MUNICIPAL STORMWATER MANAGEMENT PLAN

FOR THE

TOWNSHIP OF LYNDHURST
BERGEN COUNTY, NEW JERSEY

The Township of Lyndhurst
Established 1917

MARCH 30, 2005
REVISED MARCH 23, 2006
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Neglia Project No.: LYNDMUN24.016

200 Central Avenue, Suite 102
Mountainside, New Jersey 07092
Tel.: (201) 939-8805 / Fax: (201) 939-0846

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Introduction

This Municipal Stormwater Management Plan ("MSWMP") documents the strategy for the Township of Lyndhurst ("the Township") to address stormwater-related impacts. The creation of this plan is required by N.J.A.C. 7:14A-25, Municipal Stormwater Regulations. This plan contains all of the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major developments, defined as projects that disturb one or more acres of land. These standards are intended to minimize the adverse impact of stormwater runoff on water quality and water quantity, and the loss of groundwater recharge that provides base flow in receiving water bodies. The plan describes long-term operation and maintenance measures for existing and future stormwater facilities.

A "build-out" analysis has not been included as the Township does not have one square mile of agricultural or vacant land. The plan also addresses the review and update of existing ordinances, the Township Master Plan, and other planning documents to allow for project designs that include low impact development techniques. The final component of this plan is a mitigation strategy for when a variance or exemption of the design and performance standards in sought. As part of the mitigation section of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

Goals

The goals of this MSWMP are to:

a. Reduce flood damage, including damage to life and property

   This is to occur through the adoption of the Stormwater Control Ordinance and the existing stormwater regulations within the New Residential Site Improvement Standards (NJRSIS). This ordinance along with the NJRSIS will govern stormwater quantity, stormwater quality, and groundwater recharge thereby reducing flooding impacts. This is accomplished through flow and suspended solids reduction to watercourses and stormwater conveyance systems.

b. Minimize, to the extent practical, any increase in stormwater runoff from any new development

   This is to occur through the adoption of the Stormwater Control Ordinance and the existing stormwater regulations within the New Jersey Residential Site Improvement Standards (NJRSIS). This ordinance along with the NJRSIS will govern stormwater quantity, stormwater quality, and groundwater recharge thereby reducing stormwater runoff quantities from new development.

   All submitted site plans and subdivision plans which are governed by this ordinance and / or the NJRSIS will be reviewed by the Municipal and Board Engineer for conformance

with the specified stormwater regulations. The Applicant will be required to submit a drainage report including flooding analysis to ensure conformance.

c. Reduce soil erosion from any development or construction project

This is to occur through the implementation of the New Jersey's Soil Erosion and Sediment Control Standards requirements. This Plan is to be consistent with those Standards. The requirements are also included within the Stormwater Control Ordinance.

All submitted site plans and subdivision plans which are governed by this ordinance and / or the NJRSIS will be reviewed by the Municipal and Board Engineer for conformance with the specified Soil Erosion and Sediment Control Standards. In addition, projects with limit of disturbance of five thousand square feet or greater must obtain a Soil Erosion and Sediment Control Permit from the Bergen County Soil Conservation District.

d. Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures

This is to occur through the adoption of the Stormwater Control Ordinance and the existing stormwater regulations within the New Jersey Residential Site Improvement Standards (NJRSIS). This ordinance along with the NJRSIS will govern stormwater quantity, stormwater quality, and groundwater recharge thereby reducing flow and suspend solids which affect flow channels through culverts and bridges. In addition, inadequate culverts that were constructed prior to the Stormwater Control Ordinance may be updated through the Mitigation Plan section (see below).

All submitted site plans and subdivision plans which are governed by this ordinance and / or the NJRSIS will be reviewed by the Municipal and Board Engineer for conformance with the specified stormwater regulations. The Applicant will be required to submit a drainage report including a flooding analysis to ensure conformance.

e. Maintain groundwater recharge

This is to occur through the adoption of the Stormwater Control Ordinance and the existing stormwater regulations within the New Jersey Residential Site Improvement Standards (NJRSIS). Groundwater recharge and quality requirements for all major development will be governed through the adoption of this ordinance.

Groundwater recharge requirements are to be satisfied through the implementation of design measures to maintain existing groundwater recharge rate and quantity prior to development. Groundwater quality is to be maintained through the implementation of Best Management Practices (Nonstructural and Structural Strategies) to remove constituents and pollutants prior to infiltration / recharge to groundwater.

All submitted site plans and subdivision plans which are governed by this ordinance and / or the NJRSIS will be reviewed by the Municipal and Board Engineer for conformance with the specified stormwater regulations.

f. Prevent, to the greatest extent feasible, an increase in nonpoint pollution

This is to occur through the adoption of a series of ordinances, which include a pet waste and wildlife feeding ordinance.

g. Maintain the integrity of stream channels for their biological functions, as well as for drainage

This is to occur through the adoption of the Stormwater Control Ordinance and the existing stormwater regulations within the New Jersey Residential Site Improvement Standards (NJRSIS). This ordinance will govern stormwater quantity, stormwater quality, and groundwater recharge thereby reducing pollutants within the flow which affect biological function and drainage conveyance ability of stream channels.

All submitted site plans and subdivision plans which are governed by this ordinance and / or the NJRSIS will be reviewed by the Municipal and Board Engineer for conformance with the specified stormwater regulations.

h. Minimize pollutants in stormwater runoff from new and existing development to restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, and other uses of water

This is to occur through the adoption of the Stormwater Control Ordinance and the existing stormwater regulations within the New Jersey Residential Site Improvement Standards (NJRSIS). This ordinance will govern stormwater quantity, stormwater quality, and groundwater recharge thereby reducing pollutants. In addition, the adoption of a series of ordinances, which include a pet waste and wildlife feeding ordinance will reduce pollutants within stormwater runoff.

All submitted site plans and subdivision plans which are governed by this ordinance and / or the NJRSIS will be reviewed by the Municipal and Board Engineer for conformance with the specified stormwater regulations.

i. Protect public safety through the proper design and operation of stormwater basins.

This is to occur through the adoption of the Stormwater Control Ordinance and the existing stormwater regulations within the New Jersey Residential Site Improvement Standards (NJRSIS). A section within the adopted ordinance will address safety standards for stormwater management basins.

All submitted site plans and subdivision plans which are governed by this ordinance and / or the NJRSIS will be reviewed by the Municipal and Board Engineer for conformance with the specified stormwater regulations. The Applicant will be required to submit a drainage report including a flooding analysis to ensure conformance.

To achieve these goals, this plan outlines specific stormwater design and performance standards for new development. Additionally, the plan proposes stormwater management controls to address impacts from existing development. Preventative and corrective maintenance strategies are included in the plan to ensure long-term effectiveness of stormwater management facilities (see Design and Performance Standards section). The plan also outlines safety standards for stormwater infrastructure to be implements to protect public safety.

Stormwater Discussion

Land development can dramatically alter the hydrologic cycle of a site and, ultimately, an entire watershed (see Figure C-1). Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration. Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall. Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site. Impervious areas that are connected to each other through gutters, channels, and storm sewers can transport runoff more quickly that natural areas. This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways to peak faster and higher than under natural conditions. These increases can create new and aggravate existing downstream flooding and erosion problems and increase the quantity of sediment in the channel. Filtration of runoff and removal of pollutants by surface and channel vegetation is eliminated by storm sewers that discharge runoff directly into a stream. Increases in impervious area can also decrease opportunities for infiltration, which, in turn, reduced stream base flow and groundwater recharge. Reduced base flows and increased peak flows produce greater fluctuations between normal and storm flow rates, which can increase channel erosion. Reduced base flows can also negatively impact the hydrology of adjacent wetlands and the health of biological communities that depend on base flows. Finally, erosion and sedimentation can destroy habitat from which some species cannot adapt.

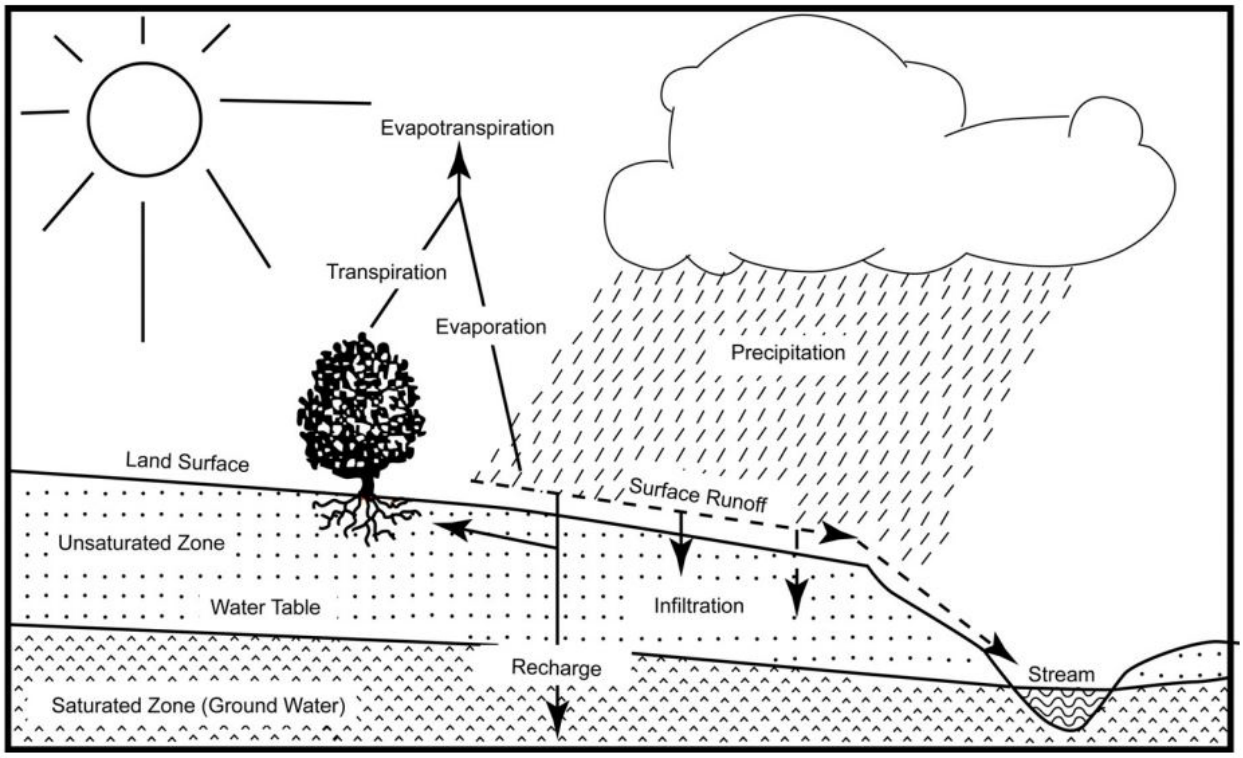


Figure C- 1 Groundwater Recharge in the Hydrologic Cycle (Ref.: NJDEP BMP Manual)

In addition to increases in runoff peaks, volumes, and loss of groundwater recharge, land development often results in the accumulation of pollutants on the land surface that runoff can mobilize and transport to streams. New impervious surfaces and cleared areas created by development can accumulate a variety of pollutants from the atmosphere, fertilizers, animal waste and leakage and wear from vehicles. Pollutants can include metals, suspended solids, hydrocarbons, pathogens, and nutrients.

In addition to increased pollutant loading, land development can adversely affect water quality and stream biota in more subtle ways. For example, stormwater falling on impervious surfaces or stored in detention or retention basins can become heated and raise the temperature of the downstream waterway, adversely affecting cold water fish species such as trout. Development can remove trees along stream banks that normally provide shading, stabilization, and leaf litter that falls into streams and becomes food for the aquatic community.

Background

The Township encompasses an area of approximately 4.96 square mile area (3,174.40 acres) in Bergen County, New Jersey. The Township of Lyndhurst is bordered by the Borough of Rutherford, the Borough of East Rutherford, the City of Clifton, the Township of Nutley, the Township of North Arlington, the Town of Kearny, and the Town of Secaucus. A portion of the Township, approximately from the Conrail Railroad east of Schuyler Avenue in the southern area and the east of Polito Avenue in the north to the Township's eastern boundary are under the jurisdiction of the New Jersey Meadowlands Commission (NJMC). The NJMC was created by

the New Jersey legislature in 1968 and was passed into law in January 1969. It was formed to regulate development within the Meadowlands area and spans 14 municipalities. The NJMC has jurisdiction over 31 square miles (19,730 acres). Figure C-3: Boundary on USGS Quadrangle depicts the Township boundary on the USGS quadrangle maps and provides a spatial representation of the Township and surrounding features. At this time, approximately 58.9% of the Township is developed in a classical sense. A large tract of land (293.2 acres) within the NJMC portion is currently occupied by sanitary landfill and accounts for an additional 9.3% of developed land within the township. The balance of the land considered undeveloped within the Township is located within the NJMC and is mainly comprised of wetlands and tidally influenced land.

In the 1920s the Township of Lyndhurst experienced the growth of big industry and created the commuter town that is Lyndhurst today. During the depression in the 1930s, the Township was able to utilize the soil and develop community gardens in the area where the Stop and Shop exists today. The 1940s and 1950s experienced a population boom due in part of the retuning of many veterans.

In accordance with U.S. Census data, Township of Lyndhurst's population increased from 9,515 residents in 1920 to 17,362 in 1930. The total population in the Township of Lyndhurst increased exponentially to 22,729 residents by 1970. Census data indicate a population of 20,326 by 1980 and just 18,262 as of 1990. The numbers since then have begun to rebound, with year 2000 Census figures indicated a population of 19,383, 20,554 by 2010, 22,519 by 2020 and 22,276 in 2023.

The Township is fully serviced by sanitary sewers. Sewer flows area collected by sanitary sewers that are ultimately under the jurisdiction of the Passaic Valley Sewer Authority. Domestic and fire water service is provided by the Townships Water Department and the Passaic Valley Water Commission. The Township purchases water in bulk from the Jersey Township Municipal Utilities Authority and distributes water to the residents and businesses via a Township owned water system. The Township does not have any public wellhead under operation nor are they aware of any private wellheads that are located in the Township. The Township contains stormwater features which include but are not limited to drainage swales and detention basins. At this time, a detailed list of the individual stormwater features is not available.

Streams

The New Jersey Department of Environmental Protection ("NJDEP") has established the Ambient Biomonitoring Network ("AMNET") to document the health of the state's waterways. There are over 800 AMNET sites throughout the state of New Jersey. These sites are sampled for benthic macroinvertebrates by the NJDEP on a five-year cycle. Streams are classified as either "non-impaired," "moderately impaired," or "severely impaired," based on the AMNET data and criteria. The data is used to generate a New Jersey Impairment Score ("NJIS"), which is based on a number of biometrics related to benthic macroinvertebrate community dynamics.

There are multiple streams located within the Township of Lyndhurst, including main streams and tributaries thereto. The following streams and rivers traverse the Township:

- Passaic River (tidal) at the Township's western boundary;
- Berrys Creek (tidal) at the Township's Northeastern boundary;
- Mary Ann Creek (tidal) along the eastern portion of the Township;
- Kingsland Creek (tidal) along the eastern portion of the Township;
- Sawmill Creek (tidal) along the Township's Southeastern boundary; and
- Hackensack River (tidal) along the Township's Eastern boundary.

These watercourses contain floodplains as shown on the FEMA (Federal Emergency Management Agency) Flood Insurance Rate Maps (FIRM). Figure C-10 (FEMA Flood Hazard Ares) illustrates the 100-year flood plain affected areas throughout the Township.

The Township of Lyndhurst is located within Watershed Management Area 4 ("WMA4") and Watershed Management Area 5 ("WMA5"). WMA4 is also known as "Lower Passaic and Saddle." WMA5 is also known as "Hackensack, Hudson, and Pascack." A Watershed Management Area is subdivided into smaller drainage area units which are defined as HUC-14's. The term "HUC-14" is from the hydrologic unit code system developed by the United States Geological Service for delineating and identifying drainage areas. The system stars with the largest possible drainage areas and progressively smaller subdivisions of the drainage are delineated and numbered in a nested fashion. A drainage area with a hydrologic unit code (HUC) designation with 14 numbers, or HUC-14, is one of several sub-watersheds of a larger watershed. There a three (3) HUC-14's within the Township of Lyndhurst.

- HUC-14 No.: 02030103150030 – Passaic R Lwr (Second R to Saddle R) (WMA4);
- HUC-14 No.: 02030103180090 – Hackensack R (Amtrak bridge to Rt 3) (WMA5); and
- HUC-14 No.: 02030103180070 – Berrys Creek (below Paterson Ave) (WMA5).

Figure C-7, Hydrologic Units (HUC-14's), illustrates the HUC-14s within the Township.

The watercourses within the Township are not categorized as Category One (C-1) Streams by the NJDEP. These watercourses do not flow to a reservoir utilized for drinking water.

The above-referenced watercourses that flow through the Township are moderately impaired based on AMNET data. In addition to the AMNET data, the NJDEP and other regulatory agencies collect water quality chemical data on the streams in the state. These data show that the in-stream water quality constituents frequently exceed the state's criteria. This means that these rivers are impaired waterways and the NJDEP is required to develop a Total Maximum Daily Load (TMDL) for these pollutants for each waterway.

A TMDL is the amount of a pollutant that can be accepted by a water body without causing an exceedance of water quality standards or interfering with the ability to use a water body for

one or more of its designated uses. The allowable load is allocated to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and nonpoint source, which includes stormwater runoff from agricultural areas and residential areas, along with a margin of safety. Provisions may also be made for future sources in the form of reserve capacity. An implementation plan is developed to identify how the various sources will be reduced to the designated allocations. Implementation strategies may include improved stormwater treatment plants, adoption of ordinances, reforestation of stream corridors, retrofitting stormwater systems, and other BMPs.

The New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303 (d)) (Integrated List) is required by the federal Clean Water Act to be prepared biennially and is a valuable source of water quality information. This combined report presents the extent to which New Jersey waters are attaining water quality standards and identifies waters that are impaired. Water bodies are classified through the use of Sublists. Sublist 1 and 2 waterbodies are unimpaired. Sublist 3 waterbodies have limited assessment or data availability. Sublist 4 waterbodies are impaired due to pollution rather than pollutants or have had a TMDL or other enforceable management measure approved by the EPA expected to achieve Water Quality Standards. Sublist 5 of the Integrated List constitutes the list of waters impaired or threatened by pollutants, for which one or more TMDLs are needed.

The following are the watercourse with their locations, sublist, and sublist constituents:

- The Passic River Lower (Second R to Saddle R) is on Sublist 4 For Mercury in Fish Tissue and in Sublist 5 for Chlordane in Fish Tissue, DDT in Fish Tissue, Dioxin in Fish Tissue, and PCBS in Fish Tissue. The priority ranking for TMDLS is listed as Low.

- The Hackensack River (Amtrak Bridge to Route 3) is on Sublist 5 for Chlordane in Fish Tissue, DDT in Fish Tissue, Dieldrin in Fish Tissue, Dioxin in Fish Tissue, and PCBS in Fish Tissue. The priority ranking for TMDLS is listed as Low.

- The Berrys Creek (below Paterson Avenue) is on Sublist 5 for Chlordane in Fish Tissue, DDT in Fish Tissue, Dieldrin in Fish Tissue, Dioxin in Fish Tissue, Heptachlor in Fish Tissue, and PCBS in Fish Tissue.

For this reason, TMDLs are required for these constituents within these watercourses. Based on inquiry to the NJDEP's TMDL Look-Up Tool, provided by the Bureau of Nonpoint Pollution, there are no applicable lake or shellfish TMDLs in the Township of Lyndhurst. However, the Township of Lyndhurst will require the following TMDLs:

- Amendment to the Northeast Water Quality Management Plan to Establish a Total Maximum Daily Load for Nickel in the Hackensack River
    - Nickel - 2000: Berrys Creek (below Paterson Ave) : View the TMDL Document
- Amendment to the Northeast Water Quality Management Plan to Establish a Total Maximum Daily Load for Nickel in the Hackensack River

- Nickel - 2000 : Hackensack R (Amtrak bridge to Rt): View the TMDL Document

The impervious area within the Township has decreased groundwater recharge, decreasing base flows in streams during dry weather periods. Lower base flows can have a negative impact on instream habitat during the summer months. A map of the groundwater recharge areas is shown in Figure C-4. At this time, the Township does not have an existing groundwater assessment. Well head protection areas, also required as part of the MSWMP, are shown in Figure C-5.

Brownfields are typically defined as abandoned, idled or under-utilized industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination, possibility groundwater contamination. When development of these Brownfield parcels is to occur within the Township, they will be redeveloped following NJDEP site remediation standards and regulations.

Design and Performance Standards

The Township will adopt the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies. The design and performance standards include the language for maintenance of stormwater management measures consistent with the stormwater management rules at N.J.A.C. 7:8-5.8 Maintenance Requirements, and language for safety standards consistent with N.J.A.C. 7:8-6 Safety Standards for Stormwater Management Basins. The ordinances will be submitted to the county for review and approval.

During construction, Township inspectors will observe the construction of the project to ensure that the stormwater management measures are constructed and function as designed. If the Township determines that non-compliance is occurring, the Township shall issues non-compliance citations, stop work orders, and fines to ensure compliance. Penalties are listed within the adopted Township Stormwater Control Ordinance.

Once construction is complete, long-term maintenance is required for existing and future stormwater facilities to ensure long-term operation for all project governed by the requirements set forth within the Stormwater Control Ordinance. The ordinance requires the submission of an acceptable maintenance and repair plan that will provide specific preventative maintenance tasks and schedules, along with the name of the person or people responsible for preventive or corrective maintenance. The person responsible for maintenance will be required to evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed, as necessary.

To ensure proper maintenance and facility repair, the Township will notify the responsible person in writing should a stormwater facility become a danger to public safety, public health, or require maintenance or repair. Upon receipt of the written notice, the responsible person will have fourteen (14) days to perform the required maintenance and/or repair of the facility in a manner that is approved by the Township Engineer. The Township, at its discretion, may

extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the Township or County may immediately proceed to do so and shall bill the cost to the responsible person.

Plan Consistency

The Township is not within a Regional Stormwater Management Planning Area and no TMDLs have been developed for waters within the Township; therefore, this plan does not need to be consistent with any regional stormwater management plans (RSWMPs) nor any TMDLs. If any RSWMPs or TMDLs are developed in the future, this Municipal Stormwater Management Plan will be updated to be consistent.

The Municipal Stormwater Management Plan is consistent with the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21. The Township will utilize the most current update of the RSIS in the stormwater management review of residential areas. This Municipal Stormwater Management Plan will be updated to be consistent with any future updates to the RSIS.

The Township's Stormwater Management Ordinance requires all new development, and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards. During construction, the Township inspectors will observe on-site and sediment control measures and report any inconsistencies to the local Soil Conservation District.

Nonstructural Stormwater Management Strategies

The Township has reviewed the master plan and ordinances and has provided a list of the sections in the Township land use and zoning ordinances that are to be considered by the Township of Lyndhurst as a means to incorporate additional nonstructural stormwater management strategies. These are the ordinances identified for possible revision if deemed necessary by the Township. Once the ordinance texts are completed (if they have been revised by the Township), they will be submitted to the county review agency for review and approval. A copy will be sent to the Department of Environmental Protection at the time of submission.

Chapter 19 (Land Use Procedures), Chapter 20 (Land Subdivision), and Chapter 21 (Zoning) were reviewed with regard to incorporating nonstructural stormwater management strategies. Several changes will/may be considered the followings Sections within these Chapters:

Section 20-8.5 Public Use and Service Areas states that natural features shall be preserved whenever possible in designing any subdivision containing such features. This section will be amended to expand to forested areas and tree stands, to ensure that leaf litter and other beneficial aspects of the forest and tree stands are maintained.

Section 21-12 Definitions states that a yard shall mean a space on a lot extended along a lot line between such lot line and a principal building or buildings or building use occupying such lot. This section will be amended to include that care be taken to preserve native trees and shrubbery located within this yards / setback area. In addition, the section will be amended to state that native plant species shall be planted in yard / setback areas where feasible.

Section 20-4 Definitions as used in this chapter will be amended to provide the definition of a cluster development and will provide requirements to subdivide a lot into smaller conforming lots. A cluster development is a subdivision option utilized to preserve land for public and agricultural purposes, to prevent development on environmentally sensitive areas, and to aid in reducing the cost of providing streets, utilities and services in residential developments. This cluster option is an excellent tool for reducing impervious roads and driveways. The option allows for small lots with smaller front and side yard setbacks than traditional development options. It also minimizes the disturbance of large tracts of land, which is a key nonstructural stormwater management strategy. The section will include a cluster development subdivision option. The option will include a percentage of the total tract to be preserved as open space for residential area. It will also include language promoting the use and / or preservation of native vegetation.

Section 21-6 Application. The Schedule of General Requirements shall apply to the uses of the land requires a setback / distance from the boundary line in which a building cannot be placed. This schedule will be amended to include a note that care be taken to preserve native trees and shrubbery located within this setback area. In addition, another note will be added to the schedule that native plant species be planted in setback areas where feasible.

Section 20-8.4 Lots states that the Township can withhold approvals for a lot due to flooding conditions. This section will be amended to limit improvement and maintenance within the floodplain which shall follow all applicable state regulatory requirements.

Section 20-8.2 Streets addresses the design standards for Township streets. Street paving widths are a function of the type of development, number of units served, whether a street is curbed, whether on-street parking is permitted, and whether on-site topographical constraints allow design flexibility. This section will be amended to encourage developers to limit on-street parking to allow for narrower paved widths that will conform to the New Jersey Residential Site Improvement Standards where applicable.

Schedule II – Lot, Bulk, and Yard Regulations has the requirements for permitted impervious coverage for zoning districts within the Township. The table will be amended to include a note stating that if a developer is given a variance to exceed the maximum allowable impervious percentage, the developer must mitigate the impact of the additional impervious surfaces. This mitigation effort must address water quality, flooding, and groundwater recharge as described in the Township Stormwater Control Ordinance that is to be enacted.

Section 21-8.18 Schedule of Required Parking Spaces provides guidance on minimum parking space requirements. These requirements are based on the number of dwelling units, gross floor area, and / or other designated requirements (seats, etc.). The section will be amended to allow a developer to demonstrate that fewer spaces would be required, provided area is set aside for additional spaces if necessary. This section was amended to allow pervious paving to be used in areas to provide overflow parking, vertical parking structures, smaller parking stalls, and shared parking if feasible.

Section 21-7.8 Standards for Site Plans Off-Street Parking describes the procedure for construction of any new driveway or accessway to any street. This section will be amended to allow the use of pervious paving materials to minimize stormwater runoff and promote groundwater recharge where appropriate.

Section 23-1.4 Flood Damage Prevention Measures required development restrictions within floodplains. This section will be amended to limit improvement and maintenance within the floodplain which shall follow all applicable state regulatory requirements.

Section 20-8 Design Standards lists the design standards for a project. Language will be added to this section to require that any off-site and off-tract stormwater management and drainage improvements must conform to the Township Stormwater Control Ordinance.

Section 21-7.8 Standards for Site Plans Sidewalks describes sidewalk requirements for the Township. Language will be added to this section to require developers to design sidewalks to discharge stormwater to neighboring lawns where feasible to disconnect these impervious surfaces or use permeable paving materials where appropriate.

Land Use / Build-Out Analysis

As per the analysis of the existing land use per the NJDEP GIS, Lyndhurst is a fully developed community and contains less than one square mile (see Figure C-6 – Township's Existing Land Use) of vacant and agricultural area. The analysis for vacant land included land area under the New Jersey Meadowlands Commission jurisdiction is not included within the analysis. For this reason, a land use / building-out analysis is not required for the Township of Lyndhurst.

Mitigation Plans

This mitigation plan is provided for a proposed development that is granted a variance or exemption from the stormwater management design and performance standards. Presented below is a hierarchy of preferred options (1 and 2).

Mitigation Project Criteria

1. The mitigation project must be implemented in the same drainage area as the proposed development. The project must provide additional groundwater recharge benefits, or protection from stormwater runoff quality and quantity from previously developed property that does not currently meet the design and performance standards outlined in the Municipal Stormwater Management Plan. The developer must ensure the long-term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP Stormwater BMP Manual.

    a. The applicant can select one of the following projects listed to compensate for the deficit from the performance standards resulting from the proposed project. More detailed information on the projects and a list of additional projects can be obtained

from the Township Engineer. Listed below are some projects that can be used to address the mitigation requirement. A possible project (at the discretion of the Township and its Engineer) is to provide a detailed study to determine additional mitigation projects within the Township.

Groundwater Recharge

- Within Township Parks (to be specified by Township Engineer)

Water Quality

- Within Township adjacent to outlet control structures to Township watercourses (to be specified by Township Engineer)

Water Quantity

- Within Township roadway rights-of-way – additional stormwater conveyance structures or systems (to be specified by Township Engineer)

- Within Township property – additional stormwater management facilities (to be specified by Township Engineer)

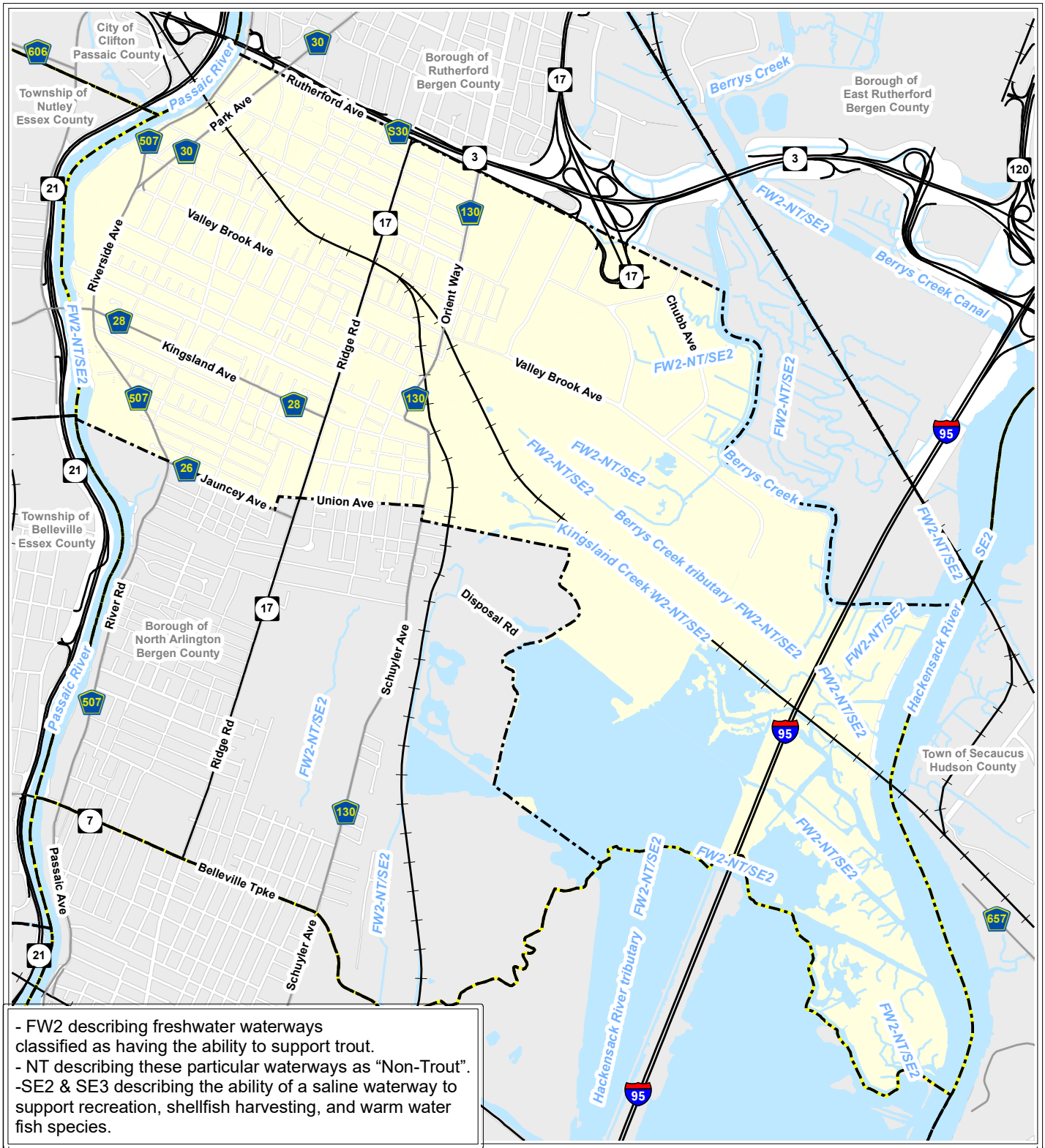
2. If a suitable site cannot be located in the same drainage area as the proposed development, as discussed in Option 1, the mitigation project may provide mitigation that is not equivalent to the impacts for which the variance or exemption is sought, but that addresses the same issue. For example, if a variance is given because the 80 percent TSS requirements are not met, the selected project may address water quality impacts due to a fecal impairment. Listed below are specific projects that can be used to address the mitigation option.

   Water Quality

   - Re-establish a vegetative buffer (minimum 50 foot wide) along a Township Pond Watercourse. The buffer and preservation could occur through a conservation easement.

   - Provide goose management measures including public education at a Township Park and / or field

   The Township of Lyndhurst shall permit the perspective development to provide funding or partial funding for an environmental enhancement project that has been identified in the Municipal Stormwater Management Plan or towards an environmental enhancement project that has been deemed by the Township as an environmentally sensitive area. The funding shall be equal to or greater than the cost to implement the mitigation outlined above or in subsequent environmental reports, including costs associated with but not limited to purchasing the property or easement for mitigation, and the cost associated with the long-term maintenance requirements of the mitigation measure.



- FW2 describing freshwater waterways classified as having the ability to support trout.
- NT describing these particular waterways as “Non-Trout”.
-SE2 & SE3 describing the ability of a saline waterway to support recreation, shellfish harvesting, and warm water fish species.

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CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) 24GA27927000

0 1,250 2,500 5,000 Feet

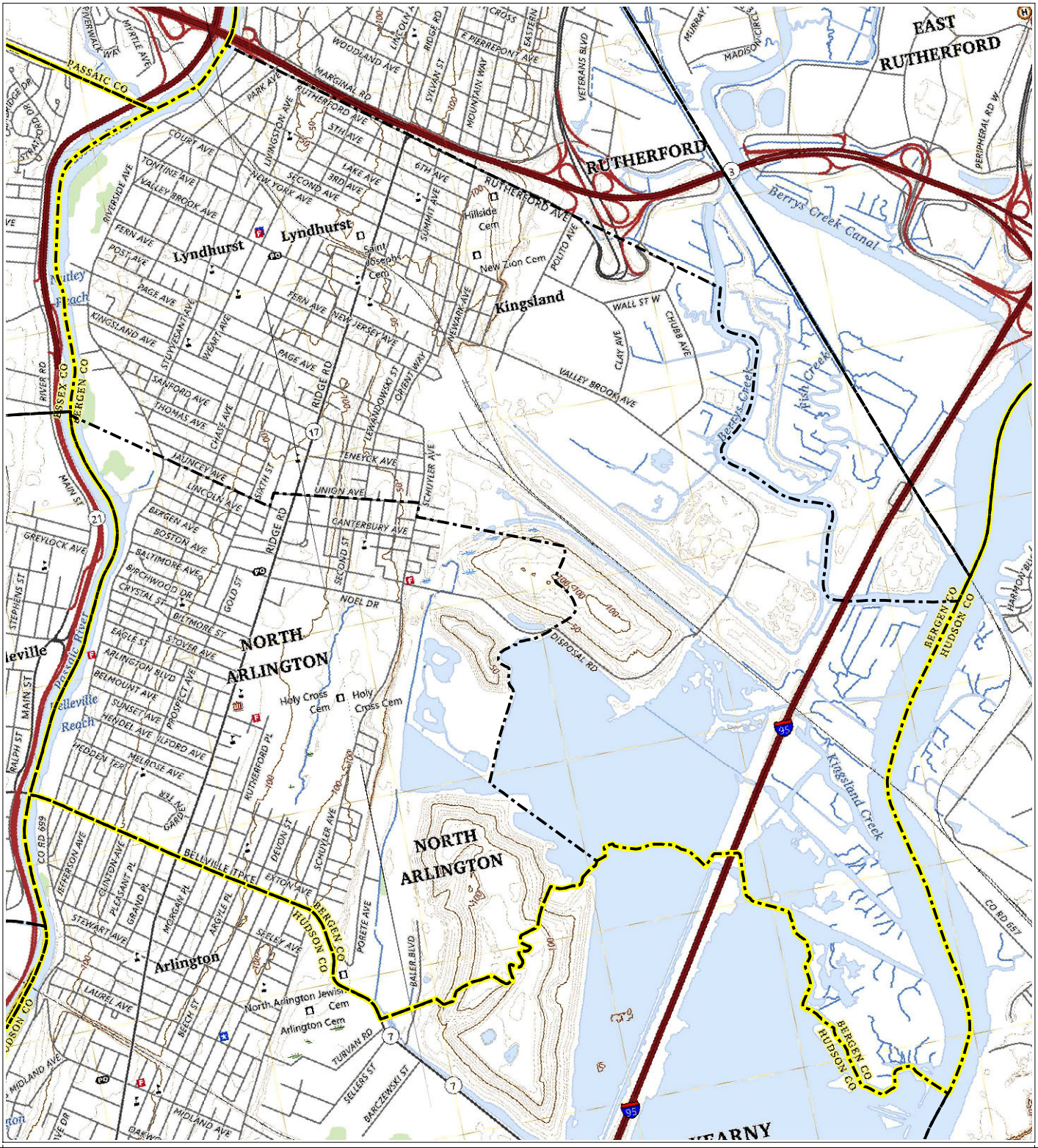
Figure C-2
Township and Its Waterways
Stormwater Management Plan
Township of Lyndhurst
Bergen County, NJ

Legend

- Waterbodies
- Municipal Boundary
- Township of Lyndhurst

NEGLIA

Drawn By: A.B.B.	Checked By:	Project No:	Sheet No:	Map References:
Designed By: M.T.	Page:	LYNDMUN24.016	Figure C-2	New Jersey Office of GIS, NJDEP Surface Water Quality Classification of NJ
Field Book No:	Date: June 2024			



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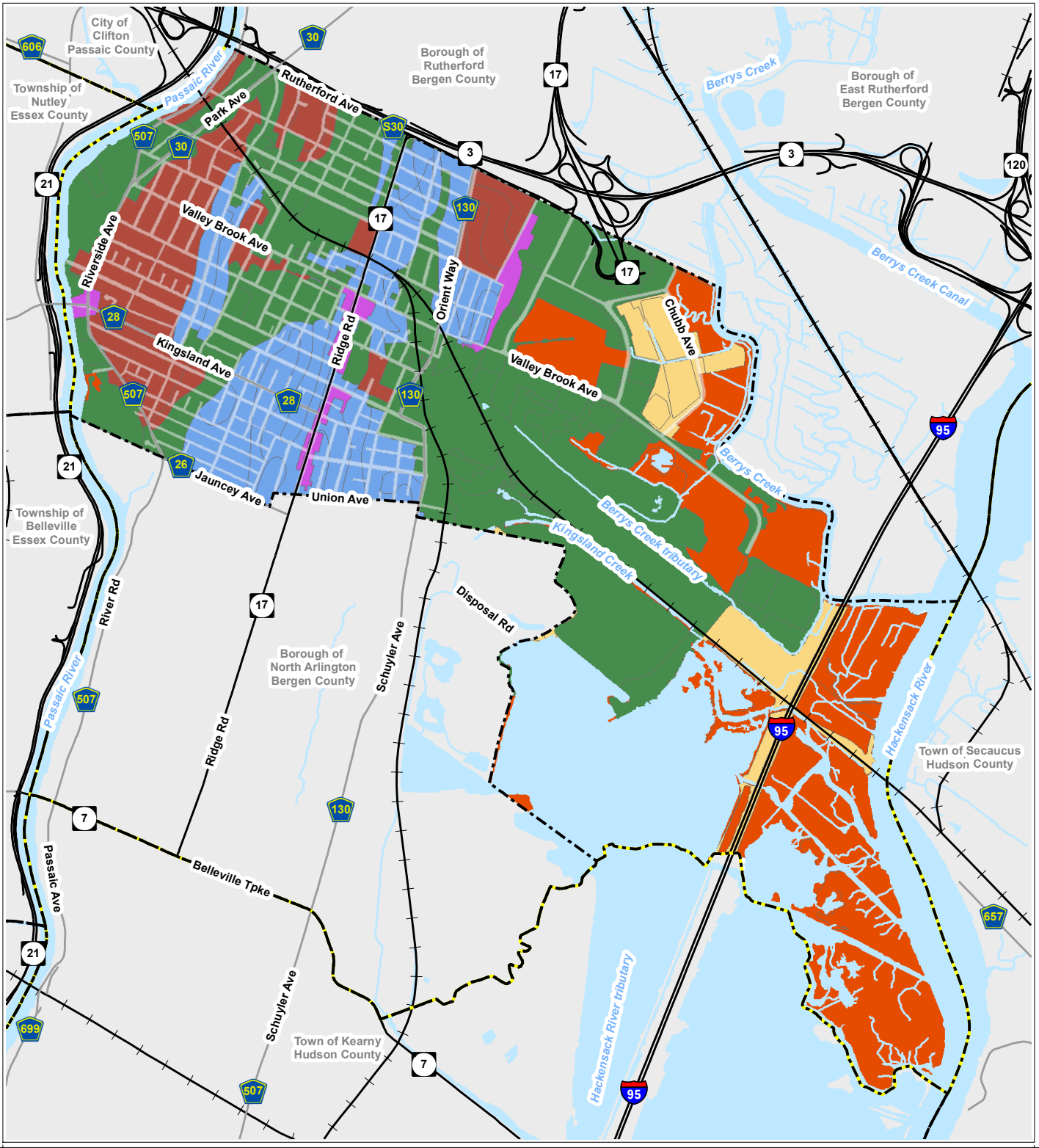
Figure C-3
Township Boundary on USGS Quadrangles
Stormwater Management Plan
Township of Lyndhurst
Bergen County, NJ

Legend

Municipal Boundary

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Drawn By: A.B.B.	Checked By:	Project No: LYNDMUN24.016	Sheet No: Figure C-3	Map References: New Jersey Office of GIS, NJDEP 2023 USGS Quadrangle Maps - Orange, NJ & Weehawken, NJ
Designed By: M.T.	Page:			
Field Book No:	Date: June 2024			



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0 1,250 2,500 5,000 Feet

Figure C-4
Groundwater Recharge Areas in the Township Stormwater Management Plan Township of Lyndhurst Bergen County, NJ

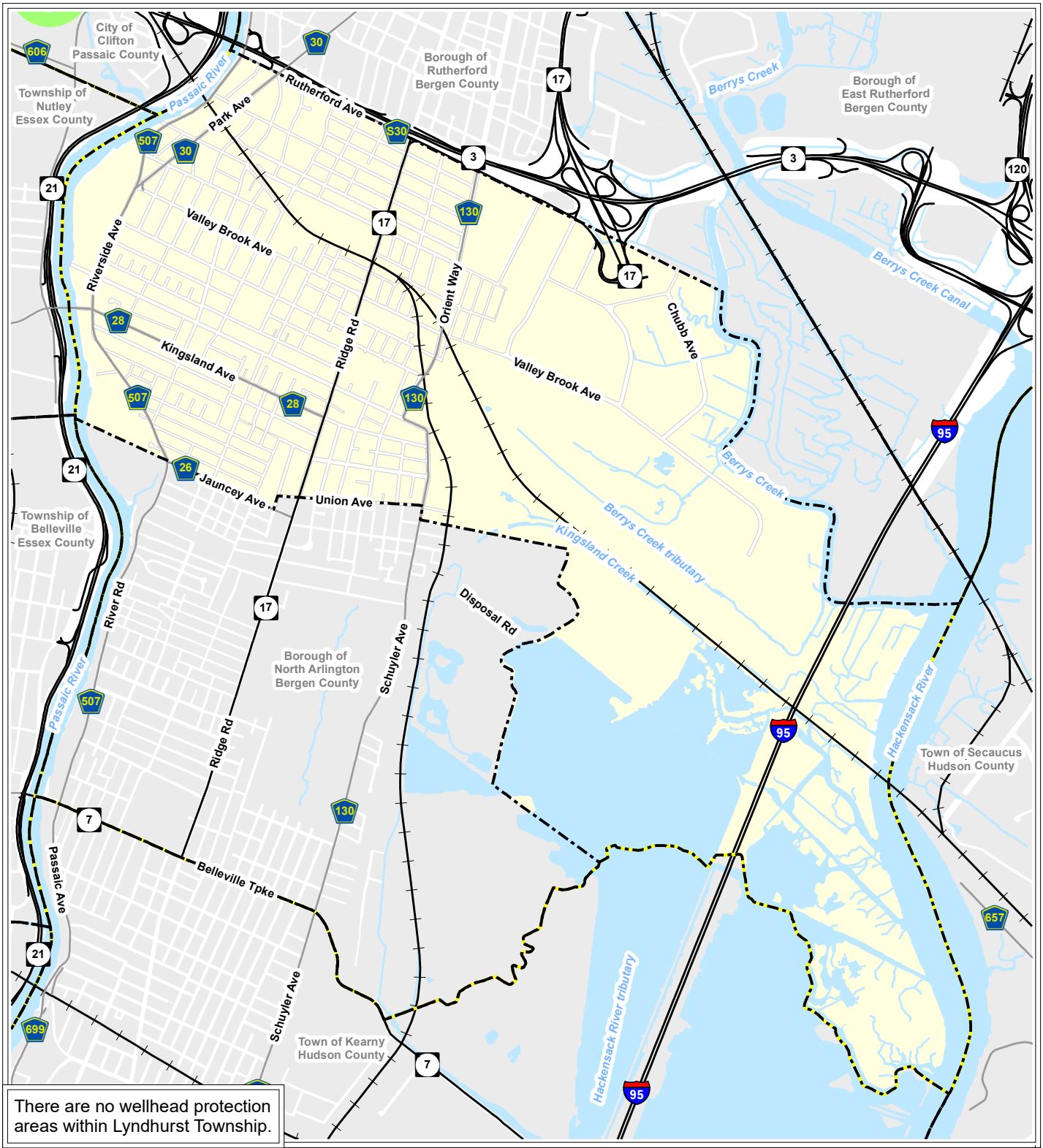
Legend

Township of Lyndhurst Groundwater Recharge

- 0 in/yr
- 1 to 7 in/yr
- 11 to 15 in/yr
- 8 to 10 in/yr
- Hydric Soil-No Recharge Calulated
- Wetlands, Open Water-No Recharge Calculated

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Drawn By: A.B.B.	Checked By:	Project No:	Sheet No:	Map References:
Designed By: M.T.	Page:	LYNDMUN24.016	Figure C-4	New Jersey Office of GIS, NJDEP Groundwater Recharge Areas in NJ
Field Book No:	Date: June 2024			



There are no wellhead protection areas within Lyndhurst Township.

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0 1,250 2,500 5,000 Feet

Figure C-5
Wellhead Protection Areas in the Township
Stormwater Management Plan
Township of Lyndhurst
Bergen County, NJ

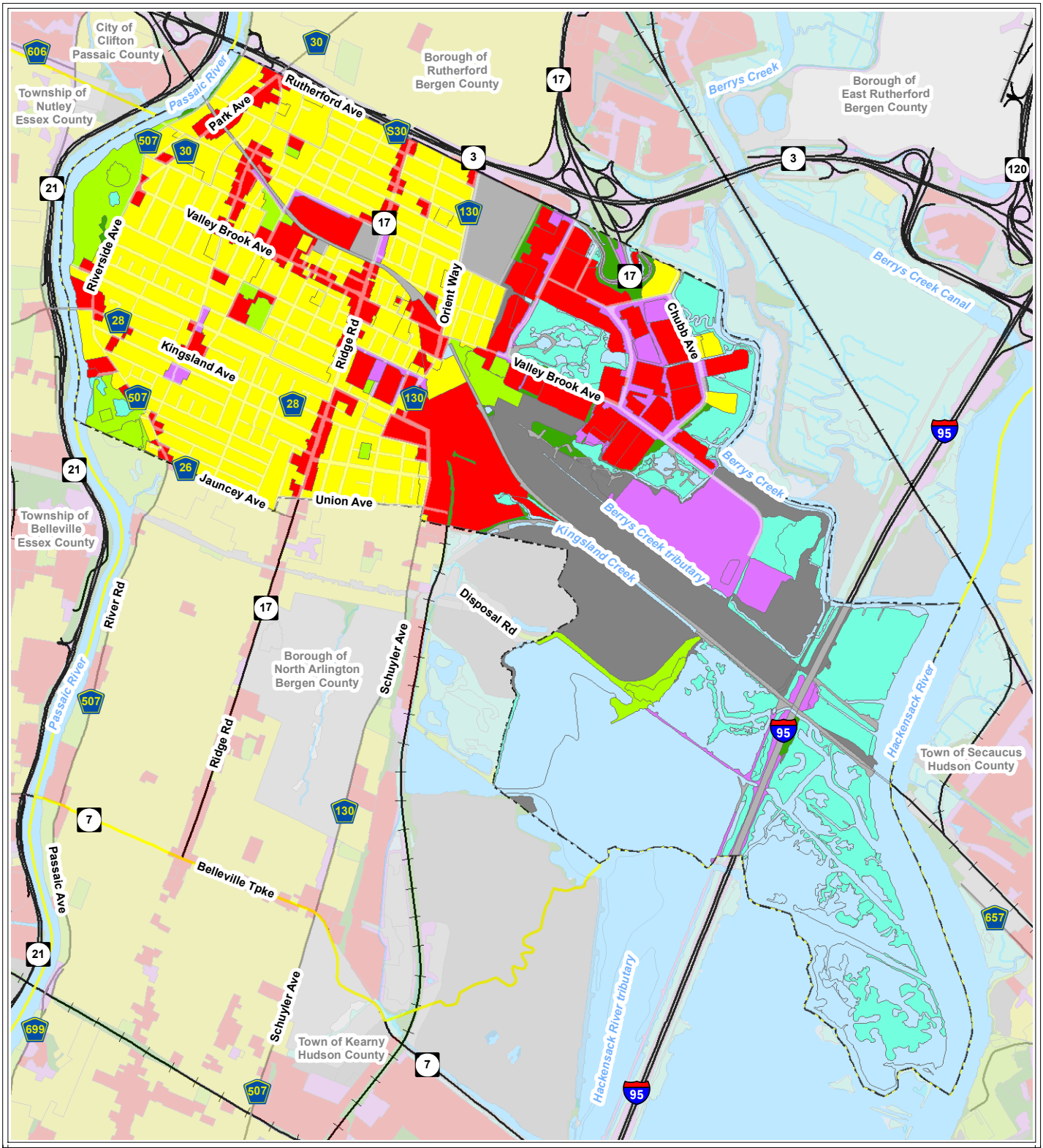
Well Head Protection Areas for Public Non Community Water Supply Wells

Water Travel Time to Well

Tier 3: 12-Year

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Designed By: M.T.	Page:	LYNDMUN24.016	Figure C-5	New Jersey Office of GIS, NJDEP
Field Book No:	Date: June 2024			



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0 1,250 2,500 5,000 Feet

Figure C-6
Township's Existing Land Use
Stormwater Management Plan
Township of Lyndhurst
Bergen County, NJ

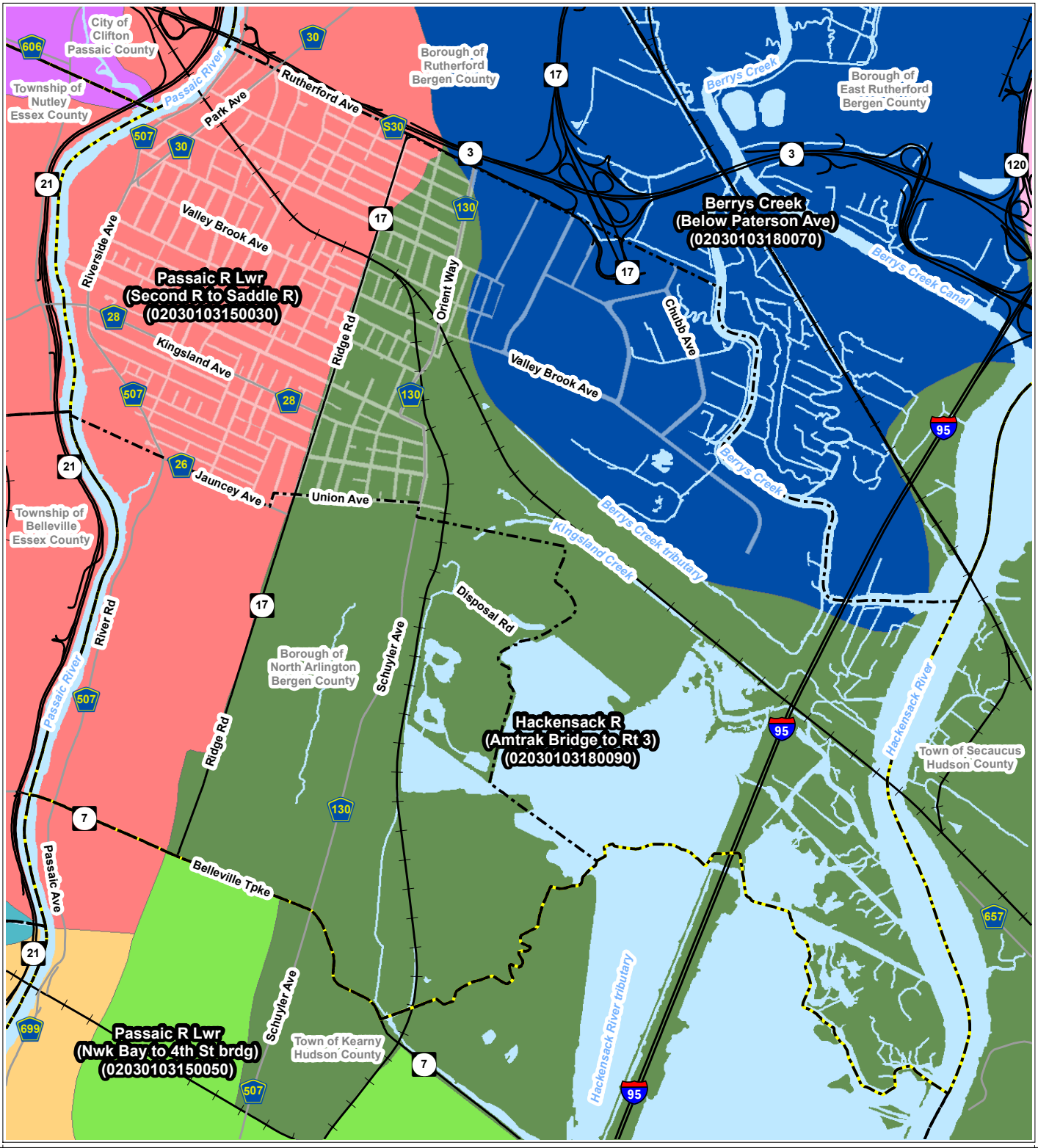
Legend

Generalized Land Types

- Forest
- Residential
- Wetlands
- Cemetery / Transportation / Utilities
- Urban Land
- Commercial / Industrial
- Recreational Land
- Water
- Barren Land

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Drawn By: A.B.B.	Checked By:	Project No:	Sheet No:	Map References:
Designed By: M.T.	Page:	LYNDMUN24.016	Figure C-6	New Jersey Office of GIS, NJDEP Anderson Classification LULC 2020
Field Book No:	Date: June 2024			



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0 1,250 2,500 5,000 Feet

Figure C-7
Hydrologic Units (HUC14s) Within the Township Stormwater Management Plan Township of Lyndhurst Bergen County, NJ

Legend

- Berrys Creek (below Paterson Ave)
- Hackensack R (Amtrak bridge to Rt 3)
- Hackensack R (Rt 3 to Bellmans Ck)
- Passaic R Lwr (4th St br to Second R)
- Passaic R Lwr (Nwk Bay to 4th St brdg)
- Passaic R Lwr (Second R to Saddle R)
- Second River
- Third River

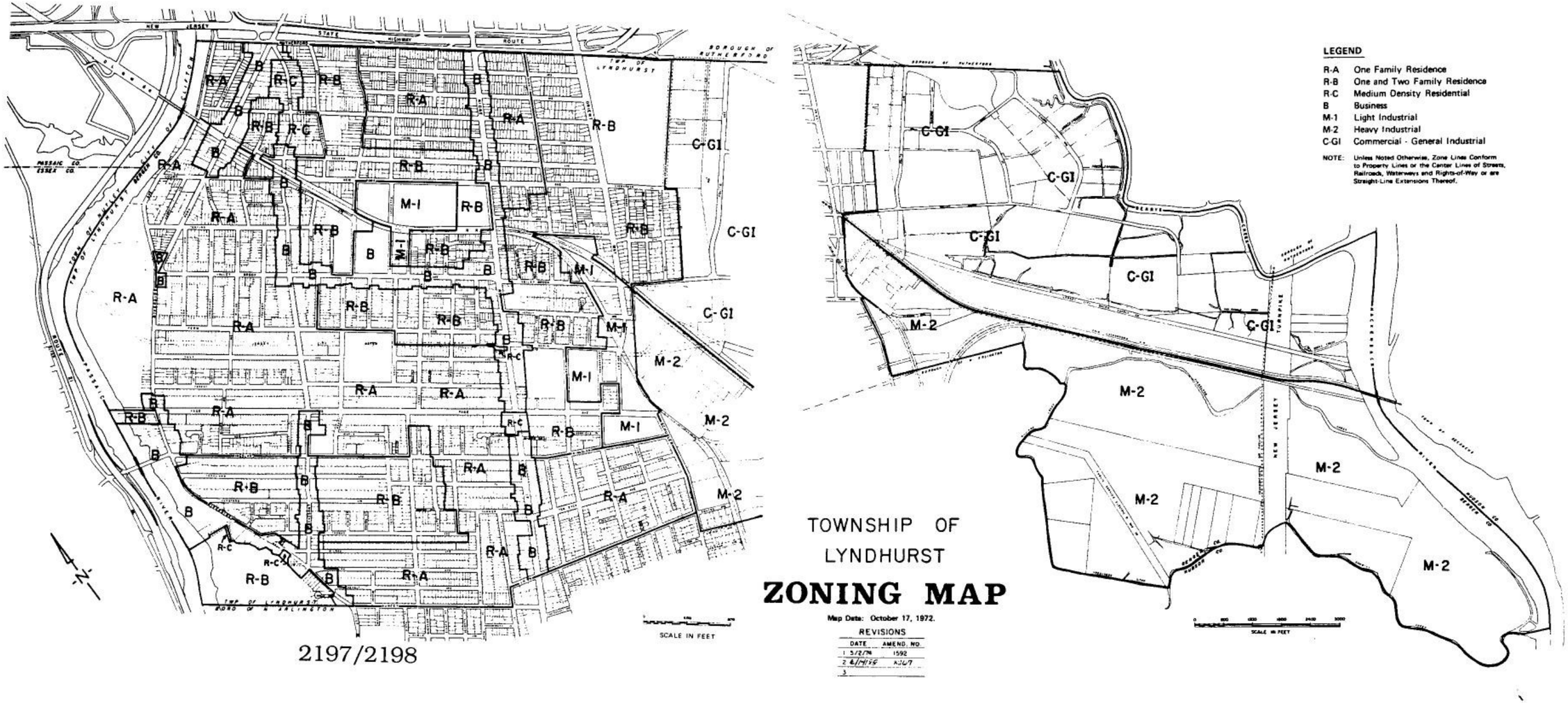
NEGLIA

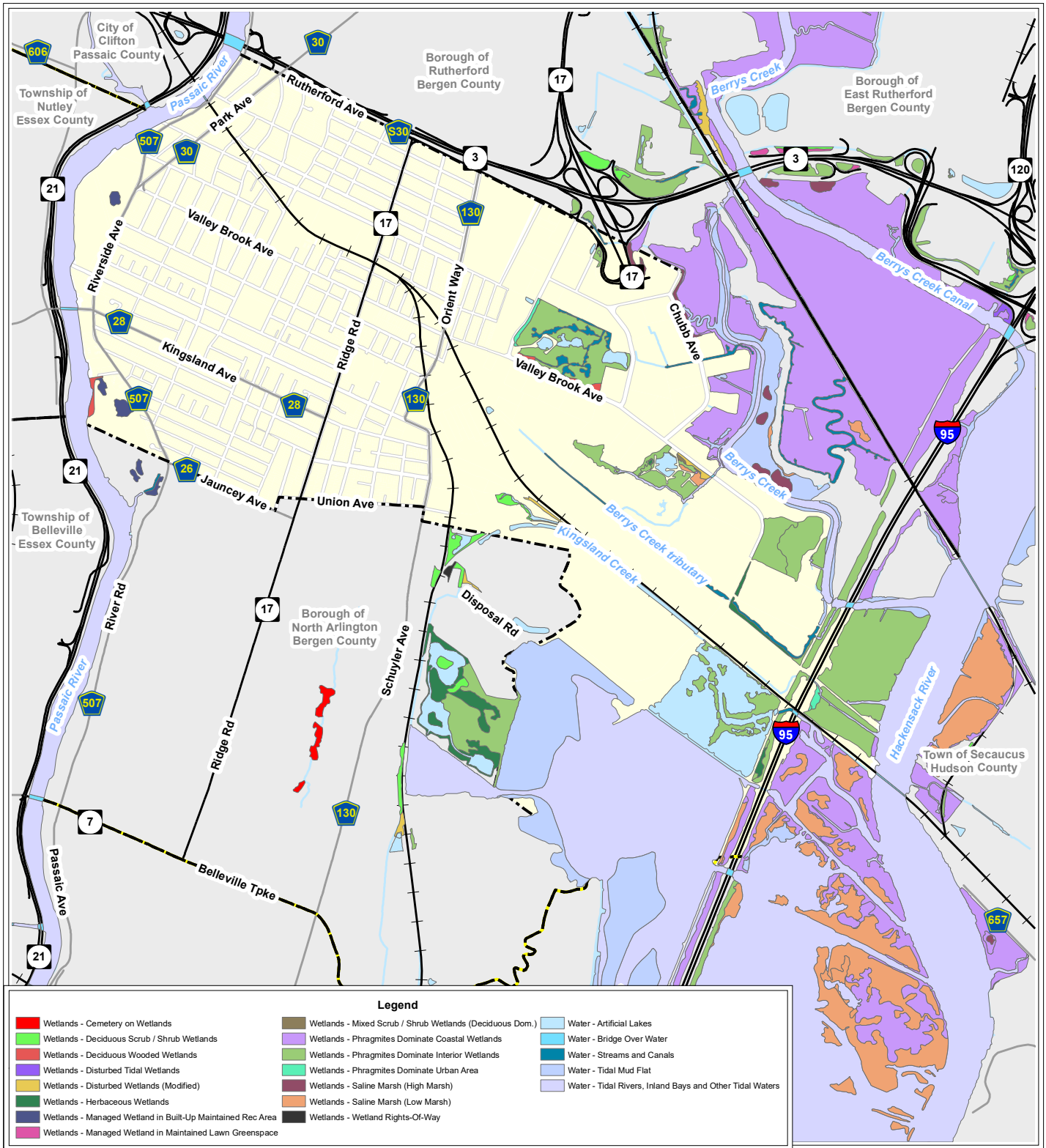
Drawn By: A.B.B.	Checked By:	Project No: LYNDMUN24.016	Sheet No: Figure C-7	Map References: New Jersey Office of GIS, NJDEP Hydrologic Unit Code 2014
Designed By: M.T.	Page:			
Field Book No:	Date: June 2024			

Figure C-8

ZONING

21 Attachment 2





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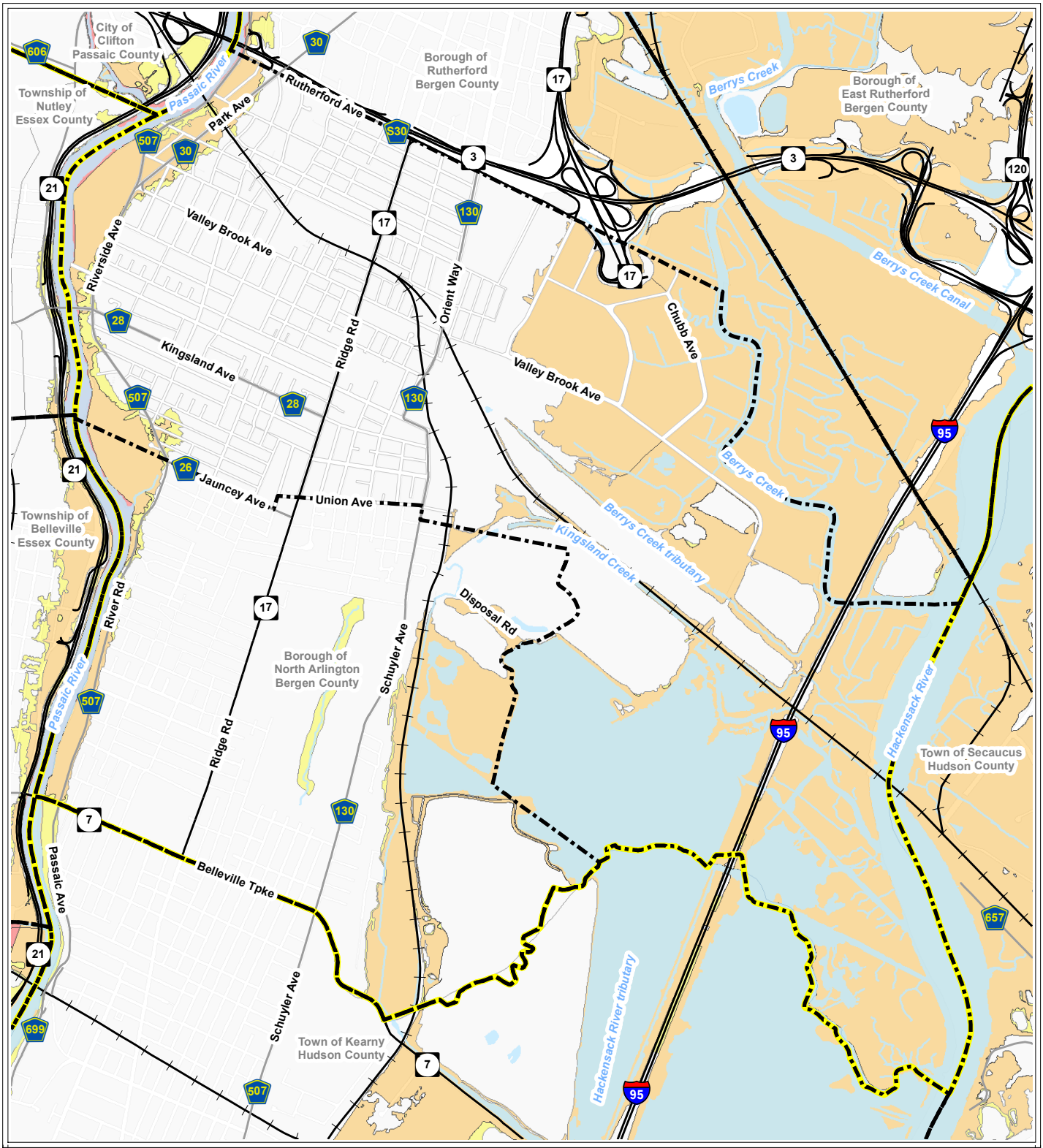
CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) 24GA27927000

0 1,250 2,500 5,000 Feet

Figure C-9
Wetlands and Water Land Use within the Township - Constrained Land
Stormwater Management Plan
Township of Lyndhurst
Bergen County, NJ

NEGLIA

Drawn By: A.B.B.	Checked By:	Project No:	Sheet No:	Map References:
Designed By: M.T.	Page:	LYNDMUN24.016	Figure C-9	New Jersey Office of GIS, NJDEP Anderson Classification Wetlands LULC 2020
Field Book No:	Date: June 2024			



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0 1,250 2,500 5,000 Feet

Figure C-10
FEMA Flood Hazard Areas
Stormwater Management Plan
Township of Lyndhurst
Bergen County, NJ

Legend

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

NEGLIA

Drawn By: A.B.B.	Checked By:	Project No:	Sheet No:	Map References:
Designed By: M.T.	Page:	LYNDMUN24.016	Figure C-10	New Jersey Office of GIS, NJDEP, FEMA NFHL Bergen County 08/2019, Essex County 09/2020, Hudson County 08/2006, Passaic County 04/2020
Field Book No:	Date: July 2024			