

Pohatcong Township Wastewater Management Plan

Prepared by the State of New Jersey Highlands Water Protection and Planning Council in support of Pohatcong Township's approved Petition for Plan Conformance and the Water Quality Management Planning Rules, N.J.A.C. 7:15

February 2016

POHATCONG TOWNSHIP WASTEWATER MANAGEMENT PLAN

Introduction and Methods

Of the 88 municipalities in the Highlands Region, 77 have submitted to the Highlands Water Protection and Planning Council (Highlands Council) a Notice of Intent to conform to the Highlands Regional Master Plan (RMP, effective date September 8, 2008) regarding the Preservation Area, Planning Area or (where applicable) both within their municipalities. The New Jersey Department of Environmental Protection (NJDEP) is responsible for ensuring that all areas of New Jersey are addressed by Wastewater Management Plans (WMPs) that comply with the provisions of the Water Quality Management Planning Rules at N.J.A.C. 7:15-5. Within the Highlands Region, this process will be achieved through a coordinated process with the Highlands Council as provided in N.J.A.C. 7:15-3.10 and N.J.A.C. 7:38-1.1. One of the conditions for each municipality that fully conforms to the RMP (“Plan Conformance” for the entire municipality) is the development of a municipal WMP in conformance with the RMP and N.J.A.C. 7:15. The purpose of the WMP is to ensure that future sewer service areas and septic areas for planning flows of 2,000 gallons per day (gpd) or less (individual subsurface sewage disposal systems- ISSDS) are consistent with the Land Use Capability Zone Map designations and policies of the Highlands RMP. The WMP is therefore a direct result of the Plan Conformance process, intended to be adopted as a stand-alone document. Municipalities that do not pursue Plan Conformance for the Planning Area will address their wastewater planning responsibilities in cooperation with their counties or directly with NJDEP, which in turn will request a consistency determination from the Highlands Council.

On August 3, 2011, the Highlands Council adopted Resolution #2011-23 which approved Pohatcong Township’s Petition for Plan Conformance, subject to conditions as set forth in the Final Consistency Review and Recommendation Report for Pohatcong Township. Plan Conformance applies to the entirety of Pohatcong Township – both the Highlands Planning and Preservation Areas. A condition of the approved Petition for Plan Conformance, as detailed in the Final Consistency Review and Recommendation Report, is the requirement that Pohatcong adopt a WMP working with the Highlands Council under Plan Conformance. As such, this Pohatcong Township WMP is developed under Plan Conformance for the entire Township (see Figures Pohatcong-1 through Pohatcong-3). The Highlands Council worked cooperatively with Pohatcong Township throughout the Plan Conformance process to conduct an extensive analysis of the complete land area of the municipality, using a geodatabase that documents for each parcel the status of development, water supply and wastewater utility service, build-out potential, etc. Using the Highlands Municipal Build-Out Report and the Final Consistency Review and Recommendation Report for Pohatcong Township, the Highlands Council has identified and mapped the following areas:

- 1. Existing Areas Served** – As defined by the RMP, these are developed lands for which sewer service exists and is connected and operational. Sewer service is defined as the service area for any NJPDES-permitted domestic treatment works, including but not limited to Highlands Domestic Sewerage Facilities as defined by the RMP. Specifically, Existing Area Served “means areas connected to ... an existing public wastewater collection system ... where such infrastructure is already constructed. It does not include areas of designated sewer service areas ... where collection, transmission, or distribution systems do not currently exist.” These areas are generally but not exclusively located within an Existing Community Zone or Highlands Center as defined by the RMP, and may be within the Preservation Area or the Planning Area.

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2. **Existing Sewer Service Area** – These areas include, in any RMP Land Use Capability Zone, as applicable for the municipality:
- The Existing Areas Served including all NJPDES-permitted wastewater treatment facilities, including domestic or industrial, and whether discharging to surface or ground water, including T1 sites (NJPDES general permit for sanitary wastewater discharges to ground water), and
 - Any other lands previously approved by the NJDEP as sewer service areas for which a currently valid municipal development approval and valid NJDEP Treatment Works Approval (TWA) have been received and are currently in effect, where such information was documented by the municipality or the NJDEP and provided to the Highlands Council, including through the geodatabase for the Highlands Municipal Build-Out Report.

NOTE: For any Existing Area Served parcel that is greater than 1 acre in total size and located in the Conservation Zone, Protection Zone or Existing Community Zone Environmentally-Constrained Sub-Zone, the map shows as Existing Sewer Service Area (SSA) only the developed portion of the parcel. Undeveloped portions of such parcels are not shown as Existing SSA. Within the Existing Community Zone and Lake Community Sub-Zone only, the undeveloped portions of such Existing Area Served parcels are included as Existing SSA regardless of size. For any Existing Area Served parcel that is less than or equal to 1 acre in total size, the map shows the entire parcel as Existing SSA regardless of development status and Land Use Capability Zone. Such parcels are considered fully developed.

3. **General Service Area for Wastewater Facilities with Planning Flows Equal to or Less Than 2,000 gpd which Discharge to Groundwater-** (Included in Figure Pohatcong-1 are areas served by septic systems (ISSDS) and other wastewater systems with planning flows equal to or less than 2,000 gpd. This designation incorporates septic areas that were included in WMPs adopted under previous versions of N.J.A.C. 7:15.

4. **Future Sewer Service Area**

- Planning Area: These areas include all lands in the Existing SSA, plus all lands in the Highlands Planning Area identified by the RMP as being within the Existing Community Zone (excluding the Environmentally-Constrained Sub-Zone but including the Lake Community Sub-Zone) and also located within areas identified by the municipality for sewer service and approved by the Highlands Council as part of the municipality's Petition for Plan Conformance. Under this WMP, permits will not be granted by NJDEP for extension of sewer service into any other lands of the Planning Area unless:
 - The extension is consistent with municipal plans and ordinances approved by the Highlands Council pursuant to the municipal Petition for Plan Conformance; or
 - A Consistency Determination has been approved by the Highlands Council, pursuant to N.J.A.C. 7:38-1.1(k) and 7:15-3.10(a) and (b),
 - An amendment or revision to this WMP has been approved by NJDEP pursuant to N.J.A.C. 7:15.
- Planning Area – Pohatcong Township Highlands Center Designation – The approved Petition for Plan Conformance for Pohatcong Township was accompanied by designation of a Highlands Center, the Pohatcong Township Highlands Center. This Highlands Center is located within developed and partially developed areas north and east of the Borough of Alpha, including an industrial zone east of Alpha. Therefore, the Pohatcong Township Highlands Center is part of the Future SSA, to the extent depicted in this WMP in Figure Pohatcong HC-1. The Highlands Center is described in more detail below.
- Planning Area – Hamptons at Pohatcong Map Adjustment Block 93 Lots 4 and 5: The approved Petition for Plan Conformance for Pohatcong Township was accompanied by

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- approval of a Map Adjustment for Block 93 Lots 4 and 5, the site designated for a locally-approved inclusionary housing development. The Map Adjustment provides for a Future Sewer Service Area affecting portions of Lot 5, with the remainder of Lot 5 and all of Lot 4 subject to conservation restrictions. Therefore, the Map Adjustment area is part of the Future SSA, to the extent depicted in this WMP Chapter in Figure Pohatcong MA-1.
- d. Planning Area – Spring Street Subdivision, Block 39 Lot 46: A TWA permit for 0.0012 MGD has been issued to serve four (4) proposed single family dwelling units.
 - e. Planning Area – Block 39.01 Lots 43, 43.01 & 47: These properties are currently identified for transfer of ownership and will require modification to the method of sewage disposal and connection to the sanitary sewer system. They are adjacent to the existing sewer service area, within the Existing Community Zone and are presently served by cesspools which are no longer permitted pursuant to N.J.A.C.7:9A.
 - f. Planning Area- Block 7 Lot 5, Block 9 Lot 3, Block 14 Lot 4, Block 90 Lot 1.01, Block 90 Lots 2 and 3, and Block 75 Lot 3: These parcels have approved allocations pursuant to the Township’s Sewer Ordinance Chapter 220-22 for a total wastewater flow of 2,974 gpd (see Table 12)
 - g. Preservation Area: The Highlands Act limits future sewer service in the Highlands Preservation Area to those developments for which an exemption from the Highlands Act has been determined and remains valid, or where a Highlands Preservation Area Approval (HPAA) with waiver has been granted by the NJDEP. For all other areas of the Preservation Area, Future SSAs were rescinded by the Highlands Act (Section 42, N.J.S.A. 58:11A-7.1).
- 5. Septic System Area (Planning Flows of 2,000 gallons per day (gpd) or Less) –** This category applies to all lands not included within the above categories, for which the density of new septic system development will be consistent with applicable septic density/nitrate dilution allowances. At a minimum, areas identified by the Highlands RMP as Protection Zone, Conservation Zone and Existing Community Zone-Environmentally Constrained Sub-Zone, which are outside of the Existing or Future SSA, are designated as “Septic Area (Planning Flows of 2,000 gpd or Less).” Portions of the Existing Community Zone that are not sewered and are not intended to receive sewer service may be designated in the same manner.
- a. Permits or approvals for projects in this area with cumulative wastewater flows of 2,000 gpd or less shall not be permitted by NJDEP unless:
 - i. The project is approved under septic system density provisions consistent with the RMP, as required by the Highlands Checklist Ordinance No. 15-12 adopted by Pohatcong Township pursuant to Highlands Council approval of its Petition for Plan Conformance. (NOTE: Approval pursuant to these provisions of the Highlands Checklist Ordinance is deemed in conformance with the septic system density requirements of N.J.A.C. 7:15); or
 - ii. Within the Preservation Area, the development activity is exempt from the Highlands Act or receives a Highlands Preservation Area Approval from NJDEP. Within the Planning Area, the development activity is exempt from the Highlands Act. Such development shall be in conformance with N.J.A.C. 7:15 regarding septic system densities.
 - b. Permits or approvals for projects in this area with cumulative wastewater flows in excess of 2,000 gpd shall not be permitted by NJDEP unless:
 - i. The project is approved under septic system density provisions consistent with the RMP, as required by the Highlands Checklist Ordinance adopted by Pohatcong Township pursuant to Highlands Council approval of its Petition for Plan Conformance. (NOTE: Approval pursuant to these provisions of the Highlands Checklist Ordinance is deemed in conformance with the septic system density requirements of N.J.A.C. 7:15);

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- ii. The Highlands Council has determined that the discharge is consistent with the RMP and the discharge is approved by NJDEP as a revision or amendment to this Wastewater Management Plan;
 - iii. Within the Planning Area, the development activity is exempt from the Highlands Act and the discharge is approved by NJDEP as a revision or amendment to this WMP; or
 - iv. Within the Preservation Area, the development activity is exempt from the Highlands Act or receives a Highlands Preservation Area Approval from NJDEP and the discharge is approved by NJDEP as a revision or amendment to this WMP. Such development shall be in conformance with N.J.A.C. 7:15 regarding septic system densities.
6. **RMP Consistency Determinations:** Any proposed modification to this Wastewater Management Plan will not be approved without a Determination of Consistency from the Highlands Council as required by N.J.A.C. 7:38-1.1(k) and 7:15-3.10(a).

Mapping Requirements Pursuant to N.J.A.C. 7:15-5

The relevant mapping requirements of the Water Quality Management Planning Rules at N.J.A.C. 7:15-5 are met through the following mapping for Pohatcong Township, as developed specifically for the Wastewater Management Plan or as incorporated by reference from the Highlands Plan Conformance documents approved by the Highlands Council. Maps of existing and future domestic treatment works and service areas are used by the NJDEP for WQMP consistency reviews regarding proposed Treatment Works Approvals and NJPDES permits. They have been developed specifically for this WMP and are incorporated herein. Maps of environmental and administrative features are used by NJDEP as basis and background information for the identification of future sewer service areas. However, in the case of Pohatcong Township, the Pohatcong Township WMP is based upon approval of Plan Conformance by the Highlands Council, which includes requirements that are as or more stringent than those of N.J.A.C. 7:15. Therefore, the relevant maps are incorporated by reference to the Highlands Council approval of Plan Conformance. These features are included in maps associated with the Highlands Municipal Build-Out Report, Highlands Environmental Resource Inventory (ERI), Highlands Element and Highlands Checklist Ordinance (as specified below) for Pohatcong Township, approved for Plan Conformance by the Highlands Council¹. The Highlands Council has provided GIS spatial data to NJDEP, Warren County and the municipality.

- **Jurisdictional Boundaries** – The affected WMP Area and Areawide Water Quality Management Plan are both Warren County, and are not shown on the municipal maps. Pohatcong Township is entirely within the Highlands Region, with the Planning and Preservation Areas and major roads shown in the WMP Figures Pohatcong-1, -2 and -3.
- **Existing domestic treatment works and service areas** – See Figure Pohatcong-1
- **Existing industrial treatment works and service areas** – See Figure Pohatcong-1
- **Future domestic treatment works and service areas** – See Figure Pohatcong-2
- **Future industrial treatment works and service areas** – See Figure Pohatcong-2
- **Freshwater wetlands** – Pohatcong Township Highlands ERI
- **Flood prone areas**, including flood hazard areas – Pohatcong Township Highlands ERI
- **Public open space and recreational areas** – Pohatcong Township Highlands ERI
- **Preserved agricultural lands** – Pohatcong Township Highlands ERI
- **Wild and Scenic River areas** (designated under the New Jersey Wild and Scenic Rivers Act or the Federal Wild and Scenic Rivers Act) – Not Applicable

¹ www.highlands.state.nj.us/njhighlands/planconformance/pohatcong.html

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- **Category One Water, trout production waters, and trout maintenance waters** – Pohatcong Township Highlands ERI (NOTE: Under the Regional Master Plan, all Highlands Open Waters in both the Preservation and Planning Areas are associated with 300-foot buffers.)
- **Surface waters and HUC14 boundaries** – Pohatcong Township Highlands ERI
- **Suitable habitat for endangered and threatened wildlife species** – Pohatcong Township Highlands ERI
- **Natural Heritage Priority Sites** – Pohatcong Township Highlands ERI
- **Riparian Zones** – Pohatcong Township Highlands ERI (NOTE: this map uses the Highlands Council definition, which is more expansive than the NJDEP definition.)
- **Steep slopes** – Pohatcong Township Highlands ERI (NOTE: this map uses the Highlands Council definition and LiDAR data.)
- **Current composite or municipal zoning** – Highlands Checklist Ordinance Exhibit 1, “Highlands Zones and Sub-Zones.” (Highlands Council approval of Plan Conformance and municipal adoption of the Highlands Checklist Ordinance address this requirement.)
- **Municipal parcel mapping and roads** – WMP Figures Pohatcong-1, -2 and -3; also shown in Highlands Checklist Ordinance Exhibits
- **Undeveloped and underdeveloped property** – Highlands Municipal Build-Out Report
- **Public water supply service area** – See Figure Pohatcong-3

Special Provisions Regarding Future Sewer Service Areas

The following are required statements of constraints, jurisdiction and caveats regarding the map of Future Sewer Service Areas (Figure Pohatcong-2) used in the Pohatcong Township WMP:

1. **Highlands Restrictions (from Highlands RMP):** New, expanded, or extended public wastewater collection and treatment systems and community on-site treatment facilities within the Protection Zone, the Conservation Zone and the Environmentally-constrained Sub-Zones of the Planning Area are prohibited unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding purposes 1, 2 and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas (ARAs), steep slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding purpose 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes, and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural Lands of ARAs, and Prime Ground Water Recharge Areas. The choice of extension or creation of systems shall follow the requirements in Objective 2K3d (2 and 3). The applicable purposes are:
 - 1) To address through a waiver under Policy 7G1 or 7 G2 a documented existing or imminent threat to public health and safety from a pattern of failing septic systems (where the failing systems cannot reasonably be addressed through rehabilitation or replacement) or highly concentrated septic systems, where the threat is of sufficient scale to justify a public wastewater collection and treatment system or community on-site treatment facility and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety, such needs shall have highest priority for allocation of existing system capacity;
 - 2) To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or
 - 3) To serve a cluster development that meets all requirements of Objective 2K3d.
2. **Highlands Open Water Buffers/Riparian Zones:** Pursuant to the Highlands Regional Master Plan, Highlands Open Water buffers extend 300 feet from top of bank (or centerline of a first order stream where no bank is apparent). This requirement applies to all Highlands Open Waters within the Highlands Region, regardless of stream classification in the Surface Water Quality Standards at

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N.J.A.C. 7:9B. The Highlands Open Water buffers have not been graphically removed from the sewer service area but are not proposed for sewer service. Such buffers will be regulated through the Highlands Checklist Ordinance adopted by the Township, applicable to both the Planning and Preservation Areas. The Highlands Checklist Ordinance is equivalent with or more stringent than the Department's riparian zone standard, the Flood Hazard Control Act Rules (N.J.A.C. 7:13) and Water Quality Management Rules (N.J.A.C. 7:15).

3. **NJDEP Riparian Zones:** For any proposed development that is not subject to the Highlands Checklist Ordinance or Highlands Regional Master Plan (i.e., exempt from the Highlands Act), pursuant to N.J.A.C. 7:15, riparian zones are:
 - a. 300 feet from top of bank (or centerline of a first order stream where no bank is apparent) for waters designated as Category One (C1) and all upstream tributaries within the same HUC 14 subwatershed;
 - b. 150 feet for waters designated Trout Production and all upstream waters;
 - c. 150 feet for water designated Trout Maintenance and all upstream waters within one linear mile as measured along the length of the regulated water;
 - d. 150 feet for any segments of water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the surface water body for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the surface water body;
 - e. 150 feet for waters that run through acid-producing soils; and
 - f. 50 feet for all waters not designated as C1, trout waters, critically water dependent Threatened and/or Endangered Species Habitat, or associated with acid soils.

Surface waters that are designated C1 are listed in the Surface Water Quality Standards at N.J.A.C. 7:9B. The Department's "Surface Water Quality Standards" GIS data layer was utilized to determine these waters. Jurisdictional determinations by the Department will be utilized to determine the extent of the sewer service area on individual lots. The riparian zones have not been graphically removed from the sewer service area but are not proposed for sewer service.

4. **Industrial Pretreatment Facilities:** All existing, new, or expanded industrial pretreatment facilities requiring Significant Indirect User (SIU) permits and/or Treatment Works Approvals, and which are located within the specified sewer service area, are deemed to be consistent.
5. **Applicability of Grant Conditions:** Pre-existing grant conditions and requirements (from Federal and State grants or loans for sewerage facilities) that provide for restriction of sewer service to environmentally sensitive areas are unaffected by adoption of this WMP and compliance is required.
6. **Limitations on Individual Subsurface Sewage Disposal Systems:** Individual subsurface sewage disposal systems (ISSDS) for individual residences may be constructed in depicted sewer service areas (Figure Pohatcong-2) only if legally enforceable guarantees are provided, before such construction, that use of such systems will be discontinued when the depicted sewer service becomes available. This applies to ISSDS that require certification from the Department under the Realty Improvement Sewerage and Facilities Act (N.J.S.A. 58:11-23) or Individual Treatment Works Approval or New Jersey Pollutant Discharge Elimination System Permits (under N.J.A.C. 7:14A). It also applies to ISSDS which require only local approvals. However, this provision does not apply in the Preservation Area for properties not specifically denoted as Future Sewer Service Area in Figure Pohatcong-2. Additional properties may be included in Figure Pohatcong-2 through NJDEP approval of revision(s) to this Wastewater Management Plan, where determined to be exempt from the Highlands Act or consistent with (through a Highlands Council Consistency Determination) the Regional Master Plan. Specifically, revisions may be approved to address public health and safety issues related to failure of ISSDS on properties upon which repair or replacement with compliant

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systems is not practicable. Further, in both the Preservation Area and the Planning Area, connection of additional properties or expansion of flows from existing connections is subject to municipal approval regarding availability of utility capacity, regarding both remaining available utility capacity (i.e., wastewater flows) and infrastructure capacity (e.g., pump stations, mains). Compliance with the connection requirement has been demonstrated through adoption of Pohatcong Township Ordinance No. 15-10.

7. **Environmental Features:** Development in areas mapped as wetlands, flood prone areas, suitable habitat for endangered and threatened species as identified on the NJDEP's Landscape Project Maps of Habitat for Endangered, Threatened and Other Priority Wildlife as Rank 3, 4 and 5 (Version 3.0 or more recent), Natural Heritage Priority Sites, riparian zones as defined above, steep slopes (including steep slopes as defined and mapped in the Highlands Checklist Ordinance of Pohatcong Township), or designated river areas may be subject to special regulation under Federal or State statutes or rules, and interested persons should check with the NJDEP for the latest information. Depiction of environmental features shall be for general information purposes only, and shall not be construed to define the legal geographic jurisdiction of such statutes or rules.
8. **Future Treatment Works:** Locations of future pump stations, major interceptors, and trunk sewers are being provided for general information only and will not serve as the basis for any future WQMP Consistency Determinations or permit reviews unless the pump station, major interceptor or trunk sewer is part of a State or federally funded project.
9. **Water Quality Standards:** Areas located within the watershed of a Freshwater One (FW1) stream, as classified in the Surface Water Quality Standards, and/or that have Class 1-A ground water (Ground Water of Special Ecological Significance), as classified in the Ground Water Quality Standards, are identified as "Non-degradation water area based on the Surface Water Quality Standards at N.J.A.C. 7:9C, or the Ground Water Quality Standards at N.J.A.C. 7:9-6." Non-degradation water areas shall be maintained in their natural state (set aside for posterity) and are subject to restrictions including, but not limited to, the following:
 - a. The Department will not approve any pollutant discharge to ground water nor approve any human activity which results in a degradation of natural quality except for the upgrade or continued operation of existing facilities serving existing development.
 - b. For additional information please see the Surface Water Quality Standards at N.J.A.C. 7:9B, and/or the Ground Water Quality Standards at N.J.A.C. 7:9C.

Municipal Build-Out Results

Pohatcong Township is located within both the Preservation Area and Planning Area. The Highlands municipal build-out analysis for Pohatcong Township is based upon a combination of the Highlands Municipal Build-Out Report², prior approvals, and the Highlands Council approval of the Pohatcong Township Highlands Center and Map Adjustment. The Highlands Council estimated the following new development results for potential developable lands for the entire municipality, as summarized in **Table 1** below. The results for the Pohatcong Township Highlands Center are specific to the proposed Center. The remaining Planning Area of Pohatcong Township is partially within the Future SSA and therefore additional flows are ascribed to that area. As specified in the Highlands Municipal Build-Out Report, the results of the municipal build-out analysis are designed to be utilized at a municipal scale and are not appropriate for determining if a particular parcel or development project is consistent with the RMP (for example, the report includes certain results regarding residential or non-residential development that may be altered through a specific development review). Affected public water supply and wastewater facilities are discussed below. As noted in the Pohatcong Highlands Municipal Build-Out Report, the municipal results are a result of current conditions and application of RMP requirements. The Report and the analysis below provide a critical planning tool but cannot be used as a definitive prediction of the future or as a basis for parcel-based development potential.

1. **Development in Sewer Service Areas:** All new development proposed to be served by public wastewater systems is within the Planning Area portion of Pohatcong Township, as summarized in **Table 1**. No new wastewater demand for domestic treatment works is projected in the Preservation Area.
 - a. Total Projected Development – Build-Out Report: The Build-Out Report projected development of 6 residential dwelling units and zero (0) square feet of non-residential construction, resulting in a wastewater demand of 1,500 gallons per day (gpd), or 0.0015 million gallons per day (MGD). The Report estimated public water supply demands of 1,500 gpd, or 0.0015 MGD. The 6 residential units include the Spring Street Subdivision. These demands are further augmented by the demands for the Highlands Center, Map Adjustment area, and approved allocations of 2,974 gpd.
 - b. Map Adjustment (Hamptons at Pohatcong): The Map Adjustment addresses the proposed clustered development on 45-acres (of approximately 170 acres) on Block 93, Lots 4 & 5. The proposed development includes 122 single-family dwellings, 76 townhomes, and two apartment buildings containing a total of 44 low- and moderate-income affordable units. The Map Adjustment estimates a wastewater demand of 69,750 gpd or 0.069750 MGD. (Note: An earlier proposal, for which sufficient sewer capacity was contracted, was anticipated to require 152,550 gpd of wastewater capacity; the Map Adjustment approval has a significantly lower wastewater demand.)
 - c. Pohatcong Township Highlands Center: The anticipated development and wastewater demand for the Highlands Center has not been determined, but must remain within the allocation available to it (reflecting, among other uses, the Hamptons at Pohatcong demands discussed below). The Township estimates that a net capacity of roughly 126,000 gpd is available for the Highlands Center, as discussed below, with the potential for planning needs of 15,000 gpd.

² www.highlands.state.nj.us/njhighlands/warren_county/pohatcong/2_Pohatcong_Build_Out_Report.pdf

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2. **Development Reliant on Septic Systems:** The Build-Out Report identified potential for 26 septic systems in the Planning Area for all RMP Land Use Capability Zones and HUC14 subwatersheds, and 27 septic systems in the Preservation Area. The value for the Planning Area represents the high range, as part of this yield was associated with the Hamptons at Pohatcong parcels, prior to its inclusion in the Future SSA.

The build-out results based on potential developable lands are not constrained by water supply utility capacity and wastewater utility capacity from the Phillipsburg Sewage Treatment Plant; however Pohatcong Township has existing allocations from Phillipsburg STP and the anticipated needs of the Highlands Center and Map Adjustment area will use essentially all available wastewater utility capacity.

The water supply demands from the build-out are not constrained by water availability, defined as Net Water Availability by the RMP. Water supply is provided by Aqua New Jersey via wells from another HUC14 subwatershed. The Highlands Council has determined that these wells draw essentially all of their supply from the Delaware River through induced recharge, and therefore do not represent a consumptive or depletive water use relative to the source subwatershed.

	Preservation Area	Planning Area	Totals
Residential units – Sewered (Hamptons at Pohatcong)	N/A	242	242
Residential units – Sewered (Highlands Center)	N/A	TBD	TBD
Residential units – Sewered (Other)	N/A	6	6
Septic System Yield	27	26	53
Total Residential Units	27	274 (plus Highlands Center)	301 (plus Highlands Center)
Non-Residential units – Sewered (Hamptons at Pohatcong)	N/A	0	0
Non-Residential – Sewered (Highlands Center)	N/A	TBD	TBD
Non-Residential – Sewered (Other)	0	0 sq ft	0 sq ft
Total Non-Residential	0	0 sq ft (plus Highlands Center)	0 sq ft (plus Highlands Center)

Hamptons at Pohatcong Map Adjustment

As discussed above, this inclusionary housing project is located to the northwest of Alpha Borough and comprises 45 acres of residential housing on a 170-acre site (see Figure MA-1), the remainder of which will be subject to conservation restrictions. The project includes 122 single-family lots, 76 townhomes, and two apartment buildings containing a total of 44 low- and moderate-income affordable units.

The project has access to wastewater utility services based on a contract with the Township to provide a total capacity of 120,950 gallons per day. Not all of this flow will be required for the project as currently proposed. (The Township has a contractual agreement with the Phillipsburg Sewage Treatment Plant for a total flow to Pohatcong of 520,000 gpd. In addition, via a May 16, 1990 inter-municipal agreement (see appendix a) with Lopatcong Township, Pohatcong is entitled to an additional 20,000 gpd, for a total of 540,000 gpd of available flow.) The public water service for the project will be provided by Aqua NJ Water Company, as are the surrounding developed areas of Pohatcong Township, Alpha Borough, Phillipsburg Town and others.

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The total estimated wastewater flow is 69,750 gallons per day (0.06975 MGD). Flows associated with the Pohatcong Township Highlands Center were calculated as indicated in **Table 2**.

Development Category	Units	Demands (gpd)
Residential Sewer Requirements		
<i>six (6) 1 bedroom units</i>	<i>6 x 150 gpd</i>	<i>900 gpd</i>
<i>2 bedroom units/Townhomes</i>	<i>26 x 225 gpd</i>	<i>5,850 gpd</i>
<i>Single-Family 3 bedroom or greater</i>	<i>210 x 300 gpd</i>	<i>63,000 gpd</i>
TOTALS	242	69,750 gpd

Pohatcong Township Highlands Center

At this time, the Highlands Center includes a portion of the Planning Area comprised of developed or partially developed lands and lands for infill development. This Highlands Center is located in the mostly developed area north of Alpha Borough, between Route 122 and Route 22, and the partially developed area east of Alpha Borough that is south of Route 122 and north of Interstate Route 78, and consists of densely developed residential and retail areas, and the partially developed Industrial Zone area (see Figure HC-1).

The approved Highlands Center has access to wastewater utility services via the Township’s contractual agreement with the Phillipsburg Sewage Treatment Plant, to provide a total capacity of 520,000 gallons per day. Another 20,000 gpd is available through the aforementioned contractual commitment involving the Township of Lopatcong (see appendix a), for a total of 540,000 gpd. This amount must address both existing flows (roughly 294,000 gpd) and future Township needs (including the projected demand for Hamptons at Pohatcong discussed above). The Township estimates that a net capacity of roughly 126,000 gpd is available for the Highlands Center, based on existing flows, known commitments and options for some of the potential but un-built projects. The Township’s ability to develop and redevelop in the Highlands Center will be limited somewhat by sewer capacity conditions, and the proposed Highlands Center development has been sized to be within those limits. The public water service for the Highlands Center will be provided by Aqua NJ Water Company, as are the surrounding developed areas of Pohatcong Township, Alpha Borough, Phillipsburg Town and others. While most of the Pohatcong Township Highlands Center consists of developed areas, which are slated for infill and redevelopment, the industrial zone is proposed for mixed-use development.

Anticipated development in the Pohatcong Township Highlands Center has not been determined at this time. The total estimated wastewater flow will be restricted to the available capacity of 126,000 gallons per day (0.126 MGD) unless Pohatcong can arrange for additional flows from Phillipsburg STP based on contractual adjustments or expansion of the facility (see **Table 3**).

Development Category	Units	Demands (gpd)
Residential Sewer Requirements		
<i>Total One Bedroom Dwellings</i>	<i>TBD</i>	<i>TBD</i>
<i>Total Two Bedroom Dwellings</i>	<i>TBD</i>	<i>TBD</i>
<i>Total Three Plus Bedroom Dwellings</i>	<i>TBD</i>	<i>TBD</i>
Commercial Sewer Requirements	<i>TBD</i>	<i>TBD</i>
TOTALS (Not to exceed)		126,000

Available Wastewater Utility Capacity and Municipal Build-Out Results

NJPDES permitted facilities affecting Pohatcong Township are listed in **Table 7**. The Highlands Domestic Sewerage Facility (HDSF) serving Pohatcong Township is the Phillipsburg Sewage Treatment Plant, which at this time has an approved and operative total capacity of 3.5 million gallons per day (MGD). Phillipsburg STP is a municipally-owned utility that provides service under contracts to Pohatcong Township and four other municipalities (Alpha Borough, Greenwich Township, Lopatcong Township, and Phillipsburg Town). The current available Highlands Region capacity for the utility is 0.464 MGD for all municipalities served by the system, based on flow data of January 2005 through April 2015, using the Highlands Regional Master Plan method which subtracts the maximum 3-month flow (MAX3MO) from the permitted capacity, with the most limiting MAX3MO from 2011. However, NJDEP calculates available capacity by subtracting the most recent available 12-month average from the permitted capacity, which is 2.451 MGD for Phillipsburg STP for the period of May 2014 through April 2015, resulting in an available capacity of 1.049 MGD. This method applies to all non-conforming municipalities in the Highlands Region, and to NJDEP determinations regarding whether a facility expansion is required to accommodate existing or necessary future flows. The Highlands Council’s calculations used in the RMP are more conservative. Regardless of the method used, most if not all of the available capacity is contracted to specific municipalities or individual customers. **Table 4** shows the current contracted allocation of flow for the Phillipsburg STP facility, based on the current contract and flow totals for the Phillipsburg STP sewer service area.

Table 4 – Phillipsburg Sewage Treatment Plant Remaining Available Capacity					
	Permitted Flow	Maximum Three Month (MAX3MO) Average Flow	Remaining Available Capacity (RMP)	Annual Average Flow	Remaining Available Capacity (NJDEP)
2005	3.5	2.42	1.080	2.242	1.258
2006	3.5	2.317	1.183	2.202	1.298
2007	3.5	2.437	1.063	2.252	1.248
2008	3.5	2.457	1.043	2.22	1.28
2009	3.5	2.179	1.321	2.042	1.458
2010	3.5	2.397	1.103	2.209	1.291
2011	3.5	3.036	0.464	2.631	0.869
2012	3.5	2.706	0.794	2.503	0.997
2013	3.5	2.628	0.872	2.470	1.03
2014	3.5	2.628	0.872	2.465	1.035
2015*	3.5	2.628	0.872	2.451	1.049
<p>NOTE: All flows are in MGD. Any allocations identified in this document are neither NJDEP-determined nor NJDEP-enforced. The Annual Average flows and MAX3MO are calculated from DMR data obtained from NJDEP’s website by NJPDES Permit number *Flows through April 2015</p>					

The lowest dry weather sewage flow (the lowest consecutive three months of flow) for the Phillipsburg STP during the period of 2008 through April 2015 was 1,189,566 gpd, in 2009. For the same year, annual average flows were 2,041,583 gpd, resulting in an estimated annualized I&I (Inflow & Infiltration) rate of roughly 7.2%. I&I for each calendar year has ranged from 2% to 16% from 2005 through April 2015 with the highest I&I rate of 16% in 2011. I&I for the maximum month (September 2011, 3.571 MGD) was 61.5%, based on the lowest three-month flow for that year. In all cases, I&I rates are relatively low.

Pohatcong Township has been allocated 0.540 MGD of the permitted 3.5 MGD from Phillipsburg STP. The flows for Pohatcong Township range between 0.201 to 0.328 MGD based on the flow data from January

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2009 to April 2015 (see **Table 5**). The current available capacity for Pohatcong Township using the Highlands RMP method is 0.1268 MGD, and 0.2463 MGD using the NJDEP method.

Table 5 – Pohatcong Township Remaining Available Capacity, Phillipsburg STP					
	Contracted Flow	Maximum Three Month (MAX3MO) Average Flow	Remaining Available Capacity (RMP)	Annual Average Flow	Remaining Available Capacity (NJDEP)
2009	0.540	0.38997	0.15003	0.308	0.232
2010	0.540	0.308	0.232	0.252	0.288
2011	0.540	0.4132	0.1268	0.328	0.212
2012	0.540	0.3018	0.2382	0.201	0.339
2013	0.540	0.2357	0.3043	0.2078	0.3322
2014*	0.540	0.3568	0.1832	0.2779	0.2621
2015**	0.540	0.3955	0.1445	0.2937	0.2463
NOTE: All flows are in MGD. Any allocations identified in this document are neither NJDEP-determined nor NJDEP-enforced.					
*January Flows were not recorded and therefore left out of the calculations					
** 2015 flows through April					

The total estimated additional wastewater generation from the build out for the Phillipsburg STP facility in Pohatcong Township is 0.0015 MGD for the Planning Area, and 0 MGD for the Preservation Area. Based on a detailed analysis provided by Pohatcong Township (see **Table 12**), committed flows for projects consistent with the RMP are 69,750 gpd for Hamptons at Pohatcong, up to 126,000 gpd for the Pohatcong Township Highlands Center, 15,000 gpd for future planning needs, and 2,974 for approved wastewater allocations. These combined demands do not exceed the utility capacity conditions, as shown in **Table 9**.

The Phillipsburg STP is a municipality-owned utility that provides service under contracts to four other municipalities (**Alpha Borough, Lopatcong Township, Greenwich Township, and Pohatcong Township**). The associated build out results for the municipalities contributing to the Phillipsburg STP is anticipated to be addressed in the individual municipal WMP documents for each municipality. Alpha has been allocated 0.3835 MGD and Greenwich has a contract for 0.388 MGD of the permitted 3.5 MGD from Phillipsburg STP. Pohatcong Township has been allocated 0.5440 MGD. Lopatcong has a total allocation of 801,000 gpd, but 20,000 gpd of the 801,000 gpd total contract is subject to the inter-municipal agreement presented in appendix a. The Town of Phillipsburg retains the rights to unallocated flows not otherwise contracted to the other four (4) municipalities. To remain under the permitted flow of 3.5 MGD, Phillipsburg Town has approximately 1.3875 MGD of unallocated flows.

Other NJPDES Permitted Facilities

There is one NJPDES permitted T1 facility that serves Pohatcong Township (see **Table 7 and Table 8**): Elnorah Inc., T/A Stepping Stone School (NJG 0169048). There is no additional wastewater generation for this facility from the build-out analysis.

Available Public Community Water System Utility Capacity and Municipal Build-Out Results

The public water supply utilities serving Pohatcong Township are the Alpha Municipal Water Works and Aqua NJ Water Company-Phillipsburg (previously operating as Consumer NJ Water Company-Phillipsburg). The current available Highlands Region capacity for Alpha Municipal Water Works is 0.62 MGM, with a municipal available capacity of 0.02 MGM. The current available Highlands Region capacity for Aqua NJ

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Water Company-Phillipsburg (shown on **Table 6** as Consumers NJ Water Company-Phillipsburg) is 54.38 MGM, with a current capacity available to Pohatcong Township of approximately 17.28 MGM. The total estimated public water demand from the build-out for the Aqua NJ Water Company-Phillipsburg is 0.07125 MGD for the Planning Area and 0 MGD for the Preservation Area and does not exceed the utility capacity conditions. However, the Highlands Council typically evaluates utility capacity based on water source permit limits, not on specific utility infrastructure or operational conditions. There is no public water demand from the build-out for the Alpha Municipal Water Works facility. See Figure Pohatcong-3 for additional details regarding these facilities.

Purveyor (Approval ID)	Water Allocation Monthly Diversion Limit (MGM)	Peak Monthly Demand¹ (MGM)	Projected Monthly Water Demand² (MGM)	Monthly Allocation Excess (Deficit) MGM*
Alpha Municipal Water Works PSWID# 2102001	13	14.195	0	-1.195
Aqua NJ Water Company- Phillipsburg PWSID# 2119001	182.65	145.33	2.209	35.111

¹ Peak monthly diversion occurred December 2010 for Alpha Municipal Water Company and June 2011 for Aqua NJ

² Project monthly water demand is estimated from average daily wastewater flows associated from approved TWA permits and Highlands Buildout report (multiplied by 31 days). No peaking factor is applied as in firm capacity analysis.

* Reflects maximum monthly demands where available, see <http://www.nj.gov/dep/watersupply/pws.html>. Some facilities lack Water Allocation permits, as their demands are less than statutory thresholds.

Designation of Wastewater Service Areas within Pohatcong Township

The following maps are provided to show the existing and future sewer service areas for NJPDES-permitted sanitary wastewater treatment facilities, and to show the existing water supply service areas for major public water systems serving the municipality:

1. **Existing Sewer Service Area** – This map (**Figure Pohatcong-1**) shows the parcels and portions of parcels within the Existing Sewer Service Area as described in the Introduction, for the facilities discussed under the section Available Wastewater Utility Capacity and Municipal Build-Out Results and listed in **Table 7**. Please note that Figure Pohatcong-1 is considered definitive by NJDEP for purposes of permit approvals
2. **Future Sewer Service Area** – This map (**Figure Pohatcong-2**) shows the parcels and portions of parcels within the future sewer service area as described in the Introduction, for the facilities discussed under the section Available Wastewater Utility Capacity and Municipal Build-Out Results and listed in **Table 7**. Figure Pohatcong-2 includes the approved Pohatcong Township Highlands Center and Map Adjustment, showing parcels that are within the Future SSA. Finally, Figure Pohatcong-2 indicates all “Septic Areas (Planning Flows of 2,000 gpd or Less).” The septic system yields associated with this latter area are listed in **Tables 10 and 11**.
 - a. Map Adjustment (Hamptons at Pohatcong) – **Figure Pohatcong MA-1** shows the Future SSA to be served within Block 93 Lot 5.

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- b. Pohatcong Township Highlands Designation – **Figure Pohatcong HC-1** shows the parcels and portions of parcels within the Pohatcong Township Highlands Center as described above.
3. **Public Community Water System Utilities** – This map (**Figure Pohatcong-3**) shows the parcels and portions of parcels within the existing service area for public community water supply systems as described in the Introduction, for the facilities discussed under the section Available Public Community Water System Utility Capacity and Municipal Build-Out Results. Water service for the approved Map Adjustment and Pohatcong Township Highlands Center will approximate that of the Future SSA for the same area. **Figure Phillipsburg- 4** presents the relationship between the water and sewer service areas. This map is provided for informational purposes only to inform the utility capacity planning analysis for the WMP.

Municipal Ordinances Required by N.J.A.C. 7:15-5.25

The following ordinances are required by the Water Quality Management Planning Rules. Most of the ordinance requirements are implemented through municipal adoption of the Highlands Checklist Ordinance in compliance with the Plan Conformance approval of the Highlands Council, as noted previously. For designated Highlands Centers, it is expected that a center-specific land use ordinance will be developed and adopted. In this instance, all extensions of sewer service shall be in conformance with the appropriate land use ordinance. Others are adopted independently by the municipality, where noted.

- **Zoning** – See Highlands Checklist Ordinance No. 15-12. All extensions of sewer service must be in conformance with the Highlands Checklist Ordinance and subject to Plan Conformance approval and requirements of the Highlands Council. The Highlands Checklist Ordinance regulates septic system density for new development that is subject to the ordinance.
- **Water Conservation** – See Highlands Checklist Ordinance, which is more stringent than the NJDEP model ordinance provisions.
- **Stormwater Management** – Pohatcong Township has adopted the required stormwater management ordinance in compliance with its NJPDES MS4 stormwater permit [Pohatcong Township Municipal Codes, Chapter 240 Stormwater Management, ordinance # 06-6 adopted on 3-21-2006]. Also, see Highlands Checklist Ordinance, which is more stringent than the NJDEP model ordinance provisions.
- **Riparian Zone** – See Highlands Checklist Ordinance, which is more stringent than the NJDEP model ordinance provisions.
- **Steep Slope** – See Highlands Checklist Ordinance, which is more stringent than the NJDEP model ordinance provisions.
- **Septic System Maintenance** – NJDEP has determined that municipality-wide septic system maintenance ordinances are not required at this time under N.J.A.C. 7:15, but rather that septic system maintenance plans are required. The Township commits to development of such plans in cooperation with the Highlands Council.
- **Required Connection of Septic Systems to Sanitary Sewers in Adopted Sewer Service Areas** – Compliance with this requirement has been demonstrated through adoption of Pohatcong Township Ordinance No. 15-10. Not addressed by Highlands Checklist Ordinance.

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NJPDES Permit #	PI #	Facility Name	Discharge Category Code	Street Address	Post Office	ZIP
NJ0024716	46785	Phillipsburg STP	A	90 South Main St	Phillipsburg	08865
NJG0169048	440673	Elnorah Inc. T/A Stepping Stone School	T1	45 Route 519	Bloomsbury	08804

Discharge to Surface Water (DSW)

- A – Domestic Surface Water Discharge

Discharge to Ground Water (DGW)

- T1 – General Permit Sanitary Subsurface Disposal

NJPDES	Facility Name	Project Summary	Block	Lot	Street Address	Street City	X Coord. Number	Y Coord. Number
NJG0169048	Elnorah Inc. T/A Stepping Stone School	School with current enrollment of 40 students and 25 staff member. The design flow of this facility based on the maximum capacity of two-hundred (200) students and twenty- five (25) staff members	109	20	45 Route 519	Pohatcong	40.636671	-75.134768

Facility	Facility Type	NJPDES Permit	Permitted Flow (GPD)	Existing Flow (GPD)*	Source (Pohatcong Township)	Projected Flow (GPD)
Phillipsburg STP	DSW	NJ0024716	3,500,000	293,716 (395,468)	Existing Flows (2015)	293,716
					Projected Residential	71,250
					Projected Commercial/Residential – Highlands Center (Not to exceed)	126,000
					Potential for future planning needs	15,000
					Projected Committed – (Other)	2,974
					Total Projected	508,940

* Flows through April 2015 Maximum Three Month Flows (Annual Average Flows). Based upon RMP and NJDEP methods.

Wastewater Management Plan for Pohatcong Township

Table 10. Pohatcong Township Septic System Densities and Allocations by HUC14 for Annual Average and Drought Ground Water Recharge Using GSR-32 in the Planning Area					
HUC14 Subwatershed	Subwatershed Name	Density (Average Recharge) NJAC 7:15	Density (Drought Recharge) RMP	Total Units Allowed (Average Recharge) NJAC 7:15	Total Units Allowed (Drought Recharge) RMP
02040105120020	Lopatcong Creek (below Rt 57) incl UDRV	N/A	By LUCZ	N/A	24
02040105140060	Pohatcong Ck (Springtown to Merrill Ck)	N/A	By LUCZ	N/A	0
02040105140070	Pohatcong Ck(below Springtown) incl UDRV	N/A	By LUCZ	N/A	2
02040105160070	Musconetcong R (below Warren Glen)	N/A	By LUCZ	N/A	0
02040105170010	Holland Twp (Hakihokake to Musconetcong)	N/A	By LUCZ	N/A	0

Table 11. Pohatcong Township RMP Build-Out Septic System Yield Analysis				
Planning Area				
HUC14 Subwatershed	Subwatershed Name	CZ Yield	ECZ Yield	PZ Yield
02040105120020	Lopatcong Creek (below Rt 57) incl UDRV	23	1	0
02040105140060	Pohatcong Ck (Springtown to Merrill Ck)	0	0	0
02040105140070	Pohatcong Ck(below Springtown) incl UDRV	2	0	0
02040105160070	Musconetcong R (below Warren Glen)	0	0	0
02040105170010	Holland Twp (Hakihokake to Musconetcong)	0	0	0
	totals	25	1	0
Preservation Area	27 units (Not disaggregated by HUC14)			

Figure Pohatcong MA-1. Map Adjustment for Hamptons at Pohatcong

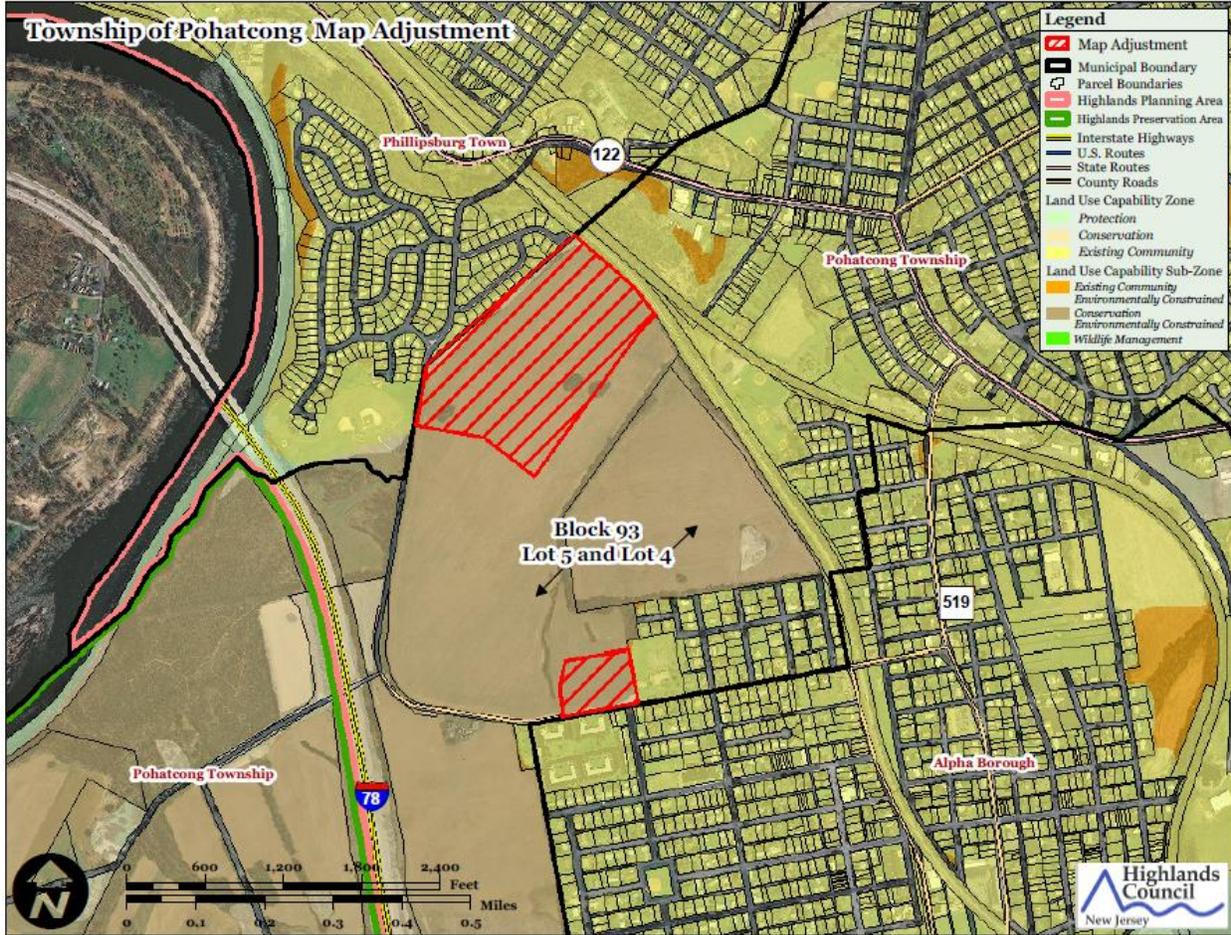
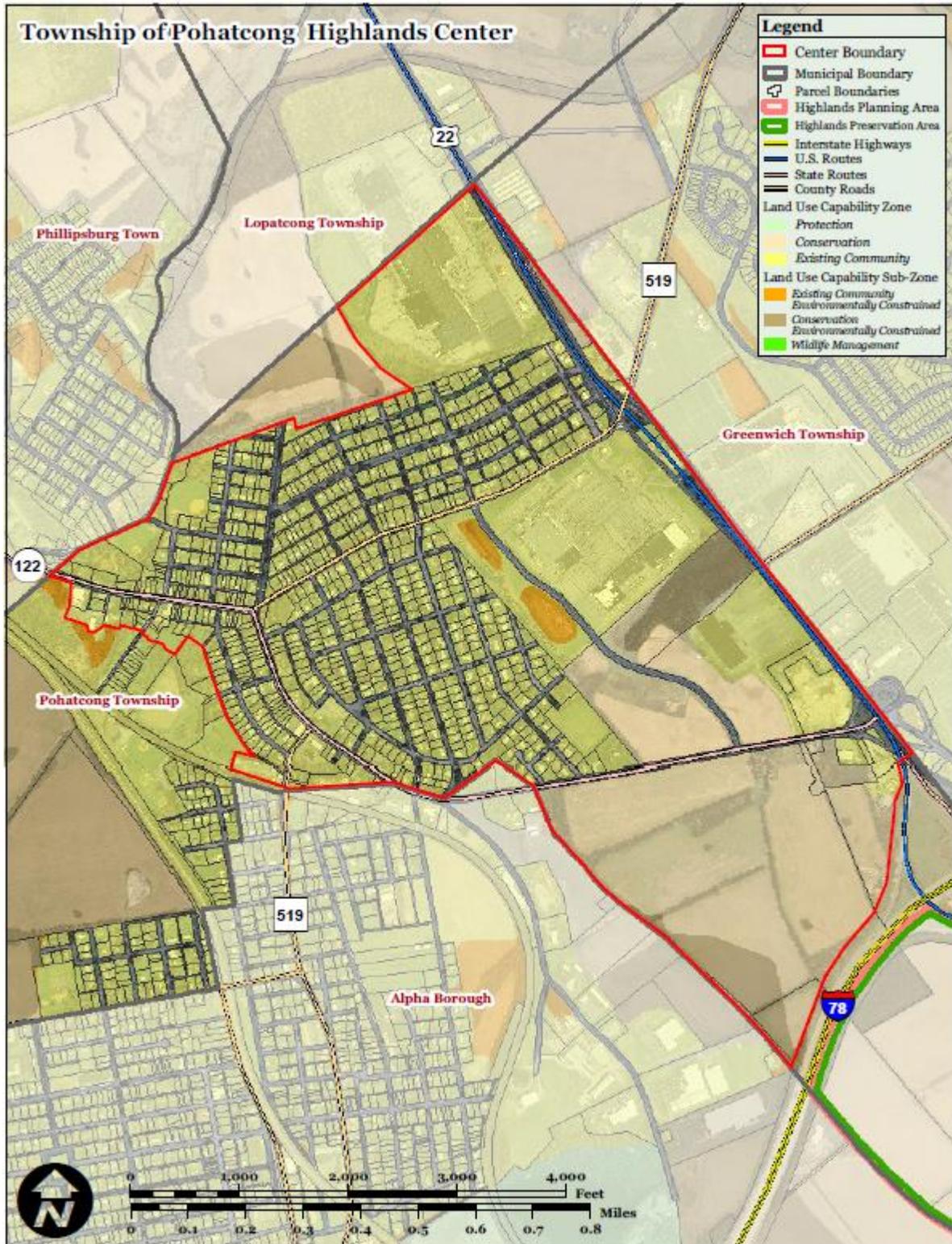


Figure Pohatcong HC-1. Pohatcong Township Highlands Center Delineation



Wastewater Management Plan for Pohatcong Township

Table 12
Pohatcong Township proposed Phase I Highlands Center Details
Alternatives for 540,000 gpd Sewer Service Area

Properties	Block	Lot	Design Flow (GPD)
Existing Pohatcong Township Flow to STP (Average from May '14- April '15)			293,716
Committed or Projected Flows from Properties within the Current 540,000 gpd Service Area			
Janus (Allocation Approved)	7	5	300
Matthenius (Allocation Approved)	9	3	300
N & N Partnership (Allocation Approved)	14	4	300
DeRoche (Allocation Approved)	90	1.01	300
Walters (Allocation Approved)	90	2, 3	300
(Total Approved Allocations)			
Raymour & Flannigan - Phase II approved pad site	75	3	1,474
Highlands Center: including potential TDR Receiving Zone and affordable housing needs	78	1	126,000
Potential for future planning needs			15,000
Committed or Projected Flows from Properties outside the Current 540,000 gpd Service Area			
The Hamptons @ Pohatcong (EAI)	93	4, 5	69,750
Highlands Build-Out Analysis			1,500
Total Flow (GPD)			508,940
Pohatcong Allocation to STP (GPD)			540,000
Balance (GPD)			31,060

Notes

1. Retain all approved allocations
2. Reserve 15,000 gpd for future planning needs
3. Provide full allocation to Hamptons @ Pohatcong per Map Adjustment
4. Utilize remainder for WBP plus 20,000 gpd including HDC's and affordable housing needs
5. In the May 16, 1990 Inter-municipal Agreement, Lopatcong has agreed to allocate to Pohatcong 20,000 gpd of sewage capacity at the Phillipsburg STP (see appendix a)

Appendix A

May 16, 1990 Inter-municipal agreement
between Lopatcong Township and Pohatcong Township