

MEMORANDUM

TO: File
 FROM: Peter Lomax
 DATE: June 25, 2024
 RE: Comments on **NJDEP New Rule Pre-Proposal** documentation for “Resilient Environments and Landscapes (REAL)” reformation of existing Land Use Regulations in the State of New Jersey

Summary

This memorandum was prepared pursuant to a request by the County of Cape May and interest expressed by several local municipalities regarding future regulatory implications resulting from the NJ Department of Environmental Protection (NJDEP) **Resilient Environments and Landscapes (REAL) draft rule** in its preproposal form. The 1,057-page formal REAL rule proposal is scheduled for official publication in a July 2024 New Jersey Register.

The REAL rule proposal stems from Governor Murphy’s Executive Order 100, January 2020, which instructed the NJDEP to adopt “Protecting Against Climate Threats” (PACT) regulations. In its pre-proposal presentations, NJDEP has represented that the forthcoming REAL rule proposal is based on the “best available predictive climate science” which indicates that current practices are not on target for moderate greenhouse gas emissions reductions. By extension, State policy aims to adapt to prevailing sea-level rise, extreme weather intensification, and chronic flooding at higher elevations which leads to recurrent flood damage. The REAL rule proposal will establish new and revised land use regulations to be integrated into the Coastal Zone Management Rules (N.J.A.C. 7:7), Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A), Flood Hazard Area Control Act Rules (N.J.A.C. 7:13), and Stormwater Management Rules (N.J.A.C. 7:8), as well as cross-referencing and clarifications to other rules which reference flooding.

The REAL rule proposal will rely on sea level rise projections from the Rutgers University 2019 Science and Technical Advisory Panel (STAP) Report entitled, “New Jersey’s Rising Seas and Changing Coastal Storms”, which concluded a 50% probability that sea level rise will exceed 3.3 feet by year 2100 and a 17% chance that sea level rise will exceed 5.1 feet by year 2100 assuming moderate emissions.

Table 1. Rutgers University STAP-Predicted Sea Level Rise Probability

Table ES-1: New Jersey Sea-Level Rise above the year 2000 (1991-2009 average) baseline (ft)*

		2030	2050	2070			2100			2150		
		Emissions										
Chance SLR Exceeds		Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	High
Low End	> 95% chance	0.3	0.7	0.9	1	1.1	1.0	1.3	1.5	1.3	2.1	2.9
Likely Range	> 83% chance	0.5	0.9	1.3	1.4	1.5	1.7	2.0	2.3	2.4	3.1	3.8
	~50 % chance	0.8	1.4	1.9	2.2	2.4	2.8	3.3	3.9	4.2	5.2	6.2
	<17% chance	1.1	2.1	2.7	3.1	3.5	3.9	5.1	6.3	6.3	8.3	10.3
High End	< 5% chance	1.3	2.6	3.2	3.8	4.4	5.0	6.9	8.8	8.0	13.8	19.6

*2010 (2001-2019 average) Observed = 0.2 ft

<https://njclimateresourcecenter.rutgers.edu/resources/nj-sea-level-rise-reports/>

Accordingly, NJDEP selected the more conservative prediction designating a 5-foot sea level rise and establishing the year 2100 as the planning horizon for the REAL rule proposal regulations, indicating that roads, building and bridges constructed over the proceeding years under the new rule will still be serviceable in year 2100. Through designation of the 5-foot sea level rise, the REAL rule proposal will redefine the extent of tidal flood hazards areas by establishing an “Inundation Risk Zone” and a “Climate Adjusted Flood Elevation” which include design standards restricting development in the coastal zone.

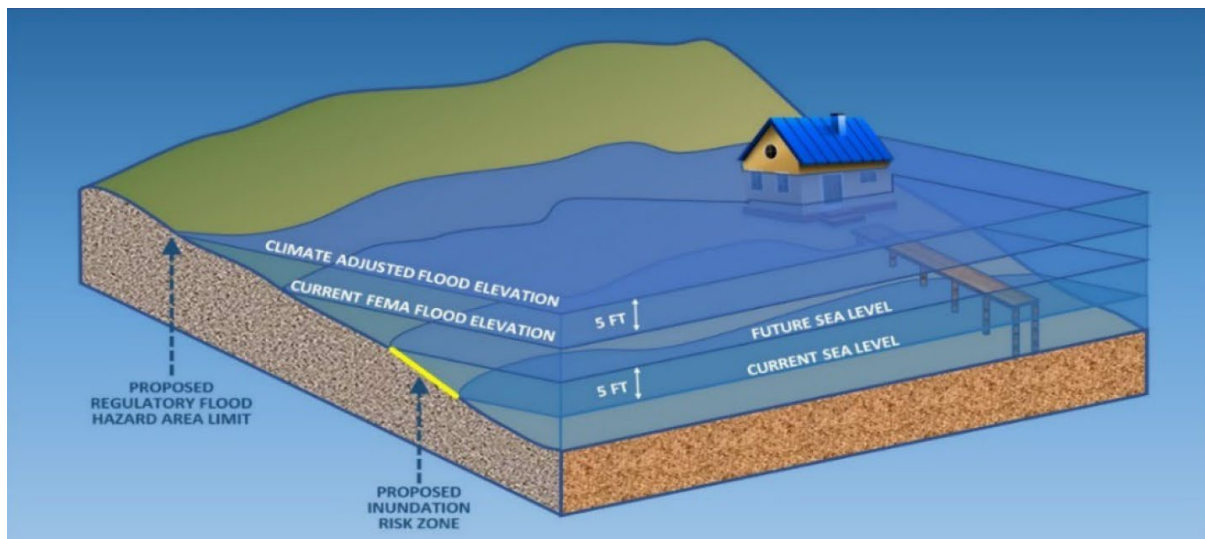
Inundation Risk Zone (IRZ) is the predicted area of permanent standing water due to sea level rise by year 2100

IRZ upper limit = current elevation of mean high higher water (MHHW) + 5 feet

Climate Adjusted Flood Elevation (CAFE) is the predicted limit of coastal flood hazard areas with storm-induced flooding exacerbated by sea-level rise by year 2100

CAFE upper limit = current FEMA 100-year flood elevation + 5 feet

Diagram 1. Composite of IRZ and CAFE



Scope of Rulemaking

The creation of these newly regulated areas applies REAL standards to:

1. New development
2. Redevelopment
3. Renovation of existing development where “substantial improvements to buildings” will occur (i.e., renovation costs exceed 50% of the market value)

Applicability

REAL rule standards will be:

1. integrated into the Coastal Zone Management Rules (*N.J.A.C. 7:7*), Freshwater Wetlands Protection Act Rules (*N.J.A.C. 7:7A*), Flood Hazard Area Control Act Rules (*N.J.A.C. 7:13*), Stormwater Management Rules (*N.J.A.C. 7:8*), as well as cross-referencing and

clarifications to other rules which reference flooding whereby terminology has been amended to integrate REAL precepts;

2. applied to all projects which are not yet deemed technically complete for review before the rule is adopted. Application submission and a determination of administrative completeness in advance of rule adoption is not sufficient to establish protection from the new rule; and
3. implemented to reform existing State land use practices specific to sea-level rise, coastal storm surge, flooding, and stormwater management considerations by:
 - a. increasing protections against predicted future flooding/sea level rise and storm events;
 - b. protecting critical facilities and infrastructure from the effects of climate change;
 - c. restoring water quality and reducing flooding across the state, especially in urban zones;
 - d. increasing resilience for land and water resources;
 - e. planning for climate change;
 - f. designing to prioritize nature-based solutions;
 - g. encouraging renewable energy; and
 - h. revising the administrative processes to make improvements.

Timeline for Action (as reported by NJDEP)

The window for engagement in providing public comment and/or seeking clarification or changes to the proposed REAL rule is as follows:

- **July 1 or July 15, 2024:** Formal Publication of the REAL rule proposal in the NJ Register and commencement of the 90-day Public Comment Period
- **July 24, 2024 at 10am:** Public Hearing #1 via virtual format
- **July 31, 2024 at 2pm:** Public Hearing #2 via virtual format
- **August 7, 2024 at 6pm:** Public Hearing #3 via virtual format
- **October 2024:** End of Public Comment Period and commencement of NJDEP evaluation of public comments, including preparation of responses to all public comments and review of minor draft language changes to be considered.
- **Summer/Fall 2025:** Anticipated Filing of Adoption documents with Office of Administrative Law (must be within 1 year of proposal publication in the NJ Register)

Inundation Risk Zone (IRZ) is the predicted area of permanent standing water due to sea level rise by year 2100

IRZ upper limit = current elevation of mean high higher water (MHHW) + 5 feet

Diagram 2. Current Sea Level in MHHW

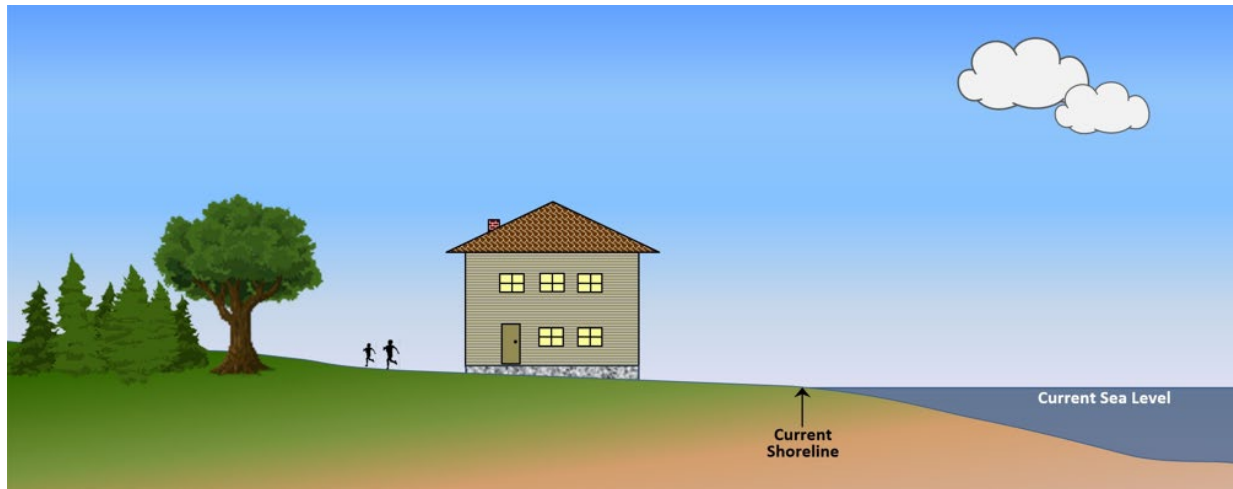
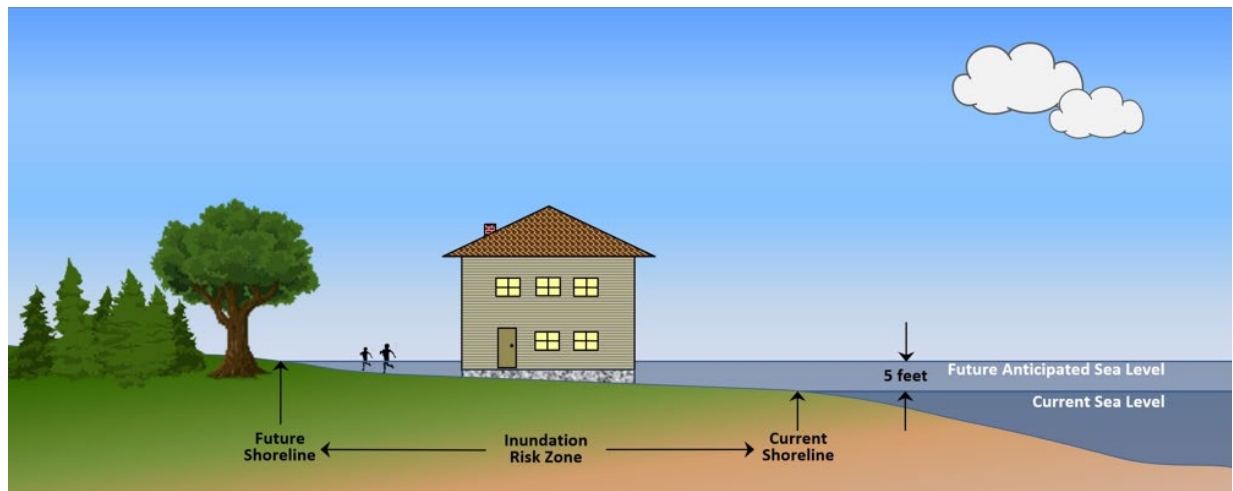


Diagram 3. Future Anticipated Sea Level (Year 2100) in MHHW



NJDEP's stated goal in establishing the IRZ is to regulate coastal redevelopment whereby the need for land use approvals can be leveraged to mitigate future anticipated damage to existing facilities due to sea level rise and coastal storms. When proposing regulated development, redevelopment, or substantial improvement renovations for residential buildings and critical buildings and infrastructure in the IRZ, the project must be designed to meet the applicable standards and the applicant must complete:

- Impact Assessment of sea level rise on the proposed activity,
- On-site Alternatives Analysis to avoid or minimize risks, and
- Risk Acknowledgement to be incorporated into NJDEP decision documents such that formal notice is attached to the title of ownership.

IRZ Impacts by Municipality and County

The establishment of the IRZ has a disproportionate impact on land areas within the coastal zone than those areas in the interior portions of the State. By extension, the IRZ will place additional land use restrictions on development within coastal communities thereby resulting in greater impacts to the ratable base of those local units of government. While NJDEP estimates that much of the IRZ is already developed or encumbered by environmental Special Areas that would otherwise make development difficult, its analysis is generalized for the entire state and does not account for regional impacts such as those in Cape May County. Significant portions of the County, including within the coastal areas, remain undeveloped or targeted for redevelopment as reflected by long-standing center designations and supporting local zoning standards, which is in contrast to NJDEP’s interpretation of the impact of the IRZ on anticipated future development.

As provided herein, the “NJDEP/NOAA Predicted Sea Level Rise Inundation Risk Zone Mapping” (Sheets 0-5), prepared by The Lomax Consulting Group, dated June 11, 2024, depicts the extent of the mapped IRZ within Cape May County. Table 2 below provides a summary of IRZ-impacted land areas (excluding surface waters) for the County as a whole and for each municipality. Of the 157,481 acres of land in Cape May County, the IRZ will overlay 42.85% of the total, and while this area includes coastal marsh, it also includes significant portions of upland coastal communities and the transportation infrastructure between the mainland municipalities and the barrier islands that would be subject to additional regulation under the REAL rule proposal.

Table 2. Future Anticipated Sea Level (Year 2100)

Name	Total Land Area (Acres)	Inundated Area (Acres)	% Inundated
Avalon	2,496	1,918	76.84%
Cape May City	1,470	621	42.24%
Cape May Point	178	113	63.48%
Dennis Township	38,141	11,928	31.27%
Lower Township	17,184	6,937	40.37%
Middle Township	43,710	23,652	54.11%
North Wildwood	1,046	816	78.01%
Ocean City	4,349	3,555	81.74%
Sea Isle City	1,387	1,124	81.04%
Stone Harbor	901	581	64.48%
Upper Township	38,907	14,599	37.52%
West Cape May	748	408	54.55%
West Wildwood	182	178	97.80%
Wildwood City	904	712	78.76%
Wildwood Crest	773	338	43.73%
Woodbine	5,105	0	0.00%
Cape May County	157,481	67,480	42.85%

The barrier island municipalities will be most significantly impacted by the IRZ in terms of percentage of total inundated land area, whereas the mainland municipalities will have significantly larger impacted acreage by the IRZ for which larger scale development will be

restricted, especially in terms of proposed new housing stock, as well as significant restrictions on redevelopment and renovation activities for communities along the Delaware Bayshore.

Any future residential buildings, or critical buildings and infrastructure development, redevelopment, or renovation within the IRZ will require substantial impact assessment, alternatives analysis, and risk acknowledgement as part of the land use permitting process, subject to NJDEP discretion, before the proposed activity can be authorized. As an example, NJDEP will request that the applicant examine all opportunities to ameliorate inundation risk on the site, bias development to the highest portions of the site, and/or fill portions of the site to elevate the proposed activity above the IRZ. However, as of the review of the REAL rule pre-proposal documents, it remains unclear what level of critical review and analysis will be applied to regulated activities in the IRZ and the extent to which this process will extend the application review period prior to NJDEP issuance of final decisions.

Climate Adjusted Flood Elevation (CAFE) is the predicted limit of coastal flood hazard areas with storm-induced flooding exacerbated by sea-level rise by year 2100

CAFE upper limit = current FEMA 100-year flood elevation + 5 feet

Diagram 4. Current FEMA 100-year (1%) Flood Elevation

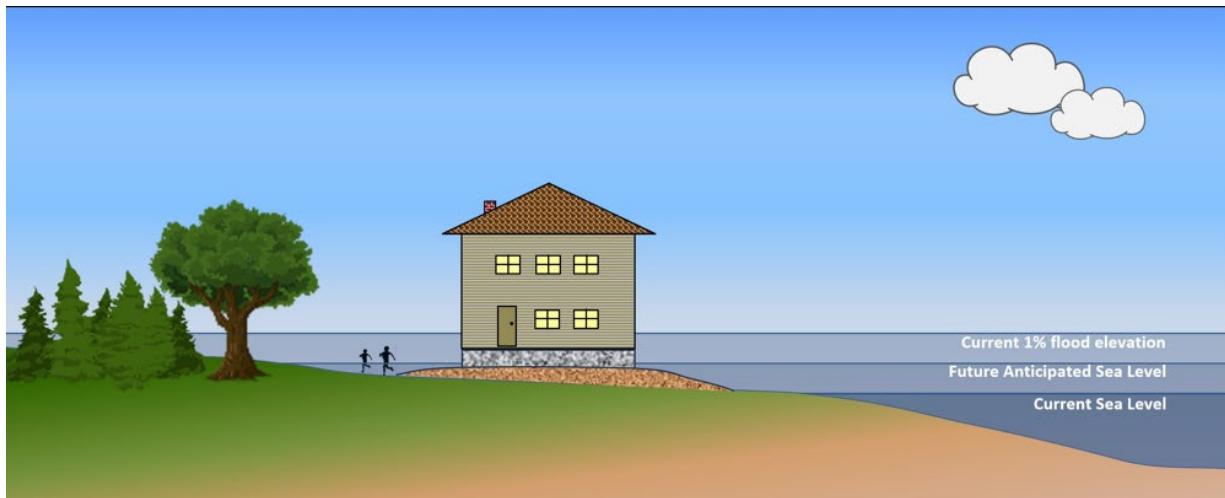
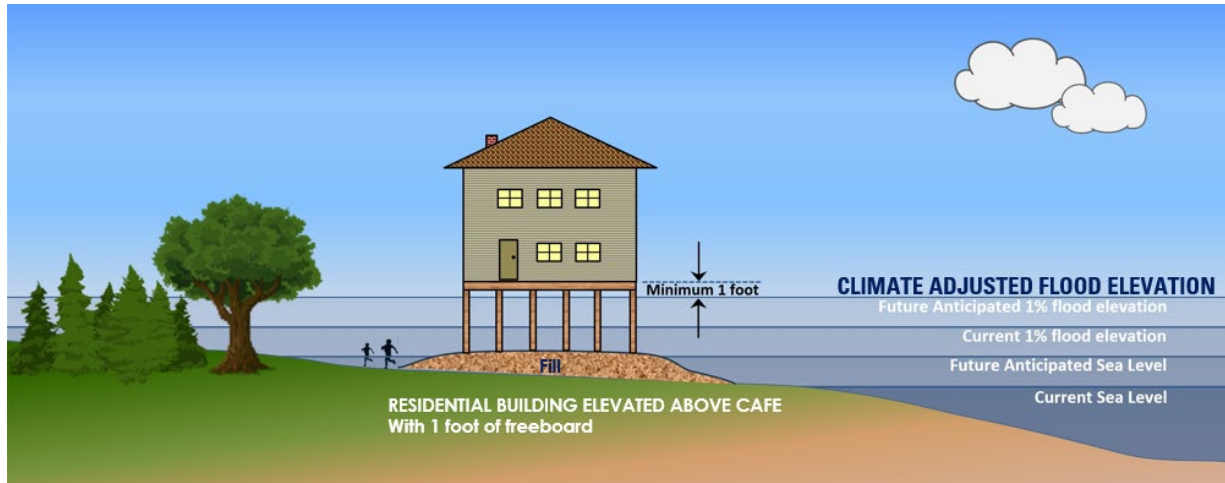


Diagram 5. Climate Adjusted Flood Elevation (Year 2100)



NJDEP's stated goal in establishing the sea-level specific regulatory restrictions is to discourage further development of barrier islands and low-lying mainland areas. By adding 5 feet to the existing FEMA-designated 100-year flood elevation, the REAL rule proposal will establish design criteria to adapt future development to predicted future flood elevation in anticipation of sea level rise and flooding from coastal storms. Through the issuance of land use approvals, NJDEP intends to leverage these opportunities to mitigate future anticipated damage resulting from flood events to renovated and proposed facilities. When proposing regulated development, redevelopment or substantial improvement renovations to habitable buildings and transportation infrastructure projects in the A Zone, the finished floor elevation must be at or above CAFE + 1 foot, and in the Coastal A or V Zones, the bottom of the lowest horizontal structural member must be at or above CAFE + 1 foot.

CAFE Impacts by Municipality and County

The establishment of the CAFE will have a disproportionate impact on land areas within the coastal zone. By extension, the CAFE will place additional land use restrictions on development within coastal communities thereby impacting the ratable base of those local units of government, as well as development trends (i.e., increased building and road heights, elevated construction costs). While NJDEP estimates that the REAL rule proposal will add only 1.5% more land area into regulatory flood zones, it does not account for the substantial impairment of lands in Cape May County.

As provided herein, the “NJDEP Proposed Climate Adjusted Flood Elevation Land Cover Analysis Mapping” (Sheets 0-5), prepared by The Lomax Consulting Group, dated June 24, 2024, depicts the extent of the existing FEMA-mapped 100-year flood hazard area limits, as well as the extent of the NJDEP-proposed flood hazard area set at 5 feet above the FEMA-designated limits in anticipation of predicted sea level rise as of year 2100. Table 3 below provides a summary of CAFE-impacted land areas (excluding surface waters) for the County as a whole and for each municipality. Of the 157,481 acres of land in Cape May County, the CAFE overlays 60.47% of the total. This expansion is an increase of 15.91% in affected land areas beyond current flood hazard area limits, with the understanding that lands within the pre-existing flood hazard area will inherit an additional 5 feet of regulated flood elevation restriction. The expanded flood hazard areas will cross the U.S. Route 9 corridor and overtop the Garden State Parkway and N.J. Route 47, the three major transportation arteries in Cape May County.

Table 3. Future Anticipated Sea Level (Year 2100)

Name	Total Land Area (Acres)	Current FEMA Tidal FHA (Acres)	NJDEP Proposed Climate Adjusted Flood Elevation (Acres)	% of Total Proposed FHA Land Coverage	% Change of FHA Land Coverage - Current vs. Proposed
Avalon	2,496	2,367	2,485	99.56%	4.73%
Cape May City	1,470	857	1,446	98.37%	40.07%
Cape May Point	178	140	177	99.44%	20.79%
Dennis Township	38,141	12,197	16,932	44.39%	12.41%
Lower Township	17,184	7,253	11,546	67.19%	24.98%
Middle Township	43,710	22,265	31,593	72.28%	21.34%
North Wildwood	1,046	1,038	1,046	100.00%	0.76%
Ocean City	4,349	4,135	4,345	99.91%	4.83%
Sea Isle City	1,387	1,340	1,385	99.86%	3.24%
Stone Harbor	901	800	900	99.89%	11.10%
Upper Township	38,907	15,555	20,795	53.45%	13.47%
West Cape May	748	413	717	95.86%	40.64%
West Wildwood	182	181	182	100.00%	0.55%
Wildwood City	904	892	903	99.89%	1.22%
Wildwood Crest	773	613	773	100.00%	20.70%
Woodbine*	5,105	130	8	0.16%	N/A*
Cape May County	157,481	70,176	95,233	60.47%	15.91%

*Note: current FEMA tidal FHA mapping for Woodbine does not include base flood elevation data and therefore not represented in NJDEP proposed climate adjusted flood elevation

Comments

Under the State's current Coastal Zone Management Rules (*N.J.A.C. 7:7*), Freshwater Wetlands Protection Act Rules (*N.J.A.C. 7:7A*), Flood Hazard Area Control Act Rules (*N.J.A.C. 7:13*), and Stormwater Management Rules (*N.J.A.C. 7:8*) significant regulatory restrictions already exist which provide NJDEP with substantial authority to regulate activities within the coastal zone. In large part, the anticipated REAL rule proposal sets forth even more stringent regulatory authority which is extraordinary in its far-reaching implications to stakeholders who live, work, and rely on development opportunity within the coastal zone.

The creation of a 5-foot Inundation Risk Zone compounded by the Climate Adjusted Flood Elevation in substantial measure is rooted in a predicted condition 75 years into the future without the opportunity for moderate incremental adaptation over the next half century during which adjustments could be accomplished for climate resiliency. Residential properties alone will likely experience at least 3 cycles of redevelopment (i.e., raze and rebuild) during the predicated 75-year period. The REAL rule pre-proposal focuses a majority of its restriction and resiliency action on residential properties within coastal communities instead of addressing an arguably greater need – public transportation infrastructure. Thus, the burden is shifted greatly to the private sector. State and federal investment in public transportation infrastructure (e.g., roads, bridges, railroads, etc.) is the logical starting point for which substantial improvements are needed.

In addition to the most notable elements of the REAL rule pre-proposal, referenced above, the anticipated regulations also expand jurisdictional reach to:

- provides regulatory relief to offshore wind developers allowing for disturbance to shellfish habitats that can be mitigated by way of monetary donation to the NJDEP Shellfish Mitigation Fund.
- require that all shore protection projects provide a detailed alternatives analysis of the consequences of project design to the overall functioning of the natural shoreline sand system even though the design standards shift to NJDEP-mandated nature-based solutions.
- expand the definition of major development for stormwater management to include 0.25 or more acres of existing motor vehicle surfaces reconstruction.
- require stormwater review as part of “major development” under Freshwater Wetlands applications even when such activity is not within regulated wetland or transition area.
- require the removal of existing impervious cover as part of Special Activity Waiver for Redevelopment despite reuse of existing disturbed/developed areas is the sole purpose of such a waiver.
- compound tidal and fluvial flood hazard area overlap with inflexible requirements for net fill mitigation.
- extend riparian zones into tidal flood hazard areas, including the non-oceanfront side of barrier islands.

Furthermore, the REAL rule pre-proposal establishes increased restrictions for the:

- elimination of Zane exemptions for previously existing structures which are evident in aerial imagery.
- removal of hard structural solutions as an option for shore protection unless proposed as hybrid design which also integrates nature-based solutions.

- prohibition of underground utility lines on beaches that were previously authorized as linear development.
- requirement to prepare and provide an Emergency Structure Removal Plan for temporary seasonal structures on the beach.
- reduction of riparian zone disturbance thresholds increasing the likelihood of mitigation and removal of flexibility for mitigation ratios.

The REAL rule pre-proposal compounds restriction on local units of government which negotiated in good faith and at great expense with the State to establish centers of development density to support residential obligations, in the form of affordable housing, centers of commerce to fuel the local economy and provide jobs to the County's residents, and designate areas in need of redevelopment, many of which have been strategically eliminated from previously approved planning constructs. The designation of "CAFRA Critical Environmental Sites" within centers, cores, and nodes, which downgrades available density even after prior zoning density reductions, is an unnecessary and economically punitive overreach. Existing regulations provide for adequate protection and affords NJDEP discretion to effectively regulate development in a manner that balances the purpose of the center with sensible environmental protections.

Sweeping regulatory reform warrants a comprehensive economic impact study to address flood insurance rate considerations and property tax implications, especially where building heights and viewsheds will be dramatically affected on barrier island communities where the majority of the County ratable base is located. Significant uncertainty exists in understanding the economic impacts that these regulatory changes can have on the affordability of housing for the aged and families with low and moderate incomes, insurance premiums, cost of living, existing and start-up enterprises, in addition to the costs/impact of other land use regulatory programs. Further, the State's economy is reliant upon seasonal and year-round business, which in order to prosper, must rely on a stable and predictable regulatory climate. It is for these reasons that a full economic analysis and cost-benefit assessment must be completed before advancing the rule proposal so that the true cost of these anticipated regulations can be quantified and an economic impact and compensatory mitigation plan advanced contemporaneously by the State to address these inherent costs to home and business owners, as well as local units of government in the coastal zone

Conclusion

Current land use application review timeframes are unprecedented in terms of length and iteration where NJDEP review staff is clearly overburdened. With such expansive regulatory authority and attendant assessments/analyses to be included in future land use applications as proposed by the anticipated regulations, a robust staffing plan will be needed by the State to subsume the additional workload for application review and timely issuance of decisions.

It is recognized that climate resiliency action is an important public interest consideration. Cape May County is uniquely positioned geographically to serve a role in this long-term planning commitment but more so as an engaged partner in the process instead of a recipient of disproportionate restriction when viewed in content. It is incumbent on the State government to pause this initiative in the best interests of its citizens and the State economy and engage the most impacted stakeholders in order to mature a reasonable and achievable approach to climate change planning. A more moderate regulatory approach with an interim sea level adjustment, while waiting for the latest FEMA mapping to be updated and issued, is a prudent initial step. Thereafter, the State, in partnership with its coastal zone stakeholders, can pursue a more

informed stepwise progression of climate change resiliency with a focus on public infrastructure as the initial effort for investment and design standards evolution after which residential, commercial, and industrial development can then initiate site improvements to connect into improved support systems.

In summary, it is recommended that the County and its 16 municipalities engage with the State and other interested parties to address the concerns and disproportionate impacts. There is a defined window for engagement, which will extend over the next 3 months, in order to provide comment and/or seek clarification or changes to the proposed REAL rule via public comment period, public hearings, and mobilization of affected stakeholders to address the deficiencies of the REAL rule proposal

The rule proposal is expected to be formally issued in July 2024 with an anticipated adoption for implementation in the 2025 season, although the State could accelerate that timeline to some extent. Although the rule proposal has not yet been published, now is the time to actively engage in this matter with the State to pursue the above recommendations and any additional modifications to the proposal.



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EXHIBITS



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EXHIBIT 1

“NJDEP/NOAA Predicted Sea Level Rise Inundation Risk Zone – 5ft Above MHHW, Cape May County, New Jersey”

**Prepared by The Lomax Consulting Group,
Dated June 11, 2024**



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EXHIBIT 2

“NJDEP Proposed Climate Adjusted Flood Elevation Land Cover Analysis, Cape May County, New Jersey”

**Prepared by The Lomax Consulting Group,
Dated June 24, 2024**

EXHIBIT 3

**“Summary of REAL Rule Pre-Proposal Review for
Technical Regulation Changes to:**

Coastal Zone Management Rules (N.J.A.C. 7:7)

Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A)

Flood Hazard Area Control Act Rules (N.J.A.C. 7:13)

Stormwater Management Rules (N.J.A.C. 7:8)

Inundation Risk Zone Required Analyses”

Prepared by The Lomax Consulting Group,

Dated June 24, 2024

REAL Rule Proposal integration into the Coastal Zone Management Rules (N.J.A.C. 7:7)

“Zane” Exemption Policy Reinterpretation: Existing exemptions provided for under the Waterfront Development section of the Coastal Zone Management Rules which allows for the repair, replacement, renovation, or reconstruction, in the same location and size of any dock, wharf, pier, bulkhead, or building, legally existing prior to January 1, 1981, will be restricted to only legally existing structures which still currently exist upon adoption of the REAL rule proposal. No longer will the NJDEP approve such exemptions where the prior existence of such structures, which could be reconstructed for the benefit of present-day owners, can be demonstrated by historic aerial imagery.

Conversion of Permits-by-Rule to General-Permits-by-Certification for Residential and Commercial Development: The REAL rule proposal will repeal existing Permits-by-Rule 1, 2, 6, and 7, whereby no permit application submission was previously required, for residential and commercial development in limited circumstances. NJDEP will now require that these same activities be authorized by new General-Permits-by-Certification 5, 6, 7 and 8 for which permit application documents must be prepared, made available for inspection, and an application be submitted to NJDEP in order to ensure that such development can be tracked and, if required, inspected for compliance with location, elevation, and flood-proofing standards.

General Permit 22 Emergency Structure Removal Plan: NJDEP will require that the construction of temporary, seasonal structures related to the tourism industry under General Permit 22 prepare and provide an Emergency Structure Removal Plan, which shall include: a detailed description how the structures will be removed including a timeline showing removal can be accomplished within 24 hours of a Severe Weather Alert; the identity and contact information of parties responsible for removal and relocation of the structures and proof of agreement for such services; a list of equipment that will be needed and confirmation of the responsible parties’ access to such equipment which accounts for competing needs during storm events, and the location to which structures will be moved.

Accommodations for Renewable Energy Installations: The Submerged Cable rule will be updated to facilitate wind farm development with standards for the location and installation method of submerged cables, including the cable burial depth of at least 2 meters deep in commercial grounds and at least 4 meters deep commercial shipping anchorages. An alternatives analysis will be required to select the least impactful cable installation methodology, including jet-plowing or trenching (typically discouraged) versus horizontal directional drilling (preferred). Wind developers may complete a risk assessment and associated mitigation plan to deviate from the regulatory standards. Mitigation for shellfish and marine fish habitat disturbance resulting from installation activities can be accomplished via restoration or monetary donation to the NJDEP Shellfish Mitigation Fund. Monetary amounts will be determined based on total area of impact, shellfish density, and commercial value of the impacted shellfish resource. The Shellfish Habitat rule will be updated to allow for the installation of submerged cables through shellfish habitat provided mitigation is completed. This allowance for cable installation within shellfish habitat, which is offset by mitigation, shall demonstrate that the installation is in the public interest, there is no practical or feasible alternative alignment, and measures will be implemented to minimize and compensate for impacts to shellfish habitat.

Submerged Vegetation Habitat Mooring Area Standards: The NJDEP will amend its existing Submerged Vegetation Habitat rule to address construction of noncommercial docks or piers whereby specific standards will designate a minimum water depth of four feet at mean low water in the area of the most waterward ten feet of the dock to accommodate boat mooring as opposed to such depths of the entirety of the mooring area.

Engineered Dunes: With the common practice of beach and dune renourishment projects and in anticipation of large-scale projects expected to commence in the coastal zone, which shall be undertaken by state and federal agencies, the Dune rule will be amended to clarify that the construction of, and on-going presence of, engineered dunes does not deregulate or devalue natural dune systems. Such dune areas will continue to be protected pursuant to the rule.

Prohibition of Subsurface Utility Lines on Beaches: The Beaches rule will prohibit all subsurface utility lines on beaches out of a concern that it encourages development, is at risk of erosional storm damage, and may interfere with beach renourishment and shore protection projects with the exception of hotels/casinos in Atlantic City. Subsurface utility lines were previously authorized activities on beaches under the linear development category, and have proven to be necessary for public health, safety and welfare where such utility placement could not be accomplished within the existing streetscape of coastal communities.

State Planning Commission Formal Actions Engagement for Subchapter 13 Compliance: Through Subchapter 13 changes as part of the REAL rule proposal, NJDEP will be formalizing a process to review the State Planning Commission formal actions and determine consistency with CAFRA and the Coastal Zone Management Rules and State coastal policy goals. The REAL rule proposal will extend this review period from 90 to 120 days and include a new proposed definition for “*Formal action by the State Planning Commission*”, which means, “*the approval of any new or changed Planning Area boundary, community development boundary, any new or changed site boundary; or the expiration or extension of any new core or node boundary, or any new or changed critical environmental or changed Planning Area boundary, community development boundary, any new or changed core or node boundary, or any new or changed critical environmental site boundary as per N.J.A.C. 5:85-1.1 et seq., which establishes the period of endorsement to be 10 years.*” NJDEP is proposing to include the expiration and extension of approved boundaries as formal actions even though these actions may be considered passive by the State Planning Commission. Formal action by the State Planning Commission will trigger NJDEP to take action to ensure that the State Planning Commission action is consistent with the coastal goals before implementation (cross acceptance) into the Coastal Zone Management Rules. The NJDEP will seek to exclude environmentally sensitive areas such as wetlands, threatened and endangered species habitat, and flood prone areas from a proposed center, core or node. Where such exclusions are not possible due to the need for contiguous land areas, NJDEP will designate “CAFRA Critical Environmental Sites”, which will downgrade the prevailing development intensity within the center, core or node to align with the Environmentally Sensitive Planning Area limits. NJDEP is creating “CAFRA Critical Environmental Sites” in parallel to “Critical Environmental Sites” designated by the State Planning Commission and establishing attendant regulatory restriction for those areas. “Critical Environmental Sites” means an area generally greater than two acres and less than a square mile depicted on the State Plan Policy Map, which includes one or more critical environmentally sensitive features located either outside of a planning area classified as environmentally sensitive by the State Development and Redevelopment Plan or within designated centers located within such planning areas. NJDEP will

require more restrictive standards that would supersede the existing center designation allowances for impervious cover and tree preservation. Impervious cover will be reduced from a large percentage of total land area to 3% of net land area, and tree preservation will be increased from a small percentage to 70% tree preservation for forested sites combined with an additional 5% tree preservation and/or planting for unforested portions of the site. Upon adoption of the Real rule proposal, some centers, previously adopted by rule, which are not presently covered by an existing 10-year plan endorsement and cross acceptance will be expired and the corresponding land areas will revert back to the underlying planning area, with the exception of Atlantic City.

Nature-Based Solutions for Bank Stabilization and Shore Protection: With the likelihood of filling along coastal waters to address the design requirements for IRZ and CAFÉ +1 foot and with anticipated sea level rise, the NJDEP will adhere to its Coastal Engineering rule and the hierarchy of stabilization methods whereby by non-structural shore protection and storm damage reduction measures that allow for the growth of vegetation must be used unless it is demonstrated that use of non-structural measures is not feasible or practicable. NJDEP will now require all shore protection applications, not just those receiving federal or state funding, to provide a detailed alternatives analysis for the proposed design and an analysis of the consequences of proposed project design to the overall functioning of the natural shoreline sand system. Project designs shall mimic natural structures for shore protection, shoreline enhancement, and wetland restoration, and shall use natural features and materials to address flooding and erosion issues and to create and restore habitat. NJDEP contends that the use of hard structural solutions (i.e., bulkheads and seawalls) exacerbate erosional conditions, and are therefore discouraged. NJDEP will only consider hard structure when proposed as a hybrid design in concert with nature-based solutions, and only in areas where necessary. An alternatives analysis is required for design methodology when structural solutions are proposed, even in hybrid designs, which may include shell bags, rock, and the beneficial reuse of dredged material. Even reconstruction of an existing bulkhead will require an individual permit accompanied by a full design analysis and impacts assessment to the overall functioning of the natural shoreline sand system in the vicinity of the project. Existing general permits for shoreline stabilization and construction of nature-based solutions will be modified to accommodate expanded project types, remove prerequisite sponsorship requirements, allow greater flexibility in the footprint of restored shoreline, but eliminate the use of non-native materials. Projects will require a construction completion report to summarize the baseline for use in in future years' assessment of success metrics and/or the need for supplemental actions to achieve the project goals. General permits cannot exceed the limit of the mapped tidelands extent but can change the shape of the restored shoreline landward of the tidelands limit. Individual permits can exceed the tidelands mapped limit area so long as it can be justified via minimization of impact and overall benefit of the project to the natural system. Additionally, a new general permit for nature-based solution research projects will be proffered but only for use by selected entities approved to test developing nature-based technologies.

REAL Rule Proposal integration into the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A)

“Major Development” Stormwater Management Expanded Applicability: The REAL rule proposal will expand the applicability of “major development” for NJDEP stormwater management review to include any project which results in “major development” (i.e., disturbance of 1 or more acres of land, or creation of 0.25 or more acres of impervious surface, or creation of 0.25 or more acres of motor vehicle surface, or reconstruction of 0.25 or more acres of motor vehicle surface or impervious surface) and for which a Freshwater Wetlands permit application is required irrespective of whether that the disturbance or impervious cover is located in wetlands or transition area.

Freshwater Wetland Disturbance Minimization and Proposed Activity Justification: NJDEP will require that applicants justify all proposed wetlands impacts, even for General Permit authorizations, as being necessary for conducting a project regardless of available disturbance threshold limits. Project design must minimize impacts and maximize protections to wetlands resources and demonstrate that there is no other practical on-site configuration that would avoid or reduce impacts to wetlands or State open waters.

Horizontal Directional Drilling as a Regulated Activity: The NJDEP will no longer provide an exemption for horizontal directional drilling under General Permit 2 for underground utility lines. Instead, this technology, which was developed in large part to avoid disturbances to sensitive areas, will now require a full permit application review under the REAL rule proposal.

Transition Area Restoration Requirements for Special Activity Waivers and Transition Area Waiver Expanded Minimum Setback: As part of approvals for Special Activity Transition Area Waivers, NJDEP will require the removal of existing impervious surfaces where practicable within 25 feet of the wetlands and restoration of vegetation closest to the wetlands where reuse and redevelopment of existing disturbed transition area is proposed. Additionally, as part of Transition Area Waivers for Buffer Averaging, a 25-foot minimum setback will be required from wetlands whereas 10 feet is currently permitted. NJDEP will require that all modified transition areas to be protected by conservation restriction, not just expanded transition areas.

Climate Change Sensitivity for Mitigation Project Design: Under the REAL rule proposal, mitigation projects must be designed to account for the effects of climate change. Proposed locations, topography, species selection, hydrology, etc. must consider and design for anticipated future conditions including changes in precipitation patterns, fluctuations in groundwater, erosional risk areas, likelihood of tidal inundation, etc.



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REAL Rule Proposal integration into the Flood Hazard Area Control Act Rules (N.J.A.C. 7:13)

Repeal of Riparian Zone Disturbance Exemption within a Truncated Portion of a Riparian Zone: NJDEP will remove the existing exemption for riparian zone disturbance within a truncated portion of a riparian zone where an existing railroad or roadway separates the feature from the waterway and no direct discharge of stormwater into waterway occurs in order to provide greater protections to riparian zone vegetation and improve water quality.

Expansion of Riparian Zones: The REAL rule proposal establishes riparian zones in new locations, including along human-made channels less than 50 acres of drainage for protection of vegetation and enhanced water quality. Riparian zones will be required on all naturally occurring waters within a discernible channel (i.e., bed and bank) regardless of drainage area or surface connectivity. Additionally, riparian zones will be newly established along the non-oceanfront side of barrier islands to improve water quality and provide greater protections to back bays, yet redevelopment of existing disturbed areas will continue to be allowed within limits.

Riparian Zone Expansion for Critically Dependent Listed Species: NJDEP will apply a 150-foot riparian zones to waters flowing through a flood hazard area which is designated for critically dependent listed species in the floodplain, not just the species connected to the waterway itself.

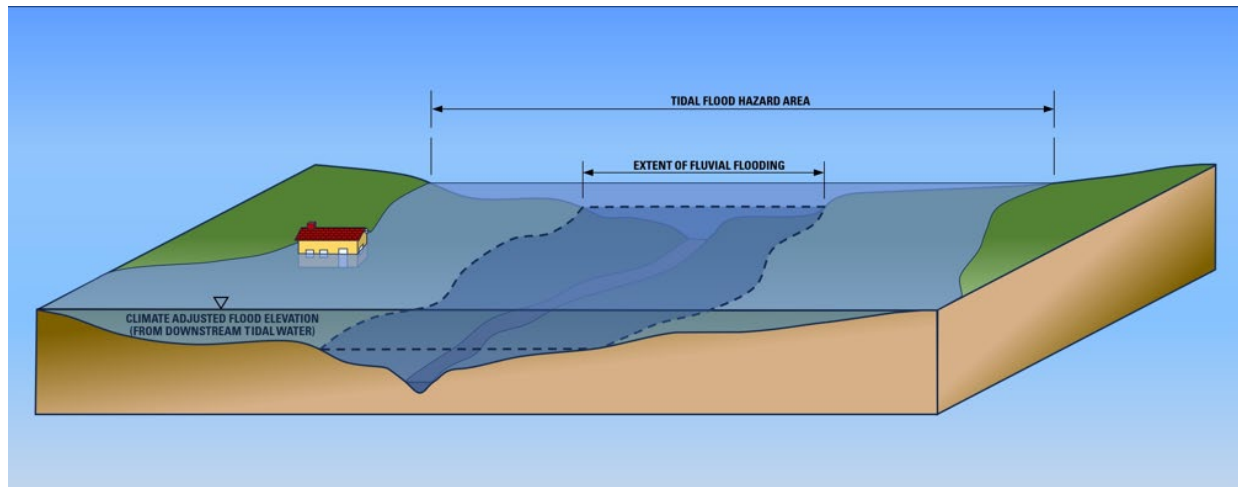
Mandatory Setback of 25-feet: NJDEP will restrict the limits of construction establishing a 25-foot minimum setback from any top of bulkhead, retaining wall, revetment, or top of bank.

Repeal of Existing General Permits for In-kind Replacement of Bridges and Culverts: The REAL rule proposal will repeal the existing general permitting pathway for in-kind replacement of bridges and culverts because NJDEP wants to improve the condition and future resilience of existing infrastructure and sensitivity to listed species. Therefore, future bridge and culvert replacements will require individual permits and an associated analysis of listed species and habitat impacts, low flow aquatic passage, flood volume design evaluation, and a comprehensive engineering assessment of alternatives.

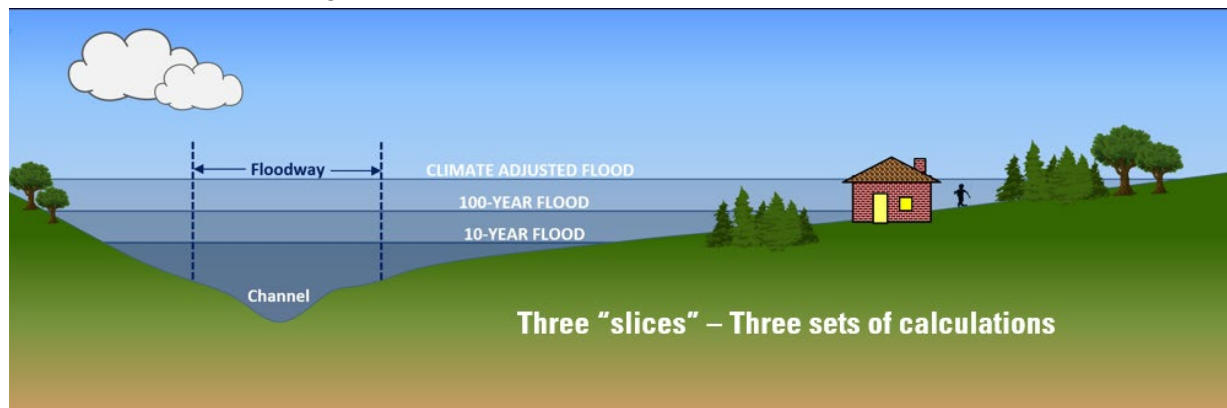
Horizontal Directional Drilling as a Regulated Activity: The NJDEP will no longer authorize horizontal directional drilling under Permit-by Rule 36 for underground utility lines. Instead, this technology, which was developed in large part to avoid disturbances to sensitive areas, will now require a full General Permit 12 application review under the REAL rule proposal.

Floodproofing and Areas below the CAFE + 1 foot: Commercial and industrial buildings located in the CAFE can be elevated, similarly to residential buildings or floodproofed, or both. Habitable areas for all buildings must be designed to keep water out of buildings via dry floodproofing measures. Enclosed areas below the lowest floor can be wet floodproofed (e.g., crawl space with flood vents) whereby water may temporarily enter the building to balance hydrostatic pressure. In Coastal A Zones and V Zones, no permanent enclosures are permitted below CAFE +1 foot; however, areas below the lowest floor can be used for parking, building access, and limited storage areas. A short form Risk Acknowledgement will be required as part of application submission to be incorporated into NJDEP decision documents such that formal notice is permanently attached to the title of ownership.

Tidal and Fluvial Flood Hazard Areas Overlap: The addition of flood design height via the IRZ and CAFE results in areas where an overlap exists between tidal and fluvial flood hazard areas. Floodplain hydrology is driven by stormwater runoff into the fluvial flood hazard area and then coupled with tidal flooding from back bay systems as part of the tidal flood hazard area.



Fluvial Flood Storage Displacement Evaluation: Where fluvial flood hazard areas exist, including locations of fluvial and tidal overlap, net fill mitigation analysis will require 3 separate net fill evaluations, one “slice” for the area below the 10-year flood limit, one “slice” for the area between the 10-year flood limit and the design flood elevation, and now a third “slice” for the area between the 100-year flood limit and the CAFE. Where net fill evaluation “slices” are determined to be tidal, no net fill mitigation is required.



Dry Access to Buildings during Flood Events: NJDEP will issue individual permits to construct critical buildings, multi-residence buildings, and two or more single-family homes or duplexes or the conversion of any building into these uses only if the building is served by a roadway with a travel surface above the CAFE and is of adequate size and capacity to provide two-way traffic to and from the building for the duration of the flood. The exception is for a building that is located in a tidal flood hazard area, not overlapped by fluvial flooding, infeasibility to raise the roadway surface can be demonstrated, and the property is covered by a deed notice which reports the extent to which flooding will impact access to the site. Construction or reconstruction of a road or parking area in fluvial or fluvial tidal overlap flood hazard areas which serves a critical buildings, multi-residence buildings,

and two or more single-family homes or duplexes must have a travel surface above the CAFÉ unless there is an alternate roadway which is at least one foot above the CAFE and which is of adequate size and capacity to provide two-way traffic to and from the building for the duration fo the flood. Roadways, railroads, parking areas, and airport runways and taxiways must be constructed above the CAFE +1 foot or as close as possible after having demonstrated that that strict compliance cannot be achieved due to prohibitively high construction costs, resultant design which necessitates excessive volumes of fill that exceed the flood storage displacement limits, resultant design that does not meet transportation safety, design and access standards, or that would generate unavoidable adverse environmental impacts, or that exacerbates flooding, all of which must be certified by an NJ-licensed P.E. New or reconstructed roadways or expanded sections of roadways or parking areas which are located below CAFE +1 foot shall include permanent signage ideintifying the risk of flooding. Where road raising requires filling of wetlands, ratios remain the same but IRZ compliance can be used as a reason to fill wetlands for public purposes; however, mitigation is neither waived or reduced.

Reduction of Available Riparian Zone Disturbance Thresholds and Climate Change Sensitivity for Mitigation Project Design: NJDEP will reduce the current available riparian zone disturbance thresholds, which increases likelihood of mitigation requirements to offset disturbance. An assigned 50-foot riparian zone will be limited to 4,356 SF and a 150-foot riparian zone will be limited to 2,000 SF (individually or cumulatively for each). Disturbance in excess of these area thresholds will require mitigation, and such projects must now account for the effects of climate change. Under the REAL rule proposal, mitigation projects must be designed to account for the effects of climate change. Proposed locations, topography, species selection, hydrology, etc. must consider and design for anticipated future conditions including changes in precipitation patterns, fluctuations in groundwater, erosional risk areas, likelihood of tidal inundation, etc. Additionally, NJDEP will standardize fixed mitigation ratios as being 1:1 for creation, 2:1 for restoration, and 3:1 for enhancement without the possibility of adjustment downward even when a lesser ratio would provide equal ecological function and value.

Requirements for Regulated Activities in a FEMA-adopted Regulatory Floodway and/or FEMA-adopted Special Flood Hazard Area: Under the REAL rule proposal, before a person undertakes an activity authorized under a permit-by-registration, and prior to the Department issuing an authorization under a general permit-by-certification or general permit, the registrant or applicant must take certain actions. First, where activities are proposed within a FEMA-adopted regulatory floodway, and the activities would result in “no net increase” to the 100-year flood elevation, the registrant or applicant must provide an engineering certification to the local floodplain administrator having jurisdiction over the site confirming that the project will meet FEMA’s no rise criteria. This is important to ensure that development within and adjacent to delineated floodways does not exacerbate flooding. Second, where activities are proposed within a FEMA-adopted regulatory floodway, which would result in a net increase to the 100-year flood elevation, the registrant or applicant must apply for and obtain a Conditional Letter of Map Revision (CLOMR) from FEMA. In both scenarios, a “net increase” in the flood elevation is equated with any anticipated change in the water surface profile of greater than 0.00 feet. A third scenario exists in which activities are proposed within a FEMA-adopted special flood hazard area that does not include mapping of the regulatory floodway. In this case, if a project, when combined with all other existing and anticipated development within the flood hazard area, would result in a cumulative increase of greater than 0.20 feet in the 100-year flood elevation, the registrant or applicant shall apply for and obtain a CLOMR from FEMA.

REAL Rule Proposal integration into the Stormwater Management Rules (N.J.A.C. 7:8)

Regulatory changes are in reaction to NJDEP-accepted climate science which indicates that over the last 50 years, storms that resulted in extreme rain increased by 71% in New Jersey, which is a faster rate of increase than anywhere else in the United States (Huang et al., 2017). Stormwater management facilities that were originally designed based on historical rainfall patterns will become increasingly unable to manage future storm events thereby increasing the risk of flooding to the surrounding community. The goal is to decrease stormwater volume and improve pollutant removal in stormwater, and the REAL rule will have additional benefits such as reducing combined sewer overflow incidents and improving water quality throughout the State.

“Major Development” Stormwater Management Expanded Applicability and Municipal Compliance: The REAL rule proposal will expand the applicability of “major development” for NJDEP stormwater management review to include any project which results in “major development” (i.e., disturbance of 1 or more acres of land since February 2, 2004, or creation of 0.25 or more acres of impervious surface since February 2, 2004, or creation of 0.25 or more acres of motor vehicle surface since March 2, 2021, or reconstruction of 0.25 or more acres of motor vehicle surface or impervious surface since the effective date of the REAL rule adoption, or any combination of the 0.25 or more acre categories above). Additionally, municipalities will be required to change their ordinances within 1 year of the REAL rule adoption, as applicable, to match the NJDEP definition of major development. Reconstruction means the replacement, rebuilding or restoration of a lawfully existing structure, which does constitute a disturbance that counts towards “major development”.

Water Quality Treatment for Motor Vehicle Surface: Redevelopment, which triggers “major development”, requires water quality treatment for motor vehicle surfaces even if there is not a net increase of ¼ acre. NJDEP’s stated goal is to undo impairments due to historic development where there is an opportunity to overhaul and bring former facilities into compliance with current standards. The REAL rule proposal intends to address environmental justice concerns for overburdened communities with degraded water quality and unmanaged stormwater runoff.

Disturbance Definition Clarified for the Purposes of Available Exemptions: In amending the definition of “disturbance”, NJDEP will clarify certain maintenance/repair activities, which are not subject to the Stormwater Management Rules and which neither constitute disturbance nor count towards “major development”, and include: milling and repaving, and patching broken pavement; repairing or replacing sidewalks, median barriers, curbs, inlets, and guiderails; repairing or replacing traffic, utility and ITS structures on poles, such as overhead signage and traffic signals; geotechnical and archeological investigation activities; installation of one or more monitoring wells; construction of a gauge, weir, or similar device; and removal of accumulated sediment and debris from a channel.

Climate Resilience for Regional Stormwater Management Planning Area and Municipal Stormwater Management Plan and Elements: NJDEP will require the planning agencies of local units of government to address climate resilience by evaluating climate change impacts of stormwater management including sea level rise, increased flooding frequency, and increased extent and intensity of rainfall as part of their own plans. Additionally, local units of government will be required to identify areas and infrastructure which are vulnerable to sea level rise and flooding and establish measures including green infrastructure to mitigate these impacts.

Revegetation of Temporarily Disturbed Areas: NJDEP will require that development projects which are exempt from groundwater recharge, stormwater runoff quality, and stormwater runoff quantity must revegetate temporarily disturbed areas upon completion of the project, specifically those projects which include the construction, reconstruction or repair of underground or above ground utility lines or cables and its ancillary infrastructure, or the construction, reconstruction or repair of pedestrian walkways, the maintenance of dams, or public safety improvements undertaken by a public transportation entity (e.g., installation of guiderail systems, impact attenuators, pole-mounted traffic sign or utilities, railroad signaling systems, rockfall mitigation activities).

95%TSS Removal Rate for Linked Discharges to Category-One Waters and Tributaries: NJDEP will require projects, which discharge into a conveyance outside of the 300-foot riparian zone but one that ultimately discharges into Category One waters, to meet the TSS removal rate at 95% for discharge along Category-One waters and tributaries just the same as though the linkage was located within the 300-foot riparian zone.

80% TSS Removal Rate for Public Transportation Entities: NJDEP will afford public transportation entities flexibility when achieving 80% TSS removal is not practicable provided the public transportation entity demonstrates that achieving 80% TSS removal for a public roadway project would require acquisition of developed or otherwise encumbered land outside of the entity's existing right-of-way along the section of roadway being improved or constructed. The public transportation entity shall instead provide water quality treatment to the maximum extent practicable, with a minimum water quality treatment standard of 50% TSS removal for all new and reconstructed motor vehicle surfaces.

Additional Measures to Address TMDLs: For municipalities located in a watershed that has established, approved, or adopted Total Maximum Daily Load (TMDLs), the REAL rule proposal requires that major developments incorporate additional measures to address the established, approved, or adopted TMDLs. The TMDL represents the assimilative or carrying capacity of a waterbody, taking into consideration point and nonpoint sources of pollutants, natural background levels of pollutants, and surface water withdrawals. A TMDL quantifies the amount of a pollutant a waterbody can accommodate without violating water quality standards. Additionally, it allocates that loading capacity to known point sources in the form of Waste Load Allocations (WLAs) and to nonpoint sources in the form of Load Allocations (LAs) and includes a margin of safety and optional consideration for reserve capacity.

Reduction of Runoff Volumes: NJDEP will require projects to demonstrate compliance with Stormwater Runoff Quantity Standards by requiring reduction of runoff volumes to ensure a portion of stormwater volume (particularly in more frequent, smaller storm events) will not be discharged offsite and instead addressed by on-site design adjustments. NJDEP asserts that this will help reduce local and regional flooding. Where volumetric reduction of runoff onsite is demonstrated to be technically impracticable, an applicant can instead remove existing impervious surfaces within the same HUC 14.

Inundation Risk Zone Required Analysis

Impact Assessment of Potential Permanent or Daily Inundation (establishes pertinent elevation data affecting development activity)

- MHHW elevation nearest the site
- Minimum amount of inundation that would cause the lowest portions of the site to be inundated on a regular basis (i.e., daily or seasonal tides)
- Maximum depth of inundation on the site
- Minimum amounts of inundation that would cause the lowest portion of the primary roadway providing regular or emergent access to the site to be inundated daily
- Maximum depth of inundation on the roadway providing access to the site

Impact Assessment of Inundation Risk (analyzes the potential adverse impacts of inundation on the site of the regulated activity)

- Inventory injury to, or loss of life of, people inhabiting or relying upon the subject building or infrastructure due to inundation, including the risk that individuals may become isolated from evacuation routes.
- Damage to, or loss of use of, the subject building or infrastructure due to inundation, including the potential for disruption of public transportation, government services, or commerce.
- Increases in short- and long-term costs due to inundation, such as potential costs associated with evacuation, storm response and recovery, including the potential costs of operation, maintenance, repair, replacement, reconstruction, demolition, and removal of structures.

Alternatives Analysis (demonstrates the use of all reasonable measures for accomplishing the project and avoiding/reducing adverse impacts on public health, safety, and welfare, and the environment)

- Alteration of on-site topography to reduce or eliminate inundation of the project but not in a manner that would adversely impact adjoining properties.
- Alternative on-site configurations that reduce or eliminate inundation of the project, such as locating as much of the project as practicable outside the inundation risk zone or upon portions of site where less inundation is anticipated.
- For buildings designated as Flood Design Class 4, and critical infrastructure, the applicant demonstrates that there are no practicable alternative off-site locations to accomplish the purpose of the proposed regulated activity that would meet the requirements of this section.

Facility Types

- Residential Buildings are very likely to be occupied during flooding events and therefore need to account for resiliency via planning and construction
- Critical Buildings are ASCE Flood Design Class 3 and 4 buildings include schools, fire and police stations, medical facilities, correctional facilities, power-generating stations, critical aviation facilities, etc. (i.e., facilities likely to be occupied during flooding events) and important for recovery after storm events.

- Critical Infrastructure are community assets necessary for emergency response and recovery during and after a flood, or that pose a risk to public health, safety, and welfare should they be damaged or unable to perform intended functions.
- Residential Building Exception: for repair and maintenance activities that do not alter the building height, footprint or habitable area
- Facility Exemptions for: commercial, recreational, entertainment, hospitality and gaming
- Transportation infrastructure Exception: for minor drainage improvements of stormwater collection where no changes to the road surface or elevation is necessary, for safety or state of good repair improvements, public transportation projects having reached a milestone of progress which protects it from rule changes

FEMA Flood Zones and Related Terms Graphic

