

EXPERIENCED
DEDICATED
RESPONSIVE



**WATERSHED
INVENTORY REPORT
PHASE 1 OF THE WATERSHED
IMPROVEMENT PLAN**

BOROUGH OF NORTH ARLINGTON
BERGEN COUNTY

April 24, 2026
PERMIT #: NJG0150789



Stormwater Program Coordinator:
Mark Cunningham, Stormwater Coordinator
214 Ridge Road
North Arlington, New Jersey, 07031

LYNDHURST

34 Park Avenue
PO Box 426
Lyndhurst, NJ 07071
p. 201.939.8805 f. 201.939.0846

MOUNTAINSIDE

200 Central Avenue
Suite 102
Mountainside, NJ 07092
p. 201.939.8805 f. 732.943.7249

Contents

| | | |
|-------|--|----|
| I. | LIST OF FIGURES..... | 3 |
| II. | LIST OF TABLES..... | 3 |
| III. | ACKNOWLEDGEMENTS | 4 |
| IV. | INTRODUCTION..... | 5 |
| V. | ACRONYMS & DEFINITIONS..... | 6 |
| | ACRONYMS | 6 |
| | DEFINITIONS | 6 |
| VI. | STORMWATER OUTFALL(S) | 8 |
| | RECEIVING SURFACE WATERS | 8 |
| | WATER QUALITY CLASSIFICATIONS | 8 |
| VII. | STORMWATER INTERCONNECTION(S) | 9 |
| VIII. | DRAINAGE AREA(S) FOR STORMWATER OUTFALLS AND STORMWATER INTERCONNECTIONS..... | 10 |
| | STORM DRAIN INLETS AND MANHOLES..... | 10 |
| | OUTFALL AND UPSTREAM CONNECTIONS DRAINAGE AREA METHODOLOGY..... | 10 |
| | MUNICIPALLY OWNED OR OPERATED STORMWATER FACILITIES..... | 11 |
| IX. | TMDLS AND WATER QUALITY IMPAIRMENTS..... | 12 |
| X. | NON-MUNICIPALLY OWNED OR OPERATED STORMWATER FACILITIES..... | 14 |
| XI. | OVERBURDED COMMUNITIES | 15 |
| XII. | IMPERVIOUS AREA..... | 16 |
| XIII. | CONCLUSION..... | 17 |
| XIV. | REFERENCES | 18 |
| | DATA SOURCES | 18 |
| | ADDITIONAL REFERENCES | 19 |

I. LIST OF FIGURES

The below figures are located within Appendix A of the report.

| TITLE |
|---|
| Figure 1: <i>HUC14 / Subwatershed Map</i> |
| Figure 2: <i>FEMA Flood Hazard Map</i> |
| Figure 3: <i>Overall Outfall Map</i> |
| Figure 4: <i>Receiving Waterbodies of Outfalls Map</i> |
| Figure 5: <i>Water Quality Classification Map</i> |
| Figure 6: <i>Stormwater Interconnections Map North Arlington Borough to Connecting Entities</i> |
| Figure 7: <i>Stormwater Interconnections Map Connecting Entities to North Arlington Borough</i> |
| Figure 8: <i>Overall Storm Inlets and Manholes Map</i> |
| Figure 9: <i>Watershed Delineations Map</i> |
| Figure 10: <i>TMDL Map</i> |
| Figure 11: <i>Water Quality Impairments Map</i> |
| Figure 12: <i>Overburdened Community Locations Map</i> |
| Figure 13: <i>Impervious Area Map</i> |

II. LIST OF TABLES

The below tables can be found within the pages of the report.

| TITLE | PAGE # |
|---|---------|
| Table 1: <i>Land Use Acreage & Percentage Breakdown</i> | Page 5 |
| Table 2: <i>Water Body Quality Classification</i> | Page 8 |
| Table 3: <i>TMDLs and Water Quality Impairments</i> | Page 13 |
| Table 4: <i>Privately Owned Detention Basins</i> | Page 14 |
| Table 5: <i>Overburdened Communities Percentage</i> | Page 15 |
| Table 6: <i>Impervious Coverage Breakdown</i> | Page 16 |

III. ACKNOWLEDGEMENTS

The Watershed Inventory Report has been prepared by Neglia Group.

Neglia Group would like to thank the Mayor and Council of the Borough of North Arlington for their continued work on making the Borough a safe and healthy community for all of its residents and businesses.

Neglia Group also wishes to acknowledge the following resources which were compiled by the New Jersey Department of Environmental Protection (NJDEP) to help with the preparation of this report:

- New Jersey Watershed Evaluation Tool (NJ-WET)
- NJDEP Open Data
- MS4 WIP Guidance Webpage
- TMDL Lookup Tool
- New Jersey's Integrated Water Quality Assessment Reports – 303 (d) List
- New Jersey Environmental Justice Mapping, Assessment, and Protection Tool (EJMAP)
- New Jersey Hydrologic Modeling Database (H&H Database)

IV. INTRODUCTION

The Borough of North Arlington (Borough) is located in Bergen County covering 2.5 square miles, bordered by Lyndhurst, Belleville, and Kearny. The Borough has a population of 16,457 residents (2020 United States Census). The Borough has a majority of residential and industrial areas and a significant portion of barren land. Table 1 below depicts the land use breakdown of the Borough (Land Cover 2020).

The Borough of North Arlington is located within the Passaic River Lower (Second River to Saddle River) subwatershed of Watershed Management Area 4 (Lower Passaic and Saddle), the Passaic River Lower (Newark Bay to 4th Street Bridge) subwatershed of Watershed Management Area 4 (Lower Passaic and Saddle), and Hackensack River (Amtrak Bridge to Route 3) subwatershed of Watershed Management Area 5 (Hackensack, Hudson, and Pascack) as shown in Figure 1. A portion of the Borough is located within the Zone AE and Zone X flood zones as shown in Figure 2.

This watershed improvement report provides a comprehensive understanding of the key defining features of stormwater flow paths throughout and into the Borough of North Arlington. This report presents information of the existing conditions and infrastructure within the Borough of North Arlington and aims to serve as a tool for informed decision-making, for planning, and for implementing sustainable watershed management strategies to improve the community, watershed, the various waterways, and the associated ecosystems.

The figures and tables provided in this report were prepared by geographic information systems (GIS) to provide a full graphical understanding of the stormwater infrastructure owned and operated by the Borough of North Arlington. The Borough’s infrastructure was mapped by Neglia Group staff in 2025 using survey-grade global positioning system (GPS) collection methods and professional GIS drafting methods.

| Table 1: Land Use Acreage & Percentage Breakdown | | |
|--|----------|------------|
| Type | Acreage | Percentage |
| Residential | 606.58 | 37.45% |
| Commercial / Industrial | 158.80 | 9.81% |
| Urban Land | 232.34 | 14.35% |
| Transportation / Communication / Utilities | 87.20 | 5.38% |
| Recreational Land | 63.67 | 3.93% |
| Forest | 44.99 | 2.78% |
| Barren Land | 272.64 | 16.84% |
| Agriculture | - | 0.00% |
| Water | 98.96 | 6.11% |
| Wetlands | 54.31 | 3.35% |
| Total | 1,619.49 | 100% |
| Source: Anderson Classification Land Use / Land Cover 2020 | | |

V. ACRONYMS & DEFINITIONS

ACRONYMS

- "BMP" – Best Management Practice
- "DO" – Dissolved Oxygen
- "EPA" – U.S. Environmental Protection Agency
- "GIS" – Geographic Information System
- "GPS" – Global Positioning System
- "HUC 14" – Hydrologic Unit Code 14
- "LIDAR" – Light Detection and Ranging
- "MS4" – Municipal Separate Storm Sewer System
- "MTD" – Manufactured Treatment Device
- "NJPDES" – New Jersey Pollutant Discharge Elimination System
- "NJDEP" – New Jersey Department of Environmental Protection
- "NJDOT" – New Jersey Department of Transportation
- "NJ-WET" – New Jersey Watershed Evaluation Tool
- "TDS" – Total Dissolved Solids
- "TMDL" – Total Maximum Daily Load
- "TSS" – Total Suspended Solids
- "WIP" – Watershed Improvement Plan

DEFINITIONS

- "HUC 14" or "hydrologic unit code 14" means an area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a 14-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey. (N.J.A.C. 7:9B)
- "Municipal separate storm sewer" (or MS4 conveyance) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) as defined in more detail at N.J.A.C. 7:14A-1.2.
- "Outfall" means any point source which discharges directly to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

- "Overburdened community" means a block group with at least 35 percent low-income households; or at least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or at least 40 percent of the households have limited English proficiency.
- "Storm drain inlet" means the point of entry into the storm sewer system.
- "Stormwater" means water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, is captured by separate storm sewers or other sewerage or drainage facilities or is conveyed by snow removal equipment.
- "Stormwater facility" means stormwater infrastructure including, but not limited to, catch basins, infiltration basins, detention basins, green infrastructure (GI), filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet basins, bioretention systems, low flow bypasses, Manufactured Treatment Devices (MTDs), and stormwater conveyances.
- "Stormwater interconnections" means the location in which water flows from one MS4 system into another MS4 system that is owned by another entity.
- "Stormwater management basin" means a stormwater management basin as defined in N.J.A.C. 7:8.
- "Stormwater management measure" means a stormwater management measure as defined in N.J.A.C. 7:8.
- "Stormwater runoff" means water flow on the surface of the ground or in storm sewers, resulting from precipitation.
- "Total maximum daily load" or "TMDL" means a total maximum daily load formally established pursuant to Section 7 of the Water Quality Planning Act (N.J.S.A. 58:11A-7) and Section 303(d) of the Clean Water Act, 33 U.S.C. §§12512 et seq. A TMDL is the sum of individual wasteload allocations for point sources, load allocations for nonpoint sources of pollution, other sources such as tributaries or adjacent segments, and allocations to a reserve or margin of safety for an individual pollutant.
- "Waters of the State" means the ocean and its estuaries, all springs, streams and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction" (see N.J.A.C. 7:9B-1.4).
- "Water quality impairments" means that the water body is contaminated by pollutants which prevents the water body from meeting its designated use.

VI. STORMWATER OUTFALL(S)

The Borough of North Arlington owns and operates nine (9) outfalls within the Borough limits, as shown in Figure 3. All storm water within the Borough east of NJ-Route 17 discharges to wetlands.

All outfalls owned and operated by the Borough of North Arlington are required to be inspected once every five years per the requirements of the NJDEP MS4 permit. The Borough continuously maintains and inspects these outfalls in accordance with the NJDEP requirements.

RECEIVING SURFACE WATERS

Seven (7) of the nine (9) outfalls, or seventy-eight percent (77.8%), located within the Borough of North Arlington discharges into the Passaic River. Two (2) of the nine (9) outfalls, twenty-three percent (23.2%), discharge directly into the Wetlands. The two (2) outfalls which discharge to the Wetlands are adjacent to the Hackensack River Tributary and the Kingsland Creek which will indirectly receive discharge from these outfalls. All outfalls owned by the Borough discharges into the Passaic River and Wetlands, as shown in Figure 4.

WATER QUALITY CLASSIFICATIONS

The Borough of North Arlington contains a waterway to the Passaic River. The Borough also contains a section of the Passaic River. The water courses are classified as non-trout freshwaters (FW2-NT). The tributaries are additionally classified as saline estuarine waters within the second sub classification. The water course's ability to support recreation, shellfish harvesting, and warm water fish species justify this classification, as shown on Figure 5.

| Receiving Surface Water Body | Water Quality Classification |
|--|------------------------------|
| Passaic River | FW2-NT/SE2 |
| Wetlands | FW2-NT/SE2 |
| Unnamed Water Body – Holy Cross Cemetery | FW2-NT/SE2 |
| Hackensack River Tributary | FW2-NT/SE2 |
| Kingsland Creek | FW2-NT/SE2 |

Source: NJDEP NJ-GeoWeb

VII. STORMWATER INTERCONNECTION(S)

The Borough of North Arlington contains MS4 systems owned by Bergen County and New Jersey Department of Transportation (NJDOT) within its borders. Additionally, North Arlington's stormwater infrastructure is interconnected to the NJDOT, Bergen County and surrounding municipalities. The interconnection point locations were found using the municipality boundary and right-of-way for county and state roadways utilizing information from the NJ Office of GIS, NJDEP.

The Borough's MS4 infrastructure interconnects into the NJDOT MS4 system at one (1) location along Belleville Turnpike (NJ 7). North Arlington's system interconnects into the Bergen County MS4 infrastructure at five (5) locations along Schuyler Avenue (CR 11), and ten (10) locations along River Road (CR 507).

Finally, North Arlington's system interconnects into the private sector MS4 infrastructure at one (1) location along Noel Drive. The Borough of North Arlington's MS4 infrastructure system interconnections into the varying systems detailed above are illustrated on Figure 6.

The Bergen County infrastructure discharges into the Borough of North Arlington's system at five (5) location along River Road (CR 507). The state infrastructure discharges into the Borough of North Arlington's system at six (6) locations along Ridge Road (NJ 17). The interconnections of stormwater infrastructure discharging into the Borough of North Arlington's MS4 infrastructure is illustrated on Figure 7.

VIII. DRAINAGE AREA(S) FOR STORMWATER OUTFALLS AND STORMWATER INTERCONNECTIONS

This report delineates the drainage areas that are conveying stormwater runoff to outfalls and upstream connections to the Borough's MS4 infrastructure. The drainage area delineations can identify the quantity of stormwater runoff conveyed into the Borough's system and aid in identifying capacity issues and illicit connections in the stormwater pipe network.

STORM DRAIN INLETS AND MANHOLES

The Borough of North Arlington owns and operates four hundred and seventy-six (476) stormwater inlets and catch basins and two hundred forty-eight (248) manholes that collect and convey stormwater runoff throughout the Borough. Figure 8 illustrates the stormwater structures owned and operated by the Borough of North Arlington and all stormwater interconnections that convey stormwater runoff into the Borough's MS4 system.

The stormwater inlets and catch basins owned and operated by the Borough of North Arlington are required to be inspected once every five years per the requirements of the NJDEP MS4 permit. The Borough maintains a list of inlets that require cleaning and repair. The Borough cleans and implements repairs on stormwater infrastructure on a regular basis, in accordance with the MS4 permit.

OUTFALL AND UPSTREAM CONNECTIONS DRAINAGE AREA METHODOLOGY

The Neglia Group utilized AUTOCAD Civil 3D software and LIDAR aerial information to model/delineate the drainage areas for the outfalls, upstream interconnection points, manholes, stormwater inlets, and catch basins. The stormwater collection infrastructure, in conjunction with the existing stormwater pipe network linework, and one-foot contour information, from LIDAR, were used to cumulatively delineate both overland flow and pipe flow for each drainage area.

The delineation procedure outlined above is approximate due to survey limitations and insufficient data for manholes and inlets owned by other entities within the Borough. Future procedures can be refined to improve the drainage area delineation process by incorporating county and state data, upon mapping completion of their respective infrastructure.

The Watershed Delineation Map is provided on Figure 9.

MUNICIPALLY OWNED OR OPERATED STORMWATER FACILITIES

The Borough of North Arlington does not own or operate stormwater facilities as indicated by the New Jersey Hydrologic Modeling Database (H&H Database).

IX. TMDLS AND WATER QUALITY IMPAIRMENTS

As per the U.S. Environmental Protection Agency, a TMDL is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant.

Pollutant sources are characterized as either point sources that receive a wasteload allocation (WLA), or nonpoint sources that receive a load allocation (LA). For purposes of assigning WLAs, point sources include all sources subject to regulation under the National Pollutant Discharge Elimination System (NPDES) program, e.g., wastewater treatment facilities, some stormwater discharges and concentrated animal feeding operations (CAFOs). For purposes of assigning LAs, nonpoint sources include all remaining sources of the pollutant as well as natural background sources. TMDLs must also account for seasonal variations in water quality and include a margin of safety (MOS) to account for uncertainty in predicting how well pollutant reductions will result in meeting water quality standards. Each pollutant causing a waterbody to be impaired or threatened is referred to as a waterbody/pollutant combination, and typically a TMDL is developed for each waterbody/pollutant combination.

The objective of a TMDL is to determine the loading capacity of the waterbody and to allocate that load among different pollutant sources so that the appropriate control actions can be taken, and water quality standards achieved. The TMDL process is important for improving water quality because it serves as a link in the chain between water quality standards and implementation of control actions designed to attain those standards.

All contributing sources of the pollutants (point and nonpoint sources) are identified, and they are allocated a portion of the allowable load that usually contemplates a reduction in their pollution discharge in order to help solve the problem. Natural background sources, seasonal variations and a margin of safety are all taken into account in the allocations.

The approach normally used to develop a TMDL for a particular waterbody or watershed consists of five activities:

- Selection of the pollutant(s) to consider.
- Estimation of the waterbody's assimilative capacity (i.e., loading capacity).
- Estimation of the pollutant loading from all sources to the waterbody.
- Analysis of current pollutant load and determination of needed reductions to meet assimilative capacity.

- Allocation (with a margin of safety) of the allowable pollutant load among the different pollutant sources in a manner such that water quality standards are achieved.

Based on an inquiry to the NJDEP’s TMDL Look-Up Tool, provided by the Bureau of Nonpoint Pollution, the Borough of North Arlington has TMDLs for Nickel (Pre-2008), as shown in Figure 10 and Table 4 below. Additionally, the Borough has Water Quality Impairments as shown in Figure 10 and Table 4 below.

| Table 4: TMDLs and Water Quality Impairments | | |
|---|-------------------|---|
| Subwatershed Name | TMDLs | Water Quality Impairments |
| Hackensack River (Amtrak Bridge to Route 3) HUC-14: 02030103180090 | Nickel (Pre-2008) | Benzo[A]pyrene (PAHs), Dissolved Oxygen (DO), Polychlorinated Biphenyls (PCBs) in Fish Tissue. |
| Passaic River Lower (Second River to Saddle River) HUC-14: 02030103150030 | Not Specified | Benzo[A]pyrene (PAHs), Polychlorinated Biphenyls (PCBs) in Fish Tissue, pH, Total Phosphorus (TP), Total Dissolved Solids (TDS) |
| Passaic River Lower (Newark Bay to 4th St Bridge) HUC-14: 02030103150050 | Not Specified | Benzo[A]pyrene (PAHs), Polychlorinated Biphenyls (PCBs) in Fish Tissue |
| Source: NJ-Wet Open Data | | |

X. NON-MUNICIPALLY OWNED OR OPERATED STORMWATER FACILITIES

The non-municipally owned or operated stormwater facilities were identified utilizing the New Jersey Hydrologic Modeling Database (H&H Database). Additionally, there are multiple developments within the Open Lands Zone with on-site conveyance systems and privately owned detention basins throughout the Borough.

| Table 4: Privately Owned Detention Basins | | |
|---|------------------------|---------------------|
| Project Name | Project Address | Project Block & Lot |
| Holy Cross Cemetery – Mausoleum Addition | 340 Ridge Road (NJ 17) | B: 139/143 L: 1/52 |
| Warehouse Facility and Parking Infiltration Detention Basin | 38 Porete Ave | B: 172 |
| Warehouse Facility and Parking Infiltration Detention Basin | 38 Porete Ave | B: 172 |
| Warehouse Facility and Parking Infiltration Detention Basin | 38 Porete Ave | B: 172 |

Source: Jersey Hydrologic Modeling Database (H&H Database)

Bergen County has MS4 systems that convey stormwater runoff through the Borough of North Arlington on River Road (CR 507) and Schuyler Ave (CR 11).

Finally, the New Jersey Department of Transportation (NJDOT) has MS4 systems along Belleville Turnpike (NJ 7) and Ridge Road (NJ 17).

XI. OVERBURDENED COMMUNITIES

As per the New Jersey Watershed Evaluation Tool (NJ-WET), the Borough of North Arlington contains approximately sixty-nine percent (69.37%) overburdened communities, as shown in Table 5 below and in Figure 12. Municipalities with large numbers of overburdened communities often struggle with limited financial resources to maintain and expand the stormwater infrastructure in that area. Furthermore, these communities are susceptible to disproportionately high environmental and public health stressors, therefore, these areas are more susceptible to health disparities during natural disasters such as flooding.

North Arlington works tirelessly to ensure that the disparities faced by overburdened communities are mitigated to the highest extent possible. The Borough regularly schedules and coordinates activities to promote the wellness of the residents by teaching ESL at the public library and providing transportation services for senior residents.

| Type | Acreage | Percentage |
|-------------------------|---------|------------|
| Minority | 1123.38 | 69.37% |
| Low Income and Minority | 72.62 | 4.48% |
| Non-Overburdened | 423.49 | 26.15% |
| Total | 1619.49 | 100% |

Source: NJDEP Open Data

XII. IMPERVIOUS AREA

Impervious area occupies approximately forty-three percent (42.81%) of the Borough’s land footprint. Figure 13 and Table 6 below show the impervious coverage within the Borough of North Arlington.

| Class | Acreage | Percentage |
|------------------|----------|------------|
| Building | 190.64 | 11.77% |
| Other | 336.38 | 20.77% |
| Road | 166.29 | 10.27% |
| Total Impervious | 693.31 | 42.81% |
| Non-Impervious | 926.18 | 57.19% |
| Total | 1,619.49 | 100.00% |

Source: NJDEP Open Data

As early as 1976, scientific literature suggested a link between the impervious cover within a watershed and the stream ecosystem impairments. Thomas R. Schueler first proposed a model in 2004 using the impervious coverage to diagnose the severity of future stream issues within the urban watersheds. The impervious cover model designates urban streams into four (4) categories; sensitive, impacted, non-supporting, and urban drainage. Schueler expanded upon this model in a paper published in 2009 after nearly 250 research studies were conducted.

A sensitive stream is when the stream’s watershed has an impervious cover of less than ten percent (10%) and is able to generally retain the hydrologic function and supports good to excellent aquatic diversity. Impacted streams have an impervious coverage of ten percent (10%) to twenty-five (25%). These watercourses exhibit signs of stream health decline with a fair aquatic diversity. Non-supporting streams have an impervious coverage between twenty-five percent (25%) and sixty percent (60%) and no longer support their hydraulic function, channel stability, habitat, water quality, or biological diversity. Non-supporting streams often are so degraded that it is difficult for the stream to make a full recovery. Urban drainage streams have an impervious coverage of sixty percent (60%) or higher and have become so degraded that they generally only function as a conduit for flood waters. Urban drainage streams consistently have poor water quality, highly unstable channels, poor habitat and biodiversity scores. Many of these streams are beyond such repair that they disappear altogether by either becoming earthworks, being enclosed into storm drain enclosures, or a combination of these two.

The moderate percentage of impervious cover within the Borough of North Arlington would suggest that the waterways within its border are non-supporting streams.

XIII. CONCLUSION

The Watershed Inventory Report serves as a record for the stormwater infrastructure, water quality data, stream classifications, and additional relevant information for a complete understanding of the MS4 information within the Borough of North Arlington.

All the data compiled for this report has been compiled by GIS experts and engineers through the preparation of digital mapping techniques. The prepared maps can be utilized as a continued reference, as detailed in this report. As phase one of the watershed improvement plan, this report will be used to create the Watershed Assessment Report which will identify areas of potential concern along with water quality improvement projects that could potentially be implemented.

XIV. REFERENCES

DATA SOURCES

2020 Census of Population and Housing - Retrieved in May 2025 from U.S. Department of Commerce, U.S. Census Bureau website: <https://data.census.gov/>

Anderson Classification Land Use / Land Cover 2020 - Retrieved in May 2025 from United States Geographical Survey website: <https://www.usgs.gov/>

Federal Emergency Management Agency National Flood Hazard Layer - Retrieved in May 2025 as shown on the Effective data map dated August 2019 on the hazards FEMA maps website: <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>

New Jersey 2022 Integrated Water Quality Report, including the 303(d) Impaired Waters List - Retrieved in May 2025 from New Jersey Department of Environmental Protection, Bureau of Bureau of Environmental Analysis, Restoration and Standards website: <https://dep.nj.gov/wms/bears/integrated-wq-assessment-report-2022/>

New Jersey Watershed Evaluation Tool (NJ-WET) - Retrieved in May 2025 from Division of Watershed and Land Management, Bureau of NJPDES Stormwater Permitting & Water Quality Management website: <https://dep.nj.gov/njpdessstormwater/municipal-stormwater-regulation-program/watershed-improvement-plan-guidance/>

NJDEP NJ-GeoWeb - Retrieved in May 2025 from Division of Information Technology, NJDEP Bureau of GIS website: <https://dep.nj.gov/gis/nj-geoweb/>

NJDEP Open Data - Retrieved in May 2025 from Division of Information Technology, NJDEP Bureau of GIS website: <https://gisdata-njdep.opendata.arcgis.com/>

Total Maximum Daily Load (TMDL) Look-Up Tool - Retrieved in May 2025 from New Jersey Department of Environmental Protection, Bureau of NJPDES Stormwater Permitting and Water Quality Management website: <https://dep.nj.gov/njpdessstormwater/municipal-stormwater-regulation-program/tmdl/>

2020 NJDEP Stormwater 303d List Impairments for New Jersey HUC14s - Retrieved in May 2025 from New Jersey Department of Environmental Protection Bureau of GIS website: <https://gisdata-njdep.opendata.arcgis.com/maps/0feb58f7b6d24e6eb04c20d70ae6006d/about>

New Jersey Hydrologic Modeling Database (H&H Database) – Retrieved in May 2025 from the Rutgers University Hydrologic Database website: https://hydro.rutgers.edu/public_data/

ADDITIONAL REFERENCES

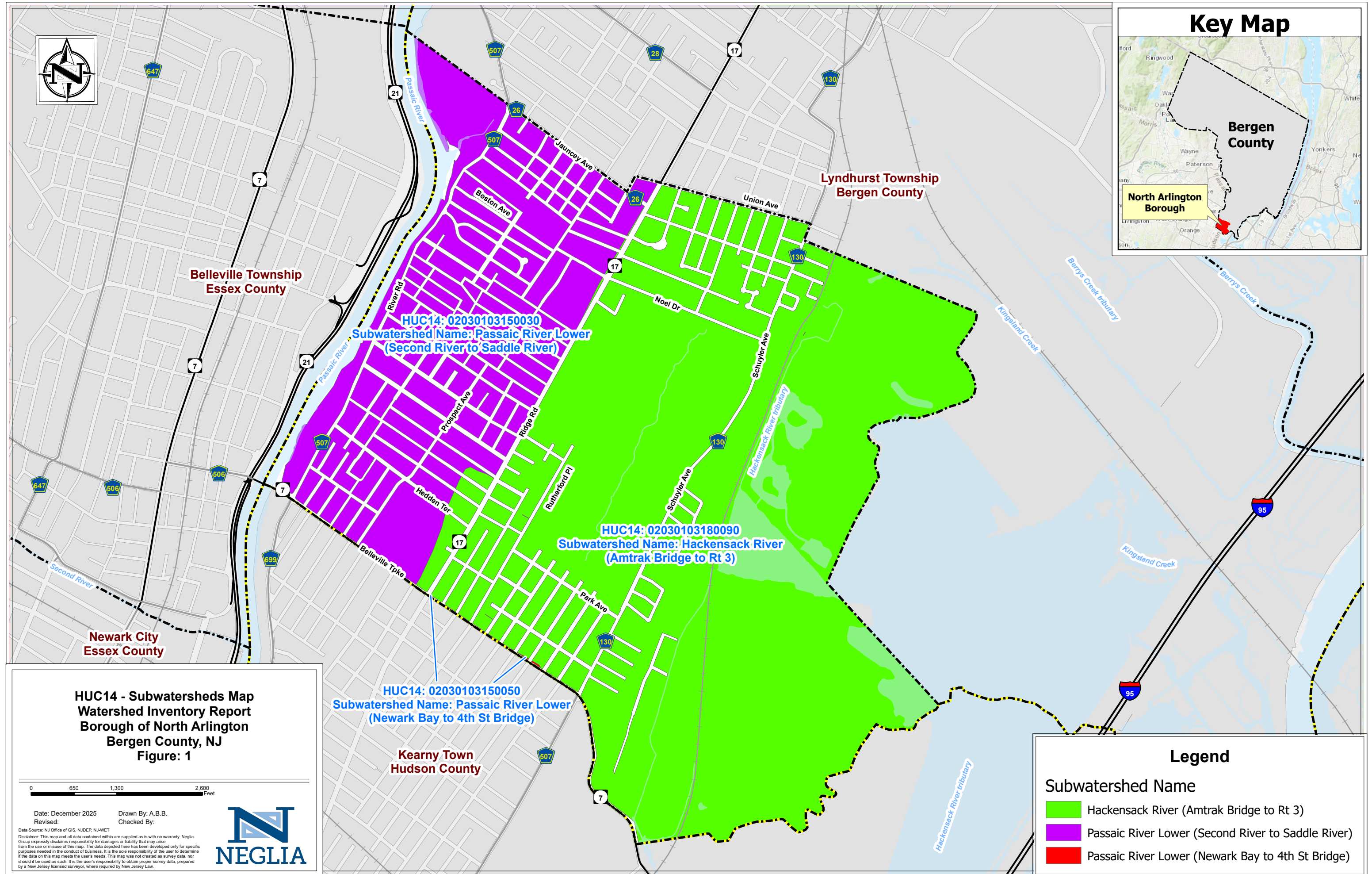
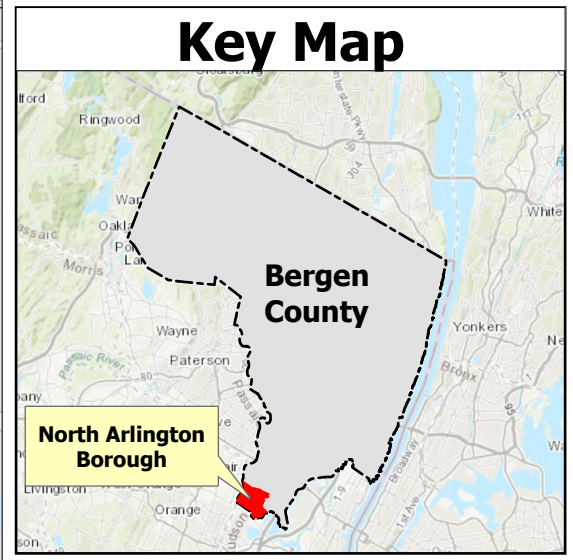
Schueler, Thomas R., Lisa Fraley-McNeal, and Karen Capiella. April 2009. Is Impervious Coverage Still Important? Review of Recent Research. Published in the Journal of Hydrologic Engineering.

What are Overburdened Communities (OBC)? Retrieved on March 2025 from New Jersey Department of Environmental Protection Environmental Justice website: <https://dep.nj.gov/ej/communities/>

What is Environmental Justice? Retrieved on March 2025 from New Jersey Department of Environmental Protection Environmental Justice website: <https://dep.nj.gov/ej/>

APPENDIX A: FIGURES





Belleville Township
Essex County

Lyndhurst Township
Bergen County

Newark City
Essex County

Kearny Town
Hudson County

HUC14: 02030103150030
Subwatershed Name: Passaic River Lower
(Second River to Saddle River)

HUC14: 02030103180090
Subwatershed Name: Hackensack River
(Amtrak Bridge to Rt 3)

HUC14: 02030103150050
Subwatershed Name: Passaic River Lower
(Newark Bay to 4th St Bridge)

HUC14 - Subwatersheds Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 1

0 650 1,300 2,600 Feet

Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

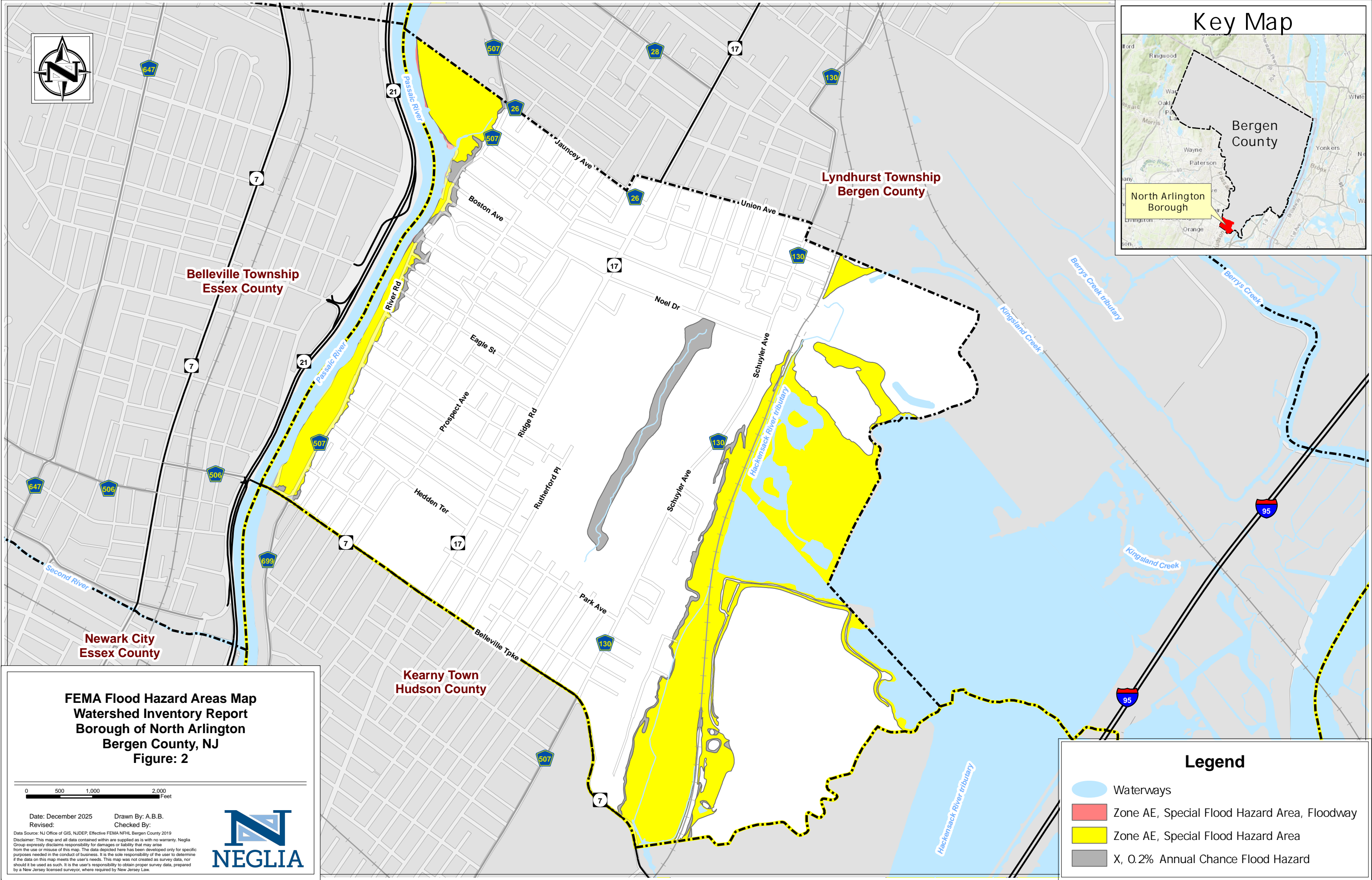
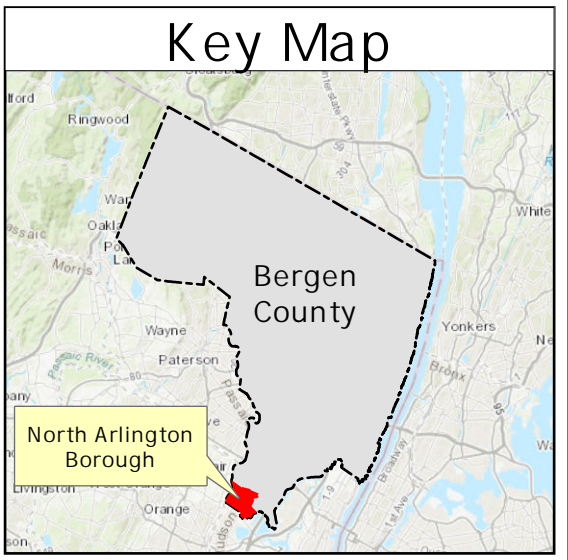
Data Source: NJ Office of GIS, NJDEP, NJ-WET
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



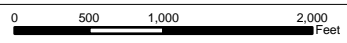
Legend

Subwatershed Name

- Hackensack River (Amtrak Bridge to Rt 3)
- Passaic River Lower (Second River to Saddle River)
- Passaic River Lower (Newark Bay to 4th St Bridge)



**FEMA Flood Hazard Areas Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 2**



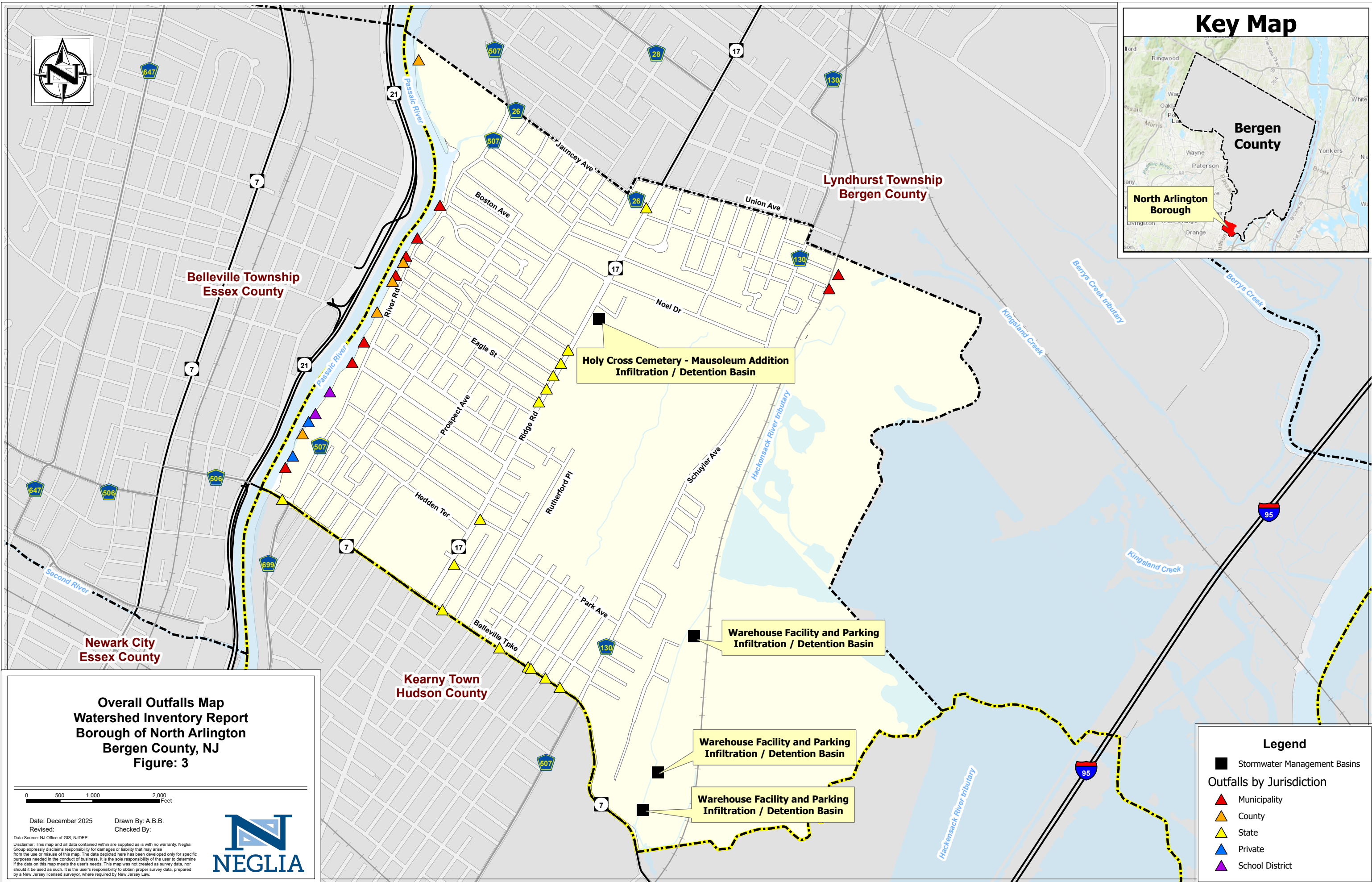
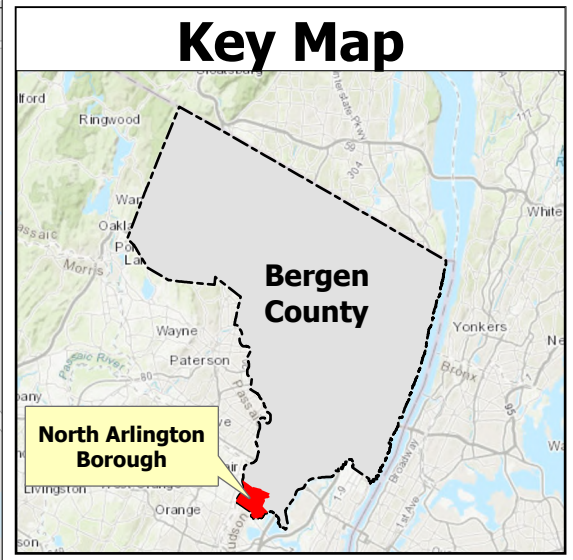
Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

Data Source: NJ Office of GIS, NJDEP, Effective FEMA NFHL Bergen County 2019
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



Legend

- Waterways
- Zone AE, Special Flood Hazard Area, Floodway
- Zone AE, Special Flood Hazard Area
- X, 0.2% Annual Chance Flood Hazard



Belleville Township
Essex County

Lyndhurst Township
Bergen County

Holy Cross Cemetery - Mausoleum Addition
Infiltration / Detention Basin

Warehouse Facility and Parking
Infiltration / Detention Basin

Warehouse Facility and Parking
Infiltration / Detention Basin

Warehouse Facility and Parking
Infiltration / Detention Basin

Newark City
Essex County

Kearny Town
Hudson County

Overall Outfalls Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 3

0 500 1,000 2,000 Feet

Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

Data Source: NJ Office of GIS, NJDEP
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.

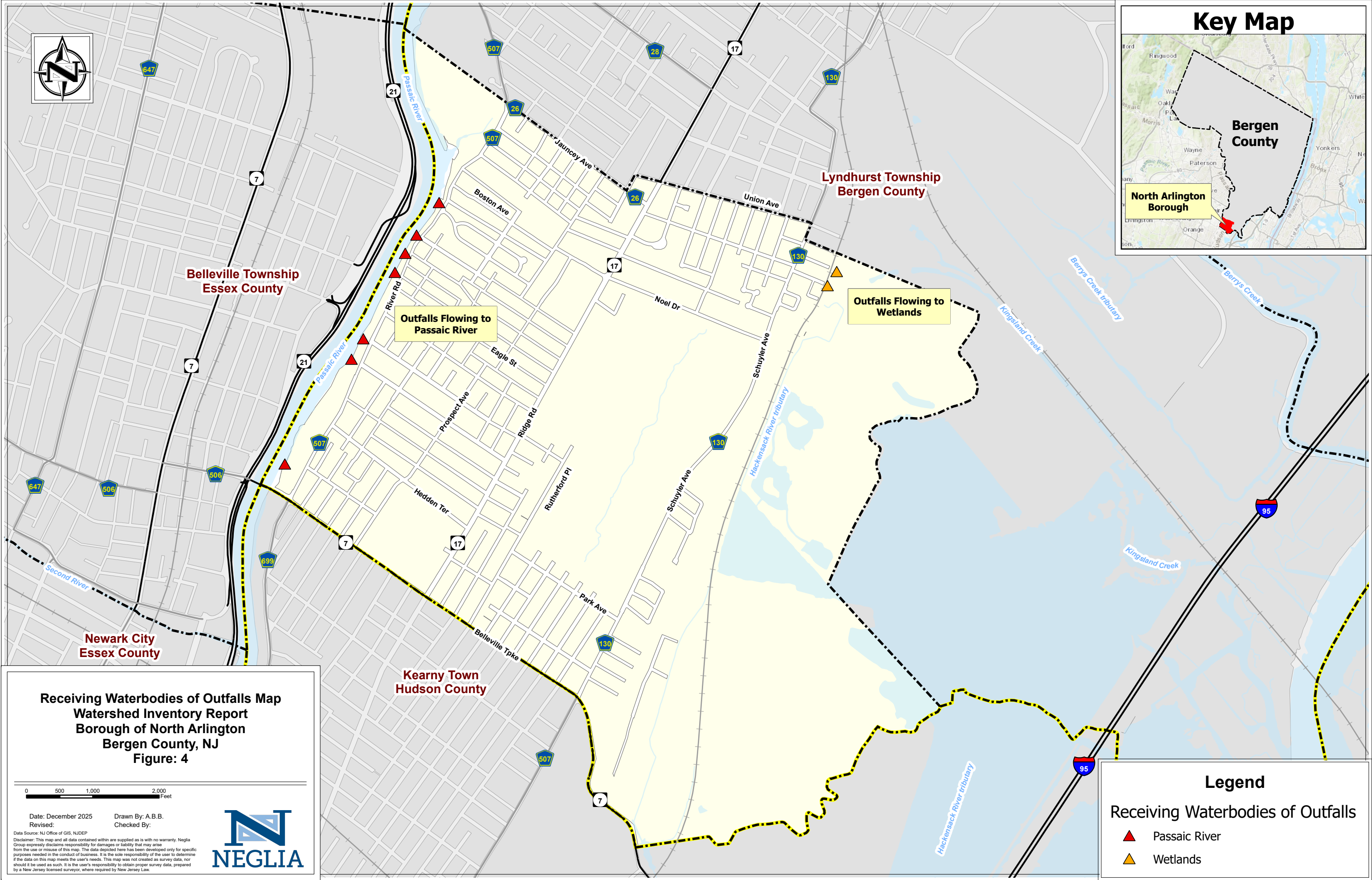
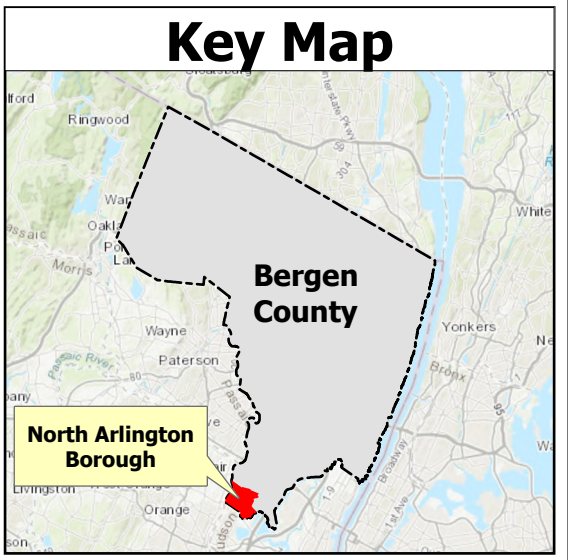


Legend

- Stormwater Management Basins

Outfalls by Jurisdiction

- Municipality
- County
- State
- Private
- School District



Receiving Waterbodies of Outfalls Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 4

0 500 1,000 2,000 Feet

Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

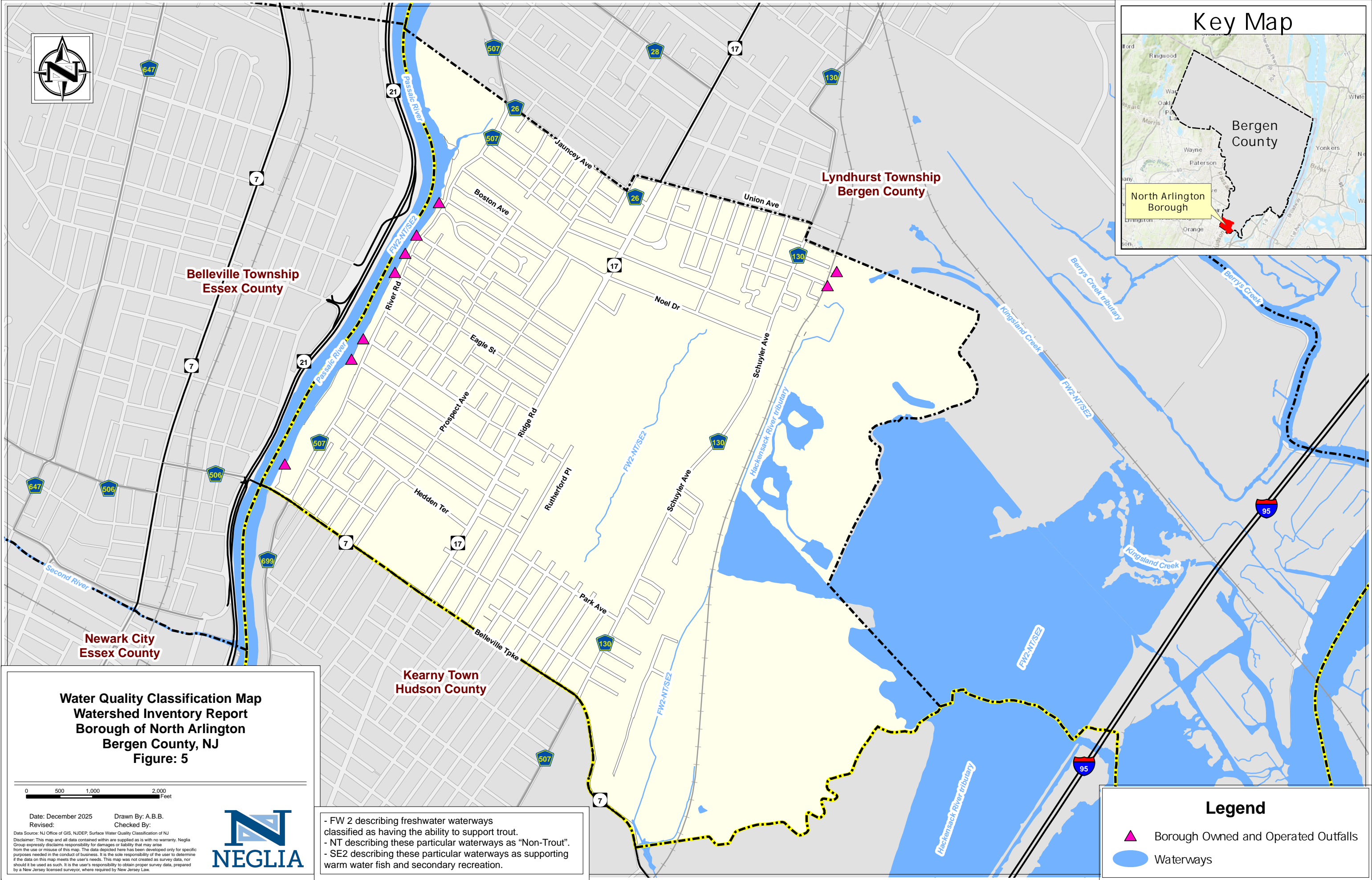
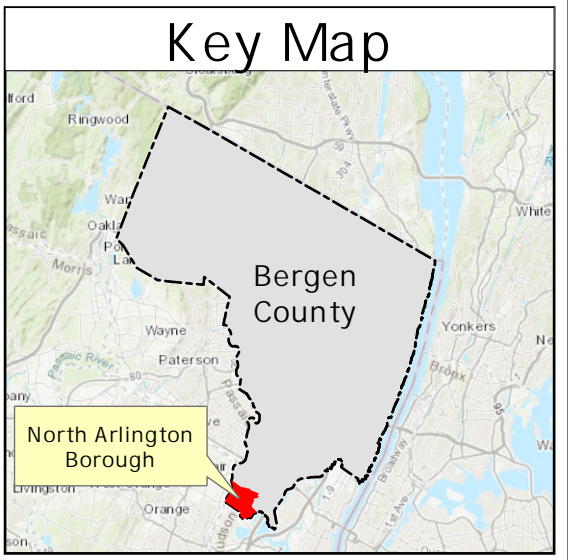
Data Source: NJ Office of GIS, NJDEP
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



Legend

Receiving Waterbodies of Outfalls

- Passaic River
- Wetlands



**Water Quality Classification Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 5**

0 500 1,000 2,000 Feet

Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

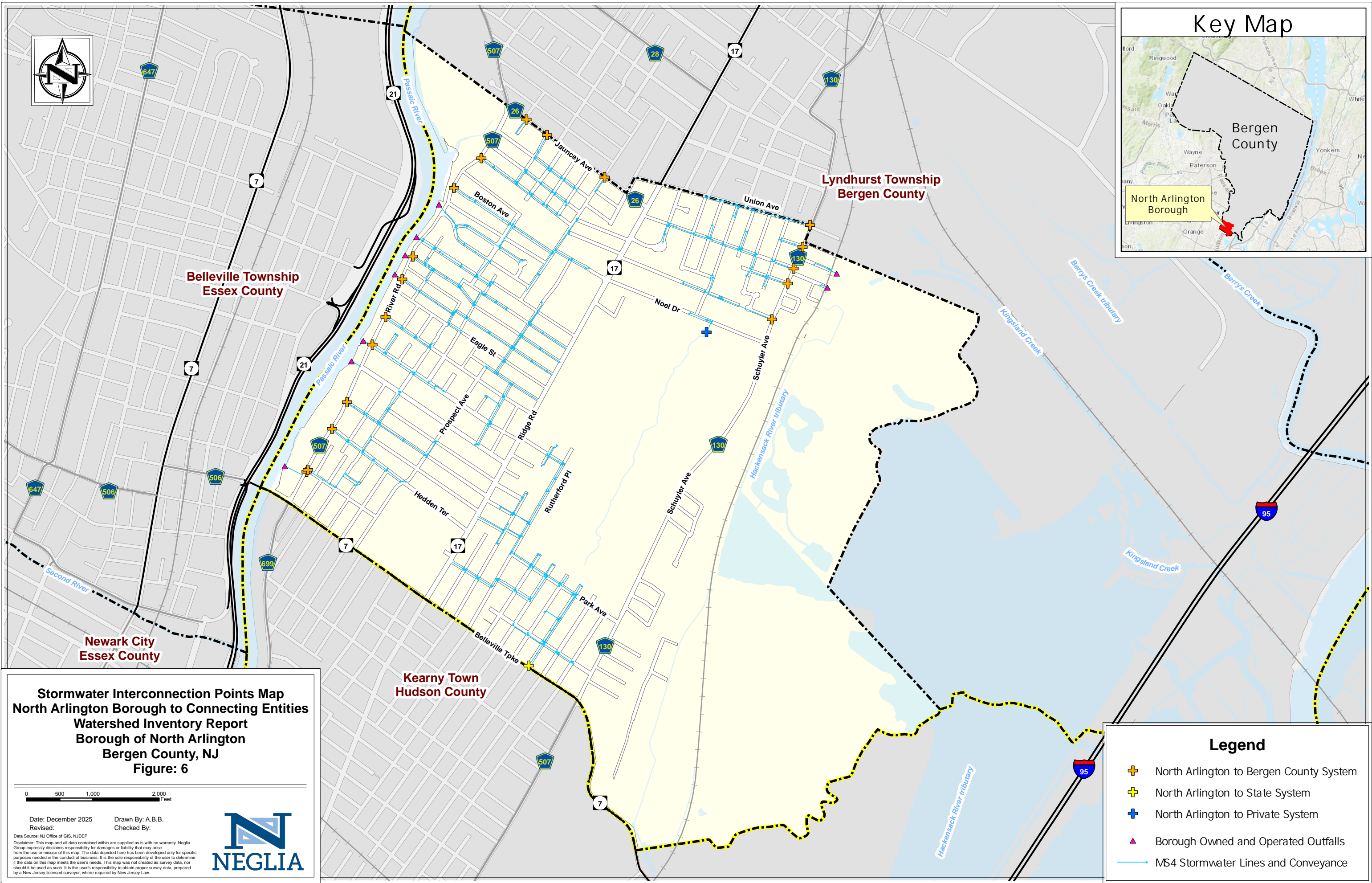
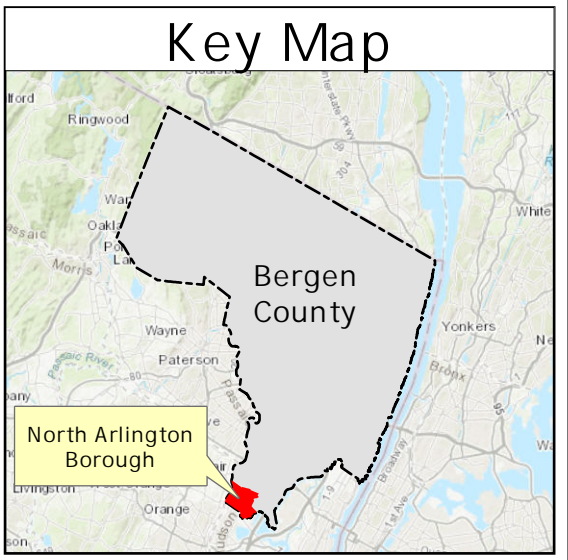
Data Source: NJ Office of GIS, NJDEP, Surface Water Quality Classification of NJ
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



- FW 2 describing freshwater waterways classified as having the ability to support trout.
- NT describing these particular waterways as "Non-Trout".
- SE2 describing these particular waterways as supporting warm water fish and secondary recreation.

Legend

- Borough Owned and Operated Outfalls
- Waterways



Stormwater Interconnection Points Map
North Arlington Borough to Connecting Entities
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 6

0 500 1,000 2,000 Feet

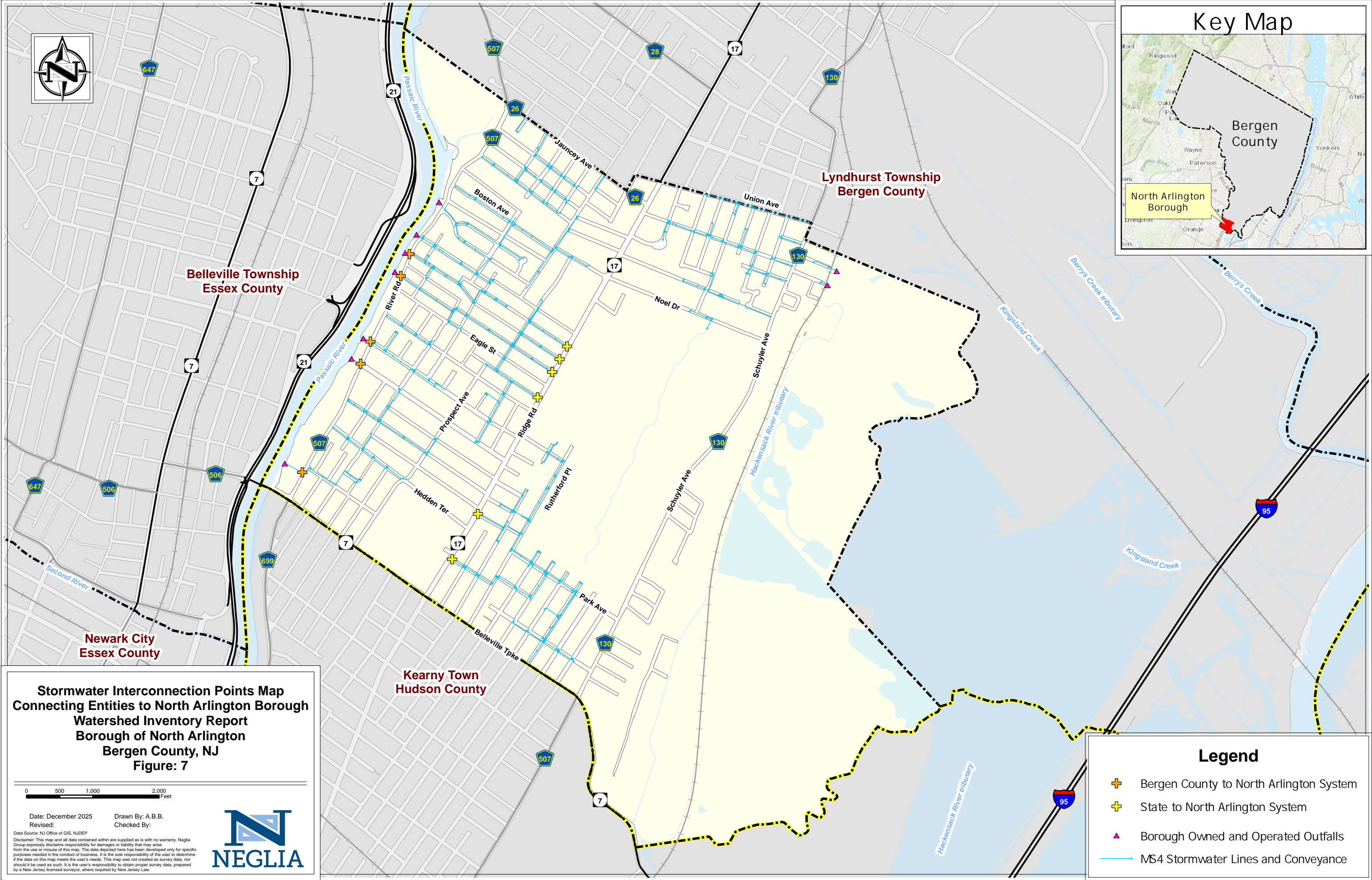
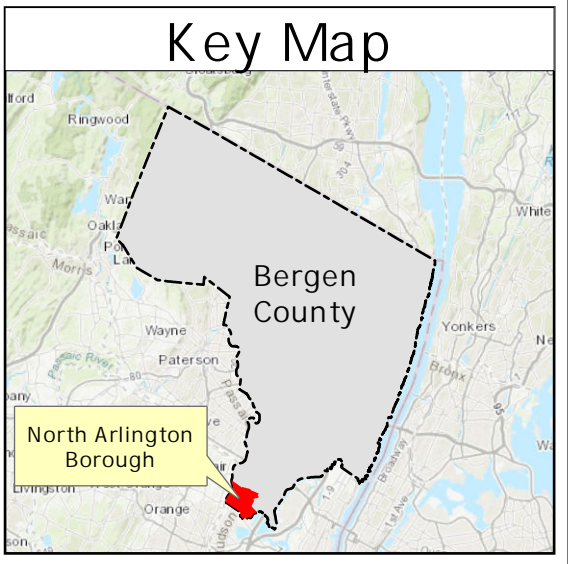
Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

Data Source: NJ Office of GIS, NJDEP
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



Legend

- North Arlington to Bergen County System
- North Arlington to State System
- North Arlington to Private System
- Borough Owned and Operated Outfalls
- MS4 Stormwater Lines and Conveyance



Stormwater Interconnection Points Map
Connecting Entities to North Arlington Borough
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 7

0 500 1,000 2,000 Feet

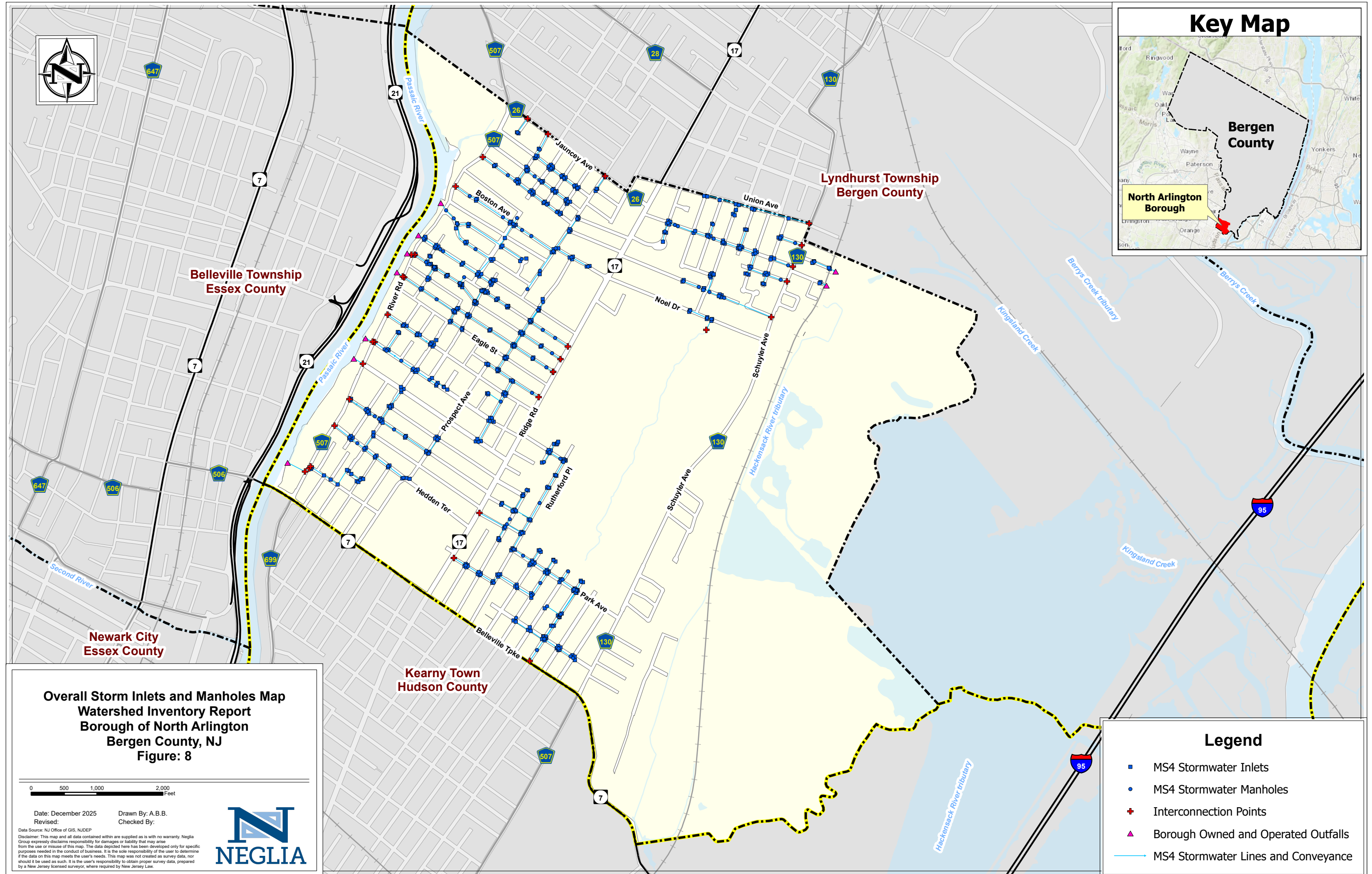
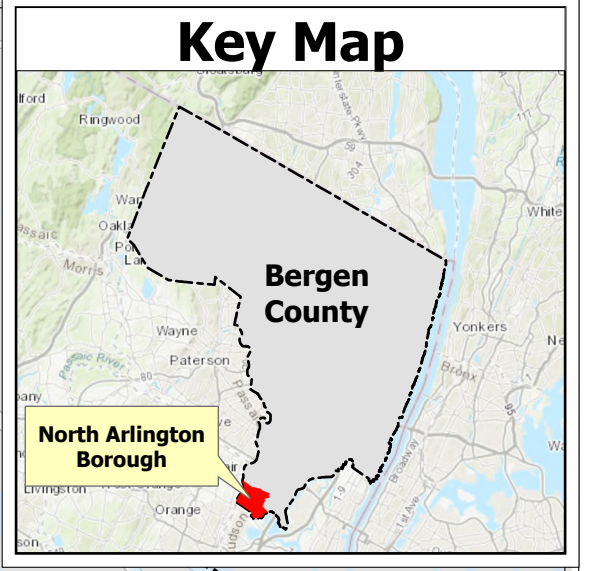
Date: December 2025 Drawn By: A.B.B.
 Revised: Checked By:

Data Source: NJ Office of GIS, NJDEP
 Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



Legend

- Bergen County to North Arlington System
- State to North Arlington System
- Borough Owned and Operated Outfalls
- MS4 Stormwater Lines and Conveyance



Overall Storm Inlets and Manholes Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 8

0 500 1,000 2,000 Feet

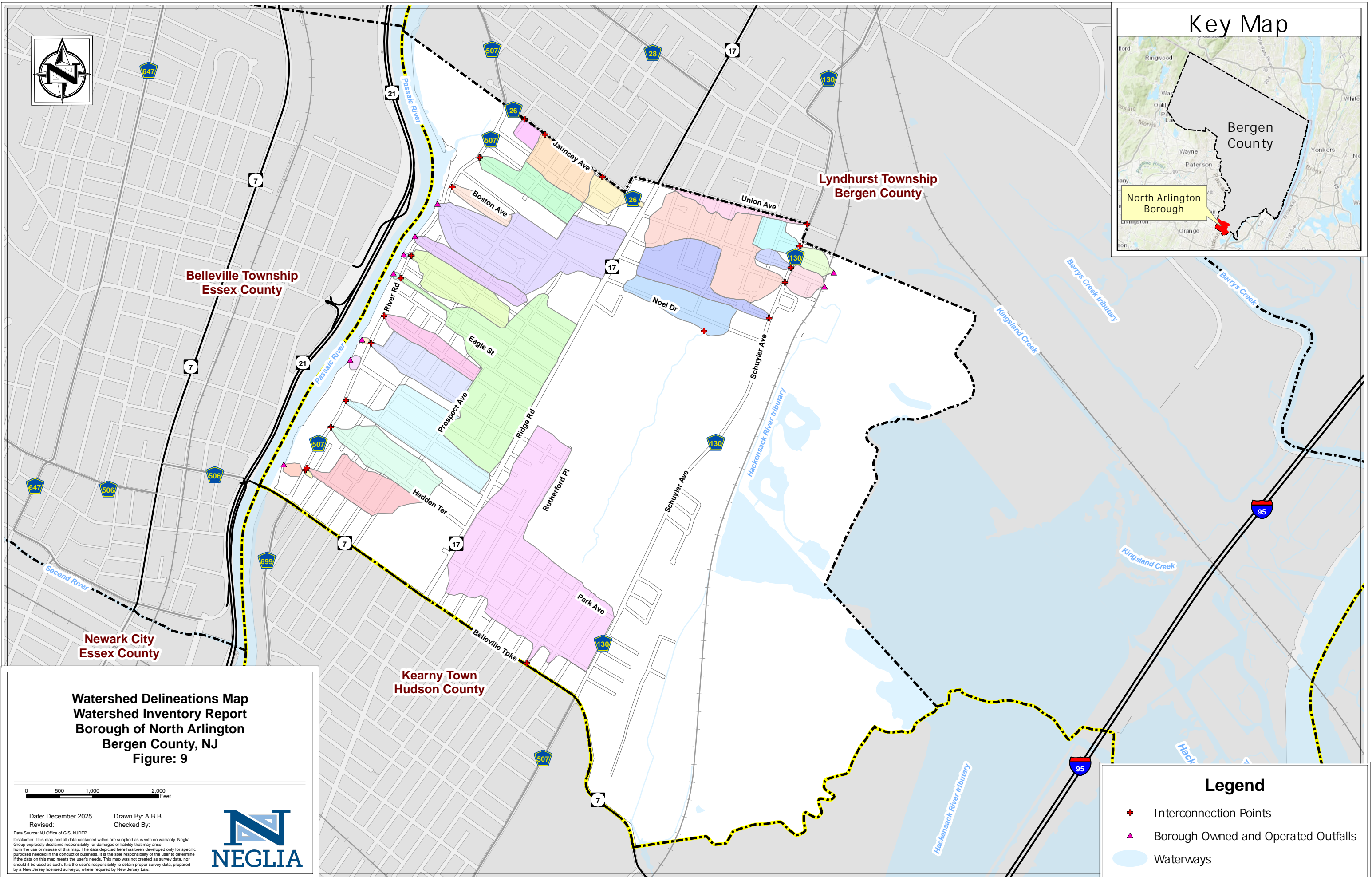
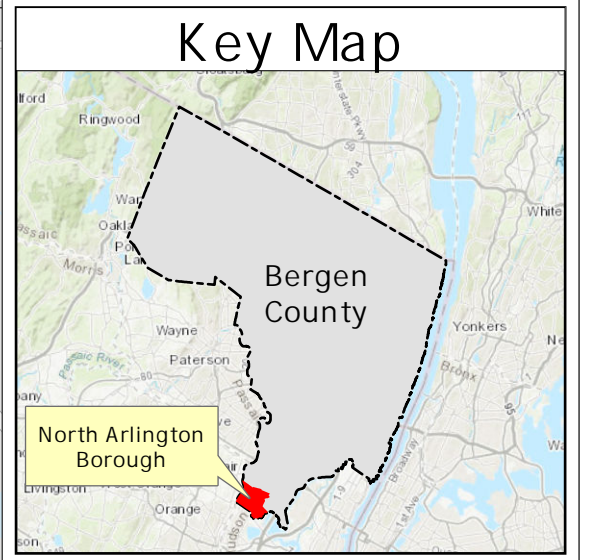
Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

Data Source: NJ Office of GIS, NJDEP
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



Legend

- MS4 Stormwater Inlets
- MS4 Stormwater Manholes
- + Interconnection Points
- ▲ Borough Owned and Operated Outfalls
- MS4 Stormwater Lines and Conveyance



Watershed Delineations Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 9

0 500 1,000 2,000 Feet

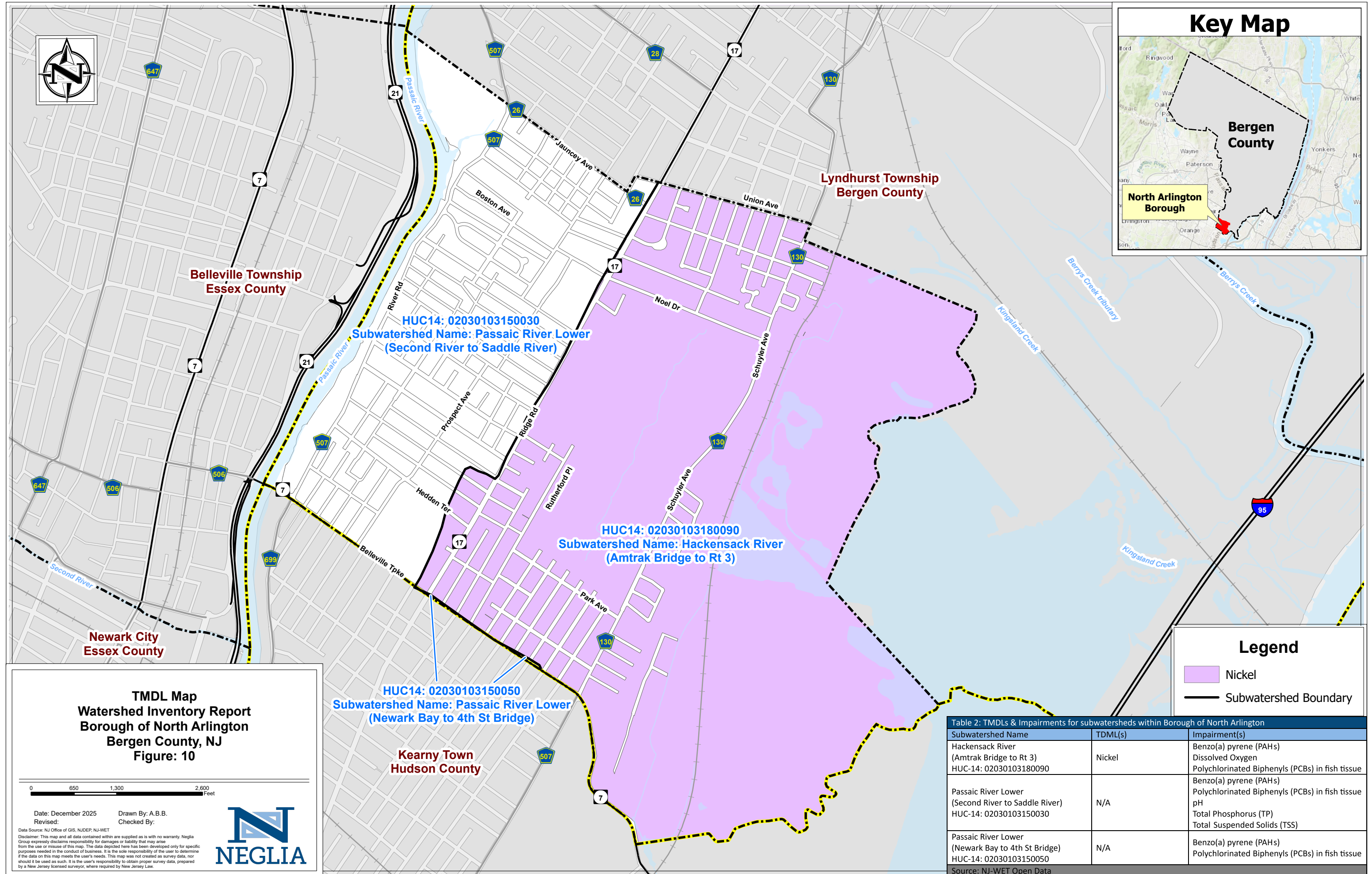
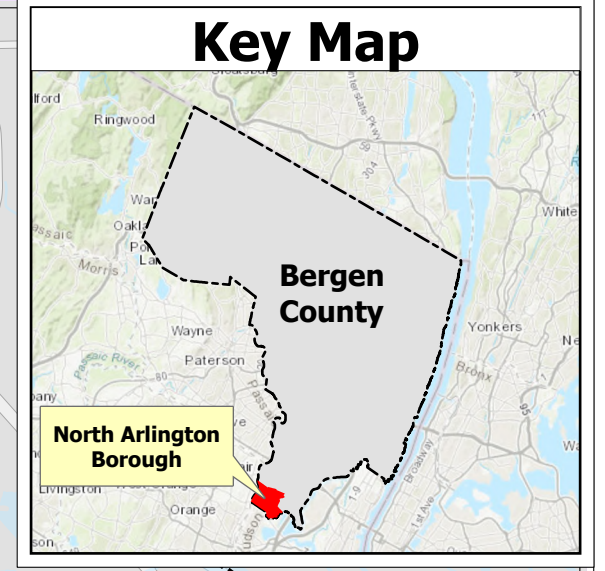
Date: December 2025 Drawn By: A.B.B.
 Revised: Checked By:

Data Source: NJ Office of GIS, NJDEP
 Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



Legend

- + Interconnection Points
- ▲ Borough Owned and Operated Outfalls
- Waterways



Belleville Township
Essex County

Lyndhurst Township
Bergen County

Newark City
Essex County

Kearny Town
Hudson County

HUC14: 02030103150030
Subwatershed Name: Passaic River Lower
(Second River to Saddle River)

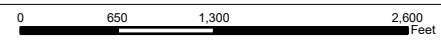
HUC14: 02030103180090
Subwatershed Name: Hackensack River
(Amtrak Bridge to Rt 3)

HUC14: 02030103150050
Subwatershed Name: Passaic River Lower
(Newark Bay to 4th St Bridge)

Legend

- Nickel
- Subwatershed Boundary

**TMDL Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 10**



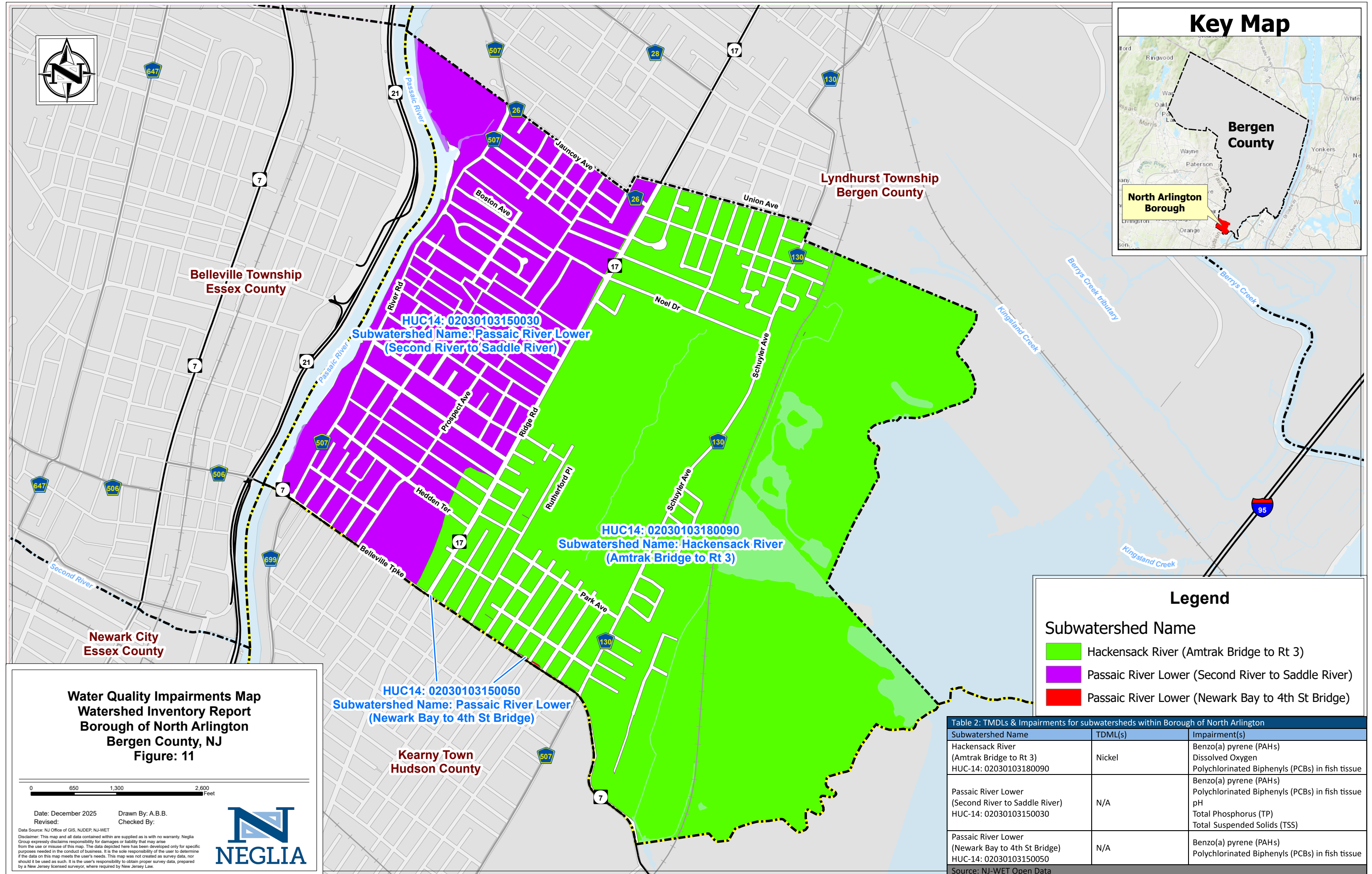
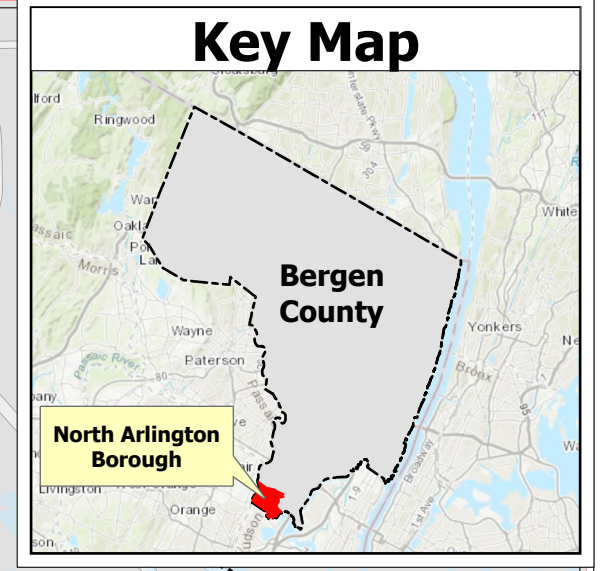
Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

Data Source: NJ Office of GIS, NJDEP, NJ-WET
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



| Table 2: TMDLs & Impairments for subwatersheds within Borough of North Arlington | | |
|--|---------|--|
| Subwatershed Name | TDML(s) | Impairment(s) |
| Hackensack River (Amtrak Bridge to Rt 3) HUC-14: 02030103180090 | Nickel | Benzo(a) pyrene (PAHs) Dissolved Oxygen Polychlorinated Biphenyls (PCBs) in fish tissue |
| Passaic River Lower (Second River to Saddle River) HUC-14: 02030103150030 | N/A | Benzo(a) pyrene (PAHs) Polychlorinated Biphenyls (PCBs) in fish tissue pH Total Phosphorus (TP) Total Suspended Solids (TSS) |
| Passaic River Lower (Newark Bay to 4th St Bridge) HUC-14: 02030103150050 | N/A | Benzo(a) pyrene (PAHs) Polychlorinated Biphenyls (PCBs) in fish tissue |

Source: NJ-WET Open Data



HUC14: 02030103150030
 Subwatershed Name: Passaic River Lower
 (Second River to Saddle River)

HUC14: 02030103180090
 Subwatershed Name: Hackensack River
 (Amtrak Bridge to Rt 3)

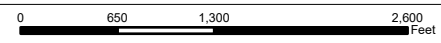
HUC14: 02030103150050
 Subwatershed Name: Passaic River Lower
 (Newark Bay to 4th St Bridge)

| Legend | | |
|--|--|--|
| Subwatershed Name | | |
| ■ | Hackensack River (Amtrak Bridge to Rt 3) | |
| ■ | Passaic River Lower (Second River to Saddle River) | |
| ■ | Passaic River Lower (Newark Bay to 4th St Bridge) | |

| Table 2: TMDLs & Impairments for subwatersheds within Borough of North Arlington | | |
|--|---------|--|
| Subwatershed Name | TDML(s) | Impairment(s) |
| Hackensack River (Amtrak Bridge to Rt 3) HUC-14: 02030103180090 | Nickel | Benzo(a) pyrene (PAHs) Dissolved Oxygen Polychlorinated Biphenyls (PCBs) in fish tissue |
| Passaic River Lower (Second River to Saddle River) HUC-14: 02030103150030 | N/A | Benzo(a) pyrene (PAHs) Polychlorinated Biphenyls (PCBs) in fish tissue pH Total Phosphorus (TP) Total Suspended Solids (TSS) |
| Passaic River Lower (Newark Bay to 4th St Bridge) HUC-14: 02030103150050 | N/A | Benzo(a) pyrene (PAHs) Polychlorinated Biphenyls (PCBs) in fish tissue |

Source: NJ-WET Open Data

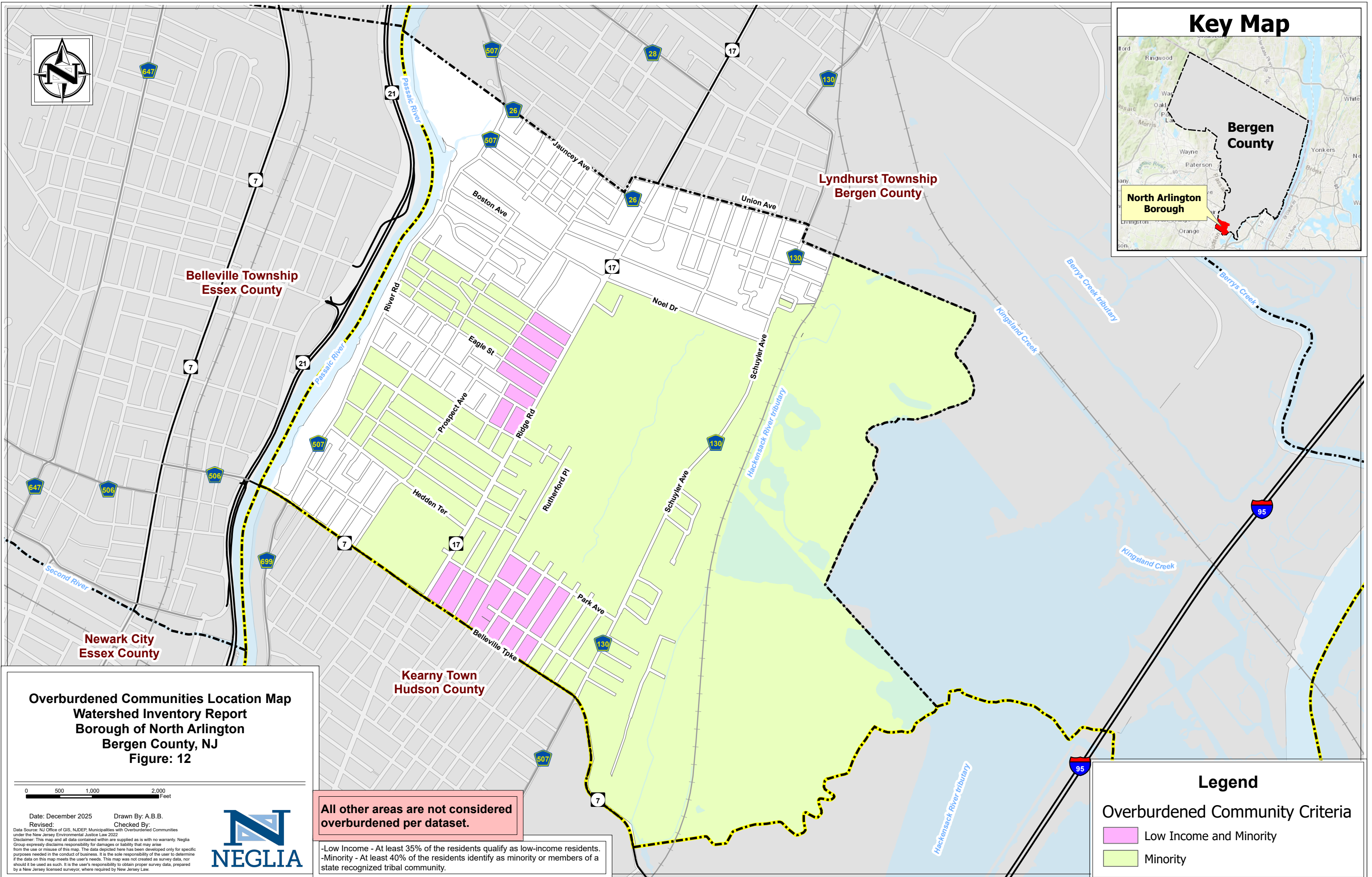
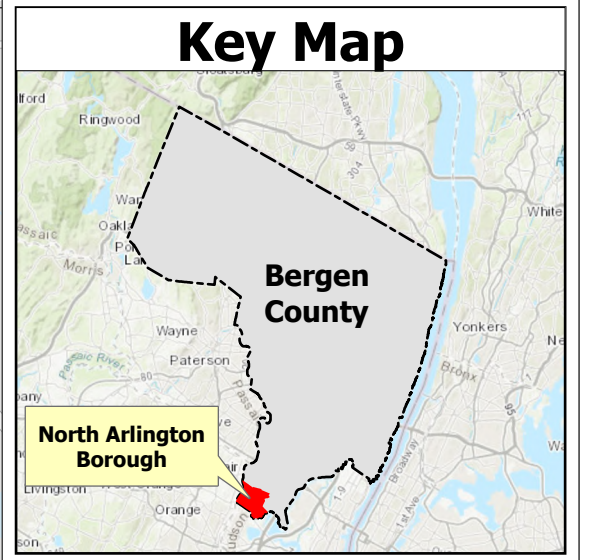
**Water Quality Impairments Map
 Watershed Inventory Report
 Borough of North Arlington
 Bergen County, NJ
 Figure: 11**



Date: December 2025
 Revised: _____
 Drawn By: A.B.B.
 Checked By: _____

Data Source: NJ Office of GIS, NJDEP, NJ-WET
 Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.





Overburdened Communities Location Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 12

0 500 1,000 2,000 Feet

Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:
Data Source: NJ Office of GIS, NJDEP, Municipalities with Overburdened Communities under the New Jersey Environmental Justice Law 2022
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



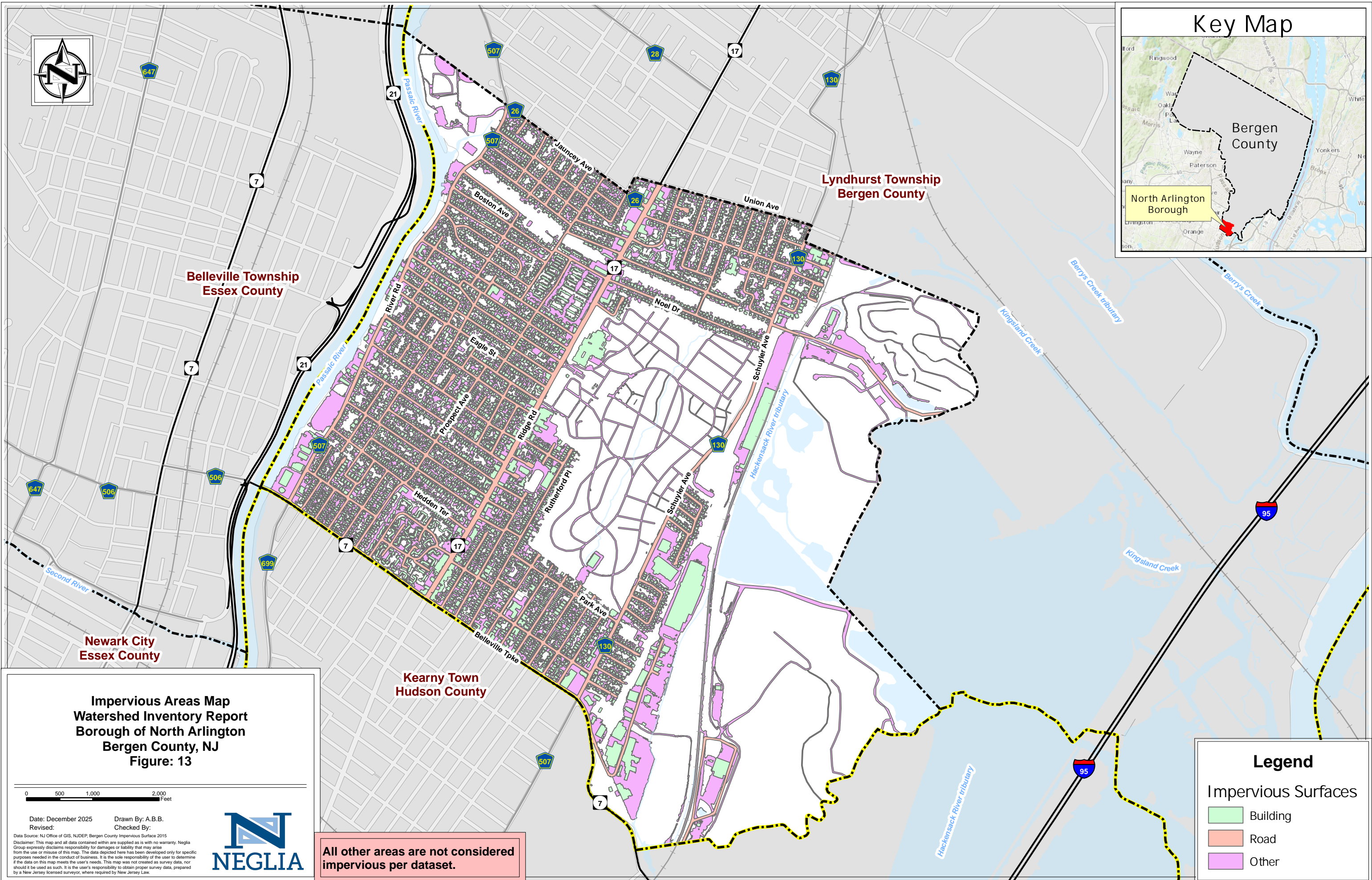
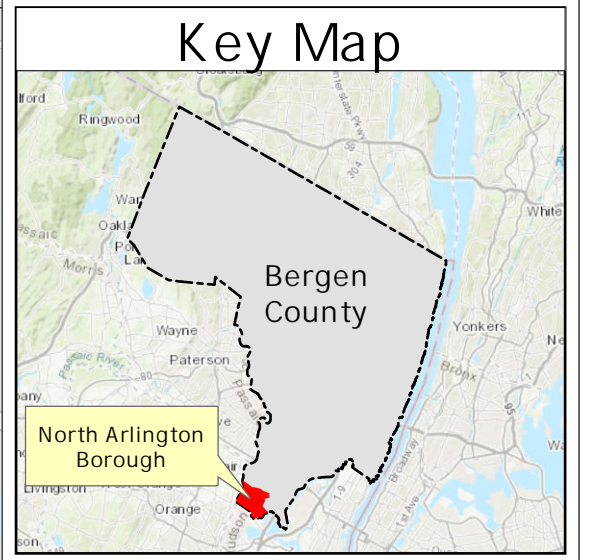
All other areas are not considered overburdened per dataset.

-Low Income - At least 35% of the residents qualify as low-income residents.
-Minority - At least 40% of the residents identify as minority or members of a state recognized tribal community.

Legend

Overburdened Community Criteria

- Low Income and Minority
- Minority



**Impervious Areas Map
Watershed Inventory Report
Borough of North Arlington
Bergen County, NJ
Figure: 13**

0 500 1,000 2,000 Feet

Date: December 2025 Drawn By: A.B.B.
Revised: Checked By:

Data Source: NJ Office of GIS, NJDEP, Bergen County Impervious Surface 2015
Disclaimer: This map and all data contained within are supplied as is with no warranty. Neglia Group expressly disclaims responsibility for damages or liability that may arise from the use or misuse of this map. The data depicted here has been developed only for specific purposes needed in the conduct of business. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a New Jersey licensed surveyor, where required by New Jersey Law.



All other areas are not considered impervious per dataset.

Legend

Impervious Surfaces

- Building
- Road
- Other