assist. Care. (E.A.C.);

Table 1-1 (cont'd)
Community Partners and Collaborative Efforts

No.	Organization	Funding Support/Joint Initiatives/Collaboration with the CDA
14	Help Ending Violence Now (HEVN)	HEVN is a coalition of Faith Based Ministries, Law Enforcement Agencies, School Districts / Educational Institutions, Government Officials, Businesses, Community Organizations / Agencies, Individuals and Families working collaboratively to preserve and enhance the quality of life for all by preventing the growth and reversing the negative influence of gang and youth violence upon communities. Grant funds are used to support programs and initiatives in furtherance of HEVN's mission.
15	Springboard Incubators	Grant funding is used to strengthen the workforce in the Village of Hempstead through educational programs in technology. After completing the Springboard program, participants will have the skills necessary to perform tasks as entry level programmers, data analysts and data scientists. The program will focus on participants between the ages of 18-25.
16	E.A.C. Network	The E.A.C. Network offers over 70 programs designed to assist children in trouble in school, persons involved in the criminal justice/family court system, recovering substance abusers, the frail elderly, and families in crisis.
17	United Way of Long Island: Hempstead Youth Build	United Way of Long Island has launched the Hempstead YouthBuild program. As a program partner, the Village of Hempstead CDA has agreed to provide referrals for students to attend the YouthBuild program. Some of the referrals will be students who left high school without a diploma. The CDA has also agreed to facilitate the participation of Hempstead YouthBuild participants on housing development and revitalization on properties owned and/or acquired by the CDA.
18	Town of Hempstead Department of Occupational Resources (DOOR) a.k.a. Hempstead Works	DOOR assists Village residents by guiding participants through sector-based career pathways by offering education and training in demand-driven occupations such as healthcare, business services, manufacturing and hospitality. HempsteadWorks also assists veterans, economically disadvantages young people, persons with disabilities and older job seekers. Grant funding provides job seekers with career referrals, training programs and access to a resource room that includes internet access, a computerized job bank and listings for available careers.
19	Youth for Tomorrow	Grant funding supports anti-gang activity via basketball and track programs for low to moderate income youth.
20	Morrison Mentors	Morrison Mentor's mission is to advance underserved communities through the mobilization and development of dedicated mentors that provide academic and career support to students and their families. Grant funding provides after-school STEM enrichment classes and peer-to-peer mentoring for students in the Hempstead school district.
21	Community Development Corporation of Long Island (CDCLI)	CDCLI invests in the housing and economic aspirations of individuals and families by providing solutions that foster and maintain vibrant, equitable, and sustainable communities. Grant funding provides financial literacy and long-term financial coaching sessions for low- to moderate-income families. CDCLI also offers foreclosure intervention support and counseling for first-time homebuyers.
22	Girl Scouts of Nassau County	Grant funding supports the STEM program for the girls in the Village of Hempstead elementary schools and middle schools.

Notes: Village of Hempstead Community Development Agency (CDA); Able Body Believer's Alliance (A.B.B.A.); Occupational Safety and Health Administration (OSHA); Police Athletic League (P.A.L.); Partnerships in Education to Avoid Criminal justice system Entry (PEACE); Science, Technology, Engineering, Art, and Math (STEAM); Science, Technoligy Engineering, and Math (STEM); Empire State Poverty Reduction Initiative (ESPRI); Test Assessing Secondary Completion/General Education Development (TASC/GED); Empower. Assist. Care. (E.A.C.);

Table 1-1 (cont'd)
Community Partners and Collaborative Efforts

No.	Organization	Funding Support/Joint Initiatives/Collaboration with the CDA
23	Choice for All	Hempstead Farmer's Market/This local grown produce, youth run farmer's market runs operated within the Village of Hempstead from June to October each year. The market provided fresh locally grown fruits and vegetable to this underserved, economically impacted community.
Notes: Village of Hempstead Community Development Agency (CDA); Able Body Believer's Alliance (A.B.B.A.); Occupational Safety and Health Administration (OSHA); Police Athletic League (P.A.L.); Partnerships in Education to Avoid Criminal justice system Entry (PEACE); Science, Technology, Engineering, Art, and Math (STEAM); Science, Technoligy Engineering, and Math (STEM); Empire State Poverty Reduction Initiative (ESPRI); Test Assessing Secondary Completion/General Education Development (TASC/GED); Empower. Assist. Care. (E.A.C.);		

Additionally, the CDA has engaged in active partnerships with several regional academic institutions, including but not limited to:

Table 1-2
Academic Institution Community Partners and Collaborative Efforts

No.	Organization	Funding Support/Joint Initiatives/Collaboration with the CDA
1	Hofstra University	J.P. Morgan Chase Foundation: Ascend 2020: The Incorporated Village of Hempstead has been selected as one of four "majority-minority" communities on Long Island to be the focus of a $100,000.00 planning grant to help support minority entrepreneurs. The Long Island Ascend program is run by Hofstra's National Center for Suburban Studies to support small business expansion in suburban communities where Hofstra's research shows a growing number of immigrants and displaced city residents now live. The CDA is an anchor partner in this as well as other local initiatives supported by the University.
2	Maurice A. Deane School of Law at Hofstra University	The CDA partnered with the Hofstra University School of Law to develop a *Fundamentals of Fair Housing* Continuing Legal Education Course for the Land Use Training Program for Municipal Planning and Zoning Officials hosted by the Hofstra University School of Law Breslin Center for Real Estate.
3	Adelphi University	For several years, the CDA has worked with students and staff from the Adelphi University Freshman Community Action Program, the Adelphi Gives Back Committee for our annual Village Beatification Initiative. Additionally, the CDA partnered with the University's Center for Non-Profit Leadership to implement a 10-week certificate program: *Leading In Community* specifically designed to build the knowledge, skills, and capacity of community based nonprofits to respond to successfully apply for the Community Development Block Grants (CDBG) that address "workforce development, health and wellness, education, economic empowerment and justice issues with "innovative" and "creative" projects that would reduce poverty."
4	State University of New York (SUNY) at Old Westbury	The CDA partnered with SUNY College at Old Westbury School of Business' Entrepreneurship where students enrolled in the course were required to develop an asset map of commercial real estate available for use in the Village of Hempstead and thereafter - select one of those available sites to design a business plan around that commercial site. Commissioner Thompson was a guest lecturer and also reviewed final class presentations and business plans.
Notes: Village of Hempstead Community Development Agency (CDA); Community Development Block Grants (CDBG);		

C. PROJECT OVERVIEW AND DESCRIPTION

The proposed BOA is located in the Village of Hempstead, Nassau County, New York. The Village is situated in the center of the County, approximately 16 miles east of the Borough of Queens, New York City (see **Figure 1-1**). The proposed BOA builds on the Village's past efforts to redevelop its downtown through various other projects and programs, as discussed below.

DOWNTOWN VISION AND COMPREHENSIVE DEVELOPMENT PLAN UPDATE

Prior to the demarcation of the proposed Village of Hempstead BOA, efforts were underway to facilitate the redevelopment of the the Village of Hempstead leveraging several projects and programs. A primary driver of these efforts was the 2008 "*Village of Hempstead Downtown Vision and Comprehensive Development Plan Update*." This document set forth guidelines for a coordinated downtown revitalization effort. This plan had several purposes including:

1) To ensure that future growth and development consistent with the values of Village residents;

2) To identify beneficial impacts of growth while minimizing negative effects

3) To recognize the economic value of land within the Village of Hempstead; and

4) To ensure that future growth is appropriate in type and design and served by a proper range of public services and in general supports public health, safety and welfare.

While undertaking these efforts, the Village engaged in a comprehensive planning process which included extensive community outreach meetings, and other public engagements.

The comprehensive planning process also included an inventory of downtown businesses and economic trends within the Village establishing the Downtown district, which also serves as the current BOA project boundary. When conducting an inventory of downtown Hempstead, the plan identified constraints to development including large plots of undeveloped surface parking which underutilized. The plan also identified assets such as the central location of downtown Hempstead to all of Nassau County, the transit hubs and the large attractors including the Nassau County Courthouse and Town Hall which bring visitors to downtown daily.

The Downtown Vision and Comprehensive Development Plan Update produced seven specific planning recommendations:

- Encourage mixed-use development (ground floor retail and upper-level residential uses);
- Utilize compact building design – higher density development and pedestrian-friendly streetscapes;
- Provide a range of downtown housing options;
- Strengthen commercial development within the downtown core;
- Maximize development potential of underutilized sites including large surface parking lots;
- Enhance existing parks and open spaces; and
- Provide a variety of transportation options, and enhance access, mobility and safety for all street users.

In response to these recommendations, the Village of Hempstead granted authority to the CDA to begin expanded efforts to engage and redevelop the downtown core. To facilitate this, the plan further provided a range of implementation techniques including changes to zoning and land use controls within the downtown area. This culminated in 2012 with an area-wide rezoning of the

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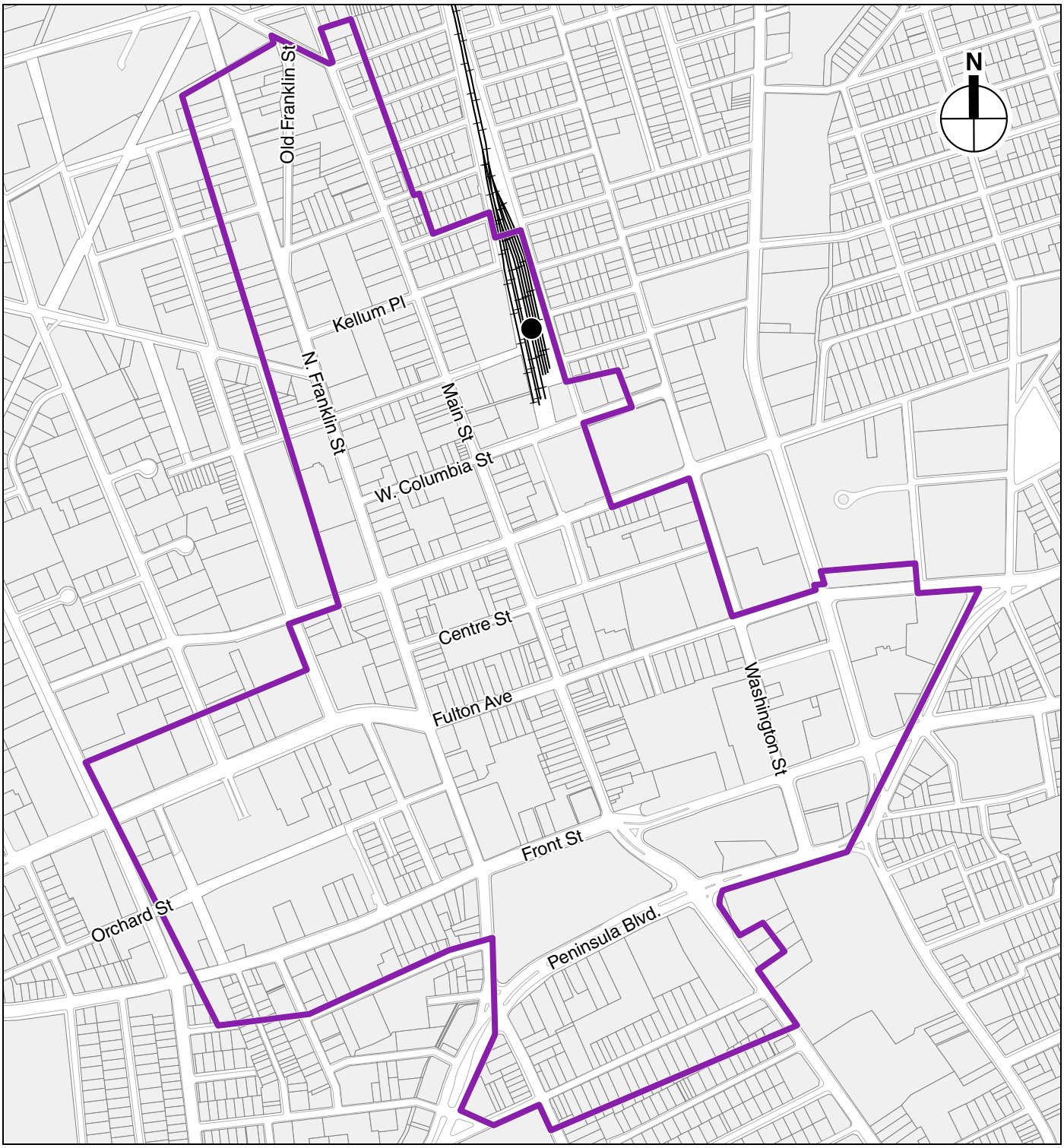


Proposed BOA Boundary

VILLAGE OF HEMPSTEAD BOA

Figure 1-1

downtown, which created the Downtown Overlay Zone (DOZ) to support the coordinated redevelopment of the Village of Hempstead.

DOWNTOWN OVERLAY ZONES AND MASTER DEVELOPER AGREEMENT

After the comprehensive planning process described above, in 2012 the Village of Hempstead entered into a Master Developer Agreement (MDA) with Renaissance Downtown Urban America LLC (RDUA),[4] a private development company. This MDA established RDUA as the coordinating developer for the Village of Hempstead and the North Main Street Urban Renewal Area. To support RDUA, the Village of Hempstead and CDA sold and deeded Village property within the downtown area to RDUA for the purposes of redevelopment. In total, RDUA was deeded approximately 26-acres of downtown property for redevelopment, primarily surface parking lots.

Coupled with the Master Developer Agreement, in 2012 the Village of Hempstead approved the creation of the Downtown Hempstead Overlay Zone (DOZ). This rezoning set out to actualize the downtown redevelopment planning efforts set out in the Downtown Comprehensive Plan, and provide a land use framework for RDUA as the Master Developer engaged in the development of downtown properties. The Downtown Overlay zones were established to create a holistic and comprehensive economic development strategy, focusing on mixed-use transit oriented development, and improving the pedestrian experience within downtown Hempstead. The Overlay zone established through the rezoning further informed the BOA as the overlay boundaries are coterminous with the identified BOA boundaries.

As a result of various intervening and external circumstances, despite the deeded transfer of Village properties and the establishment of the DOZ, RDUA has not as of yet engaged in substantial redevelopment downtown. Market conditions and external forces, coupled with internal changes at RDUA, as well as potential infrastructure constraints within the Village of Hempstead, have slowed the momentum towards development.

D. COMMUNITY VISION, GOALS, AND OBJECTIVES

COMMUNITY VISION

The main purpose of the BOA program is to encourage the development of known or potentially contaminated, vacant, abandoned and/or under-utilized sites in a way that honors the Village and stakeholder desires and needs, and benefits the community

Throughout the years, the Village of Hempstead has engaged in multiple needs assessments and studies that enhanced its participation in the BOA Program. From 2008 to the present, the Village has identified its assets and needs and is ready to begin transformative ventures that have been shaped by the BOA Program and AKRF's analysis. Building on a Visioning Workshop from 2008,

[4] RDUA is a partnership between Renaissance Downtowns (RD) and UrbanAmerica (UA). RD, based in Plainview, Long Island, is a privately held real estate development and investment firm focused on the comprehensive and holistic redevelopment of suburban downtowns utilizing Smart Growth and New Urbanist planning and development principles. UA, a Minority-Owned Business Enterprise (MBE) is dedicated to re-investment in urban centers, providing a vehicle to rebuild communities and provide for improved quality of life for current and future residents of these urban areas, and brings it's national specialized expertise in urban center real estate investment to bear in Hempstead.

a Market Study in 2010, and the Empire State Poverty Reduction Initiative (ESPRI) Phase I Report in 2018, the Village has refined its future plans through the BOA Program and has the current data to move forward.

The community has repeatedly articulated its desire to provide children and families with a stable environment that promises economic mobility .[5] The need for a community space to provide services for residents has been identified.[6] The Village also wants to improve the urban design, connectivity and safety of its streets.[7] Residents and Village officials have named the revitalization of the downtown with mixed-use transit-oriented development (TOD) as key to invigorating the community.[8] Another important need is to improve and broaden the housing stock with a range of density and price points.

All of these efforts strive to contribute to creating an inclusive and prospering community where all residents thrive and enjoy an enhanced quality of life, in a safe, walkable community with job opportunities, economic stability, and access to healthcare and social amenities.

During the visioning process, the Village has developed a list of the most suitable sites to begin revitalization efforts. These areas are promising and are consistent with the articulated vision and goals expressed by the community.

GOALS AND OBJECTIVES

- Create housing options for all income levels while discouraging gentrification and implementing anti-displacement mechanisms. Address overcrowding and absentee landlord issues.
- Attract public and private sector investment to improve infrastructure physical, social and business opportunities.
- Advance economic growth by increasing job training and employment opportunities, and adding new businesses such as technology companies.
- Connect to local and regional assets by improving transit.
- Develop a dedicated community meeting space for commerce and family entertainment.
- Create a medical/healthcare cluster to provide better and more accessible care for residents as well as a potential source of jobs and revenue for the Village.
- Address needs of single-parent households such as childcare.
- Provide opportunities for enhanced educational training/job readiness skill development and identify businesses to create “training incubators” for residents.

[5] United Way of Long Island. (2018). ESPRI: Phase I Report. Retreived from https://villageofhempsteadespri.org/wp-content/uploads/2018/03/phase-i-report.pdf, last visited 1/8/2020.

[6] Ibid.

[7] Incorportated Village of Hempstead Community Development Agency. (2018). Downtown Revitalization Initiative Application. Retrieved from https://www.ny.gov/sites/ny.gov/files/atoms/files/Hempstead_DRI_THREE_app.pdf, last visited 1/8/2020.

[8] Ibid.

E. BROWNFIELD OPPORTUNITY AREA BOUNDARY AND JUSTIFICATION

The BOA boundary is coterminous with the area identified as the Central Business District (CBD) in the *Village of Hempstead Downtown Vision and Comprehensive Plan Update* from May 2008 and approved in October of 2009 (see **Figure 1-1**). In the Comprehensive Plan Update, the original delineation depicted approximately the shape of a cross, following the main arteries traversing downtown from north to south (i.e., Main Street and Franklin Street) and from east to west (i.e., Fulton Street and Front Street). The CBD area included contiguous and major commercial uses within the larger downtown area, including the small business corridors along Main and Franklin Streets but also the big box stores east of Franklin Street, between Fulton Avenue and Front Street. In addition, the area included the transit center around the Long Island Rail Road (LIRR) station and the municipal buildings at Jackson and Washington Streets.

The area previously identified as the CBD became the template for the Downtown Overlay Zone, which was approved in 2012. While the outline was somewhat cursory in the Comprehensive Plan Update, it was adjusted when the Downtown Overlay Zone was developed, to follow more closely commercial development and administrative boundaries. Similar to the BOA, the Downtown Overlay Zone was created to promote the health, safety and general welfare of the Village. The purpose of the overlay zone was to provide a foundation for a holistic and comprehensive economic development strategy that would utilize the principles of social, economic and environmental responsibility to reestablish the downtown as a center of vibrancy within a mixed-use, transit-oriented setting. The overlay zone created a streamlined process of development application review and approval in order to do the following:

- Promote sustainable, mixed-use, transit-oriented development;
- Transform underutilized properties and generate new tax revenues for the Village and School District;
- Create a vibrant downtown with a diversity of uses; and
- Create jobs and career opportunities for Village residents.

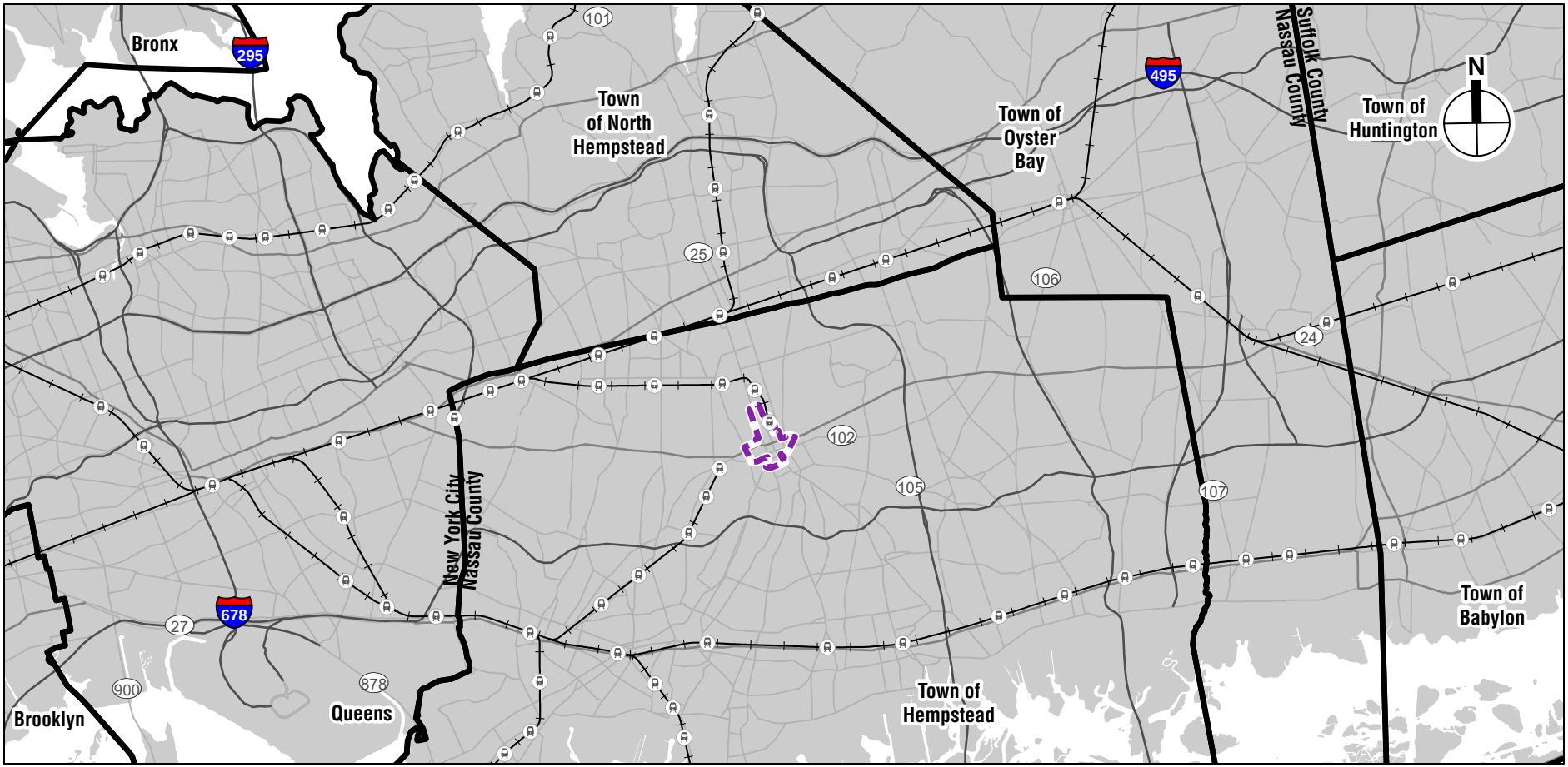
Having the Downtown Overlay District in place is a tremendous advantage for the Village of Hempstead. Using the Downtown Overlay Zone as a template will be advantageous when implementing recommendations developed for the individual strategic sites. Typically, BOA communities are seeking to change their development regulations in order to accommodate the recommendations that are coming out of the BOA process. By adopting the same boundaries, the Village of Hempstead can forgo this process and place a stronger focus on the individual sites, instead of dealing with regulatory changes.

The description of the boundaries for the Village of Hempstead BOA is as follows: In the north, the border between Garden City and the Village of Hempstead forms the BOA's most northerly limit. To capture only commercial uses, it reaches from midblock between Franklin and Sealy Avenue to the Main Street-facing parcels on the eastern side of Main Street. The western boundary follows Franklin Street to approximately Fulton Street. Starting at Fulton Street, the BOA boundary extends to South Cathedral Avenue to include the commercial properties on both sides of the avenue. This westward extension includes also properties on the north side of Fulton Street. The western boundary then follows Cathedral Avenue approximately to Adams Avenue. The BOA boundary then follows Adams Avenue and Newman Court until it reaches Franklin Street again. The boundary continues to follow Franklin Street until it turns into Peninsula Avenue. Peninsula

remains the western boundary until it reaches Grove Street. Including the parcel on the south side of the street, Grove Street then becomes the southern boundary of the BOA. Greenwich Street becomes the eastern boundary south of Peninsula Avenue, with the exception of the commercial property at 46 Greenwich Street, which was included in the BOA. From Greenwich Street to Fulton Street the right of way of Peninsula Avenue once again functions as the BOA boundary. At the intersection of Fulton and Peninsula, the boundary follows Fulton Street until it reaches Washington Street. Included in the BOA is the single-story commercial strip on the north side of Fulton Street between Clinton Street and Robson Place. Washington Street then forms the eastern boundary of the BOA until it intersects with Jackson Street. Jackson Street becomes the boundary until it reaches the new intermodal bus facility. Straddling the bus facility and continuing on Morrell Street this stretch of the boundary continues to Kending Place, where the boundary crosses the tracks. From Kending place the Main Street-facing parcels on the eastern side of Main Street are becoming the eastern boundary until it reaches the town limits of the Village. The boundaries of the BOA are illustrated in **Figure 1-1**. Additionally, **Figure 1-2** depicts the BOA's location in the context of the surrounding neighborhood and Village.

In addition, the Census Tract that covers most of the BOA has been designated a federal opportunity zone, which provides tax incentives to investors investing in disadvantaged communities. The CDA anticipated that the tax incentives offered by the BOA and Opportunity Zone programs could provide additional, valuable resources and have the catalytic effect of helping induce property owners to participate in the revitalization efforts. ✷

12.12.19



0 5 MILES

Proposed BOA Boundary

Municipality Boundary

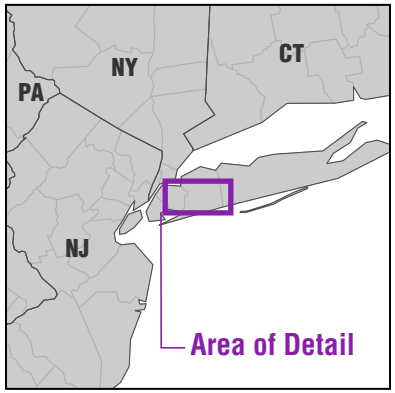
Limited Access Highway

Highway

Major Road

LIRR Stations

LIRR Tracks



Community Context Map

Figure 1-2

VILLAGE OF HEMPSTEAD BOA

Chapter 2: Public Participation Plan and Techniques to Enlist Partners

A. INTRODUCTION

This chapter of the Step 2 Nomination Report describes the public outreach methods and techniques used to ensure community participation in planning activities in the proposed Village of Hempstead Brownfield Opportunity Area (BOA). These outreach and engagement activities, described in more detail below, constitute the Village of Hempstead Community Development Agency's Public Participation Plan for the proposed BOA. This chapter also describes the techniques that the Village is employing in its ongoing efforts to engage partners in the BOA process. **Appendix E** includes all of the meeting materials for the Steering Committee and Public Meetings held (e.g., agenda, sign-in sheets, presentations, handouts, and meeting minutes).

In the proposed BOA, the many vacant and underutilized sites contribute to the character of the neighborhood as in need of reinvestment. The redevelopment and reuse of these sites will ultimately change the level of activity in the proposed BOA and alter the character of the area. The Village of Hempstead Community Development Agency (CDA) understands that successful planning for redevelopment needs to consider the community's needs and preferences and therefore must seek community input as part of the revitalization effort. An essential element of this Step 2 Nomination process in ensuring that the community's voice is heard is the development and implementation of the proposed recommendations. Therefore, and in accordance with BOA Program requirements, the Village developed a comprehensive Public Participation Plan and techniques to enlist partners to effectively engage potentially affected residents and other community stakeholders.

B. PUBLIC PARTICIPATION PLAN

The Public Participation Plan for the proposed Downtown Hempstead BOA builds on the extensive outreach, studies, and visioning that the Village of Hempstead has previously undertaken in support of efforts to revitalize its downtown. This includes building on the *Downtown Vision and Comprehensive Plan Update* in 2008, the Master Development Agreement (MDA) with RDUA for the redevelopment of the North Main Street Urban Renewal Area, the Downtown Overlay Zones (DOZ) ordinance and Zoning Map Amendments, and plans for a Redevelopment Area in downtown Hempstead that includes the North Main Street Urban Renewal Area.

The CDA has long been a strong advocate for equitable economic development and growth in the Village and has demonstrated its ability to design and implement community-supported and community-driven development plans, recently embarking on developing a new Infrastructure and Development Master Plan that will prepare the Village for the next 10 years. The plan will build on the Village's Downtown Vision plan of 2008 while taking into account the more recent effects of superstorm Sandy, population changes, and infrastructure issues such as resiliency, flooding, water, and sewage treatment. It has been the CDA's core strength to form partnerships with governmental and civic groups, and to leverage a wide range of resources for BOA projects and activities that aim to serve the Village of Hempstead community.

The Village of Hempstead recognizes the importance of providing the community with ongoing opportunities to participate in the planning process for the proposed BOA, making effective community participation one of its central goals. To achieve this goal, the CDA has consistently presented the BOA Program, its opportunities, and project ideas to the public (through community meetings and events) and the BOA Steering Committee (composed of various community representatives including elected officials; see "BOA Steering Committee," below).

The CDA also integrated other initiatives within the larger BOA redevelopment framework. The Village's "Zombie Home" initiative, for example, used a similar "strategic site" approach to redevelop single-family homes with defaulted mortgages and revitalize neighborhoods. Additionally, while considering a response to the JP Morgan's Advancing Cities program, the CDA worked closely with its network of BOA participants to develop an approach and solicit new ideas.

The CDA's general community outreach and participation strategy focused primarily on the following principal elements when fostering public involvement and participation in the Village of Hempstead BOA process:

1. BOA Steering Committee to capture the attention of community thought leaders and activists;
2. BOA Public Meetings to inform the public about the BOA process and its benefits and to solicit input into the plan's recommendations; and
3. Individual outreach meetings with local institutions and stakeholders/other initiatives to encourage partnerships and collaboration.

Adherence to this Public Participation Plan has resulted in a collaborative effort to identify community-wide issues and determine the highest and best use(s) for each of the identified Strategic Sites within the proposed BOA.

BOA STEERING COMMITTEE

An important element of the CDA's outreach and engagement strategy is the use of the BOA Steering Committee. The Public Participation Plan included the development of a strong steering committee made up of key community stakeholders based on the CDA's expansive network and existing relationships with area residents, to guide preparation of the Step 2 Nomination Report. The CDA and its consultant team led by AKRF, Inc. (the "AKRF team") were able to establish a Steering Committee that included government and business representatives, as well not-for-profit and civic leaders. The committee included Village officials and representatives from the Chamber of Commerce, Hispanic Civic Association, Coordinating Council of Civic Associations, the Village Industrial Development Agency (IDA), CDA board and staff, members, Village of Hempstead Trustee, Operation Get Ahead, and the Hempstead Boys and Girls Club.

In a series of Steering Committee meetings, the AKRF team laid out the principles and intent of the BOA Program, emphasized the need for community input, and requested support and commitment in outreach and turnout for larger public meetings from the Steering Committee members. The Steering Committee was instrumental in the review of the analytical work—particularly the market and trends analysis—and provided preliminary input that helped focus the redevelopment and revitalization discussions.

Concerted efforts were made to engage with the Steering Committee members to ensure their attendance at the meetings. Prior to each meeting, an agenda was proposed, revised, and finalized. Handouts were also provided at each meeting. During the meetings, participants had ample time to

ask questions, raise concerns, and share ideas. Each of the five Steering Committee meetings were participatory and productive. Following each meeting, minutes were circulated, which helped to memorialize the meeting while informing the direction of project. On occasion, Steering Committee members were also afforded the opportunity to complete surveys to facilitate their input on prioritization of initiatives and projects through the BOA Program.

PUBLIC MEETINGS

Public meetings are an essential component of the outreach plan. Community-wide outreach took advantage of the existing networks of the Steering Committee members and local leaders. Sharon Mullon, a local affordable housing advocate, was central to the outreach effort. Ms. Mullon was able to identify key contacts within the community that would help the team reach underserved populations. To ensure public engagement was meaningful and inclusive, outreach materials were available in both English and Spanish so they could be more easily understood by all residents of the community. Prior to each meeting, a strategy was developed to coordinate outreach efforts, and to ensure that communication to the public was consistent and clear.

The public meetings were conducted to introduce the BOA Program to the entire community, solicit input, and present outcomes. A particular effort was made to ensure presentations were clear and easy to understand by the general public, avoiding the use of jargon in order to engage attendants and to generate increased participation. An initial public meeting was conducted to gather feedback on the vision for the area, existing conditions, Strategic Sites, redevelopment projects, and the study area analysis, findings, and recommendations. During this public meeting, feedback was collected on the Strategic Sites preliminarily identified by the AKRF team and on programming suggestions. The CDA and AKRF team listed to the community's comments and concerns, and presented next steps for finalizing the Step 2 Nomination Report. A second public meeting was conducted to present the goals and objectives of the Step 2 Nomination process, incorporating the feedback provided at the first public meeting. At the second (final) public meeting, the preliminary Draft Step 2 Nomination, including potential draft implementation strategies, was introduced to allow for stakeholder feedback before the plan was finalized. Feedback obtained as a result of the outreach process has been incorporated into this Step 2 Nomination Report.

MEETINGS WITH LOCAL INSTITUTIONS AND STAKEHOLDERS

The CDA is committed to ensuring that the recommendations of this Step 2 Nomination are accepted and supported by its government partners, area residents, local business owners, and community stakeholders. Enlisting interested and active partners in the BOA Program and its associated redevelopment efforts is key to the ultimate success of the proposed Village of Hempstead BOA. To enlist partners, the CDA has utilized a variety of techniques, including the following:

- Engaging community partner organizations to form the BOA Steering Committee, thus ensuring that the interests of local residents and businesses are well represented in the BOA process;
- Reaching out to elected officials for support of the BOA and its subsequent recommendations;
- Becoming educated on the New York State Brownfield Cleanup Program (BCP) so that the CDA can promote the benefits of the program and advise property owners of identified Strategic Sites on how to best implement cleanup and redevelopment in a responsible and economically viable manner;

- Engaging Village, County, and Town agencies (e.g., the Village of Hempstead Building Department, the Village of Hempstead Department of Public Works, the Town of Hempstead Department of Planning and Economic Development, the Town of Hempstead IDA, the Nassau County Office of Community Development, Nassau County Planning Department, and the Nassau County IDA) to coordinate and focus the deployment of scarce resources;
- Attending events sponsored by the U.S. Environmental Protection Agency (EPA), the U.S. Department of the Treasury, U.S. Department of Housing and Urban Development, the U.S. Economic Development Administration, the Council of Development Finance Agencies, and the Leadership Institute for Nassau County on Opportunity Zone-related events to stay abreast of policy issues related to the BOA Program and brownfields development;
- Engaging in discussions with outside community development organizations on additional programming, such as JP Morgan's Advancing Cities initiative and the Long Island Regional Economic Development Council, that foster and encourages community engagement and economic development in disadvantaged communities;
- Connecting and cooperating with regional institutions, such as Hofstra University, Adelphi University, Nassau County Community College, Long Island Education Opportunity Center at Farmingdale State College, and State Universtiy of New York at Old Westbury to partner on a future program to advance the skill sets of the local workforce; and
- Identifying property owners and potential developers that could participate and help effectuate the redevelopment of the sites within the proposed BOA.

C. TECHNIQUES TO ENLIST PARTNERS

PROJECT KICK-OFF

During the early stages of the BOA process, the AKRF team held a number of meetings to plan and develop the BOA Program and the Public Participation Plan. These meetings were in-person and by conference call with the CDA and other stakeholders. With respect to the BOA Program in general, the purpose of these initial meetings was to refine the study framework, discuss the timeline and milestones of the BOA Program, share any information that would be helpful for the analysis, gain an understanding of the Village's planning and redevelopment efforts to date and their status (as well as any community concerns that were heard through those processes), and have initial discussions of a potential BOA boundary that would benefit from being aligned with the downtown overlay zone. These initial meetings also helped formulate the framework for the Public Participation Plan and outlined the AKRF team's role in the outreach process. The CDA and the AKRF team carefully considered dates to avoid conflict with the school calendar and other community events.

The CDA and the AKRF team then worked to build a BOA Steering Committee of members who are active community leaders, reflect the diversity of the community, and were willing and able to dedicate their time to actively participate in the BOA project and process. Working closely to support the CDA, the AKRF team provided additional community contacts and identified important partners to enhance outreach efforts. The following groups were invited to assist with outreach to their contacts who reside in the Village: The New York Communities for Change (NYCC), Make the Road NY (MTR), Hempstead Office and HeadStart, Urban League of Long Island, Long Island Council of Churches, Nassau/Suffolk Law Services, Family & Children's Association, and the Hispanic Counseling Center. Steering Committee members included local Village officials, representatives of community groups, civic associations, the local Chamber of

Commerce, the Hempstead Public Library, and nonprofit organizations. Current Steering Committee members are listed in **Table 2-1**.

Table 2-1
Steering Committee Members

Name	Organization
Mayor Don Ryan (previously Mayor Wayne Hall)	Incorporated Village of Hempstead (VoH)
LaMont Johnson	VoH Trustee
Charlene Thompson	Commissioner Hempstead CDA
Sagar Mehta/Ricky Cooke	Deputy Commissioner/Director Hempstead CDA
Sarian Parker	Hempstead CDA
Keria Blue	Board Member VoH CDA
Gladys Rivera	Board Member VoH CDA
Tina Hodge Bowles	Board Member VoH CDA & Operation Get Ahead
Franz Nicolas	Board Member VoH IDA
Barbara Borum	VoH Coordinating Council of Civic Associations
Tina Hodge Bowles	Operation Get Ahead
Dennis Jones/Acquiila Bailey	VoH Chamber of Commerce
Phillip Mickulas	Hempstead Public Library
Dan Oppenheimer	Town of Hempstead IDA
George Siberon	Hempstead Hispanic Civic Association

Sources: Village of Hempstead (VoH), Village of Hempstead Community Development Agency (CDA), and Industrial Development Agency (IDA)

The Steering Committee members, in an interactive process, demonstrated a commitment to the Village of Hempstead, its residents, the business community, and to the BOA Program. They demonstrated a firm commitment and desire to move forward, support the Village, and improve their community, and they recognized the benefits of participating in the BOA Program. They expressed their willingness to use this process and support the BOA project as a means to move the Village of Hempstead forward in achieving the proposed mission and goals.

STEERING COMMITTEE MEETINGS

The first Steering Committee meeting was held at the Village of Hempstead's Kennedy Park, 355 Greenwich Street on October 24, 2017. The Steering Committee members introduced themselves and identified their community roles. The AKRF team used a PowerPoint Presentation to provide an overview of the BOA Program, the role of the Steering Committee, and the scope of work. Additional informative materials, such as a BOA fact sheet, were provided to attendees and discussed.

There was an interactive discussion about the community needs and how the BOA would address these needs. Steering Committee members were most interested in family entertainment as well as sit-down restaurants, a cinema, and a multipurpose community meeting facility. They also noted issues needing improvements such as street lighting, safety, and more "walkability."

The second Steering Committee meeting was held at the Village of Hempstead's Community Development Agency Office, 50 Clinton Street on April 19, 2018. The agenda included a review of the last meeting, an update on the issues addressed, and a presentation of the Community Needs and Assets Assessment completed by the AKRF team. Additional time was spent reviewing the community opportunities and threats section of the Community Needs and Assets Assessment.

The Community Needs and Assets Assessment included a review of neighboring villages and an in-depth study and analysis of the Village of Hempstead. Extensive information was presented on demographics, housing, transportation, and employment/labor issues. These topics were thoroughly discussed and the Steering Committee members were fully engaged.

The third Steering Committee meeting was held at the Village of Hempstead's Community Development Agency Office, 50 Clinton Street on September 27, 2018. This meeting was devoted to the Community Vision and Goals and a review of the Strategic Sites selected. There was an extended and productive discussion of the Community Vision and Goals. Participants were engaged and offered numerous ideas that generally supported providing economic benefits to all and lifting up the entire community. Some concerns expressed were about the threat of improvements leading to gentrification and ultimately displacement of longtime residents.

Specific goals were to improve housing, workforce training, and employment opportunities, infrastructure, social opportunities, and safety. Steering Committee members expressed continued interest in community meeting space, solving the housing challenge, and creating a healthy community by linking to existing health care facilities and institutions.

The fourth Steering Committee meeting was held at the Village of Hempstead's Community Development Agency Office, 50 Clinton Street on May 23, 2019. This meeting was held to review public input from the second public meeting and finalize Strategic Sites and their overarching program with Steering Committee members. The AKRF team and committee members discussed the interconnectedness of the BOA Program with other initiatives. Additionally, it was discussed how the BOA designation would open up new opportunities and funding for the community.

The fifth Steering Committee meeting was held at the Village of Hempstead's Community Development Agency Office, 50 Clinton Street on November 7, 2019. This meeting presented a recap of work completed to date; an overview of the components included within the Step 2 Nomination; the locations of the ten identified Strategic Sites; and a more in-depth discussion on the draft implementation strategy and its applicability to each Strategic Site. The Steering Committee was interested to learn more about other sources of funding available for implementation measures and more discussion on the Village of Hempstead's role from a regional perspective.

PUBLIC MEETINGS

FIRST PUBLIC MEETING

The first public meeting was held on Wednesday, January 23, 2019 at the Hempstead Public Library, which is accessible to community residents and people with disabilities. The primary purpose of this first meeting was to introduce the BOA Program to the community, present the preliminary work conducted by the team to date, solicit feedback on the topics presented, and hear from residents about the issues prevalent in their community.

In particular, the team strived to educate residents about the intention and benefits of the BOA Program. The AKRF team also described the process necessary to achieve designation and how the BOA designation can be an important stepping stone to reach the stated community vision and goals. The AKRF team supported the Village and the Steering Committee by identifying groups and individuals who expressed interest in participating but would also bring another community element to the table. In addition, the AKRF team provided educational materials, invitational

flyers in English and Spanish, and assisted with the logistics of the outreach efforts. Materials prepared are attached in **Appendix E**.

When reaching out to community groups and organizations, the CDA and the AKRF team contacted local churches, community groups, nonprofit agencies, and others. For example, the AKRF team contacted specific advocacy groups and organizations who represented a range of local and regional interest, including:

- New York Communities for Change;
- Make the Road NY;
- Hempstead Office and HeadStart;
- The Urban League of Long Island;
- The Long Island Council of Churches;
- The Nassau/Suffolk Law Services;
- Hofstra University;
- The Family & Children's Association; and
- The Hispanic Counseling Center.

At the first public meeting, the AKRF team provided attendees with an agenda, a questionnaire and a detailed PowerPoint Presentation, a review of the Strategic Sites, proposed activities, and an opportunity to identify the best choices for initial action. The consulting team was able to answer pertinent questions and give additional information when requested.

The presentation included five segments: (1) an introduction of the BOA Program; (2) a description of the Village of Hempstead BOA (including a brief history and a discussion of the BOA boundary); (3) a discussion of economic opportunities and community needs; (4) a preliminary outline of the community vision and goals; and (5) recommended Strategic Sites and areas of focus.

(1) The BOA Program section explained the BOA definition, process, benefits and how a BOA can serve as a catalyst to stimulate revitalization and redevelopment.

(2) The Village of Hempstead BOA was outlined using maps to identify the BOA project boundaries and its location at the "heart" of the Village and the Downtown Overlay Zone. Following a review of the BOA process and steps, the AKRF team presenters emphasized the importance of the community's participation.

(3) The Economic and Community Needs Assessment covered the area's demographics and provided a comparison to other local communities. Issues unique to the Village were described and discussed including overcrowded housing, needs of single-parent households (childcare/daycare), low educational attainment, and income/poverty data. Specific needs identified included improved educational attainment and job training, development of higher paying jobs for community residents, increased services for single-parent households, and more housing options. Attendees agreed on the need for greater retail opportunities, community meeting space, and entertainment options for families.

(4) The AKRF team presented an overview of Community Visions and Goals developing during previous planning efforts. In the future, the Vision needs to benefit and lift up the entire community and create an environment where residents prosper and thrive. Proposed Goals included workforce development for technical sector careers and developing the downtown and

urban connections. While discussing the improvement of support and social infrastructure, attendees expressed concerns about the perceived lack of support for people using or in recovery from substance abuse. They expressed the need for more medical and healthcare facilities for residents.

During the meeting, Village CDA Commissioner Thompson provided brochures on the Community Empowerment Resource Center (CERC), located in the Village of Hempstead CDA offices. CERC provides an expansive database of existing supports that can assist residents in accessing social supports (emergency housing, social services), economic (financial literacy), health and wellness, workforce development, justice system (legal and re-entry services), and education (academic enrichment, language access). The CERC is intended to help residents connect with the existing services they may need.

(5) A review of Strategic Sites showed four approved development sites and identified five others as excellent opportunities for public space, event space, offices, restaurants, mixed-use with residential on upper floors, and other businesses. Each of the five new sites also was chosen for their potential to generate nearby development—to serve as a catalyst for a block-by-block transformation.

Once the presentation concluded, the attendees were asked to provide feedback and input throughout the ensuing question and answer (Q&A) time with the Village CDA and BOA consultant team. In addition to asking questions, the AKRF team also provided a questionnaire that could either be completed at the meeting or emailed in the coming days after the public gathering. The survey (**see Appendix E**) asked meeting attendees:

- How the Village of Hempstead could improve the quality of life of residents and their experience living in the Village of Hempstead.
- What types of commercial offerings would participants would like to see within the Village.
- To highlight on a map the areas of downtown that they associate the most with Downtown Hempstead and where the investment focus should be.

The meeting was interactive with community members expressing their viewpoints throughout the presentation and during the Q&A period following the presentation. The meeting minutes for this public meeting provide a detailed summary of topics raised and discussed at the meeting and during the Q&A session (see **Appendix E**).

SECOND PUBLIC MEETING

The second Public Meeting was held at the Hempstead Public Library on June 27, 2019. CDA Commissioner Charlene Thompson opened the meeting and offered a comprehensive recap of the BOA process as well as the benefits that the village would realize from the BOA designation. She spoke about grant opportunities—both public and private—and how businesses would recognize that the Village was positioned to move forward. With this preparation, the Village is ready to "Elevate Hempstead." Next, Commissioner Thompson introduced the AKRF team and the presentation began.

The format and discussion mirrored the Fourth Steering Committee meeting presentation (May 23, 2019). Since the AKRF team and the Village had identified strategic sites, it helped the residents to connect the key community goals with the re-imagined locations. Within the BOA boundaries, each identified location was matched with the most purposeful, possible usages so

residents could envision the entertainment area, child care services, retail establishments, business and training facilities, etc.

The presentation also highlighted the Village's past history and the opportunities to re-capture its status as a "hub" in the County. Intersections were identified to re-awaken business, retail, dining, and housing to build out the density and generate more activity. At the same time, many beautiful historic buildings will be renovated to current standard codes and preserved for their architectural significance.

Commissioner Thompson mentioned that the Village was creating a strategic plan that will include marketing the Village's assets that were identified by the AKRF team. It was also noted that the Village is already partnering with Adelphi and Hofstra Universities on developing and implementing programs to enhance community life.

As with the first public meeting, this meeting was also interactive, with community members expressing their viewpoints throughout the presentation and during the Q&A period following the presentation. The meeting minutes for the second public meeting provide a summary of topics raised and discussed at the meeting and during the Q&A session (see **Appendix E**).

MEETINGS WITH LOCAL INSTITUTIONS AND STAKEHOLDERS

In addition to the outreach and stakeholder involvement described above, the Village of Hempstead CDA actively partners with numerous community-based organziations (CBOs), agencies and institutions to provide various services to Village residents and business owners. The CDA has had and continues to have numerous meetings with local institutions, civic groups, and other stakeholders to advance the complimentary goals of the BOA and these local entities, and to leverage efforts being undertaken by all involved parties to the greatest extent possible. A representative listing of area community, civic, academic institutional partners, and others that the CDA is actively engaging with to advance the goals of the BOA is shown in **Table 2-2** below. More details of the specific types of collaboration, joint initiatives, and funding shared by the CDA and these organizations is provided in Tables 1-1 and 1-2 in Chapter 1, "Project Description and Boundary."

Table 2-2
Village of Hempstead CDAs
Community, Civic, and Academic Institutional Collaboration Partners

No.	Name of Organization In Collaboration with Village of Hempstead CDA
1	A.B.B.A. Leadership Center
2	Adelphi University
3	Choice for All
4	Circulo de la Hispanidad
5	Community Development Corporation of Long Island (CDCLI)
6	E.A.C. Network
7	Economic Opportunity Commission of Nassau County
8	Girl Scouts of Nassau County
9	Help Ending Violence Now (HEVN)
10	Hempstead Community Land Trust (HCLT)
11	Hempstead Dons
12	Hempstead Hispanic Civic Association
13	Hempstead Hispanic Counseling Center (HCC)
14	Hempstead P.A.L.
15	Hempstead Public Library
16	Hofstra University
17	Interfaith Nutrition Network (INN)
18	Leadership Training Institute (LTI)
19	Maurice A. Deane School of Law at Hofstra University
20	Morrison Mentors
21	Operation Get Ahead
22	P.E.A.C.E. Afterschool & Summer Camp Programs
23	Reign 4 Life
24	Springboard Incubators
25	State University of New York (SUNY) at Old Westbury
26	Town of Hempstead Department of Occupational Resources (DOOR) a.k.a. Hempstead Works
27	Town of Hempstead IDA
28	United Way of Long Island: Hempstead Youth Build
29	Village of Hempstead Chamber of Commerce
30	Village of Hempstead Coordinating Council of Civic Associations
31	Women's Opportunity Rehabilitation Center (W.O.R.C.)
32	Youth for Tomorrow

Notes:
Village of Hempstead Community Development Agency (CDA); Able Body Believer's Alliance (A.B.B.A.); Police Athletic League (P.A.L.); Partnerships in Education to Avoid Criminal justice system Entry (PEACE); Empower. Assist. Care. (E.A.C.); and Industrial Development Agency (IDA).
This list is representative of the various organizations that collaborate and have ongoing realtionships with the CDA, but is not meant to be comprehensive.
Source:
Village of Hempstead CDA, January 2020.

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Chapter 3: Analysis of the Proposed Brownfield Opportunity Area

A. INTRODUCTION

This chapter analyzes existing conditions and provides a summary analysis, findings, and recommendations for the proposed Village of Hempstead Brownfield Opportunity Area (BOA). An existing conditions assessment, prepared in compliance with the New York State Department of State (DOS) BOA guidelines and requirements, is provided in this chapter for a range of topic areas including: land use, zoning, and economic designations; brownfield, abandoned, and vacant sites; land ownership; parks and open space; key buildings; historic and archaeologically significant areas; transportation systems; water and sewer infrastructure; natural resources; and demographic, housing, and market conditions. Coupled with the Public Participation Plan (described in detail in Chapter 2, "Public Participation Plan and Techniques to Enlist Partners"), the existing conditions assessment of the proposed BOA was used to identify Strategic Sites for redevelopment and key recommendations for implementation strategies. The identified implementation strategies will serve to set the stage for Step 3 of the BOA Program aimed at achieving redevelopment and revitalization of the Strategic Sites, and the BOA as a whole (see Section E, "Summary Analysis, Findings, and Recommendations," at the end of this chapter).

B. COMMUNITY AND REGIONAL SETTING

The proposed BOA is located in the Village of Hempstead, Nassau County, New York. The Village is located in the center of Nassau County, approximately 16 miles east of Queens, New York City. First settled in 1643, the Village of Hempstead (the "Village") is one of the oldest communities on Long Island. Today's street network is still an indication of the past importance of the Village, as it is where many of the County's major roads intersect (e.g., Route 24-Hempstead Turnpike [Fulton Avenue], which connects the Cross Island Parkway at the border of Queens County [west] to Bethpage State Parkway and Route 110 in Farmingdale, and almost to the Sagtikos Parkway in Suffolk County [east]; Peninsula Boulevard, which connects Cedarhurst [southwest] to the Nassau Veterans Memorial Coliseum/Hofstra University [northeast]; Henry Street/Baldwin Road, which connects to Southern State Parkway and Route 27 [south]; and Clinton Street, which connects to Route 25 and Northern State Parkway [north]). Historically, Hempstead had been the center of commercial activity for the easternmost communities of Long Island, where the farming communities traded their goods. From its role as the marketplace of agricultural goods, the Village grew into a commercial and shopping hub with several department stores in its downtown area. The rise of the shopping centers and malls in Hempstead's vicinity led ultimately to its decline as a commercial center on the island. In the 1990s, many sites, including the former Times Square Property and former Abraham & Straus department store (which used to be the country's largest grossing suburban department store), were demolished to make room for large-format retail development and housing. In recent years, the Village has refocused on its assets and strengths to encourage redevelopment and revitalization. The analysis of current conditions provides a snapshot of these strengths, such as its eager and diverse workforce and outstanding locational characteristics, but also illustrates the challenges that need to be addressed

moving forward, such as a growing immigrant population and a high percentage of residents with a lack of formal education.

ASSESSMENT OF REGIONAL ASSETS

The Village is surrounded by a variety of important regional resources, including governmental, educational, transportation, and cultural assets.

GOVERNMENT ASSETS

As the traditional heart of Nassau County, the Village includes a number of government offices and facilities, including the Nassau County criminal court, Village government offices, and certain Town of Hempstead government offices. The Village is located near many other government offices located to the north in Garden City and Mineola. The large number of government workers who work at these county, town and village facilities within the Village are also an asset to the Village that may be leveraged by providing convenience goods and services, as well as food and drink establishments within the BOA, to capture more of the dollars that are currently leaking to other areas.

TRANSPORTATION ASSETS

The Village also serves as a primary transportation hub of Nassau County. Located adjacent to downtown is the Transit Center, which serves as the terminus of the Long Island Rail Road (LIRR) Hempstead Branch; the adjacent Rosa Parks Hempstead Transit Center is the hub of the Nassau Inter-County Express (NICE) bus system. West of downtown, the West Hempstead Branch of the LIRR also terminates at the Village border.

EDUCATIONAL AND INSTITUTIONAL ASSETS

The Village is located in proximity to four major institutions of higher education within Nassau County. These include Nassau County Community College (NCC) and Hofstra University, which are located just east of the Village, and provide workforce training and other educational opportunities for Village residents. In addition to these two institutions, Adelphi College is located just to the northwest of the Village within Garden City, and Molloy College is located south of the Village towards Rockville Centre. Adelphi and Molloy Colleges both draw substantial numbers of students and researchers to the area, and serve as a hub for research and development in a number of fields including medical technology. Each of the educational institutions listed above could have the potential to attract funding for a variety of projects and programs within the BOA.

In addition, the Village is located in proximity to, or has within its municipal boundaries, several health care institutions, including: Hempstead General Medical Center (Hempstead); Planned Parenthood—Hempstead Health Center (Hempstead); Mercy Medical Center (Rockville Centre); Catholic Health Services of Long Island (Rockville Centre); Sloan Kettering Hospital (Uniondale); Nassau University Medical Center (East Meadow); Center For Primary Care Nassau (East Meadow); South Nassau Communities Hospital (Baldwin); NYU Winthrop Hospital (Mineola); Mount Sinai South Nassau Hospital (in Oceanside); among others. These institutions have the potential to provide synergistic opportunities for employment and training, and potentially to attract funding for medical occupation and related programs within the BOA.

CULTURAL ASSETS

Numerous cultural assets and attractors are located near and within the Village. These assets have the potential to assist in generating more visitation and commercial activity within the BOA. The African American Museum of Nassau County puts on exhibits related to the African American experience within Nassau County, provides gallery space to local African American artists, and maintains a regional genealogical research archive. While currently underutilized, with enhanced programming and redevelopment the museum could become a major downtown anchor and an opportunity upon which the community could build.

To the east, the Nassau County Veterans Memorial Coliseum, the Cradle of Aviation Museum, and the Nassau County Firefighters Museum attract large numbers of visitors annually. Connecting to these regional assets could help the Village tap into these visitor streams and capture a portion of their expenditure potential.

COMMUNITY SIZE AND POPULATION CHARACTERISTICS

From 2012–2016, the Village had an estimated average annual population of approximately 55,500 residents, accounting for approximately 4 percent of Nassau County's total population and 7 percent of the Town of Hempstead's population of approximately 768,700 residents.[1] The Village includes a land area of 3.69 square miles, of which 99.9 percent was dedicated to land and only 0.1 percent consisted of water. Similar to the County, the largest share of the Village's population is middle-aged (35 to 64) and represents approximately 39 percent of the total population. This is less than in the County where this age cohort represents about 42 percent of the total population. The Village retains a notably larger percentage of young adults (18 to 34) than the County—26 percent in the Village compared with 20 percent in the County—and a smaller share of elderly individuals—10 percent compared with 16 percent in the County. This may be due in part to a lack of housing options for seniors who no longer wish to remain in their single-family homes.

A shortage of apartments in the County and the Village may be a factor causing young adults (ages 18-35) to remain part of their parents' household instead of moving into their own unit; combined with other factors this could be leading to a comparatively high household size. The Village has an average household size of 3.4, slightly larger than in the County (3.0) and significantly larger than national average of 2.7 persons per household.

Compared with Nassau County overall, the Village's population is predominantly African American or Hispanic (90.7 percent compared with 26.7 percent in the County). Conversely, the Village has a Non-Hispanic White population of 6.1 percent, compared with 62.9 percent in all of Nassau County.

EDUCATIONAL ATTAINMENT AND LABOR FORCE PARTICIPATION

Analysis of demographic information indicates that educational attainment in the Village is lower than in the County. In the Village 28.8 percent of the population recorded a high school degree as their highest educational achievement, compared with 9.2 percent in the County. Meanwhile, 42.8 percent of the County's population has at least a Bachelor's Degree, compared with only 17.0 percent in the Village. However, the Village's labor force participation rate, which measures the share of people either working or actively seeking employment, is larger than in the County. Overall, labor force participation in the Village was 68.0 percent compared with 65.3 percent in the County. The difference could be an indication of a higher retirement age. In addition, the

[1] U.S. Census Bureau, 2012–2016 American Community Survey 5-Year Estimates

Village's unemployment rate is slightly higher than in the County (8.8 percent compared with 6.4 percent, as a percent of the civilian population in labor force 16 years and over).

HOUSEHOLD INCOME

The average household income in the Village is substantially less than in Nassau County ($70,983 compared with $129,293). Consistent with the data reporting household income, the Village had a substantially larger proportion of individuals living below the poverty level than in the County as a whole (20.7 percent compared with only 6.2 percent in the County).[2]

HOUSING

The disparity between incomes, and the elevated household poverty rate seen within the Village, likely influences the rate and presence of owner-occupied housing versus rental housing within the Village. The owner-occupied housing rate within the Village is substantially less than the ownership rate in Nassau County (43.5 percent compared with 80.3 percent), and the rental rate is proportionally greater (56.5 percent in the Village versus 19.7 percent within Nassau County).

While home ownership within the Village is lower than ownership rates within Nassau County, both have similar overall vacancy rates. Within the Village only 7.7 percent of the housing units were vacant in 2011–2015, while in the County 5.7 percent of units were vacant during the same period. These vacancy rates indicate there is demand for housing within both the Village and Nassau County overall; this, coupled with the high property taxes across the County, likely encourages occupancy over vacancy.

The Village has a substantially smaller share of single-family detached homes compared with Nassau County (45.9 percent compared with 75.7 percent), and a substantially higher proportion of housing structures with 50 or more units (25.7 percent compared with only 5.5 percent in the County overall). Average gross rents in the Village are somewhat less than in the County ($1,229 compared with $1,545). Twenty-two percent of the Village owner-occupied housing units had no mortgage, compared with 34.7 percent in the County.

CHALLENGES AND OPPORTUNITIES

CHALLENGES

The Village is facing a unique set of issues in its revitalizing efforts:

- Over one-third of the Village's land downtown—an area that should be providing substantial property tax revenue to the local government—currently does not generate taxes. Not only does this place downward pressure on the Village's ability to provide needed services to its residents, but this places an extreme hardship on the residents themselves, who bear the extra burden to make up for lost tax revenue.
- In addition, infrastructure issues relative to capacity and upgrades—particularly as they relate to water supply resources and sanitary and stormwater conveyance sewers—must be thoroughly analyzed and addressed in order to support new development and grow the Village's economy.

[2]U.S. Census Bureau, 2011–2015 American Community Survey 5-Year Estimates

- Third, in order for the Village to sustain vibrancy, an influx of market-rate housing will likely need to be developed. This would allow for residents with buying power to utilize existing commercial/retail establishments while giving outside retailers (and lenders) the confidence to open commercial establishments within the Village. However, while new market-rate housing is needed, affordability issues within the community also need to be discussed and addressed to create an environment that is attractive and livable for all of the residents of Hempstead. Retaining existing residents while attracting new residents is needed not only to provide business owners with the customer stream needed to sustain existing businesses and attract new businesses, but also to further enliven the area with more activity, which also contributes to a safer and more welcoming environment.
- Finally, brownfields and other blight have adversely affected the perception of the Village by non-residents, while negatively impacting the physical environment. Such blight must be addressed to enhance Village residents' quality of life, and improve the attractiveness of the Village to investment by new businesses and others.

OPPORTUNITIES

While there are a number of development challenges, there are plenty of opportunities that present themselves. For example, the H+T index, which measures the cost of transportation and housing to provide affordability of place, scores Hempstead as very high for access to a variety of jobs, access to public transportation, and walkability. These scores are as good as or better than most of Long Island's communities. Thus, there are extraordinary benefits to be had for middle-income residents via transit-oriented development, including mixed-use market-rate housing that is in high demand.

Additionally, underutilized property within the Village creates realistic opportunities for new vibrant and sustainable retail, commercial, and entertainment establishments for residents of all ages. Such development will also increase the Village's tax rolls, ease the local resident tax burden, create needed jobs, and generate hundreds of millions of dollars in revenue and economic activity for the Village. The three higher education campuses of Hofstra University, Nassau County Community College, and Molloy College that surround the Village provide additional opportunity to enhance economic activity. Finally, the fact that the Village government has adopted its forward-thinking downtown overlay zone and is working with a Master Developer demonstrates its seriousness in tackling difficult redevelopment issues and can be used to help aggressively market the Village to potential developers, businesses, and financing institutions.

In 2012, the Village entered into a Master Developer Agreement (MDA) with Renaissance Downtown Urban America LLC (RDUA) to facilitate its program for the acquisition, clearance, building demolition, re-planning, reconstruction, and neighborhood rehabilitation of certain areas in the Village, in furtherance of the objectives of Articles 15 and 15-A of the General Municipal Law of the State of New York, as amended. The Village's neighborhood development program resulted in the creation and adoption of the Village's *Downtown Vision and Comprehensive Development Plan* in 2009, and a *Final Supplemental Generic EIS for the Adoption of Downtown Overlay Zones and Zoning Map Amendments* in May 2012. Subsequently, the Village selected RDUA as a master developer for the properties in and around the North Main Street Urban Renewal Area.

The current Village administration intends to utilize this Step 2 Nomination Report to develop a clear picture of the area's market conditions in order to identify those uses that have the highest potential to bring businesses and jobs to the Village, such as a family entertainment zone/hub. It will be an important focus of this effort to develop a vision that will support the uses recommended

by the Village and the community, and takes advantage of the area's existing assets. The ultimate report recommendations will also have to consider the unique challenges facing the Village, such as high taxes, growing opposition to granting a Payment in Lieu of Taxes (PILOT) for the developer of residential uses, areas of high crime to the west of downtown, and concern that a large share of market-rate housing could cause gentrification and displace less affluent residents.

C. INVENTORY AND ANALYSIS

EXISTING LAND USE, ZONING, AND ECONOMIC DESIGNATIONS

This section existing land use, zoning, and economic designations in the proposed BOA. Existing land uses, as well as known future development projects, are described to establish the setting in which the revitalization of the proposed BOA would occur. A description of zoning in the study area is provided to reflect current building regulations for new development.

The proposed BOA occupies the majority of the Village's downtown commercial district, and includes approximately 280 acres and 608 tax lots, characterized with approximately 553 known and potential brownfield sites (including vacant, abandoned, underutilized, and potentially contaminated sites) of which 235 have identified potential environmental conditions (see **Appendix C**). The proposed BOA boundary is represented in Figure 1-2 and described in detail in Chapter 1, "Project Description and Boundary."

EXISTING LAND USE

Land use information for the parcels in the proposed BOA was gathered based on field visits between the summer of 2017 and fall 2018, aerials, and GIS mapping (see **Figure 3-1**).

The proposed BOA is mostly composed of institutional uses, including religious institutions, not-for-profits, community organizations, government uses, and commercial uses, most of which are retail uses. In general, institutional uses do not generate taxes for the Village or the School District; however, most offer services to Village residents, in the form of government, educational, religious, or cultural services. Beyond these uses the downtown has a large number of surface parking lots. There lots were formerly controlled by the Village, however development rights for these lots have been transferred to RDUA through the MDA as described above.

There are few residential uses within the BOA, with the exception of the new development at 303 Main Street ("Metro 303") inclusive of 166 residential units and the Rivoli Affordable Housing Complex inclusive of 112 apartments at Main Street and Columbia Street.

Commercial and retail uses are prominent along Fulton Avenue, west of North Franklin Street, where the Hub Shopping Center was developed. The site is currently home to a number of larger-format stores such as the Home Depot, Stop & Shop, Old Navy, and few other smaller national chain stores. Many of the larger commercial uses were built with PILOTs furnished by the Hempstead Industrial Development Authority (IDA), and have therefore made an upfront payment rather than pay taxes to the Village over a specified time. Another major retail concentration can be found between Front Street and Peninsula Boulevard at the Hempstead Village Commons. National chain stores such Staples, TJ Max, and Pep Boys auto repair are the anchor tenant of this shopping cluster.

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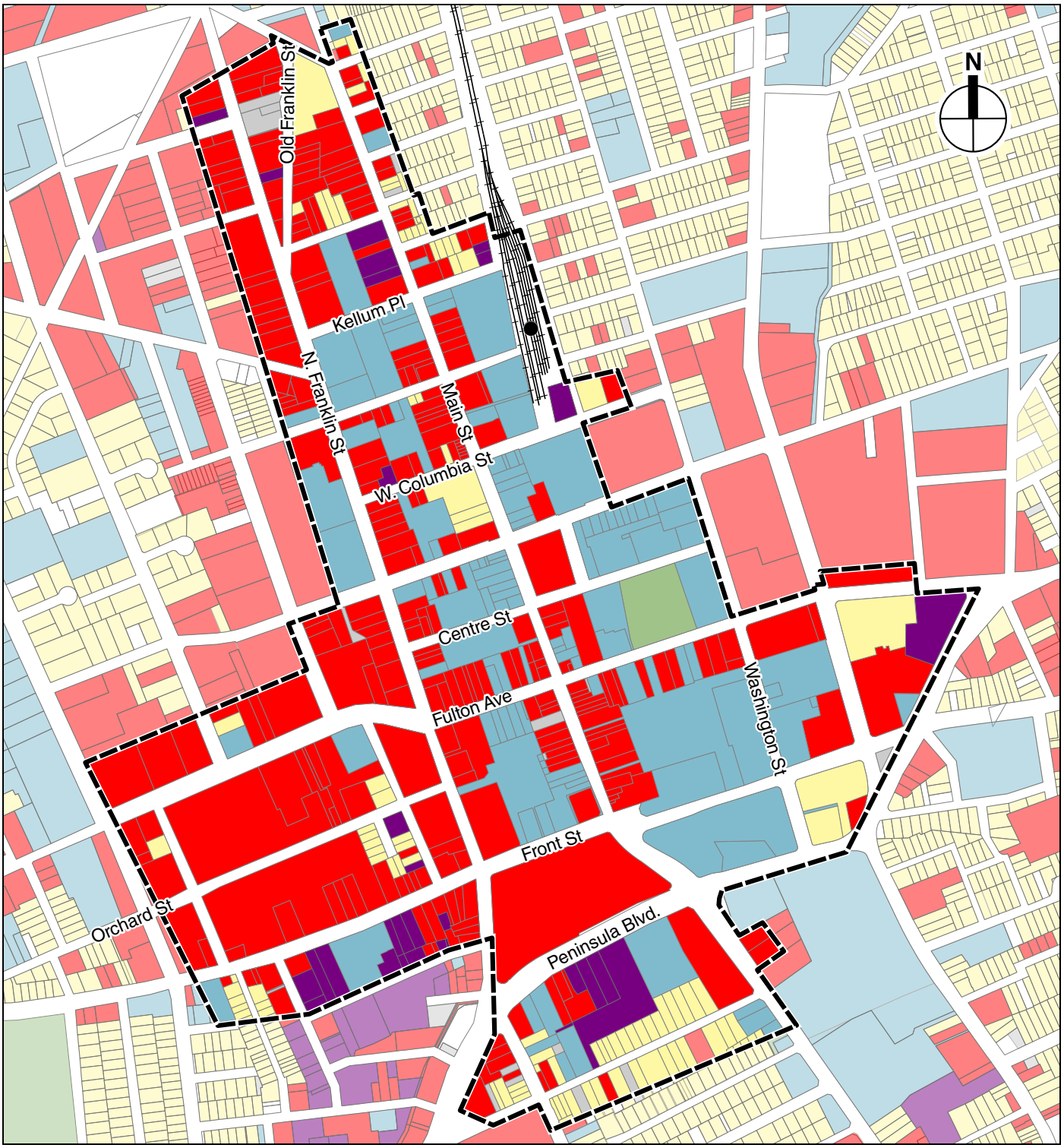

Existing Land Use

VILLAGE OF HEMPSTEAD BOA

Figure 3-1

In addition, the majority of the two downtown corridors (Franklin Street and Main Street) are dominated by retail uses, with the southern portion primarily commercial retail and personal services, and the northern portion of downtown being largely auto-oriented businesses.

Commercial uses are interrupted by institutional uses in the form of churches, museum, and schools (i.e., on west side of Franklin Avenue between Jackson and Bedell Streets, where the Faith Baptist Church and Academy Charter School are located) or by government uses such as Hempstead Receiver of Taxes on Bedell Street and Franklin Avenue and the Nassau County District Court on Main Street between Jackson and Center Streets.

While Hempstead was historically a commercial center for Long Island, the Village has lost businesses since the 1970s, placing an even heavier burden on remaining businesses to meet the community's demand for retail and other commercial uses. The existing supermarkets and other consumer retail uses are of poor quality and contain similar types of products and services. A number of retail locations and even some renovated locations are vacant or attract small businesses on short-term leases. One exception is Children's World, which has been open in downtown Hempstead for generations. Existing industries in the area want to remain, but find it difficult to do so due to the high taxes in the Village. Neighboring areas with significant retail concentrations that compete with the Village include Garden City, Rockville Centre, and Roosevelt Field Mall.

Four properties along north Main Street in the Village received site plan approval from the village and were anticipated to be under construction over the next several years. These properties include: 155-179 Main Street ("Conifer & Carman Place"), Independent Living-Estrella on the southeast corner of Bedell and Main Streets, 257 Main Street ("BRP-Alta"), and the Dell Bus Project on Main Street between Kellum Place and Union Place. However, due to development complications, site plan approval for these properties have expired and they remain in their existing condition.

While the town center has a longstanding and distinct presence, the downtown core has suffered from the flight of business over the past decades, and the high concentration of institutional uses and large areas of surface parking, which isolate the existing businesses from each other, interrupting what could be a more cohesive commercial area. The proposed BOA clearly lacks entertainment space, public open space, and residential uses. The new Metro 303 apartments on North Main Street cater to a more affluent clientele, and its proximity to Garden City suggests residents have little connection to Hempstead. Residential development is more prominent in the surrounding areas, such as in West Hempstead near the LIRR station.

EXISTING ZONING

Underlying Zoning

Figure 3-2a illustrates the underlying zoning districts within the proposed BOA. The vast majority of the BOA is zoned for Business B District. Permitted uses in the Business B District include any use permitted in Business A Districts (retail, office, banks, hair salons, libraries, photographic studios, art galleries, schools, dry cleaners, tailors, hotels, private parking fields, and parking field businesses); theaters, bowling alleys or funeral homes (when authorized by the Board of Zoning Appeals); and private garages (accessory to a permitted use only). In addition to the above, Business B Districts allow for printers; shoe repair shops; medical, optical, dental, and jewelers' laboratories; and motor vehicle sales. The maximum height permitted is 85 feet. There are also requirements for front and rear yard setbacks. Prohibited uses in the Business B District include residences, homeless shelters, and group family day care centers.

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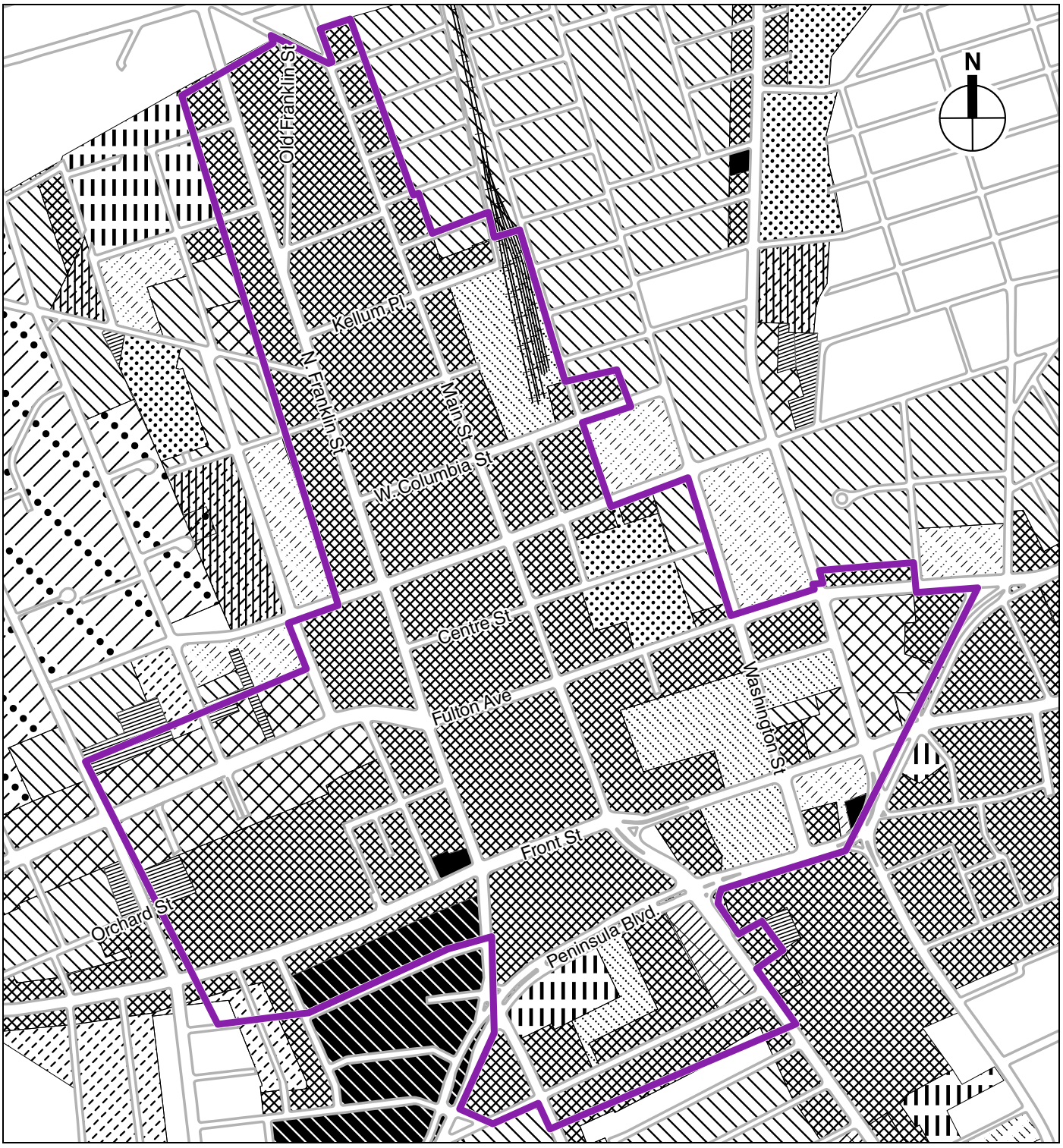

- Proposed BOA
- Residence AAA
- Residence AA
- Residence A
- Residence B
- Residence C
- Residence D
- Residence E
- Residence F
- Residence G
- Business A
- Business B
- Business C
- Business BG
- Industrial
- Park Area
- Parking

Existing Zoning

VILLAGE OF HEMPSTEAD BOA

Figure 3-2a

Other prominent zoning districts in the remainder of the study area include Business A, which includes big box type stores such as Stop & Shop, Home Depot, and Walgreens, and parking districts. Residential zoning districts are located in the southern portion of the study area (primarily south of Front Street) including Residence AA, Residence A, Residence B, Residence C, Residence E, and Residence G. An industrial zone is located along Newmans Court in the southwestern portion of the study area.

Downtown Overlay Zones

The Village released its Downtown Vision & Comprehensive Plan Update in 2009 and the Draft and Final Supplemental Generic Environmental Impact Statement (EIS) for the Adoption of Downtown Overlay Zones and Zoning Map Amendments in 2012.

Subsequently, the Village adopted the Downtown Overlay Zones ordinance and Zoning Map Amendments (Article XXVI, Section 139-200 to 139-220). The BOA boundary is congruent with the Downtown Overlay Zone (DOZ), as shown in **Figure 3-2b**. The purpose of the DOZ ordinance was to implement redevelopment and revitalization initiatives as outlined in the Village's Comprehensive Plan Update.

The DOZ is divided into the following Overlay Districts, shown as "DO-1," "DO-2," "DO-3," and "DO-4." Each of the districts has a different purpose, as described in more detail below.

DO-1: Hospitality and Entertainment District

Located within a ¼-mile of the Rosa Parks Hempstead Transit Center ("Transit Center"), the intent of this district is to support the greatest variety and mix of uses, promoting a range of commercial office, retail, and residential uses, and the highest concentration of hospitality and entertainment uses. The DO-1 district permits the highest densities and promotes compact design with vertically and horizontally integrated residential and non-residential uses. Parking standards and pedestrian amenities required in this district reflect its immediate access to transit options.

DO-2: Transit District

Also located within a ¼-mile of the Transit Center and similar to the DO-1, the intent of this district is to support a mix of uses, as well as promote a range of retail choices, commercial uses, and residential options. The DO-2 district also permits high densities and compact design with vertically and horizontally integrated residential and non-residential uses. Parking standards and pedestrian amenities required in this district also reflect its immediate access to transit options.

DO-3: Commercial Transition District

Located between ¼-mile and ½-mile of the Transit Center, the intent of this district is to support a variety of uses, high concentration of commercial and retail uses, and a range of housing options. The DO-3 district permits lower densities than DO-1 and DO-2 while continuing to promote compact design. Parking standards and pedestrian amenities support proximity to transit options.

DO-4: Downtown Edge District

The intent of this district, located farther from the Transit Center than the DO-1, DO-2, or DO-3 districts, is to permit a wider range of uses than the underlying zoning districts permit, particularly residential, live-work, and urban agriculture, at lower densities than the other DO Zones. There is a special permit provision for locating residential development and live-work buildings that can be applied in certain areas within the DO-4 district.

The associated Zoning Standards Maps of the DOZ ordinance designate a series of Zoning Standard Elements to regulate the building forms most appropriate for each Overlay District,

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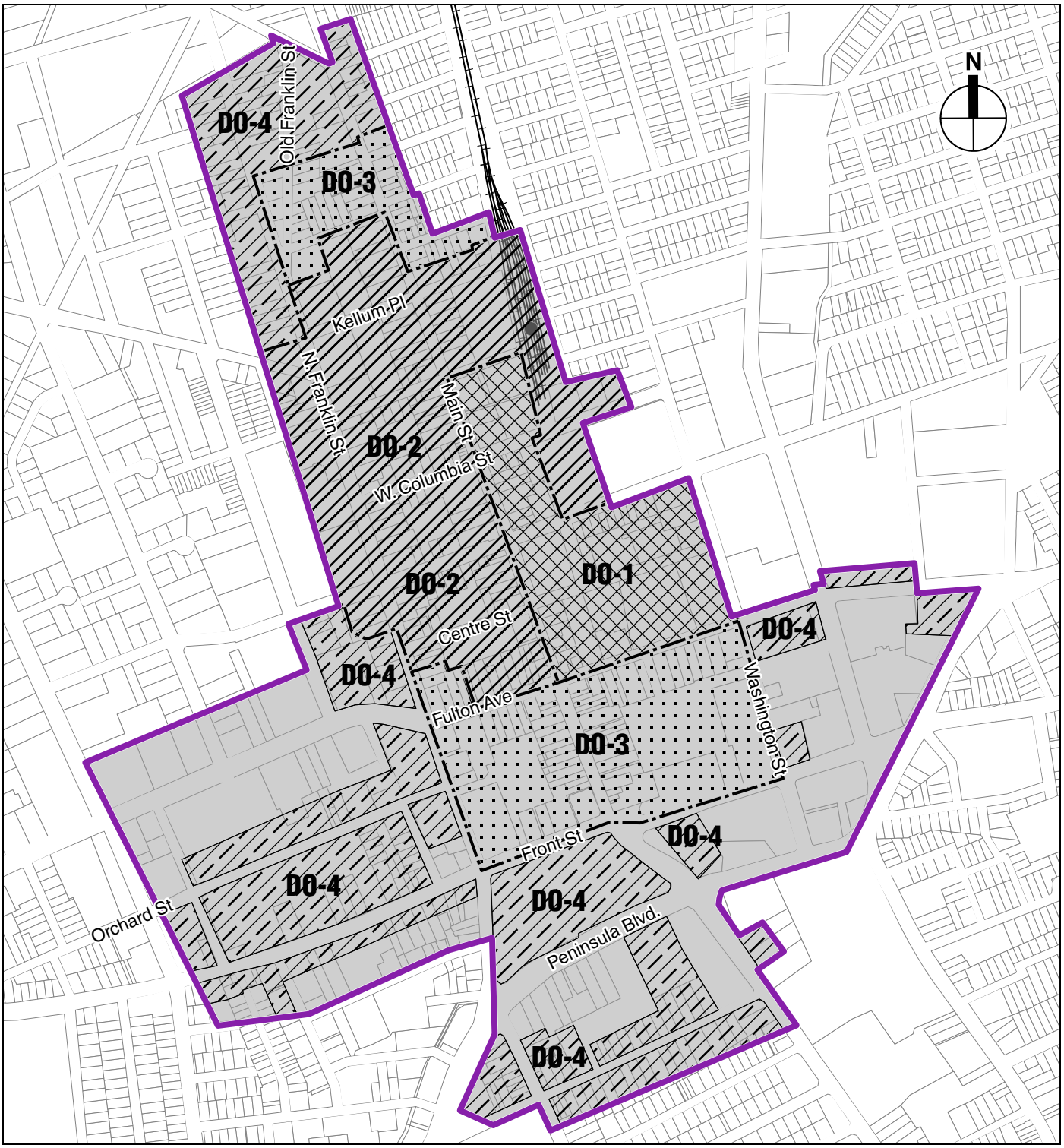

Proposed BOA

DO-1 Entertainment & Hospitality District

DO-2 Transit District

DO-3 Commercial Transition District

DO-4 Downtown Edge District (Eligible for mixed-use overlay)

DO-4 Downtown Edge District (Not eligible for mixed-use overlay)

District Boundary

0 1,000 FEET

VILLAGE OF HEMPSTEAD BOA

Downtown Overlay Zone

Figure 3-2b

street, block, and lot. This map regulates Street Types, Terminating Vistas, Significant Corners, and Required Frontage Types.

Moreover, there are minimum street and block standards required to provide block configurations, traveled way improvements, public frontage improvements, site access, and site frontages for the development of new sites, streets, and/or access lanes. The DOZ zoning code also specifies civic space standards for the DO-1, DO-2, and DO-3 districts. In general, each site shall provide a minimum of 10 percent of its site area in the form of Civic Space and a minimum 5 percent as Private Open Space. **Table 3-1** presents permitted uses by district.

Table 3-1
Table of Principal Uses

Use	DO-1	DO-2	DO-3	DO-4
Mixed Use* **				
Mixed Use Building	P	P	P	*
Live-Work	P	P	P	SP**
Retail				
Retail	P	P	P	*
Restaurant	P	P	P	*
Office				
Office	P	P	P	*
Medical Office	P	P	P	*
Professional Service	P	P	P	*
Residential* **				
Townhouse	P	P	P	SP**
Multiple Dwelling	P	P	P	*
Multifamily Residence	P	P	P	*
Cultural				
Theater	P	P	P	*
Performing Arts	P	P	P	*
Museum	P	P	P	*
Hospitality				
Hotel	P	X	X	*
Inn	P	P	P	*
Bed and Breakfast	X	X	P	*
Residential Care Facility	P	P	P	*
Recreation/Education				
Indoor Recreation	P	P	P	*
Educational Use	P	P	P	*
Religious/Civic				
Houses of Worship	P	P	P	*
Library	P	P	P	*
Light Industrial				
Artisan Production Facilities	**P**	**P**	**P**	*****
Research and Development Facility	P	P	P	*
Data Information Center	P	P	P	*
Document/Misc. Storage	P	P	P	*
Small Scale Renewable Energy Facilities	P	P	P	P
Agricultural Use	P	P	P	P
Animal Husbandry	X	X	SP	SP
Parking Facilities				
Parking Structures	P	P	P	P
Surface Parking	P	P	P	P
Adult Entertainment Uses				
Adult Entertainment Use	X	X	X	*
Utilities				
Utilities	SP	SP	SP	SP

Notes: P = Permitted, SP = Allowed by Special Permit, * = Allowed if and to the extent permitted in the underlying district, SP** = Allowed by Special Permit only where the underlying district is Bus B and limited to a total of 383 units in the entire DO-4 District, X = Prohibited, *** = Residential use and private dwelling units associated with Hospitality uses are prohibited on first floor of storefront frontage
Sources: Village of Hempstead, Article XXVI, Downtown Overlay Zones, Section 139-200 to 139-220, June 2012

While the downtown area has already been rezoned to encourage new types of development, there has been little progress through market forces, suggesting that the demand for different services does not currently exist.

ECONOMIC DESIGNATIONS

North Main Street Urban Renewal Area

The BOA is inclusive of the North Main Street Urban Renewal Area, as shown in **Figure 3-2c**. This smaller designated area includes the northern portion of Downtown between North Franklin Street to the west and Hewlett Street to the east. The North Main Street Urban Renewal Area has an irregular boundary, however the northern boundary is approximately Miller Place at Old Franklin Street, reaching just short of the boundary between the Village and Garden City, and its southern boundary terminates at Jackson Street. The objective of the North Main Street Urban Renewal Area was to create a mixed-use downtown, while also increasing open space, and enhancing pedestrian links within the community. While the designation was intended to spur new development with the support of the Master Developer, development within the North Main Street Urban Renewal Area has not yet come to fruition.

Opportunity Zone

The Opportunity Zones program is a federal program that was designed to direct long-term capital investment into low-income communities as part of the 2017 Federal Tax Cuts and Jobs Act. The program provides opportunities for private investors to support investments in distressed communities through participation in Qualified Opportunity Funds. The Village has two geographic regions that have been designated as Opportunity Zones which partially overlap with the proposed BOA, as shown in **Figure 3-2d**. The Opportunity Zone which is inclusive of Census Tract 4068.01 is bordered to the south by Peninsula Boulevard and to the west by North Franklin Street within the proposed BOA. It then extends outside of the proposed BOA northeast to the corner of Jackson Street and Bennett Avenue, traverses back into the proposed BOA along Fulton Avenue, runs north along Main Street to West Columbia Street, then along Washington Street to Meadow Street, its northern border. The Opportunity Zone inclusive of Census Tract 4068.02 is also bordered by Meadow Street to the north, Washington Street and Main Street to the west, West Columbia Street and Fulton Street to the south, and Robson Place and Clinton Street to the east.

BROWNFIELD, ABANDONED, VACANT SITES, AND UNDERUTILIZED SITES

INTRODUCTION

This section addresses the potential for the presence of hazardous materials resulting from previous or existing uses in or near the proposed Village of Hempstead BOA, and potential risks from any such materials that could arise during related future development and construction. This section also describes the regulatory requirements and overall processes that guide the redevelopment of brownfield sites in New York State. As defined by New York State, a "Brownfield" is any real property, the redevelopment or reuse of which may be complicated by the presence or *potential* presence of a contaminant. In the context of the New York State BOA Program, a "Brownfield" includes any vacant, abandoned, or underutilized property with actual *or perceived* contamination. In other words, the "Brownfields" targeted for redevelopment may not actually be contaminated. Examples of potential brownfield sites would include industrial sites, abandoned gasoline stations, or, in many cases, vacant land.

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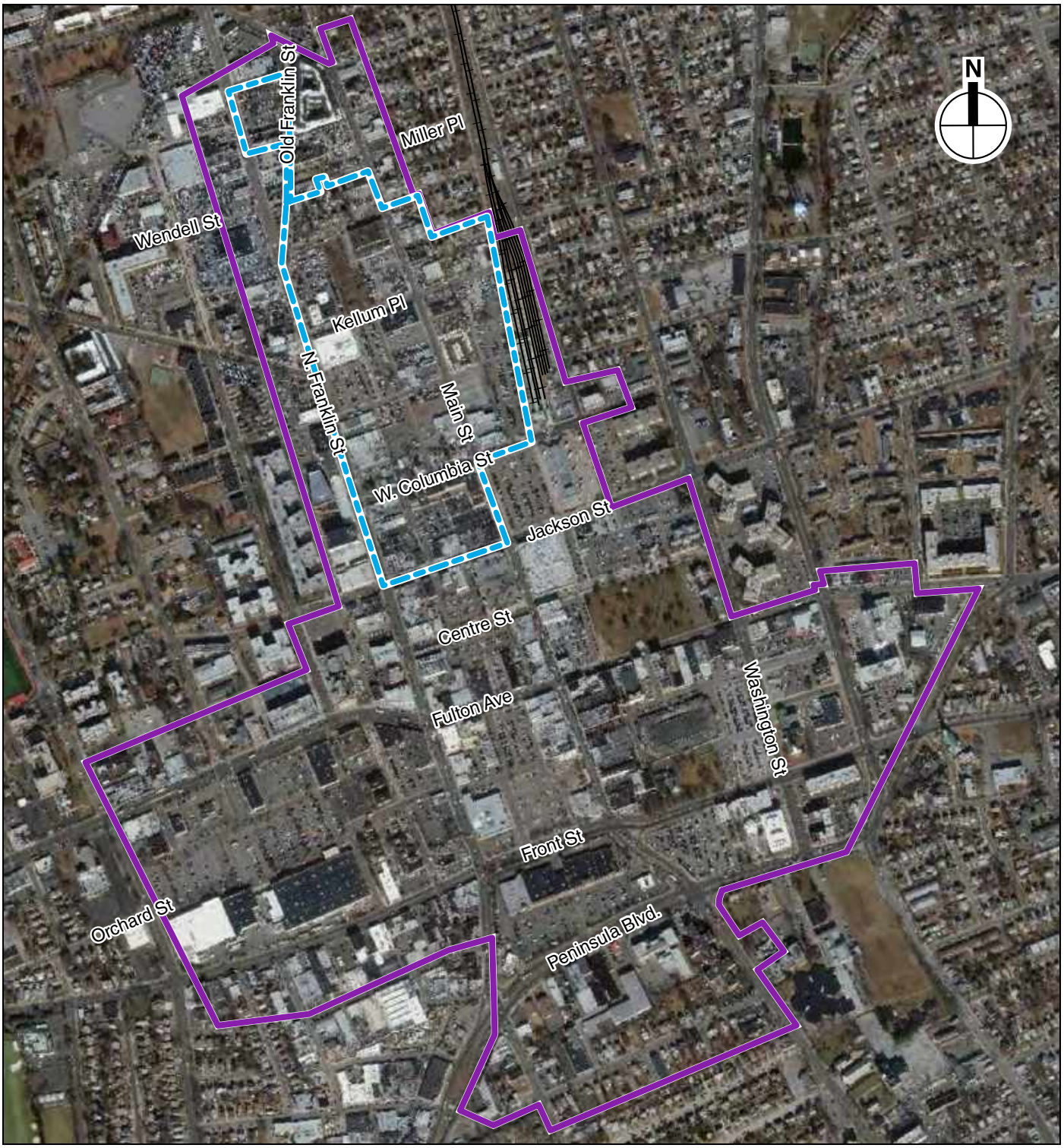


Proposed BOA Boundary

Urban Renewal Area

0 1,000 FEET

North Main Street Urban Renewal Area

VILLAGE OF HEMPSTEAD BOA

Figure 3-2c

12.16.19

Proposed BOA Boundary

Opportunity Zones

Census Tract 4068.01

Census Tract 4068.02

0 1,000 FEET

Opportunity Zones

VILLAGE OF HEMPSTEAD BOA

Figure 3-2d

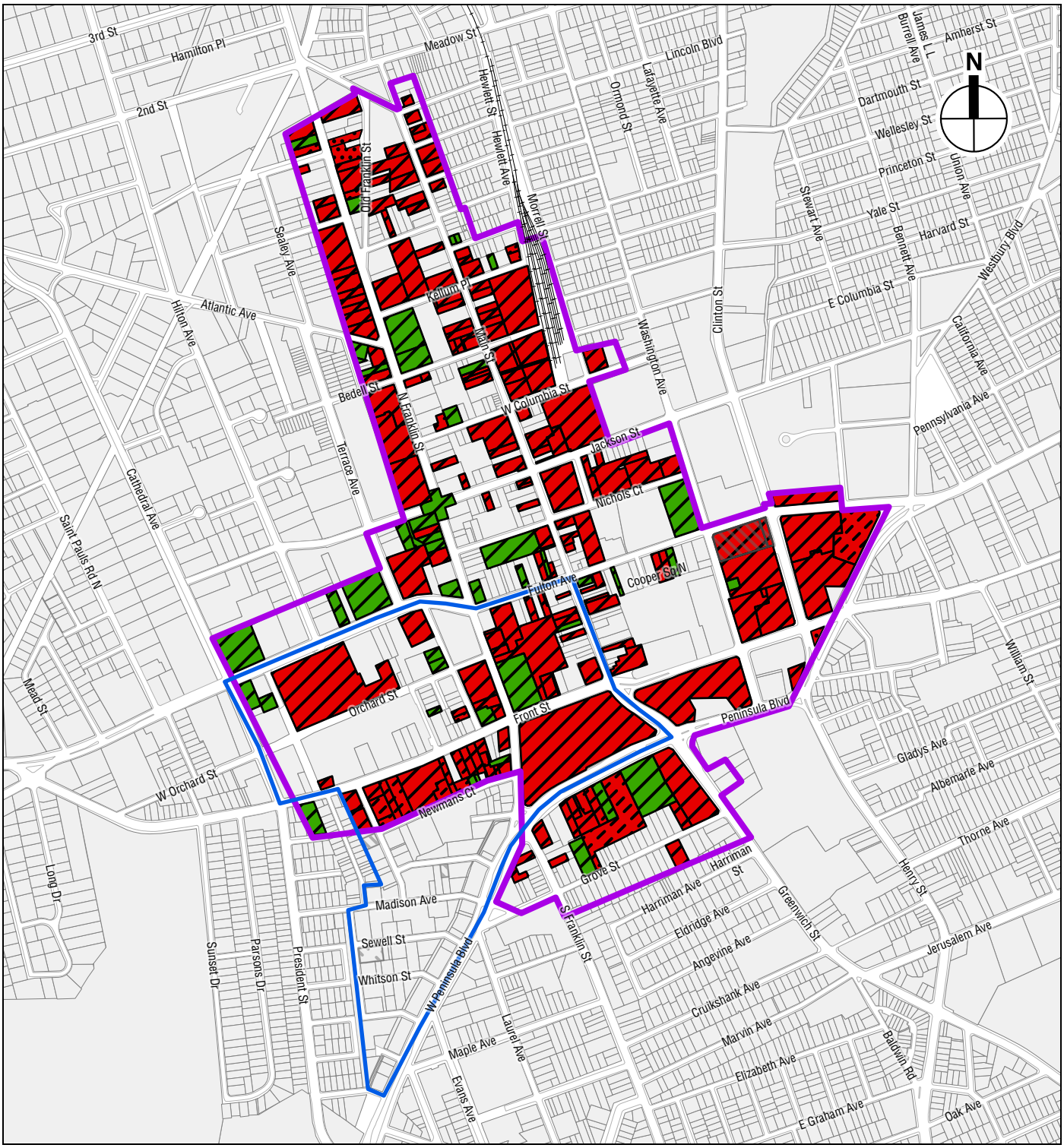
Existing and historical site uses and conditions on vacant, abandoned, and underutilized lots are presented in order to assess the potential for the presence of hazardous materials; this information was then used to identify brownfield sites. The universe of known or potential brownfield, abandoned, vacant, or underutilized sites identified to date within the proposed BOA are noted in Table C-1 of **Appendix C** and represented in **Figure 3-3**. Included within Table C-1 is a summary of the information obtained for each of the properties assessed and the identification of known or potentially contaminated sites (in the column entitled "Environmental Conditions Identified"). The known or potentially contaminated sites are where historic and/or current usage has the potential to have affected environmental conditions beneath that site. A total of 235 brownfield sites with identified environmental conditions were identified within the proposed BOA (see **Appendix C**). The identified potential brownfields include: those previously identified under the EPA grant (except for those which have already been redeveloped or have become obsolete); other properties identified by the AKRF team during field surveys conducted in November 2018; and from a review of historical use and/or regulatory database information. Strategic Sites were chosen by evaluating this information, among other factors, which are discussed in more detail in subsequent sections. It is important to note that the redevelopment of an identified brownfield site, depending on the type(s) of contamination to be remediated, may be subject to Federal, State and local regulations and guidance, and/or may be able to participate in one or more programs specific to brownfield investigation and remediation, including the following:

- U.S. EPA Brownfield grant program;
- 6 NYCRR Part 375 – NYSDEC Brownfield Cleanup Program;
- 6 NYCRR Parts 595-599 and 612-614 – chemical and petroleum bulk storage management and removal of aboveground and underground storage tanks;
- Article 71 of the Environmental Conservation Law, 17 NYCRR Part 32, Article 12 of the Navigation Law – petroleum and chemical spill reporting; and/or
- 6 NYCRR Parts 360 and 364 – solid waste management requirements.

EXISTING CONDITIONS

Historical and Current Use Overview

The proposed BOA has been occupied by a mixture of residential, commercial, institutional, industrial, and automotive uses for more than 100 years. Initially it was primarily residential or undeveloped, with some interspersed industrial uses including coal yards, wagon yards, lumber yards and mills along the railroad (circa 1880s to early 1900s). The Nassau and Suffolk Gas Works, a manufactured gas plant (MGP), was located one block west of the northern portion of the study area, along Intersection Street during this timeframe. The historical Sanborn maps showed increased industrial and automotive usage (repair shops, auto sales and service, garages, machine shops, etc.) within the area on the majority of blocks north of Bedell Street by the 1950s and many of these facilities are still present. Additional assorted automotive and industrial uses were present in the southwestern portion of the area along Front Street including manufacturers, steel fabricators, warehouses, automotive repair shops, filling stations and laundries; and a large steam laundry plant and diaper laundry was located south of Peninsula Boulevard, on the south central portion of the area. Many of these facilities are listed in the regulatory databases for: generation/storage of hazardous wastes; petroleum bulk storage; air discharges, and/or leaking tanks and spills. Current uses, such as dry cleaners, automotive repair shops, and warehouses were also considered in assessing potential environmental conditions.



Proposed BOA Boundary

Innovation District

0 1,000 FEET

Universe of Known and Potential Brownfield Sites

- *Potential Environmental Conditions*
- *Recognized Environmental Conditions*
- *Underutilized Use*
- *Industrial*
- *Vacant Land*
- *NYSDEC-Brownfield Cleanup Program (BCP)*
- *Pertinent Facilities*

Location Map - Universe of Brownfield and Underutilized Sites

METHODOLOGY

The objective of this analysis was to determine which of the vacant, abandoned, or underutilized parcels within the proposed BOA may have been adversely affected by current or historical uses on-site or nearby. Analysis included both data on past site uses/conditions, and whether remediation had already occurred (such as spill closure reports). This research was in part intended to guide the determination of sites eligible for future site assessment funding.

Soil and groundwater can become contaminated as a result of past or current activities on a site itself or on adjacent properties. Many past and current industrial activities used, stored, or generated contaminated materials that can be spilled, dumped, or buried nearby. Other activities common in mixed-use neighborhoods—such as dry cleaners, gas stations and auto repair shops—can also result in contamination due to improper management of raw products and/or waste materials. Subsurface soil, soil vapor, and groundwater contamination can remain undetected for many years, unexposed, and posing no threat to nearby workers, residents, passersby, or other receptors. However, excavation, earthmoving, dewatering, and other construction activities can expose the contaminants, providing a pathway of exposure and introducing potential risk to construction workers and others nearby if such contaminants are not properly managed. In this way, future development or other soil disturbance might encounter contaminated soil and/or groundwater.

In general, environmental concerns may include any type of industrial land use, dry cleaners, gasoline stations, automobile repair, current and historical generation of hazardous materials, storage of petroleum or chemicals in underground storage tanks (USTs) or above-ground storage tanks (ASTs), reported spills of petroleum or other chemicals, and known groundwater or soil contamination.

Based on the types of contaminants that are typically found in urban areas, some of the potential contaminants of concern are described below. The list provides a summary description and potential sources of the categories of contaminants and is not a comprehensive list of all contaminants that may be encountered:

- **Volatile organic compounds (VOCs).** These include aromatic compounds—such as benzene, toluene, ethylbenzene, xylene (BTEX), and methyl tertiary butyl ether (MTBE), which are found in petroleum products (especially gasoline)—and chlorinated compounds, such as tetrachloroethene (also known as perchloroethylene or "perc") and tricholoroethene, which are common ingredients in solvents, degreasers, and cleansers. VOCs represent a significant potential for contamination issues since, in addition to soil and groundwater contamination, they can generate organic vapors. Former or current gasoline stations, auto body shops, dry cleaners, and other industrial land uses are the most likely sources for substantial VOC contamination.
- **Semivolatile organic compounds (SVOCs).** The most common SVOCs encountered are polycyclic aromatic hydrocarbons (PAHs), which are constituents of partially combusted coal or petroleum-derived products, such as coal ash. PAHs are common in fill material, but can also be associated with fuel oil spills.
- **Polychlorinated biphenyls (PCBs).** Commonly used as a dielectric fluid in transformers, some underground high-voltage electric pipelines, and hydraulically operated machinery, PCBs are of special concern at electrical transformer and rail yard/train maintenance locations where leakage into soil may have occurred. PCBs and/or PCB-containing materials were once widely used in manufacturing and industrial applications (e.g., hydraulic lifts, transformers,

and plastic manufacturing.). PCBs tend to travel only short distances in soil, except in unusual circumstances (e.g., large spills of PCB-containing oils over many years).

- **Pesticides, herbicides, and rodenticides.** These are commonly used to control rodents and/or insects, and vegetation in vacant structures or in vegetated lots.
- **Metals (including lead, arsenic, cadmium, chromium, and mercury).** Metals are often used in smelters, foundries, and metal works and are found as components in paint, ink, petroleum products, and coal ash. These metals tend not to travel far in soil; therefore, they would be of greatest concern at the site where they were generated. Metals, at levels above natural background levels, are frequently present in fill material.
- **Asbestos.** In addition to asbestos used for fireproofing or other purposes within existing structures, utility lines beneath some streets may be coated with asbestos or encased in "transite." There are well-defined regulatory programs to manage asbestos during demolition and construction work.
- **Fuel oil and gasoline storage tanks.** Numerous residences and businesses within the study area currently have, or once had, both known and undocumented ASTs or USTs for fuels, including heating oil, diesel and gasoline. Some of these tanks may have been removed, and others, although no longer in use, may remain buried in place. Some of the tanks are known to have leaked, and others have possibly leaked with no evidence of a spill to date. Some of the spills have been cleaned up in accordance with State regulations, but others have not because they have not yet been discovered or because cleanup, which can take several years, is ongoing. However, both the regulatory process and technologies are in place to address removal of tanks and cleanup of any associated releases.

The proposed BOA was analyzed for evidence of potential environmental concerns. Generally, sites with current or historical industrial and/or automotive uses were targeted for further assessment. Properties that had a history of entirely residential use were not considered for further assessment. These included sites identified by the AKRF team during field surveys conducted in 2018. For properties within the proposed BOA with current or historical industrial/automotive uses (based on available historical Sanborn fire insurance maps from 1886, 1892, 1897, 1904, 1909, 1915, 1919, 1925, 1937, 1950, 1961, 1963, and 1970 [noting that map coverage was unavailable for certain areas within the project area, limiting review in some cases]), a review of regulatory databases was conducted as well as limited street-level site inspections performed from public rights-of-way in November 2018. Although multiple petroleum spill listings were noted in the regulatory databases associated with releases at residential structures and/or vehicle-related releases to roadways or storm drains within the study area, given the likely *de minimis* nature of these releases, these spills were not considered a likely source of significant contamination.

Regulatory databases, similar to those used for an ASTM E1527-13-compliant Phase I Environmental Site Assessment (ESA) were reviewed, (although a comprehensive ESA was not conducted as part of this evaluation), including:

- The New York State SPILLS database, which is an inventory of sites where petroleum or chemical releases have been reported to the NYSDEC since April 1, 1986;
- The chemical bulk storage (CBS) database, which is an inventory of NYSDEC-registered (since July 15, 1998) facilities that store hazardous substances—as defined by 6 NYCRR Part 597—in ASTs with capacity equal to or greater than 185 gallons and/or in USTs of any size;

- The Petroleum Bulk Storage (PBS) database (or BULK PETRO), which is an inventory of properties that store greater than 1,100 gallons in aggregate of petroleum products (maintained by NYSDEC);
- The Leaking Storage Tank Incident Reports (LTANKS), which are inventories of leaking ASTs or USTs incidents reported after April 1, 1986; the causes of releases may be tank test failures, tank failures, or tank overfills;
- The Hazardous Waste Generators (HAZ) database, which originates from the NYSDEC manifest system for hazardous waste handlers as well as EPA records pursuant to the Resource Conservation and Recovery Act (RCRA), also referred to as the Resource Conservation and Recovery Information System (RCRIS) database, includes information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA;
- An air discharge facility database (ADF), which is a listing of air pollutant sources that are permitted with the EPA or NYSDEC;
- Solid Waste Facilities: New York State Solid Waste Registry, including, but not limited to, landfills, incinerators, transfer stations, recycling centers;
- New York State Brownfield Cleanup Sites, which are sites on record with the NYSDEC as abandoned, idle, or underused industrial and commercial sites where redevelopment is being contemplated under the NYSDEC Brownfield Cleanup Program;
- Toxic Release Inventory Sites (TRIS), a Federal database of manufacturing facilities required under Section 313 of the Federal Emergency Planning and Community Right-to-Know Act to report releases to the air, water, and land of any specifically listed; and
- Inactive Hazardous Waste Disposal Site (HWDS) Registry, a New York State database that maintains information and aids decision making regarding the investigation and cleanup of toxic sites. Also included are sites that qualify for possible inclusion on the Registry. These Registry Qualifying sites may or may not be on the Site Registry.

FINDINGS

In summary, as would be anticipated, the majority of sites with known or potential contamination are located within the northern portion of the proposed BOA and industrial facilities southwest of Main and Front Streets. The most commonly identified sources of contamination or potential contamination were related to the prior use, storage, disposal, or release of petroleum and/or leaking underground petroleum or bulk chemical storage tanks.

As noted above and presented in Table C-1 of **Appendix C**, many current/historical facilities and automotive uses within the study area are cited in the regulatory databases for: generation/storage of hazardous wastes; petroleum bulk storage; air discharges, and/or leaking tanks and spills, however some operations likely predated current regulations and undocumented releases from such operations/facilities could have affected subsurface conditions beneath these sites or nearby sites. As such, sites with significant historical industrial or automotive uses were also identified in the "Environmental Conditions Identified" column of Table C-1 in **Appendix C**.

Pertinent Listings within the Universe of Universe of Known and Potential Brownfield Sites

The nearby former manufactured gas plant (MGP) on Intersection Street was listed in NYSDEC's Inactive Hazardous Waste Disposal Site Registry (HWDS) with documented soil and groundwater contamination, primarily from coal tar wastes generated from historical manufactured "town gas" production, which may have also affected areas within the BOA, particularly in the northwestern

and western portions. Residual soil and groundwater contamination at the former MGP are being managed under a Site Management Plan (SMP). An additional former MGP site that historically operated on Clinton Road within the southeastern portion of the BOA (prior to being relocated to Intersection Street in the early 1900s) was also listed in the HWDS, but subsurface investigations did not identify significant contamination according to the database. Additional notable facilities listed in the HWDS within the BOA are two former dry cleaners that were located in the southeastern portion of the study area with documented chlorinated solvent contamination: Hempstead Area Dry Cleaners at 95 Clinton Street; and Top Notch Dry cleaners at 360-382 Fulton Avenue, as shown in Table C-1 of **Appendix C**. Facilities listed in the regulatory database with significant industrial usage were noted within the area southwest of Main Street and Front Street, including a NYSDEC Brownfield Cleanup Program (BCP) site, the Former Husslein Plating facility and Sempke Bus Garage located at 48 Sewell Street (documented subsurface heavy metals contamination). Additional sites included large hazardous waste generators/treatment and storage facilities including the Auromet Corp. Facility located at 37 Chasner Street and General Refining and Smelting Corp. Facility located at 106 Taft Avenue (generators of spent cyanides and other electroplating wastes).

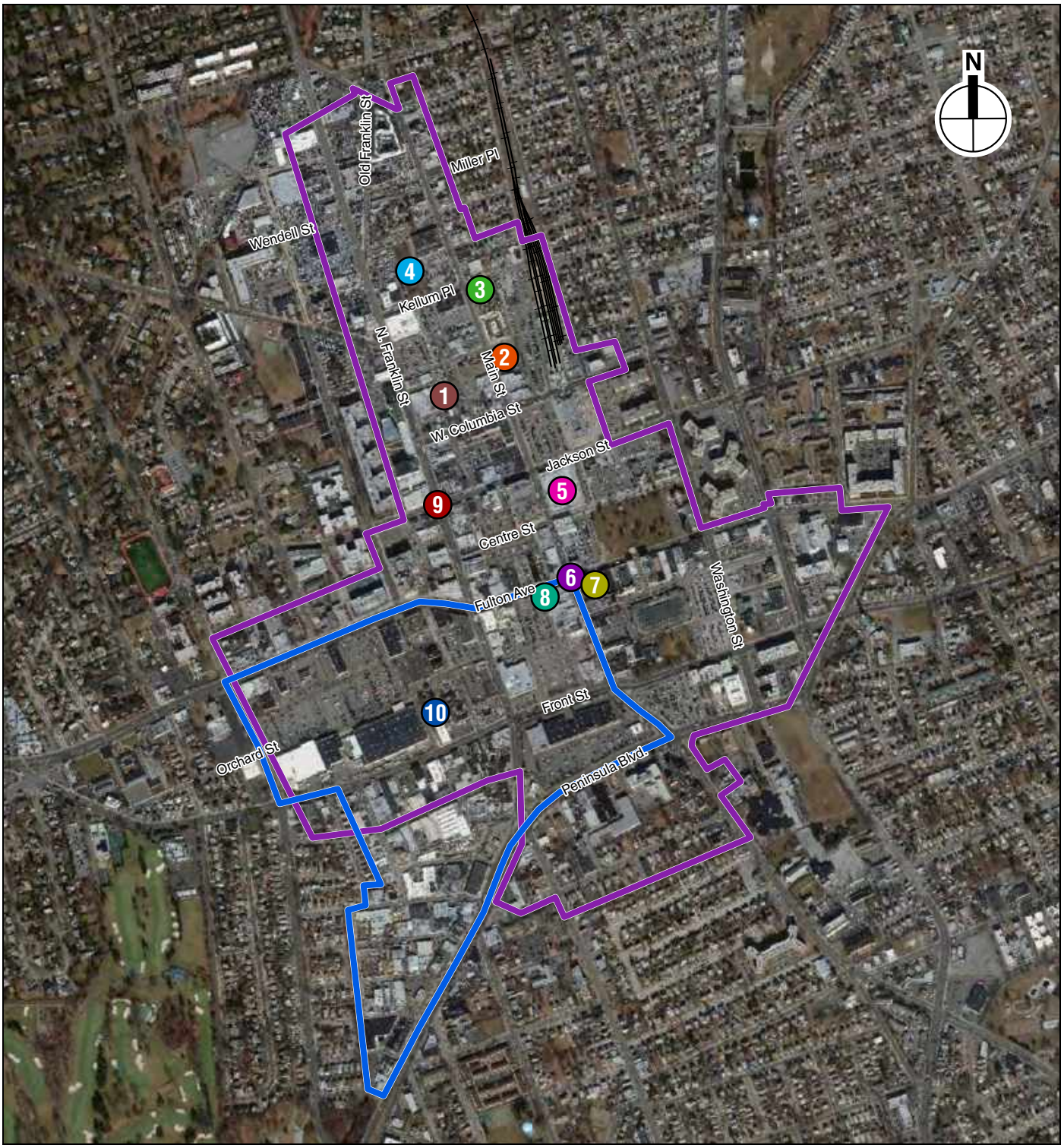
Although not addressed in **Appendix C**, the majority of existing structures in the proposed BOA are old enough to likely include asbestos-containing materials (ACM) and/or lead-based paint (LBP). However, existing regulatory programs address mitigation of these prior to or as part of demolition.

To reduce the potential of adverse impacts associated with development resulting from the proposed actions, further environmental investigations will be required at brownfield sites with known or potential "Environmental Conditions Identified," as indicated in Table C-1 of **Appendix C,** which may include a comprehensive Phase I ESA in accordance with current regulatory/industry standards (including ASTM 1527-13) and/or a Phase II (Subsurface) Investigation, based on site-specific conditions. For sites owned or subsequently acquired by the Village or other public governmental entity, BOA Step 3 funding could be pursued and utilized for Phase II Investigations.

STRATEGIC SITES

Ten Strategic Sites have been identified based on their catalytic potential to spur additional development and community redevelopment. Some of these sites represent already existing projects, such as the Dell Bus development and Conifer Development, with potential to serve as anchors for new development. Other Strategic Sites are underutilized commercial buildings within Downtown Hempstead and are primed for revitalization. As seen in **Figure 3-4a** and **4b**, these Strategic Sites are located at important locations and intersections within the Village. **Table 3-2** provides an inventory of the identified Strategic Sites within the Village accompanied by a summary of information of known or potential contamination for each site (see also Table C-2 in **Appendix C**). Strategic Site Profiles are provided in **Appendix B**.

5.14.20



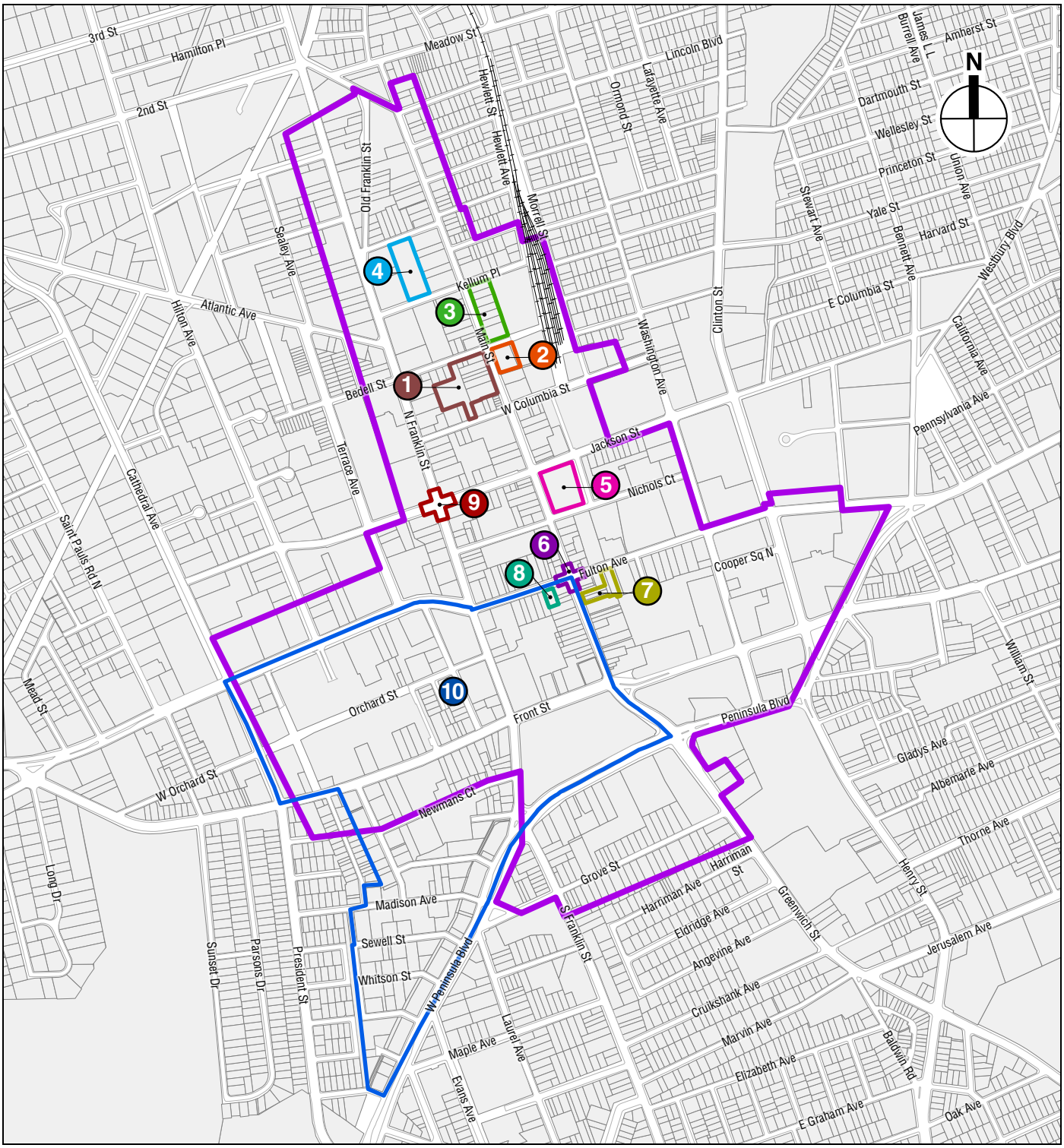
- Proposed BOA Boundary
- Innovation District
- 1 Conifer-Carman Place
- 2 Independent Living - Estrella
- 3 BRP - Alta
- 4 Dell Bus Project
- 5 Former Bus Station
- 6 Main and Fulton
- 7 Woolworth Site
- 8 Nagasaki Site
- 9 Franklin and Johnson
- 10 Innovation District

0 2,000 FEET

Strategic Sites - Aerial View

VILLAGE OF HEMPSTEAD BOA

Figure 3-4a



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- Proposed BOA Boundary
- 1 Conifer-Carman Place
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- 6 Main and Fulton
- 7 Woolworth Site
- 8 Nagasaki Site
- 9 Franklin and Johnson
- 10 Innovation District

Strategic Sites - Map View

VILLAGE OF HEMPSTEAD BOA

Figure 3-4b

Table 3-2
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
1	34-195-8	Conifer-Carman Place	155-179 Main Street	2.54	LAU Investment Group & RDUA Parcel 3 LLC	2.5-story dwelling (1909–1970), two ground stores (1925–1970)	Transformer oil spilled near property due to car hitting a utility pole, approx. 60 gallons leaked	Potential
	34-195-9					Double dwelling (1904–1963), parking lot (1970)	No records	Yes
	34-195-10					2-story dwelling (1909-1963), parking lot (1970)	Closed status spill (1411628), No. 2 fuel oil	Yes
	34-195-111					Sign painting (1970)	Closed-status spill No. 1411628 – removal of 1,000-gal No. 2 fuel oil UST and contaminated soil (reportedly all removed)	Yes
	34-195-116					N/A	N/A	No
	34-195-129					N/A	N/A	No
	34-195-130					N/A	N/A	No
	34-195-131					N/A	N/A	No
	34-195-132					Unknown	Unknown	Unknown
	34-195-135					N/A	N/A	Unknown
	34-195-138					N/A	N/A	No

Notes:
Tax Map No(s) with no or unknown environmental site conditions identified have been excluded from **Appendix C**. Recognized Environmental Condition (REC); Village of Hempstead Community Development Agency (CDA); Fire Department (FD); New York State Department of Environmental Conservation-Brownfield Cleanup Program (NYSDEP's BCP); Large Quantity Generator (LQG).
*See Table C-2 in Appendix C for more detail.
**The AKRF team suggests the creation of an innovation anchor sponsored by the Village of Hempstead/CDA/partner organization to kick off investment within the area. The AKRF team suggests using RDUA Parcel 4 LLC as an anchor site for larger district. Alternative site for anchor identified at Town of Hempstead parking lot or HVCA LLC property.

Table 3-2 (cont'd)
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
2	34-522-5	Estrella	Bedell and Main Streets	0.63	CPK Transportation LLC	Part of a lumber yard (1892–1937); auto parts storage (1963); used auto sales (1970)	N/A	Yes
	34-522-327					Part of a lumber yard (1892–1937)	N/A	Yes
3	34-194-4*	BRP – Alta	257 Main Street	1.37	Main View LLC	Taxi storage (1970)	Historic LQG of solid ignitable waste (D001) in 1991 (RSBL Corporation/204 Main Street); Spill No. 1711151 (active)	Yes
	34-194-8					Carpenter (1909–1919); auto repair (1970)	Same listings as lot 4 above.	Yes
	34-194-3					None.	No listings.	No
	34-194-6					Carpet cleaning (1937)	No listings.	Yes
	34-194-2					Auto repair (1950–1970)	No listings.	Yes
	34-194-1*					Service station (1937); part of the service station on Lot 7 (1950–1970)	No listings.	Yes

Notes:
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Table 3-2 (cont'd)
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
3	34-194-7*	BRP – Alta	257 Main Street	1.37	Main View LLC	Hempstead Brass Co. with machine shop and plating (1909); Brayshaw's Laundry (1919); Auto service station (1937–1970)	Unspecified RCRA generator, historic SQG 1995 and 2002; FD listing for one active UST; FD listing for three in-service AST; Closed-status Spill No. 0700162	Yes
4	34-192-11	Dell Bus Project	Main Street between Kellum Place and Union Place	1.37	RDUA Parcel 2 LLC	Dubois Model Laundry and coal house (1909)	No listings.	Yes
5	34-33303-2*	Former Bus Station	100 Main Street	1.50	100 Main Street Reality LLC	On Sanborns, Lot 329 contained a coal yard on 1892 map, and was traversed north-south by Long Island Railroad tracks and contained a freight depot (1904–1961)	Closed-status Spill No. 9005490	Yes

Notes:
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Table 3-2 (cont'd)
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
6	34-340-19	Main and Fulton (Hempstead Bank Building)	Intersection of Main Street and Fulton Avenue	0.12	Fulton Ave LLC, Main and Fulton Corner LLC, SRA Reality Corp, 281-283 Fulton Street LLC	Print Shop (1892–1904), Photo (1897)	Small Closed Spills (9411909, 011965, 9309474)	Potential
7	34-340-14	Woolworth Building	40 and 48 Main Street	0.60	Three Arrows Hempstead LLC	Marble Works (1886–1897), Stone Cutting (1904), Tin Shop (1919–1925), Paint Shop (1925)	N/A	Yes
8	34-339-148	Nagasaki Building	276 Fulton Avenue	0.18	276 Fulton Corp	N/A	N/A	No

Notes:
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Table 3-2 (cont'd)
Strategic Site Inventory

Site ID	Tax Map No(s).	Site	Location	Area (Acres)	Ownership	On-Site Known/Potential RECs		Environmental Conditions Identified?
						Historical Records	Regulatory Database	
9	N/A	Franklin and Jackson	Intersection of Franklin Avenue and Jackson Street	0.60	107 Hempstead Reality Corp, Kanoff Carol, Universal Tabernacle Love Peace & Joy, County of Nassau, Kaileh Mazen & Eyad	N/A	Nearby petroleum spills and vehicular spills, pole-mounted transformer spills	Potential
10**	N/A	Village of Hempstead Innovation District**	Southern portion of the BOA reaching south down Peninsula into the more industrial neighborhood cluster. Bisected by Front Street	N/A	Larger area with various owners.	N/A	Several closed spills related to fuel oil tanks and vehicular spills, etc., and sites with known contamination including the NYSDEP BCP site Former Husslein Plating Corp. & Sempke Bus Garage at 48 Sewell Street (heavy metals contamination). Additional sites included large hazardous waste generators including Auromet Corp Facility Id: NYD001234087 37 Chasner St and General Refining & Smelting Corp Facility Id: NYD082780446 at 106 Taft Avenue (generators of spent cyanides and other electroplating wastes)	Yes

Notes:
Tax Map No(s) with no or unknown environmental site conditions identified have been excluded from **Appendix C**. Recognized Environmental Condition (REC); Village of Hempstead Community Development Agency (CDA); Fire Department (FD); New York State Department of Environmental Conservation-Brownfield Cleanup Program (NYSDEP's BCP); Large Quantity Generator (LQG).
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Strategic Sites 1-4 were selected as they are previously approved development projects located in proximity to the Hempstead LIRR station and Transit Center, although as of fall 2019, their site plan approvals have expired. These sites can serve to anchor the northern portion of downtown, increasing residential density near transit, as well as provide an example of a new mixed-use development within the Village. Further, the Dell Bus project (school bus operators' headquarters and training facility) is anticipated to bring new transportation workers to the area, promoting commercial activity in the midday hours as well as the evening.

Site 5, the former Hempstead Bus Station was selected for its proximity to both the Transit Center (see **Figure 3-9**) and downtown businesses and commercial activity. This space, already built out with retail and office space could become a link between the two areas, closing the perceived distance between downtown and the Transit Center. The Bus Station could be tenanted with a range of office uses, including social service providers, or it could continue to be used for educational programming. Open space on the ground level and other retail spaces within the building could be re-tenanted with restaurants and smaller flexible retail spaces. Interior improvements could invite people into the space and promote circulation through the building between Main Street, the Transit Center, Village Hall, and government offices.

Site 6, the intersection of Main and Fulton Streets represents a different type of Strategic Site, one which focuses on the existing interconnected linkages of the Village and tries to expand on these connections and networks to spur development. At the heart of Downtown, this intersection represents the center of retail development within Hempstead, and an opportunity to create a "Gateway" to the Village, which would help establish a new sense of place. The intersection includes large commercial buildings, which have been partially restored. This intersection also includes Children's World—a children's clothing store that has operated within the Village for over 50 years, and that is a "destination store" well known far outside the Village. Promoting development at the intersection will help create a strong retail and commercial cluster in the area.

Two specific sites—Site 7, the Woolworth Building and Site 8, the Nagasaki Building—were identified as strategic development sites. Both sites, located at the intersection of Main Street and Fulton Avenue, can increase the commercial density in the area, potentially expanding shopping and retail options in the center of downtown with a robust mix of uses including restaurants and other retail. Site 7 has been vacant and fallow for more than two decades, and clearly is a valuable and strategically located parcel that needs to be returned to active use. At Site 8, the Village of Hempstead CDA is engaged with potential tenants seeking to provide educational programming as well as a commercial business on the site.

Site 9, the intersection of Franklin Avenue and Jackson Street, was identified because it anchors the western corridor through downtown, between the Hempstead LIRR station and Terrace Avenue and the western residential neighborhood. It is anticipated that this catalytic strategic development site will be utilized by the community for daily shopping and personal services, as well as other social services. As the intersection links the western areas of the Village to downtown and transit options it is likely to have high levels of pedestrian traffic, particularly during the morning and evening. This site already includes two potential anchor institutions, the African American Museum of Nassau County at the southeast corner and the Academy Charter School at the northwest corner. The African American Museum provides a range of cultural activities and exhibits within the community. The redevelopment of this site and the surrounding area could provide opportunities to provide an additional opportunity to create a secondary gateway to the

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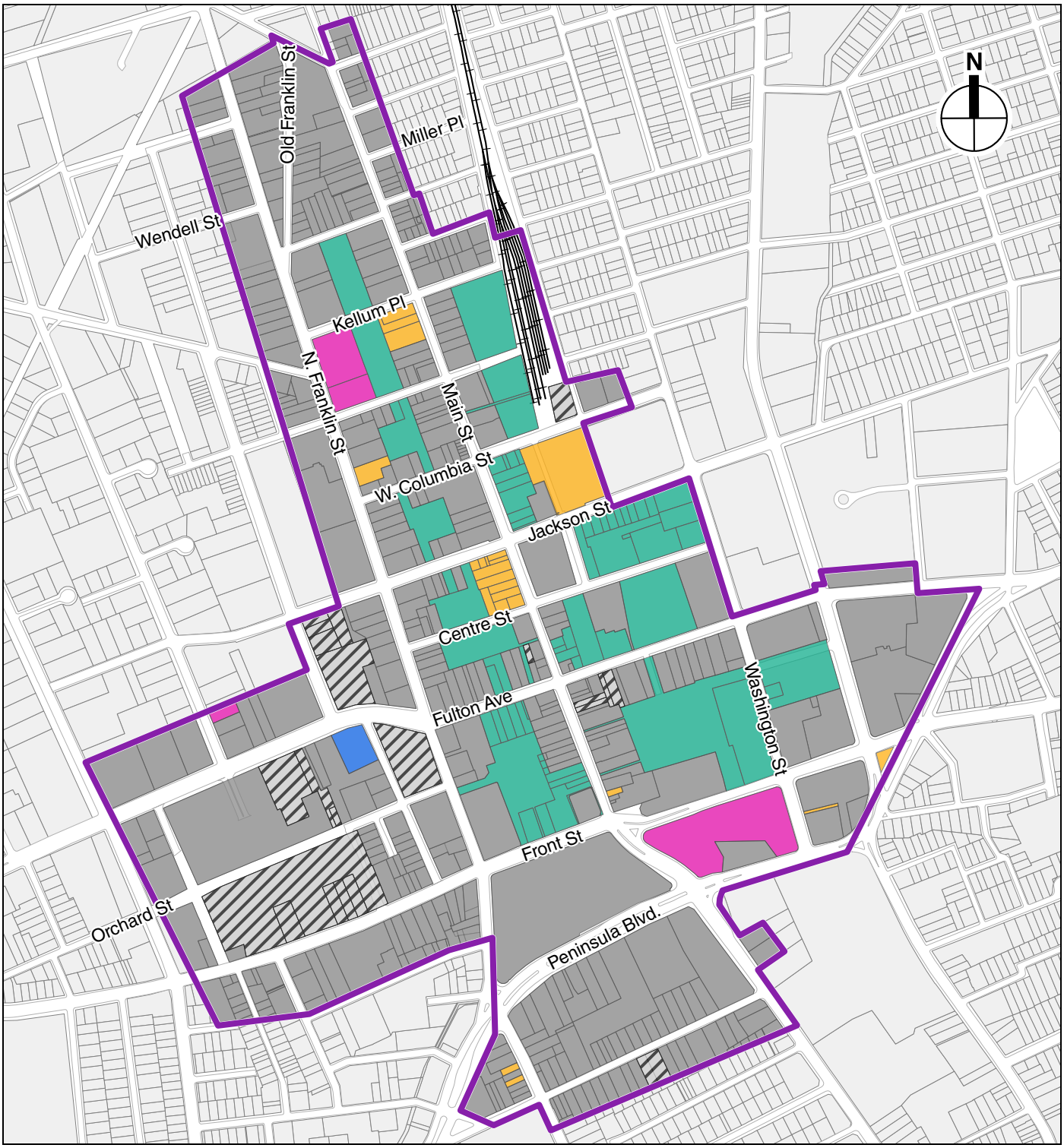


Proposed BOA

Private

No Data

Publicly Owned

Federal

County

Town

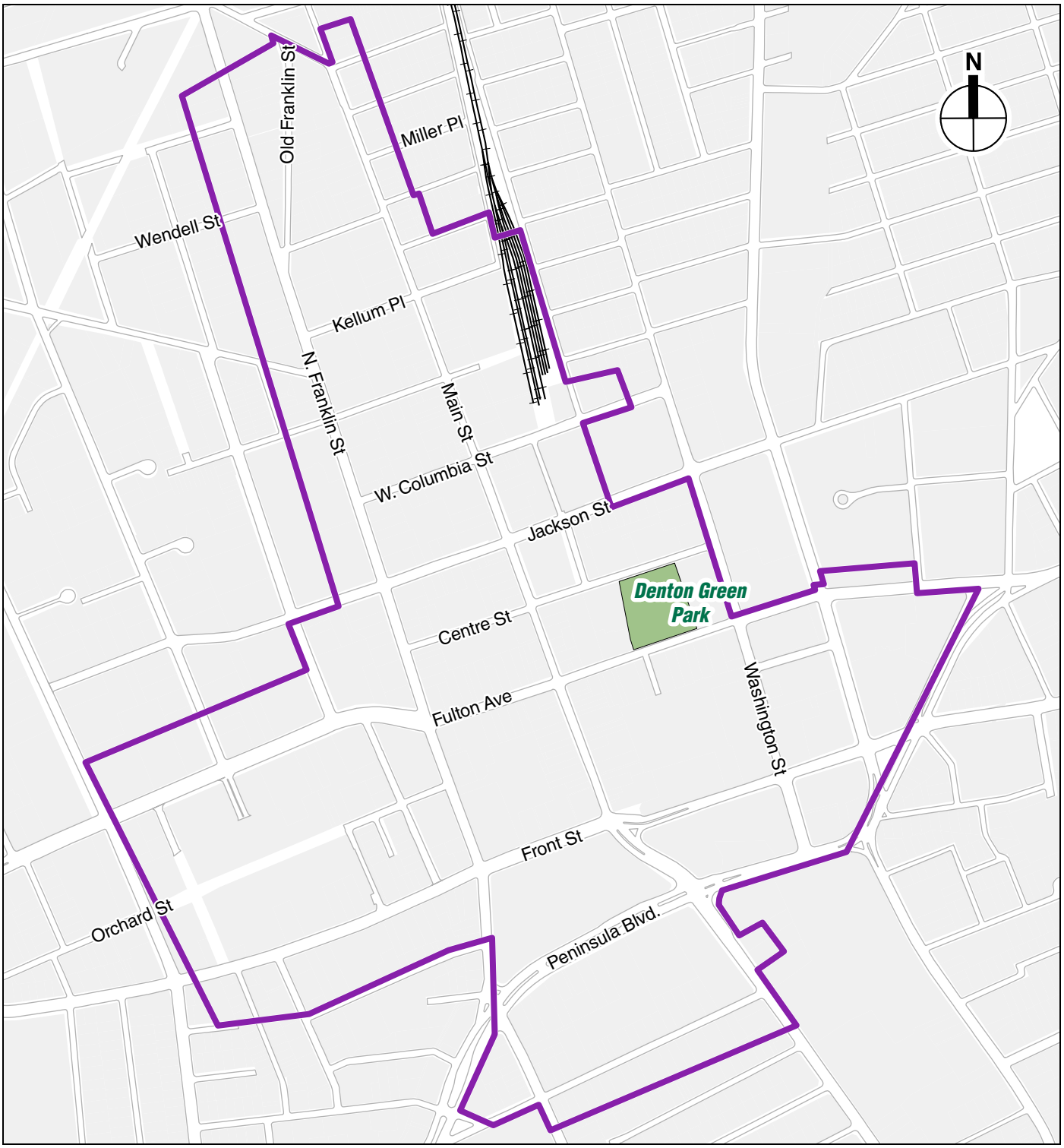
Village

0 1,000 FEET

Land Ownership

VILLAGE OF HEMPSTEAD BOA

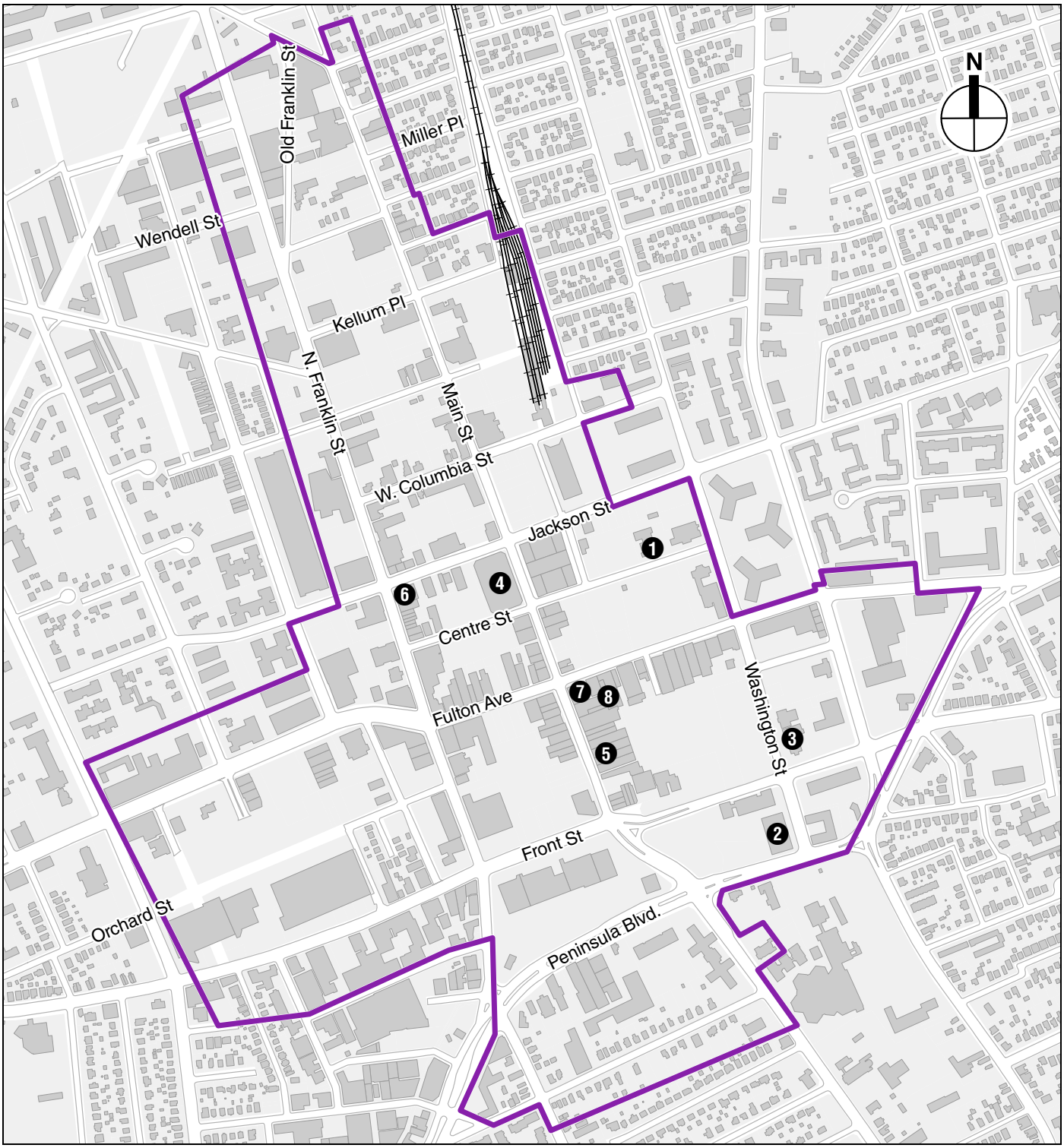
Figure 3-5



Parks and Open Space

VILLAGE OF HEMPSTEAD BOA

Figure 3-6



Building Inventory

VILLAGE OF HEMPSTEAD BOA

Figure 3-7

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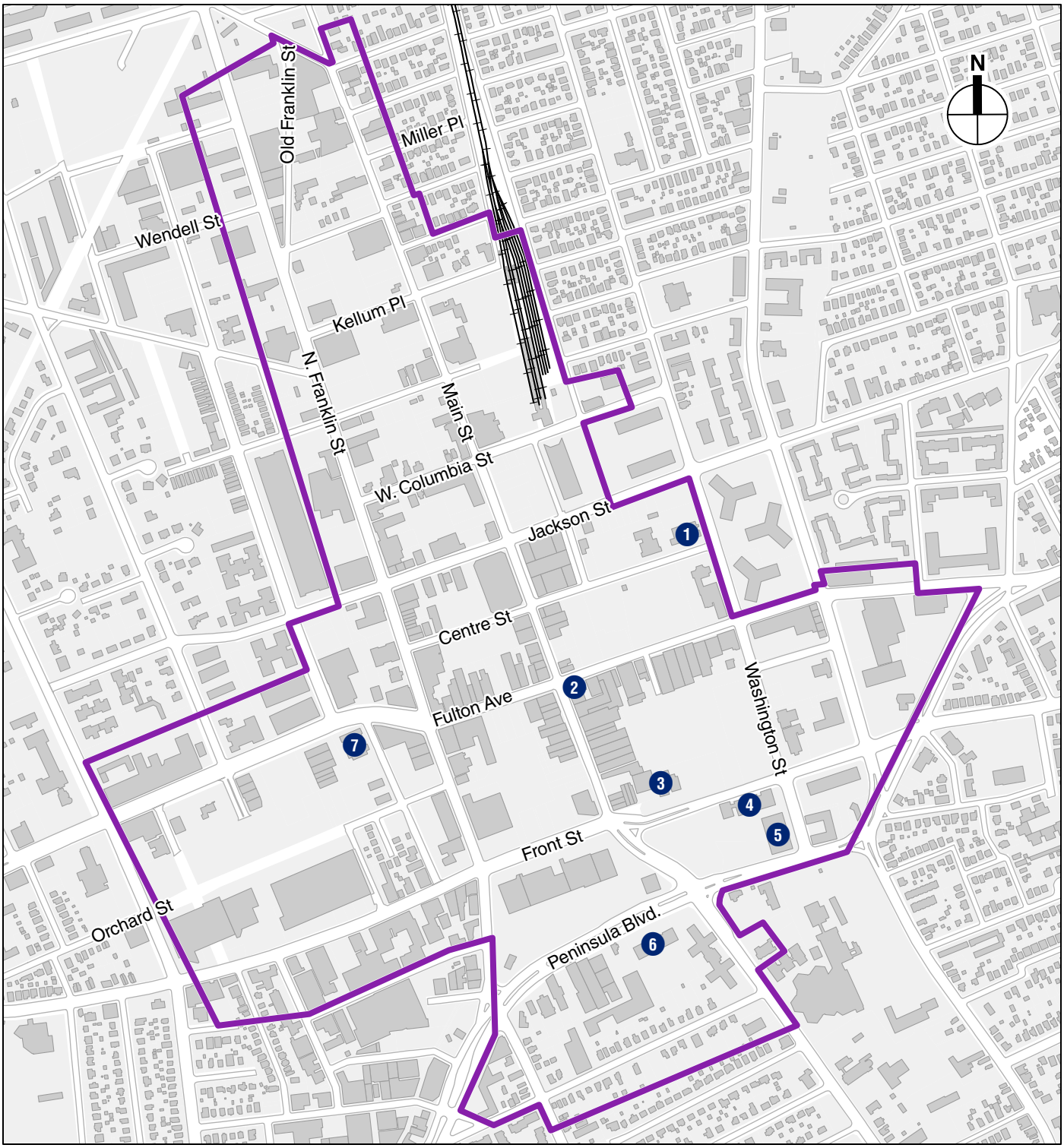


Proposed BOA

0 1,000 FEET

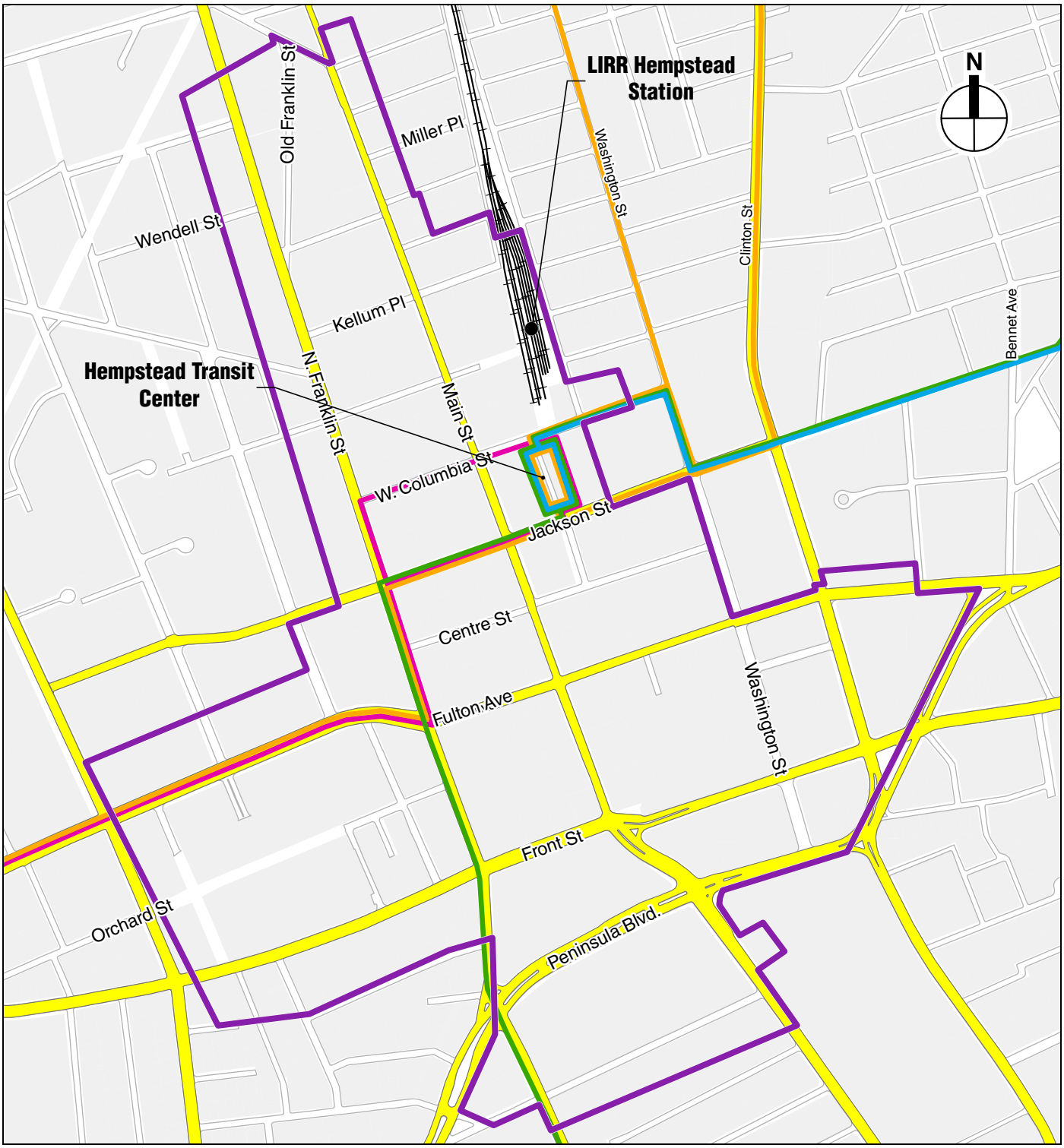
Historic Resources

1. *Hempstead Public Library*
2. *Hempstead Bank Building*
3. *St. George's Episcopal Church*
4/5. *Hempstead Town Hall*
6. *Prospect Avenue Elementary School*
7. *U.S. Post Office – Hempstead*

Historic Resources

VILLAGE OF HEMPSTEAD BOA

Figure 3-8



Transportation Systems

VILLAGE OF HEMPSTEAD BOA

Figure 3-9

Village, which would help bolster a new sense of place, and which could also provide new funding to the museum, which is in need of repairs, and provide the museum a newer, more modern facility.

Site 10, the Village of Hempstead Innovation District, is a larger strategic overlay zone, which is intended to link downtown with the industrial area along Peninsula Avenue. The innovation district would both promote physical linkages between downtown and Peninsula Avenue, as well as create economic linkages, through the creation of new light and high-tech manufacturing spaces and expanding economic opportunities for Village residents in these white collar, technology jobs. The innovation district program could be anchored with an incubator and educational center, providing space for apprenticeships and educational programming, supported by local educational institutions. Further physical linkages will expand downtown Hempstead and better connect downtown retail, restaurants, and other commercial services to the large daytime worker population found within the industrial district.

LAND OWNERSHIP PATTERNS

This section identifies and describes the private and public land by ownership status. Land ownership within the proposed BOA was identified using GIS data and other available information from the County, Town, or Village. Where clusters of public ownership are apparent, the potential for site assemblage may exist.

A **Land Ownership Map** that shows the pattern of public and private land ownership is presented as **Figure 3-5**. As shown in the figure, while the majority of the proposed BOA is privately owned, significant public ownership exists. In particular, there are a number of Village-owned parcels (including Village Hall, Hempstead Public Library, Denton Green Park, and a large parking field near the Nassau County Traffic & Parking Violations Agency. There are also a few County-owned properties including the Nassau County District Court and the Transit Center. The Town of Hempstead owns a large parcel that includes Town Hall bounded by Front Street to the north, Peninsula Boulevard to the south, Washington Street to the east, and Main Street to the west. The single federally owned property is a U.S. Post Office on the southwest corner of Fulton Avenue and High Street.

The Village-owned parking lots were transferred to the Master Development and are currently undergoing negotiations regarding their redevelopment.

PARKS AND OPEN SPACE

Figure 3-6 presents a **Parks and Open Space Map**. As shown on the figure, only one park was identified in the proposed BOA: Denton Green Park across from Village Hall. Opportunities to provide connections to Parks outside of the BOA and larger connections outside of the Village should be explored, as the lack of access to parks and open space in the Village center is an issue that stakeholders raised often.

BUILDING INVENTORY

This section provides a description and analysis of key buildings in the area, including name, number of stories, gross square footage, original and current use, condition, and ownership, as available from GIS data or public records. Key buildings may be buildings with potential for reuse or redevelopment, buildings that may serve as anchors to new development such as new or residential buildings, or buildings that house community, recreational, or institutional facilities,

such as Village Hall and churches and other places of worship. The Hempstead Hispanic Methodist Church is an iconic building in the Village, with its white steeple a prominent focal point. Key buildings are shown in **Figure 3-7** and listed in **Table 3-3**. The prominent key buildings in the Village are predominantly institutional/cultural uses—related to Village, Town, or County government, or religious or cultural institutions.

Table 3-3
Key Buildings

Map ID Number	Name	Use	Condition	Owner	Gross Square Footage	No. of Stories
1	Village Hall	Institutional	Good	Village of Hempstead	11,837	1
2	Town Hall	Institutional	Good	Town of Hempstead	21,932	5
3	Hempstead Hispanic Methodist	Institutional/ Cultural	Fair	United Methodist Church of Hempstead	10,460	2
4	Nassau County District Court	Institutional	Fair	Nassau County	50,213	3
5	Nassau County Traffic and Parking Violations Agency	Institutional	Fair	Nassau County	26,873	2
6	African American Museum	Institutional/ Cultural	Good	Nassau County	8,836	1
7	Hempstead Bank Building	Institutional	Fair	Main and Fulton Corner LLC	1,481	3
8	Woolworth Department Store Building	Cultural	Poor	Three Arrows Hempstead LLC	25,991	2

In addition, museums, theaters and other historic buildings play an important role in the community and can serve as anchors in the revitalization process. In the Village's center at the intersection of Franklin Street and Jackson Street is the African American Museum. Founded in 1917 and originally located on Main Street and Jackson Street, before the Bus Station was built, it showcases local and regional African American art. A wide variety of programs, including exhibits, education programs, and workshops are offered at this museum.

There are also a number of buildings at or near the intersection of Main Street and Fulton Avenue that have the potential to serve as anchors in redeveloping and revitalizing downtown Hempstead. For example, on the eastern side of Main Street at this intersection are the former Hempstead Bank building, built in 1907 and a three-story brick building at 285 Fulton Avenue built in 1928. Both buildings have some appealing architectural features, which adds to the character of the intersection. The brick building has recently been renovated and houses a number of new businesses, including a deli, a hair salon, a spa, and a dance studio. Also on Main Street, a few properties south from the Hempstead Bank building, is the former Woolworth Department Store Building. The large, L-shaped building with its historic façade has access to Main Street and Fulton Street.

HISTORIC OR ARCHEOLOGICALLY SIGNIFICANT AREAS

The Village developed during the post-World War II years when there was a housing boom throughout western Long Island. A number of structures in the Village however, are more than

100 years old, reflecting the historic quality of churches homes and other buildings constructed in the mid-1800s and earlier.

Four structures are currently listed on the National Register of Historic Places: (1) St. George's Episcopal Church (founded in 1648), which was constructed in 1822 at 319 Front Street and (2) St. George's Rectory at 217 Peninsula Boulevard; (3) the U.S. Post Office of the Village of Hempstead; and (4) the Hempstead Town Hall, which was recently listed in May of 2018.

In addition, the Carman-Irish House, which currently houses American Legion Post 390 at the intersection of Greenwich Street and Marvin Avenue, was recorded on the Historic American Buildings Survey (HABS) in 1936. The building has early 19th and possibly late 18th Century roots with a link to William Penn and has been declared a Town of Hempstead Landmark. According to the New York State Historic Preservation Office (SHPO), there are no other structures or districts which have been determined eligible for the Federal Registry, nor is there any application pending. However, there are several structures which are of potentially worthy of designation on the National Registry, including a) the Methodist Chapel on Washington Street; b) Denton Green; and 3) the cemetery associated with St. George's Church.

Given the number of potential historic properties, the Village should comprehensively survey historic resources and evaluate its historic landscape to determine sites of significance. **Figure 3-8** illustrates the historic resources within the proposed BOA.

TRANSPORTATION SYSTEMS

The proposed BOA experiences significant traffic congestion, has unique transit assets, and is primed for transportation improvements. This section describes and analyzes the types of transportation systems present in the study area including roadways, rail, and bus and the types of users, including pedestrians and bicyclists. Opportunities to reduce traffic congestion, increase the use of transit, and provide transportation connections to land uses deemed important by the community are identified. A **Transportation Systems Map** that shows the transportation systems within the proposed BOA is depicted in **Figure 3-9**.

TRAFFIC

Franklin Avenue runs south into Hempstead and provides an abrupt entrance into the Village. It is largely developed with car dealerships that cater to the larger vicinity. As previously noted, today's street network is still an indication of the past importance of the Village, as it is where many of the County's major roads intersect (e.g., Route 24-Hempstead Turnpike [Fulton Avenue] which connects the Cross Island Parkway at the border of Queens County [west] to Bethpage State Parkway and Route 110 in Farmingdale, and almost to the Sagtikos Parkway in Suffolk County [east]; Peninsula Boulevard which connects Cedarhurst [southwest] to the Nassau Veterans Memorial Coliseum/Hofstra University [northeast]; Henry Street/Baldwin Road which connects to Southern State Parkway and Route 27 [south]; and Clinton Street which connects to Route 25 and Northern State Parkway [north]).

TRANSIT

The proposed BOA includes a multi-modal hub. The LIRR Hempstead station, a terminal on the Hempstead Branch, has connections to such stops as Garden City, Floral Park, Queens Village, Jamaica, and Penn Station. This hub also contains the Rosa Parks Hempstead Transit Center with

connections to approximately 17 bus routes operated under Nassau Inter-County Express (NICE), and connects to the Roosevelt Field Mall, Nassau Community College, and Massapequa Westfield Sunrise Mall.

PEDESTRIAN

High foot traffic was noted in the BOA, which presents an opportunity for development that can attract and accommodate pedestrians and elevate the pedestrian experience.

PARKING

The Village also contains a high number of centrally located parking areas, many of which are underutilized. This largely fueled the Village to sell the parking lot parcels as part of the Master Developer Agreement, as described above.

WATER AND SEWER INFRASTRUCTURE

Figure 3-10 depicts the location of deficient sewers within the Village. The full water and sewer infrastructure analysis including figures and supporting engineering reports may be found in **Appendix D.**

WATER INFRASTRUCTURE

- The current capacity of 12.62 MGD of the water system is just about adequate to meet only the Peak Day demand (not considering the Fire Flow rating). This capacity is inadequate to meet the design flow of 14.94 MGD, which includes the Fire Flow requirement. Hence even to meet the existing needs, the water system needs to be upgraded, with an additional capacity to the effect of 2.32 MGD.
- In order to meet the projected demand in the next fifteen years, an overall additional capacity of 2.70 MGD needs to be added to the water system.
- Based on the redevelopment projects envisaged in the Village over the next fifteen years, by 2035 an increase in the average demand of 0.25 MGD (from current 8.14 MGD to 8.39 MGD projected average demand) is expected. This translates to a peak demand of 0.39 MGD, considering a Peak day factor of 1.29 and a peak fluctuation factor of 20 percent. This increase in demand is within the projected increase in the Peak day demand. That is, since the projected increase in population includes the effect of the redevelopment projects on the population, this increase in demand is indirectly captured through the increase in demand of 2.70 MGD over the next fifteen years. Thus, the proposed redevelopment projects can be served by the system, if the capacity of the system is increased to meet the projected design flow of 15.32 MGD.
- Based on the water system model evaluation study done in 2017, the capacity of the distribution system is inferred to be inadequate to meet the projected flows, and even the existing flows, when the flows associated with firefighting requirements are considered.

SEWER INFRASTRUCTURE

- Based on the flow monitoring study of the entire system done in 2013, inflow entering the system during rainfall events has been observed and a peak inflow of 0.42 MGD is calculated. Observed groundwater elevations during the study and the elevation of the sewage collection

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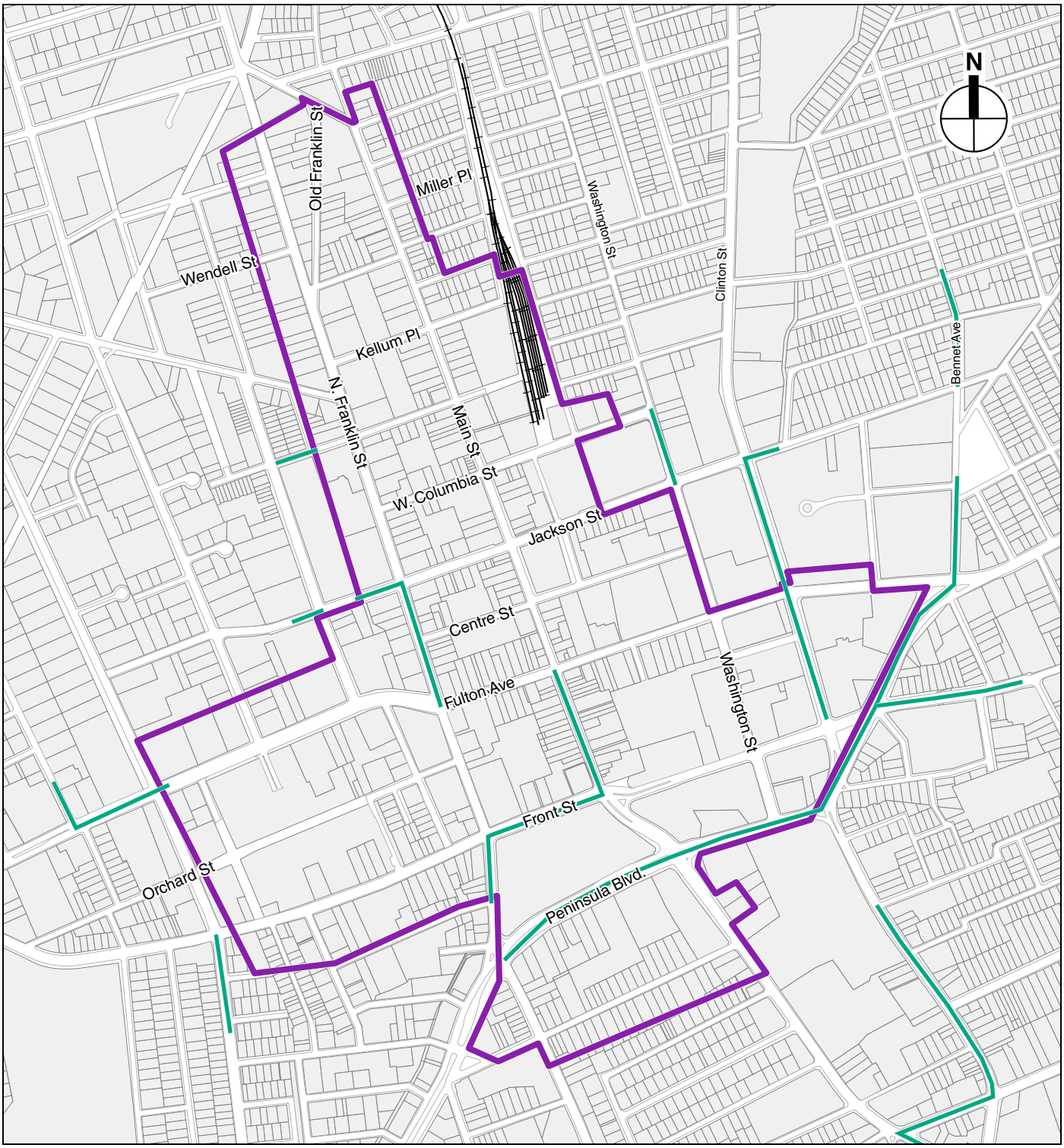


Infrastructure

VILLAGE OF HEMPSTEAD BOA

Figure 3-10

system suggest that groundwater infiltration can be eliminated as a potential source of inflow. Other potential sources of inflow could be: cross connections with stormwater systems, storm water ponding on streets over sewer lines, roof leader and gutter piping and similar types of unapproved connections.

- Redirecting the flow from the Newman's Court Pumping Station tributary area to the Cedar Creek WPCP is found to be feasible, based on the excess capacity of the collection system observed during the 2013 flow monitoring study.
- The closed-circuit television inspections carried out as part of the 2013 study suggests that except for the few sewers identified in the study, most of the sewer lines are in a reasonable physical condition.
- The collection system is found to be operating at a marginal level under normal dry weather conditions, with subpar operating conditions under wet weather conditions.
- Without improvements to the existing system, the collection system will be under capacity to serve the additional flows from the redevelopment projects envisaged.

NATURAL RESOURCES AND ENVIRONMENTAL FEATURES

The proposed BOA is mostly devoid of natural resources. Given the predominance of surface parking, buildings, and vacant lots in the BOA, and the fact that most of the green space is in the form of cemeteries, this section is important for understanding the area's potential for new development and recreational resources versus its sensitivity toward natural resources protection.

There is a lack of wetlands, floodplains, etc., which would otherwise have regulatory implications (and possibly impediments) for development, making the BOA prime for redevelopment from a natural resources standpoint.

D. ECONOMIC AND MARKET TRENDS ANALYSIS

The market trends and community needs analysis was prepared to identify and support development opportunities within the Village. With direction from the CDA, The AKRF team's analysis focused on identifying community challenges and market opportunities, which could guide and encourage redevelopment in the BOA.

The analysis utilized a range of data sources, including the U.S. Census Bureau, the American Community Survey (ACS), ESRI Business Analyst, and other public databases. These data sources were supplemented by fieldwork within the Village, which included an inventory of downtown businesses, and interviews with educational professionals, including Mark Lesko and Lawrence Levy of Hofstra University, and Dawn Nolan of Nassau County Community College. The AKRF team identified the following topics as priorities for the CDA, and foci for the BOA program:

- Social infrastructure for single-parent households, and for households where English is not spoken as a first language.
- Job training programs for Hempstead residents. The focus should be to connect residents with area educational institutions and employers, both within the Village and across Nassau County.
- Programs to address the Village's housing problems. These programs must tackle residential overcrowding and could include renovating and redeveloping the Village's depleted housing stock, and providing more housing options, at a range of densities and price points.

- Develop a strategic vision for the BOA which can fit into and support the Village's existing economic activity.
- Identify Strategic Sites, which promote catalytic development within the BOA.

DEMOGRAPHIC CONDITIONS AND TRENDS

The AKRF team conducted a demographic conditions and trends assessment of the Village to better understand trends that may have a direct impact on housing, education and quality of life for Hempstead residents. Utilizing ACS 5-Year Estimates from 2006–2010 and 2012–2016, the AKRF team analyzed demographic changes within the Village over the past 10 years. Trends in the Village were then compared with growth trends for the Town of Hempstead and Nassau County overall. Other communities within the Town of Hempstead, including Garden City, Rockville Center, Mineola, and Freeport were also analyzed to provide insight into similar communities within the Town of Hempstead changed demographically over the past 10 years.

DEMOGRAPHIC DATA

Population and Population Growth

Based on the ACS 5-Year Estimate from 2012–2016, the Village has an estimated population of approximately 55,500 residents and accounts for approximately 7 percent of the Town of Hempstead population of 768,700. Compared to Nassau County the Village grew at a much more rapid rate between the two-time series studied. While all of Nassau County grew at a rate of approximately 2.1 percent, the population within the Village grew at almost 4 percent. Other communities within the Town of Hempstead grew at slower rates than the Village, with Garden City, Rockville Center, and Freeport all growing by less than 2 percent over the same period. The character of the Village is substantially more urban than that of other communities studied. With a dense urban core, the population density of the Village is approximately 15,100 people per square mile.

Age Distribution

The residential population of the Village has a significantly younger than the population of Nassau County overall. The median age in the Village is 34 years, compared to 42 years in the County. In addition, the Village has almost double the share of children under the age of five: approximately 10 percent of all Village residents are under five years old, and approximately 17 percent of residents are between the ages of five and 18. The high number of children under the age of five will soon enter the already over taxed public school system which has seen enrollment rise by 1,500 students between 2011 and 2016, an increase of 23 percent.

The Village has also a larger share in the most productive age cohorts compared to Nassau County overall. Approximately 60 percent of the population is between the prime working ages of 18 and 65, while in Nassau County only approximately 50 percent of the population is within this age range.

Households and Household Size

The current average household size within the Village is approximately 3.45 persons per household (pph). This is an 8.5 percent increase in the average household size since the 2006–2010 ACS when the average was 3.18 pph. The average household size in Nassau County and the Town of Hempstead is smaller as compared to the Village, with Nassau County averaging 3.04 pph and the Town of Hempstead averaging 3.13 pph. Both the overall Nassau County and Town

of Hempstead average household size grew at a slower pace compared to the Village. Of other communities surveyed, only Freeport presented a similarly elevated average pph of 3.23 in the 2012–2016 ACS, and a rate of change of 8.6 between the 2006–2010 and 2012–2016 ACS.

The trend in average pph growth within Nassau County and the Village goes against the larger national trend with a decrease in average household size since the 1970s. The substantial rate at which the average household size in the Village has grown suggests residents lack adequate housing options or face barriers when searching for housing in the Village. Anecdotally, overcrowding has been described as a major issue in the Village, and it is known that single family homes are often subdivided to accommodate more households than intended, or leased to more than one family as shared accommodation. High rents, for example, are likely another barrier to adequate housing within the Village, and some landlords may require credit and background checks which some segments of the population may not be able to produce, further limiting housing opportunities for many within the Village.

The Village is home to a substantial number of single-family households. Approximately 16 percent of Nassau County households are single-parent households (12 percent are households led by a single mother and 4 percent are led by a single father), while in the Village, almost 40 percent of households (6,143) are led by a single parent (approximately 28 percent are households led by a single mother, and 10 percent are led by a single father). In both Nassau County and the Village roughly a quarter of households are non-family households. The family composition within the Village likely means social services such as childcare are demanded by the community at a higher level than communities with higher proportions of two-parent households.

Racial Composition

The Village is a very diverse community with a majority of residents identifying as minority groups. Based on 2012–2016 ACS data, approximately 50 percent of the Hempstead community identifies as African-American, 14 percent as white, and approximately 30 percent as other. Based on larger trends within Census and ACS recoding, it is likely that many of the survey respondents who identify as "other" would also identify as Hispanic or Latino. Other data from ESRI suggests that at present (2018) approximately 46 percent of the Village population identifies as Hispanic or Latino.

Employment Trends

The Village residents are highly active in the regional labor force; according to the 2012–2016 ACS, approximately 70 percent of the population over the age of 16 was either employed or looking for employment. Comparatively, in Nassau County, only approximately 65 percent of working age population are engaged in the labor force. This high participation rate, however, does not translate to high employment. Compared to Nassau County and even other communities within the Town of Hempstead, the Village unemployment rate is elevated at 7.1 percent. In Nassau County, unemployment is approximately 5.8 percent.

While unemployment is still elevated in the Village, it has significantly decreased since the 2006–2010 ACS. Between the two ACS survey periods, the unemployment rate for the Village fell by approximately 4.23 percent. This indicates that while the Village still experiences high unemployment compared to other communities, there has been significant economic recovery within the Village after the 2008 recession. This trend also suggests that compared to other parts of Nassau County, employment within the Village is more sensitive to larger macroeconomic

trends. The elevated unemployment rate, placed within the context of regional full employment, suggests that even in a favorable job market Village residents are not being employed at the same rate as residents of other Nassau County communities.

Income Distribution

Residents of the Village tend to earn significantly less than the residents of other communities within Nassau County According to the 2010–2016 ACS, the Village median household income was $55,000 per year, and per capita income was $22,000, both roughly that half of Nassau County. Even in comparison to Freeport, the community with the next lowest median income (approximately $75,000) Village households annually make approximately $20,000 less. Approximately 17 percent of Village residents live below the federal poverty line, compared to approximately 4 percent of all Nassau County residents. Further, 10 percent of Village households are households in poverty, and led by a single mother. The trend towards families with a single wage earner, coupled with the overall low wages earned by Village residents, and large family size suggest that Village residents are under immense financial pressure to support their family, and likely have limited expenditure potential as their wages go directly to necessities.

HOUSING DATA

EXISTING CONDITION

In 2016, housing units within the Village totaled approximately 17,200 units. Despite the Village's growing population, between 2010 and 2016 the total number of housing units decreased by 620 units. The greatest reduction in the housing stock over this time was in one and two unit buildings, which accounted for 400 of the 620-unit decrease within the Village.

The Village's housing stock can be described as a hybrid between the typical single-family homes found on suburban Long Island, and the dense urban apartments present in larger cities. Within Nassau County as a whole, approximately 80 percent of all housing units are single-family homes, while in the Village less than 50 percent of units are single-family homes. The remaining units are found in buildings ranging from three units to 50+ units, and over 25 percent of Village units are found in the largest 50+ unit apartment buildings. In comparison, fewer than 10 percent of all dwelling units in Nassau County are in buildings with 50 or more units.

As a result of the 2008 housing market crash, the Village suffers from a high rate of foreclosure activity, particularly of single-family homes. According to RealtyTrac, a website that follows housing and real estate trends, in 2015, the Village had the second largest number of abandoned homes on Long Island.[3]

HOUSING TRENDS

Despite 8 percent population growth in Village since 2010, the home vacancy rate in the Village has remained over 7.5 percent through 2016. This is the highest vacancy rate of all localities studied and it is 2.5 percent higher than the total vacancy rate for the Town of Hempstead. Even in Freeport and Mineola, which are the communities with the next highest vacancy rates, vacancies are approximately 2 percentage points lower than in the Village.

[3] https://projects.newsday.com/long-island/zombie-houses/

REGIONAL DEMAND

By the end of the next decade, an estimated 60,000 new residents are expected to live on Long Island. Considering the Nassau County average household size of three this growth would result in approximately 20,000 new households. However unlike previous residential growth the demand for new housing is focused in dense urban, and transit-oriented areas, and not large suburban developments.

Buyer Segments

Of the 20,000 new residents empty nesters (ages 55 and above) and young post-graduates (ages 18 to 24) are expected to comprise 1,200 (60 percent) of new households on Long Island.[4]

Desired Units

Unlike other household types, both young professionals, postgraduates, and older empty nesters seek smaller, denser residential unit mixes. Traditional three bedroom single-family homes are less sought out by these groups who prefer amenity-rich apartments, in proximity to retail, employment, transit, and entertainment. These communities, often identified as Transit Oriented Development (TOD) will likely be a more popular type of development over the coming decade.

Price Points

The Village currently has the lowest reported rents of geographies studied. Rents in the Village are generally 10 to 25 percent lower than Nassau County averages for all unit types. Yet because median household income is so low, despite the low rents, Village residents currently pay a disproportionately higher share of their income on housing. The low reported rents may also indicate a higher proportion of rent-stabilized housing and other programs that provide housing with rent ceilings.

Market Rate Developments

New market-rate developments within the region are largely of similar design and style. They are primarily located relatively near transit and include a wide variety of amenities for residents, including pools, private open space, parking, and other benefits. The similarities in style and age between developments suggest asking rents for units would be similar, however, the locational differences between developments have an influence on asking rents.

Rent comparisons utilized the calculated annual average price per square foot (psf) for the range of unit sizes offered in comparable buildings within the local trade area. Prices were calculated for the Village, West Hempstead, Mineola, Garden City, and Rockville Center. Asking rent within the Village was approximately $30 psf, compared to approximately $40 psf in Mineola, and $37 psf Rockville Centre. The low market asking rents within the Village can be seen as an advantage for the Village, as a comparable apartment in Mineola is approximately 30 percent more expensive. However, the lower asking rent is also reflective of the market's poor perception of the Village as a locality, which may provide context for why apartments in the Village are a cheaper than other localities.

[4] Projections are provided by Esri. Estimates for 2026 assume a similar growth rate as between 2016 and 2021.

COMMERCIAL MARKET ASSESSEMENT

RETAIL TRADE AREA ASSESSMENT

Historically Hempstead was the center of retail activity within Nassau County, with stores such as Children's World operating in the downtown for over 50 years. However, the development of the Roosevelt Field Mall and Westbury Plaza reduced Hempstead's importance as a retail center. Currently, retail within the Village is primarily smaller personal and professional services, specialty retail, and automotive trades. These are all businesses that do not directly compete with the retail found at the nearby malls, which serve as regional commercial hubs for all of Long Island. Retail should continue to be an important component of development within the Village; however, this will have to focus on local, or specialty services that can attract customers to the Village.

A business inventory of the identified BOA areas was conducted by the AKRF team during the spring of 2018. During this survey, 353 individual commercial businesses located within the Village were identified.[5] As shown in **Table 3-4** of the 353 businesses identified within the BOA area, approximately 19 percent (61) were restaurants or bars, 17 percent (55) were automotive-related businesses, such as auto dealerships and repair shops, and 13 percent (41) were personal services, including nail salons, tattoo parlors, and dry cleaners. Another 11 percent (35) of businesses were specialty retail, including small grocery stores and other business catering to cultural activities. In total, these personal consumer goods and services constituted approximately 60 percent of all downtown businesses surveyed. Beyond these, religious institutions comprised another 10 percent (33) of downtown businesses.

[5] This count is likely not inclusive of all businesses located within the BOA, as identifying specific businesses (particularly smaller businesses, or companies renting office space), is difficult to capture. The survey was conducted utilizing recent street-level imagery, confirmed with field visits and then linked to Nassau County parcel data to provide for geolocation of these businesses.

Table 3-4
Businesses Identified within the BOA

Business Sector	Count	Percent
Religious	33	10%
Community Service	9	3%
General Retail	17	5%
Supermarket	5	2%
Restaurant or Bar	61	19%
Personal Services	41	13%
Professional Services	22	7%
Other Services	8	2%
Medical Services	22	7%
Financial Services	14	4%
Specialty Retail	35	11%
Entertainment	2	1%
Big Box Retail	9	3%
Automotive	55	17%
Civic Organization	8	2%
Education	7	2%
Industrial	5	2%
Total	**353**	**100%**

Notes: This count is likely not inclusive of all businesses located within the BOA, as identifying specific businesses, particularly smaller businesses, or companies renting office space is difficult to capture. The survey was conducted utilizing recent street-level imagery, confirmed with field visits and then linked to Nassau County parcel data to provide for geolocation of these businesses.
Sources: Fieldwork conducted by the AKRF team in April and May 2018

OFFICE MARKET ASSESSMENT

Long Island's market for office space has primarily been characterized by large suburban campus style development. Demand for this product has been largely flat in the recent past and rents have stagnated. As a result, a very limited amount of new office space has been added.[6]

Opportunity for limited, niche office space exists in the more traditional downtown environment that can offer other amenities, such as restaurants and are well connected via public transportation. The Village has the potential to absorb smaller-scale niche office space, including medical and institutional office space. In addition, startup companies may find denser older office stock within the Village desirable. The Village is positioned to support "feeder" businesses and smaller companies which engage with larger regional institutions, including white coat, technical services companies.

INDUSTRY ASSESSMENT AND PROFILES

Available jobs within the Village are primarily five industry sectors: a) educational services, b) healthcare and social assistance, c) public administration, d) other services, and e) retail trade. These five sectors employ approximately two-thirds of the Village's workforce, with the education sector employment representing approximately 30 percent of all workers. The Village also has a number

[6] Long Island – Nassau Suffolk Office Market Report, Coldwell Banker, Accessed in April 2018.

of manufacturing businesses, including specialty food preparation such as Golds Pure Foods, and smaller specialty manufacturing businesses like Century-Tech, and Moreland Hose and Belting.

The BOA's high proportion of personal service businesses (12 percent), such as nail salons and hair salons, and automotive services (16 percent) may become an area of concern for future development within the Village. Both of these sectors are closely connected to larger economic trends, as they rely on customers having disposable income to spend on personal services and cars. During periods of recession when there is less consumer spending these businesses will likely experience a loss in sales and would be vulnerable to closing.

WORKFORCE ASSESSMENT

According to the US Census Bureau, LEHD Origin-Destination Employment Statistics approximately 20,800 Village residents are actively engaged in the regional workforce. Further, the data indicates that there are approximately 16,000 jobs within the Village.[7]

Current Workforce Composition and Skills

Residents of the Village are primarily employed in blue-collar, and support service occupations including construction (10 percent), building and grounds maintenance (13 percent), food preparation (10 percent), and office and administrative support (12 percent). Village residents are employed more heavily in healthcare support roles, compared to Nassau County residents (5.5 percent compared to 2.2 percent). Comparatively Village residents are not employed in professional positions at a comparative rate to Nassau County where 17 percent of residents are employed in management, business, and finance. Further, 27 percent of Nassau County residents are employed in professional occupations, while only 12 percent of Village residents are employed in these sectors.

Workforce Educational Attainment

2016 ACS data indicates that residents within the Village over 25 have a lower average educational attainment than Nassau County residents. Approximately 30 percent of Village residents lack a high school degree and only about 20 percent of residents have a college or post-graduate level of education. In comparison, within Nassau County, approximately 35 percent of the adult population has a college or post-graduate degree, and only approximately 10 percent of Nassau County residents have less than a High School diploma (of which the Village accounts for eleven percent of the Nassau County total).

This data coupled with data on workforce composition above suggest that a large share of resident's lack the skills and knowledge necessary to access a wider range of jobs. Within the Village, approximately 30 percent of residents are employed in labor positions, and this closely matches with the number of residents that lack a high school education, while professional employment is sectors account for approximately 20 percent of employment, similar to the number of residents with a college or post-graduate degree.

[7] U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002–2015)

Workforce Distribution

A large share of residents in the Village workforce are employed by companies within Nassau County and only a few commute to Suffolk County or New York City. Of the approximately 20,800 employed Village residents, approximately 91 percent leave the Village for employment. Many are employed within the larger regional economic hubs including the Roosevelt Field Mall, the Feinstein Institute for Medical Research, and John F. Kennedy (JFK) airport. Others are employed more locally in neighboring communities like Freeport, Baldwin, Uniondale, and Mineola.

Approximately 89 percent of those employed within the Village are not residents of the Village. These workers largely commute to Hempstead from across the Town of Hempstead. This large influx of workers into the Village suggests jobs within the Village have the ability to attract workers, and the Village's central location and roadway network makes commuting to the Village practical.

Approximately 10 percent of Village residents work within the Village. This low number and the high flows in and out of the Village suggest a mismatch between the jobs being offered within the Village and the skills residents of the Village have. Employers are unable to find qualified workers from the Village and therefore employ from a larger regional market, and residents cannot compete for Village jobs and must, therefore, travel to these other communities to find employment.

Employment and Career Growth Opportunities

Based on the data presented above employment and career growth can occur within the Village in a few ways:

- The CDA can encourage employers to hire Village residents with matching skill sets and educational attainment, in order to provide more opportunities for residents to work within the Village and reduce employment-related travel.
- The CDA can also assist Village residents in accessing jobs they are qualified for outside of the Village.
- The CDA can promote workforce development and training opportunities that already exist, or create new programs in order enhance the qualifications of Village residents so they can find employment within the Village.

E. SUMMARY ANALYSIS, FINDINGS, AND RECOMMENDATIONS

1. MARKET THE BOA AND STRATEGIC SITES AS TARGETS FOR DEVELOPERS AND INVESTORS, INCLUDING OPPORTUNITY ZONE FUNDS

While public support will be necessary when starting the implementation process to create some momentum, active private sector engagement will be crucial for creating long-term, sustainable growth. To attract developers and investors, the CDA and its partners will need to promote the Village and its strengths but also focus on individual investment and development opportunities. The Village should create a marketing strategy to highlight both area-wide strategies and conceptual districts, as well as to advertise individual Strategic Sites, assemblages, and intersections. The marketing strategy should achieve the following objectives:

- Incorporate or build on the Strategic Site Profiles (see **Appendix B**) and the Village Marketing Brochure (see **Appendix A**) already developed under the Step 2 process.

- Provide a proactive tool to attract new private sector investments to the Village that will help to further the Village's goals and provide needed uses. This approach dovetails well with one of the intended purposes of the Step 3 of the BOA Program: "Implementation." Profiles of Strategic Sites for Marketing Purposes and Marketing Brochures are eligible activities for grant funding under Step 3 of the BOA program.
- The marketing strategy needs to be based on the development goals and objectives identified by the Village. This Step 2 Nomination has identified a range of goals and objectives that the Village and its residents would like to see implemented as delineated in Chapter 1, "Project Description and Boundary," including:
  - Create housing options for all income levels while discouraging gentrification and implementing anti-displacement mechanisms. Address overcrowding and absentee landlord issues.
  - Attract public and private sector investment to improve infrastructure physical, social and business opportunities.
  - Advance economic growth by increasing job training and employment opportunities, and adding new businesses such as technology companies. The focus of the job training should be to connect residents with area educational institutions and employers, both within the Village and across Nassau County.
  - Leverage the proximity of government buildings and courts, and those that work there, by providing new retail, convenience, and food and beverage establishments that could cater to this asset population.
  - Connect to local and regional assets by improving accessibility to and signage around the transit hub and marketing this asset.
  - Develop a dedicated community meeting space for commerce and family entertainment.
  - Create a medical/healthcare cluster to provide better and more accessible care for residents as well as a potential source of jobs and revenue for the Village.
  - Address needs of single-parent households such as childcare.
- Provide opportunities for enhanced educational training/job readiness skill development and identify businesses to create "training incubators" for residents.

Based on the above goals, the Village should develop a list of target investor and developer types. Possible examples are not-for-profit developers and mission-based investors but also affordable housing (including for extremely low- and low-income populations) and medical office developers. The marketing strategy should identify locations and market attributes for which these investors and developers are looking. The Village may also engage consultants and capital markets brokers to better understand potential targets of the Village's marketing efforts are and how they can best be engaged (e.g., conferences, forums, organizations, networks). The marketing strategy should have two main focal points:

1) PROMOTE VILLAGE'S OVERALL ASSETS AND STRENGTHS

- The Village is surrounded by a variety of important regional resources, including governmental, transportation, educational, and cultural assets (see **Appendix A**):
  i. Government Assets—as the traditional heart of Nassau County, the Village includes a number of government organizations including the

Nassau County District Court, Village government offices, and certain Town of Hempstead government offices, and is located near many other government offices located north of the Village in Garden City and Mineola, for example. The large number of government workers who work at these county, town and village facilities are also an asset to the Village that could be leveraged, such as by providing new convenience goods and services, as well as food and drink establishment opportunities within the BOA to capture more of the dollars that are currently leaking to other areas outside the Village.

ii. Transportation Assets—the Village serves as a primary transportation hub of Nassau County. Located adjacent to downtown is the Hempstead train station, which serves as the terminus of the LIRR Hempstead Branch, and the adjacent Rosa Parks Hempstead Transit Center—the hub of the NICE bus system. West of downtown the West Hempstead branch of the LIRR also terminates just at the Village border. It is also where many of the County's roads intersect (e.g., Route 24-Hempstead Turnpike [Fulton Avenue], which connects the Cross Island Parkway at the border of Queens County [west] to Meadowbrook State Parkway [east]; Peninsula Boulevard, which connects Cedarhurst [southwest] to the Nassau Veterans Memorial Coliseum/Hofstra University [northeast]; Henry Street/Baldwin Road, which connects to South State Parkway and Route 27 [south]; and Clinton Street, which connects to Route 25 and Northern State Parkway [north]).

iii. Educational and Institutional Assets—the Village is located in proximity to four major institutions of higher education within Nassau County, including: 1) Nassau County Community College (NCC) and 2) Hofstra University, which are located just east of the Village and provide workforce training and other educational opportunities for Village residents; 3) Adelphi College, located just to the northwest of the Village within Garden City, and 4) Molloy College, located south of the Village towards Rockville Centre. These institutions both draw substantial numbers of students and researchers to the area, and serve as a hub for research and development in a number of fields including medical technology. Each of these educational institutions could have the potential to attract funding for a variety of projects and programs within the BOA. In addition, the Village is located in proximity to or has within its municipal boundaries, several health care institutions, including: Hempstead General Medical Center; Mercy Medical Center; Sloan Kettering Hospital; Nassau University Medical Center; South Nassau Communities Hospital; NYU Winthrop Hospital; Mount Sinai South Nassau Hospital; and many others. These institutions have the potential to provide synergistic opportunities for employment and training, and potentially to attract funding for medical occupation and related programs within the BOA.

iv. Cultural Assets—numerous cultural assets and attractions are located near and within the Village. These assets have the potential to assist in

generating more visitation and commercial activity within the BOA. The African American Museum of Nassau County puts on exhibits, provides gallery space to local artists, and maintains a regional genealogical research archive. With enhanced programming and redevelopment, the museum could become a major anchor downtown. To the east, the Nassau County Veterans Memorial Coliseum, the Cradle of Aviation Museum, and Nassau County Firefighters Museum attract large numbers of visitors annually. Connecting to these regional assets could help the Village to tap into these visitor streams and capture a portion of their expenditure potential.

v. The Village also has key demographic assets, for example, its young and diverse workforce.

- The Village has tremendous capability and capacity to work with potential investors and developers, especially when it comes to permits and approvals.

2) HIGHLIGHT INDIVIDUAL STRATEGIC DEVELOPMENT SITES

- Marketing strategy and materials should highlight key sites best positioned for redevelopment. Brochures and marketing materials should be prepared that tout the benefits of locating in the Village. The marketing strategy should be available digitally with links to the websites of the Village, Chamber of Commerce, and Community Development Agency.
- The site-specific marketing materials should include address and location information, current use and owners, and build out potential. Any possible site remediation needed should also be noted, building on the information provided in the Strategic Site Profiles found within **Appendix B**.

Funding for the initial development of the marketing strategy may be available through the BOA Program. Continued maintenance and updating of the marketing strategy, including maintenance of the Chamber of Commerce and Community Development Agency web sites, could be funded through membership dues, contributions from the CDA, the Village, or current individual property owners that might benefit from increased interest in their properties, which would be generated by the marketing strategy and/or websites.

2. IDENTIFY AND PURSUE FUNDING TO IMPROVE WATER AND SEWER INFRASTRUCTURE

The Village of Hempstead faces critical water and sewer infrastructure challenges. The system is already capacity-strained and needs to be upgraded to sustain current service levels. If the Village hopes to attract investment for development, a master plan for Village-wide water and sewer infrastructure improvements and funding to make the requisite upgrades is necessary. The AKRF team reviewed and summarized the water and sewer assessment reports produced by Cameron Engineering & Associates in 2013 and 2018, and the report by J.R. Holzmacher Engineering in 2017, which resulted in a set of recommendations. These recommendations are summarized below:

WATER

- In order to adequately serve the existing demands as well as to cater for the demands arising from the proposed redevelopment projects, the following capacity additions are recommended: an additional capacity of 2.32 MGD in the near term (less than 5 years), cumulative additional capacity of 2.70 MGD in the medium term (10 to 15 years) and an overall additional capacity of 5.37 MGD over the longer term (20 to 30 years) needs to be added to the water system.
- The proposed new wells planned at the Kennedy Park and the storage tanks proposed in place of the water treatment basins at the Clinton Street plant as part of the capital improvement projects in the village, are aimed at meeting these additional capacity requirements. These two capital improvement projects are to be rolled out effectively in order to adequately service the existing and future consumption demand.
- One or two large diameter (16" or 24") mains from the Clinton Street plant westwards towards the Main Street for a total length of 100 linear feet (LF) is to be added to the distribution system in order to adequately serve the existing as well as the redevelopment areas.
- Additional 12" mains are recommended to be constructed on the streets being redeveloped, in order to adequately serve the redevelopment areas.
- Periodic maintenance of the treatment systems and timely replacement of the iron removal filters for the wells will help in increasing the reliability of the water system.
- The New York State Plumbing Code requires the use of water conserving fixtures. The proposed redevelopment projects are all to have efficient water conserving fixtures on all the units planned.
- Use of Green Infrastructure (GI) techniques, such as installing cisterns locally and using the stored stormwater for secondary usages would bring down the per capita consumption demand on the water system. Refer Section 5.1-2.4 for related recommendations on reducing the stormwater runoff thereby reducing the demand on the sewer infrastructure.

SEWER

- The sewer main along the Main Street from Stowe Street in the North to Fulton Avenue in the South (length of approximately 3500 LF) needs to be upgraded to a 24" sewer in order to adequately convey the existing flows as well as take the future additional flows from the redevelopment projects envisaged along the Main Street.
- As part of diverting the flow to Cedar Creek WPCP from the Newman's Pumping Station tributary area, a 30" sewer connecting the proposed flow diversion pumping station and the Fulton Avenue-North Franklin Street junction needs to be constructed (for an approximate length of 3200 LF).
- As part of the capital improvements specifically related to the redevelopment projects, the sewers running East-West on Stowe, Sammis, Miller, Union, Kendig, Kellum, Bedell, West Columbia, Jackson, and Nicholas Streets, connecting to the sewer main along the Main Street, need to be upgraded to 16" sewers at a later stage, based on the redevelopment projects planned along these streets.

- Construction of a new flow diversion pump station near the Weekes Pump Station to divert some of the flows going into the Bay Park Sewage Treatment Plant needs to be executed at the earliest possible stage during implementation.
- Identification and removal of inflow from cross connections with stormwater systems, storm water ponding on streets over sewer lines, roof leader and gutter piping, and similar types of unapproved connections can create capacity within the existing collection system.
- Periodic maintenance of the collection system to identify any defects in the physical condition of the sewers ensures there are no bottlenecks in the collection capacity of the system.
- For the proposed redevelopment projects, sustainable features should be incorporated into the project design to minimize the project demands on the water and sewer infrastructure. Some of the sustainable design features that are related to infrastructure projects are as follows:
  - The project design incorporates two strategies that can be directed at managing stormwater runoff: detention and retention.
    i. Detention is the temporary withholding of stormwater from the local sewer system for a given period of time. As part of the proposed redevelopment projects, this can be accomplished through storage tanks that would fill with stormwater and then at a later time release it, in a controlled flow to the local sewers.
    ii. Retention is the permanent withholding of stormwater by means of a storage device that does not drain to the local sewer system. This retained runoff is stored and then either recycled, allowed to evaporate or infiltrate into the soil, or is handled in other ways that do not lead to the local sewers.
  - Stormwater retention measures should have site specific designs, which facilitate the re-sue of the retained stormwater for the cooling towers for make-up water, landscaping and other grey water utilities.
  - Landscaping that allows for stormwater re-use can be an integral part of the project design. This could also include the use of permeable pavers, vegetated filters and other related sustainable measures. Also, use of native plants is recommended to minimize the irrigation needs.
  - Use of high-efficiency, water flow control fixtures such as flow restrictors, low-flow toilets, low-flow sinks, low-flow showers, and waterless urinals (where possible).
  - The design should also encompass energy saving devices such as high-performance glazing and envelope assemblies, solar shading devices, daylight controls, occupancy sensors, energy-efficient lighting and appliances, and cooling heat recovery.
  - To decrease the future water demand and to increase the groundwater recharge, GI techniques such as green roofs, blue roofs, rain gardens, cisterns, perforated pipes, porous concrete etc. should all be advocated during the design and construction phase of the redevelopment projects. As a reference a sample of few of these GI techniques are shown in Figure 5.1-2.3.
- In order to reduce the stormwater discharges from the existing sites, site-specific stormwater management approaches including the use of water conserving fixtures, on-site detention and retention tanks for stormwater and re-use of the captured stormwater within the site are recommended.

- Since the proposed redevelopment projects impose considerable demands on the water and sewer infrastructure, the Master Drainage Plan should be amended in consultation with the Village and the County.
- As more redevelopment projects are envisaged in the Downtown redevelopment area, an additional study on the sewer system may be needed, to assess the sewer improvements needed to service the additional flows from specific project sites. Therefore, the Village should pursue funding to develop a Master Infrastructure Plan.

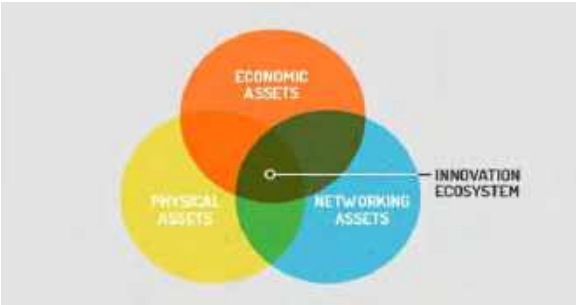
3. ESTABLISH HEMPSTEAD INNOVATION DISTRICT

The Village has a great number of physical, institutional, and demographic assets that are currently disjointed and underperforming. Connecting and leveraging these assets will likely produce a higher value than the sum of its parts. Creating an innovation district would provide a framework for linking these assets to ultimately grow existing and attract new businesses, create jobs, and uplift the entire community.

An innovation district is designed to create an ecosystem where businesses and institutions can communicate with each other to exchange ideas, skills, and experiences. It is typically a geographic area strategically located within a town that has a potential to link assets and to attract and support creative and entrepreneurial people, institutions, and businesses. "The key driver in the formation of clusters or districts is that firms and researchers benefit from locating near each other. The value placed on geographic proximity is of high importance given that innovation is a deeply human and creative endeavor that requires personal networks and trust that can be built more easily with diverse and talented people close together."[8] Innovation districts have been found to increase the innovation levels, efficiency, and productivity with which participating companies can compete.

As such, innovation districts promote collaboration between firms, government, and institutions creating a platform that allows firms and institutions to share information and resources; access and share skills and knowledge; and explore new areas of growth. The Brookings Institute illustrates the assets that need to be present to create an innovative ecosystem.

Brookings Innovation District Framework



[8] Clusters and Innovation Districts: Lessons from the United States Experience, The Brookings Institute, May 2018, page 1.

The economic assets in Hempstead are the manufacturing and industrial businesses south of Fulton Street. The networking assets are the educational institutions that surround the Village such as Hofstra University, Adelphi University, or Molloy College. Being in close proximity to government assets, including the courts and court workers, is an additional advantage that should be leveraged. While these assets are already present, creating an innovation district can play a powerful role in encouraging collaboration and creation of new ideas and concepts.

As part of Step 3, the Village should take the next steps that will lead to an innovation district. The Village should create a plan that evaluates the existing economic, networking, and physical assets. The plan needs to identify:

- Intermediary organizations that will be important (i.e., incubators, accelerators, shared workspace, work training centers)
- The physical assets that may be leveraged by the Village.
- Specific industries to focus on, or whether to remain industry-neutral;
- How to best create linkages so the community will benefit to the highest degree possible;
- How to fund and sustain a district over the years to come;
- What amenities a (skilled) workforce wants;
- What spaces the Village needs to create to encourage collaboration and the transfer of ideas;
- How to use its infrastructure assets to connect to the rest of the county, state, country, and the world; and
- Which (community) organizations it could leverage and how.

Site 10 contemplates the Village of Hempstead Innovation District—a strategic overlay zone intended to link downtown with the industrial area along Peninsula Boulevard. The innovation district would both promote physical linkages between downtown and Peninsula Boulevard, as well as create economic linkages through the creation of new light and high- tech manufacturing spaces and expanding economic opportunities for Village residents in these white collar, technology jobs. The innovation district program could be anchored with an incubator and educational center, providing space for apprenticeships and educational programming, supported by local educational institutions. Further physical linkages will expand downtown Hempstead and better connect downtown retail, restaurants, and other commercial services to the large daytime worker population found within the industrial district.

4. ENCOURAGE SOCIAL INFRASTRUCTURE TO BE INCLUDED IN SITE PROGRAMMING

Social Infrastructure is defined as the foundational services and structures that support the quality of life of a region, city or neighborhood. This includes any infrastructure that goes beyond basic economic functions to make a community an appealing place to live. Social infrastructure includes physical facilities and spaces where the community can access social services. These include health-related services, education and training, social housing programs, police, courts and other justice and public safety provisions, as well as arts, culture and recreational facilities.

The community and market assessment has shown that there is a need within the community for services that improve the quality of life of residents and their ability to participate in the labor force. The demographic analysis, for example, has shown that a significant share of the Village's

households are led by single mothers. Without sufficient day care options, these mothers are unlikely to participate in the work force.

Integrating these social infrastructure elements into the future development programs is a unique opportunity for the Village to improve the lives of a major segment within the community. In addition, residents voiced a concern over the lack of medical services. For example, many specialists are only available outside of the Village.

As part of Step 3, the Village should therefore assess how these uses can be incorporated in the respective development programs. The Village should:

- Assess whether and how community facilities can be encouraged through the Village zoning code.
- Identify the best locations within the BOA that are most conducive to house these uses. Ideally, social infrastructure elements should be located strategically where they can be accessed easily, for example, by commuters on their way to work. In addition, these uses have a revitalizing function because they can create pedestrian activity that potentially attracts additional businesses.
- Identify providers and funding.

Potential sites include Site 8, where the CDA is engaged with potential tenants seeking to provide educational programming as well as a commercial business on the site, and Site 9, which already hosts a potential anchor institution—the African American Museum. In addition, the former Hempstead Bus Station could be tenanted with a range of office uses, including social service providers, or it could continue to be used for educational programming and transit-oriented childcare.

5. PURSUE DOWNTOWN REVITALIZATION INITIATIVE (DRI) FUNDS TO DEVELOP A COMPREHENSIVE DOWNTOWN REVITALIZATION PLAN TO COMPLEMENT THE BOA GOALS

DRI is a state-funded program aimed at transforming downtown neighborhoods into not only livable, but vibrant and desirable communities. In its fourth year, the program will invest $100 million into 10 additional downtown neighborhoods across the state. Participating communities are nominated by the state's ten Regional Economic Development Councils (REDCs) based on the downtown's potential for transformation, and each community is awarded $10 million to develop a downtown strategic investment plan and implement key catalytic projects that advance the community's vision for revitalization. The proposed BOA including the Strategic Sites located on North Main Street within walking distance to the Hempstead LIRR station and Transit Center is primed for downtown revitalization. If additional funding becomes available, the Village plans to pursue DRI funds to build upon the BOA designation process and develop a community-driven, comprehensive downtown revitalization plan with implementation strategies complementing the highlighted goals. Additional projects may be implemented through the CFA or other funding sources.

6. REVITALIZE CRITICAL INTERSECTIONS THROUGH THE CONSOLIDATED FUNDING APPLICATOIN (CFA) PROCESS

The intersection at Fulton Avenue and Main Streets, which connects downtown with the communities to east and west, houses two of the strategic sites identified (Sites 7, the Woolworth

Building, and Site 8, the Nagasaki Building). This makes it one of the most important regional connectors and showcasing how this connector could draw in visitors and shoppers with the new development will be critical when gathering support. While some of the buildings were renovated and repositioned in the past five years, vacancies around the intersection are still high and traffic flows through without stopping. To transform this connector into a welcoming gateway to the new development, the Village should explore the possibility of accommodating pedestrian and bike access within the existing right-of-way, and traffic calming (where possible and compatible with use as major bus traffic corridor). Both specific sites can increase the commercial density in the area, potentially expanding shopping and retail options in the center of downtown with a robust mix of uses including restaurants and other retail. Site 7 has been vacant and fallow for more than two decades, which clearly is a valuable and strategically located parcel that needs to be returned to active use. While it is often listed as "for sale," its long-stagnant status calls into question whether more aggressive actions by the Village (in their redevelopment "tool kit") may be needed to help return this prime site to active use (e.g., the Village may wish to explore public condemnation for this site as a means to returning it to active use). At Site 8, the CDA is engaged with potential tenants seeking to provide educational programming as well as a commercial business on the site.

The intersection of Franklin Avenue and Jackson Street is at the eastern border of the proposed BOA. It is one of the access points for residents at the Terrace Avenue housing complex to the downtown area. It also connects residents to the bus and train terminals east of Main Street. There are a few assets close to the intersection, such as Academy Charter School and the African American Museum that could play a role in revitalizing the intersection and the Jackson Street Corridor. Because of its role as connector, the intersection and the Jackson Street corridor would be well suited to serve as a secondary gateway; implement pedestrian, bike, and lighting improvements; and activate adjacent parking sites. It may also be suited to house social infrastructure elements such as child care and after school services, as well as doctor's offices and government services. Combined, these uses would create more activity, add to the attractiveness of the area, and improve safety.

7. CAPITALIZE ON FEDERAL OPPORTUNITY ZONE DESIGNATION

As described above, the Village has two geographic regions that have been designated as Opportunity Zones, which partially overlap with the proposed BOA (see **Figure 3-2d** and **Appendix A**). Recent legislation, by way of the Tax Cuts and Jobs Act of 2017, has further incentivized investing in brownfield properties within New York State Opportunity Zones. In essence, this Act allows taxpayers with taxable capital gains from the sale of any asset, who reinvest those gains within 180 days of the date of sale into a "Qualified Opportunity Zone Property," to become eligible to receive significant tax benefits. All of the Strategic Sites identified (apart from a portion of the Innovation District [Strategic Site 10] are located within the Hempstead Opportunity Zone. State and Federal grant opportunities give priority to redevelopment projects that are within an Opportunity Zone and/or a BOA, thereby providing the maximum incentive for leveraging of funding streams and redevelopment of the Strategic Sites within downtown Hempstead. It is important to convey the availability of these additional incentives to investors/developers when encouraging redevelopment in the Village of Hempstead.

8. REDESIGN STRATEGIC INTERSECTIONS TO FOSTER PLACEMAKING AND IMPROVE CONNECTIVITY

Visualizing how the intersection may look and how it will affect the surrounding community and the people in the Village will be important. Providing sketches that will show the transition from the residential area to a vibrant commercial downtown neighborhood will help to generate community support and provide public agencies and elected officials with much needed information to dedicate additional funding to the project. The prime objectives of creating sketches are to:

- Stimulate the discussion of how priority sites may be developed in the future;
- Engage early with relevant agencies to potentially partner with them during future funding applications for capital grants;
- Involve the community in the planning process and provide with a positive outlook that illustrates that everyone will benefit from the project; and
- Visualizations of placemaking concepts that will demonstrate protection of waterfront view corridors, pedestrian crossings and waterfront access

Visuals will be created for two of the most important strategic intersections identified in the BOA study:

- 1) the intersection at Fulton Avenue and Main Streets (Strategic Site 6); and
- 2) the intersection at Franklin Avenue and Jackson Street (Strategic Site 9).

9. BETTER INTEGRATE THE TRAIN STATION AND THE MULTI-MODAL BUS FACILITY TO TAKE ADVANTAGE OF TOD OPPORTUNITIES

There's an opportunity to develop new residential housing, office, and supportive retail proximate to the train station and multi-modal bus facility to take advantage of the Village's tremendous access to Long Island's extensive transportation network. Strategic Sites 1-4 were selected as they are previously approved development projects located in proximity to the Hempstead LIRR station and Transit Center, although as of Fall 2019, their site plan approvals have expired. These sites can serve to anchor the northern portion of downtown, increasing residential density near transit, as well as provide an example of a new mixed-use development within the Village. Further, the Dell Bus project is anticipated to bring new transportation workers to the area, promoting commercial activity in the midday hours as well as the evening. Proposed developments include:

- The southeast corner of the intersection of Main and Bedell Streets was approved for 96 residential units, and approximately 10,500 sf of interior residential amenities and 5,500 sf of restaurants.
- The southwest side of Main and Bedell Streets was approved for 6,600 sf of retail, 6,600 sf of medical office space, 9,400 sf of restaurant space, 228 residential units, and approximately 11,600 sf of residential amenities.
- The northeast corner of the intersection of Main and Bedell Streets was approved for 6,993 sf of retail and 255 residential units.
- Main Street between Kellum Place and Union Place was approved for a 9,100-sf office building and training center for Dell Transportation Corp.
- Development of 156 residential units and 2,350 sf of retail is being reviewed for Main Street north of Union Place. ✷

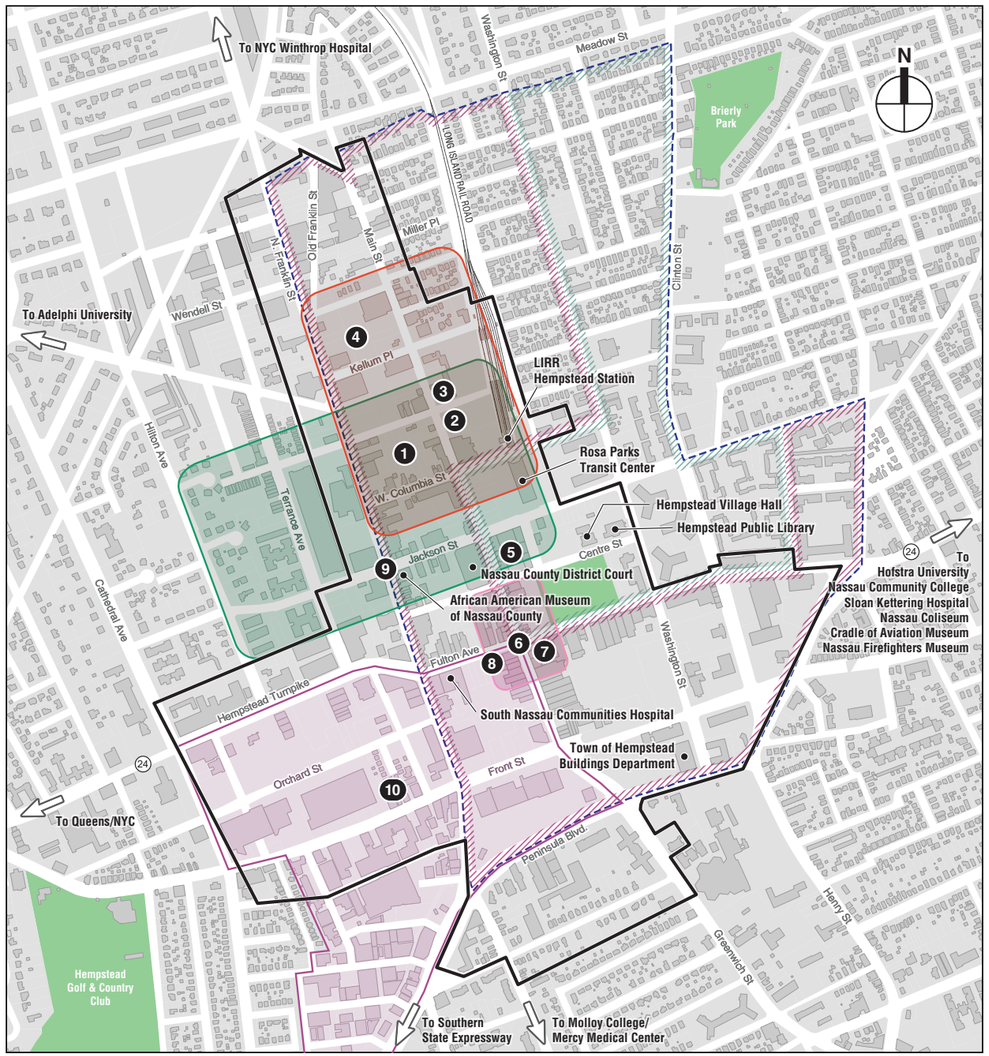
APPENDIX A
STRATEGIC DEVELOPMENT OPPORTUNITIES



Village of Hempstead
Strategic Development Opportunities

revitalization potential in the heart of Long Island

Incorporated Village of Hempstead
Elevate HEMPSTEAD
Community Development Agency



Hempstead BOA: Strategic Sites and Key Assets

The Village of Hempstead, through its Community Development Agency (CDA), has been actively facilitating the redevelopment and revitalization of downtown Hempstead for over a decade. As a continuation of those efforts, the Village has prepared a Brownfield Opportunity Areas (BOA) Program Step 2 Nomination[1], administered by the New York State Department of State (NYSDOS).[2] A "brownfield" is any real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant, as defined by the New York State Environmental Conservation Law Article 27, Title 14. Alternatively, "a brownfield is a property that is underutilized due to an assumption of contamination that has not been redeveloped due to the perceived cost of remediation."[3] The BOA Program provides municipalities and community organizations with technical and financial assistance of up to 90 percent of the total eligible costs, to complete brownfield redevelopment planning and site assessments on Strategic Sites.

Through the Village's BOA planning process and inventory and analysis, 10 Strategic Sites have been identified as having the potential to catalyze redevelopment throughout the Hempstead BOA. Strategic Sites were chosen based on factors such as size, location, capacity for redevelopment, potential to spur additional economic development, potential to improve quality of life or to site new public amenities, owner willingness, and adequacy of infrastructure, transportation systems, and utilities. This marketing brochure visually highlights these Strategic Sites, outlines their potential uses, and provides context for key community assets within their vicinity. Areas within the BOA were further conceptualized, to express certain potential synergies between uses. These include: a Transit Oriented Development (TOD) Zone, Health and Community Facilities Hub, Downtown Core, and an Innovation District.

Investment in Strategic Sites has the potential to result in tremendous benefits, including:

- Community support;
- Potentially lower purchase prices;[4]
- Access to information about potential site contamination that may aid in accurately estimating development;[5]
- Increased availability of tax credits[6] (e.g., BOA Bump-Up[7]); and
- Opportunity Zone benefits.[8]

Opportunity Zones

Recent legislation, by way of the Tax Cuts and Jobs Act of 2017, has further incentivized investing in properties within New York State Opportunity Zones. In essence, this Act allows taxpayers with taxable capital gains from the sale of any asset, who reinvest those gains within 180 days of the date of sale into a "Qualified Opportunity Zone Property," to become eligible to receive significant tax benefits. As illustrated herein, there are a number of properties within the Hempstead BOA that are also in the Hempstead Opportunity Zone.

Brownfields are now eligible to receive tax incentives under the Opportunity Zone (OZ) program. The Hempstead BOA is prime for OZ investment, which provides tremendous potential to put capital to work in the critical pre-development phase, such as for site assessment and remediation.

Location and History

The proposed BOA is located in the Village of Hempstead, Nassau County, New York. The Village is located in the center of Nassau County, approximately 16 miles east of Queens, New York City. First settled in 1643, the Village is one of the oldest communities on Long Island. Today's street network is still an indication of the past importance of the Village, as it is where many of the County's major roads intersect. Historically, Hempstead had been the center of commercial activity for the eastern-

most communities of Long Island, where the farming communities traded their goods. From its role as the marketplace of agricultural goods, the Village grew into commercial and shopping hub with several department stores in its downtown area. The rise of the shopping centers and malls in Hempstead's vicinity ultimately led to its decline as a commercial center on the island. In the 1990s, many sites, including the former Times Square Property and former Abraham & Straus department store, which used to be the country's largest grossing suburban department store, were demolished to make room for large-format retail development and housing. In recent years, the Village has refocused on its assets and strengths to encourage redevelopment and revitalization. Such strengths include its eager and diverse workforce and outstanding locational characteristics.

State and Federal grant opportunities give priority to redevelopment projects that are within an Opportunity Zone and/or a BOA, thereby providing the maximum incentive for leveraging of funding streams and redevelopment of the Strategic Sites within downtown Hempstead.

Assets

The Village is surrounded by a variety of important regional resources, including governmental, educational, transportation and cultural assets.

Government Assets

As the traditional heart of Nassau County, the Village includes a number of government organizations including the Nassau County District Court, Village government offices, and certain Town of Hempstead government offices, and is located near many other government offices located north of the Village in Garden City and Mineola, for example.

Transportation Assets

The Village serves as a primary transportation hub of Nassau County. Located adjacent to downtown is the Hempstead train station, which serves as the terminus of the Long Island Rail Road (LIRR) Hempstead Branch, and the adjacent Rosa Parks Hempstead Transit Center is the hub of the NICE bus system. West of downtown the West Hempstead Branch of the LIRR also terminates just at the Village border. It is also where many of the County's roads intersect (e.g., Route 24-Hempstead Turnpike [Fulton Avenue], which connects the Cross Island Parkway at the border of Queens County [west] to Meadowbrook State Parkway [east]; Peninsula Boulevard, which connects Cedarhurst [southwest] to the Nassau Veterans Memorial Coliseum/Hofstra University [northeast]; Henry Street/Baldwin Road, which connects to Southern State Parkway and Route 27 [south]; and Clinton Street, which connects to Route 25 and Northern State Parkway [north]).

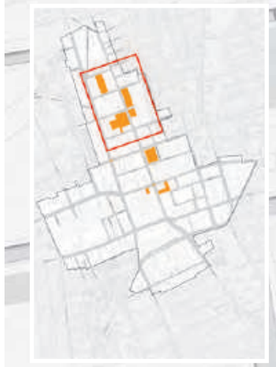
Educational and Institutional Assets

The Village is located in proximity to four major institutions of higher education within Nassau County, including: 1) Nassau County Community College (NCC) and 2) Hofstra University, which are located just east of the Village and provide workforce training and other educational opportunities for Village residents; 3) Adelphi College, located just to the northwest of the Village within Garden City, and 4) Molloy College, located south of the Village towards Rockville Centre. These institutions both draw substantial numbers of students and researchers to the area, and serve as a hub for research and development in a number of fields including medical technology. Each of these educational institutions could have the potential to attract funding for a variety of projects and programs within the BOA. In addition, the Village is located in proximity to or has within its municipal boundaries, several health care institutions, including: Hempstead General Medical Center; Mercy Medical Center; Sloan Kettering Hospital; Nassau University Medical Center; South Nassau Communities Hospital; NYU Winthrop Hospital; Mount Sinai South Nassau Hospital; and many others. These institutions have the potential to provide synergistic opportunities for employment and training, and potentially to attract funding for medical occupation and related programs within the BOA.

Cultural Assets

Numerous cultural assets and attractions are located near and within the Village. These assets have the potential to assist in generating more visitation and commercial activity within the BOA. The African American Museum of Nassau County puts on exhibits, provides gallery space to local artists, and maintains a regional genealogical research archive. With enhanced programming and redevelopment, the museum could become major anchor downtown.

To the east, the Nassau County Veterans Memorial Coliseum, the Cradle of Aviation Museum, and Nassau County Firefighters Museum attract large numbers of visitors annually. Connecting to these regional assets could help the Village to tap into these visitor streams and capture a portion of their expenditure potential.



Nº 3 / BRP - ALTA / 257 MAIN STREET

The BRP-ALTA site is located within a short walk from the Hempstead LIRR station and Transit Center. This site can serve as another anchor for the northern portion of Downtown, increasing residential density near transit, as well as provide an example of a new mixed-use development within the Village of Hempstead.

Nº 2 / INDEPENDENT LIVING / ESTRELLA

The Estrella site is a site in the heart of the Village's Downtown and close to other potential development sites. It would create assisted living housing proximate to public transporation for people with special needs.

Nº 4 / DELL BUS PROJECT

The Dell Bus project which'll include the school bus operators' headquarters and training facility, is anticipated to bring new transportation workers to the area, promoting commercial activity in the midday hours as well as the evening. This will increase the overall pedestrian footfall in the area and increase demand for associated services in a working district such as, lunch places, café and other eateries.

Nº 1 / CONIFER CARMEN PLACE

Located within a five minute walking distance to the train station, this site has access from both Columbia and Bidell Streets, provides opportunity for mixed-use pedestrian oriented development with a new plaza or open space for the community. Given that this site is close to other strategic sites, it will increase the use of pedestrian pathways and the use of public transportation.

Intersection Street
Smith Street
BOA Boundary
Old Franklin S
Union Place
Rennis Place
Kellum Place
Main Street
Franklin Street
Bedell Street
W Columbia Street
Jackson Street
AFRICAN AMERICAN MUSEUM
Nichols Court
Denton Green Cemetery

TRANSIT ORIENTED DEVELOPMENT ZONE

Legend:
Master Developoment Sites
Vacant / Underutilized Strategic Sites
Strategic Sites Owned by Master Developer

Nº 6 / FULTON AND MAIN STREET INTERSECTION

This key intersection where both regional traffic and local pedestrian movements converge, can support a higher density of mixed use development including retail, community, commercial and cultural uses. As these uses develop, public investment in pedestrian enhancements, safety, lighting and façade improvements will bring more vitality and activity to Downtown.

Nº 8 / NAGASAKI SITE / 274 FULTON ST.

274 Fulton Street is another site advantageously located on the continuous strip of retail on Fulton Street that captures traffic flow from NY State Route 24 and has great visibility. The single story structure currently on the site, offers transparancy on Fulton Street and has a large floor plate which is ideal for hosting events / weddings and also as a job training / education center for the community.

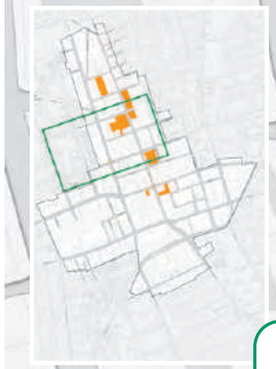
Nº 7 / WOOLWORTH SITE / 300 MAIN ST.

The L shaped Woolworth Site fronts both Main and Fulton Streets and can strengthen the mixed use character of the Downtown by offering opportunities for expanded local retail, dining or education for the local community. The site currently has two floors of built structure with generous ceiling heights and can be repurpsoed and reused.

BOA Boundary
Jackson Street
AFRICAN AMERICAN MUSEUM
Franklin Street
Centre Street
Main Street
Denton Green Cemetery
Fulton Street
NY State Rt 24
NY State Rt 102

Legend:
Master Developoment Sites
Vacant / Underutilized Strategic Sites
Strategic Sites With Buildings
Strategic Sites Owned by Master Developer

DOWNTOWN CORE



Nº 3 / BRP - ALTA / 257 MAIN STREET

The BRP-ALTA site is located within a short walk from the Hempstead LIRR station and Transit Center. This site can serve as another anchor for the northern portion of Downtown, an increasing residential density near transit, as well as provide an example of a new mixed-use development within the Village of Hempstead

Nº 2 / INDEPENDENT LIVING / ESTRELLA

The Estrella site is a site in the heart of the Village's Downtown and close to other potential development sites. It provides the opportunity to create housing with assisted living for adults and people with special needs.

Nº 1 / CONIFER CARMEN PLACE

Located within a five minute walking distance to the train station, this site has access from both Columbia and Bidell Streets, provides opportunity for a mixed-use pedestrian oriented development with a new plaza or open space for the community. Given that this site is close to other strategic sites, this cluster of density offers the opportunity to create new pedestrian pathways and enhance existing ones to create enhanced mobility and generate activity.

Nº 9 / FRANKLIN AND JACKSON INTERSECTION

This intersection has a key cultural institution - The African American Museum, which acts as a prominent anchor and invites further development at this location.

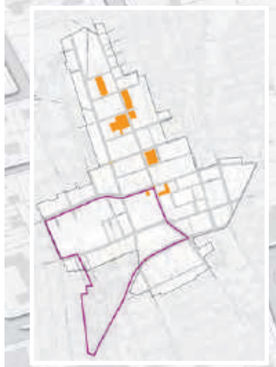
Nº 5 / HEMPSTEAD BUS STATION

This site could be tenanted with a range of office uses, including social service providers, or continue to be used for educational programming.

Bedell Street
Main Street
Franklin Street
W Columbia Street
Jackson Street
Centre Street
Terrace Avenue
Hilton Avenue
BOA Boundary
AFRICAN AMERICAN MUSEUM
NY State Rt 24

HEALTH AND COMMUNITY FACILITIES HUB

Legend:
- Master Developoment Sites
- Vacant / Underutilized Strategic Sites
- Strategic Sites With Buildings
- Strategic Sites Owned by Master Developer



NY State Rt 24

Franklin Street

NY State Rt 102

BOA Boundary

Nº 10 / INNOVATION DISTRICT

Site 10, the Village of Hempstead Innovation District, is a larger strategic overlay zone, which is intended to link downtown with the industrial area along Peninsula Avenue. The innovation district would both promote physical linkages between downtown and Peninsula Avenue, as well as create economic linkages, through the creation of new light and high-tech manufacturing spaces and expanding economic opportunities for Village residents in these white collar, technology jobs. The innovation district program could be anchored with an incubator and educational center, providing space for apprenticeships and educational programming, supported by local educational institutions. Further physical linkages will expand downtown Hempstead and better connect downtown retail, restaurants, and other commercial services to the large daytime worker population found within the industrial district.

INNOVATION DISTRICT

Legend:

Vacant / Underutilized Strategic Sites

Strategic Sites With Buildings

Endnotes

1 Step 2: Nomination of the BOA Program "provides an in-depth and thorough description and analysis, including a market trends analysis, an analysis of existing conditions, opportunities, and reuse potential for properties located within the BOA with an emphasis on the identification and reuse potential of strategic brownfield sites ("Strategic Sites") that may be catalysts for revitalization" (NYSDOS)

2 https://www.dos.ny.gov/opd/programs/brownFieldOpp/index.html

3 https://www.areadevelopment.com/siteSelection/nov08/brownfield-sites-environmental-contamination.shtml

4 Ibid.

5 Ibid.

6 Brownfield Redevelopment Tax Credits are available to help offset the cost of remediation and encourage private sector redevelopment of brownfield properties enrolled in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). http://www.dec.ny.gov/chemical/8450.html

7 In order to further encourage cleanup and redevelopment of sites in designated BOAs in a manner consistent with the community's vision for revitalization, a "BOA bump-up," an increase of up to 5% of the allowable tangible property tax credit component of the brownfield redevelopment tax credit, may be available for any project on a site enrolled in the BCP that: 1) Is located within a BOA that has been designated by the Secretary of State or 2) Receives a determination from the Secretary of State that the proposed development conforms to the vision, goals, and priorities established for revitalization of the area in the approved BOA Nomination or Plan.

8 https://esd.ny.gov/opportunity-zones

This document was prepared for the Village of Hempstead Community Development Agency and the New York State Department of State, with state funds provided through the Brownfield Opportunity Areas Program.

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Boomi Environmental LLC
603-A Omni Drive, Hillsborough, NJ, 08844


AKRF

APPENDIX B
SITE PROFILES

Village of Hempstead

Step 2 BOA Nomination

Strategic Site Profile

Tax Map Information (section, block and lot number(s)): 34-195-8, 34-195-9, 34-195-10, 34-195-111, 34-195-116, 34-195-129, 34-195-130, 34-195-131, 34-195-132, 34-195-135, and 34-195-138 (Site 1); 34-522-5 and 34-522-327 (Site 2); 34-194-4, 34-194-8, 34-194-3, 34-194-6, 34-194-2, 34-194-1, 34-194-7 (Site 3); and 34-192-11 (Site 4).

Name: Strategic Sites 1-4: North Main Street

Address: Vicinity of Bedell and Main Streets (see Table 1)

Owner: Multiple owners (see Table 1)

Municipality: Village of Hempstead

Publically Owned: ***(yes or no)*** No

Foreclosure List: ***(yes or no)*** No

Size: ***(acres)*** See Table 1

Existing Buildings: ***(number and general condition)*** See Table 1

Condition: ***(good, fair, poor)*** Fair

Zoning: Business B; DO-2 Transit District Overlay (Sites 1 and 4); DO-1 Entertainment & Hospitality District Overlay (Sites 2 and 3)

Zone and/or District Status: ***(Check all that apply)***

NYS Empire Zone:	☐	**Business Improvement District:**	☐
NYS Environmental Zone:	☐	**Special Assessment District:**	☐
Urban Renewal Area:	☒	**Historic District:**	☐
Federal Enterprise Business Zone:	☐	**Archeologically Significant Area:**	☐

Other: Opportunity Zone (CT 4068.01) ☒

Opportunity Zone (CT 4068.02)

Utilities: (check all that apply)

Municipal Water:	☒	**Electrical Service:**	☒
Municipal Sewer:	☒	**Telecom. Service:**	☒
Natural Gas:	☒		

Access:

Closest Highway: Southern and Meadowbrook State Parkways

Access Road: Fulton Avenue (NY-24)

Miles to Highway: ± 2.0

Rail Service: Long Island Rail Road Hempstead station (± 3.0-4.0 miles)

Closest Interstate: Long Island Expressway (I-495)

Closest Airport: JFK, approximately 12 miles

Miles to Interchange: ± 2.0

Site Status: ***(Describe the site's current condition in terms of use and operational status, e.g. vacant, occupied, abandoned, partially developed, or partially used.)***

- Site 1 (Conifer & Carman Place/155-179 Main Street): occupied, vacant (parking lot use)
- Site 2 (Independent Living—Estrella/Bedell & Main Streets): vacant (parking lot use)
- Site 3 (BRP-Alta/257 Main Street): vacant (parking lot use)
- Site 4 (Dell Bus Project/Main Street b/w Kellum and Union Places): commercial office building/auto parts and service

Assessment of Overall Importance and Ranking:

High ☒

Medium ☐

Low ☐

Property Description: ***(Describe physical characteristics of the property, buildings, and natural features based on field observations and/or aerial photographs.)***

Site 1 is located on the southwest side of Main and Bedell Streets and involves 12 tax lots (total acreage is 2.54). Site 1: Block 195, Lot 131 is approximately 0.44 acres occupying a part of the eastern portion of this block. This portion of the site contains a commercial multi-occupant building, built in 1940. Lots 8, 9, 10, and 116 occupy the northeastern corner of this block. This part of the site consists of paved impervious surface, used as a parking lot. Lots 129 and 130 each consist of a single-family home both built in 1908. Lot 111 contains a commercial multi-occupant building. Lot 132, located south of Lot 111, is used as a parking lot. Sites 2 and 3 consist of paved impervious surface used for parking. Site 4 contains a commercial office building and gas station. See Table 1 below for more detail.

Description of Adjacent Land Uses: ***(Describe existing adjacent land uses.)***

Adjacent land uses include auto body and auto sales surrounding all sites.

Use and Environmental History: ***(Based on existing available information, describe the site's operational history, potential contamination issues, and ground water conditions.)***

See Table 1

Status of Remedial Investigation: ***(Describe type and status of investigation undertaken and whether or not a remediation strategy has been defined.)***

- Closed status spill (1411628), No. 2 fuel oil.
- Transformer oil spilled near property due to car hitting a utility pole, approx. 60 gal leaked.
- Closed-status spill No. 1411628 - removal of 1,000-gal No. 2 fuel oil UST and contaminated soil (reportedly all removed).
- Spill No. 1711151 reported at a vacant commercial property (204-206 Main Street) in March 2018. According to the listing, a water/oil mixture was released from a fill port of a flooded UST (size unknown). The spill was cleaned up with Speedy dry and impact to storm drains was unknown. This spill is currently active.

A Phase II investigation is recommended to characterize subsurface conditions at sites where past on- or off-site uses may have resulted in contamination, including evidence or documentation of spills that have been reported to DEC and "closed." Such testing prior to site redevelopment activities can inform potential developers of the type and extent of contamination that will need to be addressed in advance of redevelopment, and can assist with construction planning by providing useful information about potential unforeseen subsurface contamination/conditions, which can delay construction activities and affect overall development costs. The testing also provides pertinent information regarding soil quality that can be used in construction bid documents and for cost estimating purposes with respect to excavated soil management and disposal. Phase IIs are also done as part of property transaction due diligence to determine associated potential environmental liabilities. Additionally, Phase II investigations are performed as part of the requirements of regulatory agency processes, and when a site is being considered for entry into, or already in a government cleanup program.

Use Potential and Redevelopment Opportunities: ***(Describe the type of future use and redevelopment most appropriate for the site.)***

Program: TOD, market-rate and affordable apartments, commercial retail, stacked parking, employment cluster

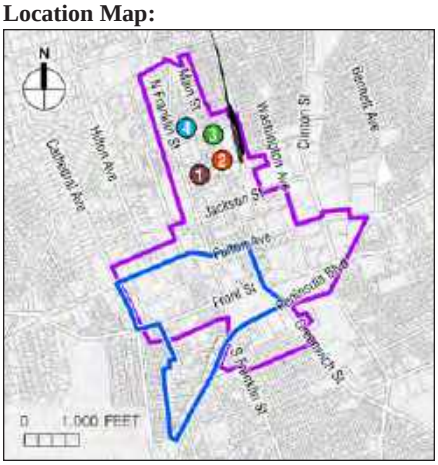
Use Potential and Redevelopment Opportunities: ***(Describe the type of future use and redevelopment most appropriate for the site.)***

Program:	TOD, market-rate and apartments, commercial retail, stacked parking, employment cluster
Desired development goals:	Education and job training, local retail, dining and entertainment options, social infrastructure (e.g., day care), public and private investment, housing options for all, and community event space

Ranking Explanation: ***(Assessment of overall importance and ranking.)***

Sites 1-4 were selected as they are previously approved development projects located in proximity to the Hempstead LIRR station and Transit Center, although as of fall 2019, their site plan approvals have expired. These sites can serve to anchor the northern portion of downtown, increasing residential density near transit, as well as provide an example of a new mixed-use development within the Village. Further, the Dell Bus project is anticipated to bring new workers to the area (school bus operators HQ/training facility—transportation), promoting commercial activity in the midday hours as well as the evening.

Location Map:



Site #1:

Site #2:

Site #3:

Site #4:

Site Photo(s)

Site #1

View of southwest corner of Bedell Street and Main Street (AKRF, Inc., May 7, 2020).

View looking into Site 1 from West Columbia Street (AKRF, Inc., May 7, 2020).

Site #2

View of Site 2 from northwest corner of Bedell Street and Main Street (AKRF, Inc., May 7, 2020).

Site #3

View of Site 3 from the northwest corner of Kellum Place and Main Street (AKRF, Inc., May 7, 2020).

Site #4

View of Site 4 on Kellum Place, looking north (AKRF, Inc., May 7, 2020).

View of Site 4 on Union Place, looking south (AKRF, Inc., May 7, 2020).

Table 1

Strategic Sites 1-4 – Land Use, Ownership, and Environmental Conditions

Site Number	Tax Map No.	Description	Area (Acres)	Building Vacancy	Owner	Parcel Address (Hempstead, NY)	Historical Uses	Summary of Environmental Issues	Proposed Development	Environmental Conditions Identified?
1	34-195-131, 34-195-116, 34-195-8, 34-195-9, 34-195-10, 34-195-111, 34-195-129, 34-195-130, 34-195-132, 34-195-135, 34-195-138,	Multiple Occupant Retail, Paving, blacktop or fencing used with motor vehicle services, Single Family Home	2.54	No	LAU Investment Group, RDUA Parcel 3LLC, LAU Enterprises LTD, Steward Plaza LTD, Kevs Landscape and Tree Service,	155-179 Main Street	Lot 8: 2.5-story dwelling (1909-1970), two ground stores (1925-1970); Lot 9: Double dwelling (1904-1963), parking lot (1970); Lot 10: Two-story dwelling (1909-1963), parking lot (1970),	Closed status spill (1411628), No. 2 fuel oil.; Transformer oil spilled near property due to car hitting a utility pole, approx. 60 gal leaked. Closed-status spill No. 1411628 - removal of 1,000-gal No. 2 fuel oil UST and contaminated soil (reportedly all removed).	The southwest side of Main and Bedell Streets was approved for 6,600 sf of retail, 6,600 sf of medical office space, 9,400 sf of restaurant space, 228 residential units, and approximately 11,600 sf of residential amenities.	Yes
2	34-522-5, 34-522-327	Paving, blacktop or fencing used with motor vehicle services	0.63	N/A	CPK Transportation LLC	Bedell and Main Street	Part of a lumber yard (1892-1937); auto parts storage (1963); used auto sales (1970).	N/A	The southeast corner of the intersection of Main and Bedell Streets was approved for 96 residential units, and approximately 10,500 sf of interior residential amenities and 5,500 sf of restaurants.	Yes

Table 1

Strategic Sites 1-4 – Land Use, Ownership, and Environmental Conditions

Site Number	Tax Map No.	Description	Area (Acres)	Building Vacancy	Owner	Parcel Address (Hempstead, NY)	Historical Uses	Summary of Environmental Issues	Proposed Development	Environmental Conditions Identified?
3	34-194-4, 34-194-8, 34-194-3, 34-194-6, 34-194-2, 34-194-1, 34-194-7	Paving, blacktop or fencing used with motor vehicle services, vacant building	1.37	N/A	Main View LLC	257 Main Street	Carpentry (1909-1919); Auto repair (1970); Hempstead Brass Co. (1909); Laundry (1919); Auto Service Station (1937-1970); Carpet Cleaning (1937); Taxi Storage (1970); Auto Repair (1950-1970); Service Station (1937).	N/A	The northeast corner of the intersection of Main and Bedell Streets was approved for 6,993 sf of retail and 255 residential units. In addition, development of 156 residential units and 2,350 sf of retail is being reviewed for Main Street north of Union Place.	Yes
4	34-192-11	commercial office building; parking; vacant gas station	1.37	N/A	RDUA Parcel 2 LLC	Union Place	Dubois Model Laundry and coal house (1909).	No listings.	Dell Bus Project (a 9,100-sf office building and training center for Dell Transportation Corp.)	Yes
	Total		**5.91**							

Sources: AKRF, Inc., Village of Hempstead, Nassau Land Records Viewer.

Village of Hempstead

Step 2 BOA Nomination

Descriptive Profile of Brownfield and Underutilized Properties

Tax Map Information (section, block and lot number(s)): 34-33303-2

Name: Strategic Site 5: Former Bus Station

Address: 106 Main Street

Owner: 100 Main Street Realty

Municipality: Village of Hempstead

Publically Owned: ***(yes or no)*** No

Foreclosure List: ***(yes or no)*** No

Size: ***(acres)*** 1.50

Existing Buildings: ***(number and general condition)*** 1

Condition: ***(good, fair, poor)*** Good

Zoning: Business B; DO-1 Entertainment & Hospitality Overlay

Zone and/or District Status: ***(Check all that apply)***

NYS Empire Zone:	☐	**Business Improvement District:**	☐
NYS Environmental Zone:	☐	**Special Assessment District:**	☐
Urban Renewal Area:	☐	**Historic District:**	☐
Federal Enterprise Business Zone:	☐	**Archeologically Significant Area:**	☐

Other: Opportunity Zone (CT 4068.02) ☒

Utilities: (check all that apply)

Municipal Water:	☒	**Electrical Service:**	☒
Municipal Sewer:	☒	**Telecom. Service:**	☒
Natural Gas:	☒		

Access:

Closest Highway: Southern and Meadowbrook State Parkways

Access Road: Fulton Avenue (NY-24)

Miles to Highway: ± 2.0

Rail Service: Long Island Rail Road Hempstead station (± 3.0-4.0 miles)

Closest Interstate: Long Island Expressway (I-495)

Closest Airport: JFK, approximately 12 miles

Miles to Interchange: ± 2.0

Site Status: ***(Describe the site's current condition in terms of use and operational status, e.g., vacant, occupied, abandoned, partially developed, or partially used.)***

Vacant former bus depot.

Assessment of Overall Importance and Ranking:

High ☐

Medium ☒

Low ☐

Property Description: ***(Describe physical characteristics of the property, buildings, and natural features based on field observations and/or aerial photographs.)***

Strategic Site 5 is located on the east side of Main Street between Nichols Court and Jackson Street. It is the site of a former bus depot.

Description of Adjacent Land Uses: ***(Describe existing adjacent land uses.)***

Adjacent land uses include the Beginning and Beyond Childcare day care center to the north, the Hempstead Police Station and Public Library to the east, a multiple occupant retail building and Denton Green Cemetery to the south, and Nassau County District Court to the west.

Use and Environmental History: ***(Based on existing available information, describe the site's operational history, potential contamination issues, and ground water conditions.)***

According to Sanborn maps, Lot 329 (now Lot 2) contained a coal yard on the 1892 map. From 1904 to 1961, the lot was traversed by Long Island Railroad tracks and contained a freight depot. An extensive environmental data collection effort was undertaken for the brownfields identified on the site, including a summary of available environmental reports, a review of regulatory records, and limited street-level site inspections. In August 1990, Spill No. 9005490 was reported during a 10,000-gallon tank test failure at the Hempstead Bus Terminal, the product was No. 2 fuel oil. There were zero gallons spilled and spill was closed in August 1999. This site has been identified as having previous environmental conditions and therefore further investigation is recommended.

Status of Remedial Investigation: ***(Describe type and status of investigation undertaken and whether or not a remediation strategy has been defined.)***

A Phase II investigation is recommended to characterize subsurface conditions at sites where past on- or off-site uses may have resulted in contamination, including evidence or documentation of spills that have been reported to DEC and "closed."

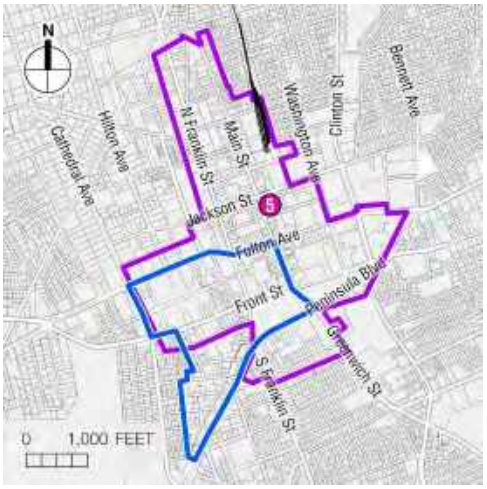
Use Potential and Redevelopment Opportunities: ***(Describe the type of future use and redevelopment most appropriate for the site.)***

Program:	Adaptive reuse and public space, retail including restaurants and smaller flexible spaces; offices or social service facilities, and connect better with public uses and transit assets.
Desired development goals:	Education and job training; local retail, dining, and entertainment options; social infrastructure (e.g., day care); connect local and regional assets; public and private investment; and community event space.

Ranking Explanation: ***(Assessment of overall importance and ranking.)***

Site 5, the former Hempstead Bus Station was selected for its proximity to both the Transit Center and downtown businesses and commercial activity. This space, already built out with retail and office space could become a link between the two areas, closing the perceived distance between downtown and the Transit Center. The Bus Station could be tenanted with a range of office uses, including social service providers, or it could continue to be used for educational programming. Open space on the ground level and other retail spaces within the building could be re-tenanted with restaurants and smaller flexible retail spaces. Interior improvements could invite people into the space and promote circulation through the building between Main Street, the Transit Center, Village Hall, and government offices.

Location Map(s)



Site Photo(s)

View from northwest corner of Jackson Street and Main Street, looking southeast at the Former Bus Station (AKRF, Inc., May 4, 2018).

Village of Hempstead

Step 2 BOA Nomination

Descriptive Profile of Brownfield and Underutilized Properties

Tax Map Information (section, block and lot number(s)): 34-340-19, Intersection of Main and Fulton

Name: Strategic Site 6: Main and Fulton (Hempstead Bank Building)

Address: 54 Main Street

Owner: Main & Fulton Corner LLC

Municipality: Village of Hempstead

Publically Owned: ***(yes or no)*** No

Foreclosure List: ***(yes or no)*** No

Size: ***(acres)*** 0.12

Existing Buildings: ***(number and general condition)*** One and vacant; deteriorated

Condition: ***(good, fair, poor)*** Poor

Zoning: Business B; DO-1 Entertainment & Hospitality District Overlay (northeast corner); DO-2 Transit District Overlay (northwest corner); DO-3 Commercial Transition District Overlay (south of Fulton Avenue)

Zone and/or District Status: ***(Check all that apply)***

NYS Empire Zone:	☐	**Business Improvement District:**	☐
NYS Environmental Zone:	☐	**Special Assessment District:**	☐
Urban Renewal Area:	☐	**Historic District:**	☐
Federal Enterprise Business Zone:	☐	**Archeologically Significant Area:**	☒
Other: Opportunity Zone (CT 4068.01)	☒		

Utilities: (check all that apply)

Municipal Water:	☒	**Electrical Service:**	☒
Municipal Sewer: * Deficient	☒	**Telecom. Service:**	☒
Natural Gas:	☒		

Access:

Closest Highway: Southern and Meadowbrook State Parkways

Access Road: Fulton Avenue (NY-24)

Miles to Highway: ± 2.0

Rail Service: Long Island Rail Road Hempstead station (± 3.0-4.0 miles)

Closest Interstate: Long Island Expressway (I-495)

Closest Airport: JFK, approximately 12 miles

Miles to Interchange: ± 2.0

Site Status: ***(Describe the site's current condition in terms of use and operational status, e.g., vacant, occupied, abandoned, partially developed, or partially used.)***

Vacant, former bank building.

Assessment of Overall Importance and Ranking:

High ☒

Medium ☐

Low ☐

Property Description: ***(Describe physical characteristics of the property, buildings, and natural features based on field observations and/or aerial photographs.)***

Strategic Site 6 is located at the intersection of Main Street and Fulton Avenue (NY-24). The site is occupied by the vacant former Hempstead Bank. Adjacent uses include Sites 7 and 8, which are also occupied by vacant buildings.

Description of Adjacent Land Uses: ***(Describe existing adjacent land uses.)***

Adjacent land uses include the a salon to the north, the Unity Church of Hempstead to the east, the Hempstead Village Bike Shop to the south, and multiple retail stores to the west.

Use and Environmental History: ***(Based on existing available information, describe the site's operational history, potential contamination issues, and ground water conditions.)***

The site was formerly a print shop between 1892 and 1904, which later added a photo studio to its operations in 1897. Small closed spills have been reported at the site (Spill Nos. 9411909, 011965, 9309474). An extensive environmental data collection effort was undertaken for the brownfields identified on the site, including a summary of available environmental reports, a review of regulatory records, and limited street-level site inspections. This site has been identified as having previous environmental conditions and therefore further investigation is recommended.

Status of Remedial Investigation: ***(Describe type and status of investigation undertaken and whether or not a remediation strategy has been defined.)***

A Phase II investigation is recommended to characterize subsurface conditions at sites where past on- or off-site uses may have resulted in contamination, including evidence or documentation of spills that have been reported to DEC and "closed." Such testing prior to site redevelopment activities can inform potential developers of the type and extent of contamination that will need to be addressed in advance of redevelopment, and can assist with construction planning by providing useful information about potential unforeseen subsurface contamination/conditions, which can delay construction activities and affect overall development costs. The testing also provides pertinent information regarding soil quality that can be used in construction bid documents and for cost estimating purposes with respect to excavated soil management and disposal. Phase IIs are also done as part of property transaction due diligence to determine associated potential environmental liabilities. Additionally, Phase II investigations are performed as part of the requirements of regulatory agency processes, and when a site is being considered for entry into, or already in a government cleanup program.

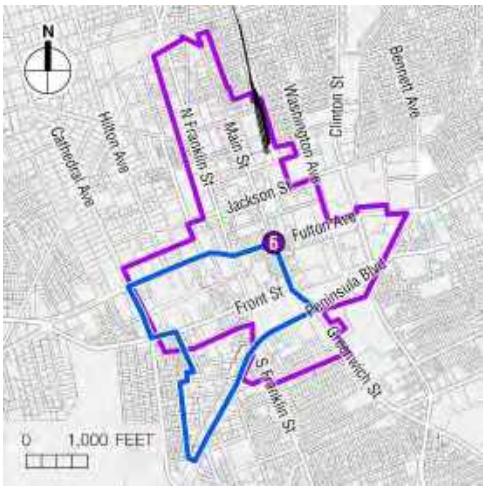
Use Potential and Redevelopment Opportunities: ***(Describe the type of future use and redevelopment most appropriate for the site.)***

Program:	Adaptive reuse, reactivating retail space including restaurants and smaller flexible spaces, residential uses on upper floors, improve street and sidewalks, amenities and public space, signage to create identity and distinct location, and potential for increased density in the long term.
Desired development goals:	Local retail, dining and entertainment options; connect local and regional assets; public and private investment; housing options for all; and community event space.

Ranking Explanation: ***(Assessment of overall importance and ranking.)***

Site 6, the intersection of Main Street and Fulton Avenue represents a different type of Strategic Site, one which focuses on the existing interconnected linkages of the Village and tries to expand on these connections and networks to spur development. At the heart of Downtown, this intersection represents the center of retail development within Hempstead. The intersection includes large commercial buildings, which have been partially restored. This intersection also includes Children's World—a clothing store that has operated within the Village for over 50 years. Promoting development at the intersection will help create a strong retail and commercial cluster in the area.

Location Map(s)



Site Photo(s)

View of intersection at Main Street and Fulton Avenue, looking south (AKRF, Inc., May 7, 2020).

View of southeast corner of Main Street and Fulton Avenue, occupied by the Hempstead Bank Building (AKRF, Inc., May 4, 2018).

View of northeast corner of Main Street and Fulton Avenue (AKRF, Inc., May 7, 2020).

View of northwest corner of Main Street and Fulton Avenue (AKRF, Inc., May 7, 2020).

View of southwest corner of Main Street and Fulton Avenue (AKRF, Inc., May 4, 2018).

Village of Hempstead

Step 2 BOA Nomination

Descriptive Profile of Brownfield and Underutilized Properties

Tax Map Information (section, block and lot number(s)): 34-340-14

Name: Strategic Site 7: Woolworth Building

Address: 42 Main Street

Owner: R&R Dynasty Corp

Municipality: Village of Hempstead

Publically Owned: ***(yes or no)*** No

Foreclosure List: ***(yes or no)*** No

Size: ***(acres)*** 0.60

Existing Buildings: ***(number and general condition)*** One and vacant; deteriorated

Condition: ***(good, fair, poor)*** Poor

Zoning: Business B; DO-3 Commercial Transition District Overlay

Zone and/or District Status: ***(Check all that apply)***

NYS Empire Zone:	☐	**Business Improvement District:**	☐
NYS Environmental Zone:	☐	**Special Assessment District:**	☐
Urban Renewal Area:	☒	**Historic District:**	☐
Federal Enterprise Business Zone:	☐	**Archeologically Significant Area:**	☐
Other	☐		

Utilities: (check all that apply)

Municipal Water:	☒	**Electrical Service:**	☒
Municipal Sewer: *Deficient	☒	**Telecom. Service:**	☒
Natural Gas:	☒		

Access:

Closest Highway: Southern and Meadowbrook State Parkways

Access Road: Fulton Avenue (NY-24)

Miles to Highway: ± 2.0

Rail Service: Long Island Rail Road Hempstead station (± 3.0-4.0 miles)

Closest Interstate: Long Island Expressway (I-495)

Closest Airport: JFK, approximately 12 miles

Miles to Interchange: ± 2.0

Site Status: ***(Describe the site's current condition in terms of use and operational status, e.g., vacant, occupied, abandoned, partially developed, or partially used.)***

Vacant, former department store building.

Assessment of Overall Importance and Ranking:

High ☒

Medium ☐

Low ☐

Property Description: ***(Describe physical characteristics of the property, buildings, and natural features based on field observations and/or aerial photographs.)***

Strategic Site 7 is a through lot, with frontages on Fulton and Main Streets. The site is occupied by a vacant former department store building.

Description of Adjacent Land Uses: ***(Describe existing adjacent land uses.)***

Adjacent land uses include the Denton Green Cemetery to the north, the Winners Chappel International to the east, the Nassau County Civil Services to the south, and multiple retail stores to the west.

Use and Environmental History: ***(Based on existing available information, describe the site's operational history, potential contamination issues, and ground water conditions.)***

The site housed marble works from 1886 to 1897, stone cutting in 1904, a tin shop from 1919 to 1925, and a paint shop in 1925. In 1949, the Woolworth department store was built on the site. An extensive environmental data collection effort was undertaken for the brownfields identified on the site, including a summary of available environmental reports, a review of regulatory records, and limited street-level site inspections. This site has been identified as having previous environmental conditions and therefore further investigation is recommended.

Status of Remedial Investigation: ***(Describe type and status of investigation undertaken and whether or not a remediation strategy has been defined.)***

A Phase II investigation is recommended to characterize subsurface conditions at sites where past on- or off-site uses may have resulted in contamination, including evidence or documentation of spills that have been reported to DEC and "closed." Such testing prior to site redevelopment activities can inform potential developers of the type and extent of contamination that will need to be addressed in advance of redevelopment, and can assist with construction planning by providing useful information about potential unforeseen subsurface contamination/conditions, which can delay construction activities and affect overall development costs. The testing also provides pertinent information regarding soil quality that can be used in construction bid documents and for cost estimating purposes with respect to excavated soil management and disposal. Phase IIs are also done as part of property transaction due diligence to determine associated potential environmental liabilities. Additionally, Phase II investigations are performed as part of the requirements of regulatory agency processes, and when a site is being considered for entry into, or already in a government cleanup program.

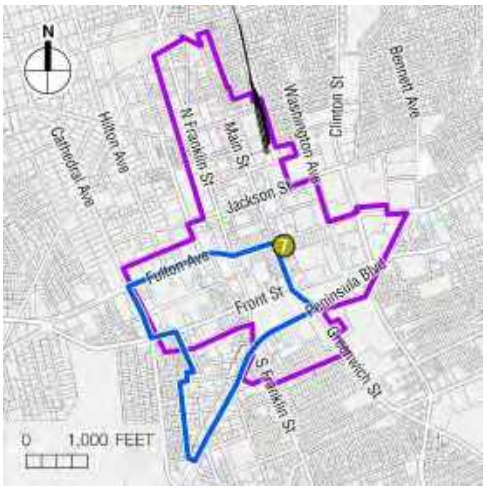
Use Potential and Redevelopment Opportunities: ***(Describe the type of future use and redevelopment most appropriate for the site.)***

Program:	Adaptive reuse, and potential entertainment or cultural space.
Desired development goals:	Education and job training; local retail, dining and entertainment options; connect local and regional assets; public and private investment; and community event space.

Ranking Explanation: ***(Assessment of overall importance and ranking.)***

Site 7, the former Woolworth Building was selected for its potential to increase the commercial density in the downtown area. Site 7 would potentially contribute to expanding shopping and retail options, contributing to a more active downtown with a robust mix of uses.

Location Map



Site Photo(s)

View of Woolworth Building from Main Street (AKRF, Inc., May 7, 2020).

Village of Hempstead

Step 2 BOA Nomination

Descriptive Profile of Brownfield and Underutilized Properties

Tax Map Information (section, block and lot number(s)): 34-339-148

Name: Strategic Site 8, Nagasaki Building

Address: 274-278 Fulton Ave

Owner: Madd Carmans LLC

Municipality: Village of Hempstead

Publically Owned: ***(yes or no)*** Yes (Partially)

Foreclosure List: ***(yes or no)*** No

Size: ***(acres)*** **0**.18

Existing Buildings: ***(number and general condition)***

Condition: ***(good, fair, poor)*** Fair

Zoning: Business B; DO-3 Commercial Transition District

Zone and/or District Status: ***(Check all that apply)***

NYS Empire Zone:	☐	**Business Improvement District:**	☐
NYS Environmental Zone:	☐	**Special Assessment District:**	☐
Urban Renewal Area:	☐	**Historic District:**	☐
Federal Enterprise Business Zone:	☐	**Archeologically Significant Area:**	☐

Other: Opportunity Zone (CT 4068.01) ☒

Utilities: (check all that apply)

Municipal Water:	☒	**Electrical Service:**	☒
Municipal Sewer: *Deficient	☒	**Telecom. Service:**	☒
Natural Gas:	☒		

Access:

Closest Highway: Southern and Meadowbrook State Parkways

Access Road: Fulton Avenue (NY-24)

Miles to Highway: ± 2.0

Rail Service: Long Island Rail Road Hempstead station (± 3.0-4.0 miles)

Closest Interstate: Long Island Expressway (I-495)

Closest Airport: JFK, approximately 12 miles

Miles to Interchange: ± 2.0

Site Status: ***(Describe the site's current condition in terms of use and operational status, e.g., vacant, occupied, abandoned, partially developed, or partially used.)***

Vacant, former bank building.

Assessment of Overall Importance and Ranking:

High ☐

Medium ☒

Low ☐

Property Description: ***(Describe physical characteristics of the property, buildings, and natural features based on field observations and/or aerial photographs.)***

Strategic Site 8 is located on Fulton Avenue (NY-24). The site is occupied by a vacant former restaurant.

Description of Adjacent Land Uses: ***(Describe existing adjacent land uses.)***

Adjacent land uses include retail shops and restaurants to the north, retail shops to the east, retail shops to the south, and a large parking lot to the west.

Use and Environmental History: ***(Based on existing available information, describe the site's operational history, potential contamination issues, and ground water conditions.)***

An extensive environmental data collection effort was undertaken for the brownfields identified on the site, including a summary of available environmental reports, a review of regulatory records, and limited street-level site inspections. On-site known or potential RECS have not been documented for this site.

Status of Remedial Investigation: ***(Describe type and status of investigation undertaken and whether or not a remediation strategy has been defined.)***

N/A

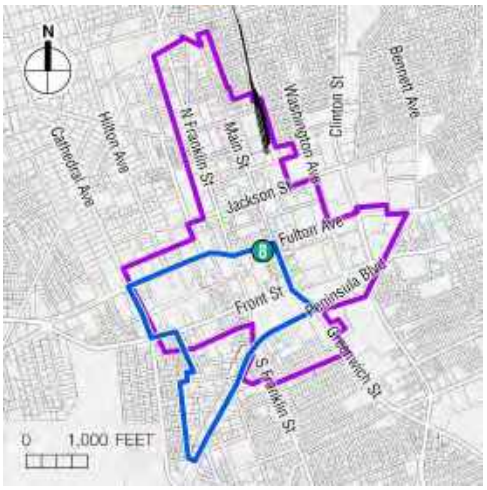
Use Potential and Redevelopment Opportunities: ***(Describe the type of future use and redevelopment most appropriate for the site.)***

Program:	Adaptive reuse, cooperative culinary education space and restaurant, and potential as event space for weddings and parties.
Desired development goals:	Education and job training; local retail, dining, and entertainment options; connect local and regional assets; public and private investment; and community event space. This site has not been identified as having previous environmental conditions and therefore no further investigation is recommended.

Ranking Explanation: ***(Assessment of overall importance and ranking.)***

Site 8 can increase the commercial density in the area, potentially expanding shopping and retail options in the center of downtown with a robust mix of uses including restaurants and other retail. At Site 8, the Village of Hempstead Community Development Agency (CDA) is engaged with potential tenants seeking to provide educational programming as well as a commercial business on the site.

Location Map(s)



Site Photo(s)

View of Nagasaki Building from Fulton Avenue (AKRF, Inc., May 7, 2020).

Village of Hempstead

Step 2 BOA Nomination

Descriptive Profile of Brownfield and Underutilized Properties

Tax Map Information (section, block and lot number(s)): N/A

Name: Strategic Site 9: Intersection of Franklin and Jackson

Address: Intersection of Franklin and Jackson

Owner: N/A

Municipality: Village of Hempstead

Publically Owned: ***(yes or no)*** No

Foreclosure List: ***(yes or no)*** No

Size: ***(acres)*** 0.60

Existing Buildings: ***(number and general condition)*** One and vacant; deteriorated

Condition: ***(good, fair, poor)*** Poor

Zoning: Business B; DO-2 Transit District

Zone and/or District Status: ***(Check all that apply)***

NYS Empire Zone:	☐	**Business Improvement District:**	☐
NYS Environmental Zone:	☐	**Special Assessment District:**	☐
Urban Renewal Area:	☒	**Historic District:**	☐
Federal Enterprise Business Zone:	☐	**Archeologically Significant Area:**	☐

Other: Opportunity Zone (CT 4068.01) ☒

Utilities: (check all that apply)

Municipal Water:	☒	**Electrical Service:**	☒
Municipal Sewer: *Deficient	☒	**Telecom. Service:**	☒
Natural Gas:	☒		

Access:

Closest Highway: Southern and Meadowbrook State Parkways

Access Road: Fulton Avenue (NY-24)

Miles to Highway: ± 2.0

Rail Service: Long Island Rail Road Hempstead station (± 3.0-4.0 miles)

Closest Interstate: Long Island Expressway (I-495)

Closest Airport: JFK, approximately 12 miles

Miles to Interchange: ± 2.0

Site Status: ***(Describe the site's current condition in terms of use and operational status, e.g., vacant, occupied, abandoned, partially developed, or partially used.)***

Vacant, former department store building.

Assessment of Overall Importance and Ranking:

High ☐

Medium ☐

Low ☒

Property Description: ***(Describe physical characteristics of the property, buildings, and natural features based on field observations and/or aerial photographs.)***

Strategic Site 9 is the intersection of Franklin Avenue and Jackson Avenue. The intersection includes two anchor tenants—the African American Museum at the southeast corner and the Academy Charter School at the northwest corner.

Description of Adjacent Land Uses: ***(Describe existing adjacent land uses.)***

Adjacent land uses include retail and restaurant uses to the north, east, south, and west. Institutional uses including the Faith Baptist Church are located to the north.

Use and Environmental History: ***(Based on existing available information, describe the site's operational history, potential contamination issues, and ground water conditions.)***

An extensive environmental data collection effort was undertaken for the brownfields identified on the site, including a summary of available environmental reports, a review of regulatory records, and limited street-level site inspections. None of the parcels within the vicinity of this intersection were identified has having potential RECs. It's possible that existing structures within this intersection likely contain asbestos-containing materials (ACM) and/or lead-based paint (LBP). Existing regulatory programs address mitigation of these prior to, or as part of demolition.

Status of Remedial Investigation: ***(Describe type and status of investigation undertaken and whether or not a remediation strategy has been defined.)***

N/A

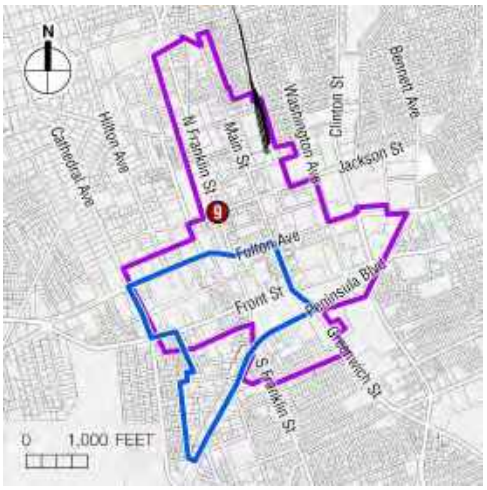
Use Potential and Redevelopment Opportunities: ***(Describe the type of future use and redevelopment most appropriate for the site.)***

Program:	Mixed-use development, including community and social infrastructure uses; retail and supporting activities for commuters and residents; strengthen the African- American Museum; and activate parking sites to further activate this area.
Desired development goals:	Education and job training; local retail, dining and entertainment options; social infrastructure (e.g., daycare); connect local and regional assets; public and private investment; housing options for all; medical/healthcare cluster; and community event space.

Ranking Explanation: ***(Assessment of overall importance and ranking.)***

Site 9, the intersection of Franklin Avenue and Jackson Street, was identified because it anchors the western corridor through downtown, between the Hempstead LIRR station and Terrace Avenue and the western residential neighborhood. It is anticipated that this catalytic strategic development site will be utilized by the community for daily shopping and personal services, as well as other social services. As the intersection links the western areas of the Village to downtown and transit options it is likely to have high levels of pedestrian traffic, particularly during the morning and evening. This site already includes two potential anchor institutions, the African American Museum of Nassau County on the southeast corner and the Academy Charter School on the northwest corner. The African American Museum provides a range of cultural activities and exhibits within the community. The redevelopment of this site and the surrounding area could provide opportunities to provide new funding to the museum, which is in need of repairs, and provide the museum a newer, more modern facility.

Location Map(s)



Site Photo(s)

View of southwest corner of Franklin and Jackson Avenues (AKRF, Inc., May 7, 2020).

View of Academy Charter School on the northwest corner of Franklin Avenue and Jackson Street (AKRF, Inc., May 7, 2020).

View looking north on Franklin Avenue at the intersection of Franklin Avenue and Jackson Street (AKRF, Inc., May 7, 2020).

View of African American Museum on the southeast corner of Franklin Avenue and Jackson Street (AKRF, Inc., May 4, 2018).

Village of Hempstead

Step 2 BOA Nomination

Descriptive Profile of Brownfield and Underutilized Properties

Tax Map Information (section, block and lot number(s)): N/A

Name: Strategic Site 10: Innovation District

Address: Area bounded by Greenwich Street, Fulton Avenue, Peninsula Blvd, Cathedral Avenue, and President Street

Owner: N/A

Municipality: Village of Hempstead

Publically Owned: ***(yes or no)*** N/A

Foreclosure List: ***(yes or no)*** N/A

Size: ***(acres)*** N/A

Existing Buildings: ***(number and general condition)*** N/A

Condition: ***(good, fair, poor)*** Mixed

Zoning: Business A; Business B; Residence C; Business BG; Industrial

Zone and/or District Status: ***(Check all that apply)***

NYS Empire Zone:	☐	**Business Improvement District:**	☐
NYS Environmental Zone:	☐	**Special Assessment District:**	☐
Urban Renewal Area:	☐	**Historic District:**	☐
Federal Enterprise Business Zone:	☐	**Archeologically Significant Area:**	☐
Other: Opportunity Zone (CT 4068.01)	☒		

Utilities: (check all that apply)

Municipal Water:	☒	**Electrical Service:**	☒
Municipal Sewer: *Deficient	☒	**Telecom. Service:**	☒
Natural Gas:	☒		

Access:

Closest Highway: Southern and Meadowbrook State Parkways

Access Road: Fulton Avenue (NY-24)

Miles to Highway: ± 2.0

Rail Service: Long Island Rail Road Hempstead station (± 3.0-4.0 miles)

Closest Interstate: Long Island Expressway (I-495)

Closest Airport: JFK, approximately 12 miles

Miles to Interchange: ± 2.0

Site Status: ***(Describe the site's current condition in terms of use and operational status, e.g., vacant, occupied, abandoned, partially developed, or partially used.)***

Vacant, former department store building.

Assessment of Overall Importance and Ranking:

High ☐

Medium ☐

Low ☒

Property Description: ***(Describe physical characteristics of the property, buildings, and natural features based on field observations and/or aerial photographs.)***

Strategic Site 10 consists of the area bounded by Greenwich Street, Fulton Avenue, Peninsula Blvd, Cathedral Avenue, and President Street.

Description of Adjacent Land Uses: ***(Describe existing adjacent land uses.)***

N/A

Use and Environmental History: ***(Based on existing available information, describe the site's operational history, potential contamination issues, and ground water conditions.)***

An extensive environmental data collection effort was undertaken for the brownfields identified on the site, including a summary of available environmental reports, a review of regulatory records, and limited street-level site inspections. Many of the sites within the innovation district were previously used as industrial or transportation sites. As such, many current/ historic facilities and automotive uses within the Innovation District are cited in regulatory databases for the following occurrences: generation/storage of hazardous wastes; petroleum bulk storage; air discharges, and/or leaking tanks and spills, however some operations predated current regulations and undocumented releases from such facilities could have affected subsurface conditions beneath these sites. In addition, many of the existing structures in the proposed Innovation District likely contain asbestos-containing materials (ACM) and/or lead-based paint (LBP). Existing regulatory programs address mitigation of these prior to or as part of demolition. To reduce the potential of adverse impacts associated with development resulting from the proposed actions, further environmental investigations will likely be required at the sites with known or potential "Environmental Conditions Identified."

Status of Remedial Investigation: ***(Describe type and status of investigation undertaken and whether or not a remediation strategy has been defined.)***

N/A

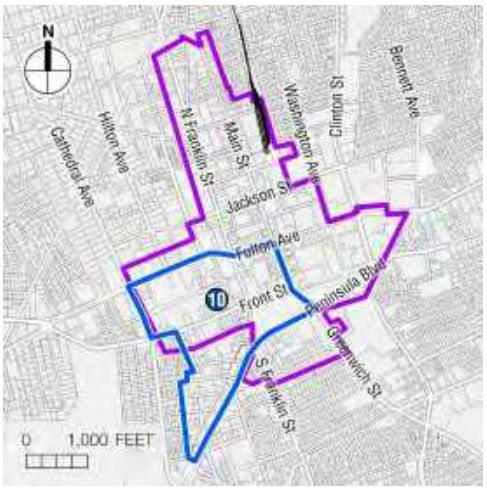
Use Potential and Redevelopment Opportunities: ***(Describe the type of future use and redevelopment most appropriate for the site.)***

Program:	Create an innovation district that encourages new light and high-tech manufacturing space and identify a development site to anchor the district.
Desired development goals:	Expansion of economic opportunities for Village residents; anchor district with an incubator and educational center offering education, job training, and apprenticeships; connect local and regional assets; public and private investment; and community event space.

Ranking Explanation: ***(Assessment of overall importance and ranking.)***

Site 10, the Village of Hempstead Innovation District, is a larger strategic overlay zone, which is intended to link downtown with the industrial area along Peninsula Avenue. The innovation district would both promote physical linkages between downtown and Peninsula Avenue, as well as create economic linkages, through the creation of new light and high-tech manufacturing spaces and expanding economic opportunities for Village residents in these white collar, technology jobs. The innovation district program could be anchored with an incubator and educational center, providing space for apprenticeships and educational programming, supported by local educational institutions. Further physical linkages will expand downtown Hempstead and better connect downtown retail, restaurants, and other commercial services to the large daytime worker population found within the industrial district.

Location Map(s)



Site Photo(s)

View of southwest corner of Orchard Street and North Franklin Street, looking south along North Franklin Street (AKRF, Inc., May 7, 2020).

APPENDIX C
ENVIRONMENTAL SITES

Table C-1

Universe of Brownfield and Underutilized Sites within the Hempstead BOA

Map ID	Tax Block	Tax Lot	Owner	No.	Street	Land Use	Area (SF)	On-Site Known/Potential RECs by Source		Nearby RECs?	Environmental Conditions Identified	Rationale for Potential Contamination Issues
								Historical Records	Regulatory Database			
1	174	5	HARLY REALTY CORP	301-305	FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	37,858	Partially visible on Sanborn; two gasoline underground storage tanks (USTs) under adjacent Franklin St. sidewalk	Car dealership. Closed-status Spill No. 9416160 - gasoline tank pull w/ minor subsurface contamination (removed). Active waste oil aboveground storage tank (AST). Removed 6,000-gal gasoline UST at unspecified date. Haz waste generator [arsenic waste, tetrachloroethylene (PCE), ignitable waste].	Yes - notably, historical adjacent K Intersection Street Hempstead Manufactured Gas Plant (MGP), with subsurface coal tar contamination.	Yes	Petroleum tanks, haz waste storage, and minor spill, nearby former MGP
2	174	8	283 FRANKLIN REALTY LLC	283	FRANKLIN ST	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	10,174	Used auto sales.	N/A. This appears to be 283 Franklin Street, not to be confused with 283 North Franklin Street on the south-adjacent block.	Yes - notably, historical adjacent K Intersection Street Hempstead MGP, with subsurface coal tar contamination.	Yes	Prior automotive use, nearby former MGP
3	174	13	TWO S REALTY CO LLC	299	NORTH FRANKLIN ST	SMALL IMPROVEMENT USED WITH MOTOR VEHICLE SERVICES	12,384	Partially visible on Sanborn; no RECs.	N/A	Yes - notably, historical adjacent K - Intersection Street - Hempstead MGP, with subsurface coal tar contamination.	Potential	Nearby former MGP
4	176	1	283 NORTH FRANKLIN REALTY LLC	283	NORTH FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	47,729	Auto repair, sales, service.	Car dealership, one minor closed-status spill. PBS facility with active motor oil, transmission fluid and waste oil ASTs, active 4,000-gal gasoline UST; 550-gal gasoline UST removed, but no significant contamination noted. Closed-status spill No. 0480051 - removal of contaminated soil, sludge from dry wells - reportedly cleaned up. Haz waste generator (spent halogenated solvents, PCE, lead waste).	Yes	Yes	Automotive use, petroleum tanks
5	176	14	283 NORTH FRANKLIN REALTY LLC	273	FRANKLIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	7,506	Auto repair, sales, service.	Closed Status Spill (No. 9307520), #2 fuel oil improperly abandoned tank, minor soil contamination (removed).	Yes	Yes	Automotive use, petroleum tanks
6	176	9	265-44 FRANKLIN REALTY CORP	265	NORTH FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	14,916	OWNER ADDRESS SHOWS AS 265 N. FRANKLIN STREET; Used car sales, trailer sales.		Yes	Yes	Automotive use

Sources: 1. Toxics Targeting, Inc., Regulatory Database Search, October 2018. 2. Sanborn Insurance Maps (select years between 1886 and 1970) Environmental Data Resources, Inc. 3. Aerial Photographs (select years between 1938 and 2017) Environmental Data Resources, Inc.

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7	178	1	INDUSTRIAL DEVELOPMENT AGENCY	257	NORTH FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	120,064	Auto sales and service (1961-1970)	Spill No. 9311780 reported in January 1994 due to a 2,000-gallon UST failing a tightness test - closed in March 1994. Spill No. 9409528 reported in October 1994 - surface spill of approximately 30 gallons of gasoline, cleaned up, closed in April 1995. Spill No. 9003723 reported in July 1990 - during the removal of a 3,000-gallon UST, contaminated soil was encountered and removed - spill closed in May 1991.	Yes	Yes	Automotive use, petroleum tanks, spills
8	178	6	229 NORTH FRANKLIN REALTY LLC	233	FRANKLIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	10,059	Gasoline UST (1937-1963)	No records.	Yes	Yes	former tank
9	178	11	229 NORTH FRANKLIN REALTY LLC	229	FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	30,143	Auto sales and service (1961-1970) - existing building constructed between 1950 and 1961	Two minor closed-status spills. In addition, Spill No. 9110474 reported in January 1992 during the removal of one 550- to 1,000-gallon tank. A nearby drywell or drain was noted to be contaminated. No further information was provided. The spill was closed in March 1992. Haz waste generator of PCE, lead waste, benzene, TCE, ignitable waste. One in-service 275-gallon motor oil AST and one in-service 240-gallon waste oil AST; one removed 3,000-gallon gasoline UST and one active 2,500-gallon gasoline UST.	Yes	Yes	Automotive use, petroleum tanks, spills
10	178	12	229 NORTH FRANKLIN REALTY LLC	227	NORTH FRANKLIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	9,978	Used car sales (1961-1970).	No records.	Yes	Yes	Automotive use
11	178	14	229 NORTH FRANKLIN REALTY LLC	225	FRANKLIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	10,152	Used car sales (1961-1970).	No records.	Yes	Yes	Automotive use
12	178	15	209 NORTH FRANKLIN REALTY LLC		NORTH FRANKLIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	10,017	Part of auto sales and service facility (1950-1970).	No records.	Yes	Yes	Automotive use

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13	178	116	209 NORTH FRANKLIN REALTY LLC	209	FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	17,165	Auto sales and service (1950-1970) - existing building constructed between 1937 and 1950.	Haz waste generator - spent non-halogenated solvents and lead waste. One active 1,000-gallon gasoline UST. Minor closed-status gasoline spill. In addition, Spill No. 9902966 reported in June 1999 due to contaminated soil encountered during the removal of a 1,000-gallon UST; contaminated soil reportedly removed, no groundwater impact; spill listing closed in October 2000.	Yes	Yes	Automotive use, petroleum tanks, spills, haz waste
14	178	221	209 NORTH FRANKLIN REALTY LLC	201	FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	18,671	Auto repair/filling station (1950-1963); auto repair (1970) - existing building constructed between 1937 and 1950.	Spill No. 0303941 reported in July 2003 at former car dealership (201-205 North Franklin Street) due to unspecified amount of phthalate released onto soil. Contaminated soil was reportedly sampled, but no further information was provided. The spill was closed in October 2003.	Yes	Yes	Automotive use, petroleum tanks, spills
15	179	4	266 N FRANKLIN REAL ESTATE HOLDING CO LL	266	FRANKLIN AVE	COMMERCIAL	9,880	NY Telephone Co. Facility	No records.	Yes	Potential	Former industrial and/or automotive use
16	179	6	2004 REAL ESTATE HOLDING COMPANY LLC	268	NORTH FRANKLIN ST	LIGHT MANUFACTURING, SMALL FACTORY BUILDINGS	6,038	Ice block factory with gasoline UST, machine shop	No records.	Yes	Yes	Former industrial and/or automotive use
17	179	7	MILLENNIUM REALTY L L C	272	FRANKLIN ST	PARKING GARAGES	22,751	Carpenter, electrical motor shop	Auto dealership. Closed status spill (9900757) - gasoline-contaminated soil (removed). Also spill 99001871 - removal of No. 2 fuel oil tank and contaminated soil. Possible prior spill 8401806 (not in records, mentioned in 9900757 listing). 4,000-gal active gasoline UST.	Yes	Yes	Automotive use, petroleum tanks, spills
18	179	11	MILLENNIUM REALTY L L C	286	FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	9,041	Carpet cleaning, auto sales and service	No records.	Yes	Yes	Former industrial and/or automotive use
19	179	13	316 NORTH FRANKLIN LLC		FRANKLIN ST	COMMERCIAL	11,485	Used auto sales		Yes	Yes	Former industrial and/or automotive use
20	179	16	316 NORTH FRANKLIN LLC	316	NORTH FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	31,130	Blacksmith, auto sales and service.	Haz waste generator - spent non-halogenated solvents, ignitable waste, PCE, trichloroethylene (TCE), benzene.	Yes	Yes	Automotive use, petroleum tanks, haz waste
21	179	112	PA BORELLI & ASSOC LLC	282	NORTH FRANKLIN ST	COMMERCIAL	20,711	Used auto sales	N/A	Yes	Yes	Former industrial and/or automotive use
22	180	241	321 POST AVENUE CORP	310	MAIN ST	ONE STORY MULTI-USE BUILDING (WITH FINISH) SINGLE OCCUPANT	6,090	AUTOMOBILE FILLING STATION (1937-1963), AUTO SERVICE STATION (1950-1970)	SMALL CLOSED SPILL (8911229), PETROLEUM BULK STORAGE FACILITY	Yes	Yes	Automotive use, petroleum tanks

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23	186	183	HEMPSTEAD GROUP LLC	296	MAIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	11,571	AUTOMOBILE REPAIR SHOP (1937-1970) FILLING STATION (1950), AUTO SALES (1961-1970)	HAZARDOUS WASTE GENERATOR/TRANSPORTER OF SPENT NON-HALOGENATED SOLVENTS AND UNKNOWN SOLID WASTE WITH IGNITABILITY CHARACTERISTICS	Yes	Yes	Automotive use, petroleum tanks, haz waste
24	186	186	NURIEL REALTY OF HEMPSTEAD INC	298	MAIN ST	OVER 6 FAMILY APARTMENTS	4,582	AUTOMOBILE REPAIR SHOP (1961)	N/A		Yes	Automotive use
25	186	191	306 MAIN STREET NY LLC	306	MAIN ST	ONE STORY SMALL STRUCTURE - MULTI-OCCUPANT	7,099	GARAGE (1919-1961)	HAZARDOUS WASTE GENERATOR/TRANSPORTER	Yes	Yes	Automotive use, petroleum tanks, haz waste
26	187	1	287 MAIN STREET GROUP LLC	284	MAIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	15,601	AUTOMOBILE FILLING STATION, SALES AND SERVICE (1950-1970)	HAZARDOUS WASTE GENERATOR/TRANSPORTER, PETROLEUM BULK STORAGE FACILITY OF 2 IN SERVICE 275 GALLON ASTs	Yes	Yes	Automotive use, petroleum tanks
27	187	143	GREATER NEW YORK CORP SEVENTH-DAY ADVNT	280	MAIN ST	RELIGIOUS	13,596	AUTOMOBILE FILLING STATION, SALES AND SERVICE (1950-1970)	HAZARDOUS WASTE GENERATOR/TRANSPORTER OF LEAD, SPENT NON-HALOGENATED SOLVENTS, AND UNKNOWN SOLID WASTE	Yes	Yes	Automotive use, petroleum tanks, haz waste
28	188	99	MEDINA SONIA E	266	MAIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	6,096	AUTOMOBILE SERVICE STATION AND REPAIR SHOP (1937-1970)	SMALL CLOSED SPILL CASES (9208413, 9109105, 0000317, 0602882), PETROLEUM BULK STORAGE FACILITY (IN SERVICE 1000 GALLON UST AND 2 4000 GALLON USTs)	Yes	Yes	Automotive use, petroleum tanks
29	189	201	HEMPSTEAD HISPANIC CIVICASSOC INC	1	KENDIG PL	4-6 FAMILY APARTMENTS	2,060	UPHOLSTERY SHOP (1925-1950)	N/A		Potential	Limited historical industrial use
30	189	203	HEMPSTEAD HISPANIC CIVIC ASSOC INC	5	KENDIG PL	4-6 FAMILY APARTMENTS	2,058	UPHOLSTERY SHOP (1925-1950)	SMALL CLOSED SPILL CASE (9404548)		Potential	Limited closed spill
31	190	1	O R REALTY N Y INC	214	MAIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	14,294	GARAGE (1937-1970)	SMALL CLOSED SPILL CASE (9804156), PETROLEUM BULK STORAGE FACILITY OF 2 IN SERVICE 275 GALLON ASTs	Yes	Yes	Former automotive use, spills
32	190	6	FAITH HOPE CHARITY CHURCH OF GOD INC	220	MAIN ST	RELIGIOUS	3,944	VULCANIZING (1925-1937)	N/A	Yes	Yes	Former industrial and/or automotive use
33	190	8	BR REALTY SYSTEMS INC	226	MAIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	6,150	AUTO REPAIR SHOP (1937-1970)	N/A	Yes	Yes	Former industrial and/or automotive use
34	190	30	VITALE VINCENT	95	KELLUM PL	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	4,830	AUTO REPAIR SHOP (1950, 1970), BUS GARAGE (1961-1963)	HAZARDOUS WASTE GENERATOR OF SPENT NON-HALOGENATED SOLVENTS AND IGNITABLE SOLID WASTE	Yes	Yes	Former industrial and/or automotive use, haz waste

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35	190	114	BUCK GREGORY J	79-81	KELLUM PL	TWO FAMILY YEAR-ROUND RESIDENCE	4,611	N/A	SMALL CLOSED SPILL CASES (0212817, 1702257, 0225360, 0551188)	Yes	Potential	Minor spills
36	190	116	HEWLETT CAPITAL LTD LIABILITY	7	HEWLETT ST	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	4,211	AUTO REPAIR SHOP (1950), BUS GARAGE (1961-1963), OPTICAL LAB (1970)	N/A	Yes	Yes	Former industrial and/or automotive use
37	191	15	MAIN VIEW LLC	257	MAIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	8,129	AUTO SALES AND SERVICE CENTER (1950-1970)	N/A	Yes	Yes	Former industrial and/or automotive use
38	191	18	17 UNION PLACE INC	17	UNION PL	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	7,135	AUTO REPAIR SHOP (1950-1970)	N/A	Yes	Yes	Former industrial and/or automotive use
39	191	23	MILLENIUM REALTY LLC	60-64	OLD FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	11,504	MACHINE SHOP (1950-1970)	PETROLEUM BULK STORAGE FACILITY (055627) WITH AN IN SERVICE 120 GALLON AST AND AN IN SERVICE 250 GALLON AST.	Yes	Yes	Former industrial and/or automotive use, tanks
40	191	103	MAIN VIEW LLC	257	MAIN ST	AUTO DEALERS, SALES AND SERVICE	12,443	AUTO SALES AND SERVICE CENTER (1950-1970)	PETROLEUM BULK STORAGE FACILITY (056101, 057302) WITH AN IN SERVICE 1,000 GALLON UST, AN IN SERVICE 275 AST, AND AN IN SERVICE 200 GALLON AST; A LISTING IN THE NASSAU COUNTY FIRE MARSHAL DATABASE FOR 2 TEMPORARY USTs OF 1,000 AND 180 GALLONS; HAZARDOUS WASTE GENERATOR LISTING (NYN008008344) IN 2000; AND A LISTING IN THE CIVIL & ADMINISTRATIVE ENFORCEMENT DOCKET FACILITY UNDER MID ISLAND DODGE (NYD986962181) FOR VIOLATION OF THE SAFE DRINKING WATE ACT FROM UNAUTHORIZED INJECTION IN 1991, THE VIOLATION WAS WITHDRAWN BY REGION.	Yes	Yes	Former automotive use, tanks, haz waste

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41	191	113	265-44 FRANKLIN REALTY CORP	44	OLD FRANKLIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	14,766	AUTO REPAIR (1961-1970)	PETROLEUM BULK STORAGE FACILITY (057079) WITH TWO IN SERVICE 240 GALLON ASTs; CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (NYD986990901) WITH A HISTORIC LISTING AS A SMALL QUANTITY GENERATOR FOR TETRACHLOROETHYLENE IN 2011 AND IGNITABLE WASTE IN 1999.	Yes	Yes	Former industrial and/or automotive use, tanks, spills, haz waste
42	191	203	MAIN VIEW LLC	257	MAIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	930	AUTO SALES AND SERVICE CENTER (1950-1970)	PETROLEUM BULK STORAGE FACILITY (056101, 057302) WITH AN IN SERVICE 1,000 GALLON UST, AN IN SERVICE 275 AST, AND AN IN SERVICE 200 GALLON AST; A LISTING IN THE NASSAU COUNTY FIRE MARSHAL DATABASE FOR 2 TEMPORARY USTs OF 1,000 AND 180 GALLONS; HAZARDOUS WASTE GENERATOR LISTING (NYN008008344) IN 2000; AND A LISTING IN THE CIVIL & ADMINISTRATIVE ENFORCEMENT DOCKET FACILITY UNDER MID ISLAND DODGE (NYD986962181) FOR VIOLATION OF THE SAFE DRINKING WATE ACT FROM UNAUTHORIZED INJECTION IN 1991, THE VIOLATION WAS WITHDRAWN BY REGION.	Yes	Yes	Former industrial and/or automotive use, tanks, spills, haz waste
43	191	315	MILLENNIUM REALTY LLC	281	MAIN ST	AUTO DEALERS, SALES AND SERVICE	31,757	GARAGE (1937), AUTO SALES AND SERVICE (1950-1970)	SMALL QUANTITY GENERATOR (NYD986892297), HISTORICALLY LISTED AS A LARGE QUANTITY GENERATOR AND CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR FOR THE GENERATION OF TETRACHLOROETHYLENE, IGNITABLE SOLID WASTE, BENZENE, AND TRICHLOROETHYLENE IN 2009 AND SPENT NON-HALOGENATED SOLVENTS, LEAD, OR IGNITABLE SOLID WASTE FROM 1990 TO 2006.	Yes	Yes	Former industrial and/or automotive use, tanks, spills, haz waste
44	191	317	PA BORELLI & ASSOC LLC		MAIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	15,159	GARAGE (1937), AUTO SALES AND SERVICE (1950-1970)	SMALL CLOSED SPILL (9103585).	Yes	Yes	Former industrial and/or automotive use, tanks, spills

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45	191	1	TOWN OF HEMPSTEAD IND DEVEOPMENT AGENCY	303	MAIN ST	ELEVATOR APARTMENTS	76,622	AUTO SALES AND SERVICE CENTER (1963-1970)	SMALL CLOSED SPILLS (0905370, 9008062), CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (NYD012721098), HISTORICALLY LISTED AS A LARGE QUANTITY GENERATOR AND SMALL QUANTITY GENERATOR FOR THE GENERATION OF LEAD, TETRACHLOROETHYLENE, IGNITABLE SOLID WASTE, AND SPENT NON-HALOGENATED SOLVENTS BETWEEN 1989 AND 2009.	No	Yes	Former industrial and/or automotive use, tanks, spills, haz waste
46	**192**	**11**	**RDUA PARCEL 2 LLC**		**UNION PL**	**VILLAGE**	**59,997**	**Dubois Model Laundry and coal house (1909).**	**No listings.**	**Yes**	**Yes**	**Former industrial uses**
47	192	19	927 REALTY LC	220	FRANKLIN ST	AUTO DEALERS, SALES AND SERVICE	39,583	Historic dwellings, club house (1909-1970)	CESQG and historic SQG of PCE, ignitable waste, benzene, and lead between 1993 and 2011; Dept. of Health listing for one in-service 250-gallon motor oil AST, one in-service 250-gallon transmission fluid AST, and one in-service 500-gallon waste oil UST, all installed in February 1986; Spill No. 8804709 reported in August 1988 due to the release of 100 gallons of motor oil from a tank truck. The release reportedly affected the sewer. No further information was provided. The spill was closed in May 1997.	Yes	Yes	Former industrial and/or automotive use, tanks, spills, haz waste
48	192	1	WEIDINGER ASSOCIATES	215	MAIN ST	AUTO SALES, USED CAR LOT	19,979	Used auto sales (1961-1963)	No listings.	Yes	Yes	Former Automotive use
49	192	6	JJC REALTY ASSOCIATES LLC	231	MAIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	9,904	Carpet warehouse (1961); appliance warehouse (1963-1970).	No listings.	Yes	Yes	Former industrial and/or automotive use
50	193	1	NEXTGEN REALTY INCORPORATED	185	MAIN ST	AUTO DEALERS, SALES AND SERVICE	7,386	Garage with gasoline tanks and auto sales (1937); auto sales and service with gasoline tanks (1950-1970)	No listings.	Yes	Yes	Former industrial and/or automotive use
51	193	2	189 MAIN STREET LLC	189	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	3,369	Part of a garage with gasoline tanks (1937)	No listings.	Yes	Yes	Former industrial and/or automotive use

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52	193	3	CHELSEA REAL PROPERTIES II LLC	127	BEDELL ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	4,745	Wholesale liquor facility with gasoline tank (1937); auto repair and gasoline tank (1950); miscellaneous storage and gasoline tank (1961-1963); air conditioning contractor's storage (1970)	No listings.	Yes	Yes	Former industrial and/or automotive use
53	193	4	121 BEDELL STREET PROPERTIES LLC	121	BEDELL ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	3,969	Auto repair (1937-1970)	No listings.	Yes	Yes	Former industrial and/or automotive use
54	193	12	191-193 MAIN ST REALTY CORP	191-193	MAIN ST	DOWNTOWN ROW TYPE STORE WITH COMMON OR PARTY WALLS	9,927	Auto repair (1950).	No listings.	Yes	Yes	Former industrial and/or automotive use
55	193	116	COUNTY OF NASSAU	209	MAIN ST	NASSAU COUNTY	9,595	Garage/auto show room (1937-1950)	No listings.	Yes	Yes	Former industrial and/or automotive use
56	193	117	COUNTY OF NASSAU	209	MAIN ST	NASSAU COUNTY	10,103	Crane heating and plumbing supplies (1937-1950); Nassau County Dept. of Health Research Lab (1961-1970)	No listings.	Yes	Yes	Former industrial and/or automotive use
57	193	119	CPK TRANSPORTATION LLC	195	MAIN ST	AUTO SALES, USED CAR LOT	10,045	Parking lot since 1970.	No listings.	Yes	Yes	Former industrial and/or automotive use
58	193	120	TOWN OF HEMPSTEAD	200	FRANKLIN ST	TOWN	56,896	Existing building built 1966.	Unspecified RCRA generator, no waste information provided. Listing indicates no hazardous waste activity reported by New York State.	Yes	Potential	Limited haz waste generator
59	193	121	TOWN OF HEMPSTEAD	200	FRANKLIN ST	TOWN	29,299	Parking lot since 1970.	Same as above for 200 Franklin Ave.	Yes	Potential	Limited haz waste generator
60	**194**	**1**	**CPK TRANSPORTATION LLC**	**190**	**MAIN ST**	**AUTO DEALERS, SALES AND SERVICE**	**7,272**	**Service station (1937); part of the service station on Lot 7 (1950-1970).**	**No listings.**	**Yes**	**Yes**	**Automotive/fueling operations**
61	**194**	**2**	**CPK TRANSPORTATION LLC**	**180**	**MAIN ST**	**COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS**	**7,417**	**Auto repair (1950-1970)**	**No listings.**	**Yes**	**Yes**	**Auto repair uses**

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62	**194**	**4**	**IGLESIA EVANGELICA DE EL PRINCIPE DE PAZ**	**204 A**	**MAIN ST**	**RELIGIOUS**	**7,532**	**Taxi storage (1970)**	**Historic LQG of solid ignitable waste (D001) in 1991 (RSBL Corporation/204 Main Street); Fire Department listing for two removed, empty 4,000-gallon gasoline USTs. Spill No. 1711151 reported at a vacant commercial property (204-206 Main Street) in March 2018. According to the listing, a water/oil mixture was released from a fill port of a flooded UST (size unknown). The spill was cleaned s it was noted the impact to storm drains was unknown. This spill is currently active; Spill No. 9013267 was reported in March 1991. Contaminated soil was encountered during a tank removal. Approximately 275 yards of soil was stockpiled on-site. No further action was reported in the spill listing details. The spill was closed two days after it was opened; Spill No. 9801345 was reported in April 1993 due to contaminated soil encountered between concrete floor and top of tank and a waste oil tank of unspecified size was to be abandoned. No further information provided. The spill was closed in November 2000.**	**Yes**	**Yes**	**Automotive, multiple spills**
63	194	5	RDUA PARCEL 8 LLC / VILLAGE OF HEMPSTEAD, INC.		UNION PL	VILLAGE	102,604	Nassau Lumber Co./H.W. Speer Coal & Wood with coal storage and saw mill (1909-1925); lumber yard with no further coal storage (1937-1963); car storage (1970).	No listings.	Yes	Yes	Former Industrial and automotive use
64	**194**	**6**	**NED LLC**		**MAIN ST**	**PAVING, BLACKTOP OR FENCING WITH ANY MULTIPLE USE OR MULTI-PURPOSE BUILDING**	**6,955**	**Carpet cleaning (1937)**	**No listings.**	**Yes**	**Yes**	**Former Industrial use/carpet cleaning**

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65	**194**	**7**	**CPK TRANSPORTATION LLC**	**180**	**MAIN ST**	**AUTO DEALERS, SALES AND SERVICE**	**14,902**	**Hempstead Brass Co. with machine shop and plating (1909); Brayshaw's Laundry (1919); Auto service station (1937-1970).**	**Unspecified RCRA generator, historic SQG of PCE, cadmium, and ignitable waste in 1995 and 2002; Fire Dept. listing for one active 10,000-gallon gasoline UST; Fire Dept. listing for one in-service 280-gallon motor oil AST, one in-service 280-gallon transmission fluid AST, and one in-service 280-gallon waste oil AST; Spill No. 0700162 reported in April 2007 due to contaminated soil encountered during a tank removal. Approximately 10 yards of soil was stockpiled on-site and post-excavation endpoint samples were collected prior to backfilling. The listing does not provide any information on analytical results of the endpoint samples. NYSDEC determined the cleanup was completed and the spill was closed in March 2008.**	**Yes**	**Yes**	**Heavy Industrial use, auto uses and spills**
66	**194**	**8**	**IGLESIA EVANGELICA DE EL PRINCIPE DE PAZ**	**204 A**	**MAIN ST**	**RELIGIOUS**	**7,558**	**Carpenter (1909-1919); auto repair (1970).**	**Same listings as Block 194, Lot 4 (same address).**	**Yes**	**Yes**	**Auto repair uses**
67	195	136	21 WEST COLUMBIA STREET LLC	21	COLUMBIA ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	11,977	Funeral home (1961-1963)	No records.	Yes	Potential	Former Limited Industrial Use
68	195	1	TIFFANY CRYSTAL CORP	174	NORTH FRANKLIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	5,894	Auto body works, sales, service (1937-1970)	N/A	Yes	Yes	Former automotive use
69	195	2	TIFFANY CRYSTAL CORP	102	BEDELL ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	2,998	Auto body works (1950-1970)	Auto body shop. Minor closed spill, haz waste generator (spent non-halogenated solvents, ignitable waste) as 78 Bedell St.	Yes	Yes	Former automotive use, haz waste
70	**195**	**10**	**LAU INVESTMENT GROUP INC**	**169**	**MAIN ST**	**PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES**	**4,858**	**2-story dwelling (1909-1963), parking lot (1970).**	**Closed status spill (1411628), No. 2 fuel oil.**	**Yes**	**Yes**	**Minor spill**
71	**195**	**8**	**LAU INVESTMENT GROUP**	**173-175**	**MAIN ST**	**AUTO SALES, USED CAR LOT**	**9,907**	**2.5-story dwelling (1909-1970), two ground stores (1925-1970).**	**Transformer oil spilled near property due to car hitting a utility pole, approx. 60 gal leaked.**	**Yes**	**Potential**	**Minor spill/Automotive uses**
72	**195**	**9**	**LAU INVESTMENT GROUP INC**	**171**	**MAIN ST**	**AUTO SALES, USED CAR LOT**	**4,931**	**Double dwelling (1904-1963), parking lot (1970).**	**No records.**	**Yes**	**Yes**	**Automotive uses**

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73	**195**	**111**	**LAU INVESTMENT GROUP INC**	**163-169**	**MAIN ST**	**RETAIL SERVICES**	**9,839**	**Sign painting (1970).**	**Closed-status spill No. 1411628 - removal of 1,000-gal No. 2 fuel oil UST and contaminated soil (reportedly all removed).**	**Yes**	**Yes**	**Limited spill/tanks**
74	195	128	SAVINO ROBERT & ANGELA	19	WEST COLUMBIA ST	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	7,516	Garage with gasoline UST in south-adjacent sidewalk (1919)	Closed-status spill No. 0400878 - containers of tar and waste oil (3-5 gal buckets) abandoned and leaking, no further info.	Yes	Yes	Former automotive use, spills
75	285	107	NEW LIFE MINISTRIES INC	167	FULTON AVE	OFFICE BUILDING	17,654	N/A	SMALL CLOSED SPILL (8602870).		Potential	Minor spill
76	285	406	HEMPSTEAD PLAZA LLC	175	FULTON AVE	OFFICE BUILDING	70,481	N/A	SMALL CLOSED SPILLS (8801887, 8908145), LARGER CLOSED SPILL (8908087) OF 60 GALLONS OF #4 FUEL OIL ON 11/14/1989. ABC TANK CLEANING HIRED TO CLEAN SPILL USING SPEEDY DRY AND STEAM CLEANER, 2 DRAINS CLEANED		Potential	Minor spill
77	290	139	ONE HUNDRED SEVENTY NINE GROUP LLC	14	ATLANTIC AVE	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	10,378	2.5-story dwelling and vacant land (1919-1970).	One active underground 5000-gal fuel oil #2 tank.	Yes	Potential	Tanks
78	290	151	ONE HUNDRED SEVENTY NIE GROUP LLC	26	MARGARET CT	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	1,690	Two-story residences (1919-1970).	Closed status spill (9309715) for 20 Margaret Ct, 20 gal of No. 2 fuel oil in 1993.	Yes	Potential	Minor spill
79	290	255	ONE HUNDRED SEVENTY NINE GROUP LLC	179-185	NORTH FRANKLIN ST	MULTIPLE USE OR MULTI-PURPOSE	12,105	Garage & repair shop (1919), filling station with 3 tanks (1937-1963), tanks not shown in 1970 map.	No records.	Yes	Yes	Automotive use/tanks
80	290	256	ONE HUNDRED SEVENTY NINE GROUP LLC	185	NORTH FRANKLIN ST	PAVING, BLACKTOP OR FENCING WITH ANY MULTIPLE USE OR MULTI-PURPOSE BUILDING	7,846	Historical creek passes through lot (USGS 1897-1903), presumably filled later with materials of unknown origin.	N/A	Yes	Potential	Possible infilling of former creek
81	290	257	287 MAIN STREET GROUP LLC	187-189	N FRANKLIN ST	AUTO SALES, USED CAR LOT	12,525	National Biscuit Co. (1919-1937), Motor Scooter Sales & Service (1961-1963), Electronics store (1970)	RCRA SQG of char. Ignitable haz waste	Yes	Yes	Former Industrial use, haz waste
82	291	86	ACADEMY CHARTER SCHOOL	159	NORTH FRANKLIN ST	SCHOOLS - ELEMENTARY, SECONDARY HIGH (PUBLIC)	47,379	Auto supply facility (1919).	Spill No. 9613965 reported in February 1997. Approximately 8 gallons of No. 2 fuel as released due to a tank overfill. The spill was reportedly contained and cleaned up, and closed in February 1998.	Yes	Yes	Automotive uses, tanks, spills

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83	291	88	ACADEMY CHARTER SCHOOL	117	FRANKLIN ST	SCHOOLS - ELEMENTARY, SECONDARY HIGH (PUBLIC)	73,102	Parking (1950-1970).	CESQG and historic SQG of PCE, ignitable waste, lead, and spent halogenated solvents between 1989 and 2010; Dept. of Health listing for one in-service 250-gallon waste oil AST.	Yes	Yes	Tanks, haz waste
84	291	89	FAITH BAPTIST CHURCH OF HEMPSTEAD	137-157	FRANKLIN ST	RELIGIOUS	68,105	Existing buildings constructed between 1937 and 1950.	Spill No. 910980 was reported in May 1991 due to contaminated soil reported at the site related to a 3,000-gallon and 10,000-gallon tank. The soil was removed, no further information was provided. The spill was closed in May 1991; Spill No. 9101929 reported in May 1991 due to stockpiled soil contaminated with No. 4 fuel oil. No further information provided. Spill was closed six days later.	Yes	Yes	Spills, tanks
85	292	101	71 NORTH FRANKLIN LLC	71	NORTH FRANKLIN ST	DOWNTOWN ROW TYPE STORE WITH COMMON OR PARTY WALLS	12,915	Historical creek passes through lot (1897-1950), presumably filled later with materials of unknown origin. Garage with five gasoline USTs under adjacent sidewalks (1925-1937).	Minor closed-status spill.	Yes	Potential	Minor spill, possible infilled areas
86	292	606	GOODYEAR LLC	101	FRANKLIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	9,567	Historical creek passes through lot (1897-1937), presumably filled later with materials of unknown origin.	Auto dealership. Closed-status spill No. 9406499 - contaminated soil found during tank removal, excavated - listed as 101 N. Franklin Street. Closed-status spill No. 9209001 - contaminated soil around waste oil tank, to be excavated, no further information. Two active ASTs (250 and 245 gallons). Haz waste generator - ignitable waste, lead waste, PCE.	Yes	Yes	Automotive, spills, tanks, haz waste
87	292	607	SPR LLC STANMUR REALTY CORP	101	FRANKLIN ST	PAVING, BLACKTOP OR FENCING WITH ANY MULTIPLE USE OR MULTI-PURPOSE BUILDING	8,487	Historical creek passes through lot (1897-1950), presumably filled later with materials of unknown origin.	N/A	Yes	Potential	Possible infilling of former creek
88	292	614	SPR LLC STANMUR REALTY CORP	101	FRANKLIN ST	COMMERCIAL	5,534	Historical creek passes through lot (1897-1950), presumably filled later with materials of unknown origin.	N/A	Yes	Potential	Possible infilling of former creek

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89	292	615	KAILEH MAZEN & EYAD	113	FRANKLIN AVE	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	16,092	Historical creek passes through lot (1897-1950), presumably filled later with materials of unknown origin.	N/A	Yes	Potential	Possible infilling of former creek
90	292	609						Historical creek passes through lot (1897-1950), presumably filled later with materials of unknown origin.	N/A	Yes	Potential	Possible infilling of former creek
91	292	5	137 FROST STREET LLC		NORTH FRANKLIN ST	PAVING, BLACKTOP OR FENCING USED WITH BANKS AND OFFICE BUILDINGS	8,507	Historical creek passes through lot (1897-1950), presumably filled later with materials of unknown origin.	N/A	Yes	Potential	Possible infilling of former creek
92	292	9	137 FROST STREET LLC	91	NORTH FRANKLIN ST	OFFICE BUILDING	12,860	N/A	SMALL CLOSED SPILLS (9406499, 9209001), PETROLEUM BULK STORAGE FACILITY OF IN SERVICE 250 AND 245 ASTs, HAZARDOUS WASTE GENERATOR/TRANSPORTER OF UNKNOWN SOLID WASTES WITH IGNITABILITY CHARACTERISTICS, LEAD (2310 GALLONS IN 1997) AND TETRACHLOROETHYLENE	Yes	Yes	Spills, tanks, haz waste
93	294	208	INLAND PROPERTIES	296	FULTON AVE	MULTIPLE USE BUILDING WITH DWELLING ATTACHED OR APARTMENT ABOVE	126,365	N/A	SMALL CLOSED SPILL (9100472), PETROLEUM BULK STORAGE FACILITY OF IN SERVICE 3200 GALLON ASTs, AIR DISCHARGE FACILITY (3605900232) IN OPERATION		Potential	Tanks, spills
94	296	116	DORCHESTER LLC	51	BELL ST	OVER 6 FAMILY APARTMENTS	10,216	N/A	SMALL CLOSED SPILL (0911739).	No	Potential	Minor spill
95	296	123	112 FULTON AVENUEREALTY CORP	112-116	FULTON AVE	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	18,799	N/A	SMALL CLOSED SPILL (0325030).	No	Potential	Minor spill
96	297	1	BRE DDR IVA HUB NY LLC	150	FULTON AVE	AREA/NEIGHBORHOOD SHOPPING CENTER	352,034	historic dwellings/parking	Unspecified generator of ignitable waste, corrosive waste, spent halogenated solvents, and spent non-halogenated solvents in 1998.	Yes	Yes	Haz waste (solvents)
97	297	16	41-43 HIGH STREET LLC	41-43	HIGH ST	OVER 6 FAMILY APARTMENTS	8,514	Fuel oil tank (1937-1970).	Dept. of Health listing for 2 removed 1,000-gallon No. 2 fuel oil USTs; Spill No. 9601492 reported in April 1996 due to a tank test failure. No contamination was reported. Tank passed tightness re-test. Spill closed in July 1996.	Yes	Potential	Tanks, minor spill

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98	297	17	41-43 HIGH STREET LLC	41-43	HIGH ST	OVER 6 FAMILY APARTMENTS	8,811	Fuel oil tank (1937-1970).	Same as above for Block 297, Lot 16 (same address).	Yes	Potential	Tanks, minor spill
99	297	19	UNITES STATES POSTAL SERVICE	200	FULTON ST	U. S. POST OFFICE	36,008	Existing building constructed between 1925 and 1937.	Active ADF, in compliance. Air pollutant listed as "default pollutant from CDS;" Unspecified generator and historic SQG of lead in 2001; Dept. of Health listing for one in-service 6,000-gallon No. 2 fuel oil UST; Fire Dept. listing for one removed 4,000-gallon empty gasoline UST	Yes	Yes	Haz waste, tanks
100	299	3	FULTON FRANKLIN EM, MO, & SB LLC	13-31	FRANKLIN AVE	ONE STORY SMALL STRUCTURE - MULTI-OCCUPANT	47,378	NY AND LI TRACTION COMPANY SUB-STATION REPAIR SHOP AND CAR BARN (1904-1925)	N/A	Yes	Yes	Former industrial and/or automotive use
101	299	4	IANLEW III LLC	5-11	NORTH FRANKLIN ST	DOWNTOWN ROW TYPE STORE WITH COMMON OR PARTY WALLS	11,113	WOODWORKING AND PAINT SHOP (1892), FUME STORAGE (1897), AUTO AND BICYCLE REPAIR SHOP (1909), GARAGE (1919), PAINT STORAGE AND METAL WORKS (1925), PAINT STORAGE (1950)	N/A	Yes	Yes	Former industrial and/or automotive use
102	299	22	IANLEW CORPORATION	231	FRONT ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	6,197	CARRIAGE WOODWORKING AND PAINTING SHOP (1892-1897), WHEELWRIGHT (1909), AUTO STORAGE AND TIRE REPAIR (1919), AUTO REPAIR SHOP WITH FIVE TANKS (1925-1937), GAS FILLING STATION WITH FOUR TANKS (1950), AUTO SERVICE (1961-1963)	SMALL CLOSED SPILL (9106235), INACTIVE LISTING IN THE FIRE MARSHAL DATABASE (GS7200015) FOR 3 275 GALLON IN SERVICE ASTs AND 3 REMOVED 3,000 GALLON USTs, HAZARDOUS WASTE GENERATOR (NYD000701730, NYD981873367) AND HISTORICAL LARGE QUANTITY GENERATOR.	Yes	Yes	Former industrial and/or automotive use
103	299	23	IANLEW CORP	231	FRONT ST	ONE STORY MULTI-USE BUILDING (WITH FINISH) SINGLE OCCUPANT	11,805	HISTORICAL PINES POND IN LOT.	N/A	Yes	Potential	Potential pond infilling
104	300	13	THOMAS JOSEPH & LEELAMMA	69	HIGH ST	TWO FAMILY YEAR-ROUND RESIDENCE	4,125	AUTO REPAIR SHOP (1950-1970)	N/A	No	Yes	Prior automotive use

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105	300	15	KHR PROPERTIES INC	73	HIGH ST	LIGHT MANUFACTURING, SMALL FACTORY BUILDINGS	3,801	AUTO REPAIR SHOP AND FILLING STATION WITH THREE TANKS (1937-1950), MACHINE SHOP (1970)	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (NYD002043651), HISTORICALLY A LARGE QUANTITY GENERATOR IN 1991 FOR IGNITABLE SOLID WASTE.	Yes	Yes	Prior automotive use, haz waste
106	300	19	MARAVILLA MARIA	10	LIBERTY CT	TWO FAMILY YEAR-ROUND RESIDENCE	3,840	N/A	SMALL CLOSED SPILL (9805912).	No	Potential	Minor spill
107	300	132	BRE DDR IVA HUB NY LLC		ORCHARD ST	AREA/NEIGHBORHOOD SHOPPING CENTER	6,231	CARPENTRY SHOP (1909), PAINT SHOP (1919), CANDY COMPANY (1937-1970), TIRE SERVICE COMPANY (1963-1970)	HAZARDOUS MATERIAL GENERATOR (NYD980776520) OF LEAD IN 1986, FIRE MARSHAL DATABASE LISTING (GS7200047) FOR AN ABANDONED 550 GALLON UST.	No	Yes	Former Industrial use, haz waste, tanks
108	330	1	RIVOLI REDEVELOPMENT CO LLC	131-145	MAIN ST	ELEVATOR APARTMENTS	49,433	AUTO REPAIR SHOP (1950-1970)	FIRE MARSHAL DATABASE LISTING (GS7200088) FOR ONE REMOVED 4,000 GALLON UST.	No	Yes	Former automotive repair use, tanks
109	330	6	APOSTOLIC FAITH MISSION /PORTLAND OREGON	130	FRANKLIN ST	OFFICE BUILDING	8,959	N/A	SMALL CLOSED SPILL CASES (9000497, 9500333), FIRE MARSHAL DATABASE LISTING (GS1400014) FOR THREE ACTIVE 2,000 GALLON USTS, HAZARDOUS WASTE GENERATOR (NYP000939645, NYR000086041) FOR IGNITABLE SOLID WASTE IN 1998 AND 2000, AND AN INACTIVE REGISTRATION FOR PETROLEUM BULK STORAGE (GS7200025).	No	Yes	Former automotive repair use, tanks, haz waste
110	330	11	DRAKE REDEVELOPMENT CO LLC	127-132	MAIN ST	PAVING, BLACKTOP OR FENCING USED WITH APARTMENTS	10,371	UPHOLSTERY AND CABINET SHOP (1937-1950)	N/A	Yes	Yes	Former industrial use
111	330	132	L & S LONG ISLAND GROUP LLC	115-123	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	18,096	CARPENTRY SHOP (1892), AUTO REPAIR GARAGE (1937)	N/A	No	Yes	Historical automotive/industrial use
112	330	133	KANOFF CAROL	119	JACKSON ST	OFFICE BUILDING	4,526	CINDERBLOCK AND BRICK CONSTRUCTION (1961-1970)	PETROLEUM BULLK STORAGE FACILITY (000570) WITH AN IN SERVICE 100 GALLON AST, CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (NYD981485782), HISTORICALLY A SMALL AND LARGE QUANTITY GENERATOR FOR THE GENERATION OF SPENT HALOGENATED SOLVENTS IN 2004.	No	Yes	Historical automotive/industrial use
113	331	11	COUNTY OF NASSAU	107-107A	MAIN ST	NASSAU COUNTY	2,217	GASOLINE FILLING STATION (1950-1970)	N/A	Yes	Yes	Historical automotive/industrial use
114	331	56	INC VILLAGE OF HEMPSTEAD		JACKSON ST	VILLAGES	5,983	FIRE DEPARTMENT (1937-1970)	N/A	No	Yes	Fire department use (likely tanks)

Sources: 1. Toxics Targeting, Inc., Regulatory Database Search, October 2018. 2. Sanborn Insurance Maps (select years between 1886 and 1970) Environmental Data Resources, Inc. 3. Aerial Photographs (select years between 1938 and 2017) Environmental Data Resources, Inc.
Notes: Strategic Sites are in **BOLD**; Recognized Environmental Conditions (REC); generator of hazardous wastes (haz waste); Manufactured Gas Plant (MGP); Large Quantity Generator (LQG); Small Quantity Generator (SQG); Conditionally Exempt SQG (CESQG); *****Pertinent facilities are those listed in the regulatory database with known contamination or hazardous waste treatment storage and disposal. Tax Map No(s) with no or unknown environmental site conditions identified have been excluded from **Appendix C**. See **Figure C-1** for corresponding Map ID.

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								Historical Records	Regulatory Database			
115	331	62	COUNTY OF NASSAU	109	MAIN ST	NASSAU COUNTY	2,969	GASOLINE FILLING STATION (1950-1970)	N/A	No	Yes	Automotive use
116	331	66	COUNTY OF NASSAU	99	MAIN ST	NASSAU COUNTY	6,220	N/A	SMALL ACTIVE SPILL (1807223), SMALL CLOSED SPILLS (1310255, 1101562), FIRE MARSHAL LISTING (GS72000092/22995) FOR 1 ACTIVE 15,000 GALLON UST, HAZARDOUS WASTE GENERATOR LISTING (NYR000031989) AND HISTORICALLY LISTED AS A CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR FOR CORROSIVE AND IGNITABLE SOLID WASTE BETWEEN 1996 AND 2011.	No	Yes	Tanks, haz waste
117	338	1	LAMBROS D BALLAS & ASSOCIATES INC	255 B	FULTON AVE	OVER 6 FAMILY APARTMENTS	10,833	N/A	SMALL CLOSED SPILL (8709768), DEPARTMENT OF HEALTH LISTING (055496), FOR A REMOVED 5,000 GALLON UST, HAZARDOUS WASTE GENERATOR (NYD982727778) IN 1996 OF SILVER.	No	Potential	limited spills
118	338	8	RDUA PARCEL 12 LLC	257-261	FULTON AVE	VILLAGE	7,344	UPHOLSTRY SHOP (1937)	N/A	No	Potential	Limited industrial use previously
119	338	12	RDUA PARCEL 12 LLC	275	FULTON AVE	VILLAGE	5,126	PART OF A PICTURE FRAMING SHOP (1919), PAINT SHOP (1937)	N/A	No	Potential	Limited industrial use previously
120	338	19	MARABILL REALTY INC	77-87	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	13,640	LIVERY WITH LAUNDRY AND COBBLER (1892-1909), CONDENSED MILK COMPANY WITH COBBLER AND LAUNDRY (1919), LAUNDROMAT (1925)	SMALL CLOSED SPILL (1806671)	No	Yes	Spills, industrial use
121	338	20	RDUA PARCEL 12 LLC		CENTER ST	VILLAGE	59,856	CARPENTRY SHOP (1909)	N/A	Yes	Potential	Limited industrial use previously
122	338	113	271-273 FULTON AVENUE CORP	271-273	FULTON AVE	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	8,826	PAINT SHOP (1897), PART OF A PICTURE FRAMING SHOP (1919)	N/A	No	Yes	Former industrial use
123	338	114	277 FULTON AVE REALTY INC	277	FULTON ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	3,497	DENTIST (1904), TIRE SHOP (1919)	N/A	No	Yes	Former industrial use
124	339	152	RDUA PARCEL 4 LLC	152	FULTON AVE	VILLAGE	1,066	PART OF A PAINT SHOP (1886-1897)	N/A	No	Yes	Former industrial use
125	339	303	110 HEMPSTEAD MANAGEMENTLLC	40-46	FRANKLIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	12,799	N/A	CLOSED SPILL (8703213) FOR AN OVERFILLED TANK THAT RELEASED 50 GALLONS OF NUMBER 4 FUEL OIL.	Yes	Yes	Minor spills

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126	339	310	RDUA PARCEL 4 LLC		FRONT ST		13,207	PAINT SHOP (1937), UPHOLSTERY (1950)	N/A	No	Yes	Former Industrial use
127	339	331	GAZIT REALTY LLC	36-38	NORTH FRANKLIN ST	MULTIPLE USE BUILDING WITH DWELLING ATTACHED OR APARTMENT ABOVE	6,570	WOOD WORKS (1950-1970)	N/A	No	Yes	Former Industrial use
128	339	338	RDUA PARCEL 4 LLC		FRONT ST	VILLAGE	110,264	MACHINE SHOP (1925)	N/A	Yes	Yes	Former Industrial use
129	339	344	FAMILY & CHILD ASSOCIATION	31	MAIN ST	OFFICE BUILDING	6,608	LAUNDROMAT (1897-1904), PAINT SHOP (1897)	N/A	No	Yes	Former Industrial use
130	339	348	MAIN SOMEKH LLC	285-7	FRONT ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	19,250	PAINT SHOP (1886 1904, 1919-1961), LARD ROOM (1886), TINMITH (1904-1909), WOODWORKING SHOP (1909-1937)	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (NYD981085111) IN 2007 FOR GENERATION OF SPENT HALOGENATED SOLVENTS, CHROMIUM, TETRACHLOROETHYLENE, AND TRICHLOROETHYLENE.	No	Yes	Former automotive or industrial use, haz waste
131	339	9	SUN ISLAND REALTY CORP	20	NORTH FRANKLIN ST	LARGE INDIVIDUAL RETAIL FOOD STORE - SUPERMARKET	73,793	GARAGE (1925), PAINT SHOP (1937, 1961)	SMALL CLOSED SPILL (9812422).	No	Potential	Minor spill
132	339	41	110 HEMPSTEAD MANAGEMENTLLC	35	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	5,634	N/A	HAZARDOUS WASTE GENERATOR (NYR000020214) IN 1998 FOR SILVER, HISTORICALLY LISTED AS A SMALL QUANTITY GENERATOR.	No	Potential	Limited haz waste generator
133	339	42	41 MAIN STREET CORP	37-41	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	8,789	N/A	SMALL CLOSED SPILL CASES (9800702, 9712347, 0111084, 9800691).	No	Yes	Minor spills
134	339	43	TAG ENTERPRISES REALTY LLC	43	MAIN ST	DOWNTOWN ROW TYPE STORE WITH COMMON OR PARTY WALLS	6,927	PAINT SHOP (1961-1970)	N/A	No	Yes	Former Industrial use
135	339	46	TONICARRISON LLC	53	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	2,445	PAINT SHOP (1892)	N/A	No	Yes	Former Industrial use
136	339	52	RDUA PARCEL 4 LLC		FULTON AVE	VILLAGE	6,722	PART OF A PAINT SHOP (1886-1897)	N/A	No	Yes	Former Industrial use
137	339	54	RDUA PARCEL 4 LLC		FULTON AVE	VILLAGE	8,613	PRINT SHOP (1937)	N/A	No	Yes	Former Industrial use
138	339	102	250 FULTON AVENUE REALTY LLC	250	FULTON AVE	OFFICE BUILDING	40,695	ORGAN AND PIPE WORKS (1892), CABINET SHOP (1904)	SMALL CLOSED SPILLS (8708722, 8704227), FIRE MARSHAL LISTING (GS7200036) FOR ONE REMOVED 5,000 GALLON UST, HISTORICAL SMALL QUANTITY GENERATOR IN 1996 FOR THE GENERATION OF SPENT NON-HALOGENATED SOLVENTS.	No	Yes	Spills, tanks, haz waste

Sources: 1. Toxics Targeting, Inc., Regulatory Database Search, October 2018. 2. Sanborn Insurance Maps (select years between 1886 and 1970) Environmental Data Resources, Inc. 3. Aerial Photographs (select years between 1938 and 2017) Environmental Data Resources, Inc.
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139	340	1	786 HEMPSTEAD MGMT LLC	301 307	FRONT ST	MULTIPLE USE OR MULTI-PURPOSE	28,070	Vacant with 1 shed (1937-1950), 1 story building (1961-1970).	FIRE MARSHAL DATABASE LISTINGS (GS7200105, 28556) FOR ONE ACTIVE 275 GALLON AST, TWO REMOVED 500 GALLON USTS, AND ONE REMOVED 3,000 GALLON UST; CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR FOR IGNITABLE SOLID WASTE, SPENT HALOGENATED SOLVENTS, AND TETRACHLOROETHYLENE BETWEEN 1991 AND 2005.	Yes	Yes	Spills, tanks, haz waste
140	340	6	MENTAL HEALTH ASSOC OF NC INC	16	MAIN ST	OFFICE BUILDING	8,393	GARAGE (1919-1950), AUTO REPAIR SHOP (1950)	N/A	Yes	Yes	Former Automotive use
141	**340**	**19**	**MAIN & FULTON CORNER LLC**	**54**	**MAIN ST**	**OFFICE BUILDING**	**5,328**	**PRINT SHOP (1892-1904), PHOTO (1897)**	**SMALL CLOSED SPILLS (9411909, 011965, 9309474).**	**No**	**Potential**	**Intersection. Adjacent uses, i.e. printing operations, minor spills on adjacent properties, transformer spills and roadway spills**
142	340	21	IGLESIA PENTECOSTAL UNIDA ROCAETERNA INC	298	FULTON AVE	RELIGIOUS	5,967	UPHOLSTERING (1909), AUTO REPAIR SHOP (1925)	SMALL CLOSED SPILL (0313422).	Yes	Yes	Former Industrial use
143	340	25	WOOGLE REALTY CORP	306	FULTON AVE	OFFICE BUILDING	4,991	UPHOLSTERING (1950)	N/A	Yes	Potential	limited industrial use previously
144	340	31	CHURCH OF GOD OF PROPHECY	328-330	FULTON AVE	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	10,562	GARAGE (1919-1950)	N/A	No	Yes	Former Automotive use
145	340	32	MIRACLE CHRISTIAN CENTERINC	334	FULTON AVE	RELIGIOUS	10,133	GARAGE (1919-1937), VULCANIZING (1925)	N/A	Yes	Yes	Former Industrial/Automotive use
146	340	12	THREE ARROWS HEMPSTEAD LLC	40	MAIN ST	OFFICE BUILDING	17,073	CARRIAGE MAKER (1886), PLUMBER/DENTIST (1892-1904), PHOTO (1937)	HISTORIC SMALL QUANTITY GENERATOR (NYD138187901) IN 1993 FOR THE GENERATION OF CORROSIVE SOLID WASTE.	Yes	Yes	Former Industrial use, haz waste
147	**340**	**14**	**R & R DYNASTY CORP**	**42**	**MAIN ST**	**DEPARTMENT STORE**	**3,387**	**MARBLE WORKS (1886-1897), STONE CUTTING (1904), TIN SHOP (1919-1925), PAINT SHOP (1925)**	**N/A**	**Yes**	**Yes**	**Former industrial operations**
148	340	17	HEMPSTEAD VILLAGE BIKE SHOP LTD	48	MAIN ST	DOWNTOWN ROW TYPE STORE WITH COMMON OR PARTY WALLS	2,793	PAINT SHOP (1886), PRINTING (1925)	N/A	Yes	Yes	Former Industrial use
149	340	133	HISPANIC COUNSELING CENTER INC	336-8	FULTON AVE	OFFICE BUILDING	9,776	N/A	SMALL CLOSED SPILL (0703235).	No	Potential	Minor spill

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150	342	239	UNITED METHODIST CHURCH OF HEMPSTEAD	40	WASHINGTON ST	RELIGIOUS	55,766	Methodist church, Sunday School, and house 1886-1925. Church and school 1937-1970 (Plus parish house 1961-1970)	United Methodist Church - spill no 9609827, closed 3/1/99. 3 gallons of #2 fuel oil spilled due to vent alarm malfunction. Spiller Perillo Fuel Oil	Filling station to east, south and north across street. Gas lighting company to southeast	Yes	Spills, tanks
151	342	283	INCORPORATED VILLAGE OF HEMPSTEAD	75	CLINTON ST	VILLAGES	93,373	Dwellings and sheds 1886-1904. Plus Undertaker 1909. Plus auto sheds 1919. 1969 Parking lot and one dwelling. 1963-1970. Present day parking and fire department	(East of site across street) K-Clinton Rd - Hempstead MGP. Inactive haz waste disposal site. Currently commercial offices and garage. Coal gas plant 1873-1905. Site characterization with no further action letter (2003) found no contaminants. PAHs detected in capped isolated areas with near zero chance of GW leaching. 75 Clinton Street on site, Spill No. 0025010, closed 10/31/2000. Spiller Hempstead Village, Spill on 4/14/2000, met cleanup standards. Soil contamination found during removal of 2k diesel tank at firehouse, 0 gallons spilled. Spiller LIPA - spill no 0801143 closed 4/29/08. 0 gallons of transformer oil from equipment failure at manhole 1649 east-adjacent of site.	Filling station east and south next block	Yes	Nearby former MGP and spills
152	342	285	RDUA PARCEL 6 LLC		WASHINGTON ST		5,712	Dwelling 1886-1963. Asphalt parking lot 1970-present		Filling station east and south next block	Potential	
153	342	289	WALTRUST PROPERTIES INC	393	FRONT ST	ONE STORY MULTI-USE BUILDING (WITH FINISH) SINGLE OCCUPANT	60,360	Dwellings and sheds 1886-1915. Dwellings and auto shops 1919-1925, plus UPS garage/warehouse 1937 and filling station each with gas tanks. 1970 undeveloped. Present day commercial store use	Spiller on street C Transfer Trucking Corp. Spill no 0809814, closed 3/12/2009. 0 lbs of transformer oil, 50 gallons of diesel (combined product spilled to soil pavement and storm drain). Commercial vehicle spill no 0809813 closed 12/2/2008 - 20 gallons of auto waste fluids from car accident, plus transformer fluid from a hit utility pole.	Gas lighting company across the street to the east	Yes	Industrial use, Nearby former MGP and spills
154	342	290	UNITED METHODIST CHURCH OF HEMPSTEAD		CLINTON ST	VILLAGES	1,836	Sheds/coops 1892-1915. Auto topping 1937-1963. Parking 1970-present		Filling station to east, south and north across street. Gas lighting company to southeast	Yes	Automotive use, Nearby former MGP and spills

Sources: 1. Toxics Targeting, Inc., Regulatory Database Search, October 2018. 2. Sanborn Insurance Maps (select years between 1886 and 1970) Environmental Data Resources, Inc. 3. Aerial Photographs (select years between 1938 and 2017) Environmental Data Resources, Inc.

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155	344	72	ADM PROPERTIES LLC	387-403	FULTON AVE	ONE STORY SMALL STRUCTURE - MULTI-OCCUPANT	41,995	N/A	INACTIVE HAZARDOUS WASTE DISPOSAL REGISTRY QUALIFYING; SMALL TO MEDIUM SIZED CLOSED SPILL CASES (0712905, 8707433, 8707394, 9701269) SPILL 8707433 ON 11/30/1987 OF 170 GALLONS OF #2 FUEL OIL RELATED TO SPILL 8707394 ON 11/27/1987 OF 200 GALLONS #2 FUEL OIL CAUSED BY UST EQUIPMENT FAILURE, LANDOWNER OF BOTH SPILL LOCATIONS HIRED TYREE TO PUMP AND CLEAN ON 01/13/1988, SPILL 9701269 ON 04/29/1997 OF 100 GALLONS OF MINERAL OIL CAUSED BY UNDERGROUND VAULT TRANSFORMER LEAK, RECOVERED BY LILCO; HAZARDOUS WASTE GENERATOR/TRANSPORTER OF SPENT HALOGENATED SOLVENTS		Yes	Nearby former MGP and spills
156	350	107	AREC 12 LLC	450	FULTON AVE	OTHER STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	76,576	N/A	PREVIOUS PETROLEUM BULK STORAGE FACILITY (USTS REMOVED), HAZARDOUS WASTE GENERATOR/TRANSPORTER OF UNKNOWN SUBSTANCE		Yes	Tanks
157	350	115	2701 ASSOCIATES LLC	50	CLINTON ST	OFFICE BUILDING	113,689	GAS LIGHT COMPANY OR VACANT WAREHOUSE (1892-1970) (PURIFIER, CONDENSER, COAL SHED, IRON GASOMETER), FILLING STATION (1950-1970)			Yes	Industrial/automotive/MGP
158	350	117	INDUSTRIAL DEVELOPMENT AGENCY	400	FULTON AVE	ELEVATOR APARTMENTS	102,573	FILLING STATION (1950-1970), AUTO REPAIR SHOP (1961-1970), DRY CLEANER (1961-1970)	HAZARDOUS WASTE GENERATOR/TRANSPORTER OF IGNITABLE SOLID WASTE AND MERCURY		Yes	Industrial/automotive
159	350	119	COUNTY OF NASSAU		CLINTON ST	COMMERCIAL	4,983	N/A	SPILLS 0809814 AND 0809813 ON 12/02/2008 OF 50 GALLONS OF DIESEL AND 20 GALLONS OF AUTO WASTE FLUIDS RESPECTIVELY ON SOIL/PAVEMENT/STORM DRAIN RELATED TO AUTO ACCIDENT, CLEANED BY LIPA/NATIONAL		Yes	Spills

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160	351	222	HVCA LLC	252	PENINSULA BVLD	NEIGHBORHOOD: SHOPPING CENTER, STRIP CENTER	377,665	SEVERAL CLOSED SPILLS ASSOCIATED WITH PEPBOYS CAR REPAIR FACILITY AS WELL AS TIME SQUARE STORES MALL DEMOLITION. BOTH LISTED AS WASTE GENERATOR IN TOXICS			Yes	Automotive/spills
161	354	9	INCORPORATED VILLAGE OF HEMPSTEAD	350	FRONT STREET			SEVERAL SMALL CLOSED SPILLS ASSOCIATED WITH TOWN HALL BUILDING. 3 TANKS OF #2 FUEL OIL PRESENT ON SITE BETWEEN 2,000 AND 15,000 GALLONS. LARGE QUANITY GENERATOR OF UNKNOWN WASTE, IGNITABLE, CORROSIVE, DDT AND 2,4,5-TP SILVEX WASTE. SMALL QUANTITY GENERATOR OF CORROSIVE, IGNITABLE AND SILVER WASTE.			Yes	Spills, haz waste
162	355	38	AMOCO OIL CO.	138	PENINSULA BLVD	SERVICE AND GAS STATIONS	10,903	FILLING STATION (1961-1970)	SMALL CLOSED SPILL CASES (9509271, 9410424), PETROLEUM BULK STORAGE FACILITY WITH 8 PRIOR UST REMOVALS AND 3 REMAINING ACTIVE USTS EACH WITH 8000 GALLON CAPACITY, SMALL HAZARDOUS WASTE GENERATOR/TRANSPORTER OF BENZENE		Yes	Automotive use, tanks, haz waste
163	358	5	Frontseat Llc	315-319	PENINSULA BLVD	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	13,115	LIGHTING COMPANY (1919), LAUNDROMAT (1937-1970)	SMALL CLOSED SPILL CASE (9705495).	Yes	Yes	Industrial, spills
164	358	6	Frontseat Llc	315-321	PENINSULA BLVD	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	8,391	LIGHTING COMPANY (1919), LAUNDROMAT (1937-1970)	SMALL CLOSED SPILL CASE (9705495).	Yes	Yes	Industrial, spills

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165	358	9	EASTERN BAPTIST ASSN OF NEW YORK INC. &	301-309	PENINSULA BLVD	LIGHT MANUFACTURING, SMALL FACTORY BUILDINGS	16,905	LIGHTING COMPANY (1919), LAUNDROMAT (1925-1970)	SMALL CLOSED SPILL CASE (9313476), DEPARTMENT OF HEALTH TANK LISTING (057073) FOR A REMOVED 2,000 GALLON UST	Yes	Yes	Industrial, tanks
166	358	10	COHEN DONNA L &	295	PENINSULA BLVD	LIGHT MANUFACTURING, SMALL FACTORY BUILDINGS	19,437	KNITTING MILL (1961-1970)	N/A	Yes	Potential	limited industrial use
167	358	11	CCP/SHURGARD VENTURE LLC-33015	285	PENINSULA BLVD		108,136	DRY CLEANER (1950), DIAPER LAUNDROMAT (1950-1970)	SMALL CLOSED SPILL CASE (9605896)	Yes	Yes	Industrial, spills
168	358	27	MENDEZ JULIO	127	GROVE ST	TWO FAMILY YEAR-ROUND RESIDENCE	12,738	FUME SHOP (1904)	N/A	No	Yes	Industrial
169	358	108	CRACKER KING INC	307	PENINSULA BLVD	LIGHT MANUFACTURING, SMALL FACTORY BUILDINGS	9,692	KNITTING MILL (1970), LAUNDROMAT (1925-1970)	N/A	Yes	Yes	Industrial Use
170	358	156	SATIB NEVERTITY	66	SOUTH FRANKLIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	14,208	GASOLINE FILLING STATION WITH FOUR TANKS (1937-1970).	SMALL CLOSED SPILL (0651922), HISTORICAL SMALL QUANTITY GENERATOR (NYD987034642)	No	Yes	automotive use, haz waste
171	358	158	UNION FREE SCHOOL DISTRICT #1	185	PENINSULA BLVD	SCHOOLS - ELEMENTARY, SECONDARY HIGH (PUBLIC)	89,391	N/A	SMALL CLOSED SPILLS (9207972, 0109551).	No	Potential	Minor Spills
172	358	162	SDRJ DEVELOPMENT GROUP LLC	309 R	PENINSULA BLVD	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	19,452	LAUNDROMAT (1925-1970)	N/A	Yes	Yes	industrial use previously
173	358	168	NH GREENWICH LLC	1	GREENWICH ST	NURSING HOMES	99,932	N/A	SMALL CLOSED SPILL CASE (1309631), FIRE MARSHAL LISTINGS (10062, GS7200104) FOR ONE IN SERVICE 300 GALLON AST, DEPARTMENT OF HEALTH LISTING (057198) FOR AN IN SERVICE 4,000 GALLON UST AND AN IN SERVICE 60 GALLON AST.	No	Yes	Minor Spills
174	358	169	IGLESIA APOSTOLES Y PROFETAS EFESIOS	61	GROVE ST	RELIGIOUS	24,484	KNITTING MILL (1970)	N/A	Yes	P	Former Limited Industrial use
175	358	171	MAPLE AVENUE ENTERPRISESINC	76	S FRANKLIN ST	4-6 FAMILY APARTMENTS	6,411	VULCANIZER (1950-1970)	N/A	Yes	Yes	Former Industrial Use

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								Historical Records	Regulatory Database			
176	359	209	381 PENINSULA BLVD CORP	381	PENINSULA BLVD	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	6,340	N/A	SMALL CLOSED SPILL CASE (9913803)		Yes	Former Industrial Use/Minor spills
177	359	211	GO EQUITIES GROUP LLC	389	PENINSULA BLVD	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	6,493	N/A	SMALL CLOSED SPILL CASE (0805545)		Yes	Former Automotive Use/Minor spills
178	360	333	GROVSTON LLC	108	GROVE ST	OVER 6 FAMILY APARTMENTS	19,499	CLOTHING MANUFACTURER (1892-1897), PAINTER (1897), WOODWORKING SHOP (1919-1950)	N/A		Yes	Former Industrial Use
179	439	134	D & A UNIVERSAL LLC	154	FRONT ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	12,953	GASOLINE FILLING STATION (1950-1963), TIRE SERVICE STATION (1961-1970)	DEPARTMENT OF HEALTH LISTINGS (055295/057503) FOR AN IN SERVICE 275 GALLON AST AND IN SERVICE 240 GALLON AST.	Yes	Yes	Tanks
180	439	323	CHASNER STREET REALTY HOLDING CORP	19	CHASNER ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	18,985	AUTO SERVICE STATION (1961-1970), GASOLINE FILLING STATION (1970)	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (NYD98108617) AND HISTORICAL SMALL QUANTITY GENERATOR FROM 1987-2013 OF TETRACHLOROETHYLENE, LEAD, SPENT NON-HALOGENATED SOLVENTS, AND IGNITABLE SOLID WASTE; INACTIVE FIRE MARSHAL LISTING (GS7200023) FOR 4 REMOVED 3,000 GALLON USTS; DEPARTMENT OF HEALTH LISTING (056103) FOR AN IN SERVICE 175 GALLON AST.	Yes	Yes	Former Automotive Use, tanks, haz waste
181	440	219	CRESCENT SCHOOL	130	FRONT ST	SCHOOLS - ELEMENTARY, SECONDARY HIGH (TUITION CHARGED)	31,301	(NOT INCLUDED ON SANBORNS)	SMALL CLOSED SPILL CASE (0507159, 8806009); PETROLEUM BULK STORAGE REGISTRATION (001174) FOR 21 IN SERVICE ASTs RANGING FROM 5 TO 150 GALLONS.	No	Potential	Minor Spills
182	522	2	RDUA PARCEL 12A LLC / VILLAGE OF HEMPSTEAD, INC.		MAIN ST	VILLAGES	4,375	Part of a lumber yard (1919); part of a furniture warehouse (1950-1961)	N/A	Yes	Yes	Former Industrial Use
183	**522**	**5**	**CPK TRANSPORTATION LLC**		**BEDELL ST**	**PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES**	**22,855**	**Part of a lumber yard (1892-1937); auto parts storage (1963); used auto sales (1970).**	**N/A**	**Yes**	**Yes**	**Auto and lumber uses**

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184	522	101	CHURCH OF GOD OF HEMPSTEAD	160	MAIN ST	RELIGIOUS	11,324	Part of a lumber co. (1919); ice plant (1925-1937)	N/A	Yes	Yes	Former Industrial Use
185	522	204	MAG 158 LLC / JOHN WELLS	158	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	18,006	Part of a flour and grain warehouse (1925-1937); tire storage/tire service (1970)	Unspecified RCRA generator, waste code not provided. Listing indicates no hazardous waste activity reported by New York State.	Yes	Yes	Former Industrial Use
186	522	304	RDUA PARCEL 12A LLC		COLUMBIA ST	VILLAGES	33,581	Fertilizer storage (1909); coal storage (1919); fertilizer warehouse/part of a flour and grain warehouse (1925-1937)	N/A	Yes	Yes	Former Industrial Use
187	522	326	VILAGE OF HEMPSTEAD, INC.		BEDELL ST	VILLAGES	39,227	Part of a lumber yard (1892-1937); furniture warehouse (1950-1961).	N/A	Yes	Yes	Former Industrial Use
188	**522**	**327**	**CPK TRANSPORTATION LLC**		**BEDELL ST**	**PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES**	**4,121**	**Part of a lumber yard (1892-1937)**	**N/A**	**Yes**	**Yes**	**Former lumber use**
189	20401	10	COLONNA REDEVELOPMENT COMPANY	123	COLUMBIA ST	ELEVATOR APARTMENTS	20,242	PAINT SHOP (1909-1925)	N/A		Yes	Former Industrial Use
190	32801	3	PLANT-TECH HORTICULTURALPRODUCTS INC	30	CHASNER ST	OTHER STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	6,186	CARPET CLEANER (1950), ELECTRONIC EQUIPMENT MANUFACTURER (1961), LAUNDROMAT (1963-1970)	FIRE MARSHAL LISTING (LG7200026) FOR TWO ACTIVE 420 GALLON ASTs.	Yes	Yes	Former Industrial use, tanks
191	32801	4	HANNA DOROTHY J	18	CHASNER ST	OTHER STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	17,005	SHOE FACTORY (1950), STEEL EQUIPMENT FABRICATION (1961-1970).	N/A	Yes	Yes	Industrial use
192	32801	9	220-224 FRONT STREET REATLY LLC		NEWMAN CT	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	1,700	HISTORIC RIVER TRANSECTING PROPERTY.	N/A	Yes	Potential	Possible infilling of former river
193	32801	10	220-224 FRONT STREET REATLY LLC		NEWMAN CT	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	3,619	HISTORIC RIVER TRANSECTING PROPERTY.	N/A	Yes	Potential	Possible infilling of former river
194	32801	19	CHELSEA REAL PROPERTIES II LLC	39	NEWMANS CT	COLD STORAGE OR FROZEN FOOD PLANTS (INSULATED)	12,450	LAUNDROMAT (1937-1950), MACHINERY MANUFACTURER (1961-1970)	CLOSED SPILL (8708032), FIRE MARSHAL LISTING (GS7200080) FOR ONE REMOVED 3,000 GALLON UST, HAZARDOUS WASTE GENERATOR (NYP000780387) IN 1987 FOR GENERATION OF IGNITABLE SOLID WASTE.	Yes	Yes	HEMPSTEAD POULTRY FARMS BUILDING/industrial use

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195	32801	76	COLLINS ALARZA LEE & BETTY	21-23	SO FRANKLIN ST	DOWNTOWN ROW TYPE STORE WITH COMMON OR PARTY WALLS	5,784	N/A	SMALL CLOSED SPILL (8605106)	Yes	Potential	Minor Spills
196	32801	106	220-224 FRONT STREET REALTY LLC		NEWMAN CT	PAVING, BLACKTOP OR FENCING USED WITH STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	607	HISTORIC RIVER TRANSECTING PROPERTY.	N/A	Yes	Yes	Possible infilling of former river
197	32801	321	SALVATION ARMY	208	FRONT ST	RELIGIOUS	69,824	WOODWORKING SHOP (1937)	SMALL CLOSED SPILLS (8807565, 9112418), DEPARTMENT OF HEALTH LISTING (030080) FOR AN IN SERVICE 6,000 GALLON UST, FIRE MARSHAL LISTING FOR TWO REMOVED 5,000 GALLON USTS, ONE REMOVED 1,000 GALLON UST, AND AN ACTIVE 10,000 GALLON UST, HAZARDOUS WASTE GENERATOR (NYD986906923) IN 1990 FOR GENERATION OF IGNITABLE SOLID WASTE.	Yes	Yes	Industrial, tanks, haz waste
198	32801	328	FRONT FRANKLIN REALTY LLC	238-248	FRONT ST	ONE STORY SMALL STRUCTURE - MULTI-OCCUPANT	13,358	COBBLER (1909), GARAGE WITH TWO USTS (1909), BLACKSMITH (1919), GARAGE AND REPAIR SHOP (1925), AUTO SALES AND SERVICE (1950)	N/A	Yes	Yes	Industrial/automotive
199	32801	447	160 FRONT STREET LLC	160	FRONT ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	11,109	AUTO REPAIR (1950-1970)	SMALL CLOSED SPILLS (9004670, 9000626, 9401429), DEPARTMENT OF HEALTH LISTING (055026) FOR FIVE IN SERVICE 275 GALLON ASTs.	Yes	Yes	Automotive, tanks
200	32801	448	67 NEWMANS REALTY LLC	176	FRONT ST	LIGHT MANUFACTURING, SMALL FACTORY BUILDINGS	14,959	PAPER WAREHOUSE (1961-1970)	HAZARDOUS WASTE GENERATOR (NYN008006652).	Yes	Yes	Former Industrial Use , haz waste
201	32801	449	180 FRONT STREET AUTO PARTS CORP	180	FRONT ST	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	22,796	MACHINE SHOP (1950-1970)	N/A	Yes	Yes	Former Industrial Use
202	32801	455	FRONT STREET HEMPSTEAD LLC	210	FRONT ST	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	7,612	LIFT TRUCK SERVICE (1970)	N/A	Yes	Yes	Former Automotive Use

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203	32801	457	FRONT STREET HEMPSTEAD LLC	218	FRONT ST	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	12,221	GARAGE (1937)	SMALL CLOSED SPILLS (0301338, 0012951)	Yes	Yes	Former Automotive Use, spills
204	32801	458	220-224 FRONT STREET REALTY LLC	220-222	FRONT ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	11,395	PART OF PAINT SHOP (1963-1970)	N/A	Yes	Yes	Former Industrial Use
205	32801	459	220-224 FRONT STREET REALTY LLC	224-228	FRONT ST	ONE STORY SMALL STRUCTURE - MULTI-OCCUPANT	11,776	HISTORIC RIVER TRANSECTS PROPERTY, AUTO REPAIR SHOP WITH TWO GAS TANKS (1925-1937), AUTO GLASSWORKS (1950), PAINT AND OIL STORAGE (1950-1961), PART OF PAINT SHOP (1963-1970)	FIRE MARSHAL LISTING (GS7200076) FOR ONE ABANDONED 1,050 GALLON UST	Yes	Yes	Former Automotive/Industrial Use, tanks, spills
206	32801	468	JANVEY BRUCE	33	NEWMAN S CT	OTHER STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	2,990	AUTO REPAIR (1950), WATER HEATER MANUFACTURING (1961)	N/A	Yes	Yes	Former Automotive/Industrial Use
207	32801	469	FRONT STREET HEMPSTEAD LLC	33	NEWMANS CT	STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	7,459	HARDWARE WAREHOUSE (1970)	N/A	Yes	Yes	Former Automotive/Industrial Use
208	32801	470	IANLEW CORP	230	FRONT ST	OTHER STORAGE, WAREHOUSE AND DISTRIBUTION FACILITIES	4,308	HISTORIC RIVER TRANSECTS PROPERTY, AUTO GLASSWORKS (1950-1970)	N/A	Yes	Yes	Former Automotive/Industrial Use
209	32801	471	IANLEW CORP	230-234	FRONT ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	7,431	HISTORIC RIVER TRANSECTS PROPERTY, AUTO REPAIR SHOP (1925-1937)	FIRE MARSHAL LISTING (LG7200027) FOR ONE ACTIVE 100 GALLON AST.	Yes	Yes	Former Automotive/Industrial Use, tanks
210	32801	472	33 S FRANKLIN LLC	33	SOUTH FRANKLIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	6,987	GASOLINE FILLING STATION WITH TWO TANKS (1950-1963)	HAZARDOUS WASTE GENERATOR (NYD981184351) IN 1987 FOR GENERATION OF IGNITABLE SOLID WASTE, FIRE MARSHAL LISTING (GS7200072) FOR TWO REMOVED 3,000 GALLON USTS.	Yes	Yes	Former Automotive/Industrial Use, haz waste

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211	32801	473	NATIONS CYCLE AIRBRUSHING INC	7	NEWMAN CT	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	2,453	AUTO REPAIR SHOP (1950-1970)	N/A	Yes	Yes	Former Automotive/Industrial Use
212	32801	474	SANDOVAL PROPERTIES INC	11	NEWMAN CT	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	5,821	HISTORIC RIVER TRANSECTS PROPERTY, FURNITURE MANUFACTURING (1950-1970)	N/A	Yes	Yes	Former Automotive/Industrial Use
213	33201	328	COUNTY OF NASSAU BUS TERMINAL		COLUMBIA ST	NASSAU COUNTY	123,559	Picture frame factory with noted fuel oil use (1886-1892); Agricultural Implement Works and coal shed (1892); bicycle repair and E.S. Titus Steam Fitting Plumbing Contractors (1897-1904); coal storage (1904-1937); machine shop, carpenter (1904); machinery storage, repair shop, milk facility (1909); Storey Rubber Co. manufacturer of inner tubes (1919) replaced by plumbers' supplies facility in 1925	Dept. of Health listing for one in-service 7,500-gallon No. 2 fuel oil UST installed in November 1972.	Yes	Yes	Former Automotive/Industrial Use, tanks
214	33202	48	RDUA PARCEL 11 LLC		MAIN ST	VILLAGE	6,781	Dry cleaning (1961-1963)	Historic SQG of spent halogenated solvents in 1993 (Mr. B Cleaners/140 Main Street)	Yes	Yes	Former Automotive/Industrial Use, haz waste
215	33202	53	RDUA PARCEL 11 LLC		MAIN ST	VILLAGE	6,355	Carriage manufacturer, wood working, painting facility (1892-1904); wagon works, auto repair, paint shop (1909); auto painting (1919); private garage (1925-1950)	Spill No. 8901575 - reported in May 1989 at 120 Main Street. Rain entered an UST causing oil to be released from the vent. Approximately 10 gallons of No. 2 fuel oil was released. Spill contained in the basement and closed in June 1989.	Yes	Yes	Former Automotive/Industrial Use, tanks, spills
216	33202	57	RDUA PARCEL 11 LLC		MAIN ST JACKSON ST	VILLAGE	1,192	None.	Historic CESQG of ignitable solid waste (D001), selenium (D010), silver (D011), cyanides (P030) in 1995 (Edelman Business Systems/114 Main Street)	Yes	Yes	Haz waste

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217	33202	64	RDUA PARCEL 11 LLC	124	JACKSON ST	PARKING LOT	18,541	Grist mill (1886-1897); coal yard (1892-1897); Mollineaux Bros. Flour, Feed, Coal & Wood (1904-1950); parking (1961-1970)	Spill No. 9405177 was reported in July 1994 at All Island Taxi (175 Jackson Street). According to the spill listing, contamination was encountered during removal of a tank. Limited information was provided; however, the listing indicated that groundwater samples met unspecified standards and the site was utilized as a municipal parking lot. The spill was closed in May 2013. Fire Department listing for one active 4,000-gallon high grade gasoline UST and one in-service 6,000-gallon low-grade gasoline UST.	Yes	Yes	Former Automotive/Industrial Use, tanks, spills
218	33202	66	RDUA PARCEL 11 LLC		MAIN ST	VILLAGE	19,254	Carriage factory (1904); blueprinting (1963-1970)	No listings.	Yes	Yes	Industrial
219	33301	9	INC VILLAGE OF HEMPSTEAD	99	NICHOLS CT	VILLAGES	16,749	PUBLIC LIBRARY (1950-1970)	SMALL CLOSED SPILL CASES (8910178, 8902114)		Yes	Minor spills
220	33301	11	INC VILLAGE OF HEMPSTEAD	99	NICHOLS CT	VILLAGES	36,265	VILLAGES OFFICES (1950-1970)	SMALL CLOSED SPILL CASES (9408526 MTBE GASOLINE ADDITIVE SPILL, 8809148), PREVIOUS PETROLEUM BULK STORAGE FACILITY (TANKS REMOVED)		Yes	Spills, tanks
221	33301	50	RDUA PARCEL 14 LLC	132	JACKSON AVE	VILLAGES	53,427	Two-story dwelling (1904-1925), Fire Dept. building (1937-1970).	No listings.		Yes	Fire department use (likely tanks)
222	33301	63	INC VILLAGE OF HEMPSTEAD	132	JACKSON ST	VILLAGES	14,805	CONDENSED MILK COMPANY (1919-1937), BEER WAREHOUSE (1937-1950), MUNICIPAL GARAGE (1950-1970)	N/A		Yes	Former Automotive/Industrial Use
223	33301	65	INC VILLAGE OF HEMPSTEAD	206	JACKSON ST		4,953	LIRR tracks (1904-1937), 1 story building with storefront (1950-1970).	N/A		Yes	Former Railroad use
224	33302	15	RDUA PARCEL 7 LLC	295	FULTON AVE	PARKING LOT	41,046	Part of rail yard with turntable and passenger station (1886-1937)	Closed status spill (No. 8710426) for tank test failure. No. 4 fuel oil spilled, no quantity identified. Another closed status spill (No. 0010790) recorded in 01/2001 for 5 gallons of No. 2 fuel oil. One 7,000-gal No. 4 fuel oil tank previously listed on-site.		Yes	Former Automotive/Industrial Use, tanks
225	33302	16	NICHOLS MAIN LLC	82-84	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	7,535	Auto painting (1925), store with gasoline UST (1937-1970)	N/A	Yes	Yes	Former Automotive use
226	33302	18	GOLDSTEIN BERNARD TRUST	72-76	MAIN ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	6,781	Tire repair (1919)	N/A	Yes	Yes	Former Automotive use

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227	33302	19	RDUA PARCEL 7 LLC	68-70	MAIN ST	VILLAGE	3,184	Printer (1904-1950)	N/A	Yes	Yes	Former industrial use
228	33302	39	CHRISTS FIRST PRESBYTERIAN CHURCH	353	FULTON AVE	RELIGIOUS	70,252	On Sanborns, three 2.5 story residences were shown on 1892-1950 maps. A church was shown on the property beginning with 1961 map.	Listed as a RCRA large quantity generator, but no information of generated waste provided.	Yes	Potential	Limited haz waste generator
229	**33303**	**2**	**100 MAIN STREET REALTY LLC**	**106**	**MAIN ST**	**DOWNTOWN ROW TYPE STORE WITH COMMON OR PARTY WALLS**	**64,457**	**On Sanborns, Lot 329 contained a coal yard on 1892 map, and was traversed north-south by Long Island Railroad tracks and contained a freight depot (1904-1961).**	**Spill No. 9005490 was reported in August 1990 during a 10,000-gallon tank test failure at the Hempstead Bus Terminal. Product was No. 2 fuel oil. A reported quantity of zero gallons of oil was spilled/recovered listed. Spill was closed in August 1999.**	**Yes**	**Yes**	**Bus depot/Automotive usage**
230	0	624		199	Fulton Ave			Historical creek passes through lot (1897-1950), presumably filled later with materials of unknown origin. NY Telephone Co.	Minor closed-status spill. Active 15,000-gal, 2,000-gal and 1,500-gal No. 2 fuel oil AST. Two active 10,000-gal kerosene USTs. Two removed 15,000-gal gasoline USTs. Haz waste generator - ignitable waste.	Yes	Yes	Petroleum tank storage and minor spill, potential infilling
231			**Strategic Site 9**			**Intersection of Franklin and Jackson**			**Nearby petroleum spills and vehicular spills, pole-mounted transformer spills**	**Yes**	**Potential**	**Some limited spills incidents**
232			**Strategic Site 10: Innovation District**			**Area bounded by Greenwich Street, Fulton Avenue, Peninsula Blvd, Cathedral Avenue, and President Street**			**Several closed spills related to fuel oil tanks and vehicular spills, etc., and sites with known contamination including several pertinent facilities: BCP site FORMER HUSSLEIN PLATING CORP. & SEMPKE BUS GARAGE at 48 SEWELL STREET (heavy metals contamination). Additional sites included large hazardous waste generators including AUROMET CORP Facility Id: NYD001234087 37 CHASNER ST and GENERAL REFINING & SMELTING CORP Facility Id: NYD082780446 at 106 Taft Avenue (generators of spent cyanides and other electroplating wastes)**	**Yes**	**Yes**	**Former industrial uses, spills, remediation sites and haz waste**

Sources: 1. Toxics Targeting, Inc., Regulatory Database Search, October 2018. 2. Sanborn Insurance Maps (select years between 1886 and 1970) Environmental Data Resources, Inc. 3. Aerial Photographs (select years between 1938 and 2017) Environmental Data Resources, Inc.
Notes: Strategic Sites are in **BOLD**; Recognized Environmental Conditions (REC); generator of hazardous wastes (haz waste); Manufactured Gas Plant (MGP); Large Quantity Generator (LQG); Small Quantity Generator (SQG); Conditionally Exempt SQG (CESQG); *****Pertinent facilities are those listed in the regulatory database with known contamination or hazardous waste treatment storage and disposal. Tax Map No(s) with no or unknown environmental site conditions identified have been excluded from **Appendix C**. See **Figure C-1** for corresponding Map ID.

Table C-1 (cont'd)
Universe of Brownfield and Underutilized Sites within the Hempstead BOA

Map ID	Tax Block	Tax Lot	Owner	No.	Street	Land Use	Area (SF)	On-Site Known/Potential RECs by Source		Nearby RECs?	Environmental Conditions Identified	Rationale for Potential Contamination Issues
								Historical Records	Regulatory Database			
Pertinent Facilities*												
A	638	21	FORMER HUSSLEIN PLATING CORP. & SEMPKE BUS GARAGE	48	SEWELL STREET	Bus Garage	16,000	Occupied by a bus garage (Sempke Bus) from circa 1945 through 1972, electroplating facility (Husslein Plating Corporation) from 1972 through 1995. Former building was demolished in 1999.	The database info noted remedial actions have successfully achieved soil cleanup objectives for commercial use under the NYSDEC Brownfield Cleanup Program. Prior to remediation, the primary contaminants of concern were chromium and nickel in soil and groundwater. Residual soil and groundwater contamination is managed under a Site Management Plan	Yes	Yes	Heavy Industrial use. Noted previous subsurface contamination
B	439	18	Auromet Corp. Facility	37	Chasner Street	Industrial	3,361	Undeveloped prior to 1950. Restaurant in 1950, with optical supplies manufacturing noted between circa 1961 and 1970	NYD001234087-large hazardous waste generator	Yes	Yes	Heavy Industrial use/solvent waste generation
C	32802	669	GENERAL REFINING & SMELTING CORP	106	Taft Avenue	Industrial	3,680	Auto painting and spraying noted 1961-1970	NYD082780446-generators of spent cyanides and other electroplating wastes	Yes	Yes	Heavy Industrial use/solvent waste generation
D	342	269	95 CLINTON STREET ASSOCIATES	95	CLINTON ST	DOWNTOWN TYPE STORE DETACHED WITH NO PARTY WALLS	8,392	Dwellings and sheds 1892-1925. 1937 Undeveloped. Commercial stores 1950-present	Hempstead Area Dry Cleaners listed at NE corner (inactive haz waste disposal registry). Little information (facility deleted from reported data. Registry qualifying investigations underway as of 07/1999). Long Island Lighting Co (LILCO) spiller - NE corner in street, spill no. 9701269 closed on 5/14/97. 100 gal mineral oil from underground vault transformer. LILCO spill no 8907579, closed 10/31/89. 20 gallons non PCB oil, spilled on road and contained. Reigel Trans Corp spill no. 8905542, closed 9/11/89. 10 gallons of gasoline, truck hit by another car.	filling station to east and north across street	Yes	haz waste disposal registry, spills

Sources: 1. Toxics Targeting, Inc., Regulatory Database Search, October 2018. 2. Sanborn Insurance Maps (select years between 1886 and 1970) Environmental Data Resources, Inc. 3. Aerial Photographs (select years between 1938 and 2017) Environmental Data Resources, Inc.
Notes: Strategic Sites are in **BOLD**; Recognized Environmental Conditions (REC); generator of hazardous wastes (haz waste); Manufactured Gas Plant (MGP); Large Quantity Generator (LQG); Small Quantity Generator (SQG); Conditionally Exempt SQG (CESQG); *****Pertinent facilities are those listed in the regulatory database with known contamination or hazardous waste treatment storage and disposal. Tax Map No(s) with no or unknown environmental site conditions identified have been excluded from **Appendix C**. See **Figure C-1** for corresponding Map ID.

Table C-2

Universe of Brownfield Sites within the Hempstead BOA: Strategic Sites

Strategic Site	Map ID	Tax Block	Tax Lot	Owner	No.	Street	Land Use	Area (SF)	On-Site Known/Potential RECs by Source		Nearby RECs?	Environmental Conditions Identified	Rationale for Potential Contamination Issues
									Historical Records	Regulatory Database			
1	71	195	8	LAU INVESTMENT GROUP	173-175	MAIN ST	AUTO SALES, USED CAR LOT	9,907	2.5-story dwelling (1909-1970), two ground stores (1925-1970).	Transformer oil spilled near property due to car hitting a utility pole, approx. 60 gal leaked.	Yes	Potential	Minor spill/ Automotive uses
	72	195	9	LAU INVESTMENT GROUP INC	171	MAIN ST	AUTO SALES, USED CAR LOT	4,931	Double dwelling (1904-1963), parking lot (1970).	No records.	Yes	Yes	Automotive uses
	70	195	10	LAU INVESTMENT GROUP INC	169	MAIN ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	4,858	Two-story dwelling (1909-1963), parking lot (1970).	Closed status spill (1411628), No. 2 fuel oil.	Yes	Yes	Minor spill
	73	195	111	LAU INVESTMENT GROUP INC	163-169	MAIN ST	RETAIL SERVICES	9,839	Sign painting (1970).	Closed-status spill No. 1411628 - removal of 1,000-gal No. 2 fuel oil UST and contaminated soil (reportedly all removed).	Yes	Yes	Limited spill/ tanks
2	185	522	5	CPK TRANSPORTATION LLC		BEDELL ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	22,855	Part of a lumber yard (1892-1937); auto parts storage (1963); used auto sales (1970).	N/A	Yes	Yes	Auto and lumber uses
	190	522	327	CPK TRANSPORTATION LLC		BEDELL ST	PAVING, BLACKTOP OR FENCING USED WITH MOTOR VEHICLE SERVICES	4,121	Part of a lumber yard (1892-1937)	N/A	Yes	Yes	Former lumber use
3	60	194	1	CPK TRANSPORTATION LLC	190	MAIN ST	AUTO DEALERS, SALES AND SERVICE	7,272	Service station (1937); part of the service station on Lot 7 (1950-1970).	No listings.	Yes	Yes	Automotive/ fueling operations
	61	194	2	CPK TRANSPORTATION LLC	180	MAIN ST	COMMERCIAL GARAGE REPAIRS, AUTO BODY, TIRE SHOPS AND OTHER RELATED REPAIRS	7,417	Auto repair (1950-1970)	No listings.	Yes	Yes	Auto repair uses
	62	194	4	IGLESIA EVANGELICA DE EL PRINCIPE DE PAZ	204 A	MAIN ST	RELIGIOUS	7,532	Taxi storage (1970)	Historic LQG of solid ignitable waste (D001) in 1991 (RSBL Corporation/204 Main Street); Fire Department listing for two removed, empty 4,000-gallon gasoline USTs. Spill No. 1711151 reported at a vacant commercial property (204-206 Main Street) in March 2018. According to the listing, a water/oil mixture was released from a fill port of a flooded UST (size unknown). The spill was cleaned as it was noted the impact to storm drains was unknown. This spill is currently active; Spill No. 9013267 was reported in March 1991. Contaminated soil was encountered during a tank removal. Approximately 275 yards of soil was stockpiled on-site. No further action was reported in the spill listing details. The spill was closed two days after it was opened; Spill No. 9801345 was reported in April 1993 due to contaminated soil encountered between concrete floor and top of tank and a waste oil tank of unspecified size was to be abandoned. No further information provided. The spill was closed in November 2000.	Yes	Yes	Automotive, multiple spills
	64	194	6	NED LLC		MAIN ST	PAVING, BLACKTOP OR FENCING WITH ANY MULTIPLE USE OR MULTI-PURPOSE BUILDING	6,955	Carpet cleaning (1937)	No listings.	Yes	Yes	Former Industrial use/carpet cleaning

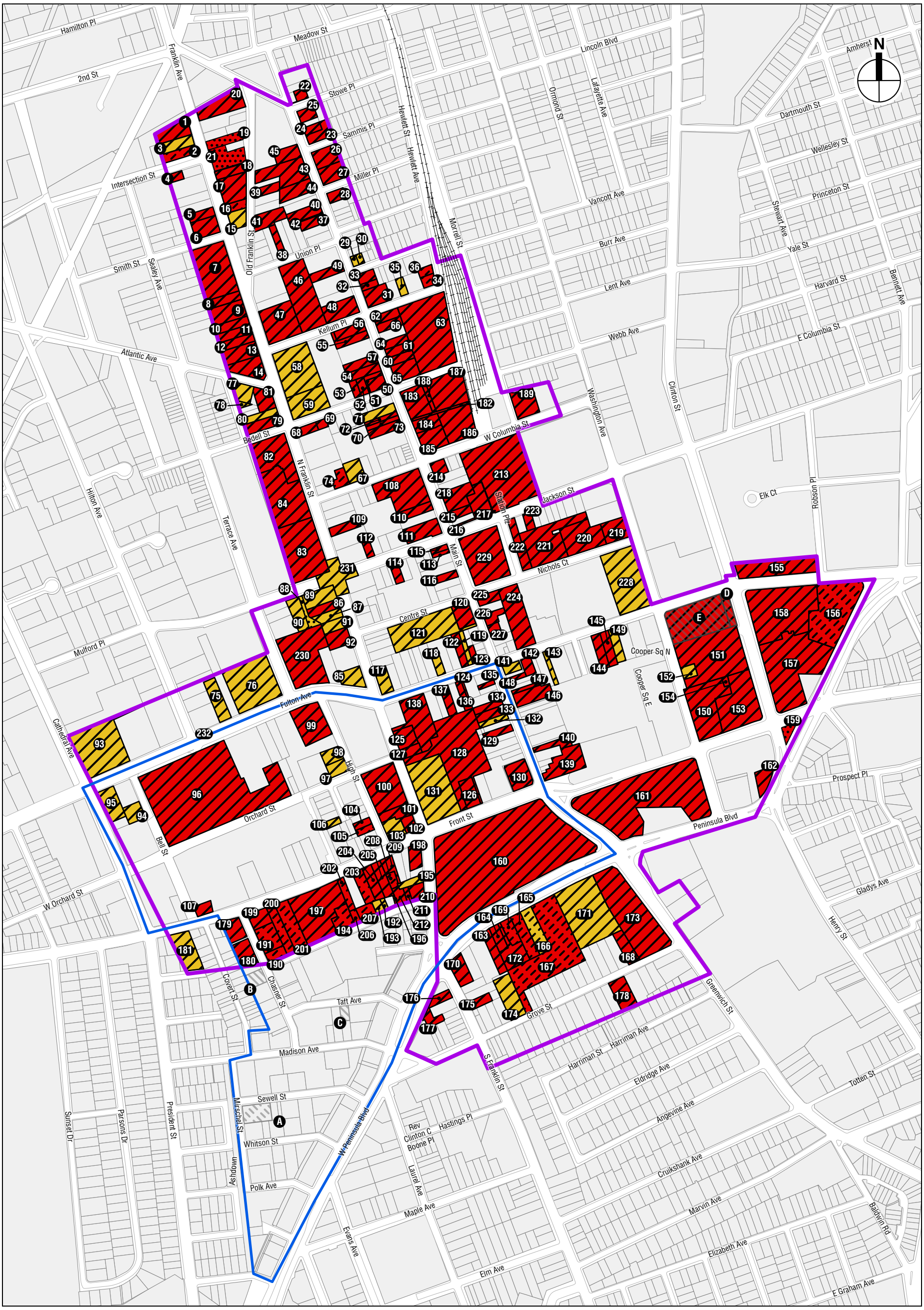
Notes: Recognized Environmental Conditions (REC); Generator of hazardous wastes (haz waste); Manufactured Gas Plant (MGP); Large Quantity Generator (LQG); Small Quantity Generator (SQG); Conditionally Exempt SQG (CESQG). See Figure C-1 for corresponding Map ID.
Sources: 1. Toxics Targeting, Inc., Regulatory Database Search, October 2018. 2. Sanborn Insurance Maps (select years between 1886 and 1970) Environmental Data Resources, Inc. 3. Aerial Photographs (select years between 1938 and 2017) Environmental Data Resources, Inc.

Table C-2 (cont'd)

Universe of Brownfield Sites within the Hempstead BOA: Strategic Sites

Strategic Site	Map ID	Tax Block	Tax Lot	Owner	No.	Street	Land Use	Area (SF)	On-Site Known/Potential RECs by Source		Nearby RECs?	Environmental Conditions Identified	Rationale for Potential Contamination Issues
									Historical Records	Regulatory Database			
3	65	194	7	CPK TRANSPORTATION LLC	180	MAIN ST	AUTO DEALERS, SALES AND SERVICE	14,902	Hempstead Brass Co. with machine shop and plating (1909); Brayshaw's Laundry (1919); Auto service station (1937-1970).	Unspecified RCRA generator, historic SQG of PCE, cadmium, and ignitable waste in 1995 and 2002; Fire Dept. listing for one active 10,000-gallon gasoline UST; Fire Dept. listing for one in-service 280-gallon motor oil AST, one in-service 280-gallon transmission fluid AST, and one in-service 280-gallon waste oil AST; Spill No. 0700162 reported in April 2007 due to contaminated soil encountered during a tank removal. Approximately 10 yards of soil was stockpiled on-site and post-excavation endpoint samples were collected prior to backfilling. The listing does not provide any information on analytical results of the endpoint samples. NYSDEC determined the cleanup was completed and the spill was closed in March 2008.	Yes	Yes	Heavy Industrial use, auto uses and spills
	66	194	8	IGLESIA EVANGELICA DE EL PRINCIPE DE PAZ	204 A	MAIN ST	RELIGIOUS	7,558	Carpenter (1909-1919); auto repair (1970).	Same listings as Block 194, Lot 4 (same address).	Yes	Yes	Auto repair uses
4	46	192	11	RDUA PARCEL 2 LLC		UNION PL	VILLAGE	59,997	Dubois Model Laundry and coal house (1909).	No listings.	Yes	Yes	Former industrial uses
5	231	33303	2	100 MAIN STREET REALTY LLC	106	MAIN ST	DOWNTOWN ROW TYPE STORE WITH COMMON OR PARTY WALLS	64,457	On Sanborns, Lot 329 contained a coal yard on 1892 map, and was traversed north-south by Long Island Railroad tracks and contained a freight depot (1904-1961).	Spill No. 9005490 was reported in August 1990 during a 10,000-gallon tank test failure at the Hempstead Bus Terminal. Product was No. 2 fuel oil. A reported quantity of zero gallons of oil was spilled/recovered listed. Spill was closed in August 1999.	Yes	Yes	Bus depot/ Automotive usage
6	141	340	19	MAIN & FULTON CORNER LLC	54	MAIN ST	OFFICE BUILDING	5,328	Print Shop (1892-1904), Photo (1897)	SMALL CLOSED SPILLS (9411909, 011965, 9309474).	No	Potential	Intersection. Adjacent uses, i.e., printing operations, minor spills on adjacent properties, transformer spills and roadway spills
7	147	340	14	R & R DYNASTY CORP	42	MAIN ST	DEPARTMENT STORE	3,387	Marble Works (1886-1897), Stone Cutting (1904), Tin Shop (1919-1925), Paint Shop (1925)	N/A	Yes	Yes	Former industrial operations
9	233			Site 9			Intersection of Franklin and Jackson			Nearby petroleum spills and vehicular spills, pole-mounted transformer spills	Yes	Potential	Some limited spills incidents
10	234			Site 10: Innovation District			Area bounded by Greenwich Street, Fulton Avenue, Peninsula Blvd, Cathedral Avenue, and President Street			"Several closed spills related to fuel oil tanks and vehicular spills, etc., and sites with known contamination including: BCP site FORMER HUSSLEIN PLATING CORP. & SEMPKE BUS GARAGE at 48 SEWELL STREET (heavy metals contamination). Additional sites included large hazardous waste generators including AUROMET CORP Facility Id: NYD001234087 37 CHASNER ST and GENERAL REFINING & SMELTING CORP Facility Id: NYD082780446 at 106 Taft Avenue			

Notes: Recognized Environmental Conditions (REC); Generator of hazardous wastes (haz waste); Manufactured Gas Plant (MGP); Large Quantity Generator (LQG); Small Quantity Generator (SQG); Conditionally Exempt SQG (CESQG). See Figure C-1 for corresponding Map ID.
Sources: 1. Toxics Targeting, Inc., Regulatory Database Search, October 2018. 2. Sanborn Insurance Maps (select years between 1886 and 1970) Environmental Data Resources, Inc. 3. Aerial Photographs (select years between 1938 and 2017) Environmental Data Resources, Inc.



Proposed BOA Boundary

Innovation District

0 1,000 FEET

Universe of Known and Potential Brownfield Sites

- Potential Environmental Conditions
- Recognized Environmental Conditions
- Underutilized Use
- Industrial
- Vacant Land
- NYSDEC-Brownfield Cleanup Program (BCP)
- Pertinent Facilities
- Site Location Reference Number as Indicated on Table C-1

Location Map - Universe of Brownfield and Underutilized Sites

VILLAGE OF HEMPSTEAD BOA

Figure C-1

APPENDIX D
WATER/SEWER STUDIES

ENGINEERING REPORT

FOR

POTABLE WATER SYSTEM

CAPITAL IMPROVEMENTS

TO SUPPORT REDEVELOPMENT

INC. VILLAGE OF HEMPSTEAD

NASSAU COUNTY, NY

February 2017

PREPARED BY:
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Engineering Report
For
Potable Water System
Capital Improvements
to Support Redevelopment

1.0 Background

The Inc. Village of Hempstead operates its own potable water supply system that serves a population of 53,891 residents (2010 Census) within a 3.78 square mile service area. The Village is located in the western portion of Nassau County on Long Island as shown on Drawing 1.

The Village includes the most densely populated portion of Nassau County with large office, commercial and apartment buildings surrounded by neighborhoods having single family homes. The character of the Village will potentially change as there are numerous projects being considered to redevelop underutilized properties in the central and northern portions. The proposed developments consist largely of luxury apartment towers, although final sizes and details are not yet available for all these projects.

The Village has its own potable water supply system as well as storm water and sanitary sewage collection systems. Utility improvement projects, including water production, treatment, storage and transmission mains, must be evaluated to support this large potential growth in demand. Improvements to the sanitary sewers and other infrastructure are addressed in a separate report.

1.1 Water Supply System Description

The potable water distribution system consists of 93.4 miles of water main ranging in size from 4-inch to 24-inch diameter. Materials of construction are primarily unlined cast iron (CI), with smaller amounts of Transite (cementitious) and cement lined ductile iron (CLDI) pipe. The water system operates as a single pressure zone with a total of two elevated steel water storage tanks.

The village water system operates a total of nine potable supply wells located at two water plants as shown on Drawing 2. Seven of these wells serve the Clinton Street water plant located in the northeast portion of the Village, as shown in Drawing 3, and two more are located at the Laurel Avenue water plant, as shown in Drawing 4. Volatile organic contaminants (VOCs) have impacted all of the wells at the Clinton Street water plant at various times, generally at trace concentrations.

All of the wells at Clinton Street discharge water to either of two aeration treatment basins, which in turn flow into a "mixing chamber" where sodium hypochlorite and sodium hexametaphosphate are added. The mixing chamber connects to a suction header for the booster pumping facility which lifts water to the distribution system after the addition of caustic soda to reduce acidity.

A 500,000 gallon elevated steel tank is located at Clinton Street. The two wells located at Laurel Avenue in the southern part of the Village pump directly into the distribution system with a 1,000,000 gallon elevated steel tank located there.

The original purpose of the Clinton Street aeration treatment basins included oxidation of iron present in several of the wells and stripping of hydrogen sulfide, which was sporadically encountered in older wells, since abandoned. Wells that have been redrilled over the years have generally had the new well screens located at greater depths. The deeper sand layers initially resulted in lower iron concentrations in these wells but these rose over time.

Wells that were redrilled had their replacement well designated with an "R", such that the replacement for Well No. 1 was Well No. 1R, and the replacement for Well No. 1R was designated as Well No. 1RR. A project to redrill four of the wells, Nos. 1R, 2, 3, and 6, commenced during 2003 and was completed during 2007. These four new wells were designated as 1RR, 2R, 3R, and 6R. These replacement wells were located near the old wells, but also had well screens generally located deeper than the original wells being replaced. Well 8 had its screen replaced during 2013 at the identical depth and location as the original screen.

Table 1 contains a summary of the dates of construction, screen depths and pumping capacities for the nine wells owned by the village.

Existing treatment at the Clinton Street Water Plant consists of aeration using two packed towers ("air stripping towers"), ASTs No. 1R and No. 2, each sized to treat up to three wells simultaneously, with lower efficiency nozzle aeration into the basins for the remaining wells. Nozzle aeration was incorporated into the original design of the plant in 1932. While the aeration removes volatile compounds such as solvents, its original function was to achieve other benefits such as oxidation of dissolved iron and lowering of chemical demand through stripping of carbon dioxide. The buried piping at the Clinton Street water plant originally allowed routing of the wells to the nozzle lines and has since been modified to allow water from the wells to be routed to the packed aeration (air stripping) towers.

The Laurel Avenue water plant contains wells 7 and 9, both of which have high concentrations of dissolved iron. The Laurel Avenue water plant has a manganese greensand iron removal filter system to improve the aesthetic quality of the water produced from the two wells. This system is effective to remove dissolved iron but has high operating costs. Many of the wells at the Clinton Street water plant have moderate concentrations of iron, while the concentrations in wells 2R and 4 are now problematic. The water aeration treatment basins not only provide de facto storage of over two million gallons of water, but also provide iron removal by aeration and settling for these seven wells.

1.2 Anticipated Growth

A Redevelopment Zone was established by the Village in order to facilitate economic development focused primarily within the Main Street and Franklin Avenue area at the north end of the Village. This area is shown in Figure 1. This area is located west of the Hempstead

station of the Long Island Rail Road (LIRR) and was the location of several current and former car dealerships, as well as other commercial properties. The area contained primarily one and two story structures and associated parking lots. Renaissance Downtowns (RD) was designated as the Master Developer and executed a Master Development Agreement (MDA) with the Village. The MDA grants RD development rights to certain properties and specifies certain requirements to be met by RD within specific timeframes.

It is anticipated that somewhere between 20 and 30 separate projects will be undertaken by RD and other developers within the Redevelopment Zone. RD had site plans approved for four sites as of November 2016. At the time of writing this report, RD had submitted site plans for an additional 19 sites.

Each proposed development has unique aspects but generally consist of five story, high end, residential condominiums with retail, office and restaurant space on the ground level. The total number and size of all projects is difficult to project. In addition, the various projects will be constructed at different times which will be influenced by future economic conditions. These projects require potable water supply both for consumption and firefighting.

The existing water system requires capital improvements to reliably service the new projects. These capital improvements can take years to plan, permit and construct. This process requires significant expenditures years before the increased water service must be provided. Each capital improvement will generally be sized for all anticipated development projects within the next 5 to 25 years. It is not generally possible to construct capital improvement for a single new project at a time.

The exact scope and timing of property development projects is not known to the Village or the property developers. A scenario, or schedule, of reasonably anticipated property development projects has been adopted as the basis for the projected water system capital improvements.

1.3 Funding Needs

Routine water system needs for the existing customer base are anticipated and planned years in advance with the highest priority projects being undertaken each year. These projects are anticipated in the annual budget and are generally paid out of metered revenues. Very large projects are undertaken less frequently and may require issuing of long term bonds. These bonds are repaid out of annual metered revenues. The total bond debt load that can be carried by the Water Department is limited by practical considerations to keep the water rates affordable as well as practical limits on the total debt load for all Village Departments.

Funding for each potable water system capital improvement project must be in place long before that project is completed. Decisions on capital projects must anticipate the total increase in water demand for all the property development projects within a multi-year timeframe. This forces the Village to either commit to the expenses of water projects for which not all property developments are ready to proceed; or to wait to undertake water projects until all of the benefitting development projects are ready to proceed. Neither situation is practical.

A different funding mechanism is required to balance the needs to protect the existing water rate payers and to allow development within a reasonable timeframe. The adopted property development scenario can be used to project increases in water demand and the schedule of water system capital improvement projects. This information can then be used to project the required cash flow beyond the routine water system needs.

"Development" or "Key Money" or "Capital Improvement" charges have been used for decades to fund infrastructure improvements during periods of rapid growth. Capital Improvement charges consist of payments by a property developer to the Village to offset the cost of water system capital improvements to support the property development in question. These capital improvements will be built, owned and operated by the Village. Future operating and maintenance costs will be supported by metered water revenues generated by future water sales.

2.0 Purpose of the Report

The Village authorized this study in order to ensure adequate planning for present and future demands on the potable water supply system. The growth in the number of water customers during the last five years has been slight. However, the "Downtown Redevelopment" now being planned will include significant increases in residential and commercial building space.

The Village is now entering a period of economic redevelopment after decades of decline following the loss of the downtown shopping centers that were the center of business activity during the 1950's and 1960's. The new growth includes construction of four to six story luxury residential apartment towers with retail stores and restaurants on the ground level.

Several projects have begun construction but the full extent of these redevelopment projects is anticipated to cover multiple blocks of the north-central portion of the Village. The boundaries of the "North Main Street Redevelopment Area" are shown in Figure 1. It is reported that 33% of this area has "fallen off" the tax rolls with many lots empty. The contemplated redevelopment is expected to have greater potable water demands than the buildings and lots being replaced.

Decisions on Capital Improvements made at this time will have a significant influence on the ability of the water system to meet the demands for water supply in a cost effective manner for decades to come.

This report brings together and summarizes the information used to develop a proposed Capital Improvement program for the Village potable water system. These projects include improvements to current facilities to improve the level of service to existing customers, as well as new facilities to increase water production, storage and transmission capacity needed to accommodate the water availability requests for the redevelopment projects.

Details of options and costs for specific projects are also included. Planning for a large capital program must also consider issues of funding sources and cash flow. Projects are identified in one of two groups: those required to benefit existing customers, and those to benefit future customers. In many cases capital improvement projects will be more cost effective if sized large enough to benefit both groups.

An analysis of sources of revenue available to the Village includes a review of the rationale behind existing funding sources and the new Capital Improvement Charges. The charges to be implemented to pay the costs of operating, maintaining, and expanding the public water system were based on the following criteria:

- Charges should reflect the cost of providing facilities and services.
- Total revenues should be adequate to maintain properly the Village facilities and to protect the public's sunk investments.
- Growth should be planned, rather than reactive.

- Revenue for capital projects for new growth should be collected sufficiently in advance of the required date of service to prevent the existing Village rate payers from subsidizing the new development.
- All new infrastructure construction must meet the Village's standards of quality and hydraulic sizing. Construction as part of any development must not require improvement or correction after it is turned over to the Village.
- The formulation of growth-related charges should be simple enough to be readily understood and implemented, and based on reasonable estimates of peak water usage.
- Growth related charges should be distributed equitably and uniformly.

Finally, the identified capital projects and funding mechanisms are applied to an anticipated growth scenario to evaluate cash flow problems that may arise as the capital improvement program is carried out.

2.1 Projection of Capital Needs

Specific capital projects include construction of new wells to increase the peak capacity of water production. Treatment systems are used to treat the water produced by the new and existing wells to the desired water quality. These treatment systems do not add to the productive capacity of the wells but are considered to improve the reliability of the well capacity.

Finished water storage tanks serve to reduce the number of wells required to meet peak period water flow rates. Water storage includes elevated storage tanks which serve to maintain pressure within the distribution system and allows the operator time to react during power outages or water main breaks. Finished water ground storage tanks hold water produced by wells and processed by treatment systems. This water is not at distribution system pressure but requires booster pumps to draw water from the ground tanks and to discharge it to the distribution system. For purposes of this report it has been assumed that no sites for new elevated storage tanks will be available so all new storage will consist of ground tanks with associated booster pumping facilities.

Transmission and distribution system improvements consist of installation of new water mains. Distribution mains include those that have water service lines tapped into them to service customers along the pipe route. Transmission mains are generally larger diameter pipes which are designed to carry water from wells or storage tanks to the distribution mains in a certain area. Transmission mains do not have water service lines tapped into them but are connected to smaller diameter distribution mains along its route.

Sizing of required water capacity for production (wells and treatment) and storage (tanks and booster pumps) is done by analysis and projection of peak period water use. Sizing of the required capacity for transmission and distribution (water mains) is accomplished by numerical modeling of flow scenarios to predict achievable flow rates for future fire flow scenarios.

This report seeks to project required flows and to identify the scope and cost of specific improvement projects which can be constructed. It then seeks to analyze the benefit of each project and apportion it between existing and future customers.

2.2 Funding Mechanism

A schedule of development projects is used to predict future demand by year and to generate a scenario of specific water system capital improvement projects to meet that demand. The predicted costs of those capital improvement projects are used to determine cash flow requirements. Capital Improvement charges are required to avoid forcing existing rate payers to subsidize the costs of new development. The amount of the Capital Improvement charge is based on the projected costs of the identified capital improvement projects prorated among the new property redevelopment projects.

3.0 Current Water Supply Situation

The source of all potable water in the Village of Hempstead is groundwater. This groundwater is withdrawn by nine wells drilled into the Magothy Aquifer located beneath the village. Well No. 9 was constructed in 1967, at about the time that the Village began to feel the financial impact of the Roosevelt Field Mall drawing people and business away from the downtown area. Five of the remaining wells have been reconstructed since that time, but this work served to renew existing capacity rather than to add to it. The current water supply system capacity is examined in relation to current demands.

The Village administration has stabilized its finances and reversed previous credit rating agency downgrades, even in the face of declining revenue due to property tax certiorari cases. Projects to install treatment and replace aging wells, pumps, pipes, valves, meters and electrical infrastructure have been completed during the last fifteen years. These have increased the reliability of the water production system.

3.1 Water Use Trends

Table 2 shows the average day, peak day and estimated peak hour flows for the entire village water system from 1986 to 2016. The historical average day and maximum day pumpage for the same period is shown as a graph in Figure 2.

The precise scope and schedule for implementation of the new development projects is not known at this time. Several assumptions were made to reflect the additional water demand resulting from these projects. The official US Census population of the Village remained essentially flat from 2000 to present although there is a suspicion that the real population may be higher due to a census undercount. Table 3 and Figure 3 show the population of the Village from 1900 to present and projected forward to 2050. Future population growth was projected based on a 4% annual increase through 2027 followed by a 1% annual growth rate from 2028 to 2037, with no growth thereafter. Figure 3 also shows the total mechanical pumping capacity of the wells to date, assuming no increase going forward.

The historical water consumption was normalized by the population to develop per capita water demand as shown in Table 4 and Figure 4. The graphs in Figure 4 show a decrease in per capita water demand as water rates began to increase about fifteen years ago. Installation of new radio read meters commenced during 2006, which revealed many old meters running slowly or being bypassed. Several water plant meters were also modernized during this period and service lines that previously had estimated bills were fitted with new meters. This caused a jump in per capita water use as residents had not yet fixed plumbing leaks or optimized their water consumption habits. 2008 was a very hot year with high pumpage, after which the per capita use dropped back toward the long term trend line.

Per capita water consumption tends to increase with increasing affluence. The forward projections of per capita water use in Figure 4 are based on a 0.25% annual growth rate in per capita water use. When these are combined with the anticipated population growth from Figure 3, the future average and peak day flows will be as shown in Figure 5.

3.2 Water System Sizing

The projected redevelopment includes conversion of many blocks that are now either empty or in commercial use, to retail, restaurants and much higher density residential and apartment uses. This growth in population will require an increase in water system capacity as can be seen intuitively on Figure 3. The increased capacity can consist of more wells or a combination of additional wells and an increase in storage. While elevated storage is the most desirable from an operational standpoint, it is assumed for this report that any increase in storage will consist of ground storage tanks with associated booster pumps. The water storage capacity within the water supply system is summarized in Table 5, while the booster pumping capacity associated with the ground storage tanks is summarized in Table 6.

Table 2 shows the average day, peak day and estimated peak hour flows for the entire village water system from 1986 to 2016. The use of individual wells within the water system can vary significantly from year to year. Figure 6 shows the annual pumpage from each of the nine existing wells in the Village from 1977 to 2016.

Water use in the Village varies throughout the year with higher demand during the summer months. Water flows also vary throughout each day with higher use seen in the early morning, midday and during the evening dinner hour.

The water system has multiple wells to meet this demand but also uses water storage tanks. Without the storage tanks the number of wells is not sufficient to meet the water flow demands during the peak hours of the hottest day, especially when the need for firefighting flows is considered. Wells are run during off-peak hours and this water is placed into the water storage tanks. During the peak hours the wells continue to run and water is also withdrawn from the storage tanks to satisfy the demand.

If there were no water storage tanks the water system would need to construct and maintain an unreasonably large number of wells, even if some of them would only be needed for a few hours per year. Having the right amount of water storage tank capacity renders the water system more reliable and cost effective.

3.2.1 Conventional Standards for Operating Availability

An assessment of the facilities to supply the water demands for the Village depends greatly on the dependability of each water source. Factors that degrade mechanical reliability include mechanical wear and breakdown as well as water quality problems requiring treatment. Treatment systems, in turn, add a level of complexity that increases the down time needed for scheduled maintenance and decreases system reliability.

Public utilities, including water, gas and electrical suppliers have redundant equipment in order to ensure reliable operation. The degree of redundancy and equipment reliability determine the overall system reliability.

Sound water supply planning must be based on estimates of the obtainable overall operating availability. In order to determine the appropriate operating availability for the water system equipment, general water supply planning guidelines should be considered.

When a single plant or booster facility will be the only one serving an area, a redundant, full capacity pump is required. This is specified in the "Recommended Standards for Water Works of the Great Lakes Upper Mississippi River Board of State Public Health & Environmental Manager," also known as the "10 States Standards, "which is used by the New York State Department of Health to review water supply construction plans.

The required redundancy in a water distribution system is also specified in the "American Water Works Association Manual of Water Supply Practices M31" (AWWA M31), which states that the design flow be produced "...assuming that the most critical element of the system is out of service at the time the design flow is required of the system."

The appropriate level of redundancy in a small water supply system is typically interpreted as the capacity required to meet the peak day plus firefighting flows with the largest water facility in the system out of commission. However, when a system includes more than two or three wells, this approach will not provide a realistic assessment of mechanical down time. AWWA M31 addresses this issue with the requirement to "...design the system using the design flow as determined above so as to ensure that the reliability considerations ...are adequately dealt with."

One precedent for a larger water system is available from the Suffolk County Department of Health Services (SCDHS), which agreed to an overall operating-availability of 60% for new pumping facilities for the Village of Greenport Water Department (Greenport). Paul Ponturo, P.E., formerly of the SCDHS, confirmed that the operating-availability figure adopted for Greenport was based on an analysis of the historical operating performance of that Village water system. A similar approach has also been used successfully for water system development charges by the South Huntington Water District, the Village of Freeport and the Plainview Water District, and was accepted by the United States Environmental Protection Agency and the New York State Department of Health as a measure of redundancy performed as a component of federally mandated water system vulnerability assessments.

3.2.2 Historical Operating Availability

The Village of Hempstead Water Department has traditionally maintained its wells with a high degree of readiness for the peak summer pumping period. An estimate of operating availability is required to evaluate the water supply system. The most accurate projections of future operating availability will be based on an examination of prior operating availability.

The operating availability of the Village supply wells since 1975 is summarized in Table 3 and illustrated in Figure 3. Decreases in operating availability resulting from minor wear on pumps and motors, fluctuations in water table elevations and wells rendered unavailable during construction of treatment systems, or major repairs are reflected in Table 1 under the subheading "Mechanical Pumping Capacity" which generally differs from the authorized pumping capacity. These numbers do not reflect the loss of availability from unforeseen breakdowns during the

peak pumping season and the need to restrict the use of wells because of groundwater quality problems.

Operating availability during the peak pumping season varied year to year because of unpredictable equipment breakdowns and water quality problems. The appropriate "Operating Availability Design Standard" for planning purposes is the lowest figure attainable under real operating conditions. Use of an average operating availability over several years would not adequately account for the need to provide peak flows during years with greater than average breakdowns and quality problems.

The operational availability of 60% previously used by SCDHS for the Village of Greenport and 70% for the South Huntington Water District brackets the defensible range for the Village of Hempstead water system. An operating availability design standard of 65% is appropriate for long term planning for the Village.

3.3 Existing Water Supply Capacity

The village wide total annual pumpage is a function of the size and affluence of the population served and also fluctuates with weather conditions, with higher pumpage being typical for hotter years. The facilities that make up a water supply system must be designed to accommodate the greatest anticipated flow demand along with sufficient capacity to fight fire. The required flow for a safe water system is calculated based on the projected consumption rate for the peak day of the year, expressed as an average over that whole day, plus the flow rates and durations for fire-fighting as established by the Insurance Services Office (ISO).

An analysis of the Village of Hempstead water system was performed using reliability factors appropriate to the type and age of equipment. This analysis was performed for 2016 and was projected for 2025 and 2035 using the population and per capita water consumption growth rates discussed above.

The water system needs to be able to supply the rated fire flow plus the anticipated peak day flow (as an average over 24 hours) plus provide the peak hour fluctuations. The peak hour fluctuations are typically taken as 20% to 30% of the peak day total. For this analysis the peak hour factor was taken as 20% to avoid making the calculation unreasonably conservative.

The ISO fire flow rating assigned to the Village is 6,500 gpm for a duration of 6 hours, equating to a total flow of 2.34 million gallons (MG). This is a relatively high fire flow and it is assumed that no new building would be assigned a higher flow then this throughout the planning period. The peak day design flow used for 2016 was 10.50 MG, which was the peak day actually observed during 2008.

The resulting total peak demand plus fire flow rate on the water system is 14.94 MGD for 2016 as shown in Table 7A.

These required flow capacities need to be met through a combination of well pumping capacity and storage tank capacity. This calculation is based on taking the mechanical pumping

capacities of each well times the adopted well reliability factor, adding the elevated storage capacity and adding the ground storage tank capacity in light of the booster pumping capacity and reliability. The calculation is somewhat complicated by the fact that seven of the nine wells pump into the Clinton Street treatment basins and then need to also pass through the booster pumps before reaching the system.

3.3.1 Well Capacity

The historical operation of the wells within the Village system is represented graphically within Figures 6 and 7. The vertical height of each colored section in Figure 6 is proportional to the total pumpage for that individual well. Figure 7 is similar but shows the percentage of total annual pumpage provided by each well since 1977. The use of individual wells varies significantly due to issues of mechanical break down and fluctuations in water quality.

Reliability factors are assigned for the water storage tanks and their associated booster pumps; generators and treatment systems. However, the most sensitive variable is the reliability of the wells, which is impacted by mechanical factors as well as water quality factors. Calculations were performed using a well reliability of 65%.

Historical water consumption was evaluated for the most recent 10 year period (2007 to 2016) in order to reflect the water conservation and leak reduction achieved as compared to earlier periods. This shows that the water system has a well capacity deficit of 2.58 MGD (1,791 gpm) at present, using 65% well reliability, and based on existing volumes of storage, as shown in Table 7A.

The village is not able to freely construct wells as it wishes. The New York State Department of Environmental Conservation (NYSDEC) issues permits for water supply wells. These permits are not granted automatically but are evaluated based on factors such as the total withdrawal of water from the aquifers, movement of known groundwater contamination induced by pumping and the hydraulic impact of pumping on other existing wells and water bodies.

The Village of Hempstead has high population density and is urban in nature. This results in more concentrated impacts on the aquifer which, in turn, makes the issuing of new permits less likely. There is some limit beyond which NYSDEC will issue no further permit capacity. Therefore the Village needs to carefully consider how the remaining unused withdrawal capacity is committed.

Construction of potable supply wells must also be approved by the Nassau County Department of Health (NCDOH). The New York State Sanitary Code specifies certain well head buffer zones and minimum well screen depths for well construction. These were drafted with rural areas in mind with the intent of preventing sanitary problems related to livestock or farming impacts on groundwater. While there is precedent in Suffolk County and other parts of New York State for applying these rules in a "spirit of the law" sense, such practicalities are not allowed within Nassau County. Consequently there are extremely few sites left within the Village which are even potentially approvable as new well sites. These limits on increasing the water well pumping capacity are most likely the limiting factor for all future growth within the

Village of Hempstead.

Alternate calculations were performed to assess water system well pumping needs assuming that the total ground storage tank capacity was increased to 4.44 MG. These calculations are discussed in the following section. The resulting present day deficit in well pumping capacity would be reduced to 0.11 MGD (73 gpm) as shown in Table 7B.

3.3.2 Storage Tank Capacity

Replacement of the water treatment basins at Clinton Street requires determining the optimal size of water storage for the projected future demands on the water system. Over estimating future demand will increase capital costs while underestimating future demand may limit the amount of future property redevelopment which can be served.

The adequacy of water storage is related to the amount of available well capacity and vice versa. Lack of wells can be compensated for with additional storage, within a reasonable range.

A practical range of storage capacity can be calculated by considering the extremes. If the well capacity is only equal to the average day flow then storage must be available for the fire flows, plus the peak hour fluctuations plus the difference between the average and the peak day flows added over the entire summer season. This would be an unrealistically large amount of storage.

If the reliable well capacity equals the peak day demand then required storage is only the fire flow plus the peak hour fluctuation. This was deemed to be the most economical amount of storage, with any storage capacity available beyond this allowing the well reliability to be less than 65% or for total well capacity to be somewhat lower than the peak day demand. Any storage deficit below this amount requires that excess wells be built that are only needed a few days per year. This is unaffordable and the number of suitable sites for future wells is quite limited.

The aeration treatment basins at Clinton Street are 13 feet deep and are kept full during normal operations. They can be drawn down temporarily to meet peak fire flow demands. Table 5 contains a summary of the existing storage tank capacity. This assumes that each basin can be drawn down by ten feet with no risk of breaking suction. The capacity of each treatment basin is just over one million gallons. This capacity is a valuable part of the storage capacity of the entire water system, even though the water is not fully treated "finished" water while it is in the basin.

It was assumed that all water tanks would be 100% available on the peak day and that the booster pump capacity would be 90% of the nominal "new" pumping capacity. To meet the peak hour plus fire flow requires that the minimum desirable amount of storage is now 4.44 MG. Assuming that the existing total amount of elevated storage will remain at 1.5 MG throughout the planning period and that the existing treatment basins can practically only be drawn down by 10 feet results in required additional ground storage tank capacity of 1.25 MG at present, as shown in Table 7A.

Construction of additional water storage capacity would improve system reliability and operating

efficiency. Water storage can be elevated storage or ground storage with associated booster pumps. Elevated storage is more desirable as the water is at system pressure and therefore more reliable as it is available even during a power outage or pump failure. However, the opportunity to add elevated water storage is not foreseen at this time. Alternate calculations were performed to assess water system well pumping needs assuming that the total ground storage capacity was increased to 4.44 MG. The resulting deficit in well pumping capacity is reduced to 0.11 MGD (73 gpm) as shown in Table 7B.

3.3.3 Booster Pump Capacity

Table 6 summarizes the capacity of the four booster pumps which now exist at Clinton Street. These pumps have a nominal total pumping capacity of 14,000 gpm, which is far in excess of the total capacity of the wells which feed water into the basins; and in excess of the fire flow plus peak day demand flow rates. Therefore existing booster pumping capacity is adequate.

3.3.4 Treatment Capacity

There are several forms of water treatment performed within the Village water system. Corrosion control treatment consists of pH adjustment through the addition of sodium hydroxide and the addition of sodium Hexametaphosphate as a passivating agent. These treatment processes are inexpensive and performed on all water delivered to customers.

The treatment processes of interest for purposes of this report include removal of groundwater contaminants. These include removal of volatile organic compounds (VOCs) through air-stripping (packed media aeration) towers or granular activated carbon (GAC) filters. Typical such compounds include solvents, degreasers or petroleum products for which the New York State Department of Health (NYSDOH) has established Primary (health related) drinking water standards.

Five of the wells at the Clinton Street water plant have trace to moderate concentrations of VOCs. The historical trends are decreasing for the overall aquifer as seen in the tables and charts of untreated well water samples since 1977. These are contained in Appendix A. The Village now has air-stripping towers installed which can treat up to 6,000 gpm of raw well water. This capacity is adequate to treat all wells which are currently impacted by VOCs.

NYSDOH also has Secondary (aesthetic related) drinking water standards. Dissolved iron is the greatest concern here as four wells (2R, 4, 7 and 9) have objectionable concentrations of iron. Iron removal filters have only been built for wells 7 and 9. The Village is in the planning stage of designing iron removal filtration for wells 2R and 4.

New contaminants of concern can emerge in the future. The Village participates in sampling for the USEPA Unregulated Contaminant Monitoring Rule (UCMR) and will respond as new issues may arise. By their nature these concerns cannot be planned for in advance of discovery.

The scenario of greater concern relates to construction of new water wells at future well sites. These sites may be impacted with groundwater contamination which has not yet been detected. Test wells will be constructed first so that water samples can be obtained, but the paucity of

available well sites may require construction of new wells at sites which will also require construction of treatment systems. These will increase the costs and complexity of any such wells.

3.3.5 Transmission Capacity

The water distribution system operates as a single pressure zone into which water is fed from both of the existing water plants. Each plant contains an elevated water storage tank which stores water and serves to reduce pressure fluctuations during periods of high water demand. Water will flow through the pipes of the water system from the water plants to the location of water demand.

The property redevelopment projects represent concentrated water demands, especially for firefighting purposes. The water distribution network is adequate for small flows associated with many of the existing uses but not for the new development projects. The water distribution system is not adequate to provide very large fire flows to portions of the area to be redeveloped.

A hydraulic model was developed for the distribution system in order to predict the improvements to flow for specific transmission and distribution water main projects. Appendix B contains the report which details the model formulation, calibration and recommended water system Capital Improvement projects. At this time construction of one or two large diameter (16" or 24") pipes west from Clinton Street plus the addition of 12" diameter water mains on streets being redeveloped is considered the minimum necessary improvement.

The Village water distribution system in residential and light commercial areas now consists largely of unlined cast iron mains, generally of 6-inch diameter. Village policy has been to replace those mains with new cement lined ductile iron (CLDI) or PVC ("Blue Brute") water mains of not less than 8-inch diameter. Streets to receive new transmission mains will also generally have a new 8-inch diameter distribution main installed on that street.

3.4 Required Additional Facilities for Existing Demand

With the amount of storage now existing, the Village needs 1,791 gpm of additional well capacity in order to service existing demands. This can be achieved in part through overhauling well pumps with declining capacity including those installed in wells 4, 7 and 9. This would still require the addition of one new well, or two new wells with most of the capacity of the second well becoming available to serve new growth.

The Village is pursuing NCDOH approval for construction of wells at Kennedy and Lincoln Parks. The conceptual configuration for Kennedy Park is shown in Drawing 5 while that for Lincoln Park is shown in Drawing 6. Once preliminary agreement is reached then water supply well permits will be sought from NYSDEC. The capacity of each new well permit will generally be limited to 1,388 gpm in order to remain below 2 MGD, which would be considered a Type I action under the State Environmental Quality Review Act (SEQRA).

The Village is considering construction of additional ground storage tank capacity to replace the water basins at Clinton Street. The two new tanks will have a capacity of 4.44 MG which is the

largest practical capacity that will fit at the plant. The conceptual layout is shown in Drawing 7. If these are constructed then the required addition well capacity required to service additional demands is reduced to 73 gpm which could be achieved through overhaul of existing well pumps. Construction of these new tanks would also provide excess storage which would be available to serve new growth.

If the option to construct the tanks is pursued in isolation, then each of the existing wells must be made available for each summer pumping season. There is no practical option to leave any well out of service for extended periods should it be impacted by groundwater contamination. Construction of a third plant site with additional wells is desirable both to increase the well pumping capacity and to reduce the number of wells that could be impacted by some future problem.

4.0 Projected Growth

Projections of the amount and timing of new water demand must be made in order to plan improvements to the potable water system with a rational basis. Future changes in water use can arise from increasing the number of water customers and increases in per capita water use for existing and new customers. This may be offset, in part, by reductions in lost and stolen water as well as water conservation measures which can achieve reductions in per capita water usage.

The Village water system instituted the use of radio read water meters and implemented actions to reduce the incidence of lost and stolen water. This was effective in reducing the peak day and average day flow demands. Adoption of increasing block rate water rates and increases in water rates at the higher usage blocks also resulted in customers implementing effective water conservation measures. This can be seen in the drop in per capita water use in Figure 4. These steps included most of the easily achievable water conservation improvements and reductions in per capita water use were achieved. Additional water conservation in the future will be more difficult to achieve.

The New York State Plumbing Code requires use of water conserving fixtures. Water consumption projections for the property redevelopment projects being considered are all based on the use of water conserving fixtures and low per capita water consumption rates. However, experience with past projects suggests that the low per capita water use projections tend to be exceeded in actual practice. Per capita water use also tends to increase with increasing affluence. Considering that the new developments will consist largely of "high end" residential units it is reasonable to examine historical trends in per capita water consumption. The sizing of future water system capital improvements is projected based on gradual increases in per capita water use.

4.1 Redevelopment Projects

A schedule of anticipated property redevelopment projects is required in order to generate a corresponding schedule of water system capital improvement projects. Renaissance Downtown (RD) is the master developer for the downtown redevelopment area. A schedule of property redevelopment projects was developed in discussion with RD representatives, and is shown in Table 8. This table is a best estimate of the schedule for redevelopment work and is considered as a scenario for planning purposes rather than a binding commitment by the Village, RD or other parties. If the property redevelopment projects are advanced or delayed, then the corresponding water system capital improvement projects will also be advanced or delayed in corresponding measure.

4.2. Required Additional Water Facilities

This report is not intended to be a Master Plan for the entire water system. However, decisions made for each capital project will limit or eliminate other options for the water system for decades to come. Consequently, the challenges facing all components of the water system must be considered as specific water system capital improvements are contemplated.

The Village is essentially fully developed and is now being redeveloped. This results in suitable

sites for new water plants being quite scarce. The existing water plants, parks and the DPW yard constitute nearly all the large parcels of land which remain within the Village. Multiple sites have been evaluated over a period of years for suitability for storage tanks and for construction of new wells.

Water tanks require large amounts of land for construction and maintenance and are frequently objectionable to neighboring residents. It is assumed that the public will not support or allow construction of a third elevated tank anywhere within the Village. Ground storage tanks are aesthetically less objectionable but still require a lot of land area. The security buffer area required around tanks makes their construction within a park site impractical unless the park is effectively abandoned. Tank construction at the Milburn Avenue DPW yard would impact normal DPW functions as the available space is not really sufficiently large. In addition, the DPW yard is the worst location for a tank from a hydraulic stand point as all the water mains in the area are of small diameter. The southern portion of the Clinton Street water plant is the most promising (and only currently feasible) site on which to construct new water storage tanks. The decision to construct any specific tank configuration at the site comes with the opportunity cost of precluding the construction of any other tank configuration for the next 50 to 100 years.

Water well sites require much less space so are potentially easier to site. Larger sites having the potential to site two or three wells will be more cost effective but sites for single wells must also be considered. The greatest restriction on locating new wells will be maintaining the required set back from existing sanitary sewers. The setback requirement from cesspools or sanitary sewers being enforced by NCDOH is 200 feet.

4.2.1 Well Capacity

Additional well capacity is expected to be the limiting factor defining the maximum build out potential of the Village. Calculations were performed using well reliability of 65%. Based on the existing volume of storage, the predicted deficits for 2025 and 2035 are 3.55 MGD (2,463 gpm) and 6.27 MGD (4,355 gpm) as shown on Tables 9A and 10A respectively.

For purposes of this report it has been assumed that two wells will be constructed at Kennedy Park. These wells will require construction of a transmission main to convey water from the plant site to the Redevelopment area. It is further assumed that both VOC and iron removal treatment will be required for these wells.

4.2.2 Storage Tank Capacity

It was assumed that all water tanks would be 100% available on the peak day and that the booster pump capacity would be 90% of the nominal "new" pumping capacity. To meet the peak hour plus fire flow requires that the minimum desirable amount of storage is now 4.44 MG and is projected to rise to 4.60 MG in 2025 and to 5.06 MG by 2035. Assuming that the existing total amount of elevated storage will remain at 1.5 MG throughout the planning period and that the existing treatment basins can practically only be drawn down by 10 feet results in required additional ground storage tank capacity of 1.25 MG at present, 1.41 MG in 2025 and 1.86 MG by 2035, as shown in tables 7A, 9A and 10A.

Alternate calculations were performed to assess water system well pumping needs assuming that the total ground storage capacity was increased to 4.44 MG. These calculations are shown in Tables 7B, 9B and 10B. The resulting deficit in well pumping capacity is reduced to 0.11 MGD (73 gpm) as shown in Table 7B. The predicted deficits for 2025 and 2035 are 1.07 MGD (746 gpm) and 3.80 MGD (2,638 gpm) as shown on Tables 9B and 10B respectively.

Projected growth related to the North Main Street Redevelopment project will require the storage capacity of the existing basins plus the addition of at least 1.86 MG by 2035. The only site yet identified within the Village where this volume of storage could be constructed is at the Clinton Street water plant and within the footprint of the existing treatment basins.

The tank height is important primarily from an aesthetics stand point, with shorter tank profiles being preferable to the neighbors. However, there are also practical limitations to making the tank too deep. If the tank is entirely buried the depth of excavation will result in very expensive construction and the need to reinforce the tank walls to resist the greater soil pressure.

In addition it is very desirable to be able to reutilize the existing booster pumping facility. This includes four pumps, each with a nominal capacity of 3,500 gpm, as well as piping and electrical infrastructure that would be expensive to replace. If the bottoms of the tanks are set too low then the existing booster pumping facility will only be able to draw water from the upper portion of the new tanks.

It is assumed that new tank construction would reutilize the existing booster station and include construction of a second, smaller booster station having two pumps each of 3,500 gpm capacity. This second booster station will be piped to discharge water on the east side of the plant to Yale and Dartmouth Streets. Both booster stations will be piped to be able to draw water from either new storage tank. One potential configuration of two new storage tanks and a new booster pumping station at the Clinton Street water plant is shown in Drawing 7. As a practical matter, each new tank should be constructed to be as large as will practically fit within the available building site.

4.2.3 Treatment Capacity

The nature, size and cost of future treatment capacity will depend upon the water quality produced by new water wells yet to be constructed. For purposes of this scenario it has been assumed that wells at Kennedy Park will be constructed and that they will require iron removal filtration and air-stripping treatment for VOC removal.

4.2.4 Transmission Capacity

A hydraulic model was developed for the distribution system in order to predict the improvements to flow for specific transmission and distribution water main projects. Appendix B contains the report which details the model formulation, calibration and recommended water system Capital Improvement projects. At this time construction of one large diameter (24") pipe west from Clinton Street plus the addition of 12" and 16"diameter water mains on streets being redeveloped is considered the minimum necessary improvement to supply fire flows within the Redevelopment area. Implementation of the transmission main improvements cannot

realistically be done in a single step. Drawing
8 shows Phase I of the improvements, which will transmit water to the redevelopment area. The second phase of work is intended to better distribute this water within and throughout the redevelopment area and is shown in Drawing
9.

Streets to have new transmission mains installed will also have the existing small water distribution mains replaced prior to roadway restoration. These distribution mains will generally be 8-inch diameter and those to replace existing pipes will be a Village expense rather than a cost associated with the new property development.

4.3 Projected Costs

The anticipated costs for any water facility include capital costs, which are fixed, and operating costs, which vary with the degree of utilization of the facility. A significant constraint assumed for these projects is that capital funds are quite limited and that the designs must be carefully tailored to stay within an affordable budget. A contrary constraint is the need to avoid excessive operating costs in future years. Capital Improvement charges relate to capital expenditures only with all future operating costs to be paid out of metered water revenues.

Accurate construction cost projections can only be developed once large portions of the detailed design have been finalized. However, preliminary cost projections have been developed in order to be able to evaluate the relative costs and benefits of the contemplated construction. There are several design parameters other than cost that need to be addressed within a successful design.

New water system capital improvement projects will often benefit both existing customers and those anticipated to move into the new property redevelopment projects. The costs for the new capacity must be fairly apportioned between them.

Specific projects required to service the existing and new demand include the following:

1. Ground Storage Tanks - This project consists of constructing two new finished water storage tanks at the Clinton Street water plant, with demolition of the existing water treatment basins. The new south tank will be 31 feet deep with a diameter of 120 feet, for a resulting capacity of 2.62 MG. The new north tank will be 31 feet deep with a diameter of 100 feet, for a resulting capacity of 1.82 MG.

   This project has two phases with the south tank first, followed by construction of the north tank. Construction cost projections are included in Appendix C. The costs projected in 2014 were $7,809,000.

2. Iron Removal Filters – This is "Phase 3" of the Clinton Storage tanks described above and consists of construction of iron removal filters for wells 2R and 4 at Clinton Street. The cost projected for this work is $4,053,000.

3. New Well Site – This project will consist of construction of two new wells at Kennedy Park together with piping, mechanical and controls; with air-stripping and iron removal treatment; and a new transmission main to tie the wells into the main portion of the water

distribution system. The costs projected for this work are $13,958,000.

4. Transmission Mains – This project includes new transmission mains from near the Clinton Street plant to the Main Street Redevelopment area. This work is described within the Hydraulic Modeling Report of Appendix B. The costs projected for the two phases of this work are $14,602,440. The individual projects anticipated during the next ten years are listed in Appendix E with the anticipated construction costs.

Allocation of the costs of these improvements can be considered on a per gallon cost of storage and per gpm cost of well capacity. The costs are then allocated to each redevelopment project based on the anticipated per capita water use. Unit costs are based on the following:

1. The finished water storage capacity will be 4.44 MG but this will be a net increase of 2.74 MG in comparison to the existing tanks to be demolished. This results in a net cost of $2.85 per gallon of added capacity.
2. The iron removal filter plants on existing wells are part of the existing capacity and are not a charge to Redevelopment projects.
3. The two new wells will each have capacity of 1,388 gpm for a net cost of $5,028 per gpm of treated well capacity. This is roughly two thirds for the well capacity with related infrastructure and one third for treatment.
4. Transmission main projects are allocable to the new redevelopment projects while the costs of the collocated replacement distribution mains on the same streets are allocated to the Village.

The relative value of adding additional storage capacity versus additional well pumping capacity varies with the system demands and the relative amount of storage existing. Under current conditions 1 gpm of additional well capacity is as useful as roughly 1,440 gallons of additional storage capacity. Based on the identified water system capital improvement projects the average cost of adding the equivalent of 1 gpm of new capacity is $4,566 plus the cost of associated transmission improvements.

Accurate projection of future water use for the property redevelopments is important to properly apportion costs among these projects and the existing water customers. Water billing data is available for water service lines. Since 1980, the standard minimum service line diameter has been 1-inch. The Village now has the following breakdown in service lines:

Service Line Diameter	Number Existing	Description
1 inch	7910	Residential
1 inch	400	Commercial
1 1/2 inch and Larger	447	Apartments & Commercial
4 to 8 inch	502	Fire Sprinkler (unmetered)

The peak day water pumping within the design period was 10,499,000 gallons which was seen during 2008. Comparing this to the total of 8,757 metered service lines shows a peak day use per

metered service line of 1,199 gallons. The official 2010 Census population of 53,891 suggests a population of 6.15 per metered service line, which is at least double the typical value expected for single family residential services on Long Island.
There are several parameters by which to assess the appropriate Capital Improvement Charge for property redevelopment projects. Historical per capita water use is shown in Figure 4. The peak day per capita use was 144.1 gallons during 2016 and was 181.8 gallons during 2008. The new projects are each unique in their own way and consist of both residential units and commercial space. The population of the new residential units is not easily predicted so this would make implementation of a Capital Improvement Charge based on population cumbersome.

The residential units are not expected to be easily comparable to single family residential properties. Water demand for apartment units can be reasonably predicted based on information published for anticipated wastewater flows. NCDOH predicts average flows of 275 gallons per day for a single bedroom apartment with an additional 200 gallons per day for each additional bedroom. Suffolk County Department of Health Services uses average flows of 150 gpd per housing unit up to 600 square feet of gross floor area; 225 gpd per unit having gross floor area from 601 to 1,200 square feet; and 300 gpd per unit having gross floor area greater than 1,200 square feet. These numbers are often deemed to be overly conservative as estimates of average flow but may be accurate to low estimates of peak flows. A peak day flow demand of 0.25 gpd per gross square foot of residential space is reasonable and can be easily applied to proposed redevelopment projects. For purposes of this report, the typical housing unit has been assumed to be 900 square feet. This results in a peak day flow of 225 gallons with a resulting Capital Improvement Charge of $713.45 as shown in Table 11. This charge will vary by the actual size of the units submitted with each application.

Similar average day predictions can be made for waste water generation by new commercial space. NCDOH uses 0.15 gpd per gross square foot of office space, with generally higher rates for restaurants. Treating these average rates as estimates for peak day flows removes any criticism that the numbers are too conservative.

The charge can be rounded off to $0.793 per square foot for residential area and $0.476 per square foot for commercial and retail development projects. The recommended charges are summarized in Table 11. Consider the following examples applied to the first two projects from Table 8:

Residential:
96 residential units @ 900 sq.ft/ unit x 0.25 gpd/ sq. ft. = 96 x 225 = 21,600 gpd
/1440 x $4,566.05 = $68,490.73

Commercial:
9,072 sq. ft. x 0.15 gpd/ sq. ft. = 1,361 gpd
1,361 gal / peak day /(1,440 min/day) x $4,566.05 /gpm = $ 4,314.92

Using the anticipated redevelopment projects listed in Table 8 and applying these rates results in an anticipated payment schedule as shown in Table 12. Note that these payments do not include

the payments for Transmission main projects.

5.0 Revenue Sources

In order to develop a rational and equitable way to fund growth related capital projects, it is useful to consider all of the sources of revenue available to the Water System, to define the purpose of each revenue stream and to apportion costs properly between various types of water users. The Water Department has traditionally raised revenue from metered revenue as well as initial and annual service line fees. The Capital Improvement Charge is now a third source of revenue.

The expenses incurred by the Water Department can be grouped into several categories: operating, maintenance, and capital improvement expenses. Operating costs consist for the most part of the incremental costs of producing water. These costs include electricity, chemicals, laboratory testing and labor for day to day operation. Maintenance costs include many infrastructure renewal costs, including construction of treatment systems on existing wells, maintenance and repair of wells and storage tanks, and administrative, regulatory and planning costs. Maintenance also includes costs of making firefighting flows available, even though they are rarely needed and will not normally generate metered water sales.

Capital Improvement expenses are incurred by those capital projects required for increasing the water production and storage capacity to meet significant increases in water supply demand.

The Capital Improvement charges are necessary for several reasons. First, the cost of construction of the necessary water facilities will greatly exceed normal water revenues. Unless an alternative funding mechanism is instituted, large rate increases would become necessary even if all of the projects were paid for with bond issues.

Paying for these projects through metered water revenues or through Village property tax revenue would oblige current users to subsidize the cost of infrastructure improvements that benefit new developments. The decline in the tax base attributable to tax certiorari cases, and the uneven types and locations of anticipated growth has undermined the utility of traditional funding mechanisms.

The planning for these major development projects does not enable the Village to determine precisely when a project is going to be built. The potential tax revenue from undeveloped or vacant property is very small. The Village must be very conservative in investing in infrastructure in anticipation of property development without assurance that adequate revenues will be derived from the properties.

5.1 Metered Revenue

Funding of routine operation of the water system is based on metered revenue plus certain fees as stipulated in the rate schedule. Water meters are read and billed twice per year. The Water Department Budget is set to cover operating costs such as labor, electricity and chemicals as well as Capital costs for bond repayment and smaller capital projects performed out of annual budget lines.

Once new property redevelopment projects are constructed and in service they will contribute to the Water Department revenues. Metered revenue is obviously related to the amount of water consumed. However, the amount of water consumed during routine use does not necessarily correlate to the cost of providing service. This is especially true for fire service lines.

Water rates are reviewed and adopted annually to address current costs. It is desired that rates be stable with moderate changes from year to year, to the extent possible. Metered revenue is not generally adequate to directly pay for large capital improvement projects without large swings on water rates.

5.2 Tax Revenue

Tax revenue can be a useful supplement to metered revenue, but is generally only available to certain types of water districts. Property tax derived revenue can better match the cost of making water service available to users that may have only modest metered water use.

The water system does not have any direct property tax revenue. The Village does levy property tax but these funds are entirely allocated to the administrative costs of Village government as well as traditional Department of Public Works functions such as maintenance of roadways, trash collection, etc. The Water Department is expected to be entirely self-funding and water rates are set on that basis.

5.3 Bonding

Capital projects can be paid for through the issuing of bonds and repaid generally over a period of 30 years. It must be recognized that issuing of bonds are not actually a source of revenue and will depend upon one or more of the revenue sources considered above in order to repay the principal and interest.

The Village has the ability to issue its own bonds (to a limited extent) and to make application to the New York State Revolving Fund to finance approved projects. This would allow the Capital improvement costs to be amortized over a long period rather than being paid up front by the property developer. It should be noted that if the developer includes the development costs within the sale price of each unit then the amortization still takes place via the mortgage payments but without requiring that the Village be involved in the transaction.

The interest rates on NYS Revolving Fund bonds are expected to carry a lower rate of interest than for a typical residential mortgage. Projects specifically to support growth would not likely be approved for funding from the NYS Revolving Fund. In addition the Village would accept the risk for future bond payments should anticipated water revenues fall short of projections.

5.4 Capital Improvement Charges

"Capital Improvement" or "Development" charges are the recommended method to implement the large water system capital improvement projects. The amount of the Capital Improvement charge should be set to cover the share of the anticipated construction expenses attributable to the redevelopment projects. The increased tax revenue which could result from development of

the property is effectively already committed to other Village purposes aside from water supply.

The recommended Capital Improvement charges have two components. The first is based on square footage and will be calculated for each project as it is submitted.

Residential space:	$0.793 per square foot
Commercial space:	$0.476 per square foot

The first component of the Capital Improvement Charge is based indirectly on anticipated water consumption. A second component is necessary to accommodate the needs of transmission main improvements for firefighting capacity rather than for consumption. The additional costs for these transmission improvements should be shared among the property redevelopment projects within the specific area to be improved.

Projected construction costs for each Transmission Main project are tabulated within Appendix E.

6.0 Implementation of Capital Program

The Capital Improvement program to be carried out by the Village has two components. Certain projects were conceived to meet the demands of the current customer base and to renew the capabilities of the water supply system. Planning for these projects has been underway, in some cases for years. Other projects are now being formulated in order to meet the demands arising from redevelopment for new residential and commercial tenants. Some projects are strictly for the benefit of one group or the other but most projects will benefit both existing and new customers so the benefits and costs must be apportioned. These two sets of projects will be funded from separate sources and must therefore be accounted for separately.

The portion of water facility projects for the benefit of new development will be funded by the capital improvement charge. These projects should not be built until funds to complete the appropriate portion have been paid by the developers. This will prevent the Village from constructing more facilities than are needed should the pace of development slow down. However, new water service connections will be necessary before completion of the projects intended to serve them.

A balance must be achieved between the need for the Village to avoid spending public funds for development projects that might be long delayed, and the desire to provide new water service connections as quickly as possible. This will be accomplished by maximizing the mechanical availability of the existing water supply facilities, planning in advance for as many of the projects as possible, and securing sites for new water plants as quickly as possible.

6.1 Capital Improvement Charges

The funding for the growth related projects will come from the payment of Capital Improvement Charges by property developers and through bond issues to be repaid partially through additional future water revenues arising from property redevelopment. We recommend that the Capital Improvement Charges be adopted by the Village Board.

6.2 New Plant Sites

Several of the proposed water supply projects will require that the Village secure land or easements upon which to build. The anticipated sites for these projects include existing Village owned park land and roadways. An easement across the LIRR property will be required. If suitable well sites can be identified in association with future project submittals they should be secured. Suitable well sites may become more difficult to locate after the proposed redevelopment projects are completed.

6.3 Proposed Projects

The following projects are proposed as the basis for the Village to improve its facilities to meet the peak period demands of its current customer base. These projects will commence as Village wide expenses as part of an ongoing maintenance program. While the long term goal of these projects is provision of water for current customers, they will also be necessary in order to increase the Village's water supply capacity and operational availability to temporarily supply new water service connections.

6.3.1 Wells

Additional well capacity is a high priority. However, the process to identify suitable sites and to secure permits is a lengthy process and has been underway for years. The identified sites including Kennedy Park and Lincoln Park will be discussed with NCDOH and if no immediate objections are received then Water Well Permit Applications will be completed and submitted to NYSDEC. It is anticipated that an enhanced water conservation program will need to be developed and implemented as a condition of NYSDEC issuing or possible even reviewing the permit applications. This planning work will be a Village wide expense.

Once permits are obtained then design of the wells alone will be completed and submitted to NCDOH. These plans will consist of the test wells and permanent wells but will include only preliminary design of the remainder of the well and related treatment facilities. Once NCDOH approval for the wells is secured, these plans will be put out to bid and one or more of the test wells constructed and sampled. If suitable results are obtained then the permanent wells will be constructed and the casings welded shut until full plans can be developed and submitted to NCDOH. This will secure the well permit pumping capacity for up to ten years.

The decision to proceed with construction of the new well site will depend on the schedule of redevelopment projects up to that time. The portion of the new well capacity that serves new development will be paid out of Capital Improvement Charges with the remainder paid out of a new bond issue.

6.3.2 Storage

Construction of new finished water ground storage tanks is necessary for future growth and to service existing demand until two new wells can be constructed. An Engineering Report for these tanks has been approved by NCDOH and development of design documents will commence in the near future. Once the design is approved and construction contracts awarded, the construction will take over two years to complete as it must be staged to maintain the Clinton Street water plant in operation.

The project will include construction of a new south tank followed by a new north tank. It is possible to proceed with only the south tank and to delay construction of the north tank until a sufficient amount of Capital Improvement charge proceeds are collected. However, the first half of the work will cost substantially more than the second half as all of the preliminary components must be constructed for the south tank to be placed into operation.

The decision to proceed with construction of each new tank will depend on the schedule of redevelopment projects up to that time. The portion of the new tank capacity that serves new development will be paid out of Capital Improvement Charges with the remainder paid out of a new bond issue.

6.3.3 Treatment

Iron Removal filters for wells 2R and 4 at Clinton Street are required to comply with a secondary (aesthetic) drinking water standard. Preparation of design plans for this work will proceed in the

near future. Construction of this project is anticipated to follow construction of the new storage tanks at Clinton Street but might precede it if work on the tanks is delayed.

This project will serve to increase the reliability of the existing wells and will be a Village wide expense to be paid out of a new bond issue.

Treatment may be required on one or more of the new wells to be constructed. The nature and extent of this treatment can be predicted once the test wells are constructed and sampled. Plans for any such treatment will be prepared in conjunction with those for the future well station. The portion of treatment for the new well capacity that serves new development will be paid out of Capital Improvement Charges with the remainder paid out of a new bond issue.

6.3.4 Transmission

The property redevelopment projects to be constructed have higher fire protection requirements than do the currently existing uses of the properties. New transmission mains are required in order to provide the required flows. Installation of these mains will benefit all of the new development projects within the immediate area of the redevelopment. The costs for the new transmission mains should be allocated among the reasonably anticipated future projects to be built within the Redevelopment zone. As a practical matter the transmission improvements are broken up into prioritized phases, and each phase should be constructed as sufficient Capital Improvement charges are collected. These transmission mains are for the benefit of new development and will be paid out of Capital Improvement Charges.

Transmission mains will also be required to transmit water into the heart of the distribution system from the new wells to be constructed. Plans for these transmission mains will be prepared in conjunction with those for the future well station. The allocation for these transmission mains will be the same as the portion of the new well capacity that serves new development. This will be paid out of Capital Improvement Charges with the remainder paid out of a new bond issue.

7.0 Cash Flow Projections

The sequence and cost of each of the identified projects must be included in the Village's financial planning. Projects which are a Village wide expense are expected to be paid for with bond funds. Projects related to new development will draw on accumulated Capital Improvement charges.

The projection that follows is based on a steady, affordable schedule for implementing the projects to meet current demand and assumes a relatively uniform rate of development during the next decade. Land acquisition, permitting and planning activities must proceed expeditiously so that water service can be provided reasonably promptly following payment of Capital Improvement charges.

One of the principal questions facing the Village is how much money is to be raised by bonds and when will the proceeds be needed. The property redevelopment forecast in Table 8 is used to project the revenue from collection of Capital Improvement charges shown in Table 12. This table reflects the assumption that the requested water services will be connected one to two years after they are paid for. Table 13 shows the projected sequence of project construction and the source of funds to build each project.

A bond issue of $10 million will allow completion of the planning and design tasks for multiple capital improvement projects and will "prime the pump" for the well construction project which will be funded in part by Capital Improvement charges. The water system must be maintained in a continuing high state of operational reliability for the next several years so that new services can be connected reasonably promptly following receipt of payment.

The following sections detail a scenario for the completion of the projects included in Table 13.

7.1 2017

Capital Improvement charges of $667,556 are collected for 906 residential units and 44,519 square feet of commercial and retail space. Additional charges for construction of Phase I of the transmission mains are also collected in the amount of $2,326,800.

The Village completes the design for all three phases of the Clinton Street water storage tanks and submits them for approval by NCDOH. Upon approval, the work for Phase I (south tank) is bid and awarded.

Planning work for the new well site proceeds including negotiations with NCDOH and preparation and submission of well permit applications to the NYSDEC. Upon receipt of the well permits, design of the wells and test wells, only, is authorized and submitted to NCDOH.

Design of Phase I of the Main Street transmission mains is authorized and submitted to NCDOH for approval. This work is bid and awarded as soon as approved.

7.2 2018

Capital Improvement charges of $210,097 are collected for 255 residential units and 59,223 square feet of commercial and retail space. Additional charges for construction of Phase I of the transmission mains are also collected in the amount of $1,521,000.

The Village continues with construction of the Clinton Street water storage tanks Phase I (south tank).

Contracts for construction of two wells and test wells are bid and awarded. The permanent wells are constructed based on the results of the test wells and test pumping. These wells are temporarily sealed shut. Design of the remaining portions of the well field is completed based on the test well results and submitted to NCDOH.

Construction of Phase I of the Main Street transmission mains is completed. Design of Phase II is authorized and submitted to NCDOH for approval. This work is bid as soon as approved but not necessarily awarded immediately depending on the progress of redevelopment projects.

7.3 2019

Capital Improvement charges of $255,699 are collected for 256 residential units and 128,600 square feet of commercial and retail space. Additional charges for construction of Phase II of the transmission mains are also collected in the amount of $1,389,960.

The Village completes construction of the Clinton Street water storage tanks Phase I (south tank). The contracts for Phase II (north tank) and Phase III (Iron removal Filters) are put out to bid and awarded.

Contracts for construction of the remaining portions of the well field are bid and awarded for construction to proceed during the next year.

Construction of portions of Phase II of the Main Street transmission mains proceeds in accordance with the redevelopment projects.

7.4 2020

Capital Improvement charges of $90,940 are collected for 124 residential units and 5,200 square feet of commercial and retail space. Additional charges for construction of Phase II of the transmission mains are also collected in the amount of $435,240.

The Village proceeds with construction of the Clinton Street water storage tanks Phase II (north tank).

Construction of the well field is completed and construction of the transmission mains from the new water plant are bid, awarded and completed.

Construction of portions of Phase II of the Main Street transmission mains proceeds in

accordance with the redevelopment projects.

7.5 2021

Capital Improvement charges of $562,829 are collected for 789 residential units and 146,000 square feet of commercial and retail space. Additional charges for construction of Phase II of the transmission mains are also collected in the amount of $2,012,400.

The Village completes construction of the Clinton Street water storage tanks Phase II (north tank) and proceeds and completes construction of Phase III (Iron Removal Filters).

Construction of portions of Phase II of the Main Street transmission mains proceeds in accordance with the redevelopment projects.

7.6 2022

Capital Improvement charges of $470,782 are collected for 583 residential units and 115,308 square feet of commercial and retail space. Additional charges for construction of Phase II of the transmission mains are also collected in the amount of $1,254,240.

Construction of portions of Phase II of the Main Street transmission mains proceeds in accordance with the redevelopment projects.

7.7 2023

Capital Improvement charges of $304,760 are collected for 388 residential units and 43,750 square feet of commercial and retail space. Additional charges for construction of Phase II of the transmission mains are also collected in the amount of $1,179,360.

Construction of portions of Phase II of the Main Street transmission mains proceeds in accordance with the redevelopment projects.

7.8 2024

Capital Improvement charges of $179,313 are collected for 25 residential units and 327,000 square feet of commercial and retail space. Additional charges for construction of Phase II of the transmission mains are also collected in the amount of $1,146,600.

Construction of portions of Phase II of the Main Street transmission mains proceeds in accordance with the redevelopment projects.

7.9 2025

Capital Improvement charges of $219,789 are collected for 227 residential units and 121,600 square feet of commercial and retail space. Additional charges for construction of Phase II of the transmission mains are also collected in the amount of $1,230,840.

Construction of portions of Phase II of the Main Street transmission mains proceeds in

accordance with the redevelopment projects.

7.10 2026

Capital Improvement charges of $216,887 are collected for 228 residential units and 0 square feet of commercial and retail space. Additional charges for construction of Phase II of the transmission mains are also collected in the amount of $2,106,000.

Construction of portions of Phase II of the Main Street transmission mains proceeds in accordance with the redevelopment projects.

8.0 Conclusions and Recommendations

1. The water system needs to increase capacity to properly serve the existing water demand. This increase in capacity can include well pumping capacity, water storage capacity or most realistically a combination of the two. At present the Village should add 1,791 gpm of well pumping capacity or 73 gpm of well capacity if at least 1.25 MG of storage is also added to that which now exists.
2. Redevelopment of the Main Street area will increase demands on the water system. While several redevelopment projects have already been built or are now in construction, the full extent of those projects yet to be built is not known precisely, nor is the schedule of when they will finish construction and require water service. Based on current estimates, by 2026 an additional 3,781 residential units and hotel rooms will be added as will 991,200 square feet of commercial and retail space. By 2035, the water system will need to add 4,355 gpm of pumping capacity or 2,638 gpm of pumping capacity if the existing water treatment basins are replaced with new ground storage tanks having a capacity of 4.44 MG.
3. Sites which are suitable for the construction of new wells within the Village are rare. The only sites yet identified which are suitable for the construction of multiple new water wells include Kennedy Park and Lincoln Park.
4. The ability to secure new well permits from NYSDEC may decrease as time passes. The time frame to obtain NCDOH concurrence for well sites and then to make application to NYSDEC for the well permits is lengthy. It is imperative that these permits be sought as quickly as possible.
5. If these well permits cannot be obtained then the limit on property redevelopment will be based on the excess water storage capacity, which will be 1.50 MG if the new storage tanks are constructed at Clinton Street. This is less than the peak day water demand expected from the projects listed in Table 12, even without allowing increases in per capita water use or any growth anywhere else in the village.
6. Once the well permits are obtained it is recommended that test wells be drilled and the permanent wells be constructed even if the remaining components of the well field are not constructed immediately. This will reduce the risk of the well permit capacity being reduced or rescinded.
7. Sites which are suitable for the construction of new water storage tanks within the Village are rare. The only site yet identified which is suitable for the construction of new water storage tanks is the Clinton Street water plant.
8. The storage capacity of the existing basins must be replaced. Since this is the only site in the Village suitable for large tanks, it is recommended that the new tanks be as large as possible in order to gain the most capacity for future demand. Design documents for these tanks should be prepared and submitted to NCDOH promptly.
9. The iron removal function of the basins must be replaced for wells 2R and 4. The increasing iron concentrations in wells 2R and 4 are not expected to decline. Maintaining

secondary (aesthetic) drinking water standards of 0.3 mg/l will require construction of an iron removal filter at Clinton Street.

10. These improvements will benefit both the existing customer base and new residents associated with the numerous redevelopment projects. An equitable way to have "growth pay for growth" is to adopt a schedule of Capital Improvement charges as shown on Table 11. These charges will collect funds for the increases in water supply, storage and treatment in order to support the new property redevelopment projects. These charges do not include to costs for increased water main transmission capacity to the North Main Street area.

11. Separate Capital Improvement charges must be collected for new transmission mains in the North Main Street area. These costs will be shared among the various projects to be constructed in the redevelopment area.

It is recommended that the Village issue water availability letters for each project as it applied for. These letters of water availability will be required in order to obtain site plan approval for each site. The letters will specify the amount of Capital Improvement Charges to be paid for each project as well as the timing of payments. A sample letter is contained within Appendix F.

The funds generated from the Capital Improvement Charges should be accounted for separately and expended only for designated growth needs. These needs are outlined in this report. Amendments to this list of projects should be designated on a regular basis, probably in conjunction with the annual budgeting process. This approach will assure all interested parties that the proceeds of these charges benefit the properties that are charged.

It is recommended that the Village take steps to maximize the operational availability of the existing facilities in order to allow additional water service connections to be made promptly following completion of each property redevelopment project.

9.0 References

1. American Water Works Association and American Society of Civil Engineers. "Water Treatment Plant Design". McGraw Hill, NY, 1998.

2. "American Water Works Association Manual of Water Supply Practices M31" (AWWA M31)

3. Renaissance Downtowns-Urban America. "Map of Hempstead Redevelopment Area". Renewhempstead.com/About-The-Project/. Accessed August 5, 2014.

4. Water Supply Committee of the Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. "Recommended Standards for Water Works". Health Research Inc., Health Education Services Division, Albany, 2007.

Tables

Table 1
Inc. Village of Hempstead Water Department
Public Supply Wells

Station Number	Local Well Designation	Well Permit Number	Authorized Pumping Capacity (GPM)	Mechanical Pumping Capacity (GPM)	Screen Bottom Depth (feet below grd.)	Year Built	Pumps to System	Emergency Power
1 - Clinton Street	1RR	N-13468	1,000	1,197	520	2006	Basin	Yes
1 - Clinton Street	2R	N-13457	1,250	1,327	490	2004	Basin	Yes
1 - Clinton Street	3R	N-13469	1,000	1,221	526	2006	Basin	Yes
1 - Clinton Street	4	N-81	1,000	957	426	1932	Basin	Yes
1 - Clinton Street	5	N-82	1,000	1,024	535	1932	Basin	Yes
1 - Clinton Street	6R	N-13470	1,000	1,004	516	2006	Basin	Yes
2- Laurel Avenue	7	N-3668	1,500	1,157	505	1951	Yes	Yes
1 - Clinton Street	8	N-7298	1,000	1,008	444	2013	Basin	Yes
2- Laurel Avenue	9	N-8264	1,500	1,081	515	1967	Yes	Yes

	Total:	10,250	9,976	GPM	
		14.76	14.37	MGD	
Emergency Power Available:					
	Total:	10,250	9,976		

Direct to System:	
2,238	2,238 GPM
To Ground Tanks:	
7,738	7,738 GPM
11.143	11.14272 MGD

Table 2
Inc. Village of Hempstead Water Department
Well Pumpage

Year	Annual Pumpage (BG)	Avg Day (MG)	Max Day (MG)	Max Hour (MGD)	Max Day plus Fire Flow (MG)	Max Day/ Avg Day	Max Hour/ Avg Day
1986	2.243	6.145	10.363	13.990	12.703	1.69	2.28
1987	2.128	5.830	8.524	11.507	10.864	1.46	1.97
1988	2.277	6.221	9.011	12.165	11.351	1.45	1.96
1989	2.249	6.162	8.558	11.553	10.898	1.39	1.88
1990	2.302	6.307	8.953	12.087	11.293	1.42	1.92
1991	2.316	6.345	9.504	12.830	11.844	1.50	2.02
1992	2.264	6.186	7.896	10.660	10.236	1.28	1.72
1993	2.373	6.501	9.790	13.217	12.130	1.51	2.03
1994	2.559	7.011	10.660	14.391	13.000	1.52	2.05
1995	2.452	6.718	9.502	12.828	11.842	1.41	1.91
1996	2.392	6.536	8.790	11.867	11.130	1.34	1.82
1997	2.438	6.679	10.517	14.198	12.857	1.57	2.13
1998	2.552	6.992	10.153	13.707	12.493	1.45	1.96
1999	2.561	7.016	11.672	15.757	14.012	1.66	2.25
2000	2.529	6.910	10.328	13.943	12.668	1.49	2.02
2001	2.664	7.299	11.657	15.737	13.997	1.60	2.16
2002	2.575	7.055	11.209	15.132	13.549	1.59	2.14
2003	2.547	6.978	10.041	13.555	12.381	1.44	1.94
2004	2.401	6.560	9.278	12.525	11.618	1.41	1.91
2005	2.280	6.247	9.775	13.196	12.115	1.56	2.11
2006	2.716	7.441	9.360	12.636	11.700	1.26	1.70
2007	2.802	7.677	9.369	12.648	11.709	1.22	1.65
2008	2.979	8.139	10.499	14.174	12.839	1.29	1.74
2009	2.289	6.271	7.941	10.720	10.281	1.27	1.71
2010	2.220	6.082	9.623	12.991	11.963	1.58	2.14
2011	2.100	5.753	7.778	10.500	10.118	1.35	1.83
2012	2.124	5.802	7.975	10.766	10.315	1.37	1.86
2013	2.207	6.030	8.886	11.996	11.226	1.47	1.99
2014	1.920	5.246	8.321	11.233	10.661	1.59	2.14
2015	2.406	6.574	9.628	12.998	11.968	1.46	1.98
2016	2.214	6.049	7.767	10.485	10.107	1.28	1.73
Average:							
31 Year	2.39	6.54	9.46	12.77	11.80	1.45	1.96
20 Year	2.43	6.64	9.59	12.94	11.93	1.45	1.95
10 Year	2.33	6.36	8.78	11.85	11.12	1.39	1.88
5 Year	2.17	5.94	8.52	11.50	10.86	1.44	1.94
3 Year	2.18	5.96	8.57	11.57	10.91	1.44	1.95
Max:	2.98	8.14	10.50	14.17	12.84	1.59	2.14

Assumes Fire Flow Rate of 6500 gpm for 6 Hours = 2.34 MG

Equating to a daily rate of 9.36 MGD

Table 3
Inc. Village of Hempstead Water Department
Well Capacity versus Population 1900-2050

Year	Population	Well Capacity (gpm)	COMMENTS:
1900	3500	1,000	
1901	3650	1,000	
1902	3800	1,000	
1903	3950	1,000	
1904	4100	1,000	
1905	4250	1,000	
1906	4400	1,000	
1907	4550	1,000	
1908	4700	1,000	
1909	4850	1,000	
1910	5000	1,000	
1911	5100	1,000	
1912	5200	1,000	
1913	5300	1,000	
1914	5400	1,000	
1915	5500	1,000	
1916	5600	1,000	
1917	5700	1,000	
1918	5800	1,000	
1919	5900	1,000	
1920	6000	1,000	
1921	6660	1,000	
1922	7320	1,000	
1923	7980	1,000	
1924	8640	1,000	
1925	9300	1,000	
1926	9960	1,000	
1927	10620	1,000	
1928	11280	2,250	
1929	11940	2,250	
1930	12600	3,250	
1931	13430	3,250	
1932	14260	6,250	
1933	15090	6,250	
1934	15920	6,250	
1935	16750	6,250	
1936	17580	6,250	
1937	18410	6,250	
1938	19240	6,250	
1939	20070	6,250	
1940	20900	6,250	
1941	21710	6,250	
1942	22520	6,250	
1943	23330	6,250	
1944	24140	6,250	
1945	24950	6,250	
1946	25760	6,250	
1947	26570	6,250	
1948	27380	6,250	
1949	28190	6,250	
1950	29000	6,250	
1951	29560	7,750	
1952	30120	6,750	well 1 redrill
1953	30680	7,750	
1954	31240	7,750	
1955	31800	7,750	
1956	32360	7,750	

Table 3
Inc. Village of Hempstead Water Department
Well Capacity versus Population 1900-2050

Year	Population	Well Capacity (gpm)	COMMENTS:
1957	32920	7,750	
1958	33480	7,750	
1959	34040	7,750	
1960	34600	8,750	
1961	35080	8,750	
1962	35560	8,750	
1963	36040	8,750	
1964	36520	8,750	
1965	37000	8,750	
1966	37480	8,750	
1967	37960	10,250	
1968	38440	10,250	
1969	38920	10,250	
1970	39400	10,250	
1971	39960	10,250	
1972	40520	10,250	
1973	41080	10,250	
1974	41640	10,250	
1975	42200	10,250	
1976	42760	10,250	
1977	43320	10,250	
1978	43880	9,250	
1979	44440	10,250	
1980	45000	10,250	
1981	45550	10,250	
1982	46100	10,250	
1983	46650	10,250	
1984	47200	9,250	well 5 rehab
1985	47750	10,250	
1986	48300	10,250	
1987	48850	9,250	well 4 rehab
1988	49400	10,250	
1989	49950	7,250	well 1 & 6 VOC, well 6 rehab, well 4
1990	50500	8,250	
1991	51225	9,950	well 1&6 reduction in specific
1992	51950	9,950	
1993	52675	9,650	well 1&6 reduction in specific, well 9 pump?
1994	53400	7,450	well 7 pump, well 6 suction
1995	54125	8,700	well 2 riser hole
1996	54850	9,950	well 1&6 reduction in specific
1997	55600	2,300	well 1 suction, well 2 casing, well 3 gasoline, well 4 gasoline and engine, well 5 gasoline,
1998	56325	9,000	well 6 & 9 temporarily removed, well 7 used less often
1999	57050	9,000	well 9 temporarily removed, well 7 used less often
2000	57750	9,000	well 7 used less often
2001	57750	9,000	well 7 used less often
2002	57750	9,000	well 7 used less often, well 8 removed in Nov. & Dec.
2003	57750	9,500	well 7 removed & redrill completed, well 2 removed, well 8 underwent chemical
2004	57750	9,000	well 6 removed, well 1R removed in Dec., well 2R & 7 back in service
2005	57750	10,500	well 6 removed, well 1R removed during Jan. & Feb., well 2R removed in Dec.
2006	57750	11,450	well 5 removed, well 1R, 3 & 6 abandoned and removed, well 1RR, 3R & 6R put into
2007	57750	11,450	well 4, 5 & 8 voluntarily and temporarily removed
2008	57750	11,000	
2009	57750	10,750	
2010	53891	10,500	

Table 3
Inc. Village of Hempstead Water Department
Well Capacity versus Population 1900-2050

Year	Population	Well Capacity (gpm)	COMMENTS:	
2011	53891	10,250		
2012	53891	9,250	well 8 pump and screen problem, redrilled	
2013	53891	9,250	well 8 pump and screen problem, redrilled, well 2R, 4 repair issues	
2014	53891	8,000	well 8 pump contract issues; well 7 & 9 corrosion problems; well 4 & 2R iron spiking	
2015	53891	9,500		
2016	53891	9,976	Well 1RR cleaning and pump repair	**Assumed Population Growth**
2017	56047	10,250	Assume Well 4 Rehab	4%
2018	58289	10,250		4%
2019	60620	10,250		4%
2020	63045	10,250		4%
2021	65567	10,250		4%
2022	68189	10,250		4%
2023	70917	10,250		4%
2024	73754	10,250		4%
2025	76704	10,250		4%
2026	79772	10,250		4%
2027	82963	10,250		4%
2028	83792	10,250		1%
2029	84630	10,250		1%
2030	85477	10,250		1%
2031	86331	10,250		1%
2032	87195	10,250		1%
2033	88067	10,250		1%
2034	88947	10,250		1%
2035	89837	10,250		1%
2036	90735	10,250		1%
2037	91642	10,250		1%
2038	91642	10,250		0%
2039	91642	10,250		0%
2040	91642	10,250		0%
2041	91642	10,250		0%
2042	91642	10,250		0%
2043	91642	10,250		0%
2044	91642	10,250		0%
2045	91642	10,250		0%
2046	91642	10,250		0%
2047	91642	10,250		0%
2048	91642	10,250		0%
2049	91642	10,250		0%
2050	91642	10,250		0%

Table 4
Inc. Village of Hempstead Water Department
Per Capita Well Pumpage 1986-2050

Year	Population	Avg Day Per Capita (G)	Max Day Per Capita (G)	Annual Pumpage (BG)	Avg Day (MG)	Max Day (MG)	Annual Pumpage Per Capita (G)
1986	48300	127.230	214.555	2.243	6.145	10.363	46438.9
1987	48850	119.348	174.493	2.128	5.830	8.524	43561.9
1988	49400	125.937	182.409	2.277	6.221	9.011	46093.1
1989	49950	123.356	171.331	2.249	6.162	8.558	45025.0
1990	50500	124.888	177.287	2.302	6.307	8.953	45584.2
1991	51225	123.869	185.534	2.316	6.345	9.504	45212.3
1992	51950	119.072	151.992	2.264	6.186	7.896	43580.4
1993	52675	123.424	185.857	2.373	6.501	9.790	45049.8
1994	53400	131.291	199.625	2.559	7.011	10.660	47921.3
1995	54125	124.117	175.557	2.452	6.718	9.502	45302.5
1996	54850	119.153	160.255	2.392	6.536	8.790	43609.8
1997	55600	120.134	189.155	2.438	6.679	10.517	43848.9
1998	56325	124.133	180.257	2.552	6.992	10.153	45308.5
1999	57050	122.988	204.592	2.561	7.016	11.672	44890.4
2000	57750	119.651	178.840	2.529	6.910	10.328	43792.2
2001	57750	126.383	201.853	2.664	7.299	11.657	46129.9
2002	57750	122.161	194.095	2.575	7.055	11.209	44588.7
2003	57750	120.833	173.870	2.547	6.978	10.041	44103.9
2004	57750	113.595	160.658	2.401	6.560	9.278	41575.8
2005	57750	108.166	169.264	2.280	6.247	9.775	39480.5
2006	57750	128.850	162.078	2.716	7.441	9.360	47030.3
2007	57750	132.930	162.234	2.802	7.677	9.369	48519.5
2008	57750	140.932	181.801	2.979	8.139	10.499	51581.2
2009	57750	108.593	137.506	2.289	6.271	7.941	39636.4
2010	53891	112.861	178.564	2.220	6.082	9.623	41194.3
2011	53891	106.760	144.328	2.100	5.753	7.778	38967.5
2012	53891	107.685	147.984	2.124	5.803	7.975	39412.9
2013	53891	112.200	164.888	2.207	6.047	8.886	40953.0
2014	53891	97.610	154.404	1.920	5.260	8.321	35627.5
2015	53891	122.317	178.657	2.406	6.592	9.628	44645.7
2016	53891	112.248	144.124	2.214	6.049	7.767	41082.9
2017	56047	112.529	144.485	2.302	6.307	8.098	41073.1
2018	58289	112.810	144.846	2.400	6.576	8.443	41175.8
2019	60620	113.092	145.208	2.502	6.856	8.803	41278.7
2020	63045	113.375	145.571	2.609	7.148	9.177	41381.9
2021	65567	113.659	145.935	2.720	7.452	9.568	41485.4
2022	68189	113.943	146.300	2.836	7.770	9.976	41589.1
2023	70917	114.228	146.665	2.957	8.101	10.401	41693.1
2024	73754	114.513	147.032	3.083	8.446	10.844	41797.3
2025	76704	114.799	147.400	3.214	8.806	11.306	41901.8
2026	79772	115.086	147.768	3.351	9.181	11.788	42006.5
2027	82963	115.374	148.138	3.494	9.572	12.290	42111.6
2028	83792	115.663	148.508	3.537	9.692	12.444	42216.8
2029	84630	115.952	148.879	3.582	9.813	12.600	42322.4
2030	85477	116.242	149.251	3.627	9.936	12.757	42428.2
2031	86331	116.532	149.625	3.672	10.060	12.917	42534.3
2032	87195	116.824	149.999	3.718	10.186	13.079	42640.6
2033	88067	117.116	150.374	3.765	10.314	13.243	42747.2
2034	88947	117.408	150.750	3.812	10.443	13.409	42854.1
2035	89837	117.702	151.126	3.859	10.574	13.577	42961.2
2036	90735	117.996	151.504	3.908	10.706	13.747	43068.6
2037	91642	118.291	151.883	3.957	10.840	13.919	43176.3
2038	91642	118.587	152.263	3.967	10.868	13.954	43284.2
2039	91642	118.883	152.643	3.977	10.895	13.989	43392.4
2040	91642	119.181	153.025	3.987	10.922	14.024	43500.9
2041	91642	119.479	153.408	3.998	10.949	14.059	43609.7
2042	91642	119.777	153.791	4.006	10.977	14.094	43718.7
2043	91642	120.077	154.175	4.017	11.004	14.129	43828.0
2044	91642	120.377	154.561	4.027	11.032	14.164	43937.5
2045	91642	120.678	154.947	4.037	11.059	14.200	44047.4
2046	91642	120.979	155.335	4.047	11.087	14.235	44157.5
2047	91642	121.282	155.723	4.057	11.115	14.271	44267.9
2048	91642	121.585	156.112	4.067	11.142	14.307	44378.6
2049	91642	121.889	156.503	4.077	11.170	14.342	44489.5
2050	91642	122.194	156.894	4.087	11.198	14.378	44600.7

0.250% assumed future growth rate in per capita water use

Table 5
Inc. Village of Hempstead Water Department
Water Storage Capacity

Water Plant	Tank Capacity (gallons)	Effective Capacity (gallons)	Type and Material	Pressure Zone	Nominal Booster Cap. (GPM)	Time to Empty (Hours)	Fire Duration Flow (GPM)	Time to Empty (Hours)
Clinton	2,200,000	1,692,308	ground - concrete	Low	14000	2.62	4700	6.00
Clinton		500,000	elevated - steel	Low	1390	6.00	1390	6.00
Laurel		1,000,000	elevated - steel	Low	2780	6.00	2780	6.00
		3,192,308						

Max. Available Low Zone Fire Flow: **8,870**

NOTE: Assume elevated tanks discharge water uniformly over the required fire flow duration.

Low Zone:	elevated =	1,500,000	**Total Fire Flow Volume:**					
	boosted =	1,692,308	Low Zone =	6500	GPM for	6	Hour duration =	**2.34 (MG)**

Assume booster pumps can draft 10 feet of the total 13 foot freeboard of each existing treatment basin.

Table 6
Inc. Village of Hempstead Water Department
Booster Pump Capacity

Pump Designation	Pump HP	Mechanical Pumping Capacity (GPM)	Transfer From Storage (GPM)	Pressure Zone	Emergency Power	Plant Total (GPM)
1	200	3,500	3,500	Low	Yes	14,000
2	200	3,500	3,500	Low	Yes	
3	200	3,500	3,500	Low	Yes	
4	200	3,500	3,500	Low	Yes	
		14,000	14,000			

Low Zone: 14,000

Emergency Power Available:

Low Zone: 14,000

estimate for new pumps with VFD but very flat pump curves - February 2014

Table 7A
Inc. Village of Hempstead Water Department
Water System Capacity Analysis

2016 Conditions

Analysis of sizing of system components

Pumping Capacity:

Low Zone	GPM	MGD	
Wells to ground tanks	7738		
Wells to system	2,238	3.22	
Boosters (6 Hours)	4,700	1.69	delta from storage
Boosters (Continuous)	7,738	11.14	
		16.06	

16.06 Peak capacity using storage
14.37 Peak capacity without using storage

Storage:

Low Zone:	elevated =	1,500,000	gal
	boosted =	1,692,308	gal
		3,192,308	gal

Design Peak Flows:

Low Zone		Duration		Flow	
Avg. day	8.14	MGD	1	Day	8.14 MG
Max. day	10.50	MGD	1	Day	10.50 MG
Max."hour"	14.17	MGD	0.20	Day	2.83 MG

Sizing Criteria:

1) Peak Day plus Fire Flow

- The system must be able to meet peak day demand plus The ISO fire flow using the reliably available pump and storage capacity

assumed reliability:		peak period fluctuation:	
wells	65%	Typically 20% to 30% of peak day total	
boosters	90%	assume	20%
tanks	100%		
gen/engines	90%		

Low Zone	Required		Available		
	demand	10.50	wells	2.09	
	peak period fluctuation	2.10	boosters	8.77	Note: Booster capacity far in excess of well capacity
	fire	2.34	elev. stor.	1.50	
		14.94 MGD		12.36 MGD	

2) Backup Power

- facilities with emergency power available should be able to meet the average day demand

Low Zone	Required		Available		
	demand	8.14 MGD	wells	12.93	OK
			boosters	18.14	
			elev. stor.	1.50	

Conclusions:

Well Reliability: 65%

I) Additional Well Capacity is required: 2.58 MGD = 1,791 GPM

Additional Storage Capacity can replace some additional well capacity

Most Economical Storage = Fire + Peak Hour Fluctuation = 4.44 MG

Additional Ground Storage Required = 1.25 MG

II) Available emergency power is adequate.

Table 7B
Inc. Village of Hempstead Water Department
Water System Capacity Analysis

2016 Conditions with Additional Storage

Analysis of sizing of system components

Pumping Capacity:

Low Zone	GPM	MGD	
Wells to system	2,238	3.22	
Boosters (6 Hours)	12,333	4.44	delta from storage
Boosters (Continuous)	7,738	11.14	
		18.81	18.81 Peak capacity using storage
			14.37 Peak capacity without using storage

Storage:

Low Zone:	elevated =	1,500,000 gal
	boosted =	4,440,000 gal
		5,940,000 gal

Design Peak Flows:

Low Zone		Duration	Flow
Avg. day	8.14 MGD	1 Day	8.14 MG
Max. day	10.50 MGD	1 Day	10.50 MG
Max."hour"	14.17 MGD	0.20 Day	2.83 MG

Sizing Criteria:

1) Peak Day plus Fire Flow

- The system must be able to meet peak day demand plus The ISO fire flow using the reliably available pump and storage capacity

assumed reliability:		peak period fluctuation:	
wells	65%	Typically 20% to 30% of peak day total	
boosters	90%	assume	20%
tanks	100%		
gen/engine	90%		

Low Zone	**Required**		**Available**	
	demand	10.50	wells	2.09
	peak period fluctuation	2.10	boosters	11.24 Note: Booster capacity far in excess of well capacity
	fire	2.34	elev. stor.	1.50
		14.94 MGD		14.83 MGD

2) Backup Power

- facilities with emergency power available should be able to meet the average day demand

Low Zone	**Required**		**Available**	
	demand	8.14 MGD	wells	12.93 OK
			boosters	18.14
			elev. stor.	1.50

Conclusions:

I) Additional Well Capacity is required: 0.11 MGD = 73 GPM

Well Reliability: 65%

Additional Storage Capacity can replace some additional well capacity

Min. Economical Storage = Fire + Peak Hour Fluctuation = 4.44 MG

Additional Ground Storage Available for Growth = 1.50 MG

II) Available emergency power is adequate.

Table 8
Inc. Village of Hempstead Water Department
Schedule of Property Redevelopment Projects

Site	Description	Construction Start	Construction Completed	Units	Retail SF	Commercial	Assisted	Hotel Room	Education	Recreation	Performing	Production	Town homes	Flow GPD
Block 42	Office and Structured Parking	Q1 2017	Q4 2017	0	0	9072	0	0	0	0	0	0	0	694
Block 37	Mixed Use	Q2 2017	Q4 2018	96	5497	0	0	0	0	0	0	0	0	16271
Block 38	Mixed Use	Q4 2017	Q1 2019	228	16000	6600	0	0	0	0	0	0	0	36919
Block 25	Mixed Use	Q4 2017	Q1 2019	90	5000	0	0	0	0	0	0	0	0	12768
Block 48	Mixed Use	Q3 2017	Q1 2019	156	2350	0	0	0	0	0	0	0	0	17964
Block 26	Multifamily Residential Office and Structured	Q3 2017	Q2 2019	336	0	0	0	0	0	0	0	0	0	40061
Block 32	Parking	Q2 2018	Q3 2019	0	5600	43200	0	0	0	0	0	0	0	5476
Block 39	Mixed Use	Q2 2018	Q4 2019	255	10423	0	0	0	0	0	0	0	0	41202
Block 34	Mixed Use	Q1 2019	Q1 2020	126	3600	0	0	0	0	0	0	0	0	16118
Non-RD 15	Townhomes	Q3 2019	Q3 2020	0	0	0	0	0	0	0	0	0	30	4415
Block 40	Structured Parking	Q3 2019	Q4 2020	0	0	0	0	0	0	0	0	0	0	0
Non-RD 2	Mixed Use	Q4 2019	Q1 2021	80	0	125000	0	0	0	0	0	0	20	22034
Block 29	Assisted Living	Q2 2020	Q3 2021	0	5200		124	0	0	0	0	0	0	15078
Non-RD 1	Mixed Use	Q1 2021	Q2 2022	200	10000	0	0	0	0	0	0	0	0	27877
Block 37	Retail and Structured Parking	Q2 2021	Q3 2022	0	12600	0	0	0	0	0	0	0	0	6489
LIRR	Assisted Living and Residential	Q1 2021	Q4 2022	151	0	0	70	0	0	0	0	0	0	24159
Non-RD 4	Artisan/Light Production	Q3 2021	Q1 2023	0	15000	0	0	0	0	0	0	50000	0	8475
Non-RD 12	Townhomes	Q3 2021	Q1 2023	0	0	0	0	0	0	0	0	0	50	7358
Non-RD 13	Retail	Q3 2021	Q1 2023	0	16200	0	0	0	0	0	0	0	0	8343
Non-RD 3	Mixed Use	Q1 2022	Q2 2023	0	10000	50000	0	0	0	0	0	0	0	9150
Block 33A	Hotel and Residential	Q3 2021	Q4 2023	160	42200	0	0	158	0	0	0	0	0	52431
Non-RD 5	Office and Retail	Q2 2023	Q2 2024	0	5000	30000	0	0	0	0	0	0	0	4975
Non-RD 16	Townhomes	Q1 2023	Q3 2024	0	0	0	0	0	0	0	0	0	30	4415
Block 27	Mixed Use	Q2 2022	Q1 2025	583	55308	0	0	0	0	0	0	0	0	94731
Block 39 LIRR	Mixed Use	Q4 2023	Q3 2025	358	8750	0	0	0	0	0	0	0	0	45187
Non-RD 6	Townhomes	Q3 2024	Q3 2025	0	0	0	0	0	0	0	0	0	25	3679
Non-RD 8	Artisan/Light Production	Q1 2024	Q3 2025	0	25000	0	0	0	0	0	0	100000	0	14375
Non-RD 9	Recreational Facility	Q4 2024	Q2 2026	0	0	0	0	0	0	80000	0	0	0	12500
Non-RD 11	Performing Arts Center	Q4 2024	Q2 2026	0	12000	0	0	0	0	0	110000	0	0	22180

Table 8
Inc. Village of Hempstead Water Department
Schedule of Property Redevelopment Projects

Site	Description	Construction Start	Construction Completed	Units	Retail SF	Commercial	Assisted	Hotel Room	Education	Recreation	Performing	Production	Town homes	Flow GPD
Block 31b	Mixed Use	Q1 2025	Q4 2026	227	4600	17000	0	0	0	0	0	0	0	29524
Non-RD 7	Office	Q2 2025	Q4 2026	0	0	100000	0	0	0	0	0	0	0	8000
Non-RD 14	Townhomes	Q1 2026	Q3 2027	0	0	0	0	0	0	0	0	0	100	14715
Non-RD 17	Townhomes	Q1 2026	Q3 2027	0	0	0	0	0	0	0	0	0	30	4415
Non-RD 18	Townhomes	Q1 2026	Q3 2027	0	0	0	0	0	0	0	0	0	30	4415
Non-RD 19	Townhomes	Q1 2026	Q3 2027	0	0	0	0	0	0	0	0	0	68	10006
				3,046	270,328	380,872	194	158	-	80,000	110,000	150,000	383	646,399

Table 9A
Inc. Village of Hempstead Water Department
Water System Capacity Analysis

2025 Projection

Analysis of sizing of system components

Pumping Capacity:

Low Zone	GPM	MGD	
Wells to system	2,238	3.22	
Boosters (6 Hours)	4,700	1.69	delta from storage
Boosters (Continuous)	7,738	11.14	
		16.06	16.06 Peak capacity using storage
			14.37 Peak capacity without using storage

Storage:

Low Zone: elevated = 1,500,000 gal
boosted = 1,692,308 gal
3,192,308 gal

Design Peak Flows:

Low Zone		Duration	Flow
Avg. day	8.81 MGD	1 Day	8.81 MG
Max. day	11.31 MGD	1 Day	11.31 MG
Max."hour"	15.26 MGD	0.20 Day	3.05 MG

Sizing Criteria:

1) Peak Day plus Fire Flow

- The system must be able to meet peak day demand plus The ISO fire flow using the reliably available pump and storage capacity

assumed reliability:		peak period fluctuation:	
wells	65%	Typically 20% to 30% of peak day total	
boosters	90%	assume	20%
tanks	100%		
gen/engine	90%		

Low Zone	Required		Available		
	demand	11.31	wells	2.09	
	peak period fluctuation	2.26	boosters	8.77	Note: Booster capacity far in excess of well capacity
	fire	2.34	elev. stor.	1.50	
		15.91 MGD		12.36 MGD	

2) Backup Power

- facilities with emergency power available should be able to meet the average day demand

Low Zone	Required		Available	
	demand	8.81 MGD	wells	12.93 OK
			boosters	18.14
			elev. stor.	1.50

Conclusions:

I) Additional Well Capacity is required: 3.55 MGD = 2,463 GPM

Well Reliability: 65%

Additional Storage Capacity can replace some additional well capacity

Max. Economical Storage = Fire + Peak Hour Fluctuation = 4.60 MG

Additional Ground Storage Required = 1.41 MG

II) Available emergency power is adequate.

Table 9B
Inc. Village of Hempstead Water Department
Water System Capacity Analysis

2025 Projection with Additional Storage

Analysis of sizing of system components

Pumping Capacity:

Low Zone	GPM	MGD	
Wells to system	2,238	3.22	
Boosters (6 Hours)	12,333	4.44	delta from storage
Boosters (Continuous)	7,738	11.14	
		18.81	

18.81 Peak capacity using storage
14.37 Peak capacity without using storage

Storage:

Low Zone:	elevated =	1,500,000	gal
	boosted =	4,440,000	gal
		5,940,000	gal

Design Peak Flows:

Low Zone		Duration		Flow	
Avg. day	8.81	MGD	1	Day	8.81 MG
Max. day	11.31	MGD	1	Day	11.31 MG
Max."hour"	15.26	MGD	0.20	Day	3.05 MG

Sizing Criteria:

1) Peak Day plus Fire Flow

- The system must be able to meet peak day demand plus The ISO fire flow using the reliably available pump and storage capacity

assumed reliability:		peak period fluctuation:	
wells	65%	Typically 20% to 30% of peak day total	
boosters	90%	assume	20%
tanks	100%		
gen/engine	90%		

Low Zone	**Required**		**Available**		
	demand	11.31	wells	2.09	
	peak period fluctuation	2.26	boosters	11.24	Note: Booster capacity far in excess of well capacity
	fire	2.34	elev. stor.	1.50	
		15.91 MGD		14.83 MGD	

2) Backup Power

- facilities with emergency power available should be able to meet the average day demand

Low Zone	**Required**		**Available**	
	demand	8.81 MGD	wells	12.93 **OK**
			boosters	18.14
			elev. stor.	1.50

Conclusions:

Well Reliability: 65%

I) Additional Well Capacity is required: 1.07 MGD = 746 GPM

Additional Storage Capacity can replace some additional well capacity

Min. Economical Storage = Fire + Peak Hour Fluctuation = 4.60 MG

Additional Ground Storage Available for Growth = 1.34 MG

II) Available emergency power is adequate.

Table 10A
Inc. Village of Hempstead Water Department
Water System Capacity Analysis

2035 Projection

Analysis of sizing of system components

Pumping Capacity:

Low Zone	GPM	MGD	
Wells to system	2,238	3.22	
Boosters (6 Hours)	4,700	1.69	delta from storage
Boosters (Continuous)	7,738	11.14	
		16.06	

16.06 Peak capacity using storage
14.37 Peak capacity without using storage

Storage:

Low Zone:	elevated =	1,500,000	gal
	boosted =	1,692,308	gal
		3,192,308	gal

Design Peak Flows:

Low Zone		Duration	Flow
Avg. day	10.57 MGD	1 Day	10.57 MG
Max. day	13.58 MGD	1 Day	13.58 MG
Max."hour"	18.33 MGD	0.20 Day	3.67 MG

Sizing Criteria:

1) Peak Day plus Fire Flow

- The system must be able to meet peak day demand plus The ISO fire flow using the reliably available pump and storage capacity

assumed reliability:	
wells	65%
boosters	90%
tanks	100%
gen/engine	90%

peak period fluctuation:
Typically 20% to 30% of peak day total
assume 20%

Low Zone	Required		Available	
	demand	13.58	wells	2.09
	peak period fluctuation	2.72	boosters	8.77 Note: Booster capacity far in excess of well capacity
	fire	2.34	elev. stor.	1.50
		18.63 MGD		12.36 MGD

2) Backup Power

- facilities with emergency power available should be able to meet the average day demand

Low Zone	Required		Available	
	demand	10.57 MGD	wells	12.93 **OK**
			boosters	18.14
			elev. stor.	1.50

Conclusions:

I) Additional Well Capacity is required: 6.27 MGD = 4,355 GPM

Well Reliability: 65%

Additional Storage Capacity can replace some additional well capacity

Max. Economical Storage = Fire + Peak Hour Fluctuation =	5.06 MG
Additional Ground Storage Required =	1.86 MG

II) Available emergency power is adequate.

Table 10B
Inc. Village of Hempstead Water Department
Water System Capacity Analysis

2035 Projection with Additional Storage

Analysis of sizing of system components

Pumping Capacity:

Low Zone	GPM	MGD	
Wells to system	2,238	3.22	
Boosters (6 Hours)	12,333	4.44	delta from storage
Boosters (Continuous)	7,738	11.14	
		18.81	18.81 Peak capacity using storage
			14.37 Peak capacity without using storage

Storage:

Low Zone:	elevated =	1,500,000 gal
	boosted =	4,440,000 gal
		5,940,000 gal

Design Peak Flows:

Low Zone		Duration	Flow
Avg. day	10.57 MGD	1 Day	10.57 MG
Max. day	13.58 MGD	1 Day	13.58 MG
Max."hour"	18.33 MGD	0.20 Day	3.67 MG

Sizing Criteria:

1) Peak Day plus Fire Flow

- The system must be able to meet peak day demand plus The ISO fire flow using the reliably available pump and storage capacity

assumed reliability:		peak period fluctuation:	
wells	65%	Typically 20% to 30% of peak day total	
boosters	90%	assume	20%
tanks	100%		
gen/engine	90%		

Low Zone	**Required**		**Available**	
	demand	13.58	wells	2.09
	peak period fluctuation	2.72	boosters	11.24 Note: Booster capacity far in excess of well capacity
	fire	2.34	elev. stor.	1.50
		18.63 MGD		14.83 MGD

2) Backup Power

- facilities with emergency power available should be able to meet the average day demand

Low Zone	**Required**		**Available**	
	demand	10.57 MGD	wells	12.93 OK
			boosters	18.14
			elev. stor.	1.50

Conclusions:

Well Reliability: 65%

I) Additional Well Capacity is required: 3.80 MGD = 2,638 GPM

Additional Storage Capacity can replace some additional well capacity

Min. Economical Storage = Fire + Peak Hour Fluctuation = 5.06 MG

Additional Ground Storage Available for Growth = 0.88 MG

II) Available emergency power is adequate.

Table 11
Inc. Village of Hempstead Water Department
Water System Capacity Analysis

Summary of Capital Improvement Charges

Capital Improvement Charges:

Residential Unit Charge -								
0.25 gpd/Sq.Ft. x	900	Sq.Ft. x	$ 4,566.05	$/gpm /	1440	min/day =	$	713.45
				For	96	Units =	$	68,490.73
Equating to:	**$ 0.793**	**/Sq.Ft.**						
Commercial/Retail Unit Charge -								
0.15 gpd/Sq.Ft. x	9,072	Sq.Ft. x	$ 4,566.05	$/gpm /	1440	min/day =	$	4,314.92
Equating to:	**$ 0.476**	**/Sq.Ft.**						

Capital Improvement Projects:

		Capacity Added		Construction Cost	Cost per Gallon	Cost per GPM
1	Ground Storage Tanks:	2,740,000	Gallons	$ 7,809,000	$ 2.85	$ 4,104.00
2	Iron Removal Filters:	-		$ 4,053,000		
3	New Well Site:	2,776	GPM	$ 13,958,000		$ 5,028.10
4	Transmission Mains	varies by project		$ 12,168,700		
					Average:	$ 4,566.05

Table 12
Inc. Village of Hempstead Water Department
Anticipated Capital Improvement Charge Proceeds

	Assumed Average Size (Sq. Ft.):		980	1200	900	250											
Site	Description	Construction Start	Residential Units $ 0.79	Town homes $ 0.79	Assisted $ 0.79	Hotel Room $ 0.79	Total Residential	Retail SF $ 0.48	Commercial $ 0.48	Recreation $ 0.48	Performing $ 0.48	Production $ 0.48	Total Commercial	Total Charges	Annual Total Charges	Cumulative Total Charges
Block 42	Office and Structured Parking	Q2 2017	0	0	0	0	$ -	0	9072	0	0	0	$ 4,314.92	$ 4,314.92		
Block 37	Mixed Use	Q2 2017	96	0	0	0	$ 68,490.73	5497	0	0	0	0	$ 2,614.54	$ 71,105.27		
Block 38	Mixed Use	Q4 2017	228	0	0	0	$ 162,665.50	15000	6600	0	0	0	$ 10,749.24	$ 173,414.74		
Block 25	Mixed Use	Q4 2017	90	0	0	0	$ 64,210.06	5000	0	0	0	0	$ 2,378.15	$ 66,588.21		
Block 48	Mixed Use Multifamily	Q3 2017	156	0	0	0	$ 111,297.44	2350	0	0	0	0	$ 1,117.73	$ 112,415.17		
Block 26	Residential	Q3 2017	336 905	0 -	0 -	0 -	$ 239,717.57	0 28,847	0 15,572	0 -	0 -	0 -	$ -	$ 239,717.57	2017	
	Office and Structured Parking														$ 667,555.69	$ 667,555.69
Block 32	Mixed Use	Q2 2018	0	0	0	0	$ -	5600	43200	0	0	0	$ 23,210.75	$ 23,210.75		
Block 39		Q2 2018	255 255	0 -	0 -	0 -	$ 181,926.51	10423 15,023	0 43,200	0 -	0 -	0 -	$ 4,957.49	$ 186,886.01	2018	
Block 34	Mixed Use	Q1 2019	126	0	0	0	$ 89,894.09	3600	0	0	0	0	$ 1,712.27	$ 91,606.36	$ 210,096.76	$ 877,652.64
Non-RD 15	Townhomes Structured Parking	Q3 2019	0	30	0	0	$ 28,537.81	0	0	0	0	0	$ -	$ 28,537.81		
Block 40	Mixed Use	Q3 2019	0	0	0	0	$ -	0	0	0	0	0	$ -	$ -		
Non-RD 2		Q4 2019	80 206	20 50	0 -	0 -	$ 76,100.82	0 3,600	125000 125,000	0 -	0 -	0 -	$ 59,453.76	$ 135,554.58	2019	
Block 29	Assisted Living	Q2 2020	0	0	124	0	$ 88,467.20	5200	0	0	0	0	$ 2,473.28	$ 90,940.48	$ 255,898.74	$ 1,133,551.39
															2020	
Non-RD 1	Mixed Use Retail and Structured Parking	Q1 2021	200	0	0	0	$ 142,689.03	10000	0	0	0	0	$ 4,756.30	$ 147,445.33	$ 90,940.48	$ 1,224,291.86
Block 37 LIRR	Assisted Living	Q2 2021	0	0	0	0	$ -	12600	0	0	0	0	$ 5,992.94	$ 5,992.94		
Block 30	and Residential	Q1 2021	151	0	70	0	$ 157,671.38	0	0	0	0	0	$ -	$ 157,671.38		
Non-RD 4	Production	Q3 2021	0	0	0	0	$ -	15000	0	0	0	50000	$ 30,915.96	$ 30,915.96		
Non-RD 12	Townhomes	Q3 2021	0	50	0	0	$ 47,563.01	0	0	0	0	0	$ -	$ 47,563.01		
Non-RD 13	Retail Hotel and	Q3 2021	0	0	0	0	$ -	16200	0	0	0	0	$ 7,705.21	$ 7,705.21		
Block 33A	Residential	Q3 2021	160 511	0 50	0 70	156 156	$ 145,463.54	42200 98,000	0 -	0 -	0 -	0 50,000	$ 20,071.59	$ 165,535.13	2021	
Non-RD 3	Mixed Use	Q1 2022	0	0	0	0	$ -	10000	50000	0	0	0	$ 28,537.81	$ 28,537.81	$ 562,828.98	$ 1,787,120.82
Block 27	Mixed Use	Q2 2022	583 583	0 -	0 -	0 -	$ 415,938.53	55308 65,308	0 50,000	0 -	0 -	0 -	$ 26,306.15	$ 442,244.68	2022	
Non-RD 5	Office and Retail	Q2 2023	0	0	0	0	$ -	5000	30000	0	0	0	$ 16,647.05	$ 16,647.05	$ 470,782.48	$ 2,257,903.30
Non-RD 16	Townhomes	Q1 2023	0	30	0	0	$ 28,537.81	0	0	0	0	0	$ -	$ 28,537.81		
Block 39 LIR	Mixed Use	Q4 2023	358 358	0 30	0 -	0 -	$ 255,413.37	8750 13,750	0 50,000	0 -	0 -	0 -	$ 4,161.76	$ 259,575.13	2023	
Non-RD 6	Townhomes Artisan/Light	Q3 2024	0	25	0	0	$ 23,781.51	0	0	0	0	0	$ -	$ 23,781.51	$ 304,759.99	$ 2,562,663.29
Non-RD 8	Production	Q1 2024	0	0	0	0	$ -	25000	0	0	0	100000	$ 59,453.76	$ 59,453.76		

Table 12
Inc. Village of Hempstead Water Department
Anticipated Capital Improvement Charge Proceeds

	Assumed Average Size (Sq. Ft.):		900	1200	900	250											
Site	Description	Construction Start	Residential Units	Townhomes	Assisted	Hotel Room	Total Residential	Retail SF	Commercial	Recreation	Performing	Production	Total Commercial	Total Charges	Annual Total Charges	Cumulative Total Charges
Non-RD 9	Recreational Facility Performing Arts Center	Q4 2024	0	0	0	0	$ -	0	0	80000	0	0	$ 38,050.41	$ 38,050.41		
Non-RD 11		Q4 2024	0	0	0	0	$ -	12000	0	0	110000	0	$ 58,026.87	$ 58,026.87	2024	
			-	25	-	-		37,000	-	80,000	110,000	100,000				
Block 31b	Mixed Use	Q1 2025	227	0	0	0	$ 161,952.05	4600	17000	0	0	0	$ 10,273.61	$ 172,225.66	$ 179,312.55	$ 2,741,875.84
Non-RD 7	Office	Q2 2025	0	0	0	0	$ -	0	100000	0	0	0	$ 47,563.01	$ 47,563.01	2025	
			227	-	-	-		4,600	117,000	-	-	-				
Non-RD 14	Townhomes	Q1 2026	0	100	0	0	$ 95,126.02	0	0	0	0	0	$ -	$ 95,126.02	$ 219,788.67	$ 2,961,764.51
Non-RD 17	Townhomes	Q1 2026	0	30	0	0	$ 28,537.81	0	0	0	0	0	$ -	$ 28,537.81		
Non-RD 18	Townhomes	Q1 2026	0	30	0	0	$ 28,537.81	0	0	0	0	0	$ -	$ 28,537.81		
Non-RD 19	Townhomes	Q1 2026	0	68	0	0	$ 64,685.69	0	0	0	0	0	$ -	$ 64,685.69		
		Annual Total:	-	228	-	-		-	-	-	-	-			2026	
		Overall Total:	9,046	383	194	158	$ 2,707,207.28	270,328	380,872	80,000	110,000	150,000	$ 471,444.56	$ 3,178,651.83	$ 216,887.83	$ 3,178,651.83

Table 13
Inc. Village of Hempstead Water Department
Water System Capacity Analysis

Schedule of Capital Improvement Projects

Year		Development Charges	
2017	Clinton Street Water Tanks - Design, Bid & Award Phase 1 Well Site - Permits and Design Mains - Phase 1 Design, Bid & Construct Items 1 - 4A	$ 667,555.89	$ 1,939,000
2018	Clinton Street Water Tanks - Construct Phase 1 - South Tank Well Site - Bid, Award, Construct wells only; Design Well Field Mains - Phase 2 Design, Bid & Construct Items 5 - 6	$ 210,096.76	$ 1,267,500
2019	Clinton Street Water Tanks - Design & Bid Phase 2 & 3 Well Site - Bid & Award Other Well Field Components Mains - Phase 2 Design, Bid & Construct Items 7 - 9	$ 255,698.74	$ 1,158,300
2020	Clinton Street Water Tanks - Construct Phase 2 - North Tank Well Site - Construct Well Field Components & Transmission Mains Mains - Phase 2 Design, Bid & Construct Item 10	$ 90,940.48	$ 362,700
2021	Clinton Street Water Tanks - Construct Phase 3 - Iron Filters Mains - Phase 2 Design, Bid & Construct Item 11	$ 562,828.96	$ 1,677,000
2022	Mains - Phase 2 Design, Bid & Construct Items 12 - 14	$ 470,782.48	$ 1,045,200
2023	Mains - Phase 2 Design, Bid & Construct Items 15 - 16	$ 304,759.99	$ 982,800
2024	Mains - Phase 2 Design, Bid & Construct Items 17 - 18	$ 179,312.55	$ 955,500
2025	Mains - Phase 2 Design, Bid & Construct Items 19 - 21	$ 219,788.67	$ 1,025,700
2026	Mains - Phase 2 Design, Bid & Construct Item 22	$ 216,887.33	$ 1,755,000
		$ 3,178,652	$ 12,168,700

Total Development Charges: $ 15,347,352

Capital Improvement Projects:

		Capacity Added		Construction Cost	Cost per Gallon	Cost per GPM
1	Ground Storage Tanks:	2,740,000	Gallons	$ 7,809,000	$ 2.85	$ 4,104.00
2	Iron Removal Filters:	-		$ 4,053,000		
3	New Well Site:	2,776	GPM	$ 13,958,000		$ 5,028.10
4	Transmission Mains	varies by project		$ 12,168,700		
					Average:	$ 4,566.05
		Total Capital Projects:		$ 37,988,700		

Figures

drawing location on the server P:\2011\HempV\11-04 Basin Cover Design\CADD\Figures.dwg

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TITLE:

Redevelopment Boundaries

Clinton Street Water Treatment Plant
Hempstead, New York 11550

DWN:	SCALE:	DATE:	PROJECT NO.:
	N.T.S.	8/4/14	HempV 11-04
CHKD:	APPD:	REV.:	NOTES:
		-	-

FIGURE NO.: 1

Figure 2
Average and Maximum Day Pumpage

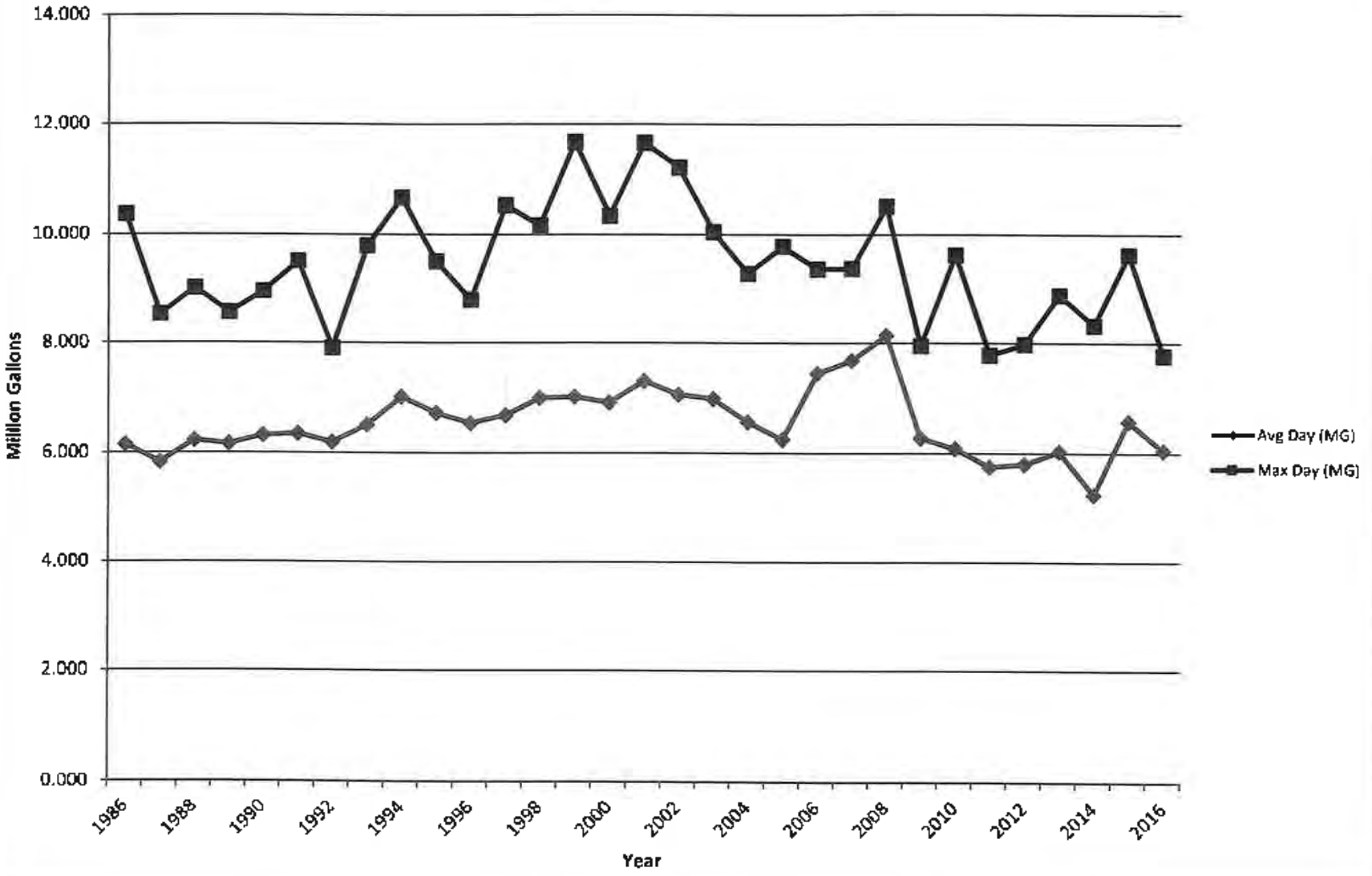


Figure 3
Inc. Village of Hempstead Water Department
Well Capacity vs. Population 1900-2050

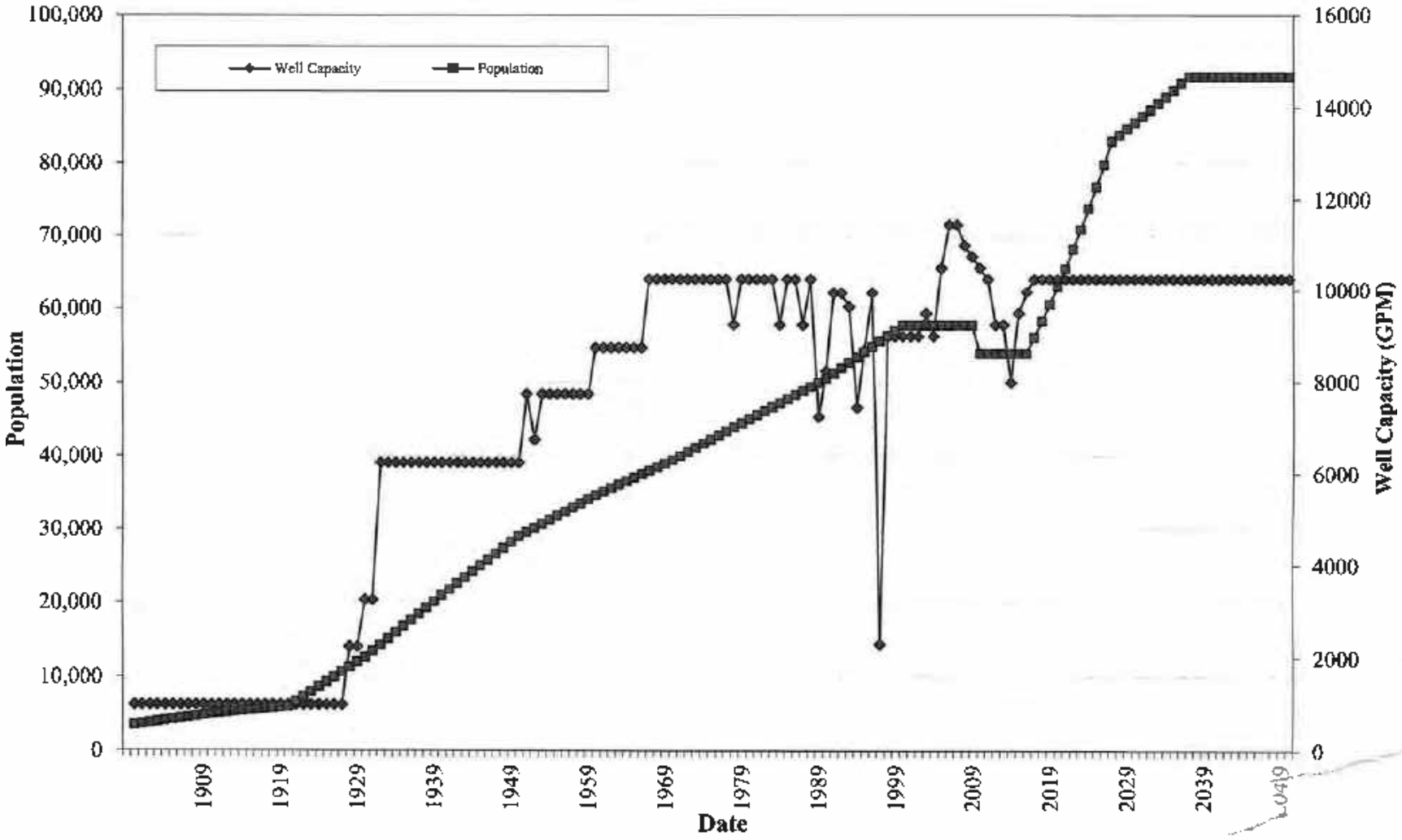


Figure 4
Average and Maximum Day Well Pumpage Per Capita

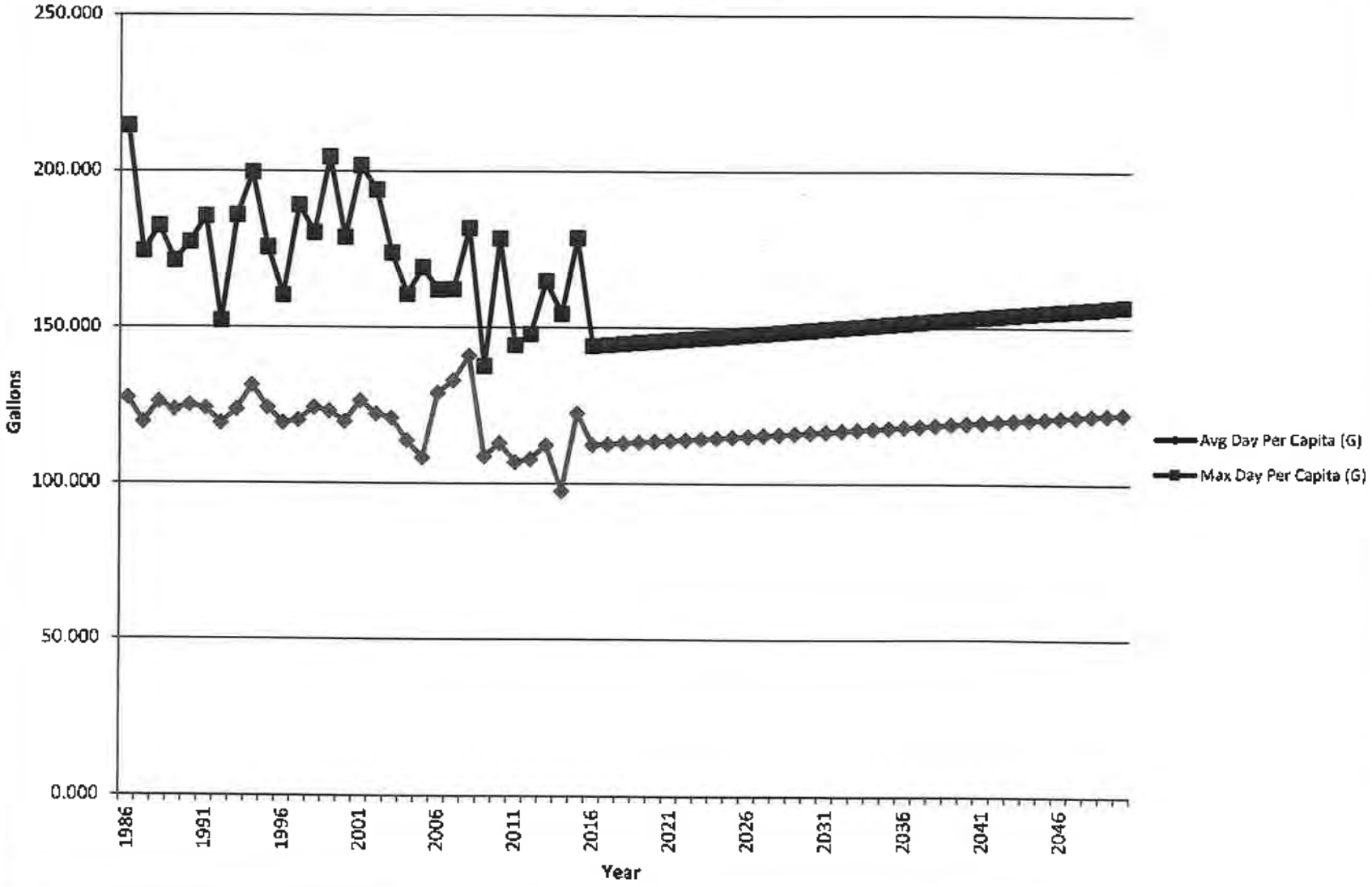


Figure 6
Inc. Village of Hempstead Water Department
Annual Pumpage By Well 1977-2016

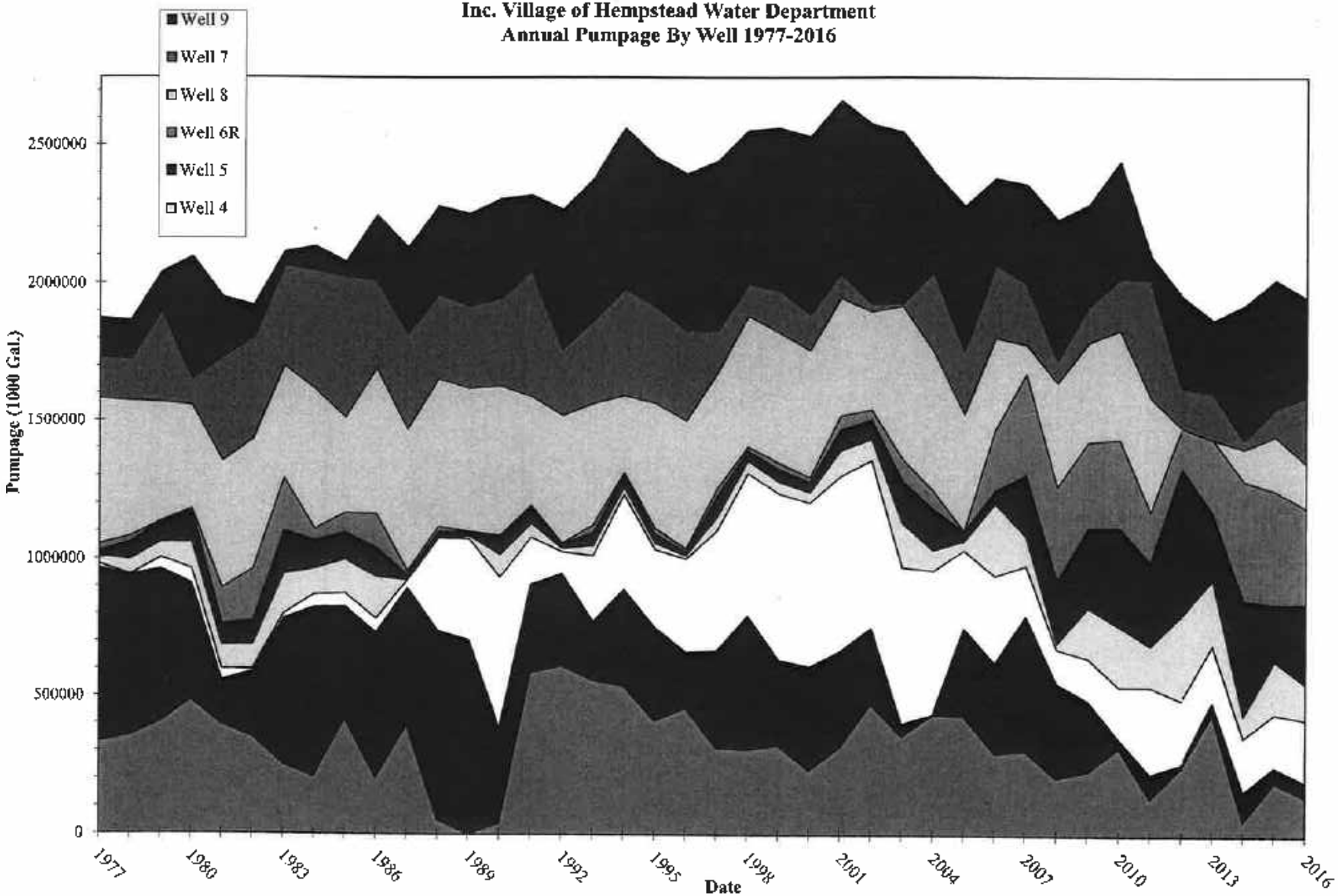
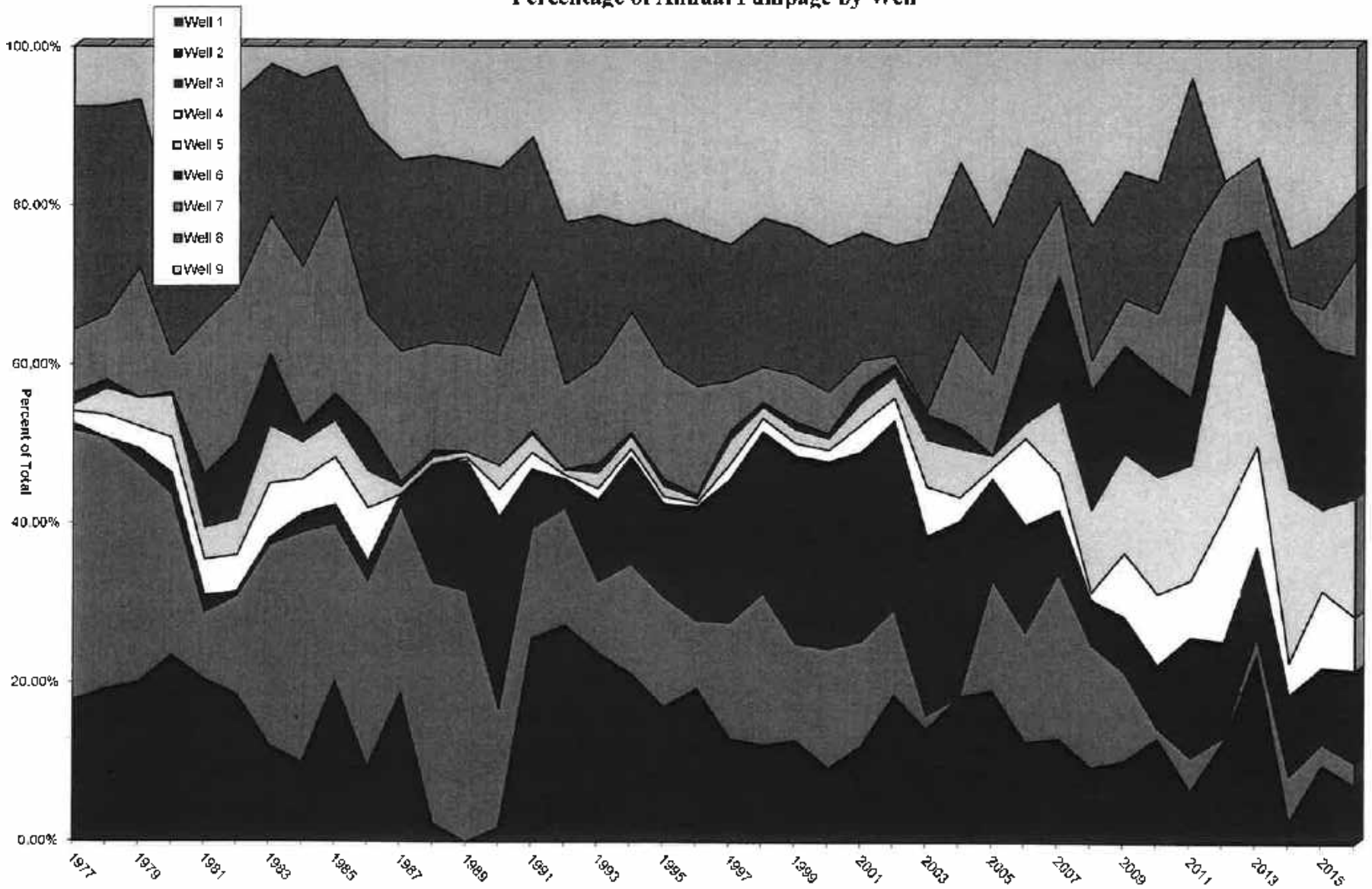


Figure 7
Percentage of Annual Pumpage by Well



Drawings

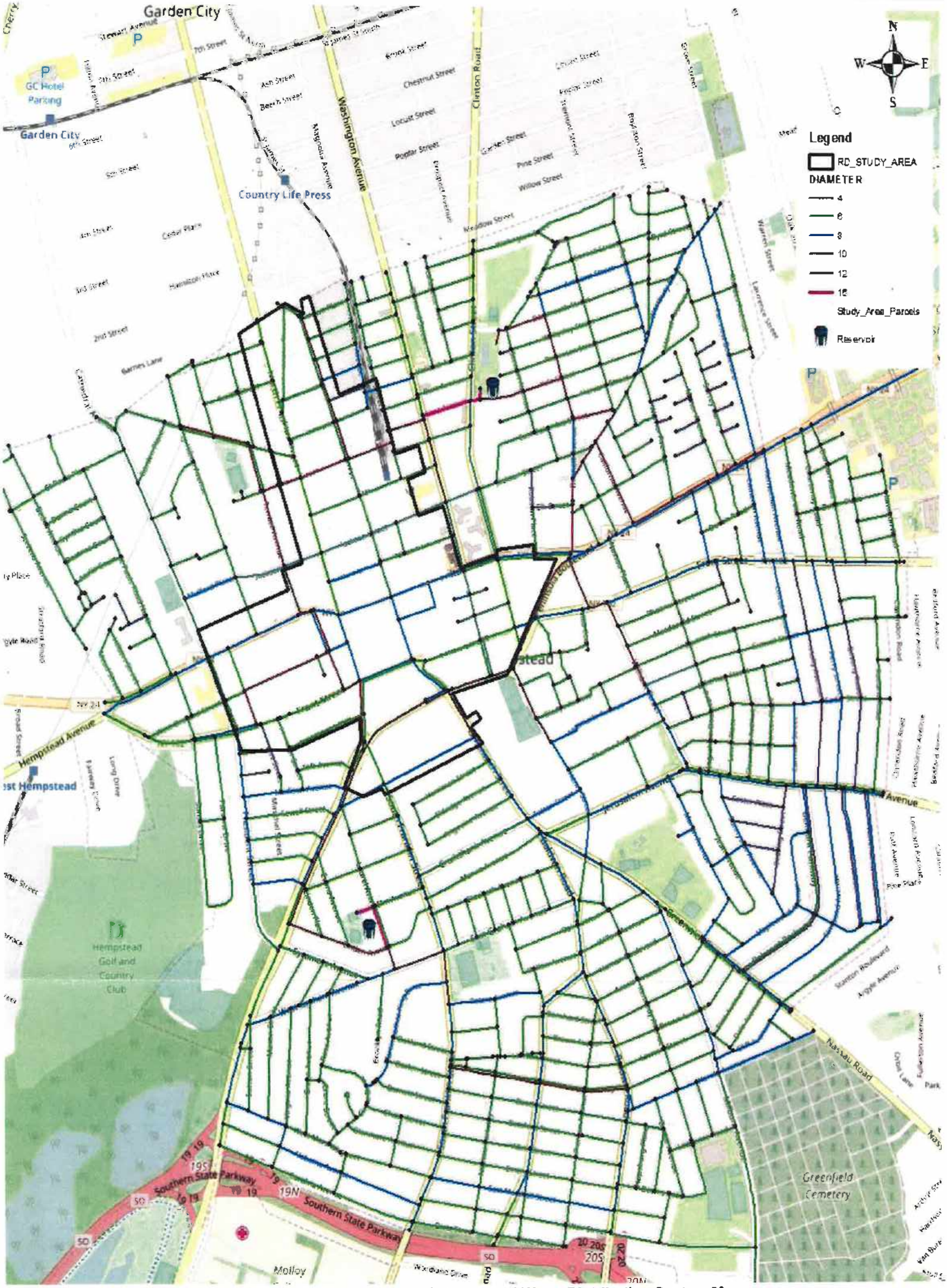


Figure No. 1 – Existing Village of Hempstead Water Distribution System Map

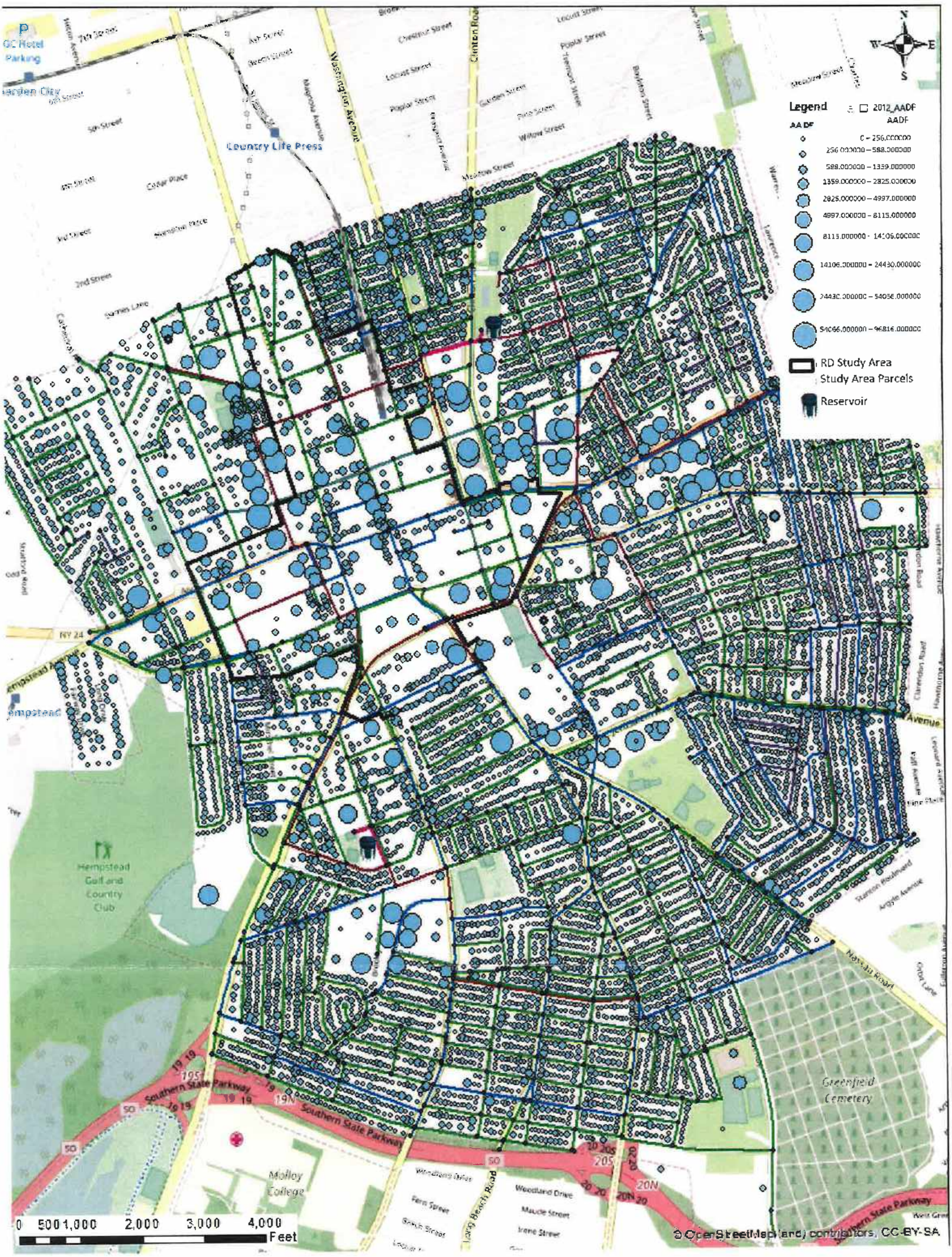
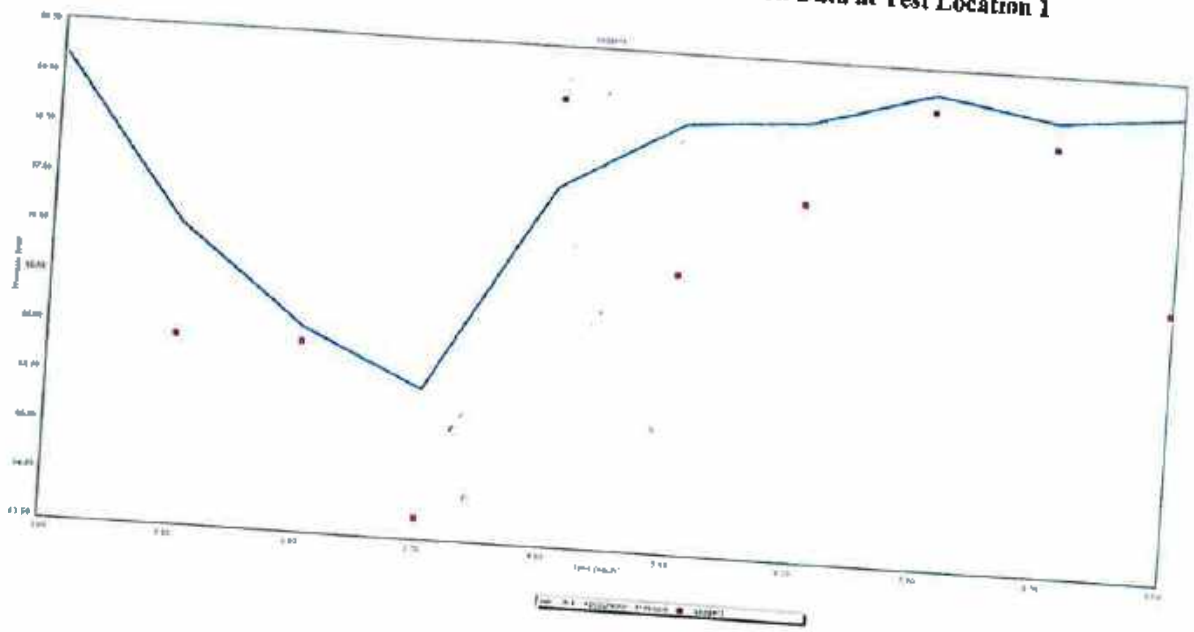


Figure No. 2 – Map Showing Annual Average Daily Water Consumption 2011 - 2012

Figure No. 3 - Model Results Compared to Field Calibration Data at Test Location 1



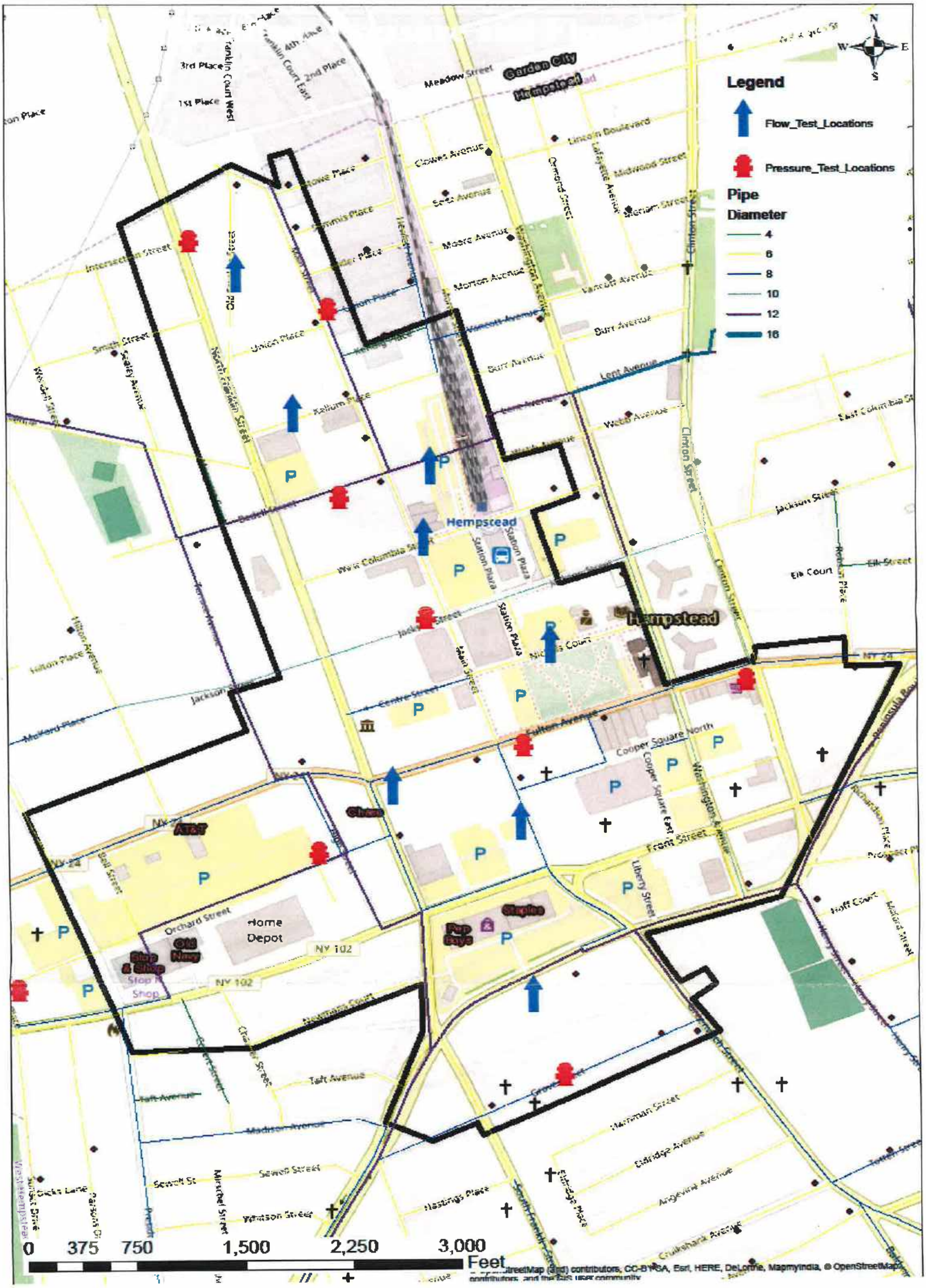


Figure No. 4 – Pressure and Flow Testing Locations Map

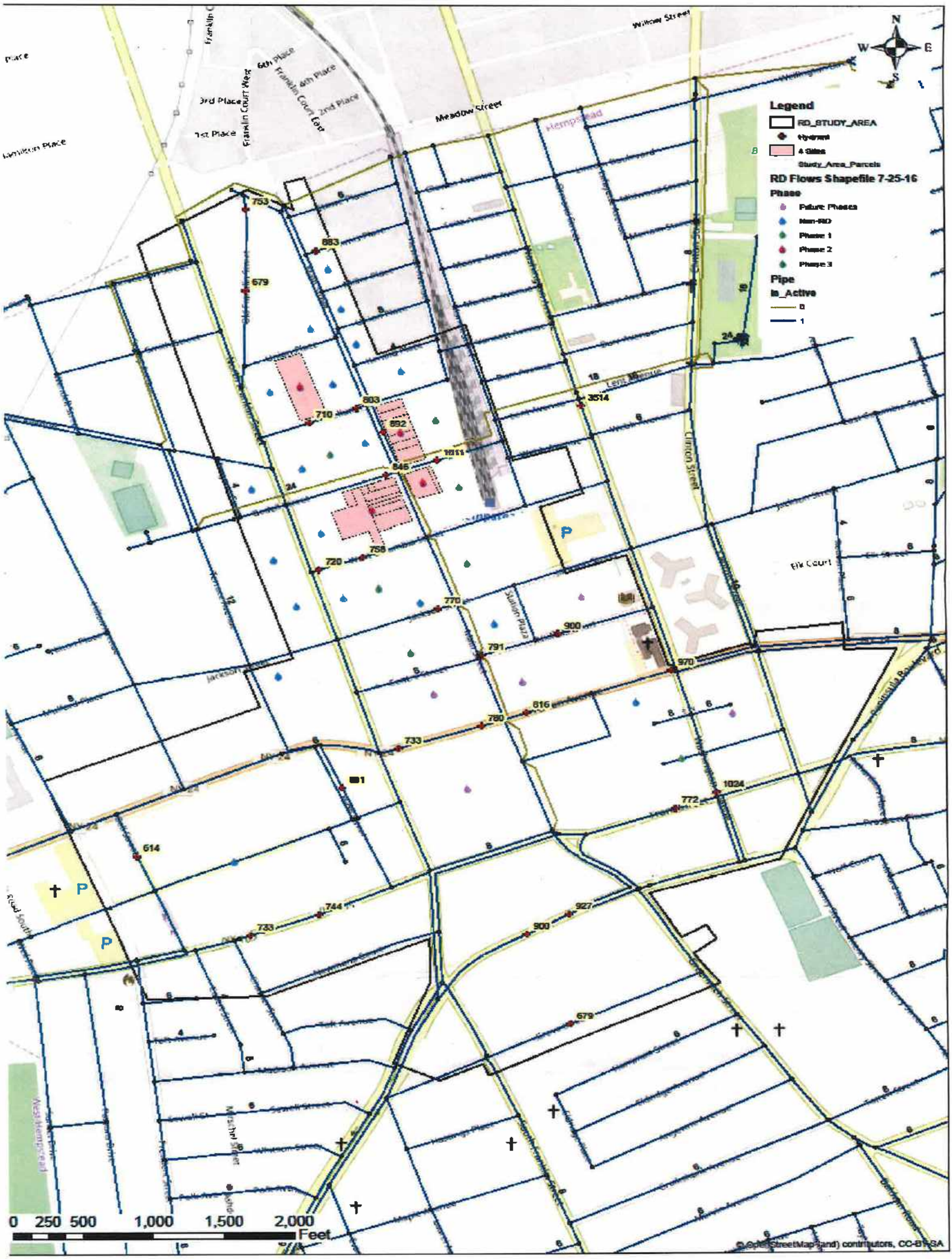


Figure No. 5 – Available Fire-Flow within the Study Area

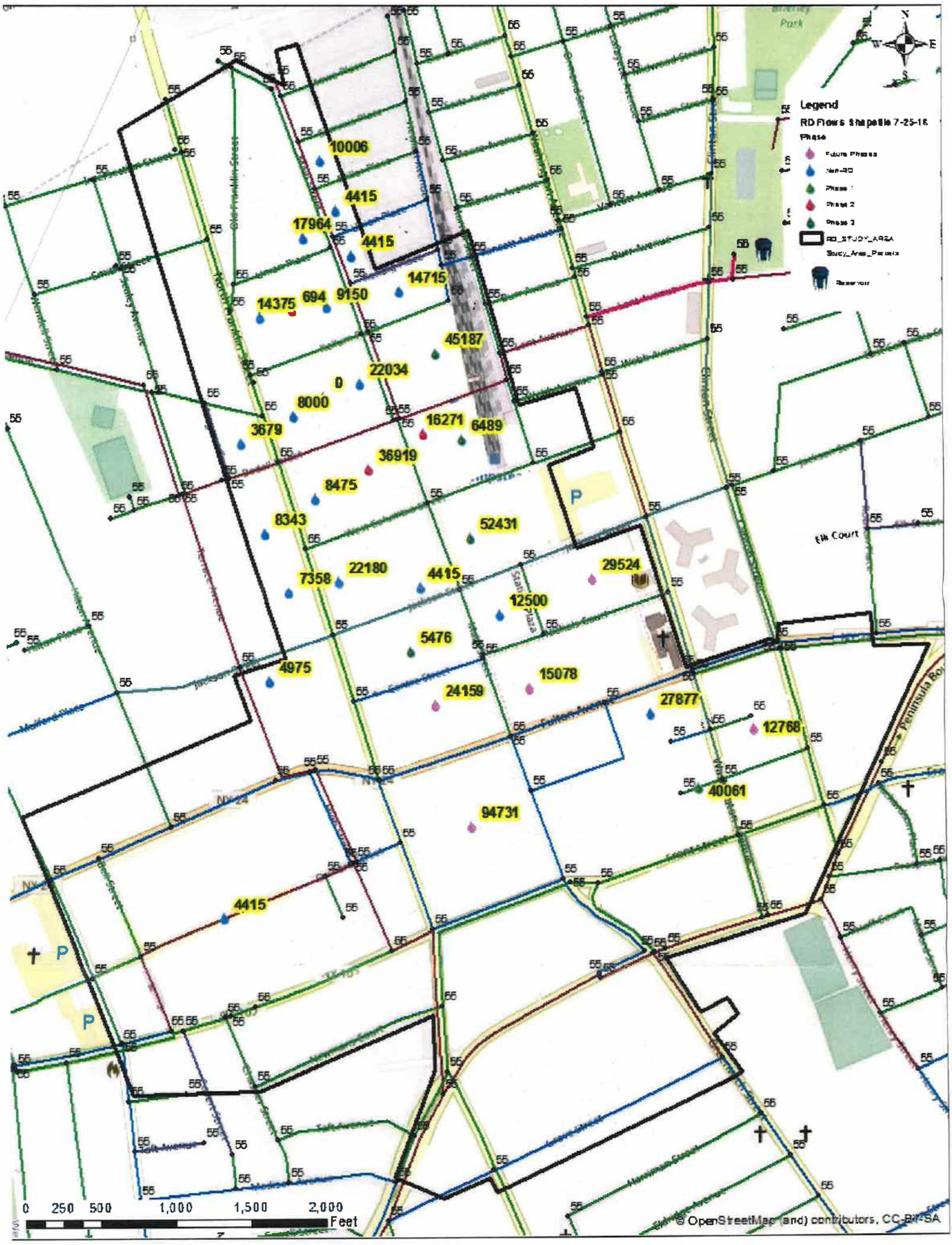


Figure No. 6 – Showing Location of Proposed Projects in Renaissance Downtown and Projected Flows (GPD)

Figure No. 7 – Scenario 1, Available Fire-Flow with Existing Pipes and Phase 1 & 2 Demands

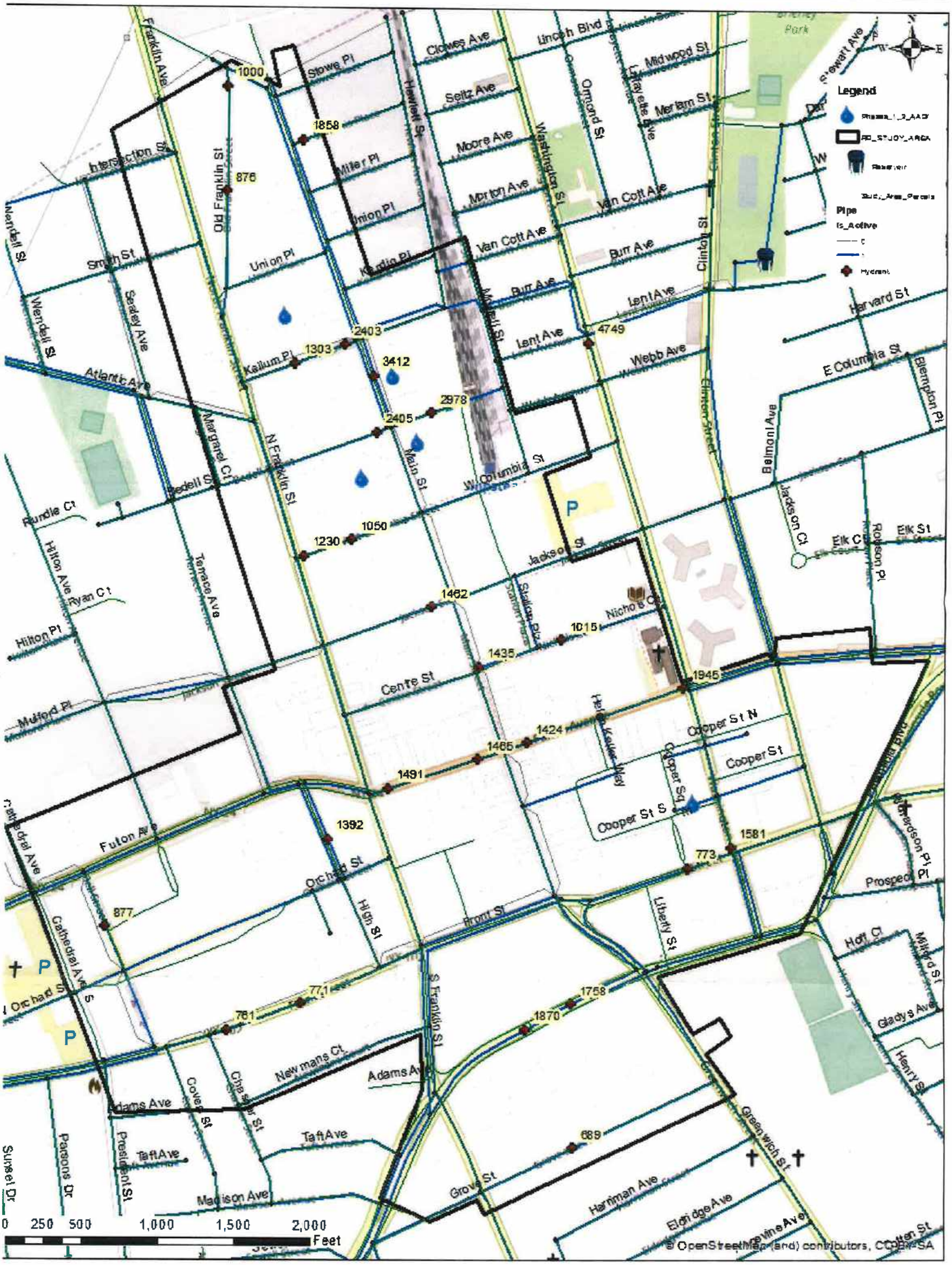


Figure No. 8 – Scenario 1, Available Fire Flow with Existing Pipes PLUS 1910 LF of 24 Inch Main and Phase 1 & 2 Demands

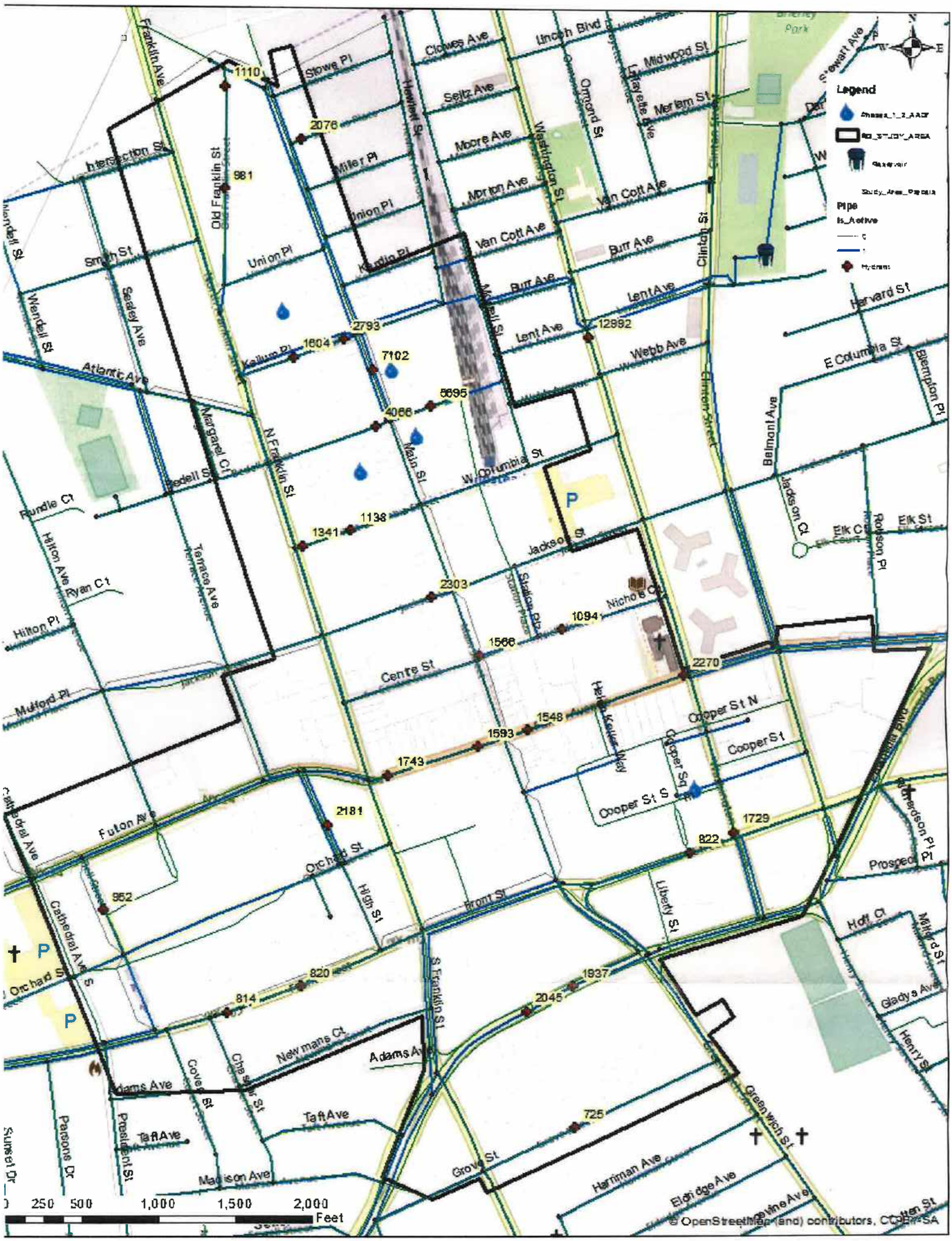


Figure No. 9 – Scenario 1, Available Fire Flow for Existing Pipes Plus 2930 LF 24 inch Mains with Phase 1 & 2 Demands

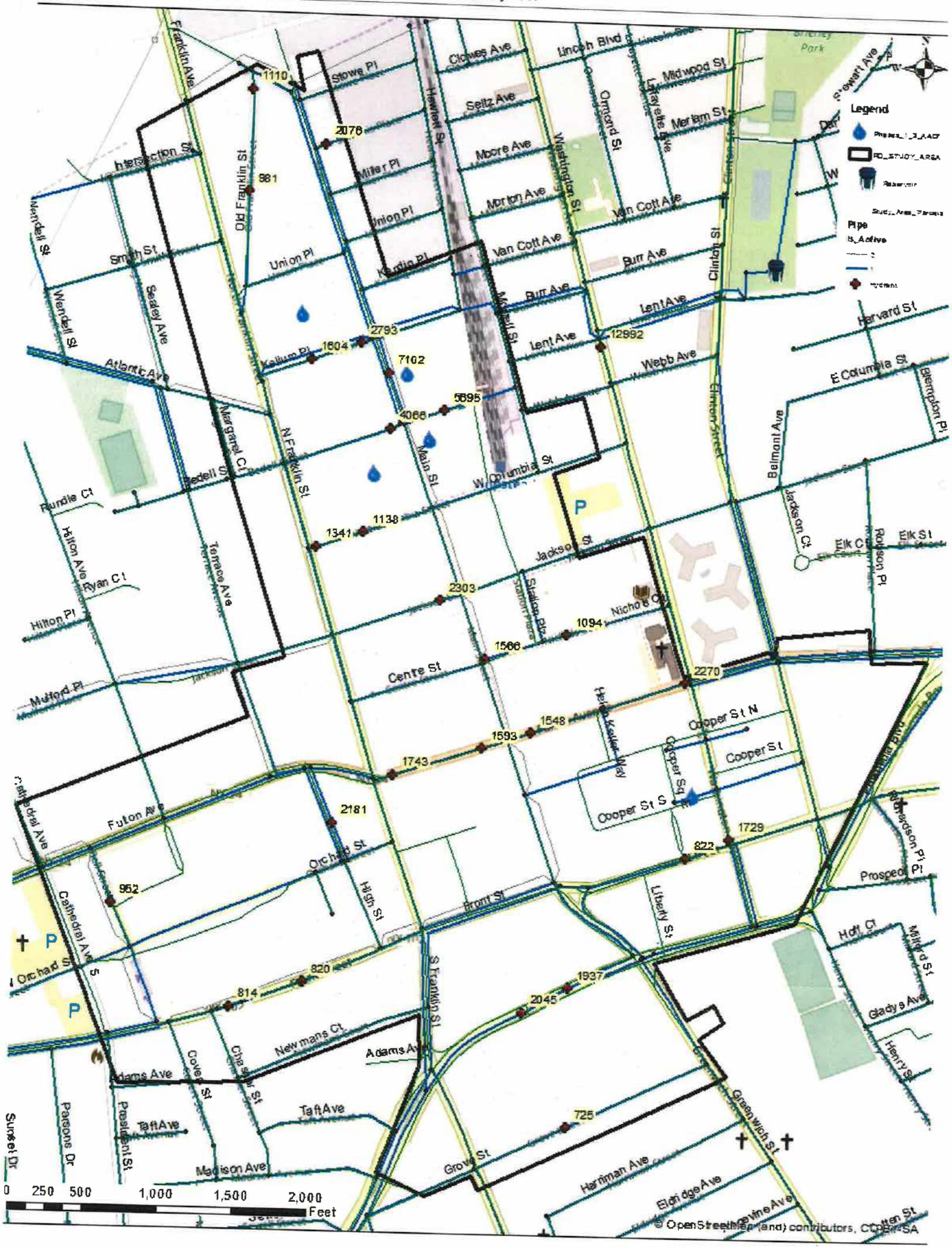


Figure No. 10 – Scenario 2, Available Fire Flow with Phase 1 & 2 Water Distribution Improvements Only

Figure No. 11 – Scenario 2, Available Fire Flow with Phase 1 & 2 Improvements plus 2300 LF 12 inch on Main; Kellum to Center Street


Legend
Pipe
Hydrant
Franklin Ave
Stowe Pl
Clowes Ave
Lincoln Blvd
Midwood St
Seitz Ave
Meriam St
Stewart Ave
Intersection St
Old Franklin St
Hewlett St
Ormond St
Moore Ave
Washington St
Miller Pl
Union Pl
Morton Ave
Van Cott Ave
Wendell St
Smith St
Sealey Ave
Burr Ave
Clinton St
Lent Ave
Webb Ave
E Columbia St
Atlantic Ave
Margaret Ct
N Franklin St
Main St
W Columbia St
Belmont Ave
Jackson St
Elk St
Rundle Ct
Hilton Ave
Ryan Ct
Terrace Ave
Hilton Pl
Nichols Ct
Centre St
Mulford Pl
Cooper St N
Cooper St
Fulton Ave
Orchard St
High St
Front St
Liberty St
Prospect Pl
Cathedral Ave
Adams Ave
Grove St
Chase St
Newmans Ct
S Franklin St
Taft Ave
Madison Ave
Parsons Dr
President St
Harriman Ave
Elgridge Ave
Greenwich St
Glady's Ave
Henry St
1111
2067
989
2780
1613
9650
7747
6720
14884
1364
1540
5012
1404
3471
2774
1816
1885
2061
3062
1073
902
2279
2378
2013
904
785
250 500 1,000 1,500 2,000 Feet
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Figure No. 12

igure No. 13 – Scenario 3, Available Fire Flow with Phase 1, 2 & 3 Improvements Plus 1600 LF 12 inch on Main; Center to Front Stre

Figure No. 14 - Scenario 4, Available Fire Flow for All Projects with All Renaissance Development Improvements

Figure No. 15 - Scenario 4, Available Fire Flow with All Renaissance Development Improvements Plus Northern and Southern Loops

Appendix A

Raw Well VOC Laboratory Results and Graphs

1977-2016

VOC Laboratory Result - Well 1R Raw Water

Date	Trichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	1,1-Dichloroethane	1,3,5-Trichlorobenzene	1,2,4-Trichlorobenzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Ethylbenzene	Hexachlorobutadiene	Methylene Chloride	Toluene	Trichlorofluoromethane	1,1-Dichloroethene	
12/12/77	23																	ug/l
12/21/77	23																	ug/l
01/05/78	20																	ug/l
12/14/78	32																	ug/l
12/26/78			24					5										ug/l
11/05/79	24																	ug/l
11/21/79	18																	ug/l
03/27/80	15																	ug/l
06/10/80	32	1																ug/l
05/13/81	17	2																ug/l
11/18/81	16																	ug/l
03/03/82	15	3																ug/l
11/23/82	22								1									ug/l
12/13/82	23	4																ug/l
06/01/83	22	5																ug/l
06/01/83	24	5																ug/l
11/14/84	19	8																ug/l
11/20/84	20																	ug/l
02/04/85	17	8																ug/l
04/30/85	2				8	8							8					ug/l
11/12/85	13																	ug/l
01/22/86	17	31																ug/l
12/30/86	33																	ug/l
01/13/87	33	36																ug/l
06/10/87	14	24																ug/l
06/11/87	20	27																ug/l
12/15/87	10																	ug/l
06/15/88	13	31																ug/l
07/08/88	32	75																ug/l
09/07/88	36	86																ug/l
12/21/88	16	45																ug/l
03/14/89	9.1	31																ug/l
06/20/89	6	27																ug/l
08/27/89	12	38																ug/l
12/12/89	14	36		0.7														ug/l
05/23/90	9	44					4	2		2		1			6			ug/l
05/23/90	13	58								2								ug/l
09/18/90	15	47																ug/l
10/15/90	11	47								2				1		1		ug/l
01/30/91	7	52																ug/l
04/22/91	14	65								0.6								ug/l
08/30/91		6.8																ug/l
08/08/91	13	61								0.5								ug/l
09/10/91	13	59																ug/l
11/14/91	13	58								0.9	8.7							ug/l
12/02/91	14	73								0.5								ug/l
12/12/91	9	40																ug/l
01/14/92	12	62								0.6								ug/l
02/04/92	9.4	54																ug/l
03/10/92	8.1	49									2.5							ug/l
04/02/92	5.9	41																ug/l
05/05/92	7.5	42																ug/l
06/02/92		47									0.7							ug/l
07/02/92	8.9	49									0.6							ug/l
08/05/92	8.6	47																ug/l
09/01/92	8.6	53																ug/l

VOC Laboratory Result - Well 1R Raw Water

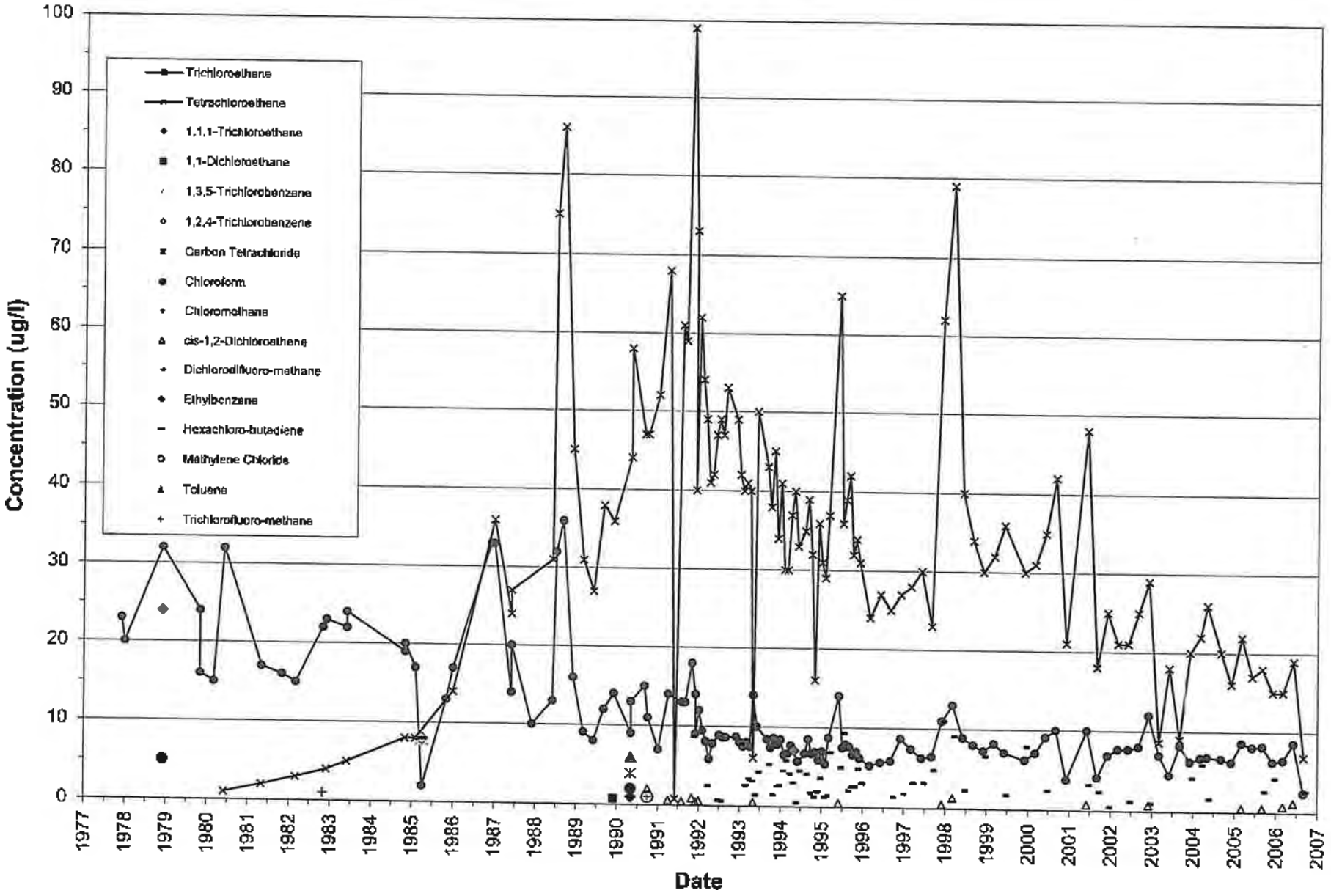
Date	Trichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	1,1-Dichloroethane	1,3,5-Trichlorobenzene	1,2,4-Trichlorobenzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Dichlorodifluoro-methane	Ethylbenzene	Hexachloro-butadiene	Methylene Chloride	Toluene	Trichlorofluoro-methane	1,1-Dichloroethene
12/03/92	8.7	49									7.8						ug/l
01/12/93	8	42									2.6						ug/l
02/09/93	7.5	40									3.4						ug/l
03/09/93	8	41									3.1						ug/l
04/20/93	7.5	40									1.4						ug/l
05/04/93	14	8.1								0.5	4.3						ug/l
06/01/93	10	50									5.3						ug/l
09/07/93	8.4	43									1.4						ug/l
10/26/93	7.4	38									2.5						ug/l
11/16/93	8.6	45									2.6						ug/l
12/07/93	7.8	34									4.5						ug/l
01/11/94	8.4	41									5.8						ug/l
02/01/94	6.5	30									4.1						ug/l
03/08/94	6.7	30									3						ug/l
04/05/94	7.7	37									0.5						ug/l
05/03/94		40	7.1								4.5						ug/l
06/07/94	5.7	33									4.1						ug/l
08/09/94	6.7	35									1.7						ug/l
09/07/94	8.5	29									1.2						ug/l
10/12/94	6.7	32									1.9						ug/l
11/29/94	6.9	16									3.6						ug/l
12/13/94	5.9	38									1.2						ug/l
01/04/95	7	31									1.4						ug/l
02/07/95	5.4	29									6.9						ug/l
03/07/95	6.7	37									5						ug/l
05/05/95	14	65								0.6	9.3						ug/l
07/06/95	7.5	36									2						ug/l
08/15/95	7.9	39									2.5						ug/l
09/12/95	7.6	42									2.6						ug/l
10/11/95	6.6	32									4.9						ug/l
11/08/95	7	34									3						ug/l
12/05/95	6.2	31															ug/l
03/07/96	5.3	24															ug/l
05/05/96	5.7	27									1.3						ug/l
09/17/96	5.9	26									1.8						ug/l
12/03/96	8.7	27									3.1						ug/l
03/04/97	7.4	28									3.1						ug/l
05/03/97	8.3	30									4.8						ug/l
09/15/97	6.5	23									11						ug/l
12/22/97	11	62								0.5	9.1						ug/l
03/31/98	13	79								1.3	2.3						ug/l
06/18/98	8.9	40															ug/l
09/09/98	8	34									6.6						ug/l
12/01/98	7.9	30															ug/l
03/24/99	8.2	32									1.8						ug/l
06/11/99	7.1	36									7.9						ug/l
12/07/99	6.2	30															ug/l
03/07/00	7.1	31									2.4						ug/l
06/07/00	9.1	35															ug/l
09/06/00	10	42															ug/l
12/06/00	3.8	21															ug/l
06/19/01	10	48								0.76	3.2						ug/l
09/12/01	4.1	18									2.3						ug/l
12/04/01	6.9	25									0.5						ug/l
03/13/02	7.7	21															ug/l
06/04/02	7.7	21									1.2						ug/l

VOC Laboratory Result - Well 1R Raw Water

Date	Trichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	1,1-Dichloroethane	1,3,5-Trichlorobenzene	1,2,4-Trichlorobenzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Dichlorodifluoro-methane	Ethylbenzene	Hexachloro-butadiene	Methylene Chloride	Toluene	Trichlorofluoro-methane	1,1-Dichloroethene	
09/17/02	8	25																ug/l
12/10/02	12	28								0.76	0.98							ug/l
03/11/03	7	8.8																ug/l
06/10/03	4.5	16																ug/l
09/17/03	8.2	9																ug/l
12/04/03	8.2	20									4.2							ug/l
03/22/04	6.7	22									5.9							ug/l
05/20/04	5.8	26									1.6							ug/l
09/14/04	6.6	20																ug/l
12/06/04	6.2	16																ug/l
03/16/05	8.6	22								0.5								ug/l
06/07/05	8.1	17																ug/l
09/13/05	8.2	18								0.53	2.6							ug/l
12/06/05	5.9	15									4.2							ug/l
03/07/06	6.5	15								0.8								ug/l
06/06/06	8.6	19								1.2								ug/l
09/21/06	2.4	6.9									2.6							ug/l

Well 1R abandoned in 2006 and replaced by Well 1RR

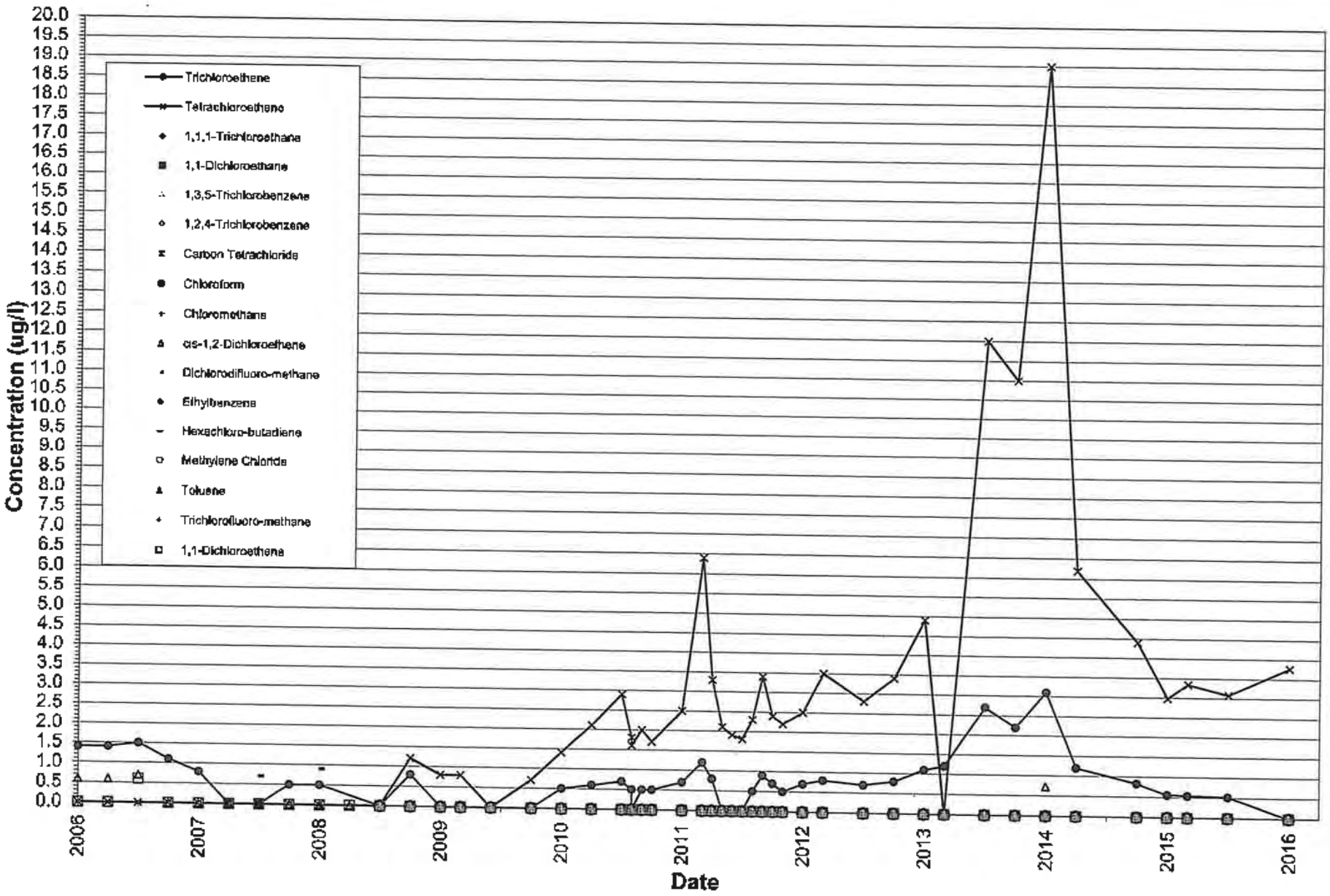
VOC Trends Chart - Well 1R



VOC Laboratory Result - Well 1RR Raw Water

Date	Trichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	1,1-Dichloroethane	1,3,5-Trichlorobenzene	1,2,4-Trichlorobenzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Dichlorodifluoro-methane	Ethylbenzene	Hexachloro-butadiene	Methylene Chloride	Toluene	Trichlorofluoro-methane	1,1-Dichloroethene		perchlorate
09/19/06	1.4	<0.5								0.6	<0.5						<0.5	ug/l	
12/05/06	1.4	<0.5								0.6	<0.5						<0.5	ug/l	
03/06/07	1.6	<0.5								0.7	<0.5						0.6	ug/l	
06/05/07	1.1	<0.5								<0.5	<0.5						<0.5	ug/l	
09/05/07	0.8	<0.5								<0.5	<0.5						<0.5	ug/l	
12/11/07	<0.5	<0.5								<0.5	<0.5						<0.5	ug/l	
03/12/08	<0.5	<0.5								<0.5	<0.5						<0.5	ug/l	<1
06/03/08	0.5	<0.5								<0.5	0.7						<0.5	ug/l	
09/10/08	0.5	<0.5								<0.5	<0.5						<0.5	ug/l	
12/02/08										<0.5	0.9						<0.5	ug/l	
03/04/09	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	ug/l	<1
06/10/09	0.8	1.2	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	ug/l	
09/01/09	< 0.5	0.6	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	ug/l	
11/04/09	< 0.5	0.8	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	ug/l	
02/23/10	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
06/22/10	<0.5	0.7	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
09/08/10	0.5	1.4	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
12/17/10	0.6	2.1	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
03/22/11	0.7	2.9	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
04/08/11	0.5	1.8	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
04/12/11	<0.5	1.6	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
05/31/11	0.5	2	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
06/07/11	0.5	1.7	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
09/20/11	0.7	2.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
11/30/11	1.2	6.4	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
12/16/11	0.8	3.3	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
01/24/12	<0.5	2.1	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
02/14/12	<0.5	1.9	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
03/14/12	<0.5	1.8	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
04/10/12	0.5	2.3	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
05/31/12	0.9	3.4	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
06/07/12	0.7	2.4	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
07/16/12	0.5	2.2	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
09/11/12	0.7	2.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
11/27/12	0.8	3.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
03/12/13	0.7	2.8	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
06/18/13	0.8	3.4	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
09/04/13	1.1	4.9	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
11/19/13	1.2	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
03/18/14	2.7	12	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
06/24/14	2.2	11	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
09/23/14	3.1	19	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
12/10/14	1.2	6.7	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	0.73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
06/18/15	0.83	4.39	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
09/22/15	0.56	2.88	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
11/12/15	0.54	3.34	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
03/29/16	0.52	3.06	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
03/30/16	<0.5	3.77	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	

VOC Trends Chart - Well 1RR



VOC Laboratory Result - Well 2/2R Raw Water

Well	Date	Trichloroethene	Tetrachloroethene	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	perchlorate	
2	09/20/88						0.7			ug/l	
2	06/07/89	0.8	1.1							ug/l	
2	09/12/89	1	3							ug/l	
2	11/22/89	1.5	4.5							ug/l	
2	03/20/90	1.3	5.3							ug/l	
2	06/21/90			4	7	9	4			ug/l	
2	06/21/90		1							ug/l	
2	06/22/90						2			ug/l	
2	06/22/90						1			ug/l	
2	08/31/90	1	3							ug/l	
2	09/18/90	0.5	1.8							ug/l	
2	09/20/90		1.2		0.7					ug/l	
2	11/21/90		0.6							ug/l	
2	06/08/99						0.8			ug/l	
2	03/07/00	<0.5	<0.5					<0.5	<0.5	ug/l	
2	06/13/00	<0.5	<0.5					<0.5	<0.5	ug/l	
2	09/12/00	<0.5	<0.5					<0.5	<0.5	ug/l	
2	12/05/00	<0.5	<0.5					<0.5	<0.5	ug/l	
2	03/14/01	<0.5	<0.5					<0.5	<0.5	ug/l	
2	06/19/01	<0.5	<0.5					<0.5	<0.5	ug/l	
2	09/19/01	<0.5	<0.5					<0.5	<0.5	ug/l	
2	12/04/01	<0.5	<0.5					<0.5	<0.5	ug/l	
2	03/12/02	<0.5	<0.5					<0.5	<0.5	ug/l	
2	06/04/02	<0.5	<0.5					<0.5	<0.5	ug/l	
2	09/12/02	<0.5	<0.5					<0.5	<0.5	ug/l	
2	12/10/02	<0.5	<0.5					<0.5	<0.5	ug/l	
2	01/22/03	<0.5	<0.5					<0.5	<0.5	ug/l	
2	06/25/03	<0.5	<0.5					<0.5	<0.5	ug/l	
2004 and replaced by Well 2R											
2R	10/29/04	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	12/07/04	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	03/08/05	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	06/07/05	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	09/13/05	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	03/28/06	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	09/12/06	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	11/28/06	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	12/05/06	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	03/06/07	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	06/05/07	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	09/05/07	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	12/11/07	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	03/11/08	<0.5	<0.5					<0.5	<0.5	ug/l	<1
2R	06/03/08	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	09/03/08	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	11/25/08	<0.5	<0.5					<0.5	<0.5	ug/l	
2R	03/04/09	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	

VOC Laboratory Result - Well 2/2R Raw Water

Well	Date	Trichloroethene	Tetrachloroethene	Bromodichloromethane	Bromoform	Chlorodibromomethane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane		perchlorate
2R	06/10/09	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	09/09/09	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	11/04/09	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	2/23/2010	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	<1
2R	2/23/2010	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	6/22/2010	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	9/21/2010	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	12/2/2010	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	03/22/11	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	<1
2R	06/21/11	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	09/20/11	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	12/14/11	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	03/21/12	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	<1
2R	06/07/12	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	09/11/12	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	11/29/12	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	03/19/13	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	<1
2R	09/11/13	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	12/04/13	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	03/18/14	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	<1
2R	06/24/14	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	09/09/14	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	11/18/14	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	03/17/15	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	06/30/15	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	09/08/15	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	12/09/15	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	03/29/16	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	
2R	09/13/18	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	ug/l	

VOC Laboratory Result - Well 3/3R Raw Water

Well	Date	Trichloroethene	Tetrachloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Bromoform	Chlorodibromo-methane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoro-methane	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene		Perchlorate
3	05/17/78							2						ug/l	
3	09/20/88							0.8						ug/l	
3	12/10/96				2.6						4.4		1.3	ug/l	
3	03/11/97			3.3	1					1	1.3			ug/l	
3	06/03/97			14	3.5						5.3	0.5	0.6	ug/l	
3	08/27/97			5.6	1.6	0.5	0.5				3.3			ug/l	
3	07/23/97			8.3	2.5						4.6		0.5	ug/l	
3	07/24/97			8.2	2.5						5.9		0.5	ug/l	
3	07/28/97			0.7										ug/l	
3	12/02/97			1.4	0.7						0.7		1.1	ug/l	
3	03/17/98			4	1.1						1.9		0.5	ug/l	
3	06/09/98			2.5	1.3						1.2			ug/l	
3	09/15/98			1.2							0.8			ug/l	
3	03/07/00	<0.5	<0.5						<0.5	<0.5				ug/l	
3	05/13/00	<0.5	<0.5						<0.5	<0.5				ug/l	
3	09/12/00	<0.5	<0.5						<0.5	<0.5				ug/l	
3	12/05/00	<0.5	<0.5						<0.5	<0.5				ug/l	
3	03/14/01	<0.5	<0.5						<0.5	<0.5				ug/l	
3	06/19/01	<0.5	<0.5						<0.5	<0.5				ug/l	
3	09/19/01	<0.5	<0.5						<0.5	<0.5				ug/l	
3	12/04/01	<0.5	<0.5						<0.5	<0.5				ug/l	
3	03/19/02	<0.5	<0.5						<0.5	<0.5				ug/l	
3	06/04/02	<0.5	<0.5						<0.5	<0.5				ug/l	
3	09/12/02	<0.5	<0.5						<0.5	<0.5				ug/l	
3	12/10/02	<0.5	<0.5						<0.5	<0.5				ug/l	
3	01/22/03	<0.5	<0.5						<0.5	<0.5				ug/l	
3	06/03/03	<0.5	<0.5						<0.5	<0.5				ug/l	
3	09/18/03	<0.5	<0.5						<0.5	<0.5				ug/l	
3	12/09/03	<0.5	<0.5						<0.5	<0.5				ug/l	
3	03/23/04	<0.5	<0.5						<0.5	<0.5				ug/l	
3	06/02/04	<0.5	<0.5						<0.5	<0.5				ug/l	
3	09/08/04	<0.5	<0.5						<0.5	<0.5				ug/l	
3	12/07/04	<0.5	<0.5						<0.5	<0.5				ug/l	
3	03/08/05	<0.5	<0.5						<0.5	<0.5				ug/l	
3	06/07/05	<0.5	<0.5						<0.5	<0.5				ug/l	
3	09/13/05	<0.5	<0.5						<0.5	<0.5				ug/l	
3	12/06/05	<0.5	<0.5						<0.5	<0.5				ug/l	
3	03/07/06	<0.5	<0.5						<0.5	<0.5				ug/l	
2006 and replaced by Well 3R															
3R	09/19/06	01/00/00	01/00/00						0.6	0.6				ug/l	
3R	12/05/06	<0.5	<0.5						<0.5	<0.5				ug/l	
3R	03/06/07	<0.5	<0.5						<0.5	<0.5				ug/l	
3R	06/05/07	<0.5	<0.5						<0.5	<0.5				ug/l	
3R	09/05/07	<0.5	<0.5						<0.5	<0.5				ug/l	
3R	12/11/07	<0.5	<0.5						<0.5	<0.5				ug/l	
3R	03/11/08	<0.5	<0.5						<0.5	<0.5				ug/l	<1
3R	06/10/08	<0.5	<0.5						<0.5	<0.5				ug/l	
3R	09/10/08	<0.5	<0.5						<0.5	<0.5				ug/l	
3R	12/09/08	<0.5	<0.5						<0.5	<0.5				ug/l	
3R	02/03/09	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5				ug/l	<1
3R	06/16/09	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	

VOC Laboratory Result - Well 3/3R Raw Water

Well	Date	Trichloroethene	Tetrachloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Bromoform	Chlorodibromo-methane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoro-methane	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene		Perchlorate
3R	09/01/09	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	11/04/09	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	03/31/10	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
3R	05/22/10	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	09/08/10	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	12/01/10	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	03/22/11	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
3R	06/08/11	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	09/13/11	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	12/14/11	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	03/14/12	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
3R	06/05/12	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	09/18/12	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	11/27/12	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	03/12/13	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
3R	06/18/13	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	09/04/13	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	11/26/13	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	06/10/14	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	<1
3R	09/17/14	<0.5	0.59	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	11/18/14	<0.5	0.77	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	09/22/15	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	12/15/15	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	03/15/16	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	
3R	09/13/16	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ug/l	

VOC Laboratory Result - Well 4 Raw Water v. Treated Water

Date	R=Raw, PN= Post Nozzle	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Chloromethane	Dichlorodifluoro-methane	n-Butylbenzene	p-Isopropyltoluene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	Vinyl Chloride	
11/22/83	R	<0.5	<0.5				1								ug/l
09/09/93	R	<0.5	<0.5					3.6							ug/l
09/15/93	R	<0.5	<0.5					2							ug/l
12/14/93	R	<0.5	<0.5					0.6							ug/l
01/11/94	R	<0.5	<0.5					2.3							ug/l
06/24/94	R	<0.5	<0.5					1.9							ug/l
09/20/94	R	<0.5	<0.5					1.8							ug/l
12/29/94	R	<0.5	<0.5					1.9							ug/l
06/08/95	R	<0.5	<0.5					1							ug/l
09/19/95	R	<0.5	<0.5					3.2							ug/l
11/14/95	R	<0.5	<0.5					1.9							ug/l
12/10/96	R	<0.5	<0.5		1.9	0.5				2.1					ug/l
03/11/97	R	<0.5	<0.5		1.5			2	1.7						ug/l
06/11/97	R	<0.5	<0.5		2.1	0.6			1.5						ug/l
09/24/97	R	<0.5	<0.5					2.4							ug/l
12/02/97	R	<0.5	<0.5					3.1							ug/l
03/17/98	R	<0.5	<0.5	<0.5				2	<0.5	<0.5					ug/l
06/23/98	R	<0.5	<0.5	<0.5				1	<0.5	<0.5					ug/l
09/15/98	R	<0.5	<0.5	<0.5				3.4	<0.5	<0.5					ug/l
03/15/00	R	<0.5	<0.5	<0.5				<0.5							ug/l
06/20/00	R	<0.5	<0.5	<0.5				<0.5							ug/l
09/12/00	R	<0.5	<0.5	<0.5				<0.5							ug/l
12/05/00	R	<0.5	<0.5	<0.5				<0.5							ug/l
03/15/01	R	<0.5	<0.5	<0.5				<0.5							ug/l
06/19/01	R	<0.5	<0.5	<0.5				<0.5							ug/l
09/26/01	R	<0.5	<0.5	<0.5				<0.5							ug/l
12/06/01	R	<0.5	<0.5	<0.5				<0.5							ug/l
03/12/02	R	<0.5	<0.5	<0.5				<0.5							ug/l
06/18/02	R	<0.5	<0.5	<0.5				<0.5							ug/l
09/12/02	R	<0.5	<0.5	<0.5				<0.5							ug/l
12/10/02	R	<0.5	<0.5	<0.5				<0.5							ug/l
01/22/03	R	<0.5	<0.5	<0.5				<0.5							ug/l
06/03/03	R	<0.5	<0.5	<0.5				<0.5							ug/l
09/16/03	R	<0.5	<0.5	<0.5				<0.5							ug/l
12/10/03	R	<0.5	<0.5	<0.5				4.4							ug/l
12/18/03	R	<0.5	<0.5	<0.5				9.3							ug/l
01/06/04	R	<0.5	<0.5	<0.5				8.9							ug/l
02/10/04	R	<0.5	<0.5	<0.5				6.4							ug/l
03/23/04	R	<0.5	<0.5	<0.5				9.6							ug/l
04/27/04	R	<0.5	<0.5	<0.5				13							ug/l
05/27/04	R	<0.5	<0.5	<0.5				6.5							ug/l
06/03/04	R	<0.5	<0.5	<0.5				5.1							ug/l
07/02/04	R	<0.5	<0.5	<0.5				<0.5							ug/l
								<0.5							ug/l
07/20/04	R	<0.5	<0.5	<0.5											
	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
								<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
07/27/04	R	<0.5	<0.5	<0.5											
08/24/04	R	<0.5	<0.5	<0.5				<0.5							ug/l
11/09/04	R	<0.5	<0.5	<0.5				3.0							ug/l
12/08/04	R	<0.5	<0.5	<0.5				<0.5							ug/l
03/16/05	R	<0.5	<0.5	<0.5				<0.5							ug/l
06/07/05	R	<0.5	<0.5	<0.5				<0.5							ug/l
09/13/05	R	<0.5	<0.5	<0.5				<0.5							ug/l
12/14/05	R	<0.5	<0.5	<0.5				<0.5							ug/l
01/04/06	PN	<0.5	<0.5	<0.5				<0.5							ug/l
02/07/06	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
03/07/06	R	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
03/28/06	PN	<0.5	<0.5	<0.5				<0.5							ug/l
04/11/06	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
05/02/06	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
											<0.5	<0.5	<0.5	<0.5	ug/l

VOC Laboratory Result - Well 4 Raw Water v. Treated Water

Date	R=Raw, PN= Post Nozzle	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Chloromethane	Dichlorodifluoro-methane	n-Butylbenzene	p-Isopropyltoluene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	Vinyl Chloride	
06/06/06	R	0.53	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
09/12/06	R	3.1	<0.5	0.9				2.3							ug/l
10/03/06	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
11/14/06	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
11/28/06	R	01/02/00	<0.5	01/01/00				1.0							ug/l
12/05/06		01/00/00	<0.5	<0.5				<0.5			0.5	<0.5	<0.5	<0.5	ug/l
02/06/07	PN	0.6	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
03/06/07	R	2.8	<0.5	1.0				2.6			2.3	<0.5	0.7	<0.5	ug/l
03/13/07	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
04/03/07	PN	1.1	<0.5	<0.5				<0.5			1.1	<0.5	<0.5	<0.5	ug/l
05/01/07	PN	1.1	<0.5	0.6				1.5			1.1	<0.5	<0.5	<0.5	ug/l
05/31/07	PN	0.8	<0.5	<0.5				0.9			0.8	<0.5	<0.5	<0.5	ug/l
06/05/07	R	2.1	<0.5	1.0				2.3			2.0	<0.5	0.8	<0.5	ug/l
08/07/07	PN	1.0	<0.5	<0.5				0.8			0.6	<0.5	<0.5	<0.5	ug/l
09/05/07	R	2.2	<0.5	1.5				4.5			2.8	<0.5	1.5	0.7	ug/l
	PN	0.6	<0.5	<0.5				<0.5			0.6	<0.5	<0.5	<0.5	ug/l
09/14/07	R	2.6	<0.5	1.5				4.8			<0.5	0.5	2.0	0.9	ug/l
	PN	0.5	<0.5	<0.5				0.8			0.6	<0.5	<0.5	<0.5	ug/l
09/18/07	R	3.0	<0.5	1.4				4.0			2.4	0.5	1.6	0.7	ug/l
	PN	1.1	<0.5	0.5				1.8			1	<0.5	0.5	<0.5	ug/l
09/19/07	R	3.1	0.6	1.5				4.6			2.4	<0.5	1.5	0.7	ug/l
	PN	0.8	<0.5	<0.5				1.3			0.8	<0.5	<0.5	<0.5	ug/l
09/20/07	R	3.2	0.6	1.6				4.1			2.4	<0.5	1.4	0.6	ug/l
	PN	1.0	<0.5	<0.5				0.7			0.9	<0.5	<0.5	<0.5	ug/l
09/25/07	R	2.4	<0.5	1.6				1.7			3.1	0.6	1.6	0.6	ug/l
	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
10/04/07	R	2.4	<0.5	1.5				1.8			2.8	0.5	1.7	0.6	ug/l
	PN	0.7	<0.5	0.7				<0.5			1	<0.5	<0.5	<0.5	ug/l
10/03/07	R	2.2	<0.5	1.6				2.0			3.4	0.7	2.0	<0.5	ug/l
	PN	0.7	<0.5	0.7				<0.5			1.2	<0.5	0.5	<0.5	ug/l
10/17/07	R	2.6	0.6	1.5				2.2			3.3	0.5	2.5	0.6	ug/l
	PN	1.0	<0.5	0.8				1.0			1.4	<0.5	1.0	<0.5	ug/l
10/25/07	R	1.8	<0.5	1.6				2.0			3	0.6	1.8	<0.5	ug/l
	PN	<0.5	<0.5	<0.5				<0.5			0.5	<0.5	<0.5	<0.5	ug/l
11/21/07	R	2.1	<0.5	1.6				2.6			3.6	0.8	2.6	0.6	ug/l
	PN	0.9	<0.5	0.8				0.6			1.6	<0.5	1.0	<0.5	ug/l
12/06/07	R	2.0	<0.5	2.2				2.4			4.2	0.9	3.3	0.6	ug/l
	PN	<0.5	<0.5	<0.5				<0.5			0.6	<0.5	<0.5	<0.5	ug/l
12/27/07	R	1.6	<0.5	<0.5				2.3			2.8	<0.5	1.8	<0.5	ug/l
	PN	<0.5	<0.5	0.5				<0.5			0.9	<0.5	<0.5	<0.5	ug/l

VOC Laboratory Result - Well 4 Raw Water v. Treated Water

Date	R=Raw, PN= Post Nozzle	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Chloromethane	Dichlorodifluoro-methane	n-Butylbenzene	p-Isopropyltoluene	1,1-Dichloroethane	1,1-Dichloroethens	1,1,1-Trichloroethane	Vinyl Chloride	
02/20/08	R	1.9	<0.5	1.7				3.3			3.5	1.0	2.7	<0.5	ug/l
	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
02/21/08	R	2.0	<0.5	1.8				2.9			3.3	1.3	3.3	0.6	ug/l
	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l
03/12/08	R	2.2	<0.5	2.1				3.5			3.7	0.9	2.9	<0.5	ug/l
	PN	<0.5	<0.5	<0.5				<0.5			<0.5	<0.5	<0.5	<0.5	ug/l

VOC Laboratory Result - Well 4 Raw Water

Date	Trichloroethene	Tetrachloroethene	cis-1,2-Dichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Chloromethane	Dichlorodifluoromethane	n-Butylbenzene	p-Isopropyltoluene	1,1-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	Vinyl Chloride	MTBE	perchlorate
11/22/83	<0.5	<0.5				1								ug/l	
09/09/93	<0.5	<0.5					3.6							ug/l	
09/15/93	<0.5	<0.5					2							ug/l	
12/14/93	<0.5	<0.5					0.6							ug/l	
01/11/94	<0.5	<0.5					2.3							ug/l	
06/24/94	<0.5	<0.5					1.9							ug/l	
09/20/94	<0.5	<0.5					1.8							ug/l	
12/29/94	<0.5	<0.5					1.9							ug/l	
06/08/95	<0.5	<0.5					1							ug/l	
09/19/95	<0.5	<0.5					3.2							ug/l	
11/14/95	<0.5	<0.5					1.9							ug/l	
12/10/96	<0.5	<0.5		1.9	0.5				2.1					ug/l	
03/11/97	<0.5	<0.5		1.5			2	1.7						ug/l	
06/11/97	<0.5	<0.5		2.1	0.6			1.5						ug/l	
09/24/97	<0.5	<0.5					2.4							ug/l	
12/02/97	<0.5	<0.5					3.1							ug/l	
03/17/98	<0.5	<0.5	<0.5				2	<0.5	<0.5					ug/l	
06/23/98	<0.5	<0.5	<0.5				1	<0.5	<0.5					ug/l	
09/15/98	<0.5	<0.5	<0.5				3.4	<0.5	<0.5					ug/l	
03/15/00	<0.5	<0.5	<0.5				<0.5							ug/l	
06/20/00	<0.5	<0.5	<0.5				<0.5							ug/l	
09/12/00	<0.5	<0.5	<0.5				<0.5							ug/l	
12/05/00	<0.5	<0.5	<0.5				<0.5							ug/l	
03/15/01	<0.5	<0.5	<0.5				<0.5							ug/l	
06/19/01	<0.5	<0.5	<0.5				<0.5							ug/l	
09/26/01	<0.5	<0.5	<0.5				<0.5							ug/l	
12/06/01	<0.5	<0.5	<0.5				<0.5							ug/l	
03/12/02	<0.5	<0.5	<0.5				<0.5							ug/l	
06/18/02	<0.5	<0.5	<0.5				<0.5							ug/l	
09/12/02	<0.5	<0.5	<0.5				<0.5							ug/l	
12/10/02	<0.5	<0.5	<0.5				<0.5							ug/l	
01/22/03	<0.5	<0.5	<0.5				<0.5							ug/l	
06/03/03	<0.5	<0.5	<0.5				<0.5							ug/l	
09/16/03	<0.5	<0.5	<0.5				4.4							ug/l	
12/10/03	<0.5	<0.5	<0.5				9.3							ug/l	
12/18/03	<0.5	<0.5	<0.5				8.9							ug/l	
01/06/04	<0.5	<0.5	<0.5				6.4							ug/l	
02/10/04	<0.5	<0.5	<0.5				9.6							ug/l	
03/23/04	<0.5	<0.5	<0.5				13							ug/l	
04/27/04	<0.5	<0.5	<0.5				6.5							ug/l	
05/27/04	<0.5	<0.5	<0.5				5.1							ug/l	
06/03/04	<0.5	<0.5	<0.5				<0.5							ug/l	
07/02/04	<0.5	<0.5	<0.5				<0.5							ug/l	
07/20/04	<0.5	<0.5	<0.5				<0.5							ug/l	
07/27/04	<0.5	<0.5	<0.5				<0.5							ug/l	
08/24/04	<0.5	<0.5	<0.5				3							ug/l	
11/09/04	<0.5	<0.5	<0.5				<0.5							ug/l	
12/08/04	<0.5	<0.5	<0.5				<0.5							ug/l	
03/16/05	<0.5	<0.5	<0.5				<0.5							ug/l	
06/07/05	<0.5	<0.5	<0.5				<0.5							ug/l	
09/13/05	<0.5	<0.5	<0.5				<0.5							ug/l	
12/14/05	<0.5	<0.5	<0.5				<0.5							ug/l	
03/07/06	<0.5	<0.5	<0.5				<0.5							ug/l	
09/12/06	3.1	<0.5	0.9				2.3							ug/l	
11/28/06	2.2	<0.5	1				1							ug/l	
03/06/07	2.8	<0.5	1				2.6			2.3	<0.5	0.7	<0.5	ug/l	
06/05/07	2.1	<0.5	1				2.3			2	<0.5	0.8	<0.5	ug/l	
09/05/07	2.2	<0.5	1.5				4.5			2.8	<0.5	1.5	0.7	ug/l	
09/14/07	2.6	<0.5	1.5				4.8			<0.5	0.5	2	0.9	ug/l	
09/18/07	3	<0.5	1.4				4			2.4	0.5	1.6	0.7	ug/l	
09/19/07	3.1	0.6	1.5				4.6			2.4	<0.5	1.5	0.7	ug/l	
09/20/07	3.2	0.6	1.6				4.1			2.4	<0.5	1.4	0.6	ug/l	
09/25/07	2.4	<0.5	1.6				1.7			3.1	0.6	1.6	0.6	ug/l	
10/03/07	2.2	<0.5	1.6				2			3.4	0.7	2	<0.5	ug/l	