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- Citations of Recent Studies Related to NWS Earle

APPENDIX A

**Monmouth County - NWS Earle Joint Land Use Study
Policy Committee Meeting**
Friday, January 20, 2017, 10AM
County Planning Board Conference Room

AGENDA

JLUS Overview: Linda Brennen, PP/AICP
The Grant, Goals, Purpose, & Process Project Manager

Introduction of the Consultant Team Gerald DeFelicis, LLA, RLA, PP
Maser Consulting

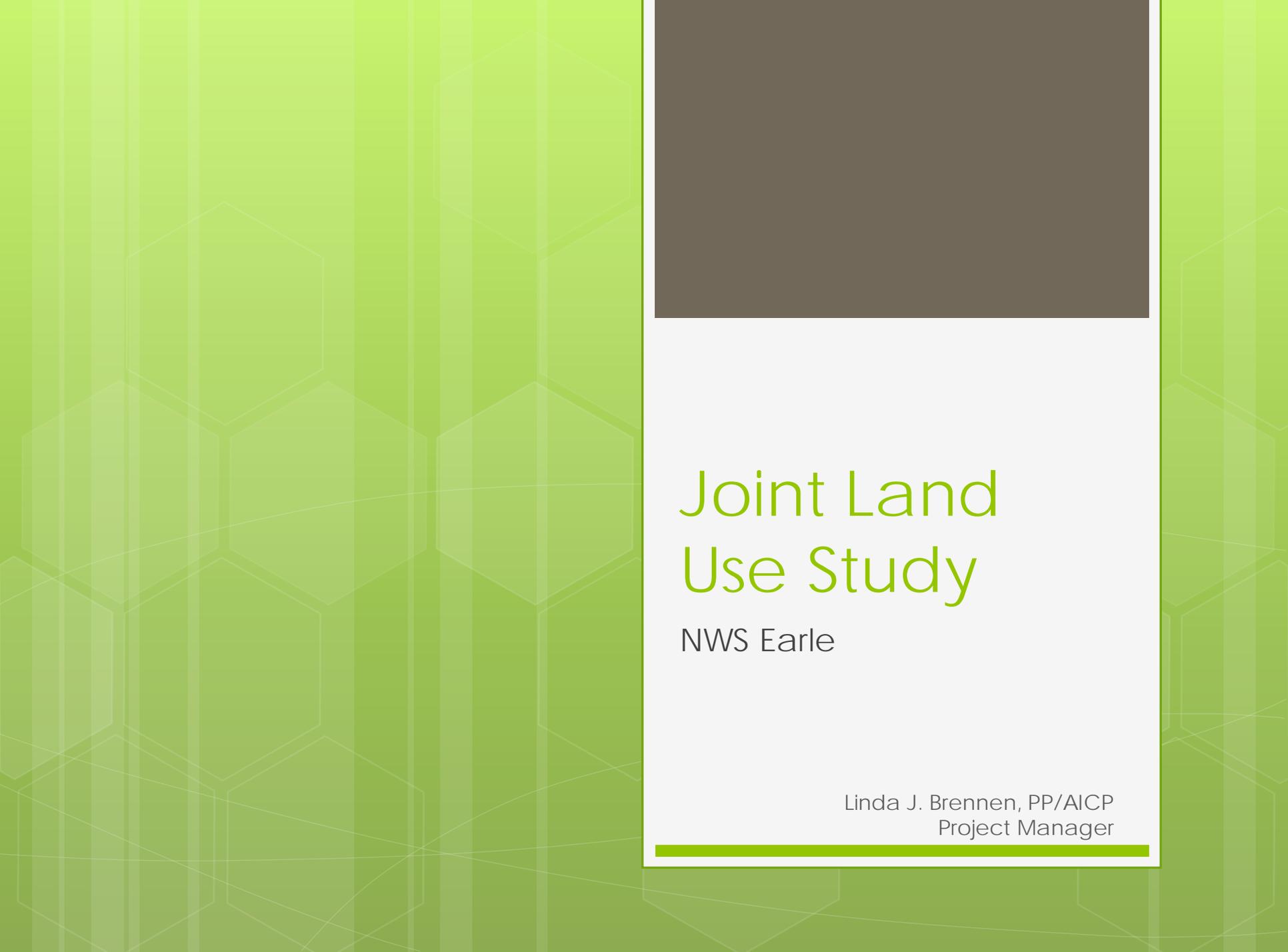
History and Mission of NWS Earle Dennis Blazak
Community Plans and Liaison Officer, NWS Earle

Study Area: Linda/Jay
Municipalities, MIA, & STAHNET

Climate Adaptation Issues and Modelling Jay
NJ FRAMES

Interface between planning partners: Jay and Richard Dorrier AECOM
County/ Municipalities / NWS Earle and Consultant team

Next Steps: Maser and HR&A (Jee Mee Kim)
Committees, Stakeholders & Public Involvement
Website Development
Spring Installation Tour
Plan Development



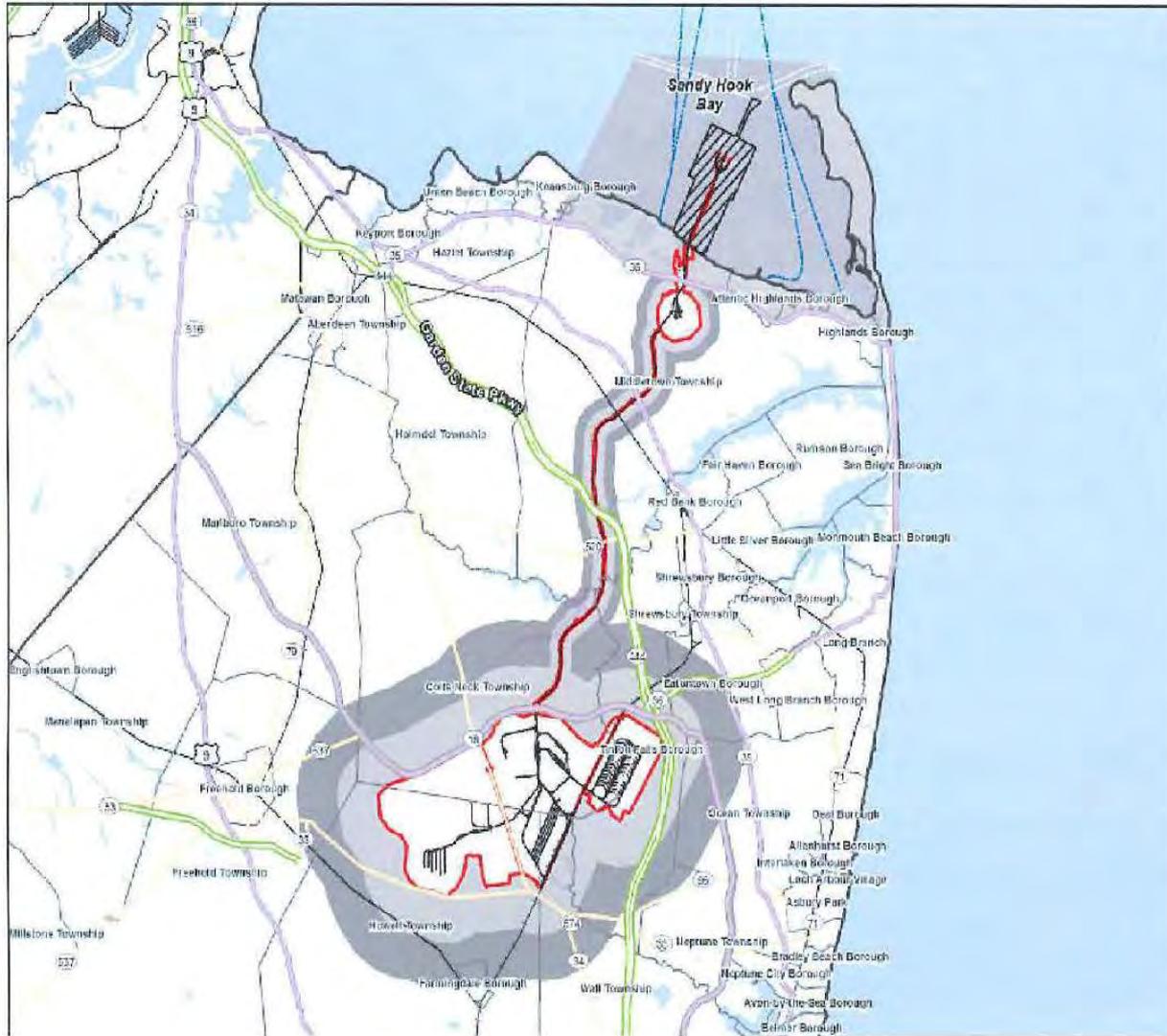
Joint Land Use Study

NWS Earle

Linda J. Brennen, PP/AICP
Project Manager

Joint Land Use Study Grant

- Federal Department of Defense JLUS Grant
 - \$238,500 project
 - \$206,000 federal funds (consultant study)
 - \$32,500 in-kind match (county staff salaries)
 - Schedule: Expected completion January 2018
- Study Area
 - 5 Earle Host Municipalities: Colts Neck, Howell, Middletown, Tinton Falls & Wall
 - 8 Military Influence Area: Atlantic Highlands, Highlands, Eatontown, Farmingdale, Freehold Township, Keansburg, Neptune & Ocean
 - 18 Raritan Bayshore & Navesink/Swimming River Watershed municipalities



NWS Earle Military Influence Area

NWS Earle, New Jersey

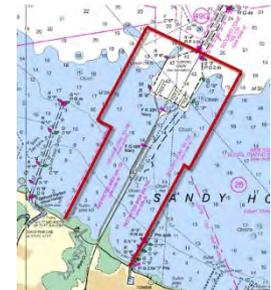
Legend

- Naval Weapons Station Earle
- NJ Counties
- NJ Municipalities
- Restricted Area
- Military Influence Area**
 - Primary
 - Secondary
- Major Highways**
 - Limited Access
 - Highway
 - Major Road
 - Local Road
 - Railroad
 - Ferry Route
 - Channel



Study Goals

- Encourage working together to seek development options that are:
 - compatible with continued utility of the base
 - preserve and protect the public health, safety, and welfare of those living in the MIA
- Community-wide planning:
 - Adapting to climate change impacts
 - Continued operation during storm events
 - Improve post-storm resiliency
- Ensure preservation, protection & post-storm resiliency for:
 - Raritan/Sandy Hook Bays
 - Normandy Road/Rail Corridor
 - Major Access Highways/Strategic Highway Network



Major Access Highways & Strategic Highway Network

- New Jersey State Routes 18, 33, 34, 36;
- Garden State Parkway;
- US Route 9; and
- Interstate 195



Study Purpose & Process

- This JLUS is proposed as a cooperative, strategic planning process
- The study is intended to improve communication and establish informal procedures for cross-jurisdictional coordination in development review and planning
- Public Meetings will be held as milestones are reached to seek public input and brief interested parties





Monmouth County Joint Land Use Study for Naval Weapons Station Earle



Maser Consulting P.A.

AECOM

HR&A Advisors, Inc.

Rutgers University Climate
Institute



Maser Consulting, P.A.

Gerald (Jay) DeFelicis, Project Manager
Debbie Alaimo Lawlor

Regional & Resiliency Planning
Public Engagement
Document Coordination/Preparation

AECOM

Richard Dorrier
Sarah Bassett

Military Liaison Planning
JLUS Experience

HR&A Advisors Inc.

Jee Mee Kim

Economic Development
Resiliency Planning

Rutgers University

Matt Campo

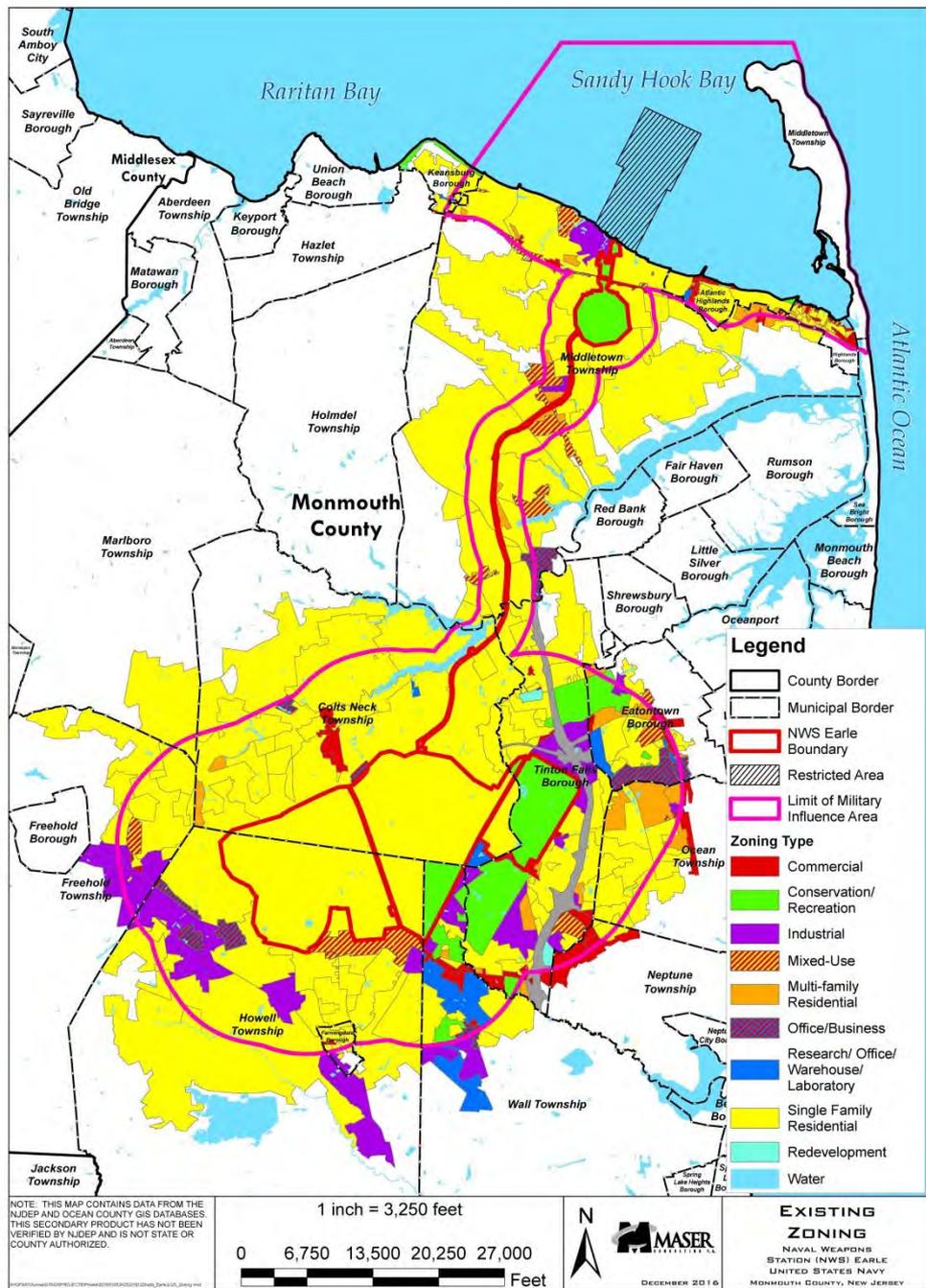
Climatology Adaptation, Planning
Mapping

ORGANIZATION CHART

Monmouth County Joint Land Use Study for Naval Weapons Station Earle

Overview of Maser Team Approach

- Define the Scope with the Project Partners
- Establish Planning Team and Technical Working Groups
- Interview Key Stakeholders
- Engage the Public – Community Outreach Program
- Collect, Inventory and Map Project Data
- Adaptation Analysis
- Develop Resolution Strategies
- Recommend Specific Short and Long Term Actions



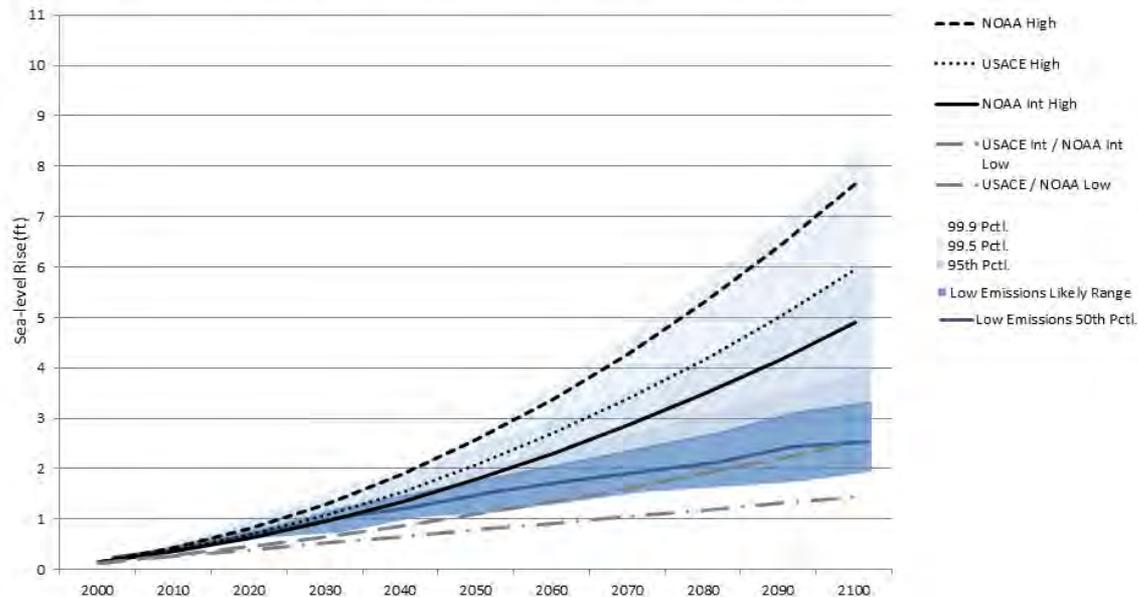
• Sea Level Rise Assumptions for Naval Weapons Station Earle Joint Land Use Study

- The sea level rise (SLR) assumptions that the Naval Weapons Station Earle Joint Land Use Study (JLUS) Project Team will use when performing the study are based on the October 2016, the New Jersey Climate Adaptation Alliance (NJCAA) published consensus findings for New Jersey SLR based on the probabilistic approach of Kopp et al. (2014). The JLUS project team reviewed the information presented in Hall et al. (2016), which is informed by the work of Kopp et al. (2014), against the outcomes of the Science and Technical Advisory Panel convened by the NJCAA. The initial review suggests that global sea level rise projections and methods for local adjustments (e.g. vertical land movement (VLM), etc.) are comparable with NJCAA methods and assumptions.
- While the JLUS project team has not yet reviewed the scenario database for specific projections associated with Naval Weapons Station Earle, the project team does not anticipate deviating from federal guidance to assess local SLR.
- **New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Overview**
- The information below is excerpted from October 2016 New Jersey Climate Adaptation Alliance publications summary purposes (Kaplan, Campo, Auermuller, & Herb, 2016; R. Kopp et al., 2016).

	Central Estimate	'Likely' Range	1-in-20 Chance	1-in-200 Chance	1-in-1000 Chance
Year	50% probability SLR meets or exceeds...	67% probability SLR is between...	5% probability SLR meets or exceeds...	0.5% probability SLR meets or exceeds...	0.1% probability SLR meets or exceeds...
2030	0.8 ft	0.6 – 1.0 ft	1.1 ft	1.3 ft	1.5 ft
2050	1.4 ft	1.0 – 1.8 ft	2.0 ft	2.4 ft	2.8 ft
2100 Low emissions	2.3 ft	1.7 – 3.1 ft	3.8 ft	5.9 ft	8.3 ft
2100 High emissions	3.4 ft	2.4 – 4.5 ft	5.3 ft	7.2 ft	10 ft

- Based on the Science and Technical Advisory Panel (STAP)
- It is likely that coastal areas of New Jersey will experience sea-level rise between 1.0 and 1.8 feet prior to 2050, regardless of future greenhouse gas emissions. Under a worst-case scenario, these communities could see as much as 2.8 feet of sea-level rise by 2050 (See Table 1).
- Sea-level rise after 2050 increasingly depend upon the evolution of future global greenhouse gas emissions Under the **high-emissions scenario**, it is likely that coastal areas of New Jersey will experience between 2.4 and 4.5 feet of sea-level rise by 2100.
- Under the **low-emissions scenario**, it is likely that coastal areas of New Jersey will experience between 1.7 and 3.1 feet of sea-level rise by 2100.
- A **worst case** (1-in-1000 chance) of sea-level rise of 10 feet of sea-level rise in coastal areas of New Jersey is physically possible (See Table 1).
- Across scenarios, the likely range of sea-level rise in 2100 spans from 1.7 feet to 4.5 feet. However, regardless of scenario, there is at least a 1-in-20 chance of sea-level rise exceeding 1.7 feet before 2050 (See Table 1).

Figure 1b: Low Emissions [RCP 2.6] SLR Projections for New Jersey (Atlantic City) Compared to Federal SLR Projections



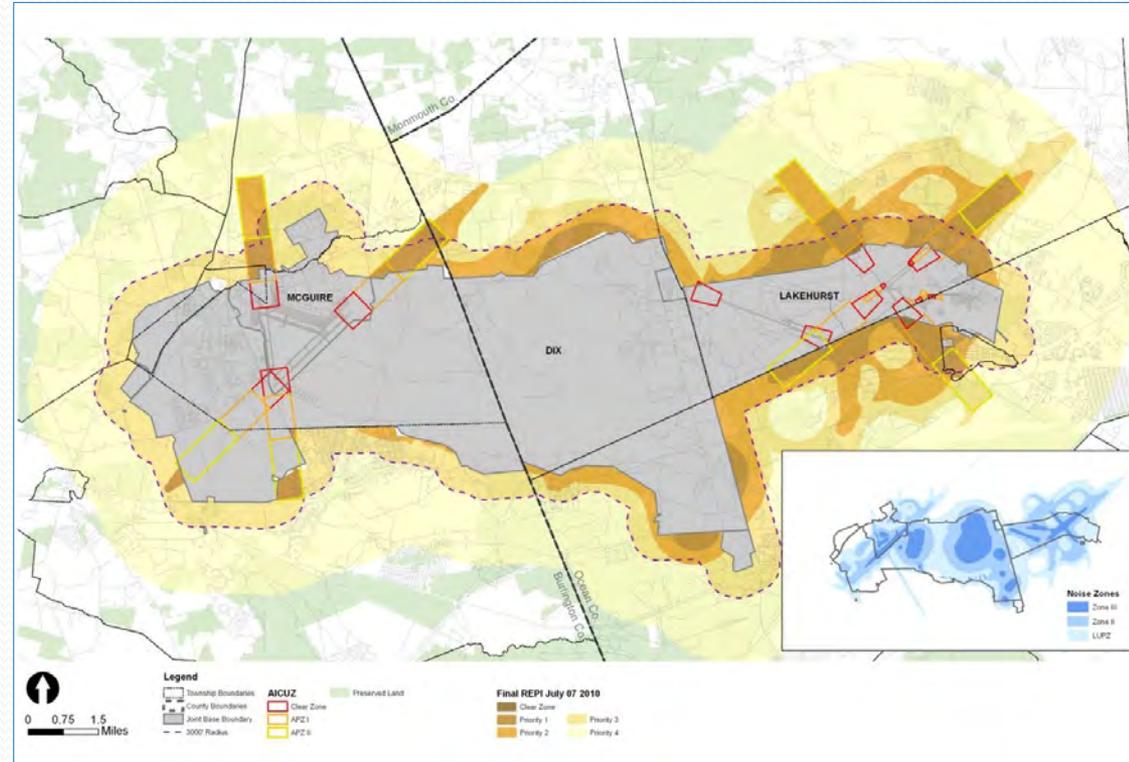
Joint Base McGuire Dix Lakehurst EAP

Major Issues

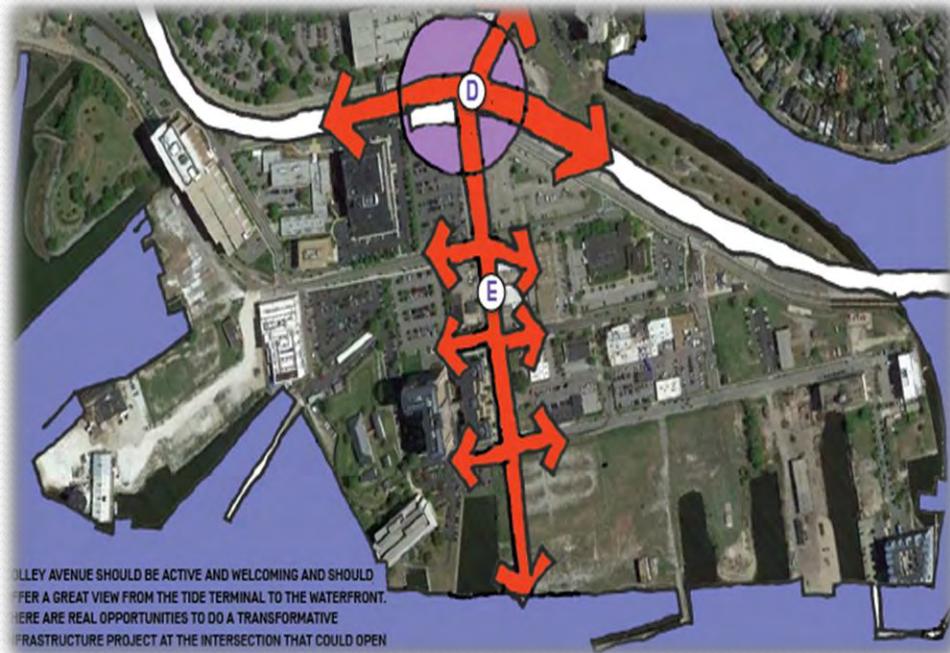
- Urban development
- Aircraft and ordnance operations noise
- Environmental issues
- Airspace issues
- Utility service sharing

Major Recommendations

- Zoning changes
- Conservation easements
- Military representation on planning boards
- Flight operations monitoring
- Formalized method to address complaints
- Real estate disclosures
- Coordination with Pinelands Commission
- Regional Partnership program



100 Resilient Cities: Norfolk, VA



- Assisted Norfolk's Chief Resilience Officer complete a comprehensive analysis of the City's current context; conduct a financial and development analysis for a coastal area of the city; and support the development of the City's resilience strategy.
- Developed a comprehensive resilience strategy that included high-priority, implementable initiatives to build physical, economic, and social resilience.

#4 – Aeromarine Redevelopment Area



Aeromarine Area Redevelopment Plan (2005)

The originally adopted Redevelopment Plan for the Aeromarine site at the north end of the Borough anticipated residential and recreational uses based on the marketability of the waterfront

Aeromarine Area Redevelopment Plan Solar Overlay Amendment (2010)

The 2010 Amendment allows for the development of a ground-based solar panel energy facility on the landfill portion of the site.



During the surge from Superstorm Sandy, the site essentially became an island, with the elevated landfill portion being the only portions that were not flooded.

Potential Use	Like ("L"); Neutral ("N"); Dislike ("D")
Residential	
Solar Farm	
Park (Passive)	
Recreational (Active) /Marina	
Other	



Climatology Adaptation Planning & Mapping

Storm Surge Inundation (SLOSH Maximum of Maximums)

This web map displays a seamless national map of near worst case storm surge flooding (inundation) scenarios using the National Weather Service (NWS) SLOSH model maximum of maximums (MOMs) product for different hurricane wind categories at a high tide



- Category 1
- Category 2
- Category 3
- Category 4
- Category 5

Category 1 Storm Surge Inundation (SLOSH Maximum of Maximums)

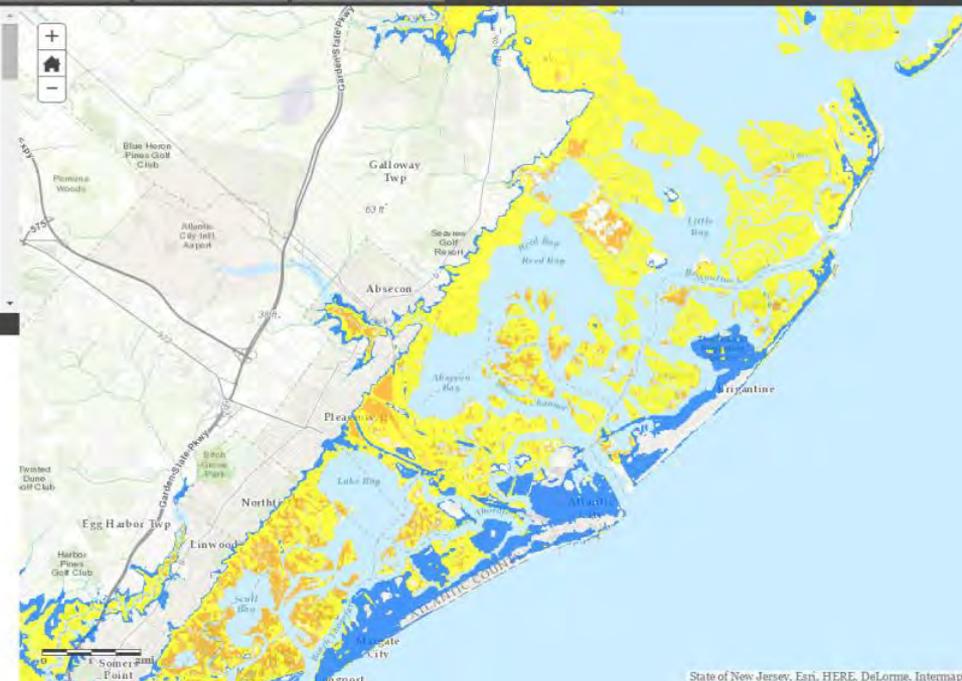
With this education and awareness tool, anyone living in hurricane-prone coastal areas along the U.S. East and Gulf Coasts can now evaluate their own unique risk to storm surge. This map makes it clear that storm surge is not just a beachfront problem, with the risk of storm surge extending several miles from the immediate coastline in some areas. "You don't have to think very hard about it, just look at your location on the national map to find out if you are in an area at risk for storm surge from a future tropical storm or hurricane", said Brian Zachry, Ph.D., NHC storm surge specialist.

What should individuals do if they discover that they live in an area vulnerable to storm surge? "You should find out today if you live in a hurricane storm surge evacuation zone as determined by your local emergency management agency", said Dr. Rick Knabb, Director of

LEGEND

Category 1 (SLOSH MOMs) Storm Surge Inundation Inundation Depth

- Up to 3 feet above ground
- Greater than 3 feet above ground
- Greater than 6 feet above ground
- Greater than 9 feet above ground
- Levee Areas - Consult Local Officials For Flood Risk



State of New Jersey, Esri, HERE, DeLorme, Intermap, USGS, NGA, EPA, USDA, NPS | Data processed by the Nation...



RUTGERS
UNIVERSITY





Thank You

Monmouth County - NWS Earle Joint Land Use Study
Policy Committee Meeting
Friday, January 20, 2017, 10AM
County Planning Board Conference Room

MEETING NOTES

AGENDA

JLUS Overview: The Grant, Goals, Purpose, & Process	Linda Brennen, PP/AICP Project Manager
Introduction of the Consultant Team	Gerald DeFelicis, LLA, RLA, PP Maser Consulting
History and Mission of NWS Earle	Dennis Blazak Community Plans and Liaison Officer, NWS Earle
Study Area: Municipalities, MIA, & STAHNET	Linda/Jay
Climate Adaptation Issues and Modelling NJ FRAMES	Jay
Interface between planning partners: County/ Municipalities / NWS Earle and Consultant team	Jay and Richard Dorrier AECOM
Next Steps: Committees, Stakeholders & Public Involvement Website Development Spring Installation Tour Plan Development	Maser and HR&A (Jee Mee Kim)

Attendees:

Representing the County of Monmouth:

Lillian G. Burry, Monmouth County Freeholder Director
John Tobia, Director, Monmouth County Department of Public Works and Engineering
Ed Sampson, Director, Monmouth County Division of Planning
Linda Brennen, Supervising Planner, Monmouth County Division of Planning
Kyle Clonan, Environmental Specialist, Monmouth County Division of Planning

Representing Naval Weapons Station Earle:

Captain Jay M. Steingold, NWS Earle CO
Dennis Blazak, Community Plans and Liaison Officer

Representing the State of New Jersey:

Gerry Scharfenberger, Director, Office for Planning Advocacy

Representing Municipalities:

James Clarkin, CME Associates on behalf of Tinton Falls
Jeff Bertrand, Administrator Wall Township
Nora Coyne, Planner Wall Township
Sanyogita Chavan, Director of Planning for Middletown Twp.
Matthew Howard, Howell Twp. Land Use Officer
Kathleen Capristo, Colts Neck

Planning Team:

Gerald DeFelicis, Project Manager, Maser Consulting
Debbie Lawlor, Planning Director, Maser Consulting
Richard Dorrier, AECOM
Jee Mee Kim, HR&A Advisors



Monmouth County Planning Director Ed Sampson welcomed everyone to the meeting. Introductions of attendees were conducted, followed by presentations w by Linda Brennen of the County, Jay DeFelicis from Maser Consulting, and Dennis Blazak from NWS Earle, outlining the scope and intent of the planning project. (Copies of Brennen’s and DeFelicis’ presentations are attached).

The following is a compilation of different attendee’s notes of the meeting:

As recorded by Kyle Clonan, Monmouth County Division of Planning

1. County Planning Director Sampson welcomed everyone to the meeting. Attenders introduced themselves.
2. JLUS Grant Overview - Ms. Brennen
 - a. Grant schedule was reviewed, noting an end date of January 2018
 - b. The process and main goals were discussed
3. Consultant Team Introductions and Study Overview - Mr. DeFelicis

- a. Reviewed recent Rutgers Sea Level Rise study, focusing on Bayshore, Middletown north, Route 36 corridor area
 - b. Mentioned 3-year NJ FRAMES project which is using the same Rutgers model for Sea Level Rise in the Navesink/Swimming River Watershed
 - c. Maser will review RU SLR Climate predictions and how it impacts Earle municipalities and the route 36 corridor.
 - d. Capt. Steingold brought up other SLR models which predict a faster rise than the recent Rutgers study. Mr. Blazek noted that regardless of the difference in prediction to 1 foot sea level rise (which was approximately 5 years), their real concern is the target range of 1-3 foot sea level rise, as that is when critical infrastructure is vulnerable
4. NWS Earle Mission and History - Mr. Blazek
 - a. Described Pier Complex & Base functions
 - b. Noted on-going projects and that the base wants to work with communities for adapting to climate change, so that the base does not become a resiliency island if other facilities go down.
 5. JLUS Study Area Overview and Committee Structure - Ms. Brennen
 - a. Maps handed out to attendees
 - b. Mr. Blazek explained the concept of the Military Influence Area
 - c. Climate adaptation needs to be planned into transit network, bridges, drainage systems, utilities, and other infrastructure.
 6. Coordination between Planning Partners and Policy Committee, General Comments - Mr. DeFelicis
 - a. Mr. Tobia (MC Public Works & Engineering) commented that Monmouth Executive Airport influences on possible development and service to NWS Earle should be reviewed. Mr. Blazek responded that there are possible issues in compatibility, especially if the airport was to expand and offer larger commercial services and planes. The current landing strip is over the “I Group” storage area. Having the airport close could also be an asset, as the naval base no longer has an aviation program of their own. For the record, Wall representatives noted that they do not want further development of the airport or larger commercial flights being offered there.
 - b. Mr. Tobia also commented that the usage of Fort Monmouth may need to be considered. Mr. Dorrier (AECOM) and Ms. Jee Mee Kim (HR&A) noted that both of their companies worked on previous Fort Monmouth redevelopment plans.
 - c. Capt. Steingold noted NWS Earle is still waiting for the “go-ahead” on their utility redesign and solar energy project. The planned project would increase their sustainability and resiliency, while reducing energy costs, and also giving 20

megawatts back to the grid. He also noted some utility related pest problems on base, such as opossums, and that Earle is a “no drone zone”.

- d. Mr. Blazek and Capt. Steingold stressed the importance of land routes to the base, which are responsible for daily ammunition deliveries. They noted the difficulty of the Route 33/34 intersection, and the need for continuous county and state road maintenance. He noted that the Normandy Road/Rail corridor is unfenced.
- e. Capt. Steingold noted that ammunition on base is stored so no chain reaction explosions could occur between storage facilities. NWS Earle loads an average of 20 ships per year at their pier complex, as well as additional smaller-artillery Coast Guard boats.
- f. Mr. Scharfenberger (NJ Office for Planning Advocacy) noted that he stresses compatibility with Department of Defense bases during his meetings with municipalities that house military installations. He mentioned that the possibility of civilian leased housing on NWS Earle was recently brought to his attention, and asked if this is something the JLUS should discuss. Capt. Steingold responded that it is not something that needs to be considered for the purpose of the JLUS study, as it would not be one of NWS Earle’s core duties if it were to occur. He and Freeholder Director Burry noted that it is an ongoing debate. There are approximately 20 existing housing units that have not been used over multiple years. Active Duty personnel at NWS Earle have dropped from 3000 at its peak to approximately 300. Some personnel live off base, stressing the importance of the transportation corridors.
- g. Mr. Tobia shared that he is happy with the cooperation between NWS Earle and the County Division of Public Works & Engineering, and described the success of their partnership and shared services programs. The County now salts and plows Normandy Road during winter snowfalls.
- h. Mr. Tobia also noted that the improvement project for the Rt. 537 & Rt. 34 intersection in Colts Neck is in its final stages of planning, and that construction should begin in June or July of 2017.
- i. Freeholder Director Burry noted the high concentration of veterans in Monmouth County—recently estimated at 30,000. She asked about the possibility of establishing a commissary on NWS Earle, noting that the only close one closed on Fort Monmouth. She spoke about the benefits to the veterans of the County and how it could possibly make money for the base. Capt. Steingold noted that he believes a commissary would be good for NWS Earle, and that he and Mr. Blazek have previously petitioned the DOD for the establishment of one at Earle. Their petition was turned down, citing proximity to a commissary at Joint Base McGuire-Dix-Lakehurst, and the lack of a sufficient number of active duty military at NWS Earle.

- j. Mr. Dorrier (AECOM) asked Capt. Steingold about sharing information regarding base duties with the public. Capt. Steingold responded that questions on explosive safety can be discussed, but operation specifics cannot be shared with the public for security reasons.
 - k. Mr. Dorrier asked about conflicts with recreational boating in Sandy Hook Bay. Capt. Steingold discussed the Navy buoys that set the boundaries of the protection zone around the pier, and is confident in their efforts to keep encroachment out from both recreational and commercial boaters.
7. Next Steps - Ms. Brennen
- a. This committee will meet again, most likely in March to discuss website development, the Public Involvement Plan, and further development of the JLUS Study.
 - b. A spring installation tour is being planned for this Committee, possibly to be combined with the meeting.
 - c. Mr. DeFelicis noted that Maser is in information-gathering mode and will soon be reaching out to the municipalities.



Notes from Richard Dorrier, AECOM

Questions/comments raised by Monmouth County:

- Is the airport a concern with the base?
- Can Fort Monmouth redevelopment support NWS Earle?

Notes from CO's presentation:

- A no-drone zone has been established over NWS Earle
- Land routes for trucks are also important to NWS Earle
- Housing rentals on-base has been on on-going issue
- There is an inter-governmental service agreement with the County for snow & ice removal on Normandy Road
- The County (?) sanitation company has requested use of Normandy Road (status?)
- Rt 34/537 intersection improvements will start this summer
- Road re-surfacing for selected crossings is also being done
- Increased services (e.g., Commissary) at NWS Earle would be desirable (for both retired military and base employees)
- The Defense Commissary Agency (DeCA) did not approve an expanded commissary at Earle on their last review
- Base employees received a 1% Cost of Living Allowance (COLA) increase last year
- Dennis Blazak (NWS Earle CPLO) can help us on what materials can be released to the public
- Transportation improvements around the base should be identified in the JLUS to help with programming/funding

Notes from Jee Mee Kim, HR&A Advisors:

- Monmouth Exec Airport (in Wall) should be considered. Wall does not want to see further airport expansion. NWS Earle would be concerned about aviation encroachment which has not yet been an issue.
- The issue of housing rentals on the base being made available to civilians is not a military or NWS Earle issue, it is a political matter.
- Linda mentioned that the JLUS could be beneficial in terms of leveraging other sources of funding to pay for additional planning studies or project implementation.

Monmouth County - NWS Earle Joint Land Use Study
General Advisory Committee Meeting
Monday, February 13, 2017 10AM
County Planning Board Conference Room

AGENDA

JLUS Overview: The Grant, Goals, Purpose, & Process	Linda Brennen, PP/AICP Project Manager
Review of the Consultant Team and Roles	Gerald (Jay) DeFelicis, LLA, RLA, PP Maser Consulting
History and Mission of NWS Earle	Dennis Blazak Community Plans and Liaison Officer, NWS Earle
Study Area Reviewed relative to the Municipalities, Earle and the local Zoning Areas:	Jay
Review of Climate Adaptation Issues and Modelling	Jay
Coordination with NJ FRAMES	Nick Angarone, NJDEP
Discussion of Local Issues	Jay / Linda
Next Step	Jay / Jee Mee Kim, HR&A
Website Development Municipal Meetings Spring Installation Tour Plan Development	

Monmouth County - NWS Earle Joint Land Use Study
General Advisory Committee Meeting
Monday, February 13, 2017, 10AM
County Planning Board Conference Room

Meeting Minutes

AGENDA

- JLUS Overview: Edward Sampson, PP/AICP
The Grant, Goals, Purpose, & Process Project Manager
- Review of the Consultant Team and Roles Gerald (Jay) DeFelicis, LLA, RLA, PP
Maser Consulting
- History and Mission of NWS Earle Dennis Blazak
Community Plans and Liaison Officer, NWS Earle
- Review of Climate Adaptation Issues and Modelling Jay
- Study Area Reviewed relative to the Municipalities, Earle and the local Zoning
Areas: Jay
- Coordination with NJ FRAMES Nick Angarone, NJDEP
- Discussion of Local Issues Jay / Linda
- Next Step Jay / Jee Mee Kim, HR&A
- Municipal Meetings
Spring Installation Tour
Plan Development

Attendees:

Attendees:	
Erik Brachman	Borough of Eatontown Zoning Officer
Brian Geoghegan	Highlands Borough
Mike Oppegaard	Monmouth County OEM
Adam Hubney	Atlantic Highlands
Margaret Murnane Brooks	Monmouth County OEM
Jim Herrmann	Howell Township
Matt Howard	Howell Township
Sanyogita Chavan	Middletown
Tim Anfuso	Colts Neck
Alain Fortier	Monmouth County Health Department
Joseph Ettore	Monmouth County Engineer
Inkyung Englehart	Monmouth County Division of Engineering
Paul Gleitz	MCPS
Nora Coyne	Wall Township
Gerry Scharfenberger, PhD.	Director, NJ Office for Planning Advocacy & Middletown Mayor
Jee Mee Kim	HR&A Advisors
James Splendore	HR&A Advisors
Gerald DeFelicis	Maser Consulting
Ed Sampson	Monmouth County Director of Planning
Linda Brennen	Monmouth County Division of Planning
Kyle Clonan	Monmouth County Division of Planning

Kyle Clonan Notes:

1. County Planning Director Sampson welcomed everyone to the meeting. Attendees introduced themselves.
2. Mr. Clonan provided the JLUS Overview: The Grant, Goals, Purpose, & Process
3. Mr. Blazek discussed the History and Mission of NWS Earle:
 - a. Discussion on safety concerns included open access to the Normandy Road, the train corridor, public use of Sandy Hook Bay, and the proximity of transportation ferry routes to the naval pier.
 - b. Mr. Blazek noted the necessary adaptations to climate, as the Navy prepares for sea level rise following the NOAA and Navy Oceanographer estimations. Their preparation will not be affected by Executive Orders.
4. Mr. DeFelicis provided an overview of Climate Adaptation Issues and Modeling:
 - a. Mr. DeFelicis described the make-up of the consulting team and their respective duties, and reviewed Maser's recent work mapping zoning in the towns of the Military Influence Area.

- b. The potential impacts of climate change on the study area and the relationship to local zoning were discussed.
5. Open Discussion:
- a. Mr. Scharfenberger asked how future development around the Military base will fit into NWS Earle's strategy and continued base mission, and if there is any current development which is already incompatible with the base's mission. He also raised the question of what would happen in the event something incompatible was developed or planned? Mr. DeFelicis answered that looking into compatibility issues is the consultant's next step, including looking at open, unpreserved lands and how to steer them towards compatible usage.
 - b. Mr. Gleitz raised the point that the consultants should research "underdeveloped" lands. For instance, not all areas zoned as "single family development" are the same—could be a neighborhood with multiple houses, or a single home sitting on 5-10 acres. The MCPS makes use of these "underdeveloped" areas when targeting acquisition sites, and they could continue to provide adequate buffer to Earle if they exist.
 - c. Ms. Kim asked about concerns over climate adaptation and if this has yet influenced land use planning and economic development.
 - i. Mr. Hubne said Atlantic Highlands has considered climate change in their planning, but it is not a "hot topic" and probably should be stressed more. He notes their Master Plan is currently under review and could include updates.
 - ii. Mr. Gleitz noted the MCPS has looked at climate in response to restoration, especially for the Park System's estuaries, living shorelines, and stream and river restorations. They are beginning the process of bringing bioengineering, habitat restoration, and resiliency into their plans, and similar opportunities for maintaining land for shared ecosystem services exist between the Parks System, NWS Earle, and municipalities as part of this JLUS.
 - d. Mr. Geoghegan spoke of the planned Army Corps of Engineers projects in the Bayshore area.
 - e. Mr. Hubney noted the greatest commercial and economic influence of the base on Atlantic Highlands is in regard to the port. All interactions with military personnel and the base have been positive and helped the town. The downtown businesses in particular have made efforts to increase military customers by offering special prices and opportunities. He noted that increased public understanding of navigable zones is necessary. Mr. Blazek commented that the white buoys surrounding the military area in the Bay will be returned this spring.
 - f. Representatives from Howell noted the town's desired development of the Rt. 33 corridor is affected by Earle, as commercial businesses do not feel they can draw

enough customers. He asks if it is in the military's interest to slow development of this area. It is also noted that land under the NWS Earle jurisdiction is still contributes to Howell's Affordable Housing requirements, possibly inflating the number of affordable housing units Howell needs to develop. Approximately 10% of Howell land is under NWS Earle's jurisdiction, and asked if the town could get an exemption from the State on this land for their Affordable Housing calculation. It was discussed that this is a problem for all Earle municipalities. Meanwhile, as municipalities seek to find ways to reach their Affordable Housing requirements, the land surrounding NWS Earle that is generally underdeveloped has been targeted for higher density Affordable Housing development. Mr. Blazek noted that while that kind of development would be outside Earle's boundaries and technically allowable, it would not be considered compatible to Earle's mission as a Weapons Station that stores and ships explosives.

HR&A Advisors Notes:
General Advisory Committee Meeting
Feb 13, 2017

Overview

- Naval Operations
 - Access to Atlantic makes this a very important station
 - One of the few viable locations for large operation in NJ
 - Ft. Monmouth was too expensive to acquire
- Impacts
 - FY '15 impact - \$1M
 - 1k people on base on regular day
 - 288 residents
 - Some housing on base and barracks for sailors (3 buildings for barracks)
- Challenges
 - Incompatible building around the base
 - Safety surrounding the railroad/Normandy Rd
 - Public use of Sandy Hook Bay
 - Climate change
 - Navy policy is to mitigate risk
 - Not based on Executive Orders or politics
 - First JLUS to address climate change adaptation; will be replicated at other locations, including Norfolk
 - Municipalities' interest and ability to aid process

History & Mission of NWS Earle

- Normandy Rd. is private road but can be accessed
- Much of the zoning in the surrounding areas is single family with some for research and schools
- Military personnel get stipend for housing, which is available to be used in communities outside of base

Climate Adaptation

- Military has interest in functional piers and waterfront functionality based on multiple sea level projections

Study Area & Municipalities

- Need to determine contact person/lead for each municipality
- Looking primarily at core towns but periphery towns can also play a role
- Recommendations for development adjacent to the base – what is compatible? What areas are workable for development?
- Can NWSE and towns share services (e.g., shared services agreement in place, if so where and how.

Participant Comments

- Navy funding may be better than DOD or Congressional funding
- Parks system and open space
 - State/County open space plan to be produced soon
- In addition to vacant lots, soft sites should be examined (e.g., older single family homes on five to ten acres)
- Climate adaptation & land use planning/economic development is not a topic that is getting a lot of discussion – there are “believers” and “non-believers”
- Middletown benefits from NWSE personnel frequenting restaurants, movie theaters, retail
- Route 33 corridor is important to Howell, but presence of Base limits ability of corridor to attract enough activity to make businesses viable
- Concern particularly in Howell that limited economic activity and commercial development limits potential ratables
- Housing, particularly low income housing requirements, expressed as a concern.
 - High-density housing is not feasible being close to main base area
 - Only low-density along Normandy Rd. and along big magazine areas
 - COAH requirements count Earle and MIA toward housing requirements in Howell
 - 600 affordable units needed in North Howell (3k total), per COAH reqs, could be 1,000+ when including MIA

- Can Navy help Howell - consider high-density housing antithetical to the mission of the base?
- Employment on the base
 - There is no official count of County residents who work on the base and where they live

Monmouth County - NWS Earle Joint Land Use Study
General Advisory Committee Meeting
Tuesday, April 25, 2017 10AM
County Planning Board Conference Room

AGENDA

JLUS Grant Overview: Linda Brennen, PP/AICP
Progress, Related Projects & Public Outreach County Project Manager

Review of the Consultants Tasks Gerald (Jay) DeFelicis, LLA, RLA, PP
Maser Consulting

Review of Climate Adaptation Modelling Matt Campo, Rutgers

Study Area Review: Items Relative to the Municipalities Jay / Matt
Impact of Sea Level Rise and Associated Issues

Coordination with NJ FRAMES Nick Angarone, NJDEP

Earle and the Local Zoning Areas: Jay / Jee Mee Kim

Next Steps: Jay / Jee Mee Kim, HR&A / Dennis Blazak, NWS Earle
Municipal Meetings
Spring Installation Tour
Plan Development

JLUS General Advisory Committee Meeting

April 25, 2017

Presentations:

- Review of Climate Adaptation Modelling by Matt Campo, Rutgers University
- Coordination with NJ FRAMES Nick Angarone, NJDEP

Project updates were given by the team.

SC Comments/Questions

- NWSE has a new CO starting in May: Captain Pierre Fuller
- Concern that SLR estimates don't consider impact of in-land precipitation events that cause stream and wetland flooding. These events directly impact bridge structures.
- Questions were raised about NJ DEP's role in the plan, e.g., how would NJDEP be involved if recommendations about raising bridges or improving drainage were developed as part of the plan.
- Current modeling/science does not consider the combined impact of a severe in-land precipitation event and a coastal storm. However, NJDEP requires municipalities to create these complicated, expensive models when permit requests are issued.
- Several municipal reps requested that NJDEP land use staff and land use considerations be incorporated in the FRAMES process.
- Recommended that policy measures with firm deadlines be provided in the final JLUS document. These measures could then be adopted/executed by NJDEP and other agencies after issuance of report.
- JLUS resiliency recommendations need to identify suite of solutions to address frequency and severity of events.
- Next steps:
 - One-on-one meetings with Town reps to be scheduled. May 10 seems to be ideal date for three of out of five Towns to participate.
 - Meetings will be scheduled with County agencies for direct input (Public Works & Engineering, OEM, Park System, Economic Development).
 - NWSE to schedule base tour.
 - Original schedule identified January 2018 as end date; J. DeFelicis suggested that the draft report could be ready as early as summer 2017.

From: Brennen, Linda [mailto:Linda.Brennen@co.monmouth.nj.us]

Sent: Wednesday, May 03, 2017 10:43 AM

To: Adam Hubeny; Mayor Rhonda Le Grice; Brian Geoghengan; Erik Brachman; Englehart, Inkyung; Ettore, Joseph; Miller, Rosanne; Tobia, John; Jeffery Bertrand; Nora Coyne; O'Connor, Teri; Elias, Geri; Jim Herrman; Matthew Howard; Ciufu, John; Mike Fedosh (mfedosh@earthsys.net); Michael Oppegaard; Nick Angarone; Gerry Scharfenberger; cnplanners@coltsneck.org; Gleitz, Paul; Kathleen Capristo (kcapristo@coltsneck.org); Burry, Lillian; DiLeo, Darlene; Sampson, Edward; DeJong, Debby; Cerreta, James

Cc: Gerald DeFelicitis; Blazak, Dennis CIV NAVFAC MIDLANT, PWD Earle

Subject: NWS Earle Base Tour - Tuesday May 23 at 7:45AM

To All,

The NWS Earle Base Tour has now been scheduled for **Tuesday, May 23, 2017**. We will meet with Captain Fuller from 8-8:30am. It takes a while to get through security, so it has been suggested that you arrive at the Rte. 34 gate at **7:45am**. We will be back to our cars at approximately 12:30pm. Details and directions are provided below.

You must RSVP confirming your attendance no later than Wednesday, May 10 to be on the list at the gate. Contact me with any questions. On the day of the tour, you will need a **photo driver's license** in order to be admitted.

I look forward to seeing you all on the tour,
Linda Brennen
Project Manager

*Linda J. Brennen, PP/AICP
Supervisor, Environmental & Sustainability Planning
Monmouth County Division of Planning
One East Main Street, Freehold, NJ 07728
732-431-7460
732-409-7540 (fax)
Linda.Brennen@co.monmouth.nj.us*

Tour details & directions:

Enter the Route 34 main gate at approximately 0745 and proceed along the curved entrance road (to the left), to the Entry Control Point. Enter when the guard waves you in. Say you are there for the **JLUS Base tour** and your name will be checked off of the list. Proceed past the pop up barriers and make a left hand turn on Memorial Drive, make a right at the flag circle, a left at the chapel and park in the rear of building C-9 (the theater entrance is in the back). You will likely see two large white passenger vans parked nearby.

At Building C-9 Theater the CO will meet and greet, then provide a short introduction to the installation 0800-0830. Two 15 passenger vans depart building C-9 and tour Mainside, approximately 90 minutes Proceed down Normandy Road (30 minutes transit, with one brief stop at Highway Bridge 4, over the Swimming River, and a pause at Kings Highway East) Waterfront Admin and part of Chapel Hill (20 minutes) Pier Complex (30

minutes with several pauses and a stop at the end of the pier) OHMSETT Facility (Sandy damage, climate adaptation, oyster tanks, OHMSETT mission). Return to C-9 by 1230.

NWS Earle Base Tour 5/23/17

Name, last	Name, first	Title	Affiliation
Angarone	Nicholas	Planner	NJDEP
Bertrand	Jeffrey	Administrator	Township of Wall
Brachman	Erik	Zoning Officer	Borough of Eatontown
Brennen	Linda	Supervising Planner	County of Monmouth
Brice	Robert	Chief of Police	Township of Wall
Brown	Kenneth	Captain, Police Dept.	Township of Wall
Capristo	Kathleen	Administrator	Township of Colts Neck
Cerreta	James	Engineer	County of Monmouth
Coyne	Nora	Township Planner	Township of Wall
DeFelicis	Gerald	JLUS Consultant - Proj. Manager	Maser Consulting, PA
DeJong	Debbie	Engineer	County of Monmouth
Ettore	Joseph	County Engineer	County of Monmouth
Fedosh	Michael	Chairman	County Environmental Council
Geoghegan	Brian	Administrator	Borough of Highlands
Herrman	James	Dir. Community Development	Township of Howell
Howard	Matthew	Land Use Director	Township of Howell
Hubany	Adam	Administrator	Borough of Atlantic Highlands
LaGrice	Rhonda	Mayor	Borough of Atlantic Highlands
Lentini	Joseph	Director of Public Works	Township of Wall
O'Connor	Teri	Administrator	County of Monmouth
Scharfenberger	Gerard	Mayor	Township of Middletown
Tobia	John	Dir. Public Works & Engineering	County of Monmouth

22 Participants

Photos from the Earle JLUS Policy Committee-General Advisory Committee Base Tour
May 23, 2017



JLUS Policy Committee and General Advisory Committee members were invited to meet the new Base Commander, Capt. Pierre A. Fuller, at a 'meet and greet' before the formal base tour began.



The tour included Mainside, Normandy Road, Chapel Hill area, the Waterfront complex, and the pier.



Community Plans and Liaison Officer Dennis Blazak, who organized the tour, provided an overview of operations and history of the site.



The group stopped at the on-site OHMSETT facility.



Tour attendees, representing a number of the participating municipalities and several County agencies, posed for a group picture at the end of the nearly 3-mile Navy pier that juts in Sandy Hook Bay.

**Monmouth County - NWS Earle Joint Land Use Study
Policy Committee Meeting**
Wednesday, August 23, 2017, 10AM
County Planning Board Conference Room

AGENDA

JLUS Update:
Progress since January

Linda Brennen, PP/AICP
Project Manager

Consultant Team Areas of Expertise

Gerald DeFelicis, LLA, RLA, PP
Maser Consulting

HR&A: Economic Development
AECOM: Military Related
Rutgers: Climate Resilience
Maser: Land Use and Infrastructure

Power Point Presentation to include:

Brief review of Steps accomplished so far, including:
Meetings and Site Visits to Base
Research and Outreach to communities
Mapping and Zoning Review
Compatibility Assessments

All of which leads to Review of
Recommendations
Implementation Matrix

- Communications/Outreach – AECOM
- Land Use – Maser
- Economic Development – HR&A
- Transportation – Maser
- Utilities – Maser
- Climate Resilience – Rutgers
- Security – AECOM

Questions and Discussion

Next Steps: Taking Draft Recommendations to the General Advisory Committee,
Technical Advisory Group Stakeholders and the public

8/23/17—JLUS Policy Committee Meeting—Updates and Stakeholder Recommendations Review

1. Jay DeFelicis goes over last committee meeting in January and work that has been done since, background as to where we are now on PowerPoint.
 - a. Reviewed meetings and site visits, including specialty recreational marine meeting.
 - b. Reviewed maps and questionnaire sent to municipalities
 - c. Overall impressions from municipal meetings
 - d. PW&Engineering: questions on airport concerns coming up with Wall and military. Jay briefly goes into recommendations for airspace restrictions, airport as well as drones. No one really wants airport to expand usage. Will continue later.
 - e. Reviews climate resilience map. Working on this now
 - f. Reviews report structure, which will basically be table of contents for report.
2. Richard-AECOM-Communication and Outreach Portion
 - a. Reviews that the issues in matrix are pretty standard for their past JLUS studies, and how the matrix works
 - b. Reviewed recommendation one by one, asking for questions or comments afterwards. No questions
3. Jay—Land Use Matrix
 - a. Richard notes on B-1, recognizing the 3000 foot buffer zone and making appropriate zoning considerations.
 - b. Lawlor notes that getting the undeveloped NWS Earle land out of COAH calculations, as you cannot actually build affordable housing inside the base. Howell notes that the 3000 foot buffer should be included as well. They already have 6 high density housing scheduled for inside the 3000 foot zone.
 - c. They want the language strengthened about COAH and the affordable housing requirements, and the time pressure in this issue
 - d. Blazek asks if it would be appropriate to speak with the Secretary of State to the appropriate judge, as the Military Ombudsman has been unresponsive. Howell notes that the federal government has the most clout, and needs to take the lead on this to influence the state.
4. James—HR&A, economic development
 - a. Colts Neck asks if the route 34/33 area includes Colts Neck area is being given consideration for redevelopment. Colts Neck administrator wants to keep Colts Neck commercial area to their designated commercial area by route 18. Richard says not looking for no growth, looking for the right growth in the right places. focused on Wall/Howell
5. Jay—Transportation & Utilities
6. Matt Campo—Climate Resiliency
7. Jay—Security

Monmouth County - NWS Earle Joint Land Use Study
General Advisory Committee Meeting
Wednesday, September 6, 2017, 2 PM
County Planning Board Conference Room

AGENDA

JLUS Update:
Progress

Linda Brennen, PP/AICP
Project Manager

Consultant Team Areas of Expertise

Gerald DeFelicis, LLA, RLA, PP
Maser Consulting

HR&A: Economic Development
AECOM: Military Related
Rutgers: Climate Resilience
Maser: Land Use and Infrastructure

Power Point Presentation to include:

Brief review of Steps accomplished so far, including:
Meetings and Site Visits to Base
Research and Outreach to communities
Mapping and Zoning Review
Compatibility Assessments

All of which leads to Review of
Recommendations
Implementation Matrix

- Communications/Outreach
- Land Use
- Economic Development
- Transportation
- Utilities
- Climate Resilience
- Security

Questions and Discussion

Next Steps: Taking Draft Recommendations to the General Advisory Committee, Technical Advisory Group Stakeholders and the public



Monmouth County Joint Land Use Study for Naval Weapons Station Earle



General Advisory Meeting
September 6, 2017

Maser Consulting P.A.

AECOM

HR&A Advisors, Inc.

Rutgers University

Overview of Project Team

HR&A: Economic Development

Jee Mee Kim, AICP, Principal

James Splendore, AICP

AECOM: Military Related

Richard Dorrier, AICP

Rutgers: Climate Resilience

Matt Campo

Senior Research Specialist

Edward J. Bloustein School of Planning & Public Policy

Rutgers, The State University of New Jersey

Maser: Community Outreach and Land Use

Gerald (Jay) DeFelicis, LLA, RLA, PP

Landscape Architect/Planner



Overview of Project Progress

Meetings and Site Visits to Base

Research and Outreach to Communities

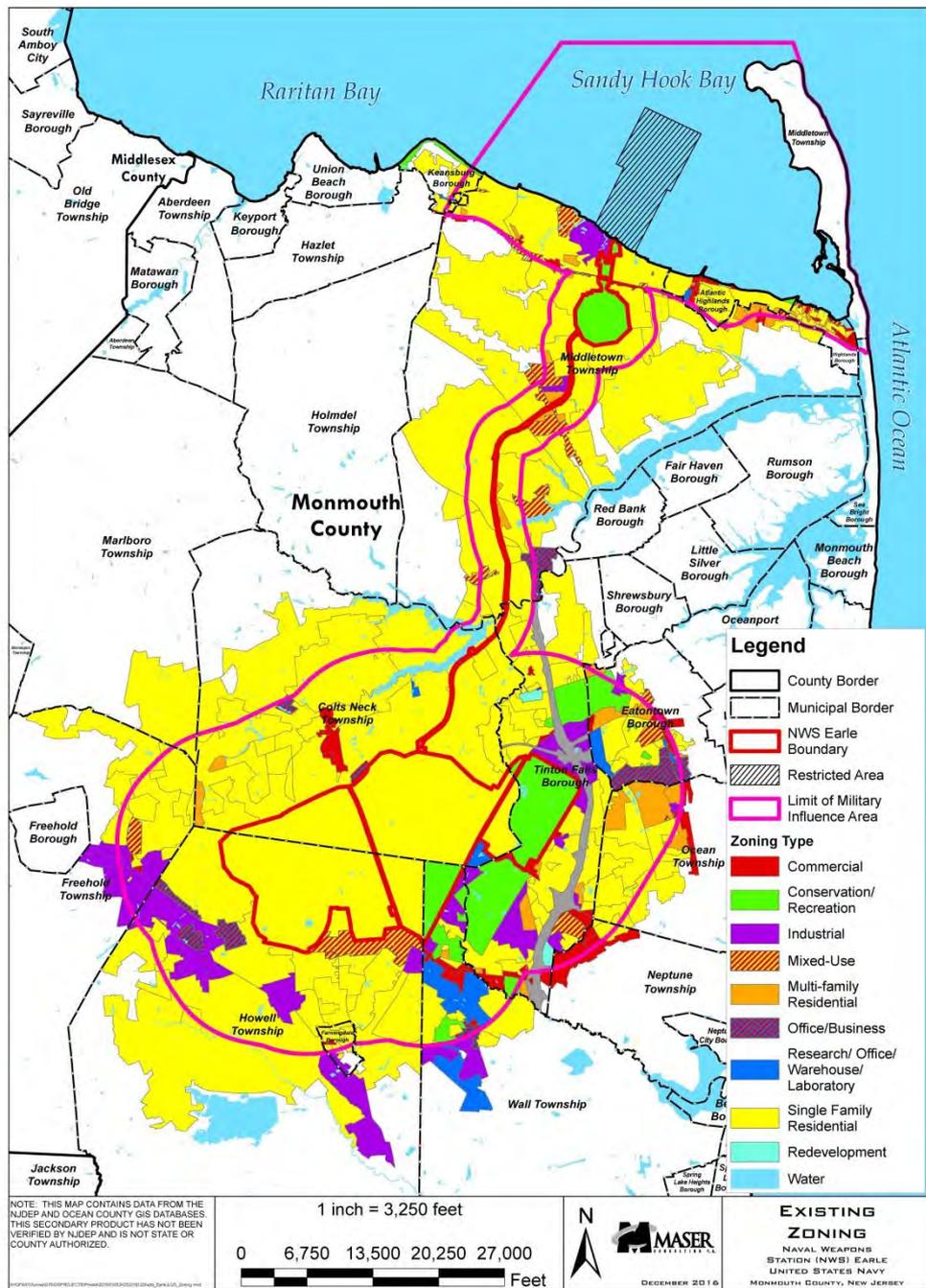
Mapping and Zoning Review

Report Structure

Recommendations and Implementation Matrix

Meetings and Site Visits

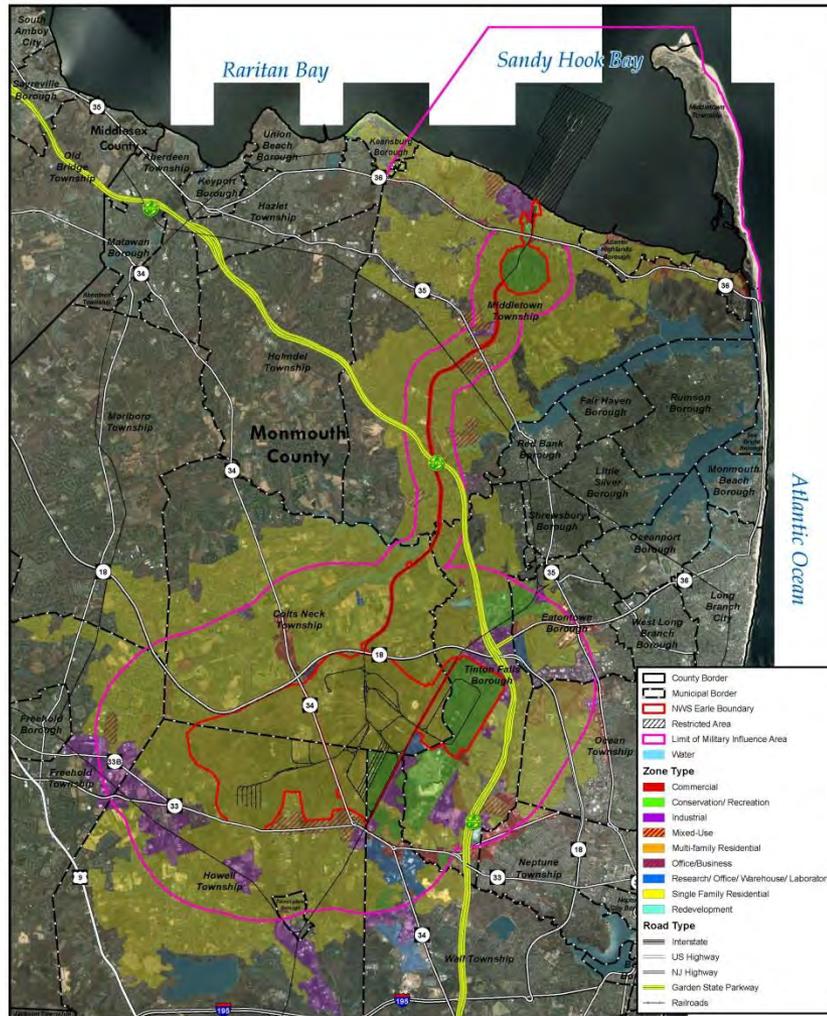
- **Task 2: Technical Working Groups**
 - Initial Policy Committee Meeting January 20, 2017
 - General Advisory Committee Meeting (1) February 13, 2017
 - General Advisory Committee Meeting (2) April 25, 2017
 - County Department Meeting May 22, 2017
 - Specialty Meetings with Groups
 - August
 - Recreational Marine Meeting
 - Regional Economics and Development
- **Task 3: Stakeholder and Public Involvement**
 - Subtask 3.2: Installation Tour
 - Technical Base Site Visit March 29, 2017
 - Base Visit with Municipalities and Public Officials May 23, 2017
 - Subtask 3.4: Public Meetings (3)
 - Project Initiation Public Open House (1) March 28, 2017



Research and Outreach to NWS Earle Communities

Meetings with Local Municipalities

- Colts Neck May 10, 2017
- Middletown May 10, 2017
- Howell May 10, 2017
- Tinton Falls May 17, 2017
- Wall May 15, 2017



Sources: County & Municipal boundaries from NJGIN, 2011 NJDOT Roadway Network and Railroads, Naval Station Earle boundary provided by the U.S. Navy, NJDEP Waterbodies 2002, Zoning provided by Monmouth County



EXISTING DEVELOPMENT

NAVAL WEAPONS STATION (NWS) EARLE
 UNITED STATES NAVY
 MONMOUTH COUNTY NEW JERSEY
 MAY 2017

J:\InGIS\Survey\GIS\PROJECTS\Private\2016\160024230\170131_Earle\JLUS_Development.mxd

Research and Outreach to NWS Earle Communities

A Municipal Questionnaire was developed that asked each community about their relationship with **NWS Earle**:

How is the Naval Weapons Station is perceived by residents, businesses, and/or stakeholders in your community?

Any direct or indirect involvement with Naval Weapons Station Earle? Do residents work on the base?

What your vision of your community is moving into the future?

Do your present Planning documents, such as your Master Plan, make reference to Earle?

Has your community in the recent past or is your community in the process of doing Economic Development Planning?

What economic and social issues are most pressing in your community?

If you have vacant lands in your community, specifically within or close to the Military Influence Area how does your community envision them being developed in the future?

Has your community studied/developed/implemented any new storm resiliency plans/measures?

Does your community have Traffic and or Transportation Issues, in particular around the Route 33/34 Corridor, Normandy Road, and Route 36.

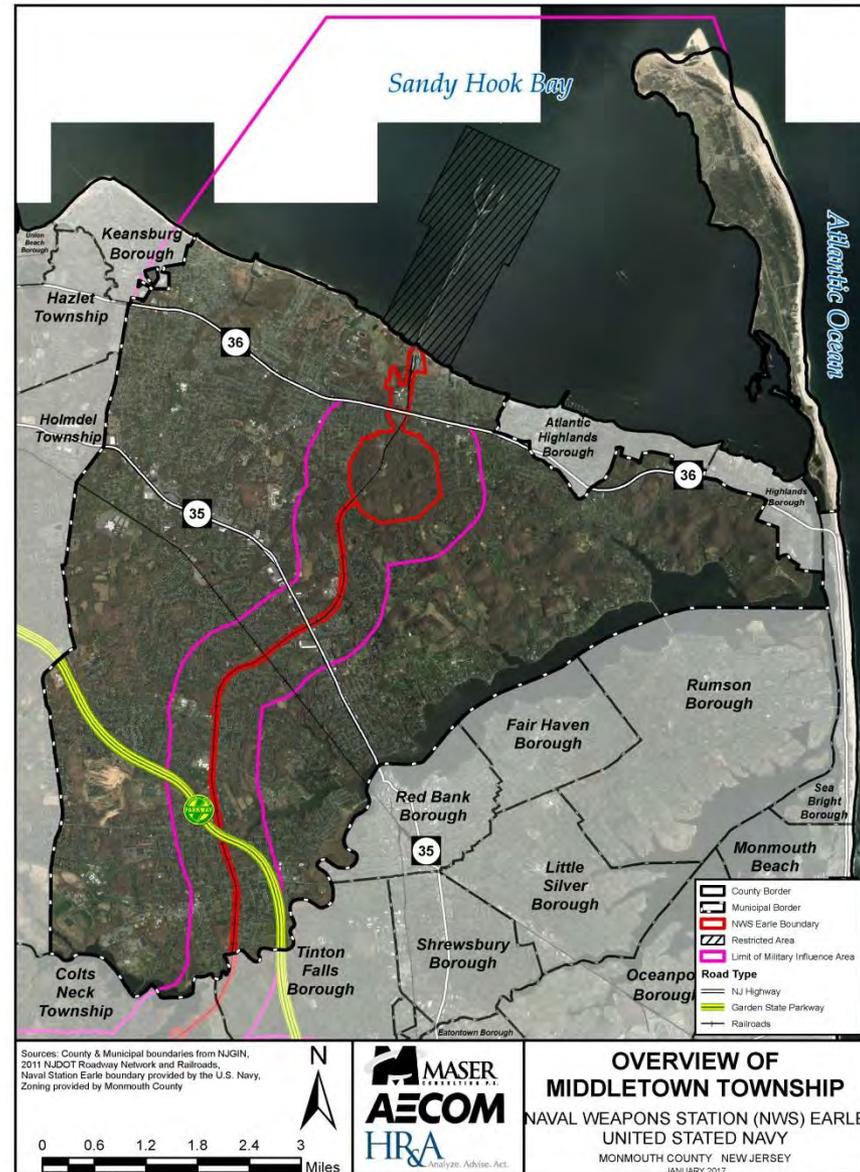
Research and Outreach to NWS Earle Communities

- **OVERALL IMPRESSIONS FROM MUNICIPAL MEETINGS**
- All of the Earle Towns seem to have a positive relationship and impression of the Base and have no immediate concern with the mission of the base.
- The Route 33 & 34 Corridor should be studied from a Transportation, Land Use, Zoning and Economic Development aspect.
- There are numerous access points around the perimeter of the base and numerous uses, mostly commercial that have some impact or potential impact on the Base.
- There are some Drainage Issues and Land Use Issues related to specific areas around the Base
- The Normandy Road corridor has issues relating to traffic and rail signalization that will need to be resolved but is an important part of the area.
- The waterfront corridor between the shoreline of Sandy Hook Bay and Route 36 needs to be studied further as one area for potential Sea Level Rise and resiliency issues that affect both NWS Earle access and usage, and the impact on the surrounding



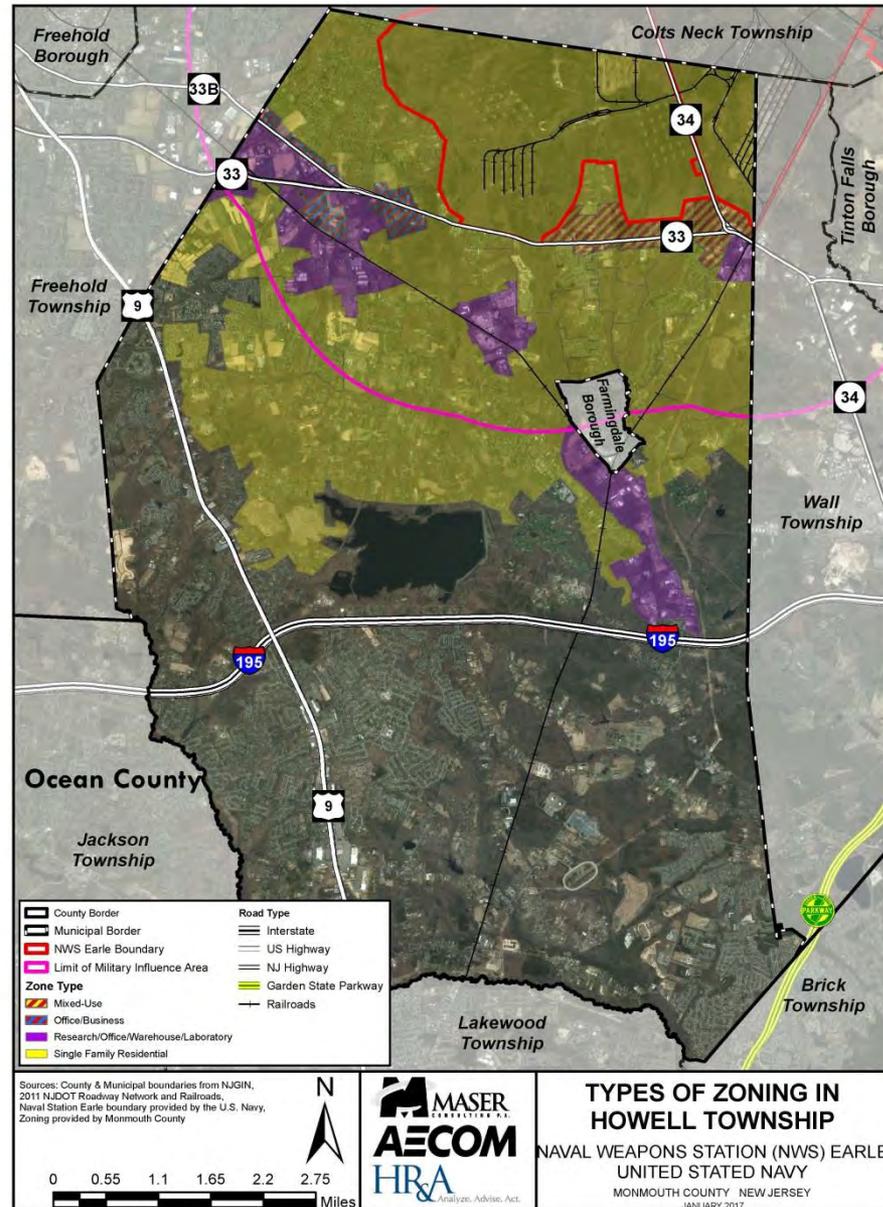
Earle Municipalities Mapping:
Overview
Types of Zoning
Land Use
Environmental Constraints
Preserved Lands
Vacant and Farmland Assessed Lots
Climate Resilience

Middletown Township Overview



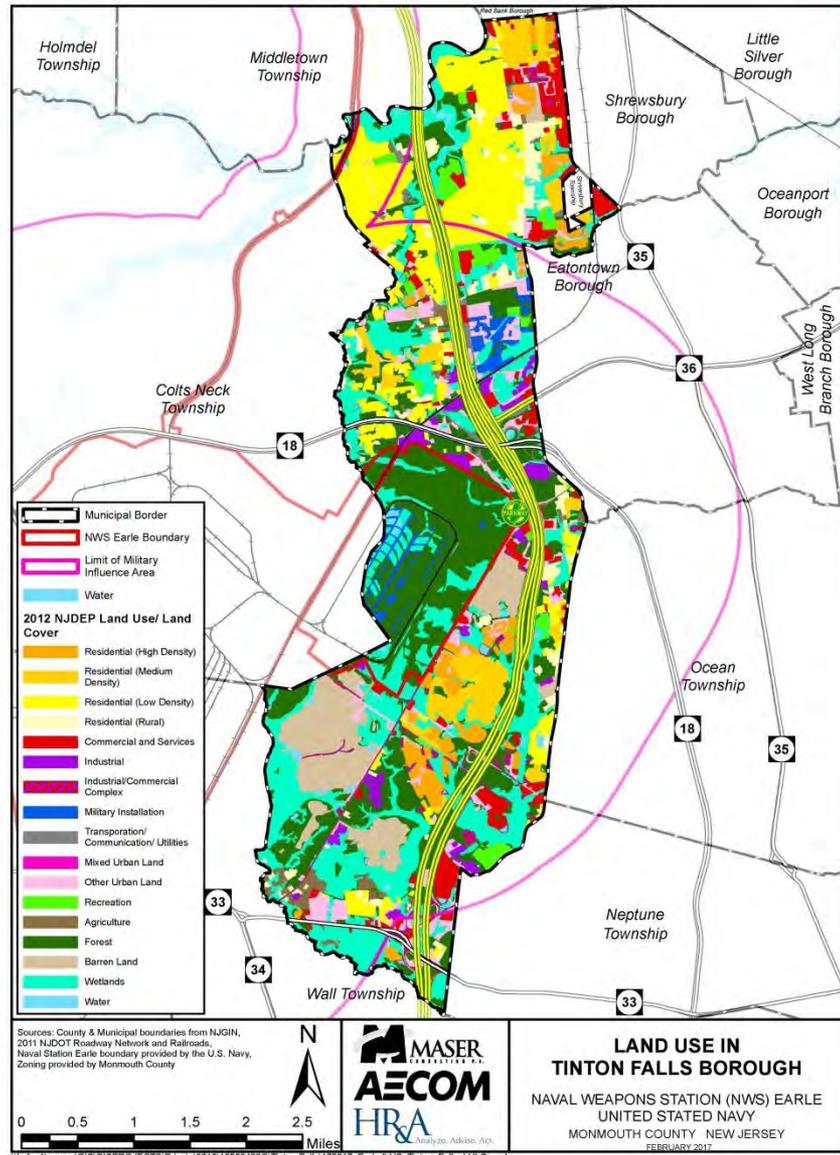
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Howell Township Zoning



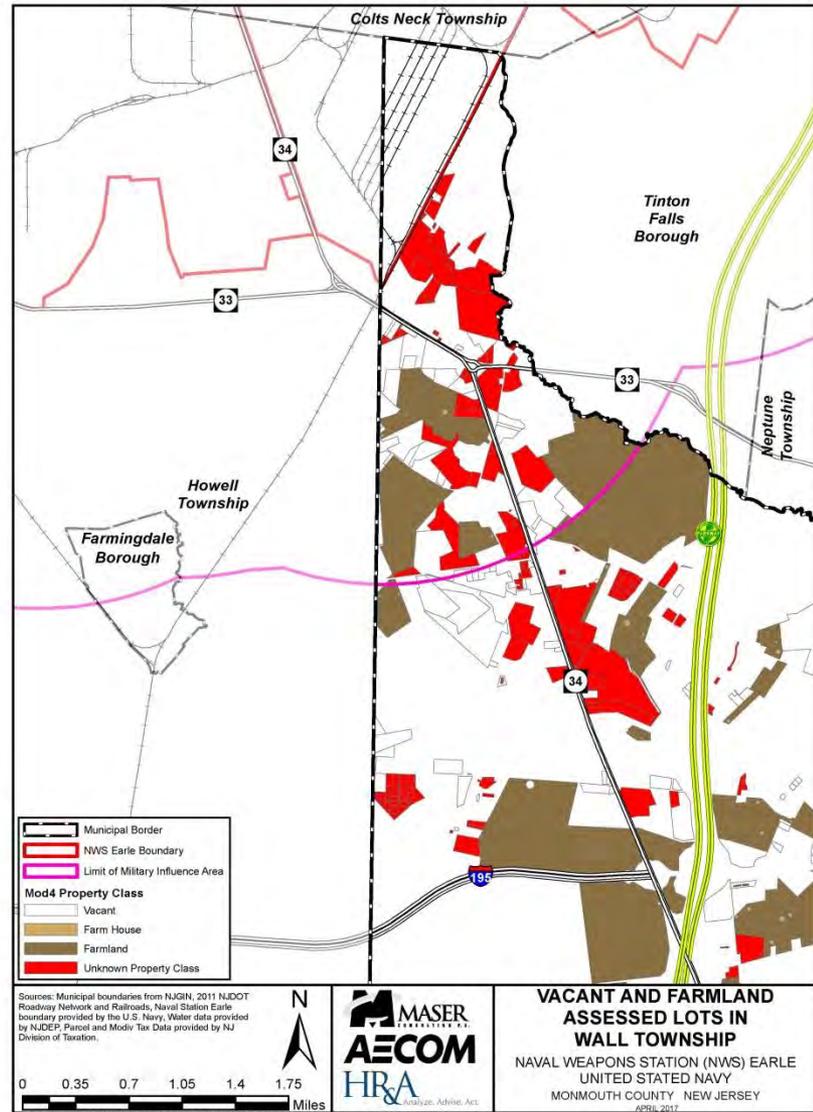
Tinton Falls Township

Land Use



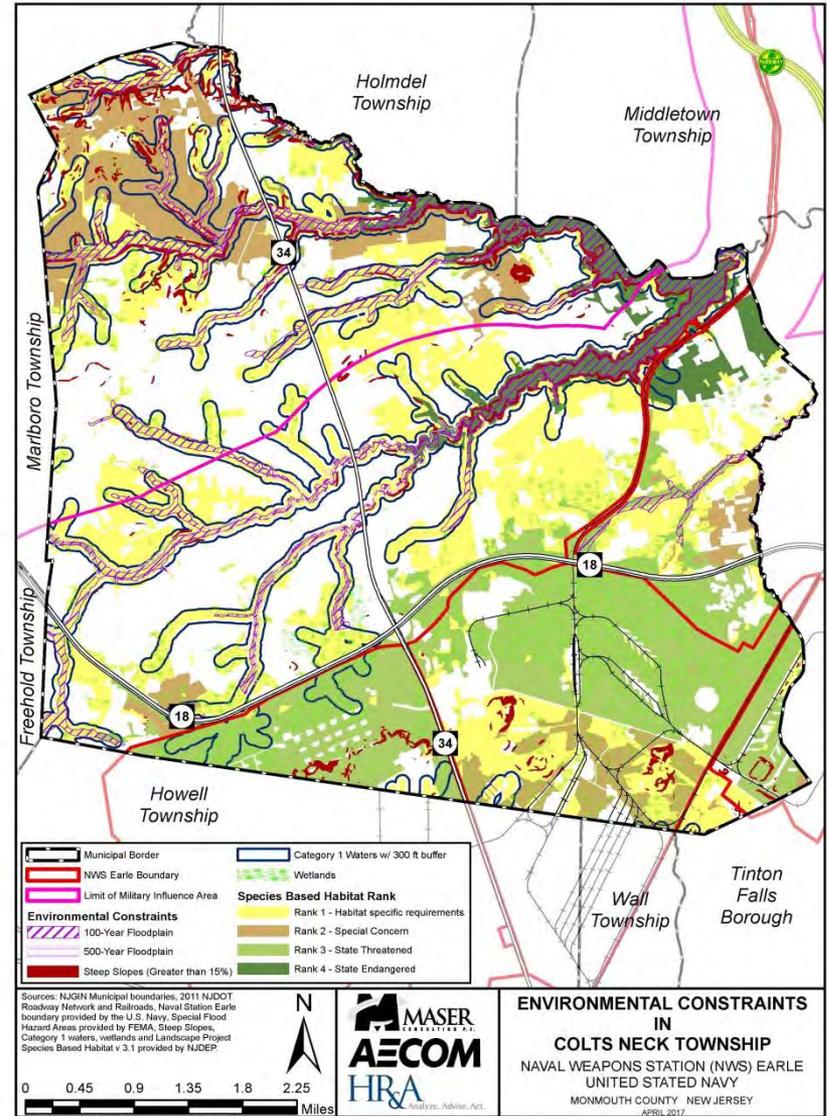
Wall Township

Vacant and Farmland Assessment

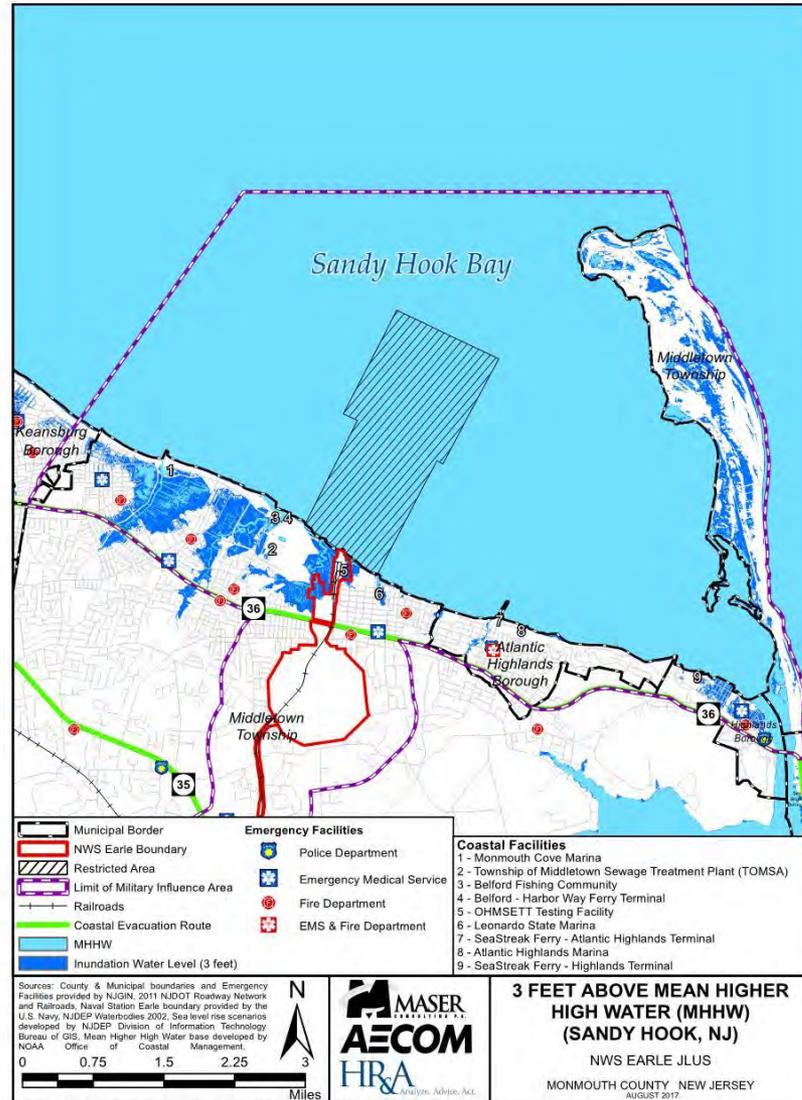


Colts Neck Township

Environmental Constraints



Climate Resilience



Report Structure

- Introduction
 - What is a Joint Land Use Study
 - NWS Earle JLUS Goals
 - Purpose of Study
 - Study Process
 - Study Area
 - Report Organization
- Regional Setting
 - Regional Perspective
 - County Overview
 - General
 - Military History
 - NWS Earle Overview
 - Mission & History
 - Base Loading & Tenants
 - Economic Impacts
 - Mission Critical Assets
 - Strategic Highway Network
 - Military Influence Area

Regional Setting (cont.):

- Municipal Profiles
 - NWS Earle Municipalities
 - Colts Neck Township
 - Howell Township
 - Middletown Township
 - Borough of Tinton Falls
 - Wall Township
 - MIA Municipalities
 - Atlantic Highlands
 - Eatontown
 - Farmingdale
 - Freehold
 - Highlands Borough
 - Keansburg
 - Neptune Township
 - Ocean Township
 - Watershed Municipalities

Report Structure

- JLUS Process, Organizational Structure & Outreach
 - Participating Partners
 - JLUS Policy Committee
 - JLUS General Advisory Committee
 - Technical Advisory Groups
 - Key Stakeholder Coordination
 - Municipal Surveys
 - State Agencies
 - Military Departments
 - Public Involvement Strategy
 - Public Involvement Strategy Plan
 - Public Meetings
 - Community Outreach
 - Web Site
- Existing Compatibility Tools
 - Federal
 - State
 - County
 - Local/Township

Report Structure

Compatibility Assessment & Tools

1. Economic Development / Land Use

- Economic Evaluation
- Zoning and Development

2. Transportation

- Land Mobility
 - STRAHNET
 - Coastal Evacuation Routes
 - Normandy Road/Rail Corridor
- Sea Mobility
 - Military Access
 - Ferry Passenger Routes
 - Recreational Boating in the Bay
 - Infrastructure (dredging and pipelines)
- Air (Air space and over flights)

3. Utilities

4. Climate Resilience

- Characterize risk
- Local Issues
 - Culverts along Normandy Road
 - Waterfront facilities
 - Storm drains in adjacent Middletown neighborhoods
 - Ware Creek and shoreline areas
 - Identification of assets vulnerable to impacts

Report Structure

- Recommendations
 - Communication/Outreach
 - Land Use
 - Economic Development
 - Transportation
 - Utilities
 - Climate Adaptation & Resiliency
- Implementation Plan
 - Time Line
 - Priorities
 - Costs of Implementation
 - Monitoring/Metrics
- Appendices

Preliminary Recommendations and Implementation Matrix

Communications/Outreach – AECOM

Land Use – Maser

Economic Development – HR&A

Transportation – Maser

Utilities – Maser

Climate Resilience – Rutgers

Security – AECOM

Communications/Outreach

Category	Issue	Recommendation	Jurisdiction/Organization Involved						Timeframe	Priority	Estimated Cost	Potential Funding Sources		
			Federal/ Navy	State	County	NWS Earle Municipalities	MIA Municipalities	Private/Other Organizations						
A.1	Communications/Outreach	Local Cooperation	Pursue additional cooperation between Navy, County departments, and NWS Earle municipalities addressing facility maintenance, security, emergency response, etc.	x		x	x				Short	High	\$	N/A
A.2		Notification	Improve notification processes to share proposed land development submittals and plan amendments, zoning changes, and comprehensive plan updates within 3000 ft of installation boundaries.	x		x	x				Short	High	\$	N/A
A.3		Noise	Conduct noise study documenting sound levels and potential areas of impact from the NWS Earle EOD range. Develop mitigation plan jointly with any impacted communities.	x		x	x	x			Mid	Low	\$\$	Federal/DoD (Navy Munitions Command)
A.4		Public Education	Continue to educate the general public about the NWS Earle mission and the need to respect security boundaries along Normandy Road, in Sandy Hook Bay, and on Bayside beaches adjacent to the pier.	x		x	x	x			Long	Moderate	\$	N/A
A.5		Data Gap	Collect base employee data on residences (by zip codes) and spending patterns useful for municipal/county economic development purposes.	x		x					Mid	Low	\$	Federal (OEA), State, County

Land Use

B.1	Land Use	Compatible Land Development	Formally recognize 3000 ft. buffer from NWS Earle boundaries in jurisdiction planning documents. Encourage compatible land development and zoning within this zone. Direct residential and institutional development to more suitable areas outside the MIA. Consider land development controls recommended in the toolbox.			x	x	x		Mid	Moderate	\$\$\$	County, Municipal, Federal (OEA)
B.2		Affordable Housing	Seek assistance of the NJ Military Ombudsman to discuss the mission of NWS Earle with the New Jersey Office of Planning Advocacy regarding maintaining compatible land uses, particularly in the MIA. Discuss need to remove "vacant land" within active military installations from any COAH analyses. Discourage affordable housing as a potential land use in the MIA.	x	x	x	x	x		Short	High	N/A	N/A
B.3		Land Conservation	Identify and pursue purchase of land that could provide additional NWS Earle buffer, storm/flooding protection, and/or environmental enhancement.	x	x	x	x	x	x (Land conservation NGOs)	Long	High	\$\$\$	NJDEP Green Acres, NJDEP Blue Acres, County Municipal Open Space Program (for lands owned or leased by a municipality)
B.4		Land Conservation & Farmland Preservation	Pursue REPI funding to preserve farms and undeveloped or under-developed properties in the MIA and immediately adjacent to the Normandy Road corridor to maintain these compatible uses.	x		x	x	x	x (private land owners)	Short	Moderate	\$\$\$	Readiness & Environmental Integration (REPI) Program
B.5		Farmland Preservation	Encourage additional farmers in the MIA to enter into farmland preservation programs.		x	x	x	x	x (private land owners)	Short	Moderate	\$\$\$ (cost varies by location, development potential & cost share)	State/County/Municipal cost share and/or Non-Profit programs, NJ State Agriculture Dev. Committee Municipal Planning Incentive Grant (PIG) Program
B.6		Farmland Preservation	Seek the assistance of the NJ Military Ombudsman to educate the State Agriculture Development Committee about the importance of maintaining farmland as compatible land uses around military installations and the need to prioritize funding for farms in the MIA.	x	x	x			x (Other counties with military installations & CADBs; land conservation groups)	Short	High	N/A	N/A

Economic Development

C.1	Economic Development	Use of Local Contractors	Conduct marketing events to educate local NJ contractors about Federal contracting opportunities at NWS Earle (and other bases, e.g., Joint Base McGuire-Dix-Lakehurst, if a broader program is desired).	x	x	x	x	x	x (Monmouth-Ocean Development Council (MODC))	Short	Moderate	\$	MODC
C.2		Workforce Development	Develop local workforce development programs in conjunction with active Navy training and staff recruitment activities.	x	x	x	x	x	x (Monmouth-Ocean Development Council (MODC))	Mid	Moderate	\$	MODC, Federal/Navy
C.3		Route 33/34 Redevelopment	Conduct a study of potential compatible uses for the Route 33/34 corridor that could spur economic development and/or redevelopment, including offering services for personnel stationed at NWS Earle.	x	x	x	x			Mid	High	\$\$	Federal (OEA), State (NJTPA), County
C.4		Port Belford Redevelopment Plan	Continue to stay involved as part of the Port Belford redevelopment planning group.	x		x	x (Middletown)			Short	Moderate	\$	N/A
C.5		Implementation of Bayshore Region Strategic Plan	Promote recreational amenities in the Bayshore Region, as outlined in the Bayshore Region Strategic Plan (2006), in conjunction with NWS Earle requirements near secure waterfront areas and the pier.	x		x	x (Middletown)		x (Monmouth-Ocean Development Council (MODC))	Short	Moderate	\$	N/A

Transportation

D.1	Transportation	Land: Vehicular Traffic	Conduct corridor study along Route 33-34 to improve traffic conditions including STRAHNET access / egress. Include recommended roadway & intersection improvements in MPO transportation project lists for priority funding.	x	x	x	x			Mid	High	\$\$\$ (does not include funding for project design & construction)	Federal (OEA), State (NJDOT, NJTPA), County
D.2		Land: Vehicular Traffic	Review options for modifying signalization for at-grade intersections along Normandy Road corridor to alleviate current issues identified by NWS Earle municipalities	x	x	x	x (Middletown, Colts Neck, Tinton Falls)			Short	High	\$ (does not include funding for project design & construction)	State (NJDOT, NJTPA), County
D.3		Land: Vehicular Traffic	Conduct a study of traffic calming measures to alleviate speeding through Farmingdale on CR 524 (Main Street), which is a local connector between I-195 and NWS Earle (NJSH 33/34).			x		x (Farmingdale)		Mid	Moderate	\$\$ (does not include funding for project design & construction)	State (NJDOT, NJTPA), County
D.4		Bay: Recreational Boating	Improve notification at all local marinas of the secure/restricting boating zone around NWS Earle piers.	x	x	x	x	x (local marinas, primarily in Atlantic Highlands)		Short	Moderate	\$	N/A
D.5		Bay: Channel Dredging	Accelerate maintenance of Sandy Hook channel. Encourage beneficial reuse of spoils to create or expand wetlands in the Bayshore (Sandy Hook to NWS Earle area) and reduce or eliminate high-risk floodzones.	x	x	x		x (Private dredging contractor(s))		Long	Moderate	\$\$\$\$	Federal/DoD, FEMA, EPA, State (NJDEP)
D.6		Air: Airspace Control	Coordinate with local airports and FAA to reinforce overflight limitations over NWS Earle property. Provide local flying clubs/organizations and airports with maps illustrating restricted airspace boundaries.	x		x		x (Monmouth Jet Center)		Mid	Low	\$\$	FAA, County

Utilities

E.1	Utilities	Microgrid	Participate in the Middletown Township Microgrid Feasibility Study sponsored by BPU to analyze the potential for establishing an uninterruptible power supply to the NWS Earle waterfront/Leonardo area.	x	x	x	x (Middletown)		x (private energy developers, JCP&L)	Long	Moderate	\$\$\$	BPU Distributed Energy Resource (DER) Microgrid Feasibility Study Program
E.2		Solar Energy	Pursue solar to provide supplementary power to the installation and surrounding community. Coordinate this with other BPU-funded microgrid studies.	x	x	x	x (Tinton Falls)		x (private energy developers, JCP&L)	Long	Moderate	\$\$\$	BPU Distributed Energy Resource (DER) Microgrid Feasibility Study Program
E.3		Sewage Treatment	Investigate flood-proofing measures for TOMSA sewage treatment plant servicing NWS Earle and surrounding neighborhoods in Middletown.	x	x	x	x (Middletown)		x (Township of Middletown Sewage Authority (TOMSA))	Long	Moderate	\$\$\$\$	FEMA Hazard Mitigation Assistance Grants, State, County, NJEIT

Climate Resilience

F.1	Climate Resilience	Storm Surge/Water Levels	Coordinate Federal, State, County, and Middletown Township effort to implement a naturalized beach erosion/shoreline protection project protecting both Navy and community	x	x	x	x (Middletown)			Long	Moderate	\$\$\$ (for study; does not include funding for project implementation)	Federal, State, County, Municipal, NJEIT, FEMA Hazard Mitigation Assistance Grants
F.2		Storm Surge	Develop Marsh & Dune Restoration Plan that identifies where Navy dredge material can be beneficially used for storm protection. Coordinate with all parties prior to the Navy's next navigational channel and ship berthing dredging effort.	x	x (NJDEP & NJDOT Maritime Resources)	x	x (Middletown)	x (Keansburg, Highlands, Atlantic Highlands)	x (Raritan Baykeeper, NJ Sea Grant Consortium, NY-NJ HEP/Hudson River Foundation, Marine Trades Association)	Short	High	\$ (does not include dredging costs)	Federal, State (NJDEP), County, Municipal
F.3		Localized Flooding	Investigate potential joint stormwater management improvement projects to reduce local flooding in Leonardo community adjacent to the Navy Waterfront property.	x		x	x (Middletown)			Mid	High	\$\$\$\$	FEMA Hazard Mitigation Assistance Grants, State, County, Municipal, NJEIT
F.4		NJ FRAMES	Continue to work with NJ FRAMES as they develop resiliency recommendations.		x	x			x (Navesink Watershed Municipalities)	Short	Moderate	\$	TDB

Climate Resilience

F.5	Vulnerability Assessment	Conduct site specific vulnerability assessments of critical assets exposed to future flood hazards, including: TOMSA facilities, Ferry Terminals, Marinas, etc.	x	x	x	x	x		Mid	Moderate	\$\$\$\$	Federal
F.6	Water-dependent Uses	Consistent with economic development plans, identify water-dependent uses in the study area and determine future adaptive capacity including Port Belford redevelopment and other working waterfront uses.			x		x	x	Mid	Moderate	\$\$	Federal
F.7	Community Rating System	Continue to encourage improvement in Community Rating System (CRS) certifications by leveraging additional resilience efforts to generate analyses that will qualify for CRS points.		x	x	x	x		Short	Moderate	\$	State, County
F.8	Transportation Corridors	Consistent with the identification of work locations, identify critical transportation routes that may be subject to future storm damage and periodic inundation from nuisance flooding that would prevent commuting or base access to NWS Earle.	x	x	x	x	x		Short	High	\$\$	State (NJDOT, NJTPA), County
F.9	Local Planning Documents	Consider raising the baseline conditions for all types of coastal flooding. Revise county and local planning documents to reflect climate resiliency as integrated into coastal flood hazard planning using frameworks consistent with the Navy Handbook and Federal Guidance.		x	x	x	x		Long	High	\$\$	County, Municipal

Security

G.1	Security	Drones	Work with state to establish legislation enforcing limits on drone operations over military installations in NJ.	x	x						Long	Low	\$\$ (does not include fees for political assistance or lobbying)	State
G.2		Beach Access	Add additional signage to limit pedestrian circulation on the beach near the secure area surrounding NWS piers during low and high tide conditions. Coordinate security patrols by Navy and local law enforcement.	x		x	x				Short	Moderate	\$\$	Federal, State, County, NJDEP

Questions and Discussion

Next Steps:

Taking Draft Recommendations to the General Advisory Committee,
Technical Advisory Group, Stakeholders and the public

Thank You

Monmouth County - NWS Earle Joint Land Use Study
General Advisory Committee Meeting
 Wednesday, September 6, 2017, 2 PM
 County Planning Board Conference Room

MEETING NOTES

ATTENDANCE

Name	Title/Affiliation
Dennis Blazak	NWS Earle Community Plans & Liaison Officer
Linda Brennen	County Project Manager
Matt Campo	Rutgers University
Kyle Clonan	County Division of Planning
Jay DeFelicis	Maser Consulting
Debby DeJong	County Engineering Department
Inkyung Englehart	County Engineering Department
Mike Fedosh	MC Environmental Council Chairman
Adam Hubeny	Atlantic Highlands Borough Administrator
Michael Muscillo	Ocean Township Manager
Michael Oppegaard	County Emergency Management
Gerald Turning	Tinton Falls Mayor
Elizabeth Perez	Interim Borough Administrator
Kelly Pflicke	NJDEP Office of Coastal & Land Use Planning/ NJFRAMES

Comments:

- Based upon their reaction, it seemed many municipalities were unaware of the NJ State law requirement of notification to the military of any zoning/master plan change within the 3000 foot buffer. They requested that municipal representatives be provided with a copy of this regulation.
- A DEP representative mentioned they were looking into Transfer of Development Rights (TDRs) on a regional scale for NJ FRAMES and wondered if this was something a county could administer. Discussion followed on the difficulties TDR programs faced when they involved more than one municipality.
- A Monmouth County Division of Engineering representative mentioned a potential follow-up project or feasibility study would be a salt marsh restoration project. Discussion followed. Project could tag the degrading shoreline for "beneficial reuse" along the Bayshore, not just in the military area. A comprehensive salt marsh restoration plan is needed for the Bayshore. Belford terminal is interested in looking at sand replenishment projects. The Environmental Assessment for the Navy's currently planned dredge project will be out for comment in 12-18 months. Comments with the idea of beneficial reuse of spoils may be appropriate.
- Municipal representatives asked for zoning recommendations of more compatible uses.

**Monmouth County - NWS Earle Joint Land Use Study
Joint Policy and General Advisory Committee Meeting
Monday, December 4, 2017, 10 AM**

MEETING NOTES

ATTENDERS

Name	Title/Affiliation
Dennis Blazak	NWS Earle Community Plans & Liasion Officer
Erik Brachman	Eatontown Zoning Officer
Linda Brennen	County Project Manager
Kathleen M. Capristo	Colts Neck Township Administrator
Kyle Clonan	County Division of Planning
Nora Coyne, PP/AICP	Wall Township Planner
Debbie DeJong	County Engineering Department
Jay DeFelicis	Maser
Richard Dorrier	AECOM
Jim Herrmann	Howell Twp Community Development Director
Matthew R. Howard, PSM	Howell Township Land Use Director
Margit Myers	DoD/OEA
Kelly Pflicke	NJDEP Office of Coastal & Land Use Planning - NJFRAMES
Edward Sampson	County Planning Director
Gerry Scharfenberger, PhD	Director, NJ Office for Planning Advocacy
John W. Tobia	Director, Public Works & Engineering
Tara Zajack	Economic Development

Margit Myers, the Deputy Program Director for the DoD Office of Economic Adjustment spoke about the project, discussed possible grant opportunities and provided an overview of the next steps.



Jay DeFelicis provided a review of the assessment of zoning for compatible uses. This analysis will be included in the report in detail. A final review was provided of the study recommendations, as revised based on comments received.

Linda Brennen asked that comments on the report be provided by December 15. She also spoke about the upcoming Final Public Meeting scheduled for December 7, 2017. A flier was provided.

APPENDIX B

**JLUS Earle Sandy Hook Bay Working Group Meeting
August 2, 2017, 10am
Monmouth County Division of Planning, Freehold, NJ**

Attendees:

Patrick Mannix, Leonardo State Marina -Visitor Service Assistant
Pete Cangelose, NY/NJ Baykeeper Office -Boat Captain
Dennis Suszkowski, Hudson River Foundation -Science Officer
Mike Danko, NJ Sea grant Consortium, Assistant Director
Chet Scalzo, Monmouth Cove (County) Marina -Assistant Superintendent
Jeff Szalc, Monmouth Cove (County) Marina -Marina Supervisor
Dennis Blazak, NWS Earle -Community Plans and Liaison Officer
Jay DeFelicis, Maser Consulting, PA -JLUS Consulting Team Project Manager
Linda Brennen, Monmouth County Division of Planning, Project Manager

Invited, but not in attendance:

Melissa Danko, Marine Trades Association -Executive Director
John Amici, Atlantic Highlands Municipal Harbor -Harbor Manager
Maggie Mitchell, Leonardo State Marina -Marina Manager
Debbie Mans, NY/NJ Baykeeper
Robert Pirani, NY/NJ Harbor Estuary Program -Director
Seth Hunt, US Coast Guard, Sandy Hook Station -Warrant Officer
Joe Reynolds, Bayshore Regional Watershed Council -Chair
Tom Fobes, Monmouth Cove (County) Marina - Superintendent of Parks

Several hand-outs were provided including the JLUS grant and boat fact sheets. The NWS Earle Marine Security Zone flier was also provided. Two maps were available for view: NOAA Harbor Map and JLUS MIA map.

NJ Sea Grant Consortium offered to post the security zone information on their web site. The security zone was discussed, including the need and purpose for the zone. It was noted that the Ferry route is just outside of the security zone.

The Baykeeper's phased oyster reef restoration project was discussed. Phase 1 was put in place within the security zone with NWS Earle's permission and assistance. More oysters are being grown at the OHMSETT (Oil and Hazardous Materials Simulated Environmental Test Tank) facility at Earle and the reef will be essentially doubled in size, providing both habitat and wave attenuation, shrinking the V zone at Earle. Phase 1 was put in place on the Ware Creek side of the pier. The beach at Ware Creek has receded about 250'. It is hoped that the reef will stop the erosion and possibly build it back up.

The beach at the Monmouth Cove/Bayshore Waterfront County Park facilities was restored with planted dunes. A new jetty will be tied into the Army Corps' sea wall proposed for construction. The County Environmental Council recently received a

grant from the Association of New Jersey Environmental Commissions (ANJEC) and worked with the County park System to plant Beach Plum and Bayberry on the secondary dunes. This was accomplished in June with volunteer support.

Monmouth Cove Marina offered to include the Earle Security Zone flier with the marina contracts. They would need about 300 copies. Discussion followed on the proximity of the marina to the security zone and the fact that boaters often miss the corner buoy, cutting across the zone. The 'Giant Voice' notification system was also discussed.

The problem of jet skis was discussed. The Jet Ski community has only a small amount of overlap with the boating community. Kayaks are also a problem in the security zone. Suggestions included more signage on the Ware Creek side.

Pump-Out Boats were discussed, included issues related to funding, costs, use, and operations. Sea level rise was discussed, along with local damages from Superstorm Sandy, in particular the impacts to local marinas. Channel dredging and the possibility of beneficial reuse of dredged material were discussed. The Hudson River Foundation has a contract with NJDOT to study dredged materials in the area (contaminants in the Passaic River area have typically been PCBs and Dioxin). Reducing contaminants at the source has improved the outlook. The second phase will look at the channels around NWS Earle. Hard Clams are on the rise in Raritan Bay. More oyster reef restoration projects are being considered.

The Earle channel was dredged last year. They are looking to dredge again within the next 5 years. Dewatering at the Navy's Chapel Hill facility may be possible using the Navy Railroad to move it there. The sediments were clean and typically 95% beach sand. This might be able to be used for dune restoration. Some more silty deposits might be useful as dune/berm core or thin layer deposition in drowning marsh areas. It was recommended that a study of the area to look for beneficial reuse sites would be very useful if it could be completed before the next round of dredging was planned. A comprehensive Ware Creek Restoration Plan/Living Shoreline Project, possibly extending from Leonardo to Ware Creek, would also be a good idea and could be beneficial to both Earle and the surrounding area for climate resiliency planning. It was suggested that the Army Corps prepared a comprehensive Restoration Plan that might be useful. The HEPs recent 5 year plan also might have identified potential restoration sites. The group will follow up.

JLUS Earle Economic Development Working Group Meeting
August 2, 2017
Monmouth County Planning Department, Freehold, NJ

Attendees:

MODC Executive Director Ben Waldron
MC Office of Economic Development Econ Dev Representative Sue Folta
Colts Neck Business Association President Sue Fitzpatrick
Colts Neck Business Association Member Audra Carletta
Middletown Economic Development Committee Mayor & Committee Member Gerry Scharfenberger
Jersey Shore Chamber of Commerce NJNG - Chamber Member Amy Fitzgerald
NWS Earle Community Plans & Liaison Officer Dennis Blazak
Maser Consultant Project Manager Jay DeFelicis
HR&A Strategic Initiatives Manager James Splendore
Monmouth County Division of Planning Project Manager Linda Brennen

Invited but not in attendance:

MC Office of Economic Development Director John Ciufu
Greater Monmouth Chamber of Commerce
Howell Chamber of Commerce Executive Director Susan Dominguez
Colts Neck Business Association Business Development Comm AJ Garito
Eastern Monmouth Area Chamber of Commerce Executive Director Barb Youchah
Jersey Shore Chamber of Commerce Executive Director Evelyn Mars

The outlines of the proposed NWSD Earle JLUS were discussed and the preliminary recommendations relating to Economic Development were reviewed. The following items were discussed in more detail by the attendees and the Planning Team:

- Base impact
 - Approx. \$250M direct impact
 - 800-900 people on the base daily
- Middletown goals
 - Recycling facility is major focus with consensus to redevelop in the near future
 - Belford Ferry is looking to increase
 - Township's Port Belford study is looking at a possible new link to Route 36
- Colts Neck goals
 - Mixed-use is not an option
 - Rt 34-Rt 537 intersection is major intersection for town
 - Goal is to develop destination retail or recreation
 - Current focus on proposed food center

- Septic limitations make large developments very difficult
 - Required to be self-sustaining
 - It may be possible to reach deal to hook up with Trump National Golf Course
- Monmouth-Ocean Development Council
 - Goal is to provide services to local business owners
 - MODC previously held an event highlighting government procurement
 - Approx. 150 business attended
 - Next is planned for October/November without Earle involvement
 - Willing to do more



Engineers
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MEMORANDUM

To: Linda Brennen

From: Jay DeFelicis, PP

Date: August 31, 2017

**Re: JLUS Weapons Station Earle
Emergency Management Meeting (8-31-17)
MC Project No. 16002423G**

A meeting was held at the Monmouth County Office of Emergency Management on August 31, 2017, in attendance were:

Michael Oppegaard, Monmouth County Emergency Management Coordinator
Dennis Blazak, Community Plans and Liaison Officer
Interim Installation Plans, Programs, and Readiness Integrator Naval Weapons
Station Earle
Linda J. Brennen, PP/AICP Supervisor, Environmental & Sustainability Planning
Monmouth County Division of Planning
Jay DeFelicis, PP, Planner at Maser Consulting

The County Planning Department had provided the Emergency Management Office with copies of the DRAFT NWS Earle JLUS Section 6: Recommendations, and Section 7: Implementation Matrix, for review prior to the meeting.

The following items were reviewed:

Recommendation A.1:

Asked the wording be added to this recommendation to include additional emergency services, in particular working with Federal US Fire Service, State Forest Fire Service, and possibly local fire agencies to analyze and develop a forestry management plan for the wooded areas surrounding the base, in particular Mainside, to reduce the potential for wildfires.

Recommendation E.3:

This recommendation in the Utilities section was directed at the TOMSA (Township of Middletown Sewerage Authority) treatment plant in Belford, but it was asked to add more regional context to this recommendation, referencing nearby Bayshore Outfall Authority,



and other treatment facilities in the WMA 12 watershed, such as the Township of Neptune Sewerage Authority (TNSA) Treatment Plant.

Recommendation F.7:

Add the following wording at the end:

Further collaboration with local Floodplain Managers and Resiliency related agencies should be encouraged to coordinate measures and planning components for the benefit of all partners.

Recommendation F.8: Changing wording in last sentence of 2nd paragraph to read:

These areas should be studied as a means of providing continuous access.

General Comments:

It was discussed that the JLUS is looking at rise in water levels and the potential impact on the Bayshore regional in particular, as it relates to Coastal Evacuation Routes, access and the ability to provide services to this area in Emergency situations. The Compatibility Assessment, Section 5 of the JLUS, will provide analysis from Rutgers of current climate change, mapping with emergency facilities located, and recommendations for a tool box approach to resiliency.

MONMOUTH COUNTY PLANNING BOARD

ENVIRONMENTAL COUNCIL



EDWARD SAMPSON, PP, AICP
Director of Planning

MICHAEL FEDOSH
Council Chairman

Minutes of a Regular Meeting of the
MONMOUTH COUNTY ENVIRONMENTAL COUNCIL
Thursday, September 9, 5:00 p.m.
Monmouth County Planning Board Conference Room, 2nd Floor
Hall of Records Annex, One East Main Street
Freehold, New Jersey

1. **CALL TO ORDER**—Chairman Fedosh called the meeting to order at 5:06pm.
2. **ROLL CALL—ATTENDANCE**
Members Present: Mike Fedosh, Wilma Morrissey, David Kostka, Scott Thompson (left 6:00pm), Paul Johnson, France Karras
Members Absent: Jennifer DiLorenzo, Barbara Horl, Ebru Altinsoy, and John Vig.
Staff Present: Linda Brennen & Kyle Clonan
3. **REVIEW OF MINUTES:**
Minutes from the Council's June 6, 2017 meeting were reviewed. Mr. Kostka moved to accept the minutes, seconded by Ms. Morrissey. The minutes were approved.
4. **REGULAR REPORTS**
 - a. Chairman—Mr. Fedosh discussed a recent *Rally for the Navesink* meeting where the NJDEP reviewed results of the citizen-science monitoring of Navesink River tributaries for coliform bacteria. The highest concentration of coliform was found in a Swimming River tributary located near a senior citizen assisted living facility in Tinton Falls, where an open dumpster was filled with adult diapers.
 - b. Planning Board—No report.
 - c. Staff—Mrs. Brennen noted her continued work on the JLUS study, which she would present later in the meeting. Mr. Clonan is continuing his environmental project reviews for Community Development Block Grant (CDBG) projects and working on the new Monmouth County Wastewater Management Plan.
 - d. Legislation—Mr. Clonan shared a few legislative items of note:
 - i. NJ State Representative Pallone and Senator Menendez introduced the BEACH Act of 2017 to Congress, which would reauthorize a \$30 million a year federal grant program through 2021 to fund local efforts monitoring beach water quality and notify the public of health hazards. Updates to the

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law include implementing the use of rapid testing methods and requiring states to track down pollution sources.

- ii. Changes to NJ's "E-Waste" Law have passed. The previous law required businesses and residents to recycle computers and TVs at designated E-waste sites. The new E-waste law was expanded to add fax machines and desktop printers, and now also applies to schools and local governments. The majority of funding for the e-waste recycling program is required to be paid for by electronic-product manufacturers.
- iii. On September 6, 2017, Tinton Falls Borough Council approved a municipal ordinance prohibiting and regulating the planting and growth of invasive plants. The ordinance also defined proper management of invasive species already planted to keep them from spreading between homeowners' yards, and penalties for those homeowners who do not keep their invasive plants from spreading. This ordinance stemmed from multiple disputes between neighbors over the uncontrollable growth of certain invasive plant species, such as bamboo. The ordinance defines "invasive plants" as "all native and non-native vines and vegetation that grow out of place and are competitive, persistent and pernicious". The plant list includes but is not limited to bamboo, ragweed, multiflora rose, and kudzu vines.
- e. Technology—No Report.

5. NEW BUSINESS

- a. JLUS Recommendations Review & Task Force Input—Ms. Brennen provided an overview of the draft recommendations produced by the NWS Earle Joint Land Use Study. Special focus was given towards recommendations concerning sustainability, climate change, sea level rise, and environmental interests. Council members were asked to review the recommendations on their own time and provide any comments to Ms. Brennen electronically. Discussion ensued.
- b. The America First Offshore Energy Strategy and National Outer Continental Shelf Oil and Gas Leasing Program—Mr. Clonan began discussion by providing a brief overview of the [Presidential Executive Order 13795: Implementing an America-First Offshore Energy Strategy](#), which calls for a replacement National Outer Continental Shelf Oil and Gas Leasing Program Plan (National OCS Program). The current National OCS Program was approved under President Obama to be effective 2017-2022 and banned offshore drilling in the Mid-

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Atlantic. Under President Trump, the Bureau of Ocean Energy Management (BOEM) is now preparing a new National OCS Program to take effect from 2019-2024. As part of this updated National OCS Program, following Executive Order 13795, the Mid-Atlantic may be opened to oil drilling & exploration activities.

Discussion ensued. Mr. Thompson provided materials regarding the potential of oil and gas exploration off the New Jersey Coastline, including a sample municipal resolution opposing offshore oil and gas exploration and drilling activities, as well as an informational sheet produced by Clean Ocean Action. Both sheets are attached to this report. Mr. Thompson reiterated a past experience regarding liquid natural gas, where the MCEC invited a gas drilling company and an environmental non-profit to speak at a meeting and share both sides of the argument. The possibility was raised that the same could be done to gather information on offshore drilling.

Paul Johnson then shared an art piece he created, entitled “Oil Guilt”. Please see the attached photos. He then shared a narrative to invoke thought on piece: “Risen from the depth the dark substance of crude is depicted in a ghastly offensive creature now surfaced upon crystal clear water and pure clean sand and our knowing we are a part of it”.

Discussion ensued, and questions were asked. With no direct timeline until the next comment period for this National OCS Program, it was decided to keep the National OCS Program as a Regular Report on the Council’s agenda, as members continue to gather information in preparation of a comment letter for the next comment period.

- c. Pollinator Roundtable—It was decided the Council’s Pollinator Roundtable will take place on November 29, 2017. Mr. Clonan will have an draft Eco-Tips brochure on the importance of pollinators ready for the MCEC to review before their next meeting.

6. **REPORTS FROM THE REGIONS:**

North Coast: No report.

Mid Coast: No report.

South Coast: Mr. Johnson discussed recent efforts by the Audubon society to outfit a

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municipal park in Sea Girt with only native vegetation, and eradicate all invasive and non-native plants. Ms. Morrissey gave her report (see attached).

Pine Barren: No report.

Navesink Valley: Mr. Kotska shared information on the Wind & Sea Festival, which will take place at Bayshore Waterfront Park on Sept. 16 from 11am-5pm.

Bayshore: Ms. Karras reported the 42nd Annual Clearwater Festival, NJ's oldest and largest music and environmental festival, will be held on the lawn at Larrison Hall Commons at Brookdale Community College on Sept. 9 and 10, 2017. The festival will feature live folk music by top-rated performers in a variety of styles on three stages. Environmental groups will be in attendance with exhibits and information, as well as food, crafts, and a special children's area. The Bayshore Regional Watershed Council will host "Seine the Bay Day" on Sunday, September 10th at various seining locations across Aberdeen, Union Beach, Port Monmouth and Atlantic Highlands. ANJEC will host a workshop to discuss protection of the Navesink River at the Huber Woods Environmental Center on 9/18/2017. Participants will be offered a light dinner and refreshments. Registration is required by September 12 and requires a \$20 fee for those not part of the ANJEC Workshop Plan. Mr. Fedosh added information on the proposed "Village 35" in Middletown.

7. **PUBLIC COMMENT**—No members of the public were present.
8. **ADJOURNMENT**—There being no further business, the meeting was adjourned at 7:20pm.

APPENDIX C

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being

Monmouth County - NWS Earle Joint Land Use Study
Municipal Questionnaire

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process. Please consider the questions below for discussion at an upcoming meeting with the JLUS project team.

Name of Municipality: Colts Neck

Names and titles of municipal representatives attending the meeting:

Tim Anfuso

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

The public-private venture housing is an ongoing issue, but otherwise Earle is considered an asset.

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

Mutual aide for emergency services; base residents are Colts Neck residents for recreational sports, marriage licenses, etc., High School students attend Colts Neck High; Earle allows township use of Normandy Road for school buses, public works trucks, etc.; Occasional noise from ordnance detonation disturbs residents. Colts Neck would be interested in a noise study. Colts Neck would also like to see a "No Fly" zone over Earle.

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

Residents are aware of Earle, primarily when trains run through the Township. There are negligible traffic impacts, however there have been complaints about the traffic lights at the Normandy Road crossings as the sensors do not always switch the lights back to green for crossing after Normandy Road traffic passes.

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

Colts Neck's vision is to maintain the agricultural-residential character.
The master plan references Earle throughout the document.

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

Yes - specifically the Route 34 corridor north of CR 537 (averaging 50+ years old) and south of CR 537 (averaging 30 years old). Some commercial lots are newer. Golf courses are all deed restricted. 2005 study - build out. Septic and well limit the scale and types of businesses possible.

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

Business association has 168 members

Mayor's Subcommittee for Business Promotion reviewing the business zone to promote economic development. Would like to attract more ag-related businesses.

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

Residential-Ag zoning (2ac to 10ac lots). The vision is to remain bucolic. Parcels adjacent to the base include the public works yard, cell towers and a shooting range. Had a lease for base property to store school buses. No formal lease today. Considering asking for purchase of 4.5 acres. Have been hopeful that a REPI grant might be secured to fund purchase of ag lands within MIA that remain subdividable to limit future development adjacent to the base.

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

Water Street and bridges on Hockhockson flood during heavy rain events

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

Earle impacts are negligible

We would like to meet to discuss these issues with you and any additional municipal representatives you would like to have at the meeting. Please check all available times below. If you are not available to meet on either of these dates, please contact Linda Brennen, County Project Manager to schedule an alternative time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

Wednesday, May 10th

AM _____

PM _____

Thursday, May 11th

AM _____

PM _____

**NWS Earle JLUS
May Municipality Meetings
HR&A Advisors and Maser Consulting Compilation Notes**

Colts Neck Township (May 10, 2017) held at County offices

Interviewers: Jay DeFelicis, PP, Maser Consulting

Jee Mee Kim, AICP, HR&A Advisors

Dennis Blazek, Earle Base Liaison

Linda Brennen, PP County Planning Office

Representing: Timothy Anfuso

1. Earle Relations

- **Good perception of Earle; considered an asset**
- **Earle comprises approximately 1/3 of Town geography**
- **Shared services**
 - **No formal shared services but shared volunteer fire services from town**
 - **High school age children of military personnel attend Colts Neck HS**
 - **Earle working on intergovernmental services agreement (e.g., snowplowing with County this past winter), buying services from County and possibly municipalities**
 - **There are 2 Individual properties with direct access from Normandy Road and a grouping of a 12 house development with access which crosses Normandy. Houses (12) on Lakeside Avenue can obtain pass from Earle to use the road, but only one house uses the pass**

2. Housing

- **Issue with privatized housing, referred to as PPV: Public Private Housing, along the Route 34 frontage of the Base there are units that are potentially to be rented to private citizens that will create additional services needs**
- **COA housing is TBD, on hold until Middlesex case is resolved**
- **Most military do not live in Colts Neck due to limited availability of rental housing**

3. Land Use & Development Goals

- **Zoning is primarily agricultural and residential; buildings limited to 16,000 SF**
- **Limited multifamily housing in the town**
 - **Affordable housing (the Grand) in southwest (Mt Laurel 1) – 277 total units (88 affordable - 66 for sale/22 rental)**
- **Adjacent land uses to Earle are public works, low-density residential, shooting range, cell towers.**
- **Route 18 provides a border between the base and most of Colts Neck**
- **Town considering acquiring land from Earle to accommodate more land for public works and possibly recreation**
- **Current Uses**
 - **Older commercial development north of Route 537**
 - **Orchard Shopping Center, Delicious Orchards, primarily locally serving retail/commercial corridor South of Route 537**
 - **Brandywine Assisted Living has newer retail**

- **Development Goals**
 - **Want to maintain agricultural, low density culture**
 1. **Issues with “Right to Farm” and conflicts between vision as defining “agriculture” – John Stewart’s purchase of Cook Farm and a new microbrewery may be conflicting uses**
 - **Economic development planning**
 1. **Conducted 2005 zoning build out analysis of commercial zone**
 2. **Established Colt’s Neck Business Association with 168 members between Artisan Way and Route 18 to promote agricultural, farm-supportive, locally-serving businesses**
 3. **Mayor adopted new business promotion subcommittee comprised of business volunteers**
 - **Restaurant use is limited due to septic/well constraints**
- 4. **Transportation**
 - **Earle has negligible impact to traffic**
 - **Normandy Road gets used rarely: two houses have sole access on road**
 - **School buses and emergency services use road (school buses to Tinton Falls use road via south gate)**
 - **Earle permits muni vehicles, elected officials, other authorized users only permitted to use road**
- 5. **Additional Considerations**
 - **Sea-level Rise**
 - **Minimal changes in rivers and tributaries**
 - **Flooding occurs on Water St. and Hockhockson Rd. during heavy rain**
 - **Hwy Bridge 4 tidally influenced (~2 feet of tide) and would be fully submerged with 1 foot of sea-level**
 - **No changes seen in rivers/tributaries. Ground water rise could cause more wet basements. Two bridges in town – on Water St and Road (any heavy rain, road becomes flooded).**
 - **Town would like to pursue grants to purchase property adjacent to the Earle**
 - **Earle may be open to conducting noise studies (some complaints from golfers), etc.**

Monmouth County - NWS Earle Joint Land Use Study
Municipal Questionnaire

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process. Please consider the questions below for discussion at an upcoming meeting with the JLUS project team.

Name of Municipality: Howell Township

Names and titles of municipal representatives attending the meeting:

Jim Herrman, P.E., C.M.E., Director of Community Development

Matthew Howard, PSM, Director of Land Use

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

Neither positively nor negatively.

Most residents do not realize the base is within the Township.

The Township has not received any complaints related to activities or operations of the base.

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

None that we are aware of.

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?
We are not aware of any residents working on the base, but do not have specific means of gathering such information either. We are not aware of any residents using the base for any other reasons. The location of several businesses along Route 33/34 corridor use Route 34 as a means of transportation. Many industrial type uses take advantage of the zoning in this area and are permitted to be located here whereas similar zoning is not readily available in many other areas of the Township. Geuerally, the intersection of Route 33 and Route 34 is difficult to manage at certain times of the day. We have not received many complaints specific about truck traffic in the area, although we are aware that is difficult to navigate.

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

The future community moving into the area will likely be housing project both associated with affordable housing and market rate housing. The areas surrounding the base are somewhat undeveloped and contain some larger tracks suitable for housing projects in the future. Commercially the Route 33 corridor contains potential tax rateable opportunities especially if sewer and water service are expanded into the area.

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

Largest pressure on the township is from affordable housing where as many as 500-600 affordable units may be needed by 2025 which may translate to a total number of 2,500 housing units. Large tracts of land will remain attractive to developers for non-affordable housing projects to accommodate population growth and expansion.

Population growth and the need for housing will also continue to be a pressure.

Route 33 corridor may become a big target for new rateable opportunities in the future.

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

Future development will likely be commercial on Route 33 and low-high density residential development (affordable, senior and single family).

Non-development will likely be limited to areas that are environmentally constrained (wetlands, riparian buffers, flood hazard areas).

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

Without any connection to coastal areas in this portion of the Township, the largest storm related impacts are sporadic loss of power in certain areas. Inland flooding is an issue on certain roads within the Township, but not necessarily those that effect the base and their transportation needs (I-195-->Route 34-->Route 33)

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

No.

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

Township has several areas of concern during storms which are mostly impacted during heavy precipitation events. These areas are not part of the transportation network used for the operation of the base and these issues likely will not impact the operation of the base in anyway.

We would like to meet to discuss these issues with you and any additional municipal representatives you would like to have at the meeting. Please check all available times below. If you are not available to meet on either of these dates, please contact Linda Brennen, County Project Manager to schedule an alternative time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

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Howell Township (May 10, 2017) held at County offices

Interviewers: Jay DeFelicis, PP, Maser Consulting

Jee Mee Kim, AICP, HR&A Advisors

Dennis Blazek, Earle Base Liaison

Linda Brennen, PP County Planning Office

Representing: Jim Herrman, PE, CME, Director of Community Development

Matthew Howard, PSM, Director of Land Use

A completed survey was provided at the beginning of the meeting and is an appendix to these notes:

1. Earle Relations

- **Earle employees primarily live in Howell and Middletown**
- **Town has issues with drainage from Earle structures and flooding**
- **Believe that the area taken up by Earle causes a situation where the remaining land surrounding the base in Howell Township doesn't provide enough critical mass to justify new development (e.g., housing, commercial)**
- **Shared services**
 - **Fire departments provide mutual aid**

2. Housing

- **Newly-completed Equestra development has 504 age restricted homes, including 72 affordable COA apartments**
 - **Densest development proximate to Military Influence Area (MIA)**
 - **Small strip mall as part of development is struggling to tenant**
- **COA requirement will be 325-550 additional affordable units between now and 2025, in addition to bonus credits and what currently exists**
- **Market rate units to be included as part of multifamily development**
- **Gross count is approx. 1,500-2,750 total units; town currently has 17,000 dwelling units**
- **Approximate total population 54,000 residents**

3. Land Use & Development Goals

- **Because of retail tenanting issues, Town is now permitting a 400' highway buffer to first house instead of mandatory commercial**
 - **Buffer would be reserved for future commercial development**
- **Town considering for military area zoning that would limit MIA from high density housing and, thus, COA could exempt area for affordable housing calculations**
- **Town has map of potential development sites, including four projects near Route 33 within MIA**
 - **Boulder Ridge has been approved for 212 age-restricted units on the north side of Route 33 close to the meeting with Route 34 and located in an area which backs up to the western portion of Mainside.**
 1. **Faces similar issues with commercial tenanting**
 2. **Also involved in needing to extend utilities to the site from some distance**

3. There is a fair amount of wet area on the property frontage.

- **Town would like to see destination commercial (e.g. medical office) along Route 33 and more rateables with little fiscal impact like Equestra, which has own infrastructure and maintenance**
- **Route 9 is major corridor but lacking capacity for new development**

4. Transportation

- **Issue at intersection of Routes 33 and 34**
 - **Not enough severe crashes for DOT to address**
 - **Both are congested, though not attributable to Earle**
 - **Town would like Route 33 to be widened and roundabout added to intersection**
 1. **Some funding could be available because of military highway use**
- **NJT bus runs along Route 33 (Asbury to Freehold Mall route)**

5. Additional Considerations

- **Earle and Town discussed resiliency or wetlands banks**
 - **Identify restoration area and bank credits for wetlands in order to establish a buffer for Earle and future developer could fill lower quality wetlands, could create integrated, contiguous wetlands system**
 - **Town has not been approached, but not opposed to idea**
- **Earle required to review development applications within 3,000 feet of Earle per NJ code**
 - **No approvals required from Earle but meant to confirm risk and issues**

Monmouth County - NWS Earle Joint Land Use Study
Municipal Questionnaire

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process. Please consider the questions below for discussion at an upcoming meeting with the JLUS project team.

Name of Municipality: Township of Middletown

Names and titles of municipal representatives attending the meeting:

Mayor Gerry Scharfenberger, Township Administrator Tony Mercantante, Township Planner San Chavan and Maureen Raisch

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

NWS Earle is seen as a good neighbor with only small impacts, such as playing Taps at night. Residents are not fully aware of Earle's mission and facilities because they are out of sight, with the exception of Normandy Road/railroad. Facilities in Middletown include the Pier Complex and Octagon Waterfront/Chapel Hill area. There are some issues with at-grade crossings of Normandy Road, primarily the traffic signals.

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

The waterfront complex is served by TOMSA for sewage treatment (including ships in port). There are mutual aide agreements (e.g., fire fighting & Township vehicle/school bus use of Normandy Road). As noted above, there are some transportation/traffic issues. Signals on Normandy Road need extended tubes to ensure drivers can properly read lights at sharp angled intersections. Several intersections were recently improved. There are some drainage issues in neighborhoods adjacent to the Waterfront Complex. Security issues include recreational boaters & fisherman who go too close to the pier. Working with Earle on a Microgrid energy feasibility study grant proposal.

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

A significant percentage of those that work on the base (military & civilian) live off-base in Middletown. Base staff and Reserves use local businesses (convenience stores, restaurants, and hotels).

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

MIA is mostly developed/R-45 Zone. Township looking at possible purchase in Chapel Hill area (proposed private school development was denied). May consider TDRs along NJSH 36 to funnel development to better tracts. The 2004 Master Plan references Earle as 'military land' in the Existing Land Use Plan section and describes the facility. In the proposed Land Use Plan element there is discussion of the 'lightly developed are' between the Navesink River and Earle and suggests that if this area develops significantly in the future, a new fire station may be needed. Master Plan is available on line: <http://www.middletonnj.org/223/Master-Plan>.

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

Recently completed a NJSH Route 36 Corridor Study.

Currently preparing a redevelopment plan for the Port of Belford area (around the ferry terminal).

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

COAH numbers - generally in good shape, particularly in the Bayshore. There is a new affordable housing project on Main Street in Belford.

Storm Resiliency remains a pressing issue.

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

MIA is fully sewered. R-45 Zone. Township looking into possible purchase near Earle's Chapel Hill area (former site of a private school proposal that was denied). Township may consider TDRs along NJSH 36 to funnel new development into nodes on in appropriate locations. Leonardo State Marina is building a new building on-site.

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

Bayshore properties surrounding Earle are at low elevations and subject to flooding. Post Sandy many houses are being raised as a result of flooding. During Sandy power was out for over a week which affected traffic lights and some municipal services. Earle, a County Highway facility, the Ferry Terminal, TOMSA, et al, were all affected.

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

Port Belford study is funded through Post-Sandy grant and climate adaptation issues are being considered. A sea wall is being built in the Port Monmouth area for flood protection.

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

There is little traffic on NJSH 36 at the base gate. Much of Normandy Road is within Middletown Township. Some at grade crossings have issues. Middletown High School South is directly adjacent to Normandy Road. A few homes must use Normandy Road for access and have agreements with the base.

NJSH Route 36 is a coastal evacuation route but was closed due to lack of traffic signals and flooding near Wilson Avenue.

We would like to meet to discuss these issues with you and any additional municipal representatives you would like to have at the meeting. Please check all available times below. If you are not available to meet on either of these dates, please contact Linda Brennen, County Project Manager to schedule an alternative time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

Wednesday, May 10th

AM _____

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Thursday, May 11th

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--Draft prepared from 5/10 meeting notes--

Middletown Township (May 10, 2017) held at Middletown Township Municipal Building

Interviewers: Jay DeFelicis, PP, Maser Consulting
Jee Mee Kim, AICP, HR&A Advisors
Dennis Blazek, Earle Base Liaison
Linda Brennen, PP County Planning Office

Representing: Maureen Raisch, PP
San Chavon, PP, AICP
Anthony Mercantante, PP
Gerry Scharfenberger, Mayor

1. Earle Relations

- Limited public concerns unless Earle is testing munitions, munitions disposal site is near Middletown – Tinton Falls
- Most residents think Earle is a good neighbor
- Normandy Rd. and crossings sometimes present concerns
- Earle's pier area hooks up to the Township sewer treatment plant in Belford
- There is beach frontage in Leonardo, next to the State Boat Ramp and in Belford, that is within the Base protected area, but at times the signage is not effective to deter people from wandering into the restricted zone.
- Fisherman sometimes get too close to pier protected area and may be unaware of area
- Shared services
 - Mutual emergency aid with Earle and all County towns

2. Housing

- May not have any additional COAH requirements
- A 110-unit senior housing development in Fort Monmouth was elevated after damage from Sandy

3. Land Use & Development Goals

- Development is constrained
 - Most vacant lands are environmentally constrained
 - Town is lacking significant, large development sites
 - Belford sites are already developed; new residential/commercial development is likely on already developed land
 - Undeveloped land will remain undeveloped and have significant environmental constraints
- Kaiser property is most ripe for development, zoned for single family but likely to be other more intensive use
- Town had discussions with Earle about open space acquisition near Kings Highway for development, ideally residential, that is getting appraisals now
- Town included Earle in Belford Development Plan study that was recently completed
- Route 36 Corridor Study was executed using a post-Sandy grant and focused on economic development with resiliency, specifically:
 - TDRs from sites such as minimally developed sites on Route 36, including farm lands and pervious areas, that could be transferred to other sites

- **Route 36 Corridor Study** was executed using a post-Sandy grant and focused on economic development with resiliency, specifically:
 - TDRs from sites such as minimally developed sites on Route 36, including farm lands and pervious areas, that could be transferred to other sites
 - Potential to preserve sites on Route 36 (adjacent to Henry Hudson Trail), create deed restrictions, identify receiving areas, and consider flexible zoning.
 1. Corridor does not have enough depth - Route 36 lacks the critical mass (i.e., half the area is water) to support retail like Route 35

4. Transportation

- **Normandy Road is biggest issue**
 - Some intersections need signal modifications: Kings Highway East, Sleepy Hollow Rd., Harmony Rd./35 (Navy responsibility), West Front, Nut Swamp Road

5. Additional Considerations

- **Climate change considerations**
 - Belford received post-Sandy planning grant that required climate change and environmental factors be built into project
 - North Middletown lowest elevation but has flood protection
 - Fort Monmouth will have flood protection in place but Belford and Leonardo do not have enough structures to warrant flood protection
 - Most residents elevating one foot above Earle flood elevation
 - Most Belford/Leonardo housing stock is outside flood zone but between Route 36 and the shore is within CAFRA zone, triggering CAFRA review.

Monmouth County - NWS Earle Joint Land Use Study
Municipal Questionnaire

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process. Please consider the questions below for discussion at an upcoming meeting with the JLUS project team.

Name of Municipality: Township of Wall

Names and titles of municipal representatives attending the meeting:

Jeffry Bertrand, Township Administrator

Nora Coyne, Township Planner

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

No formal surveys have been performed. Municipal representatives do not usually hear much discussion about the Naval Weapons Station (NWS).

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

No.

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

Wall does not have any specific data on residents that work at the base, though we do have many veterans in the Township. The Township has no specific knowledge of residents using the base. Based on previous JLUS meetings the Township has learned that Wall Township is a key transportation corridor for the Base, providing vehicle transportation to the base via State Routes 195, 138, 34 and 33.

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

Wall Township seeks to promote appropriate population densities in concentrations to the well being of persons, neighborhoods and the region and the preservation of the environment. Wall envisions maintaining the existing rural character of the central portion of the Township, while encouraging light industrial, retail and office type development along its already developed main commercial corridors. More recently, the Township has discussed possibility of mixed-use nodes in order address its affordable housing obligations.

The Master Plan does make brief reference to NWSE, but only to the extent of identifying as a self functioning entity.

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

Wall Township is committed to continued economic development. Pursuant to the 1999 Master Plan, the major employers were situated along Highway 34 and Wall Township remains committed to encouraging office park development along this corridor. Although no formal redevelopment studies have been performed, the Township has considered the Route 33 corridor (Wall's closest commercial corridor to NWSE and within the Limit of Military Influence per the maps provided) for possible revitalization and Redevelopment. This idea can be documented as far back as the 2005 Master Plan Re-Examination Report. In recent years, it has become a more prevalent issue to address as the area continues to deteriorate.

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

These are all pressing issues for Wall Township and the municipality is at an apex of trying to balance them all.

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

The area within the Military Influence Area is zoned for a variety of uses including retail, office, light industrial, open space and residential and there are vacant lands in all of these zones. The Township remains committed to allowing permitted uses under its current zoning. Additionally, the Township adopted a 2009 Housing Element to the Master Plan and is in the process of working towards an updated Housing Element and Fair Share Plan to address its affordable housing obligations. Vacant lands within the Military Influence Area have been planned for affordable housing as set forth 2009 plan and this area continues to be an area that the Township will consider for retail, office, light industrial, open space and residential. The Township welcomes a working relationship with NWSE in the future.

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

Wall Township did experience flooding in major storm events over the last 10 years. However, the Township did not experience the extensive damage that affected neighboring coastal towns. The biggest storm related impacts of recent major storms were damage/loss of utilities and extended periods of power loss.

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

No.

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

There are significant traffic issues on NJSH Route 35, especially during the summer months. The Township also has three traffic circles that routinely experience heavy delays and have been identified as traffic problem areas in the Master Plan. These circles are at the intersection of NJSH Route 34 and Allaire Road, NJSH Route 33 and NJSH Route 34, and NJSHW 35 and Atlantic Avenue. There are also several other traffic problem areas identified on the Master Plan that remain a concern including several along NJSHW Route 70.

We would like to meet to discuss these issues with you and any additional municipal representatives you would like to have at the meeting. Please check all available times below. If you are not available to meet on either of these dates, please contact Linda Brennen, County Project Manager to schedule an alternative time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

Wednesday, May 10 th	AM	_____	PM	_____
Thursday, May 11 th	AM	_____	PM	_____

Monday, May 15th: 9AM

Wall Township (May 15, 2017) held at Wall Township Municipal Building

Interviewers: Jay DeFelicis, PP, Maser Consulting

James Splendore, AICP, HR&A Advisors

Linda Brennen, PP County Planning Office

Representing: Nora Coyne, PP

1. Earle Relations

- **Most residents are not aware of Earle within Town boundaries and there is very little Earle land within Town boundaries**
- **Earle is mentioned in planning but studies but not with any significance**
- **No shared services**

2. Housing

- **Town would like to develop mixed-use with residential and retail near Route 33, within MIA**
- **Town has received approvals from DEP for affordable housing south of Route 33 but still within MIA – 228 total units with 20%+ set aside**
- **Housing obligation is likely to be capped at approx. 1,000 units**
- **Total population presently 26,000 residents in 10,000 households**

3. Land Use & Development Goals

- **Zoning height restrictions of 35 ft. for residential**
- **Town's main focus is Route 33 but would also like to develop along Route 34, which currently is home to mostly office parks**
 - **Multiple new developments along Route 34**
- **There are very few developable sites; much of western portion of Town is wetlands and/or parkland**
- **Monmouth Airport on Route 34 supports some light industrial uses and wants to increase Executive Airport use**
 - **Recent purchase by Alan Antaki included agreement that it would remain an airport**
 - **Town wants limits on plane size**

Monmouth County - NWS Earle Joint Land Use Study
Municipal Questionnaire

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process. Please consider the questions below for discussion at an upcoming meeting with the JLUS project team.

Name of Municipality: Borough of Tinton Falls

Names and titles of municipal representatives attending the meeting:
Gerry Turning - Mayor / Mike Muscillo - Borough Administrator
Tom Neff - Borough Engineer
Lori Paone - Land Use Administrator

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

The Borough has no issues with the Navy base operations or military children utilizing Borough schools. However, the Borough and many residents have concerns over the Navy opening the base to civilian residents and sending those non-Borough civilians to Borough schools.

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

Police use Normandy Road when necessary.

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

Minimal indirect involvement

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

The Borough's vision is to maintain a balance of commercial + residential development along with adequate open space.
The Master Plan only states that Earle is located in the Borough.

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

No

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

Schools + their population
Redevelopment of Fort Monmouth

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

The majority of land in the vicinity of Earle has already been developed. Earle has not been a major consideration in the planning process.

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

The Borough is not coastal & has minimal areas of flooding. The biggest storm related impacts are snow removal & power loss.

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

Obtained surplus military trucks & equipment for storms and emergencies.

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

Water Street is one of the only streets that regularly floods during significant.

The Borough will see increased traffic due to the new exit ramp from GSP to Wayside Road. The Borough hopes to keep the main access to Earle from RT 34 in Colts Neck.

We would like to meet to discuss these issues with you and any additional municipal representatives you would like to have at the meeting. Please check all available times below. If you are not available to meet on either of these dates, please contact Linda Brennen, County Project Manager to schedule an alternative time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

Wednesday, May 10th
Thursday, May 11th

AM _____ PM _____
AM _____ PM _____

Borough of Tinton Falls (May 17, 2017) held at Tinton Falls Municipal Building

Interviewers: Jay DeFelicis, PP, Maser Consulting

James Splendore, AICP, HR&A Advisors (on telephone)

Linda Brennen, PP County Planning Office

Kyle Clonen, County Planning

Representing: Jerry Turning, Mayor

Lori Paone, CLUA, Zoning Official

Mike Muscillo,

Tom Neff, PE, PP, CME Borough Engineer with T&M Associates

1. Earle Relations

- Town, especially Fire and Police Departments, find Earle to be a good partner
- Not aware of anyone who lives in Town and works in Earle
- Some recent noise complaints near south of Earle (demolition area)
- Issue surrounding schools and Earle residents
 - Before large population growth, Town signed an agreement to have elementary school-age children of Earle personnel attend elementary school within Tinton Falls with a \$2,000 stipend per student (avg. actual cost is \$16,000)
 1. Population growth in Town and Balfour Beatty development within Earle may require additional school
 - Town receives no stipend for civilian children in school and no property tax revenue

2. Housing

- Town does not expect any COAH requirement due to previously rehabbed multifamily units
- Increased population in the south of Town and increased residential development near Earle but no real issues

3. Land Use & Development Goals

- Very few available sites left in Town, with any options being for commercial
- Town focused on two potential sites:
 - Area within and surrounding County reclamation center could be acquired and redeveloped, though landfill is most likely to be redeveloped for open space (e.g. golf course, park) once capped
 - Farmland along Shark River Rd. is a possible site for redevelopment
- Fort Monmouth to the northeast has been approved for significant redevelopment, which is mostly residential

4. Transportation

- Asbury Road is a major truck route for County reclamation center and connects to Route 33 and Route 34, major roadways for Earle

5. Additional Considerations

- **Earle land within Town is heavily wooded and Town is concerned about fire**

Overall Impressions from Municipal Meetings

Jay DeFelicis, PP Project Lead

- 1. All of the Earle Towns seem to have a positive relationship and impression of the Base and have no immediate concern with the mission of the base.**
- 2. The Route 33 & 34 Corridor should be studied from a Transportation, Land Use, Zoning and Economic Development aspect. After the meeting it was found that there was a study done some years ago (2004) for the County of this area that needs to be reviewed.**
- 3. There are numerous access points around the perimeter of the base and numerous uses, mostly commercial that have some impact or potential impact on the Base.**
- 4. The Normandy Road corridor has issues relating to traffic and rail signalization that will need to be resolved.**
- 5. The Base has property in the Chapel Hill area south of Route 36 that provides upland area near the pier.**
- 6. The waterfront corridor between the shoreline and Route 36 needs to be studied for Sea Level Rise and resiliency**

Monmouth County - NWS Earle Joint Land Use Study

Municipal Questionnaire

Please respond by: April 18, 2017

Name of Municipality: Township of Ocean

Primary Contact Person and Title, as identified by Municipal Governing Body:

Marianne Wilensky, Director of Community Development

Contact Information:

399 Monmouth Road
Oakhurst NJ 07755
mwilensky@oceantwp.org

Phone: 732-531-5000 X 3350

Email: mwilensky@oceantwp.org

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process.

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

More or less there is a curiosity about what goes on there.

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

No direct involvement.

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

I am not aware of any indirect involvement.

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

Ocean Twp. is largely developed. The future is likely to include rehabilitation and redevelopment. There is no reference to Earle in the Township's Master Plan

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

The Township is in the early stages of pursuing rehabilitation along the major commercial corridors including Rt. 66, Highway 35, Sunset Avenue, Monmouth Road and Norwood Avenue.

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

Rehabilitation of existing commercial corridors in order to attract new businesses.

Traffic Congestion.

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being

developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

The last large vacant parcel in the area of military influence was recently approved for age restricted housing.

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

flooding (more often and of longer duration)
extended power loss

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

using FEMA \$ to demolish housing that was repeatedly flood damaged
using Blue Acres \$ for same purpose

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

Highway 35 has sections that are closed due to flooding events on occasion

Would you like to discuss these issues further with the JLUS team? If yes, please provide a few dates and times that you and your team are available to meet, or contact Linda Brennen, County Project Manager to schedule a time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

Monmouth County - NWS Earle Joint Land Use Study

Municipal Questionnaire

Please respond by: April 18, 2017

Name of Municipality: Kearnsburg

Primary Contact Person and Title, as identified by Municipal Governing Body:

Raymond B. O'Hara, Benefits Manager

Contact Information:

Phone: 732-287-0215 x 201

Email: CHIEFOHARE@NOC.COM

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process.

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

hardly mentioned

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

P.D. uses Navy Road for official business

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

N/A

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

FUTURE MAJOR DEVELOPMENTS;
OUR EOP LIST EARLE.

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

YES, GOVERNMENT AREA

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

ALL OF THE ABOVE

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being

N/A

developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

MLA

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

Sandy

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

Yes, we have applied for and received (HMR) Hazardous Mitigation Grants

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

Hwy 36 congested with Sandy High traffic during summer season

Would you like to discuss these issues further with the JLUS team? If yes, please provide a few dates and times that you and your team are available to meet, or contact Linda Brennen, County Project Manager to schedule a time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

NEA

Monmouth County - NWS Earle Joint Land Use Study
Municipal Questionnaire

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process. Please consider the questions below for discussion at an upcoming meeting with the JLUS project team.

Name of Municipality: Farmingdale

Names and titles of municipal representatives attending the meeting:

Councilman Michael Romano

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

There are some concerns about munitions: transportation and detonation.

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

There are mutual aid agreements for emergency services.

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

County Route 524, which runs through the Borough, connects SR 33 and SR 34 so there are some traffic impacts. People working at Earle likely use local businesses and some residents work at Earle, although the number is unknown.

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

Farmingdale's vision is to remain stable and keep taxes low. There are concerns about potential COAH obligations and where the units could be located as the community is nearly built out.

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

The economic development focus is on shopping and restaurants.

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

Open space preservation is a concern. The Borough is to receive 6 acres of the former Ed Brown property once life rights are exhausted. Redevelopment is another concern. There is no chamber of commerce. There are currently 3 vacant commercial properties, but one will soon have a new restaurant, leaving 2 vacant properties. One vacant house will soon be the location of the offices of a computer business.

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

The Borough is primarily built-out, however one potential location for high density housing to assist with the COAH obligation is on the front of the existing garden apartment property. located in the north end of town (within MIA) on CR 524.

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

Most damage within the Borough from hurricanes Irene and Sandy were from downed trees. During Irene the bridge to the golf course flooded. After Sandy power was out for about a week. Had that happened during the 6 months per year when the Borough is on well water, this would have been an even more significant problem.

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

The water connection is in need of rehabilitation, however the sewers are all PVC and were installed in 1982. Farmingdale did participate in the County's All Hazards Mitigation Plan but has not prepared a separate resiliency plan.

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

Farmingdale does not have a police department. The Borough uses the services of the State Police, however the closest barracks is now in Hamilton, making it harder to patrol or answer calls. As a result, there is a regular speeding problem along CR 524, which is the main thoroughfare in Farmingdale. The Borough would like to look into traffic calming measures to reduce the speeding issue.

We would like to meet to discuss these issues with you and any additional municipal representatives you would like to have at the meeting. Please check all available times below. If you are not available to meet on either of these dates, please contact Linda Brennen, County Project Manager to schedule an alternative time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

Wednesday, May 10th

AM _____

PM _____

Thursday, May 11th

AM _____

PM _____

Monmouth County - NWS Earle Joint Land Use Study

Municipal Questionnaire

Please respond by: April 18, 2017

Name of Municipality: BOROUGH OF EATONTOWN

Primary Contact Person and Title, as identified by Municipal Governing Body:

ERIK BRACHMAN, ZONING OFFICER

Contact Information:

BOROUGH OF EATONTOWN
47 BROAD STREET
EATONTOWN, NJ 07724

Phone: 732-389-7611

Email: PANDZ@EATONTOWNNJ.COM

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process.

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?

NWS Earle is certainly in the back of Eatontown residents minds since most are very aware of the prior presence of Fort Monmouth and its inter-relationship with residents and business owners.

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

There currently is no direct relationship with the Borough and NWS Earle other than being designated as a "Military Influence Area".

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

The Borough is unaware of how many residents work at the base. Any direct involvement or impact is minimal with no real indirect involvement or impact as well.

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

Our Planning Board is currently conducting their 10 year Master Plan re-examination and we foresee no mention of NWS Earle.

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

Our immediate development planning centers around Monmouth Mall revitalization plan and development of Fort Monmouth properties within the Borough.

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

The primary focus of Eatontown's proposed future development focuses on stabilizing rates, fulfilling the Borough's immediate COAH obligation and maintaining a quality of life for residents and business owners.

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being

developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

Eatontown's proposed development should not impact NWS Earle. Any future impact would be indirect and minimal. The Borough residents should be aware of the importance that NWS Earle plays in our national security and the role that NWS Earle plays as a "good neighbor".

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

Eatontown does have some low lying areas but on the most part are spared from flooding. JCP&L is currently upgrading transmission lines within the Borough to ensure reliability of services going forward.

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

Directly no but the Borough is inclusive of the Monmouth County planning for any future weather related adverse events.

Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

Eatontown is congested with the Highway 35 & 36 corridors. Future development within Eatontown should not reach levels of traffic generated when Fort Monmouth was operational.

Would you like to discuss these issues further with the JLUS team? If yes, please provide a few dates and times that you and your team are available to meet, or contact Linda Brennen, County Project Manager to schedule a time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

Monmouth County - NWS Earle Joint Land Use Study

Municipal Questionnaire

Please respond by: April 18, 2017

Name of Municipality: Borough of Atlantic Highlands

Primary Contact Person and Title, as identified by Municipal Governing Body:

Adam Hubeny, Administrator

Contact Information:

Borough of Atlantic Highlands

100 First Avenue

Atlantic Highlands, NJ 07716

Phone: 732-291-1444 x3101

Email: ahubeny@ahnj.com

The Monmouth County Division of Planning and their consultants are gathering information for the Joint Land Use Study (JLUS) for Naval Weapons Station Earle, and are seeking your community's input in the Planning Process.

Municipal Relationship with NWS Earle: The JLUS Earle planning process is intended to minimize conflicts, increase compatibility and seek out new opportunities.

1. How is the Naval Weapons Station perceived by residents, businesses, and/or stakeholders in your community?
 1. Good Neighbor
 2. Seen/Observed at the Harbor
 3. Well Respected

2. Does your community have any direct involvement with Naval Weapons Station Earle (such as participating in shared services or partnership projects, use of Normandy Road, etc.) If so can you provide some explanation of the interaction?

Yes

 1. They launch patrol boats at our Harbor
 2. Use of Normandy Road for Police, Fire, EMS, OEM & Sanitation Department

3. Does your community have any **indirect** involvement with Naval Weapons Station Earle? Do residents who live in your town work on the base? Do residents use the base for any reason? Does the base impact your local traffic? If so can you provide some explanation of the interaction?

We do have residents who work at NWSEarle, but have no idea how many.
I want to say maybe Softball/Baseball field at Waterside might be used (?)
No traffic

4. What is your vision of your community moving into the future? If you are mostly developed or mostly rural/open space, is your vision to remain stable? Do your Planning documents, such as your Master Plan, make reference to Earle? If so in what context?

New apartment buildings being constructed with over 50
1 & 2 Bedroom units, our OEM Plan references NWS Earle in several ways:
Fire Department and possible exposure

Economic Development: This information is intended to determine what level of economic impact or interaction your community has with Earle

5. Has your community in the recent past or is your community in the process of doing Economic Development Planning? If yes, is the focus on a specific area(s)?

No

6. What economic and social issues are most pressing in your community (e.g., access to jobs, preservation of open space/agriculture, corridor/downtown revitalization, affordable housing, re-development, business retention or attracting new businesses)?

Affordable Housing will be on the rise. Always looking to retain
Businesses. Only 4 vacant store fronts on First Avenue open.

7. If you have vacant lands in your community, specifically within or close to the Military Influence Area (see attached map), how does your community envision them being

developed in the future? Has the presence and mission of Earle been a consideration in the planning process? Would you like more information about Earle's mission in order to more fully consider impacts and opportunities for potential adjacent land uses?

For the most part we are built out. 1 Waterfront piece left.

Storm Resiliency and Sea Level Rise: This study is evaluating possible adaptation options to reduce potential impacts from storms and rising sea levels.

8. Over the past decade what have been your municipality's biggest storm-related impacts (such as increased areas/duration of flooding, structural damage, road closures, damaged/loss of utilities, extended periods of power loss, etc.)

Harbor, Flooding, ManyMind Creek, Road closures on West side of town

9. Has your community studied/developed/implemented any new storm resiliency plans/measures? If yes, please describe.

USACE doing ManyMind Creek study now

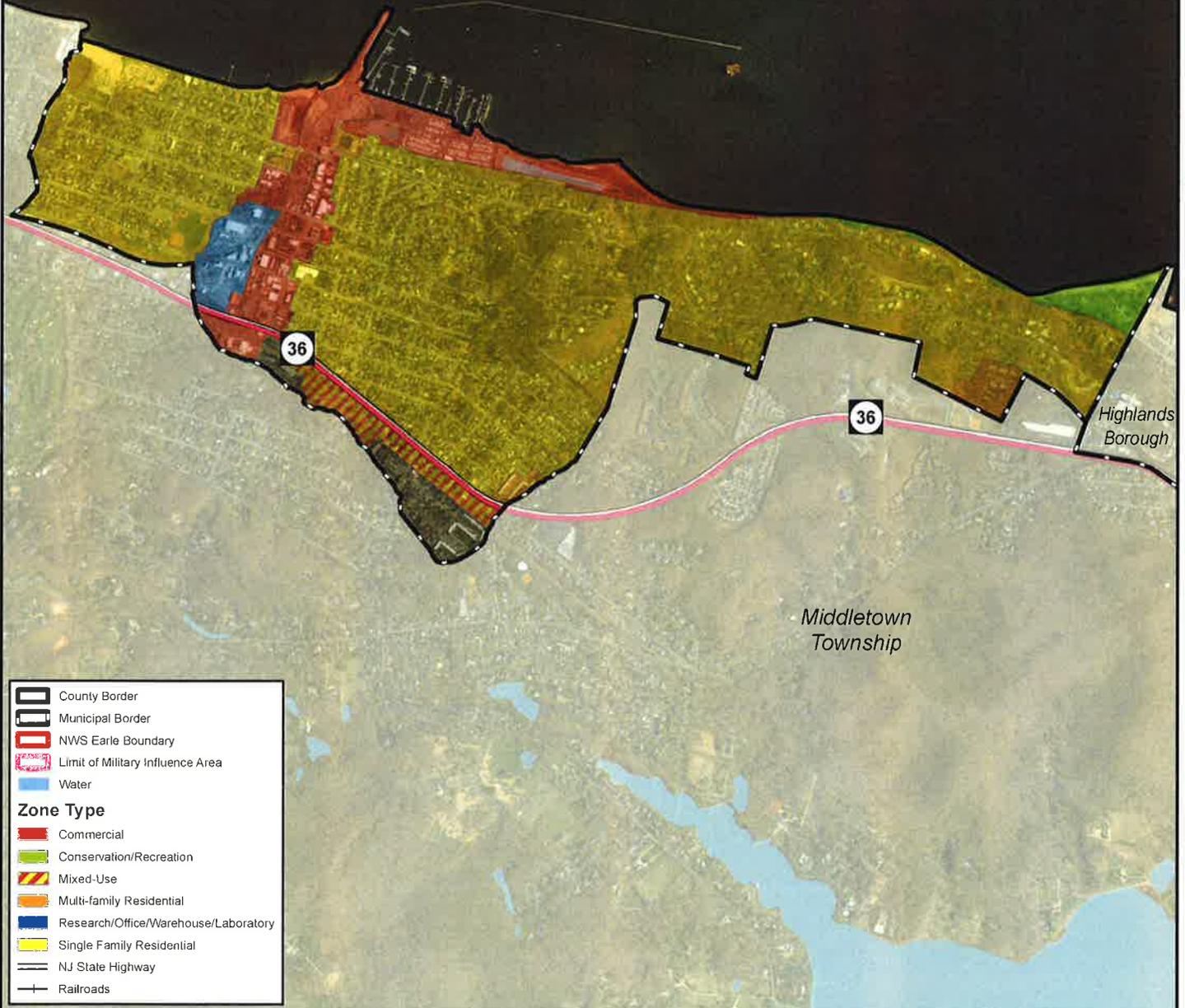
Transportation Issues: The federal Strategic Highway Network (STAHNET) includes the NJ Turnpike, 195, and NJSH Rte. 34. The Normandy Road/Rail corridor and major highways with proximity to Earle, such as NJSH Rte. 35 and Rte. 36, are integral to the daily operations at Earle. These roads are also very important to Monmouth County communities.

10. Has your community experienced any regular or significant traffic/transportation issues with these major highways or the local collector roads that feed into them? How do the major roadways in your community function during storm events (do you have road flooding issues, low bridges, etc. that affect travel during storm events)? Please describe.

No issues on Roads mentioned

Would you like to discuss these issues further with the JLUS team? If yes, please provide a few dates and times that you and your team are available to meet, or contact Linda Brennen, County Project Manager to schedule a time. She can be reached via email at: Linda.Brennen@co.monmouth.nj.us or via phone at (732) 431-7460 x6470.

Sandy Hook Bay



	County Border
	Municipal Border
	NWS Earle Boundary
	Limit of Military Influence Area
	Water
Zone Type	
	Commercial
	Conservation/Recreation
	Mixed-Use
	Multi-family Residential
	Research/Office/Warehouse/Laboratory
	Single Family Residential
	NJ State Highway
	Railroads

Sources: County & Municipal boundaries from NJGIN, 2011 NJDOT Roadway Network and Railroads, Naval Station Earle boundary provided by the U.S. Navy, NJDEP Waterbodies 2002, Zoning provided by Monmouth County



**MILITARY INFLUENCE AREA
WITHIN
ATLANTIC HIGHLANDS**
NAVAL WEAPONS STATION (NWS) EARLE
UNITED STATES NAVY
MONMOUTH COUNTY NEW JERSEY
JANUARY 2017

APPENDIX D

Introduction

The Joint Land Use Study (JLUS) team conducted a site visit to Naval Weapons Station (NWS) Earle on March 29, 2017. JLUS team members included project members from AECOM, Maser Consulting, Monmouth County, and NAVFAC, as follows:

- AECOM
 - Richard Dorrier- Richard.Dorrier@aecom.com
 - Justin Lightfield- Justin.Lightfield@aecom.com
- Maser Consulting
 - Jay DeFelicis- gdefelicis@maserconsulting.com
- Monmouth County
 - Linda Brennen – linda.brennen@co.monmouth.nj.us
- NAVFAC
 - Dennis Blazak- dennis.blazak@navy.mil

The purpose of the site visit was to conduct site tours and interview key stakeholders at NWS Earle.

Stakeholder Interview Minutes

Port Ops, NWS Earle

0800 – LT Pawl Osik, Port Ops Officer

- In general, commercial boats stay clear of the restricted access areas around the pier, while summer tourists, particularly kayakers, encroach or cross the restricted access zone. There is no physical barrier to keep people away from the beach and pier with only a small sign on the beach and buoys with signs in the water. There is the potential to work with New Jersey State Park to incorporate signage on the Leonardo side of the beach.
- Security could be enhanced through further cooperation with local enforcement agencies.
- Climate change is a concern including the potential for storm surge and damage to the pier and waterfront facilities, especially if another one-thousand year storm hits the area. Potentially, more flooding and water damage would occur with this magnitude of a storm.
- Utilities run alongside the trestle to the ordnance piers and were raised approximately 3 feet after Superstorm Sandy. The substation at the waterfront was also raised above Base Flood Elevation after Superstorm Sandy.
- Utilities are necessary when ships are in port and include electric, potable water, wastewater, and communications.
- OHMSETT - The National Oil Spill Response Research & Renewable Energy Test Facility provides performance testing of oil spill response equipment. OHMSETT moved away from the waterfront and was constructed on higher elevation after Superstorm Sandy.

0900 - Windshield Survey of Pier

- A 42" waste water pipe runs under the marsh area from the pier to the municipal sewage treatment facility. The Township of Middletown, NJ owns the facility.
- The original pier/trestle was built in 1941, while the existing pier/trestle was built in 1990 and has a life expectancy of 70-75 years. The original pier and trestle are no longer used and scheduled for demolition.
- The existing pier is approximately 11 ft. above sea level.
- The Sandy Hook Bay is 20 ft. deep on average around the pier with a drop-off of 40 ft. in the middle of the Bay.
- The high-water mark sign from Hurricane Sandy in October, 2012 indicates the water was approximately 11 ft. above ground level near the OHMSETT facility site.
- The U.S. Coast Guard provides maintenance to buoys along the waterfront. The buoys themselves mark the Marine Patrolling Zone.
- The NY/NJ Baykeeper – an organization committed to the conservation and restoration of the Hudson-Raritan Estuary - is testing an oyster reef in Sandy Hook Bay to provide shoreline protection by reducing erosion along the shoreline. These reefs are large enough to break up heavy wave action along the shoreline.
- Salt Marsh Restoration and Enhancement methods have also been talked about; however, there is no funding at this point.
- Building R-41 was moved 1,100 ft. from the beach; it was originally 100 ft. from the shoreline.

0945 – Windshield Tour of Leonardo drainage issue

- Group looked at local storm drainage inlets which carry stormwater onto NWS Earle.
- This community has had historic issues with flooding.

Naval Munitions Command Atlantic, Detachment Earle

1000 – Jan Zaleski, Deputy Officer-in-Charge

- NWS Earle's mission requires the storage of various types and quantities of ordnance. The weapons handling and storage functions generate Explosive Safety Quantity Distance (ESQD) arcs that cover large portions of the base. The ESQD arcs dictate minimum separation requirements between ordnance facilities and an inhabited building or public assembly area.
- Any changes in the ESQD arcs would be an issue as far as community relations and encroachment. The Navy prefers these arcs to remain in place to account for maximum ordnance storage requirements.
- Internally, the Navy plans safety restrictions for 110% of the ordnance arcs. A portion of the 110% arcs go outside of the base.
- There is pressure on surrounding Townships (particularly Wall Township and Howell Township) to build high-density low-income housing, which respond to requirements from the New Jersey Council on Affordable Housing (COAH). One area immediately outside the installation's fenceline has been deemed a "desirable" area for this type of development. This is both an environmental justice issue and human life risk. One suggestion that could be considered is to modify this requirement for jurisdictions in the vicinity of all military bases in New Jersey. Clark Martin – the New Jersey Military and Defense Economic Ombudsman in Trenton, NJ - was mentioned as a contact to follow-up with for state legislation on this affordable housing issue.

- There are already several multi-family developments along the railroad tracks. Any higher density development near the fenceline and Normandy Road is an encroachment issue for NWS Earle.
- The Readiness and Environmental Protection Integration (REPI) program could be used to buy development rights on property adjacent the base to restrict additional residential development. This is a DoD-wide program in competition with other military bases across the country with encroachment issues.
- Transportation: Dennis provided mapping of the Strategic Highway Network (STAHNET) for NWS Earle identifying critical roads for Earle's mission. State Route 34 is the closest local road to the base identified as part of STAHNET. Jan will provide HAZMAT restrictions applicable to carriers delivering ordnance to the base.
- The intersection of NJ-33 and NJ-34 is dangerous and needs to be improved to allow for safe delivery of ordnance to Earle. Paving repairs at this intersection are scheduled for this May 2017.

NWS Earle Security Department

1100 LT Migliore, Command Duty Officer

- Fallen trees or trees that have been cut down due to interference of utility lines could be considered as natural barriers from adjacent property to the Normandy Road corridor.
- Another major concern is encroachment from tourists and small craft at the pier complex. The base is restricted to a limited number of buoys, and signage is lacking along the beach near the pier.
- Larger signs along the waterfront would be beneficial for the safety of the base. The base could also educate citizens about the base; however, most of the people who enter the security areas around the piers and waterfront facilities are tourists.
- Road grading will become the next project on the interior perimeter road around the installation. This grading project will be through an Intergovernmental Service Agreement (IGSA) with Monmouth County.
- Development of Microgrid:
 - The base is working with the NJ Public Utilities Commission to study the feasibility of a microgrid around the base to establish a system of redundant and uninterrupted power. The microgrid would provide power to critical infrastructure both on and off base if the area lost power. This system would also reduce the need for generators as an emergency power source. Varying sources of back-up power generation are being considered. A Request for Proposals (RFP) is now available for a feasibility study.

Installation Commanding Officer

0200 – CPT Steingold

The team reported their findings to CPT Steingold. Questions and discussion points raised during the brief were as follows:

- Transportation system improvements near the base were discussed:
 - NJ-33/NJ-34 intersection needs improvement for ordnance trucks to the base.
 - NJ-33 west of the overpass by the Cabin Restaurant is not wide enough to handle local traffic, including vehicles going to Earle.
 - Another problem is that Waze and Google way-finding systems suggest motorists use Normandy Road on their GPS navigation mapping systems. This should be changed through software improvements if possible.
- Normandy Road Corridor:

- There is a requirement to clear 25 ft. from the rail line, but this is not maintained. The base should consider an agreement with the County to help with this.
 - The base only uses the west rail for train travel; the east side is inoperable.
 - It is difficult to keep up with snow removal after the installation sold plows to the County. The County is responsible for plowing and pre-treating Normandy Road through an IGSA.
- Energy – Microgrid:
 - A feasibility study is under consideration for a microgrid around the waterfront portion of NWS Earle.
 - Additional power generation would be included as part of the microgrid to supplement power from the local power company (Jersey Central Power & Light). Part of the generation could be sited on Navy property. Solar PV, natural gas, and methane gas from the sewage treatment plant are several types of generation being considered.
 - If the microgrid was established, the base would have power during storm outages and could still remain operational.
- Storm surge and sea level rise are significant long-term concerns not well addressed yet. Storms also cause localized flooding on streams affecting the Normandy Road corridor.
- Another issue is wildlife control. Coyote have been reported behind the fence line, and over 400 head of deer were reported within the fence on Mainside last year alone. Lyme disease, most likely from ticks from deer, has become a readiness and quality of life issue for base employees and residents.
- Funding is not sufficient to maintain NWS Earle facilities. This has become an increasing problem in recent years and affects the ability of the base to meet its mission.
- A new ICO will come on board later this spring. Dennis will brief him on the status of the JLUS; the JLUS team will also meet with him later in the study to discuss preliminary recommendations.

APPENDIX E

PUBLIC INVOLVEMENT STRATEGY

Public involvement plays a critical role in shaping the JLUS in a way that is meaningful to the County and the municipalities in the Military Influence Area (MIA) and the MIA buffer, but in particular the NWS Earle municipalities which have lands that comprise the base and are directly affected by the future planning process. The Public also plays an important role in the perception of the Base and its mission now and into the future.

I. PUBLIC INVOLVEMENT STRATEGY PLAN

A Public Involvement Strategy (PIS) has been created which outlines a wide range of methods to reach and engage the widest possible audience.

1. PUBLIC MEETINGS

Hold 3 Public Open House Meetings at the beginning, middle and end of the project that would be advertised on the County website and the project website. These meetings would be an open invitation to watershed municipalities and county residents to review project information generated and offer comments. The meetings are to coincide with the following milestones:

- Kick-off Meeting (Late March early April) - Data Collection
- Progress Meeting (Early Fall) - Draft Plan Preparation
- Final (January 2018) - Final Plan/Project Wrap-up

These meetings will include graphic material that will be available on the JLUS Earle website for anyone to see, and an outline of findings, with the ability of everyone to participate ask questions, voice comments or concerns, and generally engage with the project team. Meetings may include brief presentations as appropriate.

2. COMMUNITY OUTREACH

The Public Involvement Strategy will be used to provide Community Outreach efforts by identifying and discussing with Stakeholders methods to determine Target Groups which could come under differing headings, including:

- Private Industry (such as; major landowners or major employers, homebuilders and developers in the area, and members of the real estate industry)
- Public or Semi-Public Groups (such as; neighborhood associations, home and school groups, retirees organizations, swim or golf clubs, NY-NJ Harbor Estuary Program, Seastreak and NY Waterways Ferry Company's, etc.)
- Utilities (such as; local and regional Water Companies, or Municipal Utility Authorities, etc.)
- Government Agencies (such as Gateway National Park Sandy Hook Unit, US Coast Guard Sandy Hook Station, DEP, FEMA, USACOE NY District, USEPA Region 2, NJDOT, Office of Planning Advocacy, and NJ Transit)
- Academic Institutions (such as Rutgers University Sea Grant Consortium, Monmouth University Urban Coast Institute, Stockton University Coastal Research Center, and Stevens Institute of Technology Coastal Engineering Research

Laboratory).

3. WEB SITE

Public outreach will include the development of a project specific web site which will house ongoing uploads of relevant project information as it is developed, such as mapping, reports, meeting agendas and reviews of comments and input. This website will also allow residents to be aware of upcoming meetings and will be linked to the Monmouth County website for broader outreach.

As the planning process moves forward, identification and inclusion of the public, interested and influential groups within the area and other entities will be important for an inclusive and effective end product. Technical working groups will be formed and meetings adjourned as needed. A summary of the Public Involvement Strategy and the results of this outreach will be included in the final Joint Land Use Study.

To All,

I would like to thank you all for reviewing the Public Involvement Strategy for the NWS Earle JLUS. The committee has 10 voting members and I received votes from 6 so we can consider it a valid vote. All votes were in the affirmative. While Captain Steingold is an *Ex Officio* member of the committee, he did respond that Earle had no objections to the strategy: I sincerely thank him for that confirmation. Two suggestions were made to slightly modify the strategy: 1) Add the Office for Planning Advocacy to the government agencies under item 3.4, and 2) Add the local ferry companies to the target groups under item 3. These changes will be incorporated.

For the record, here are the votes:

JLUS NWS Earle Public Involvement Strategy Vote Record

March 2017

Name	Title/Affiliation	Vote
Lillian G. Burry	Freeholder Director	-
Teri O'Connor	County Administrator	-
Edward Sampson	County Planning Director	Yes
John W. Tobia	Director, Public Works & Engineering	Yes w/comments
Gerry Scharfenberger, PhD	Director, NJ Office for Planning Advocacy	Yes w/comments
Kathleen M. Capristo	Colts Neck Township Administrator	Yes
Matthew R. Howard, PSM	Howell Township Land Use Director	Yes
Sanyogita Chavan, PP/AICP	Middletown Township Planning Director	Yes
Michael Muscillo	Tinton Falls Borough Administrator	-
Jeffery Bertrand	Wall Township Administrator	-
Capt. Jay M. Steingold*	NWS Earle Commander	(no objections)

* *Ex Officio Member*

Linda J. Brennen, PP/AICP
Supervisor, Environmental & Sustainability Planning
Monmouth County Division of Planning
One East Main Street, Freehold, NJ 07728
732-431-7460
732-409-7540 (fax)
Linda.Brennen@co.monmouth.nj.us

APPENDIX F

PUBLIC OPEN HOUSE

Monmouth County Joint Land Use Study for Naval Weapons Station Earle



To be held at:

Thompson Park Visitor Center
805 Newman Springs Road
Lincroft, NJ 07738

Meeting Date & Time: March 28, 2017, 6-8 PM

No RSVP Necessary.

Opening remarks begin at 6:15 PM

Please visit the website to learn more:

https://jilus-earle.github.io/jilus_earle/

The County of Monmouth is seeking input for a federally funded study of the relationship of Naval Weapons Station Earle to the surrounding communities now and into the future. The study area includes both the municipalities that have lands within the base: Wall, Howell, Middletown, Tinton Falls, Colts Neck; and the communities with land considered to be within the Military Influence Area: Highlands Borough, Atlantic Highlands, Keansburg, Farmingdale, Freehold Township, Ocean, Eatontown, and Neptune. Your questions and input are an important part of the planning process.



Photos from the Earle JLUS Public Open House
March 28, 2017



Freeholder Director Lillian Burry provided opening remarks



NWS Earle Base Commander Capt. Jay Steingold spoke about the mission and history of NWS Earle



Displays about the project were available

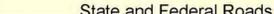
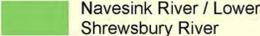
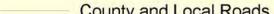
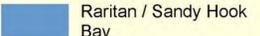


The project team was available for a Q&A session.

MONMOUTH COUNTY JOINT LAND USE STUDY FOR NAVAL WEAPONS STATION EARLE

NWS EARLE Military Influence Area

Legend

 Earle and Military Influence Area Municipalities	 Earle Railroad	 NWS Earle	Watershed Regions
 Municipal Boundaries	 State and Federal Roads	 Earle Municipalities	 Navesink River / Lower Shrewsbury River
	 County and Local Roads	 Military Influence Area Municipalities	 Raritan / Sandy Hook Bay

Map Key:

Naval Weapons Station Earle: Specifically Mainside, Normandy Road Ammunition Transportation Corridor; Waterfront; and Pier Complex areas

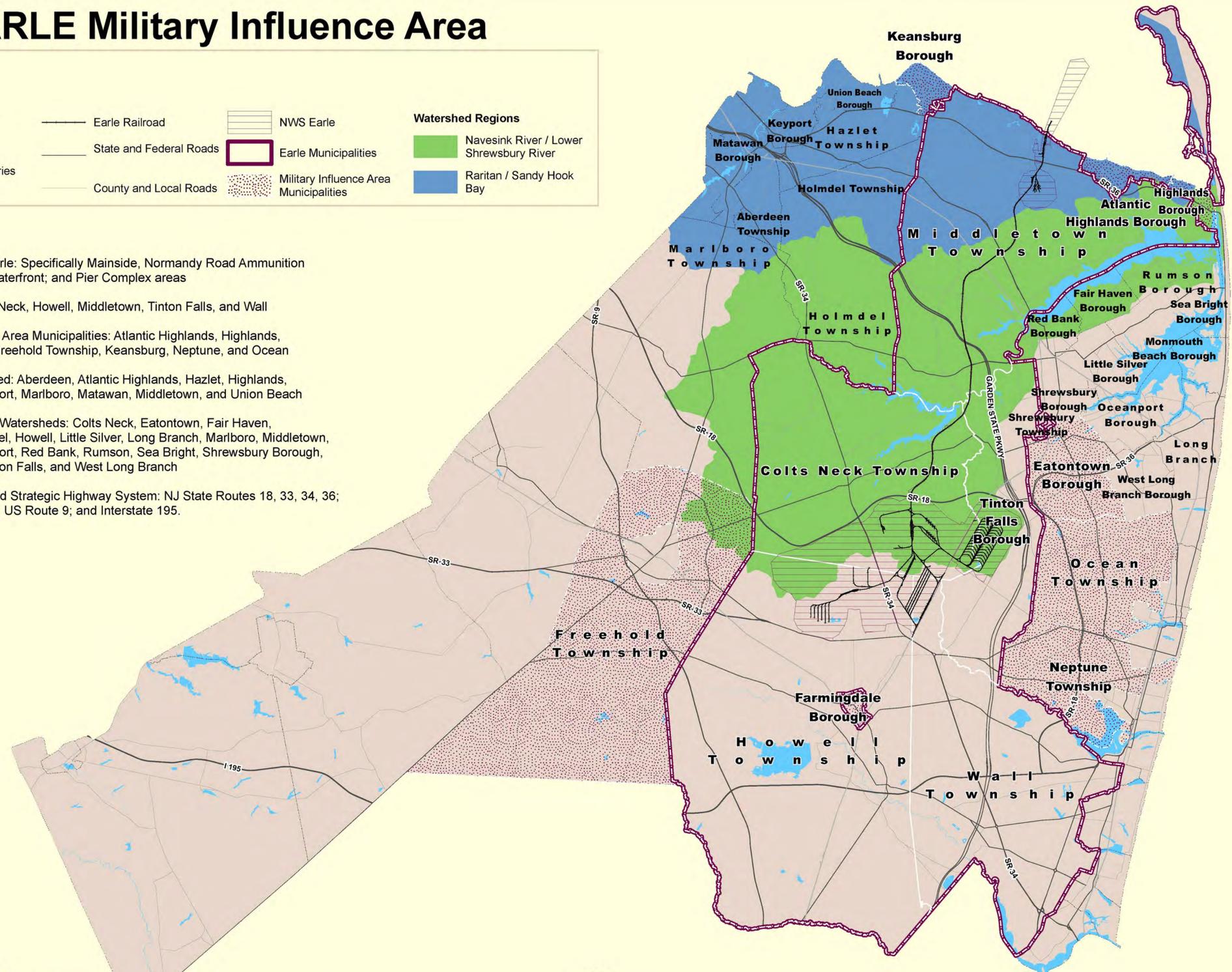
Earle Municipalities: Colts Neck, Howell, Middletown, Tinton Falls, and Wall

Additional Military Influence Area Municipalities: Atlantic Highlands, Highlands, Eatontown, Farmingdale, Freehold Township, Keansburg, Neptune, and Ocean

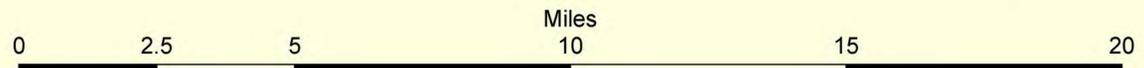
Raritan Bayshore Watershed: Aberdeen, Atlantic Highlands, Hazlet, Highlands, Holmdel, Keansburg, Keyport, Marlboro, Matawan, Middletown, and Union Beach

Navesink/Swimming River Watersheds: Colts Neck, Eatontown, Fair Haven, Freehold Township, Holmdel, Howell, Little Silver, Long Branch, Marlboro, Middletown, Monmouth Beach, Oceanport, Red Bank, Rumson, Sea Bright, Shrewsbury Borough, Shrewsbury Township, Tinton Falls, and West Long Branch

Major Access Highways and Strategic Highway System: NJ State Routes 18, 33, 34, 36; the Garden State Parkway; US Route 9; and Interstate 195.

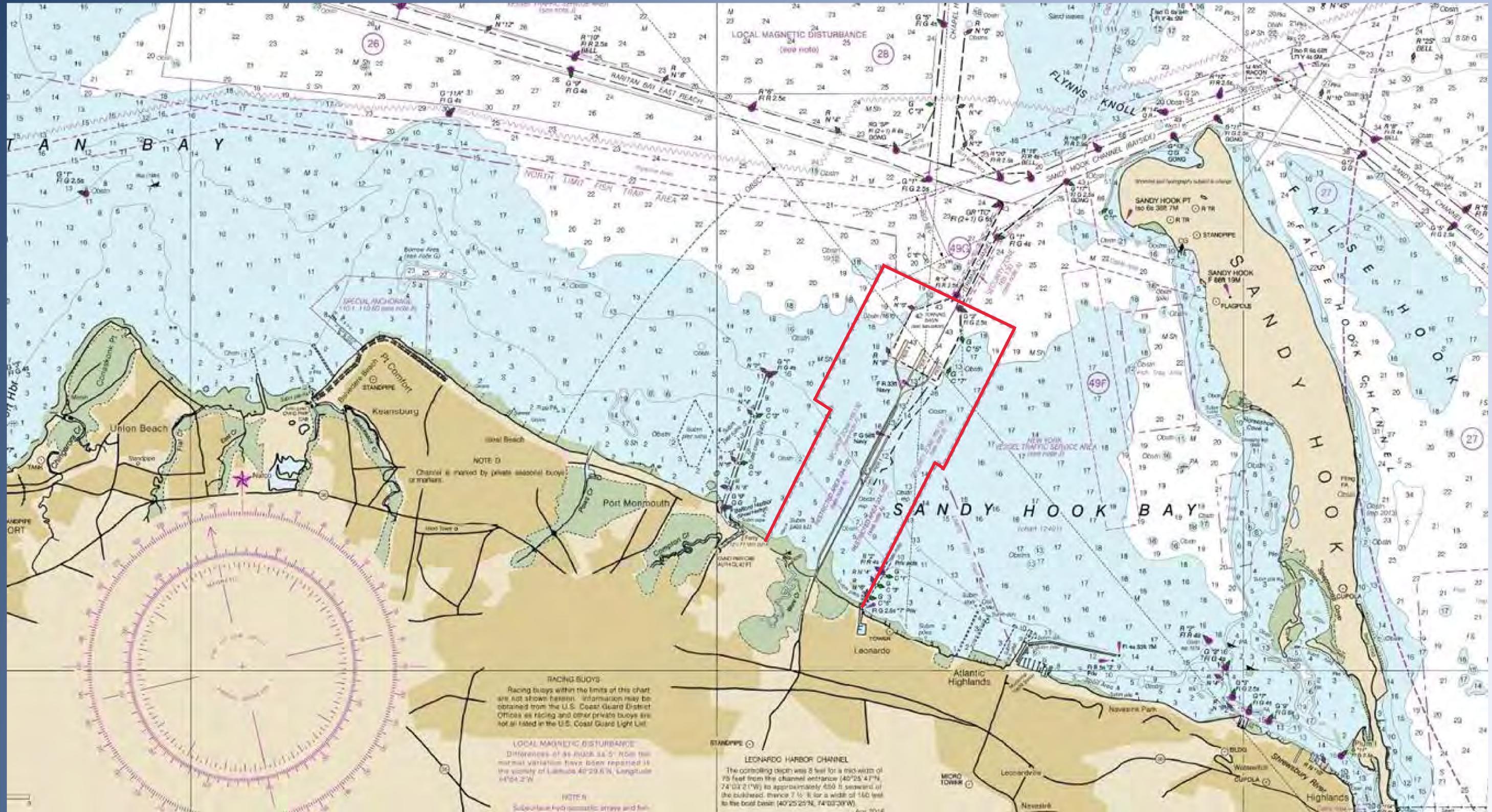


Prepared For: NWS Earle JULS RFP
 Prepared By: Monmouth County Division of Planning, GIS
 Sources: Monmouth County GIS, NJDEP, US Navy



MONMOUTH COUNTY JOINT LAND USE STUDY FOR NAVAL WEAPONS STATION EARLE

NOAA NY HARBOR MAP OF SANDY HOOK BAY



PUBLIC OPEN HOUSE

Monmouth County Joint Land Use Study for Naval Weapons Station Earle



To be held at:

Thompson Park Visitor Center
805 Newman Springs Road
Lincroft, NJ 07738

Meeting Date & Time: March 28, 2017, 6-8 PM

No RSVP Necessary.

Opening remarks begin at 6:15 PM

Please visit the website to learn more:

https://jlus-earle.github.io/jlus_earle/

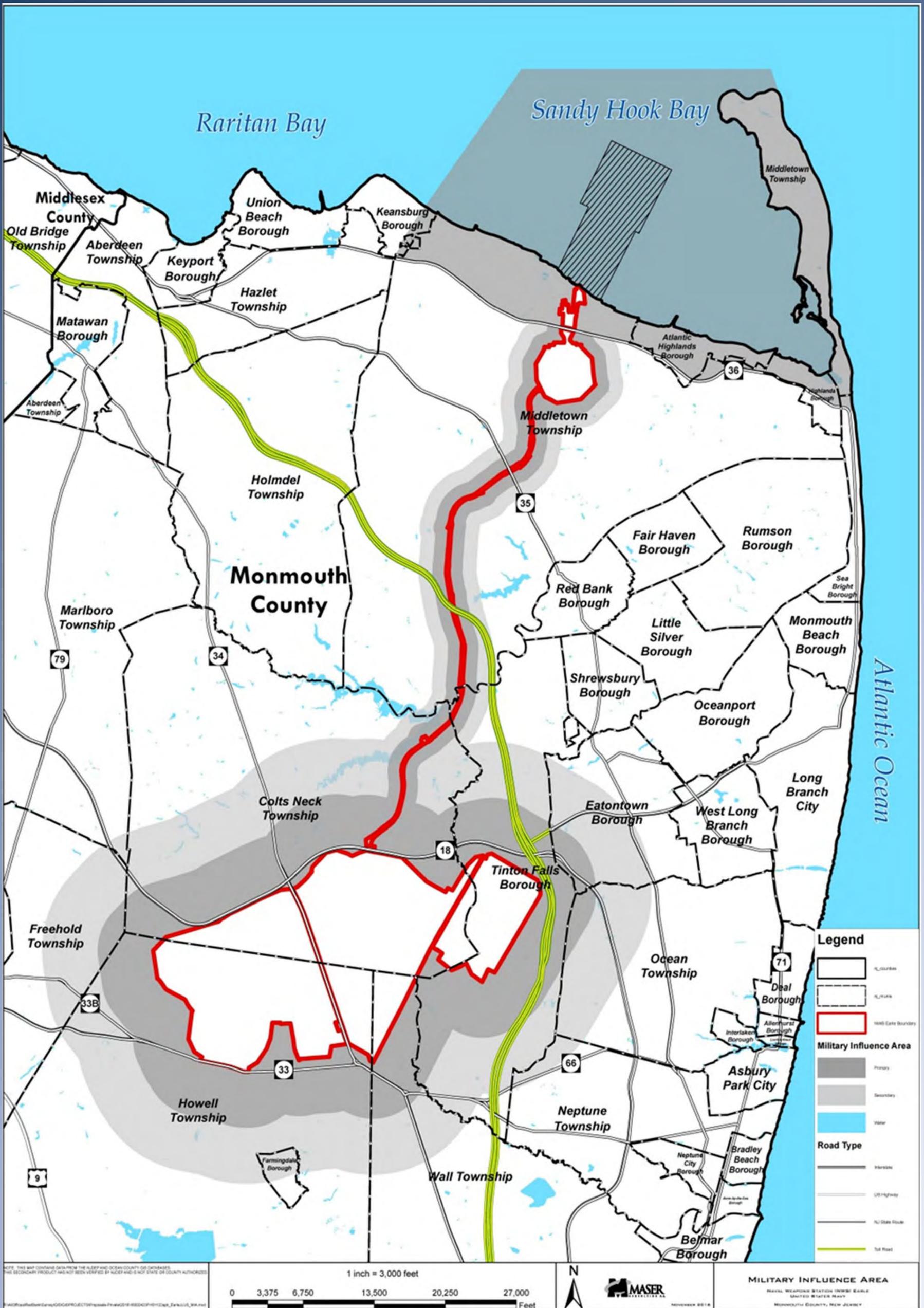
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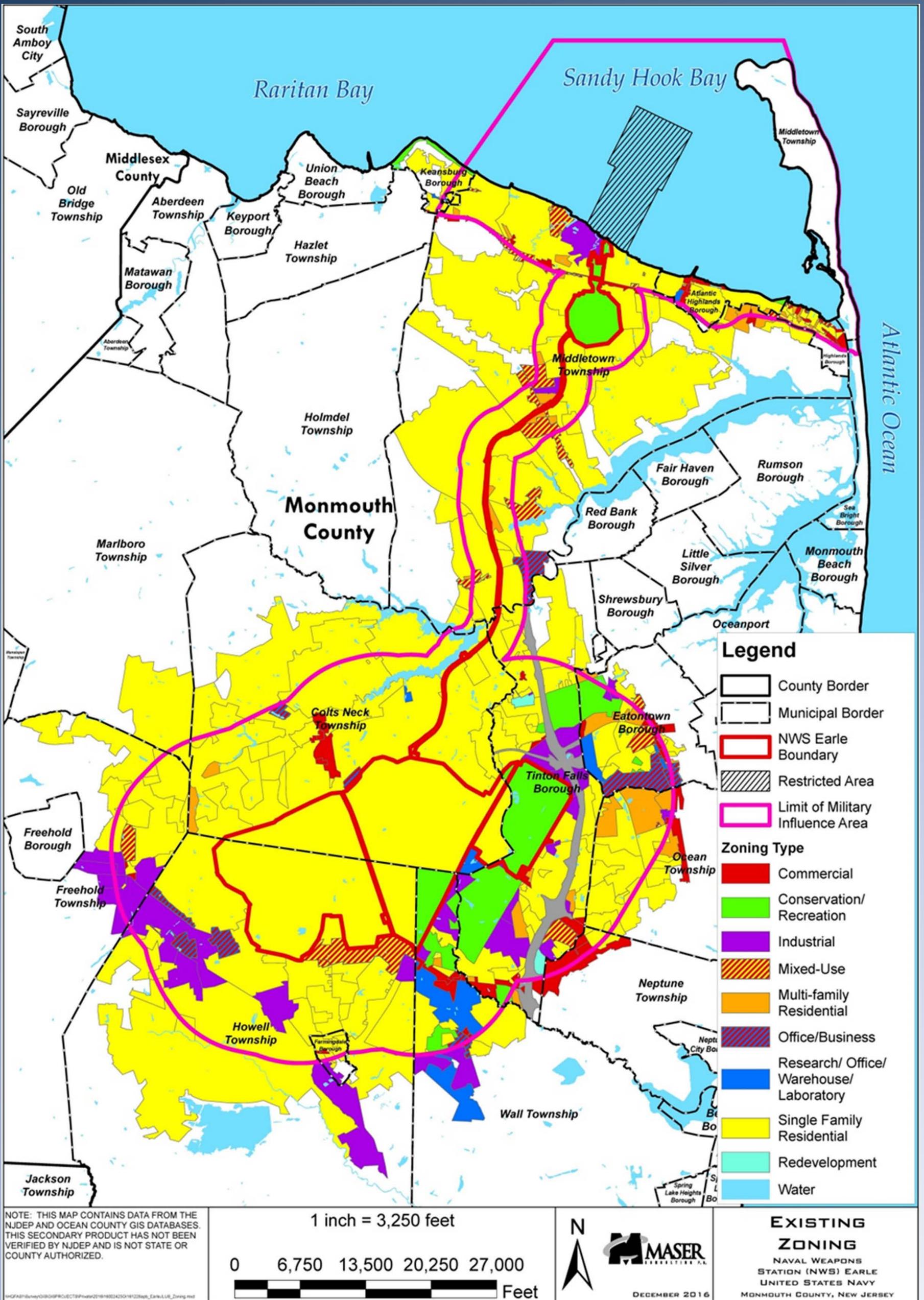


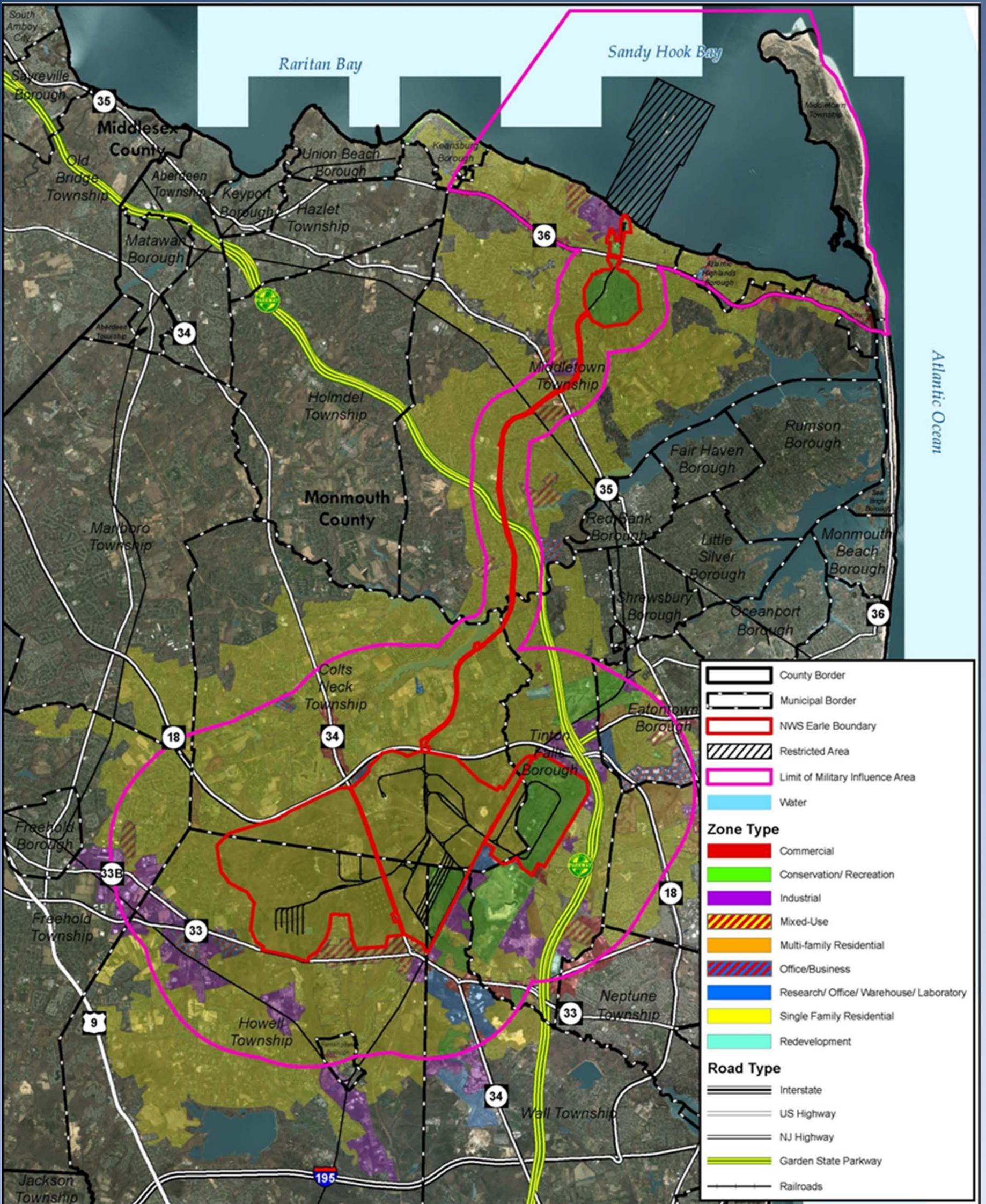
AECOM

HR&A
Analyze. Advise. Act.

MASER
CONSULTING S.A.







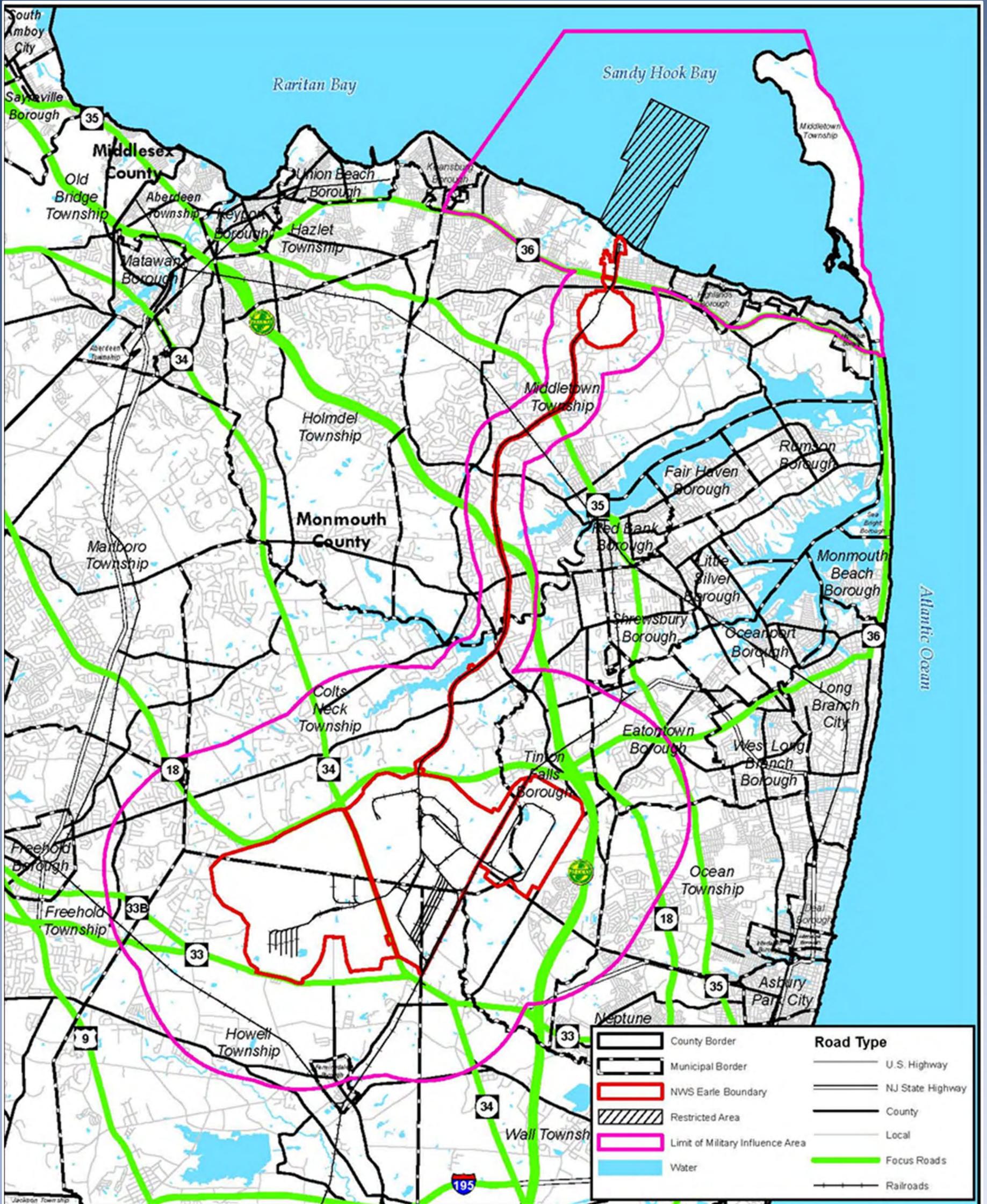
Sources: County & Municipal boundaries from NJGIN, 2011 NJDOT Roadway Network and Railroads, Naval Station Earle boundary provided by the U.S. Navy, NJDEP Waterbodies 2002, Zoning provided by Monmouth County



EXISTING ZONING AND DEVELOPMENT

NAVAL WEAPONS STATION (NWS) EARLE
 UNITED STATES NAVY
 MONMOUTH COUNTY NEW JERSEY
 FEBRUARY 2017





Sources: County & Municipal boundaries from NJGIN, 2011 N.J.DOT Roadway Network and Railroads, Naval Station Earle boundary provided by the U.S. Navy, N.J.DEP Waterbodies 2002, Zoning provided by Monmouth County

MASER CONSULTING P.A.
AECOM
HR&A Analyze. Advise. Act.

ROADWAY NETWORK

NAVAL WEAPONS STATION (NWS) EARLE
 UNITED STATES NAVY
 MONMOUTH COUNTY NEW JERSEY
 JANUARY 2017

0 1.5 3 4.5 6 Miles



PUBLIC OPEN HOUSE

ON THE PRELIMINARY RECOMMENDATIONS

Monmouth County Joint Land Use Study

for Naval Weapons Station Earle



September 27, 2017, 6-8 PM
Fort Monmouth Recreation Area



2566 Guam Lane, Tinton Falls, NJ

No RSVP Necessary.

Opening remarks begin at 6:30 PM

Please visit the website to learn more:

https://jlus-earle.github.io/jlus_earle/

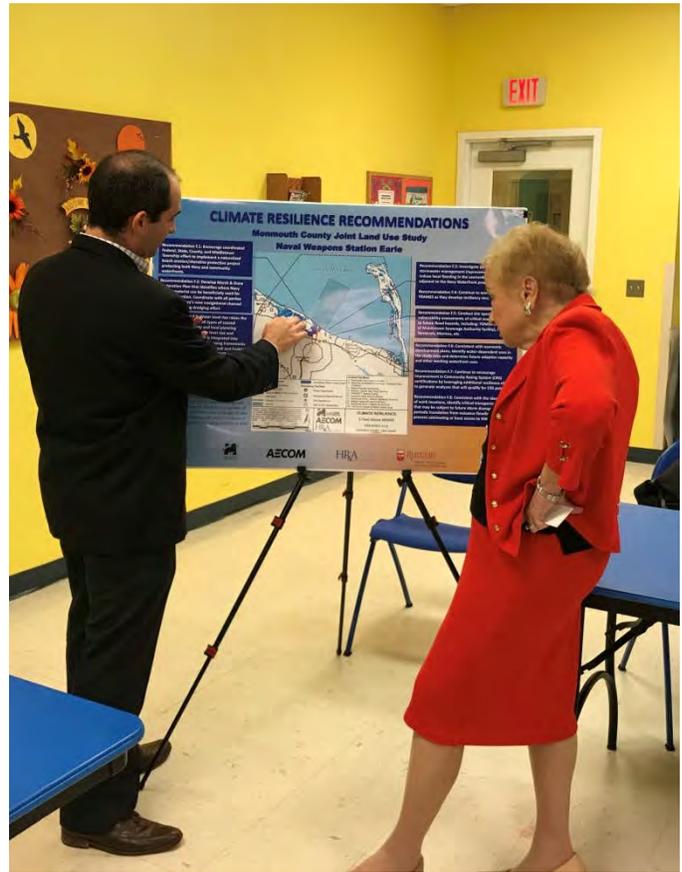
The County of Monmouth has been working with the communities around Naval Weapon Station Earle on a federally funded Joint Land Use Study to investigate the relationship between the facility and the local communities. This study has analyzed existing conditions, climate resiliency needs and interactions between the Base and surrounding communities which has led to the development of a set of Preliminary Recommendations. The study recommendations are divided into seven categories: Communication, Land Use, Economic Development, Transportation, Utilities, Climate Resiliency and Security. The public is invited to review the recommendations on the website and bring comments and questions to the meeting.



Photos from the Earle JLUS Study Recommendations Public Outreach Meeting
September 27, 2017



NWS Earle Base Commander Capt. Pierre A. Fuller and Freeholder Director Lillian Burry attended the Public Outreach meeting in support of the JLUS study.



The 35 draft study recommendations were divided by category. Stations were set up around the room and manned by project team members ready to answer questions.



Fact sheets and displays illustrating the recommendations were available for public review.

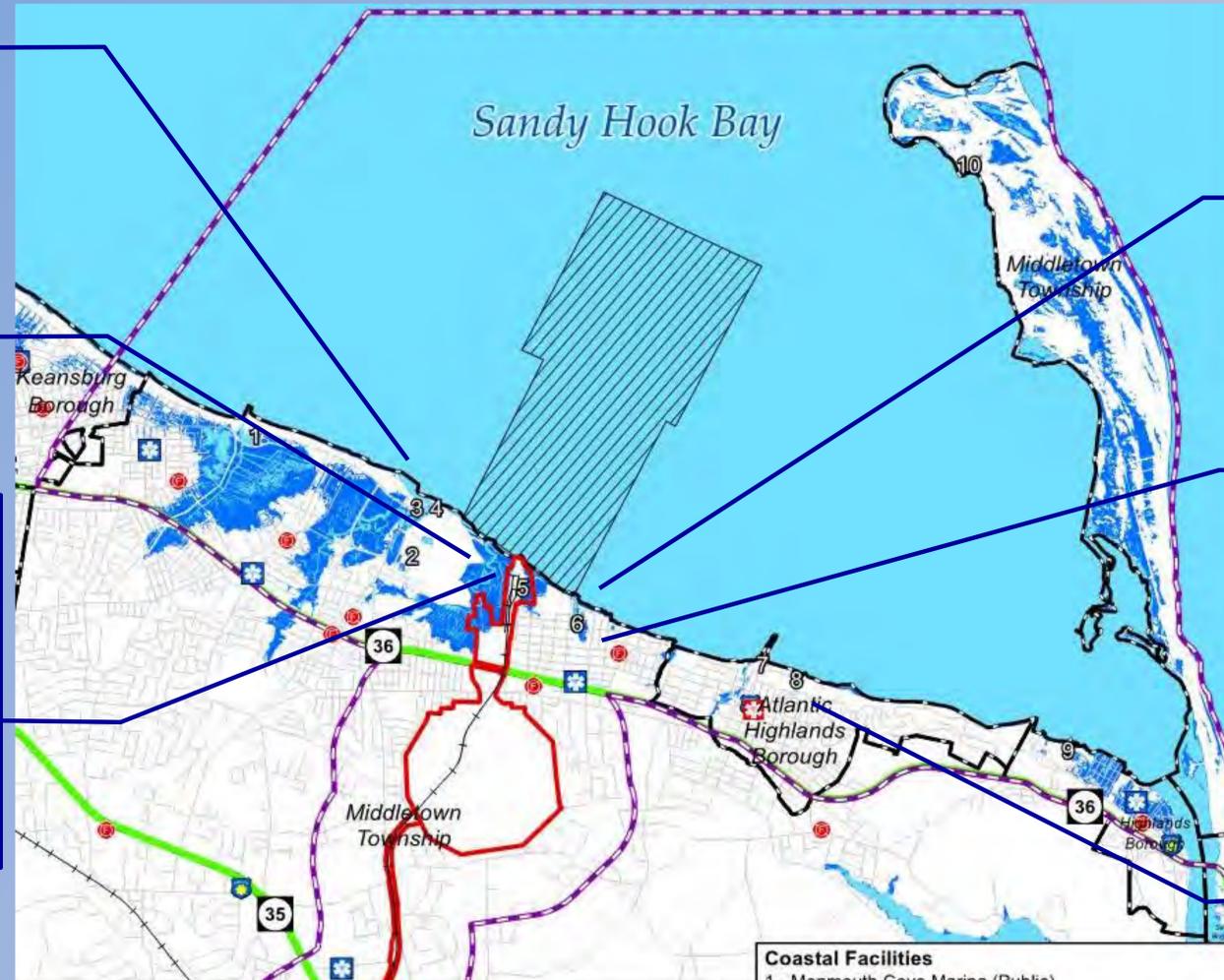
CLIMATE RESILIENCE RECOMMENDATIONS

Monmouth County Joint Land Use Study Naval Weapons Station Earle

Recommendation F.1: Encourage coordinated Federal, State, County, and Middletown Township effort to implement a naturalized beach erosion/shoreline protection project protecting both Navy and community waterfronts.

Recommendation F.2: Develop Marsh & Dune Restoration Plan that identifies where Navy dredge material can be beneficially used for storm protection. Coordinate with all parties prior to the Navy's next navigational channel and ship berthing dredging effort

Recommendation F.9: Water level rise raises the baseline conditions for all types of coastal flooding. Revise County and local planning documents to reflect water level rise and exposure assessment that is integrated into coastal flood hazard planning using frameworks consistent with the Navy Handbook and Federal guidance. Also, work with the NJDOT and the NJDEP on integration consistency.



Recommendation F.3: Investigate potential joint stormwater management improvement projects to reduce local flooding in the Leonardo community adjacent to the Navy Waterfront property.

Recommendation F.4: Continue to work with NJ FRAMES as they develop resiliency recommendations.

Recommendation F.5: Conduct site specific vulnerability assessments of critical assets exposed to future flood hazards, including: TOMSA (Township of Middletown Sewerage Authority facility), Ferry Terminals, Marinas, etc.

Recommendation F.6: Consistent with economic development plans, identify water-dependent uses in the study area and determine future adaptive capacity and other working waterfront uses.

Recommendation F.7: Continue to encourage improvement in Community Rating System (CRS) certifications by leveraging additional resilience efforts to generate analyses that will qualify for CRS points.

Recommendation F.8: Consistent with the identification of work locations, identify critical transportation routes that may be subject to future storm damage and periodic inundation from nuisance flooding that would prevent commuting or base access to NWS Earle.

Climate Resilience

NWS Earle suffered \$50 million in damage from Superstorm Sandy. The region at large also had significant storm damage during this event including loss of power over an extended period of time. Increased sea level rise due to climate change will exacerbate this problem in the future. A number of Federal, state and local efforts are underway to take proactive steps leading towards better resilience of the region's critical assets, including facilities at NWS Earle.

	Municipal Border		Inundation Water Level (3 feet)
	NWS Earle Boundary		Emergency Facilities
	Restricted Area		Police Department
	Limit of Military Influence Area		Emergency Medical Service
	Railroads		Fire Department
	Coastal Evacuation Route		EMS & Fire Department
	MHHW		

Sources: County & Municipal boundaries and Emergency Facilities provided by NJGIN, 2011 NJDOT Roadway Network and Railroads, Naval Station Earle boundary provided by the U.S. Navy, NJDEP Waterbodies 2002. Sea level rise scenarios developed by NJDEP Division of Information Technology Bureau of GIS, Mean Higher High Water base developed by NOAA Office of Coastal Management.	
Miles	

Coastal Facilities
1 - Monmouth Cove Marina (Public)
2 - Township of Middletown Sewerage Treatment Plant (TOMSA)
3 - Belford Fishing Community
4 - Belford - Harbor Way Ferry Terminal
5 - OHMSETT Testing Facility
6 - Leonardo State Marina (Public)
7 - SeaStreak Ferry - Atlantic Highlands Terminal
8 - Atlantic Highlands Marina (Public)
9 - SeaStreak Ferry - Highlands Terminal
10 - US Coast Guard at Station Sandy Hook

CLIMATE RESILIENCE
3 Feet Above MHHW
NWS EARLE JLUS
MONMOUTH COUNTY NEW JERSEY
AUGUST 2017



Edward J. Bloustein School of Planning and Public Policy



COMMUNICATIONS / SECURITY RECOMMENDATIONS

Monmouth County Joint Land Use Study Naval Weapons Station Earle

Recommendation A.4: Continue to educate the general public about the NWS Earle mission and the need to respect security boundaries along Normandy Road, in Sandy Hook Bay, and on Bayshore beaches adjacent to the pier.

Recommendation A.1: Pursue additional cooperation between the Navy, County departments, and NWS Earle municipalities addressing facility maintenance, security, emergency response, etc.

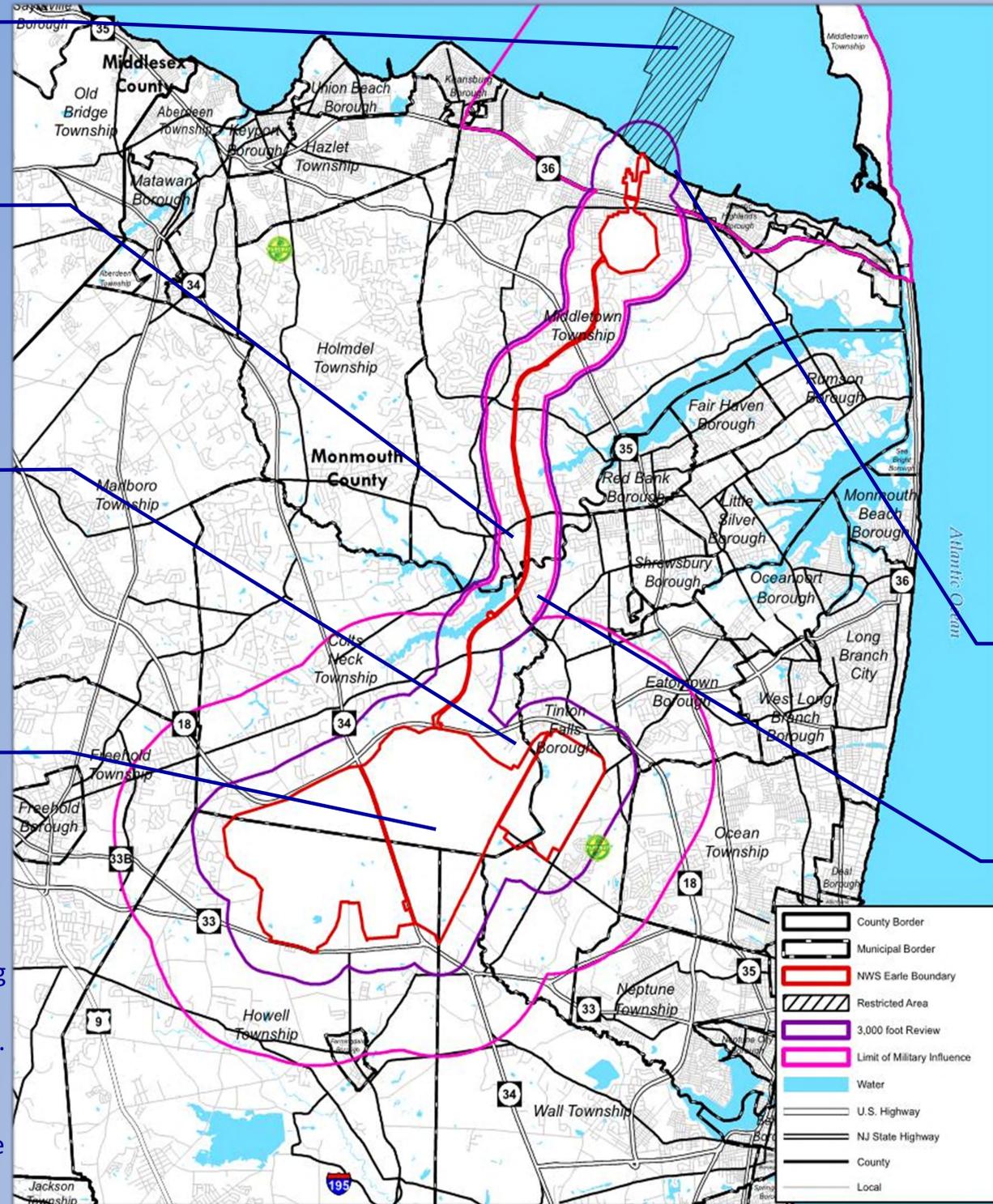
Recommendation A.2: Improve notification processes to share proposed land development submittals and plan amendments, zoning changes and comprehensive plan updates within 3,000 feet of the NWS Earle boundaries.

Recommendation A.3: Conduct noise study documenting sound levels and potential areas of impact from the NWS Earle Explosive Ordnance Disposal (EOD) range. Develop mitigation plan jointly with any impacted communities.

Recommendation A.5: Collect base employee data on residences (by zip codes) and spending patterns useful for municipal/county economic development purposes.

Communication/Outreach

As described in Chapter 3, there are already a number of on-going communication and coordination efforts that aid in the relationship NWS Earle has with its surrounding jurisdictions. Additional efforts were identified in this JLUS process that could further enhance this relationship. Six separate actions are recommended to improve different aspects of communication between the municipalities and base. Most of these are not expensive and would not be difficult to implement even in the short-term.



Security

Security at NWS Earle is paramount and a major focus for base leadership. Gates, fences, surveillance, and security patrols help maintain this at the four land and water based facility assets that make up the base: Mainside, the Waterfront, Normandy Road, and the Pier Complex. This security is also conducted as a joint effort through cooperation between on-base security forces and local law enforcement agencies at both the County and municipal level. Two recommendations address additional security issues that would be helpful to the installation and increase safety both on and off-base in the future.

Recommendation G.2: Add additional signage to limit pedestrian circulation on the beach near the secure area surrounding NWS Earle piers during low and high tide conditions. Coordinate security patrols by Navy and local law enforcement.

Recommendation G.1: Work with local flying clubs/organizations and the state to establish legislation enforcing limits on drone operations over military installations in NJ.



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ECONOMIC DEVELOPMENT RECOMMENDATIONS

Monmouth County Joint Land Use Study Naval Weapons Station Earle

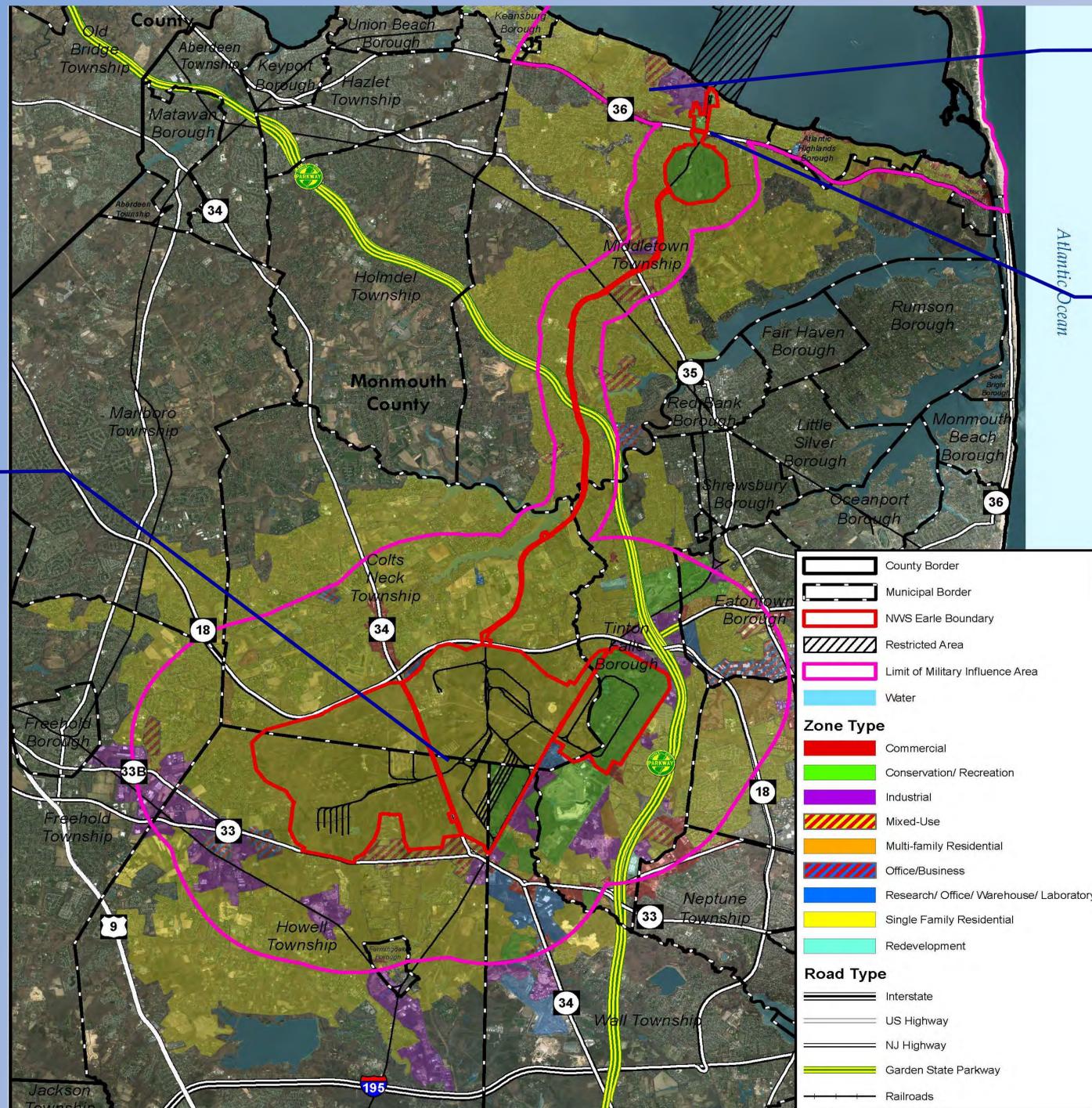
Recommendation C.1: Conduct educational events for local contractors about Federal contracting opportunities at NWS Earle.

Recommendation C.2: Create local workforce development programs in conjunction with active Navy training and staff recruitment activities.

Recommendation C.3: Coordinate efforts on marketing NWS Earle land and water assets to attract additional Federal or other government tenants over time.

Recommendation C.5: Continue to engage NWS Earle and the County as part of the Port Belford redevelopment planning group and similar local initiatives.

Recommendation C.6: Promote recreational amenities in the Bayshore Region, as outlined in the Bayshore Region Strategic Plan (2006), in conjunction with NWS Earle requirements near secure waterfront areas and the pier.



C. Economic Development

The base contributes to the economic vitality of the surrounding communities and the region but has not been considered in the economic development goals of local stakeholders. Growing populations and increased development in surrounding municipalities require more collaboration between the base and the local economy. The next generation of planning documents and economic development programs should consider the spending power of base personnel, the hiring potential of the Navy, as well as shared safety concerns amid growing activity.



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LAND USE RECOMMENDATIONS

Monmouth County Joint Land Use Study Naval Weapons Station Earle

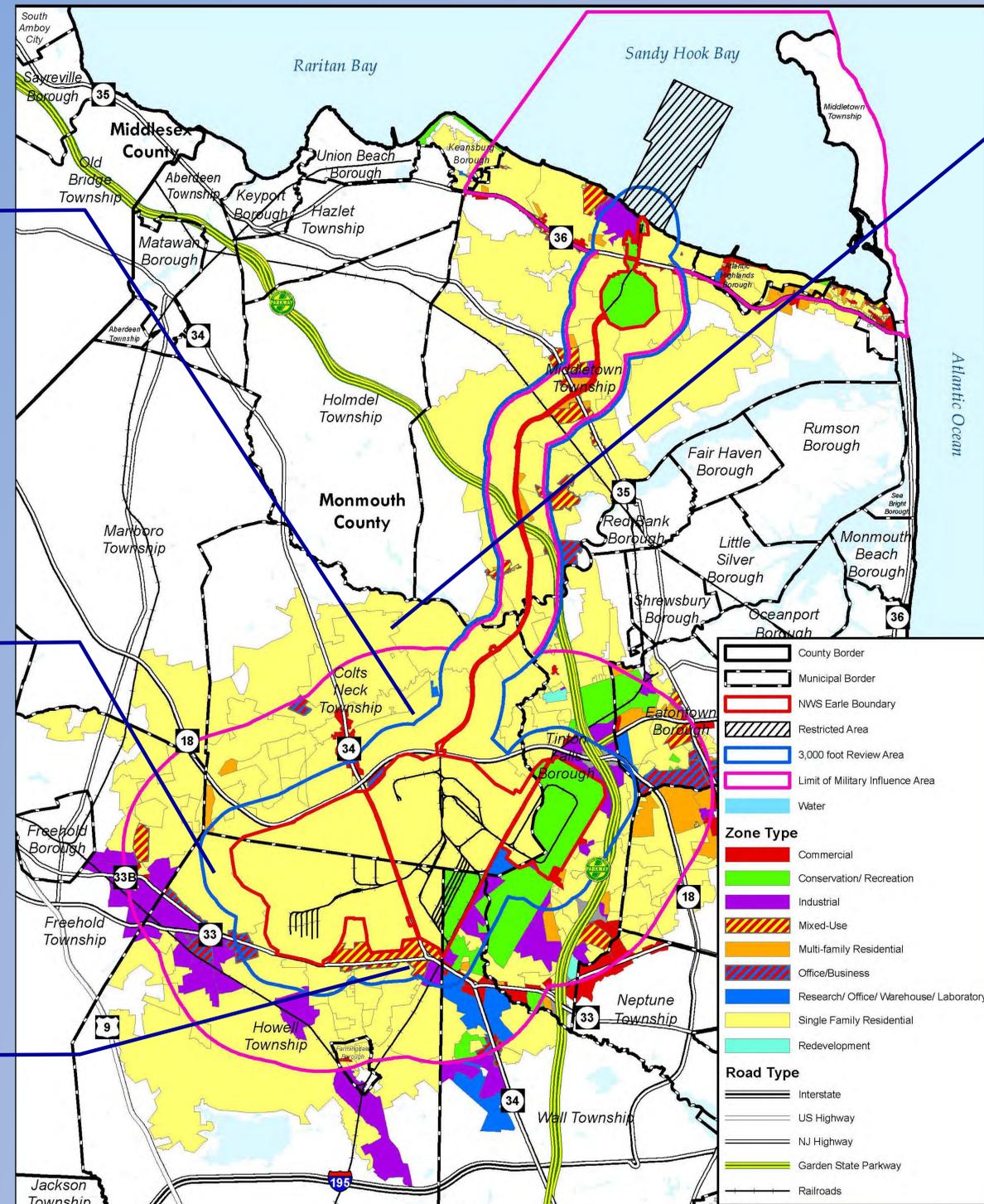
Recommendation B.1: Formally recognize 3,000 ft. buffer from NWS Earle boundaries in jurisdiction planning documents. Encourage compatible land development and zoning within this buffer. Direct residential and institutional development to more suitable areas outside the MIA. Consider implementing applicable land development controls recommended in the toolbox.

Recommendation B.2: Encourage the NJ Military Ombudsman and the New Jersey Office for Planning Advocacy to discuss the mission of NWS Earle with other state agencies to educate them regarding the need to maintain compatible land uses within in the MIA. Discourage incompatible uses such as high density housing particularly within the Earle buffer. Recommendation

B.3: Identify and pursue purchase of land that could provide additional NWS Earle buffer, storm/flooding protection, and/or environmental enhancement.

Recommendation B.4: Pursue REPI funding to preserve farms and undeveloped or under-developed properties in the MIA and immediately adjacent to the Normandy Road corridor to maintain these compatible uses.

Recommendation B.5: Encourage additional farmers in the MIA to enter into farmland preservation programs.



Land Use

Encouraging compatible land use and putting into effect controls to regulate this is a goal for many communities next to military installations across the country. Few of the current planning documents at the local level recognize NWS Earle. The recommendations in this category could enhance local planning by establishing buffer areas around the base in which municipalities would consider future land use and zoning to encourage more compatible development. In addition, preserving farmland and conserving environmentally sensitive areas around the base as a natural buffer is recommended to prevent encroachment and increase the safety of citizens throughout the region.



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TRANSPORTATION / UTILITIES RECOMMENDATIONS

Monmouth County Joint Land Use Study Naval Weapons Station Earle

Recommendation D.2: Review options for modifying signalization for at-grade intersections along Normandy Road corridor to alleviate current issues identified by NWS Earle municipalities.

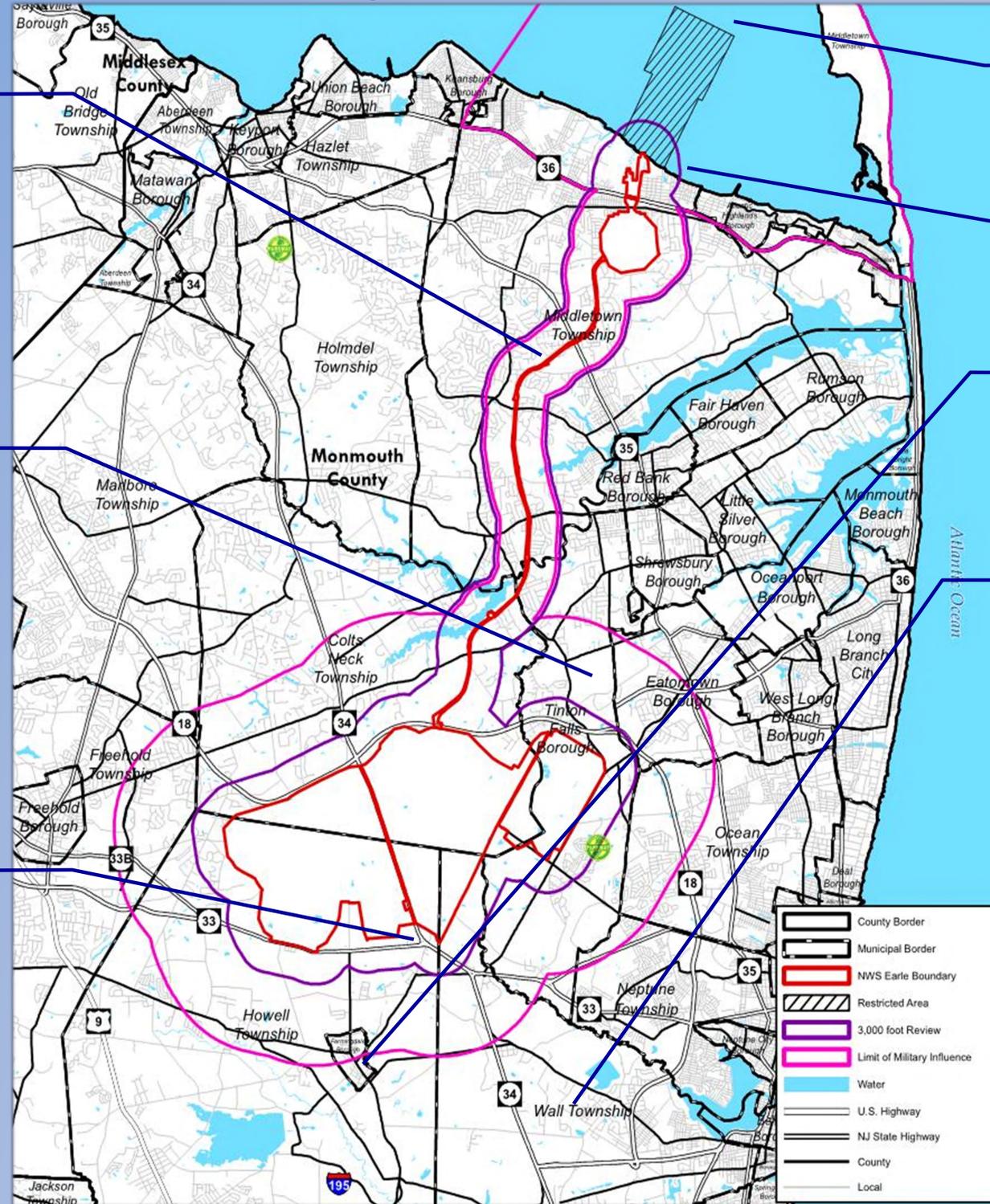
Recommendation E.1: Encourage joint participation in Microgrid Feasibility Studies to analyze the potential for establishing uninterruptible power supplies that provide additional resiliency for key government functions.

Recommendation E.2: Pursue solar options to provide supplementary power to the installation and surrounding community. Coordinate this with other BPU-funded microgrid studies.

Recommendation E.3: Investigate additional flood-proofing measures to protect TOMSA sewage treatment plant which serves NWS Earle and surrounding neighborhoods.

Recommendation D.1: Conduct corridor study along Route 33-34 to improve traffic conditions including STRAHNET access /egress. Include recommended roadway & intersection improvements in MPO transportation project lists for priority funding.

E. Utilities Enhancing municipal utility systems that jointly serve NWS Earle and the surrounding communities can be a direct benefit to all parties. Providing uninterruptible utility service during storm events is particularly important to maintain critical assets on both the civilian and military sides of the fence.



Recommendation D.5: Encourage support for accelerated maintenance of Sandy Hook channel.

Recommendation D.4: Improve notification at all local marinas of the secure/restricting boating zone around NWS Earle piers.

Recommendation D.3: Conduct a study of traffic calming measures to alleviate speeding through Farmingdale on CR 524 (Main Street), which is a local connector between I-195 and NWS Earle (NJSH 33/34).

Recommendation D.6: Coordinate with local airports and FAA to reinforce overflight limitations over NWS Earle property. Provide airports with maps illustrating restricted airspace boundaries.

D. Transportation
Monmouth County has multiple modes of transportation available to provide residents with links to both the New York City and Philadelphia metro regions, including a private executive airport, NJ Transit rail and bus lines, privately run Ferry services to lower Manhattan, and a roadway system that has classifications from Interstate to County and local routes. Transportation-related recommendations address issues related to these transportation systems serving both the base and the surrounding communities.



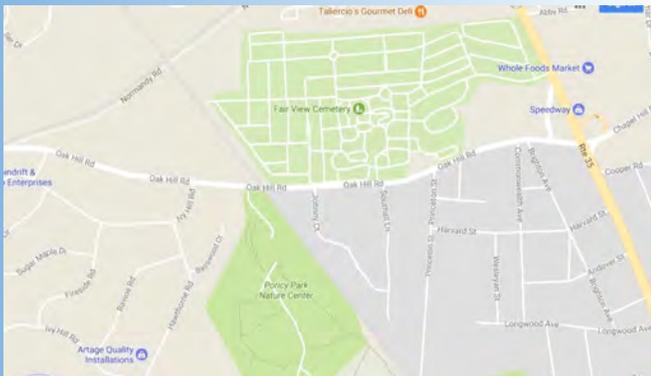
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PUBLIC PRESENTATION OF THE FINAL RECOMMENDATIONS Monmouth County Joint Land Use Study for Naval Weapons Station Earle



December 7, 2017, 6:30-8:30 PM
Poricy Park Nature Center



345 Oak Hill Road, Middletown, NJ

No RSVP Necessary.

Opening remarks at 7:00 PM

Please visit the website to learn more:

https://jilus-earle.github.io/jilus_earle/

The County of Monmouth has been working with the communities around Naval Weapon Station Earle on a federally funded Joint Land Use Study to investigate the relationship between the facility and the local communities. This study has analyzed existing conditions, climate resiliency needs and interactions between the Base and surrounding communities which has led to the development of a set of Recommendations. The public is invited to review the recommendations on the website and bring comments and questions.



Photos from the Final Earle JLUS Public Open House
December 7, 2017



NWS Earle Commander Captain Fuller provided welcoming remarks to those present at the beginning of the open house.

Throughout the evening, the consultant team and staff from NWS Earle and the Monmouth County Division of Planning were on hand to answer questions and take comments from the public.





NWS Earle Joint Land Use Study

**Public Outreach Meeting
December 7, 2017**

Earle & the Military Influence Area

NWS Earle Military Influence Area

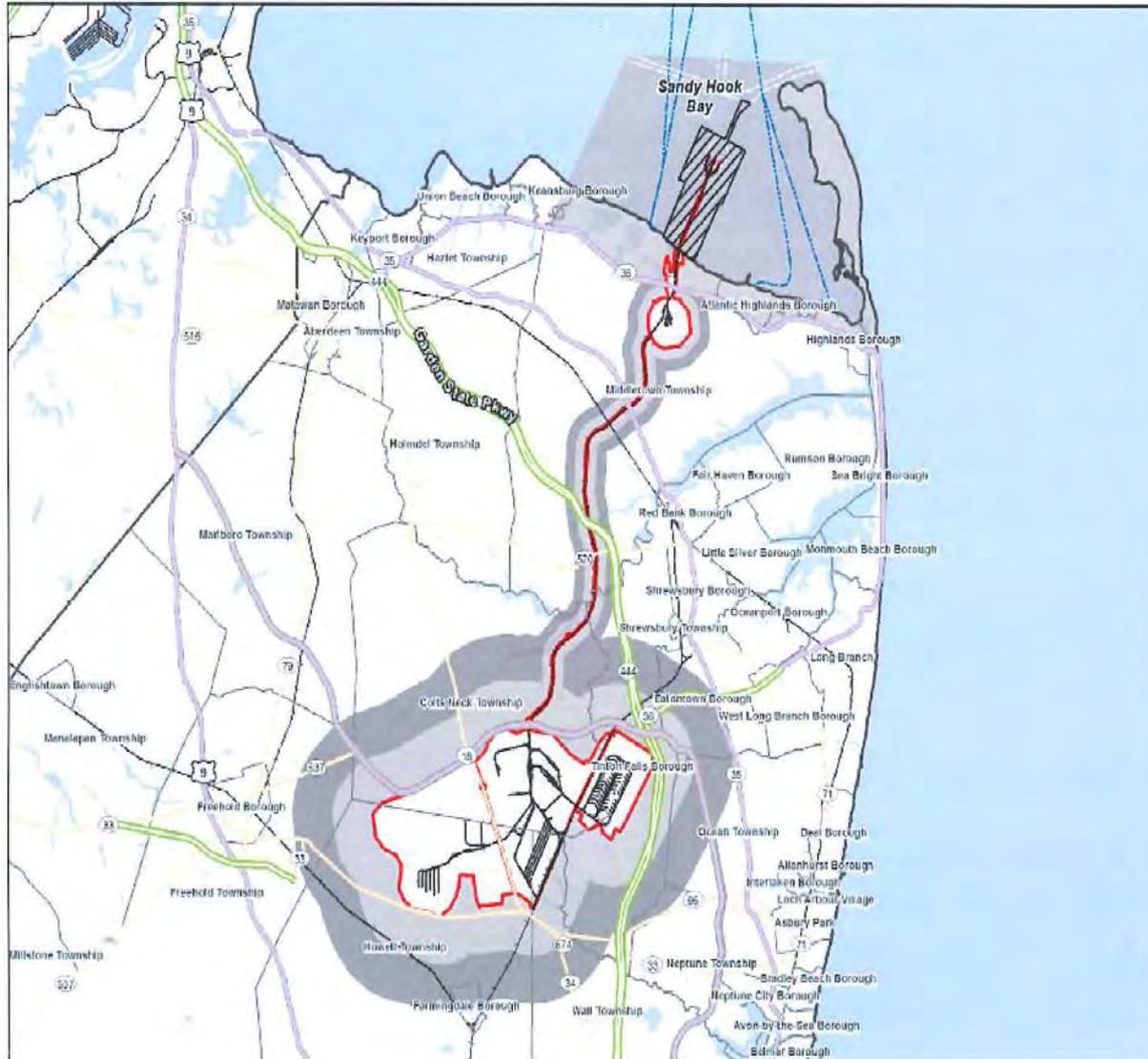
NWS Earle, New Jersey

Legend

-  Naval Weapons Station Earle
-  NJ Counties
-  NJ Municipalities
-  Restricted Area
- Military Influence Area**
-  Primary
-  Secondary
- Major Highways**
-  Limited Access
-  Highway
-  Major Road
-  Local Road
-  Railroad
-  Ferry Route
-  Channel



Source: ESRI 2012, Microsoft Corporation 2012, NAVFAC 2012, Monmouth County, NJ 2006



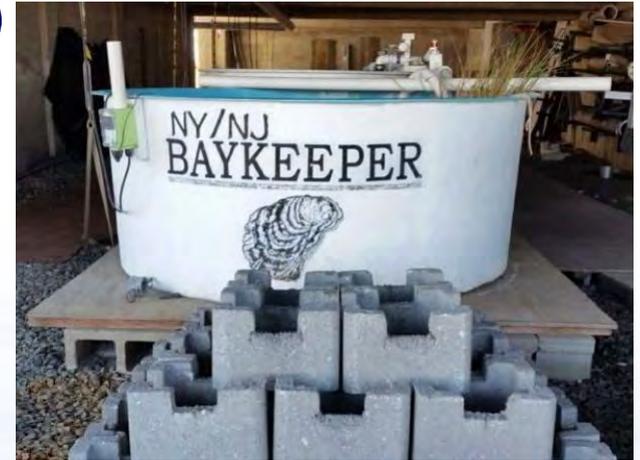
JLUS Study Partners

- County Departments, NWS Earle, State (OPA & DEP)
- Municipalities
 - 5 Earle: *Colts Neck, Howell, Middletown, Tinton Falls & Wall*
 - 8 Military Influence Area: *Atlantic Highlands, Highlands, Eatontown, Farmingdale, Freehold Township, Keansburg, Neptune & Ocean*



JLUS Study Partners

- Technical Working Groups
 - Economic Development (MODC, Chambers, Businesses, etc.)
 - Bayshore (Sea Grant, Baykeeper, Marinas, etc.)
 - Watershed Municipalities (NJ FRAMES)
 - Environmental (MCEC)



Public Outreach

- Invited public involvement & comment at project milestones
 - Public Kick-off – March 28th
 - Outreach Open House – September 27th
 - Study Recommendations – December 7th
- Outreach & Promotion
 - Websites
 - Social Media



JLUS Results

- Analysis of Existing Conditions
- Compatibility Assessment & Tools
- 37 Recommendations
 - Communication/Outreach
 - Land Use
 - Economic Development
 - Transportation
 - Utilities
 - Security
 - Climate Resilience



9 Recommendations for Resiliency

1. Coordinate efforts for naturalized beach erosion/shoreline protection projects protecting both Navy and community waterfronts
2. Develop Marsh & Dune Restoration Plan, coordinating with partners to determine partner facilities that could be suitable locations
3. Investigate potential joint stormwater management improvement projects
4. Continue to work with NJ FRAMES on resiliency recommendations
5. Conduct site specific vulnerability assessments of critical assets
6. Identify water-dependent uses and working waterfront uses and determine future adaptive capacity for storm resiliency & economic sustainability
7. Continue assisting municipalities with Community Rating System (CRS) leveraging of additional and regional resilience efforts
8. Identify critical evacuation/transportation routes vulnerable to storm and nuisance flooding
9. Revise planning documents to reflect SLR and exposure assessment

Submit Comments by December 14

Linda J. Brennen, PP/AICP

Supervisor, Environmental & Sustainability Planning

Monmouth County Division of Planning

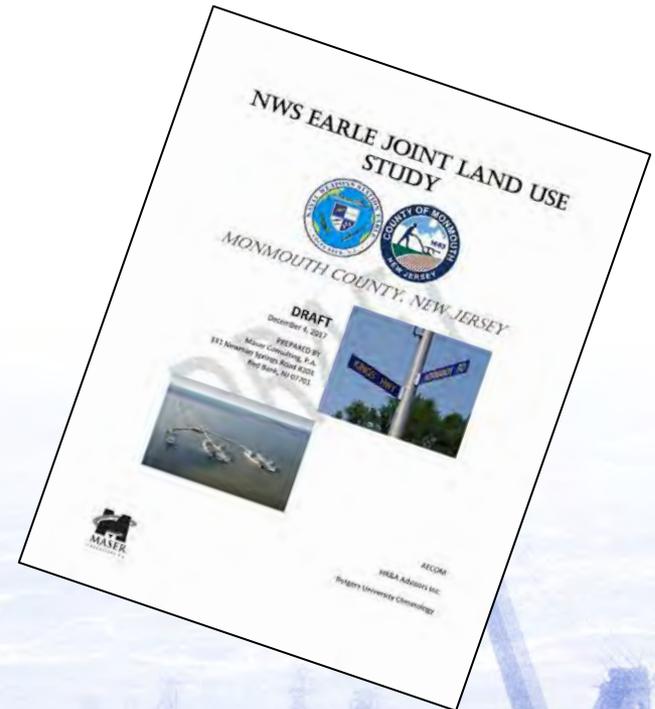
One East Main Street, Freehold, NJ 07728

732-431-7460 x6470 732-409-7540 (fax)

Email: Linda.Brennen@co.monmouth.nj.us

JLUS Website:

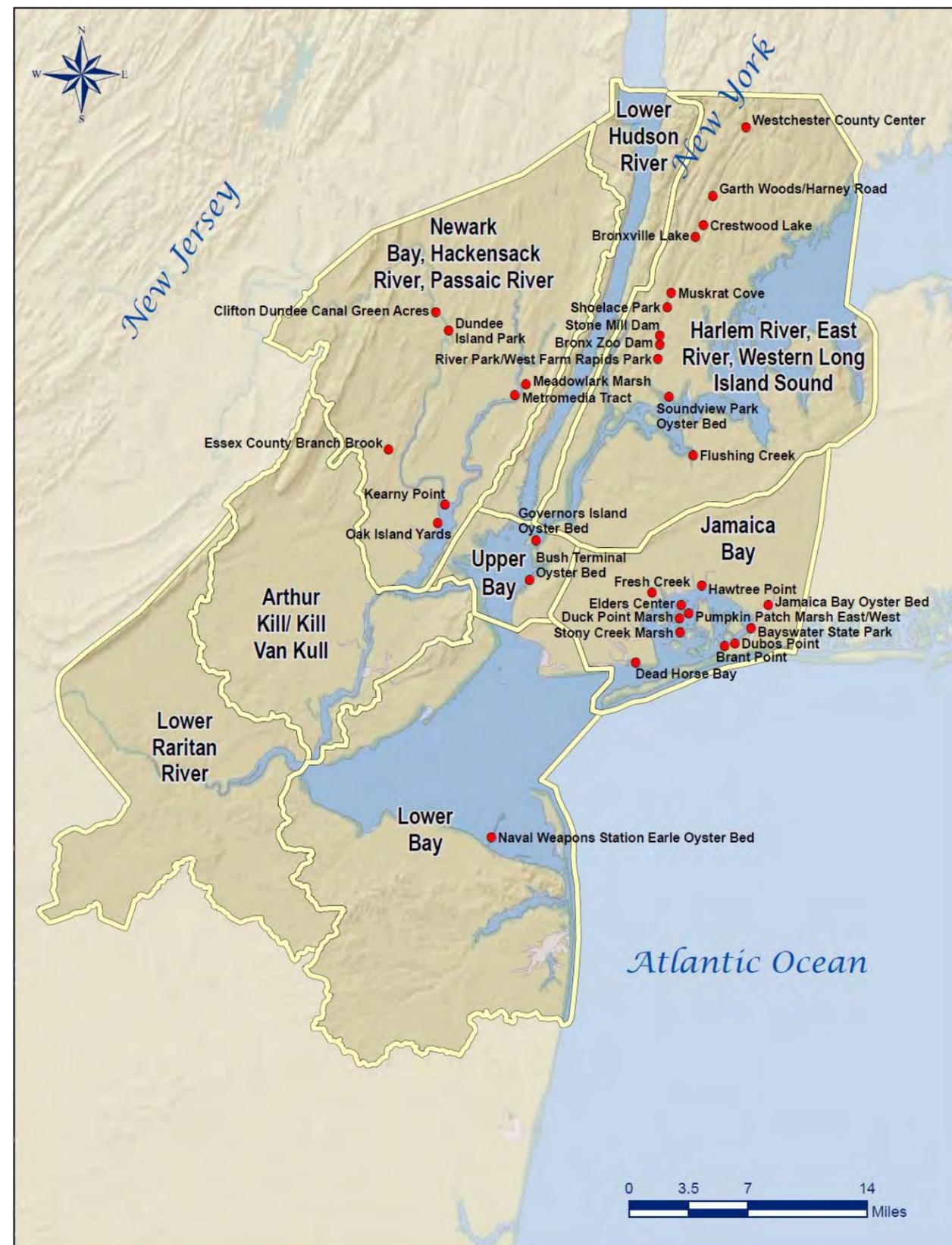
<https://co.monmouth.nj.us/page.aspx?ID=4782>



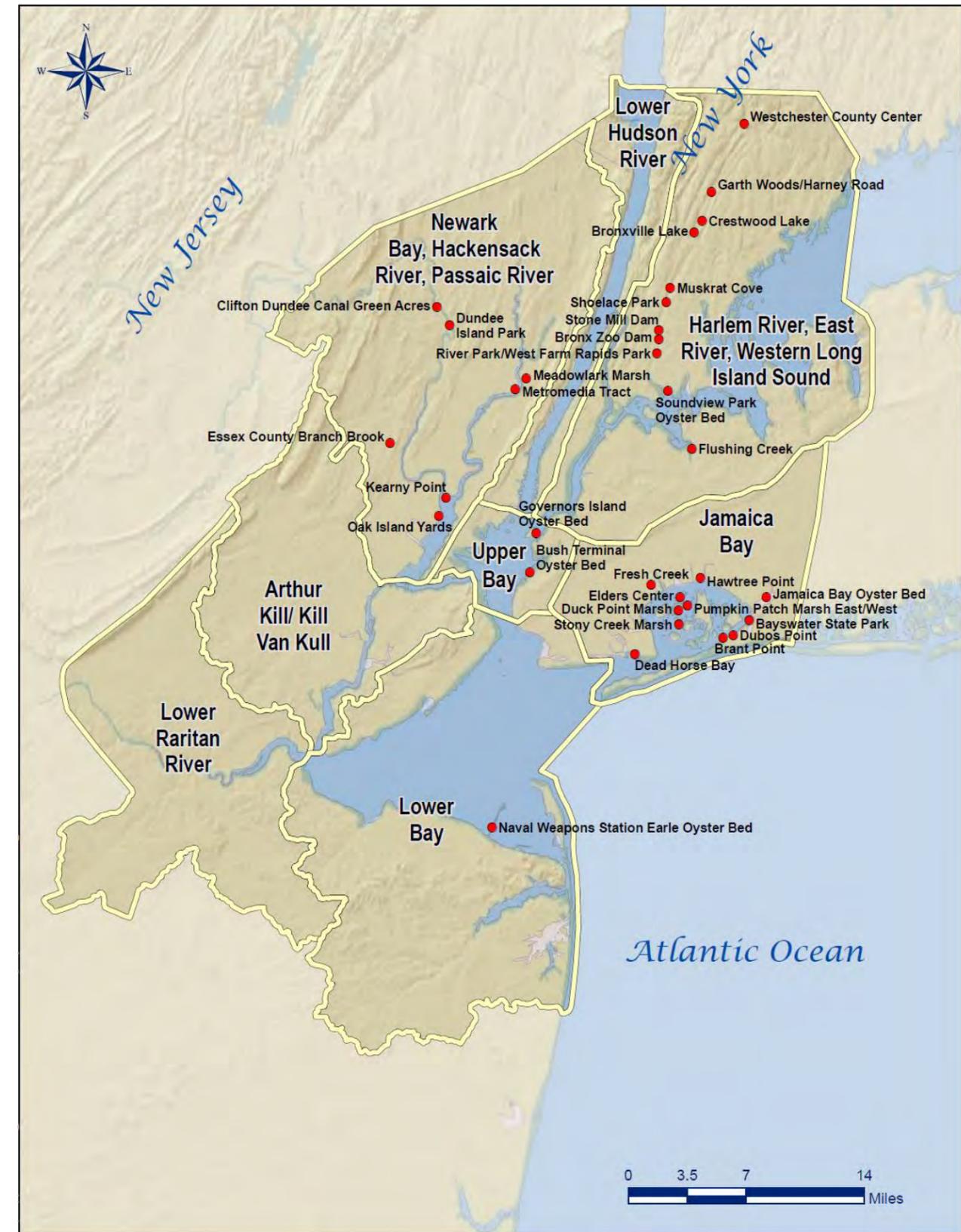
APPENDIX G

Hudson Raritan Estuary (HRE) Ecosystem Restoration Feasibility Study Tentatively Selected Plan

Restoration Site	Measures/Target Ecosystem Characteristic	First Level Costs			Non-Federal Sponsors
		Federal	Non-Federal	Total	
Jamaica Bay Planning Region					
Dead Horse Bay	Tidal channel; Wetlands (low/high marsh); Dunes; Maritime forest (beneficial use of sand); Removal of landfill	\$53,799,850	\$28,969,150	\$82,769,000	NYCDEP, NYC Parks, NYSDEC
Fresh Creek	Wetlands (low/high marsh); tidal creek/pool; Maritime forest; Shallow water habitat through channel regrading	\$29,557,450	\$15,915,550	\$45,473,000	NYCDEP, NYC Parks, NYSDEC
Hawtree Point	Coastal scrub/shrub and grassland Wetlands	\$950,950	\$512,050	\$1,463,000	NYCDEP, NYC Parks, NYSDEC
Bayswater Point State Park	Wetlands (low/high marsh); Beach/dune; Tidal channel; Tidal pool	\$3,779,750	\$2,035,250	\$5,815,000	NYS Department of Parks and Recreation
Dubos Point	Wetlands (low/high marsh); Tidal creek/pool; Maritime forest	\$6,214,000	\$3,346,000	\$9,560,000	NYCDEP, NYC Parks, NYSDEC
Brant Point	Wetlands (existing/low marsh); Meadow; Maritime forest	\$4,862,000	\$2,618,000	\$7,480,000	NYCDEP, NYC Parks, NYSDEC
Total				\$152,560,000	
Stony Creek	Wetlands	\$19,838,800	\$10,682,200	\$30,520,000	NYSDEC, NYCDEP
Duck Point	Wetlands	\$18,057,000	\$9,723,000	\$27,780,000	NYSDEC, NYCDEP
Elders Point Center	Wetlands	\$13,474,500	\$7,255,500	\$20,730,000	NYSDEC, NYCDEP
Pumpkin Patch West	Wetlands	\$13,026,000	\$7,014,000	\$20,040,000	NYSDEC, NYCDEP
Pumpkin Patch East	Wetlands	\$24,667,500	\$13,282,500	\$37,950,000	NYSDEC, NYCDEP
Total				\$137,020,000	
East River / Harlem River / Western Long Island Sound Planning Region					
Flushing Creek	Wetlands	\$3,835,000	\$2,065,000	\$5,900,000	NYCDEP
River Park/West Farm Rapids Park	Shoreline softening; Emergent wetlands; Bed restoration; Invasive removal/native plantings; Riverbed restoration	\$2,600,000	\$1,400,000	\$4,000,000	NYCDEP, NYC Parks
Bronx Zoo and Dam	Invasive removal/native plantings; Fish ladder; Sediment trap; Emergent wetlands	\$2,502,500	\$1,347,500	\$3,850,000	NYCDEP, NYC Parks
Stone Mill Dam	Fish ladder	\$468,000	\$252,000	\$720,000	NYCDEP, NYC Parks
Shoelace Park	Channel realignment w/in-stream structures; Bank stabilization; Invasive removal/ native plantings; Sediment load reduction/ rain gardens/bioretention basins	\$16,256,500	\$8,753,500	\$25,010,000	NYCDEP, NYC Parks
Muskrat Cove	Channel modification; River bank stabilization; Installation of sediment basins for load reduction; Invasive removal/native plantings	\$5,096,000	\$2,744,000	\$7,840,000	NYCDEP, NYC Parks
Bronxville Lake	Native plantings; Rip rap forebay; Channel bed restoration; Emergent wetlands; Forested scrub/shrub wetlands; Modification of rock weir for fish passage; Invasive removal and native plantings; Sediment dredging; Sediment load reduction/ vegetated swales/ retention; basins/rain gardens	\$10,094,500	\$5,435,500	\$14,530,000	Westchester County Planning
Crestwood Lake	Modification of existing rock weir for fish passage; Creation of emergent wetlands; Channel realignment, bed material construction, 11 instream cross vanes; Two (2) riprap forebays; Invasive removal/ native planting	\$17,946,500	\$9,663,500	\$27,610,000	Westchester County Planning



Restoration Site	Measures/Target Ecosystem Characteristic	First Level Costs			Non-Federal Sponsor
		Federal	Non-Federal	Total	
Garth Woods/Harney Park	Modification of weir for fish passage; River channel modification (15 in-stream cross vanes); Shoreline softening; Rain gardens/ bioretention area; Invasive removal/native planting; Emergent wetlands; Garth Woods: forested scrub/shrub; wetlands	4,680,000	2,520,000	\$7,200,000	Westchester County Planning
Westchester County Center	Emergent wetlands; Bank stabilization; In-stream structures; 10 cross vanes and six (6) J-hooks; channel modification; Invasive species removal/ native planting	9,438,000	5,082,000	\$14,520,000	Westchester County Planning
Total				\$105,280,000	
Newark Bay, Hackensack River, Lower Passaic River Planning Region					
Metromedia Tract	Low marsh restoration; High marsh restoration; Scrub/shrub habitat; Maritime upland	21,131,500	11,378,500	\$32,510,000	NJSEA, NJDEP
Meadowlark Marsh	Low/High marsh restoration; Restore mudflats; tidal channels and interior marsh; Invasive removal/native plantings; Maritime forest	27,079,000	14,581,000	\$41,660,000	NJSEA, NJDEP
Total				\$74,170,000	
Deferred site: Oak Island Yards	Restoration low marsh; Creation of new tidal channels; Invasive removal/native plantings	19,266,000	10,374,000	\$29,640,000	NJDEP
Deferred site: Kearny Point	Restoration low marsh; Invasive removal/native plantings; Restoration of new tidal channels; Public access/path	37,563,500	20,226,500	\$57,790,000	NJDEP
Total				\$87,430,000	
Essex County Branch Brook Park	Invasive removal/native plantings; Channel dredging to restore; freshwater stream and floodplain; Erosion control of banks/plantings	14,228,500	7,661,500	\$21,890,000	NJDEP
Dundee Island Park	Riparian restoration (invasive removal/native planting); Bank stabilization/shoreline softening	1,768,000	952,000	\$2,720,000	NJDEP
Clifton Dundee Canal Green Acres Site	Emergent wetland; Invasive removal/native planting; Restoration/ stabilization of riparian forest; Sediment basin	7,767,500	4,182,500	\$11,950,000	NJDEP
Total				\$36,560,000	
Oyster Restoration					
Jamaica Bay Head of Bay	Oyster beds (1.5 ac); Hanging trays (>0.5 ac)	533,000	287,000	\$820,000	NYCDEP
Bronx River Soundview Park	Spat on shell (0.83 ac); Gabion blocks (0.14 ac)	494,000	266,000	\$760,000	NY/NJ Baykeeper, Hudson River Foundation
Upper Bay Bush Terminal	Spat on shell (31.65 ac); Gabion blocks (8.48 ac); Oyster condos (3.49 ac); Hanging trays (0.1 ac)	21,417,500	11,532,500	\$32,950,000	NY Harbor Foundation/School
Upper Bay Governors Island	Gabion blocks 1.66 ac); Oyster condos (1.79 ac); Hanging trays (0.68 ac)	3,172,000	1,708,000	\$4,880,000	NY Harbor Foundation/School
Lower Bay Naval Weapons Station Earle	Spat on shell (3.1 ac); Gabion blocks (3.2 ac); Reef balls (1.3 ac)	4,823,000	2,597,000	\$7,420,000	NY/NJ Baykeeper
Total				\$46,830,000	
GRAND TOTAL				\$644,170,000	





Sea Level Rise Progress Report

Monmouth County - NWS Earle Joint Land Use Study

General Advisory Committee Meeting

Tuesday, April 25, 2017 10AM

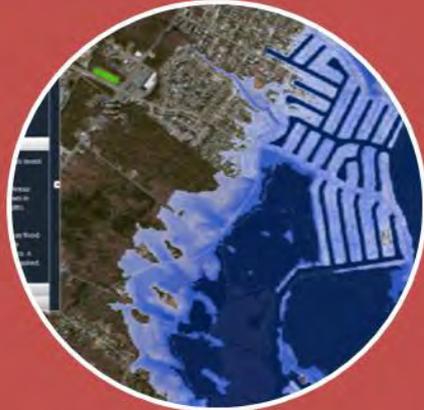
Matt Campo

Senior Research Associate

Edward J. Bloustein School of Planning & Public Policy

Rutgers, The State University of New Jersey

New Jersey Climate Adaptation Alliance (<http://njadapt.rutgers.edu/> and <http://www.njadapt.org/>)



Assess

Evaluate Your Municipal
Risks and Vulnerabilities



Plan

Utilize Getting to
Resilience to Plan for
the Future



Implement

Take Actions to
Increase Municipal
Preparedness

New Jersey Science and Technical Advisory Panel (STAP)

- What are the estimates of SLR and changing coastal storm hazards in New Jersey?
- How probable are different levels of SLR and changes in coastal storm hazards?
- How can stakeholders consider SLR and changes in coastal storms in light of different planning horizons, project types, and risk tolerances?



<http://dx.doi.org/doi:10.7282/T3ZP48CF>

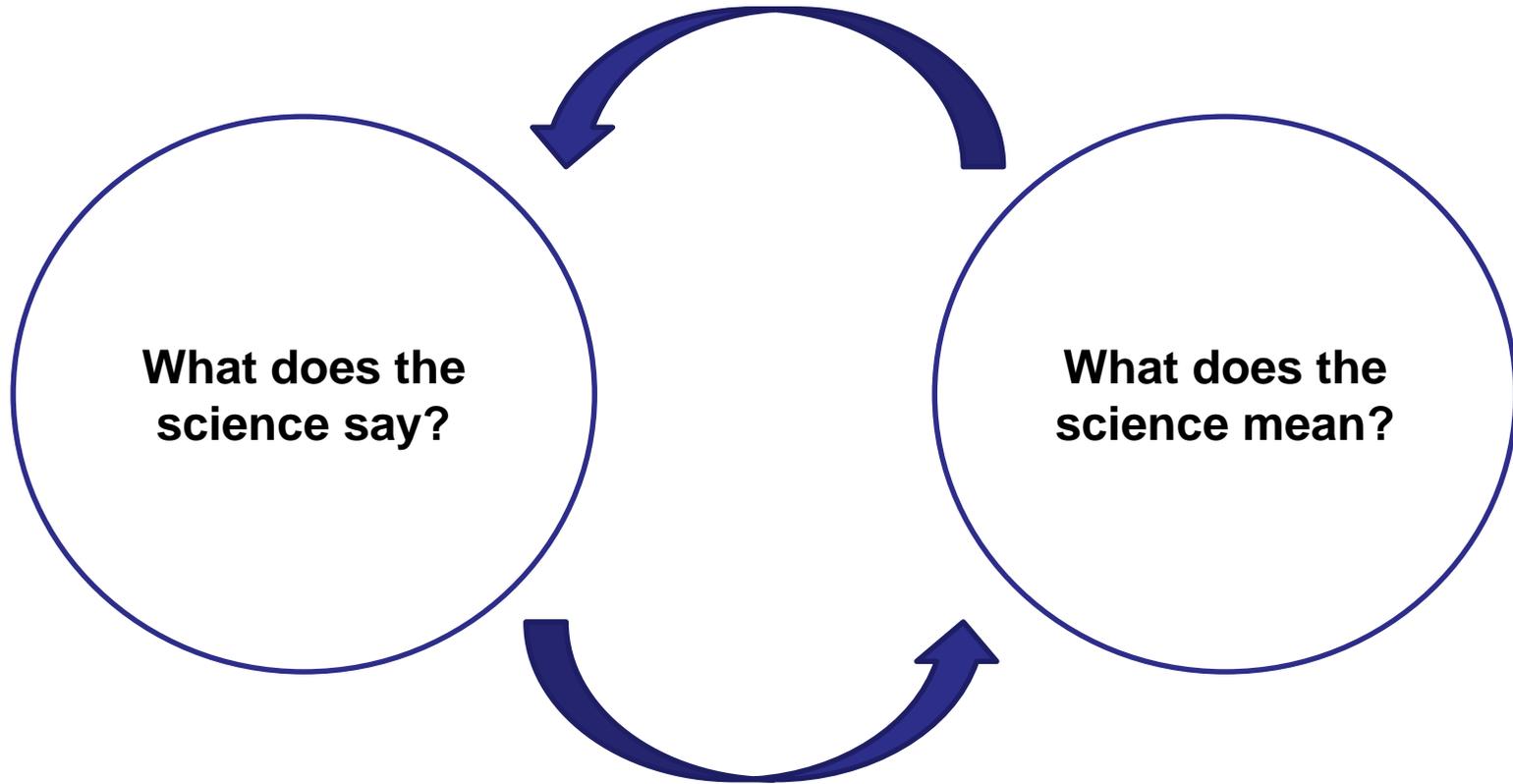
New Jersey Science and Technical Advisory Panel (STAP)

- How can efforts to apply current science recognize scientific uncertainties and the ongoing nature of scientific learning, and how often should stakeholders reassess advances in scientific information for purposes of applying the latest science into practice?
- Are there special considerations that stakeholders should address, including but not limited to uniquely vulnerable people, places, and assets when evaluating options for incorporating estimates for SLR and changes in coastal storms?



<http://dx.doi.org/doi:10.7282/T3ZP48CF>

Why Scientists AND Practitioners?



Coastal Storms: No clear basis for NJ guidance to deviate from IPCC

- By increasing the baseline for flooding, higher sea levels will increase the impact of coastal storms on New Jersey.
- Changes in the frequency, intensity and tracks of coastal storms may also affect the impact of coastal storms in New Jersey. This is an area of active research.
- For now, planning and decision-making in New Jersey should be guided by the Intergovernmental Panel on Climate Change (IPCC)'s conclusions regarding changes in future storms, including:
 - The global frequency of tropical cyclones is not likely to increase, while maximum wind speeds are likely to increase;
 - Precipitation intensity during tropical cyclones is likely to increase; and
 - The global frequency of extratropical cyclones is not likely to change substantially.

Projected SLR Estimates for New Jersey (ft.)

	Central Estimate	Likely Range	1-in-20 Chance	1-in-200 Chance	1-in-1000 Chance
Year	<i>50% probability SLR meets or exceeds...</i>	<i>67% probability SLR is between...</i>	<i>5% probability SLR meets or exceeds...</i>	<i>0.5% probability SLR meets or exceeds...</i>	<i>0.1% probability SLR meets or exceeds...</i>
2030	0.8 ft	0.6 – 1.0 ft	1.1 ft	1.3 ft	1.5 ft
2050	1.4 ft	1.0 – 1.8 ft	2.0 ft	2.4 ft	2.8 ft
2100 Low emissions	2.3 ft	1.7 – 3.1 ft	3.8 ft	5.9 ft	8.3 ft
2100 High emissions	3.4 ft	2.4 – 4.5 ft	5.3 ft	7.2 ft	10 ft

Estimates are based on Kopp et al. (2014). Columns correspond to different projection probabilities. For example, the 'Likely Range' column corresponds to the range between the 17th and 83rd percentile; consistent with the terms used by the Intergovernmental Panel on Climate Change (Mastrandrea et al., 2010). All values are with respect to a 1991-2009 baseline. Note that these results represent a single way of estimating the probability of different levels of SLR; alternative methods may yield higher or lower estimates of the probability of high-end outcomes.

IPCC AR5 global projections for SLR: "For RCP8.5, the rise by 2100 is 0.52 m (1.7 ft) to 0.98 m (3.2 ft) with a rate during 2081–2100 of 8 to 16 mm yr".

Regional sea levels may reach values up to 30% (or higher) above the global mean sea level off of the Northeast coast. If you were add 30% to the GMSL, you would get a range from 2.2 - 4.2 feet.

What contributes to SLR change?

Global factors include:

1. Thermal expansion of ocean water,
2. Mass loss from glaciers, ice caps, and ice sheets, and
3. Changes in land water storage.

Additional factors relevant in New Jersey include:

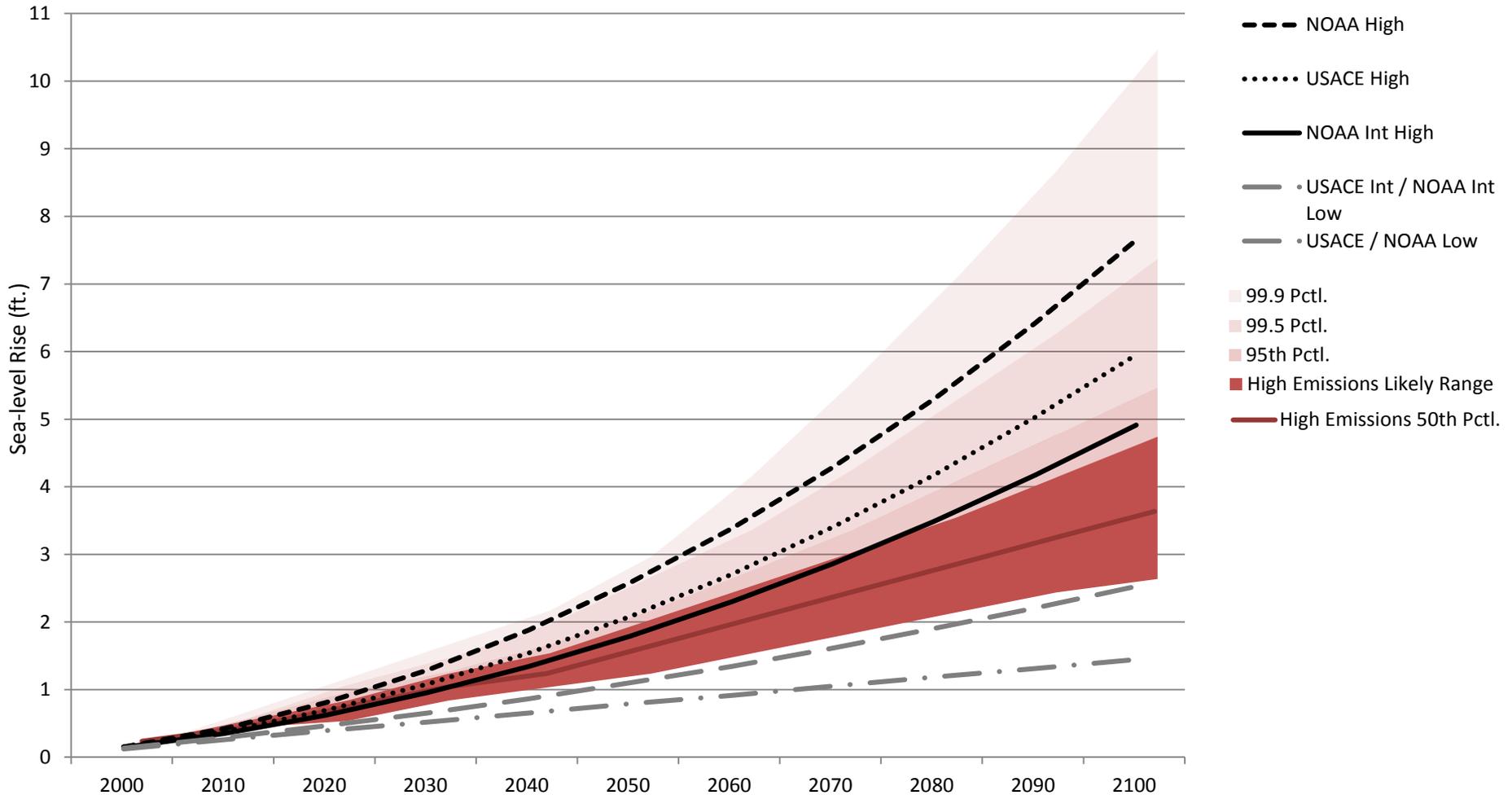
1. Glacial isostatic adjustment (GIA) (the ongoing adjustment of the solid Earth to the loss of the North American ice sheet at the end of the last ice age), of about 0.5"/decade across the region;
2. Vertical land motion due to natural sediment compaction and groundwater withdrawal along the Coastal Plain and in the Meadowlands, reaching up to about 0.4"/decade along the Coastal Plain;
3. Changes in ocean circulation and winds, and associated changes in the distribution of heat and salt within the ocean, which may add about 1'/century in the U.S. Northeast under high emissions scenarios; and
4. Static-equilibrium effects (changes in the height of Earth's gravitational field and crust associated with the large shifts of mass from ice to the ocean), which diminish the effect of Greenland melt and increase the effect of Antarctic melt.

Projected SLR RATE Estimates for New Jersey (ft.)

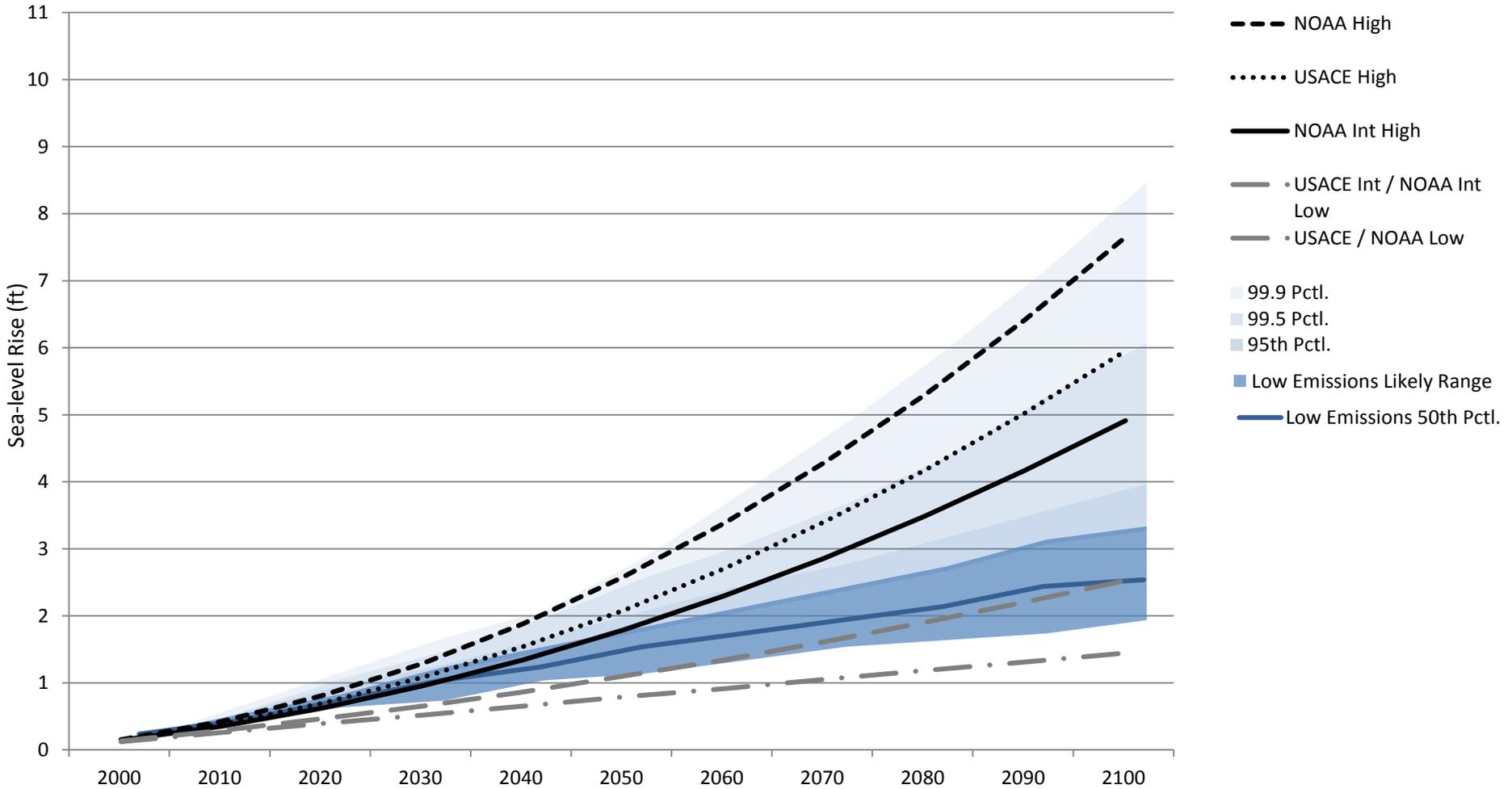
	Likely Range	1-in-20 Chance
Year	<i>67% probability SLR RATE is between...</i>	<i>5% probability SLR RATE meets or exceeds...</i>
2030	0.2 to 0.4 in/yr	0.5 in/yr
2030 - 2050 Low Emissions	0.2 to 0.4 in/yr	0.5 in/yr
2030 - 2050 High Emissions	0.3 to 0.5 in/yr	0.6 in/yr
2050 - 2100 Low emissions	0.2 to 0.4 in/yr	0.5 in/ yr
2050 - 2100 High emissions	0.3 to 0.7 in/yr	0.8 in/yr.

Estimates are based on Kopp et al. (2014). Twenty-year average rates of SLR. Columns correspond to different projection probabilities. For example, the 'Likely Range' column corresponds to the range between the 17th and 83rd percentile; consistent with the terms used by the Intergovernmental Panel on Climate Change (Mastrandrea et al., 2010). All values are with respect to a 1991-2009 baseline.

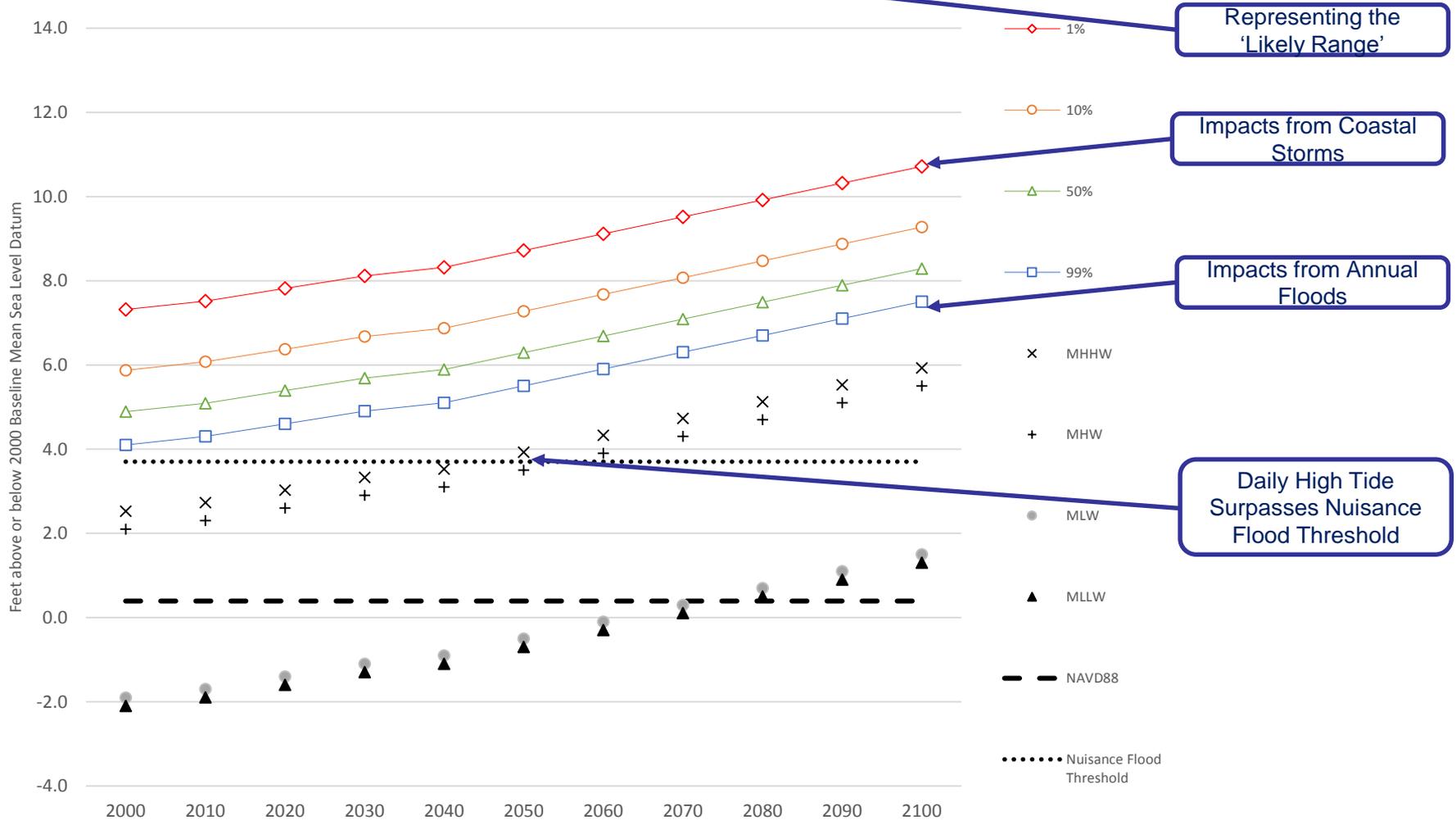
High Emissions [RCP 8.5] SLR Projections for New Jersey (Atlantic City) Compared to Federal SLR Projections



Low Emissions [RCP 2.6] SLR Projections for New Jersey (Atlantic City) Compared to Federal SLR Projections



High Emissions Central Estimate SLR Projections For Flood Levels and Tidal Datums (Atlantic City, NJ)

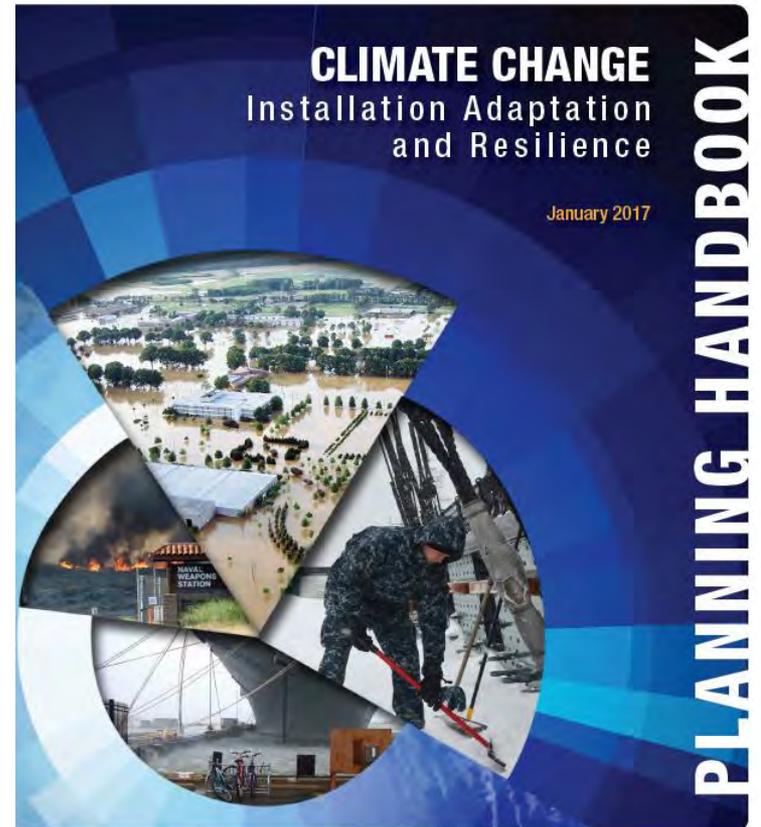


When conducting assessments, practitioners should:

- Evaluate at **least two SLR scenarios**
 - 1 in ‘Likely Range’
 - 1 above ‘Likely Range’
- Two needed to consider exposures of people, places and assets that are particularly vulnerable to flooding, or for which the consequences of damage and failure have significant magnitude.
- Evaluate at least **three flood conditions** representing
 - Inundation
 - Tidal / Nuisance Flooding
 - Extreme Coastal Flooding (Storms)
- Three needed to represent conditions that occur with varying frequency and last for varying amounts of time

NAVFAC Guidance (January 2017)

- Options:
 - up to three time periods (2035, 2065, 2100)
 - up to five sea level change scenarios (lowest [0.2m] to highest [2.0m])
 - extreme water levels for four different annual chance events (20%, 5%, 2%, 1%)
- Consistent with STAP outcomes



Discussion of Notional Example (not NJ specific)

Excerpt from Worksheet I.5 for Notional Installation (Units are in Feet)

Current Conditions		Plausible Future Conditions			
2016		2035			
		Low scenario		Highest scenario	
	1% annual chance event	Sea level change	Sea level change + 1% annual chance event	Sea level change	Sea level change + 1% annual chance event
	3.9	0.5	4.4	1.5	5.4

Plausible Future Conditions							
2065				2100			
Low scenario		Highest scenario		Low scenario		Highest scenario	
Sea level change	Sea level change + 1% annual chance event	Sea level change	Sea level change + 1% annual chance event	Sea level change	Sea level change + 1% annual chance event	Sea level change	Sea level change + 1% annual chance event
1.2	5.1	3.5	7.4	2.2	6.1	8.2	12.1

Discussion of Notional Example (not NJ specific)

- Definitions of critical assets
- Mapping and exposure assessment
- Impacts
- Timing

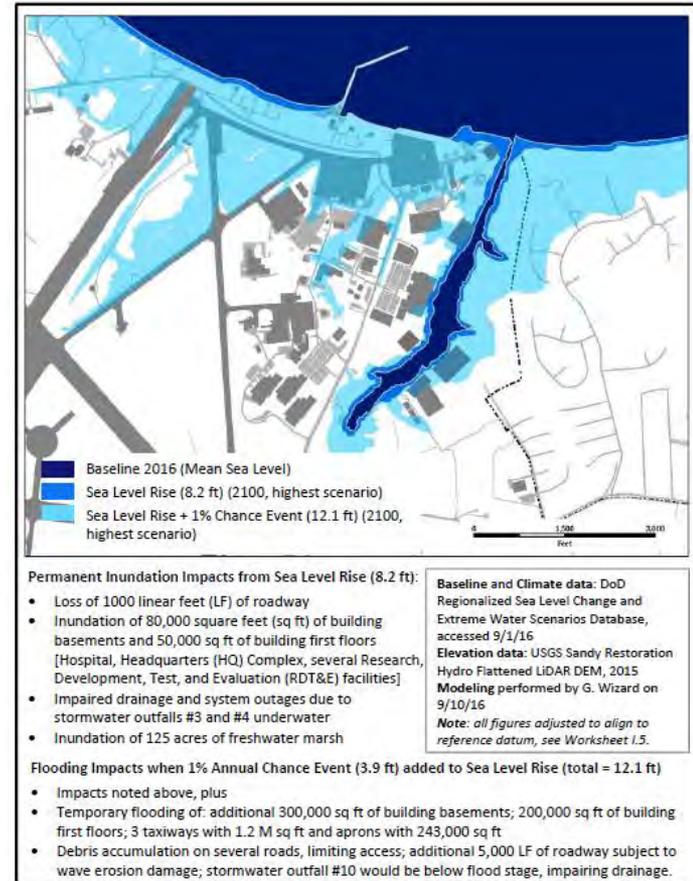


Figure I.3 Notional Installation Depicting Permanent Inundation and Flooding under Plausible Future Condition in 2100 (using Highest Scenario)

Summary

- Pending review
- NAVFAC Planning Guidance
 - Utilizes sea level rise information that is generally consistent with STAP science outcomes
 - Recommends a planning process that is generally consistent with STAP process outcomes
- Coordination with other regional efforts

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New Jersey Climate Adaptation Alliance

NJFRAMES Update

DEP PROMOTES CAMPAIGN ASKING TWO RIVERS AREA RESIDENTS TO HELP IDENTIFY PROPERTIES AS PART OF FLOOD RESILIENCY PLANNING

(17/P77) TRENTON - The Department of Environmental Protection and officials in the Two Rivers region of northeastern Monmouth County are encouraging the public to identify buildings and other facilities in their communities that should be part of focused flood-resiliency planning efforts.

The Two Rivers, One Future campaign provides a unique opportunity for the public to use an online mapping website and social media to have a role in determining future flood-protection strategies for their communities. The DEP will evaluate the project with plans to expand it to other parts of the state.

"This project builds on our ongoing resiliency efforts and is intended to help the public better understanding flood risks while engaging them in the effort to protect their communities," said Ginger Kopkash, DEP's Assistant Commissioner for Land Use. "The DEP and its partners will be able to use information from this effort to develop strategies focused on protecting these important places."

Located in northeastern Monmouth County around the Navesink and Shrewsbury rivers - short and wide estuary-like waterways - the Two Rivers region encompasses 15 municipalities, an area that is vulnerable to coastal flooding.

As part of the campaign, the community is asked to identify places such as public buildings, police and fire stations, municipal buildings, hospitals or urgent care centers, schools, important businesses, and popular gathering spots. The DEP will be conducting extensive outreach in Two Rivers communities this month to promote the campaign.

There are three ways the public can report locations:

- * Go to www.TwoRiversOneFuture.nj.gov to drop pins at favorite locations, then describe in the comment field why the place is important.
- * Tweet photos, websites, names or locations of the places that matter most, along with a reason why, and use the hashtags #MapWhatMatters and #TwoRiversOneFuture. The same hashtags may also be used on Instagram.
- * Visit the Two Rivers, One Future #MapWhatMatters booth at a number of public festivals, markets and locations throughout the Two Rivers region this month. A schedule of events is available at www.nj.gov/dep/oclup/njframes-engage.html

The Two Rivers, One Future campaign is the latest component of the three-year New Jersey Fostering Regional Adaption through Municipal Economic Scenarios (NJ FRAMES) Project, which will use resiliency planning to help the Two Rivers Council of Mayors region prepare for and respond to coastal hazards and flooding risks.

The Two Rivers Council of Mayors works to address common issues in their communities. NJ FRAMES builds upon the cooperation of the communities in the region. The DEP has also been performing extensive mapping to identify areas vulnerable to flooding under various storm scenarios.

"While we have collected plenty of great data on at-risk areas in these communities, this effort will help ensure we are focusing our efforts on the right places, and those that matter most to residents," said Assistant Commissioner Kopkash. "Strategies that could be implemented include green infrastructure, living shorelines and hardening of critical infrastructure that would better protect these places and their surrounding neighborhoods."

The 15 communities in the Two Rivers region include Eatontown, Fair Haven, Highlands, Little Silver, Long Branch, Middletown, Monmouth Beach, Ocean Township, Oceanport, Red Bank, Rumson, Sea Bright, Shrewsbury Borough, Tinton Falls and West Long Branch.

NJ FRAMES partners DEP's Coastal Management Program with the Jacques Cousteau National Estuarine Research Reserve, the Louis Berger Group, the Rutgers Climate Institute and the Borough of Oceanport, which represents the Two Rivers Council of Mayors. The project is funded by the National Oceanic and Atmospheric Administration (NOAA).

Project partners help the Two Rivers Council understand the range of costs and benefits of resiliency planning decisions by using a scenario-based approach for its communities. By using a vigorous public stakeholder process that involves the visions of the involved communities, the NJ FRAMES project is expected to develop a plan identifying a variety of measures to enhance flooding resiliency in the region.

NJ FRAMES is one of several resilience planning grants and projects funded by NOAA. To learn more about the project, visit: www.nj.gov/dep/oclup/njframes.html

Learn more about the DEP's Coastal Management Program at www.nj.gov/dep/cmp and follow @NJCoastalManagement on Instagram.

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Integrating Climate Science into Coastal Resilience Planning and Decision Making in New Jersey

A summary of two reports prepared for the New Jersey Climate Adaptation Alliance

October 2016

Introduction

State, local and Federal decision makers throughout New Jersey are working to enhance the resilience of coastal communities and resources to hazards – including flooding driven by sea-level rise and coastal storms – that are increasing as a result of climate change. The New Jersey Climate Adaptation Alliance, a network of policymakers, public and private sector practitioners, academics, nongovernmental organizations, and business leaders, has joined together to enhance New Jersey’s climate change preparedness. During an extensive stakeholder engagement process hosted by the Alliance, decision makers communicated a need for more science-informed guidance to support resilience planning and implementation. The Alliance’s Advisory Committee requested that Rutgers University convene a Science and Technical Advisory Panel (STAP) to synthesize for practitioners the most recent climate science needed to inform efforts to increase the resilience of New Jersey’s people, places, and assets (including infrastructure, communities and natural resources) to regional sea-level rise (SLR), changing coastal storms and the resulting flood risk.

The outputs of the STAP effort are two reports, issued in October 2016, for which this document provides a combined, high-level overview. The first report, ***Assessing New Jersey’s Exposure to Sea-Level Rise and Coastal Storms: Report of the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel***, summarizes the deliberations of the scientists who participated in the STAP. The second report, ***Assessing New Jersey’s Exposure to Sea-Level Rise and Coastal Storms: A Companion Report to the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report***, describes how coastal hazard data and coastal climate change impacts are currently being addressed in New Jersey.

Approach and Purpose

The STAP efforts provide science-informed guidance and planning options for practitioners and decision makers. With guidance from the Alliance’s Advisory Committee, Rutgers staff undertook three efforts:

- **STAP Convening** –To inform planning and decision making, Rutgers staff consulted with scientists to assess the state of knowledge regarding sea-level rise, coastal storms and flood hazards in New Jersey. Rutgers staff and faculty convened experts in climate change, sea-level rise, coastal hazards, and coastal resilience to deliberate on a set of charge questions and summarize current science with regard to sea-level rise, coastal storms, and flood hazards.
- **Engagement of coastal decision makers** – Rutgers staff analyzed the information needs of coastal planners and decision makers to support their resilience efforts. Rutgers staff elicited feedback from practitioners on the initial STAP insights and Rutgers staff also reached out to coastal community planners, decision makers and practitioners about their needs with regard to science and data that can support coastal resilience efforts.
- **Review of basis for current planning and decision making** – Rutgers staff summarized how science and data about coastal hazards and climate change are currently being used to inform planning and

decision making that affects coastal communities and assets. They consulted with practitioners to understand the science and data that are currently being used to inform local coastal resilience decision making. Rutgers staff also reviewed current Federal, State, and local authoritative documents and conducted interviews with State decision makers to assess the state of current use of science and data as the basis for planning and decision making in New Jersey.

Outcomes

The two full reports provide a more comprehensive and detailed descriptions of important issues summarized below.

Sea-Level Rise Magnitude - The STAP report identifies a range of projected sea-level rise estimates for New Jersey, along with the likelihood of those estimates occurring. The table below summarizes the STAP’s outcomes regarding projected sea level rise estimates for New Jersey, measured in feet. All values are based on a baseline of the midpoint between 1991-2009. Each column represents a different probability for a sea level rise projection. For example, the “Likely Range” column represents a range between the 17th and 83rd percentile with 67% being used to show probability. Each row represents a year; two rows are provided for the year 2100 so as to include a low emissions scenario and a high emissions scenario.

	Central Estimate	Likely Range	1-in-20 Chance	1-in-200 Chance	1-in-1000 Chance
Year	<i>50% probability SLR meets or exceeds...</i>	<i>67% probability SLR is between...</i>	<i>5% probability SLR meets or exceeds...</i>	<i>0.5% probability SLR meets or exceeds...</i>	<i>0.1% probability SLR meets or exceeds...</i>
2030	0.8 ft	0.6 – 1.0 ft	1.1 ft	1.3 ft	1.5 ft
2050	1.4 ft	1.0 – 1.8 ft	2.0 ft	2.4 ft	2.8 ft
2100 Low emissions	2.3 ft	1.7 – 3.1 ft	3.8 ft	5.9 ft	8.3 ft
2100 High emissions	3.4 ft	2.4 – 4.5 ft	5.3 ft	7.2 ft	10 ft

The STAP “likely range” of sea-level rise estimates is consistent with recent guidance proposed by New York State and the Federal government’s sea-level rise estimates for New Jersey developed by an interagency working group, as well as with the assessment of the Intergovernmental Panel on Climate Change’s Fifth Assessment Report.

The STAP encourages practitioners to consider the nature of the decision at hand when determining which sea-level rise estimate(s) to incorporate. Practitioners are encouraged to use several sea-level rise estimates in order to capture a variety of possible future outcomes. A focus on the “likely” range may be appropriate when considering decisions where flooding exposures or anticipated damages are limited, such as installation of recreational amenities. For decisions where potential exposures and damages may be significant (such as those related to energy, water or transportation infrastructure projects), or where a population is already vulnerable to stressors that will be further exacerbated by climate change (such as residential neighborhoods juxtaposed with facilities that store hazardous materials or have contaminated soil, either of which could become further mobilized with heavy flooding), the STAP encourages practitioners to consider at least two different likelihood levels - one

within the likely range, and one reflecting a lower-probability but higher consequence. Additionally, for decisions with impacts lasting beyond 2050, the STAP advises practitioners to consider both low and high greenhouse gas emissions futures.

Sea-Level Rise Rates – For some decisions, the rate of sea-level rise is as critical a consideration as the magnitude of sea-level rise. For example, rates of sea-level rise have an important impact on the extent to which natural systems, such as marshes, can adapt to changing sea levels. The STAP found that the rate by which sea level rises in coastal New Jersey over the period of 2010-2030 is likely to be 2–4 inches per decade. The STAP also concluded that, after 2030, changes in the rate of sea level rise depend on future greenhouse gas emissions. The full STAP report provides full probability distributions of post-2030 rates of sea-level rise under two greenhouse gas emissions scenarios.

Coastal Storms - By increasing the baseline for flooding, higher sea levels will increase the impact of coastal storms on New Jersey. Changes in the frequency, intensity and tracks of coastal storms may also affect the impact of coastal storms in New Jersey. This is an area of active research. The STAP concluded that, for now, planning and decision making in New Jersey should be guided by the Intergovernmental Panel on Climate Change (IPCC)'s conclusions regarding changes in future storms, including:

- The global frequency of tropical cyclones (i.e., hurricanes) is not likely to increase, while maximum wind speeds are likely to increase;
- Precipitation intensity during tropical cyclones is likely to increase; and
- The global frequency of extratropical cyclones (i.e., nor'easters) is not likely to change substantially; however precipitation associated with winter storms is likely to increase.

Exposure Assessments – As mentioned earlier, Rutgers staff convened a set of coastal resilience practitioners to evaluate the practicality of applying the STAP outcomes. Among their many insights, they indicated that, in addition to considering extreme coastal flooding and permanent inundation, exposure assessments should take into account projections that point to areas that are affected by tidal (sometimes referred to as “nuisance” flooding). Based on input from the practitioners, as well as input on the needs of coastal planners and decision makers received by Rutgers staff, the STAP report outlines example methods that practitioners may use to integrate the STAP science outcomes into different planning horizons and risk preferences.

Current Use of Climate Data and Science –In addition to engagement of municipal officials and practitioners, Rutgers staff interviewed State agency officials and conducted a literature review to ascertain how sea-level rise and anticipated changes in coastal storms are addressed in practice in coastal regions of New Jersey. Rutgers staff found that there is no uniform approach in New Jersey for addressing coastal climate change impacts at the current time. Local governments can exceed New Jersey building code elevation requirements or the requirements under the National Flood Insurance Program for structures in floodplains; it is estimated by the State of New Jersey that 20 municipalities do have more stringent building elevation ordinances than Federal or State requirements. The Rutgers research found that these more restrictive requirements are motivated by the desire for increased flood protection from current conditions; discounts on insurance rates through the Federal Community Rating System (CRS) program; and in one case, Rutgers staff identified a municipality that did cite sea-level rise as a concern in establishing its local ordinance. At the State level, New Jersey programs generally follow Federal requirements or incorporate national guidance developed by professional societies that establish design standards for structures in floodplains but to date, New Jersey regulatory programs

have not been developed to address sea-level rise. The State of New Jersey is addressing impacts from sea-level rise and changes in coastal storms when the Federal government has required these considerations as a condition of Federally-funded projects and programs (e.g., under Federal Hurricane Sandy appropriations or grants tied to Federally-approved State Hazard Mitigation Planning). Federal agencies are currently developing plans to implement the Federal Flood Risk Management Standard (FFRMS) which expressly considers increases in flood risk expected to result from climate change for Federally-funded projects. As Federal agencies implement the standard for Federally-funded projects in New Jersey, the STAP approach could be helpful. The STAP approach can also be helpful for New Jersey entities wishing to plan for coastal climate change impacts. Finally, it is important to note that the current suite of regulatory approaches focus on new construction or substantial improvement to existing structures; existing structures in coastal areas that have not been elevated to account for coastal climate change impacts or are located in communities that have not implemented other flood damage reduction actions to account for coastal climate change impacts (such as those incentivized through the CRS) may continue to be vulnerable to such impacts.

Needs of Coastal Communities - Rutgers staff engaged coastal professionals and decision makers to better understand their needs with regard to climate data and science to inform decision making. In general, Rutgers staff heard a need for clear and consistent and science-based standards and/or guidance to inform local coastal resilience planning. The outcomes of the STAP effort can be informative in addressing some of those needs, including:

- Coastal decision makers and practitioners agreed that, since Superstorm Sandy, there has been widespread increased awareness of flooding and coastal hazards and a greater recognition of the contribution of sea-level rise to those hazards. Among coastal municipalities, there is greater support for regulatory measures to inform and support coastal community planning and recognition of a need for a more holistic approach to resilience guided by a statewide vision for planning and implementation in New Jersey.
- Coastal municipalities pointed to inconsistent and sometimes conflicting guidance from multiple State and Federal agencies on standards and regulatory practices that are meant to be implemented at the local level. More specifically, the municipal practitioners indicated a need for clear and consistent guidance on sea-level rise projections between and within State agencies. In addition to having climate data that are consistent, local officials indicated a need to integrate sea-level rise projections with local knowledge about historic floods to better inform decision making.
- Coastal municipalities need technical assistance to, among other things, apply climate data and science to efforts to plan for resilience. They also indicate a need for additional training on disaster response and preparedness.
- Coastal practitioners also expressed concern that, with a post-Sandy emphasis on home elevations, residents who have elevated their homes will avoid evacuation feeling secure in their homes not realizing that roadways, infrastructure and critical facilities remain exposed and non-resilient.

Rutgers staff will continue to work with communities, coastal planners, and decision makers, and intend to further develop and deploy guidance for using the methods outlined in the two reports.

For more information

Both full reports can be found at <http://njadapt.rutgers.edu/>. Questions regarding the reports can be directed to Dr. Marjorie Kaplan at kaplan@envsci.rutgers.edu or Jeanne Herb at jherb@ejb.rutgers.edu.

APPENDIX H

Citations of Recent Studies Related to the NWS Earle JLUS:

1. Small-Lorenz, S.L., W.P. Shadel, and P. Glick. 2017. *Building Ecological Solutions to Coastal Community Hazards*. The National Wildlife Federation. Washington, DC. 95 pp.
http://www.nwf.org/~media/PDFs/Global-Warming/FINAL_WEB-VERSION_BESCCH-070517.ashx
2.
<http://www.planning.co.ocean.nj.us/jlus.htm>,
http://www.planning.co.ocean.nj.us/jlus/JLUS_Report_Apr_2009.pdf
3. *Monmouth County At A Glance* for general 2017 land use info
[http://co.monmouth.nj.us/documents/24/2017_At-A-Glance%20Final%2005-05_16%20\(online\).pdf](http://co.monmouth.nj.us/documents/24/2017_At-A-Glance%20Final%2005-05_16%20(online).pdf))
4. NJ FRAMES (see <http://www.nj.gov/dep/oclu/nframes.html>)

links to funding programs for green infrastructure that might prove useful for the recommendation matrix:

[*NPS Community Assistance in Conservation and Outdoor Recreation Program*](#)

[*FWS National Coastal Wetlands Conservation Grant Program*](#)

[*FWS Coastal Program*](#)

Available Resource Documents to Support JLUS Planning Process
Regional Sea Level Scenarios for Coastal Risk Management (April 2016) prepared by Strategic Environmental Research and Development Program can be accessed through:
<https://www.serdp-estcp.org/Program-Areas/Resource-Conservation-and-Climate-Change/Climate-Change>.

The U.S. Global Change Research Program recently developed their "Climate Resiliency Toolkit" which is a good resource to support JLUS projects involving climate assessment and adaptation planning. It can be accessed through
<https://toolkit.climate.gov/>.