BUILDING A WALL TO KEEP OUT THE SEA: SUPERSTORM SANDY AND THE TAKINGS DOCTRINE

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INTRODUCTION

Harvey and Phyllis Karan are an elderly couple who own a beach house in Harvey Cedars, a small town on Long Beach Island in Ocean County, New Jersey. Before a massive public works project, they enjoyed sitting on their deck and watching their grandchildren play on the beach. In the late 1990s, the Army Corp of Engineers ("Corps") agreed to undertake a beach replenishment project in Harvey Cedars. The plan was to expand the beach to 125 feet and build dunes at least twenty-two feet above sea level. The project required almost three million cubic yards of sand to be dredged from offshore sites and pumped onto the beach at a cost of almost twenty-six million dollars. The plan also proposed to replenish the beach and dunes with more sand, as the need arose, for the next fifty years.

The project seemed like a Godsend to some in Harvey Cedars but the Karans were not interested. In order for the project to proceed, beachfront owners had to sign easements giving the government the right to build the dunes partly on their property. Part of the dune was built on private beachfront properties. The crest of the dune

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1 John Seabrook, The Beach Builders: Can the Jersey Shore be Saved?, NEW YORKER, July 22, 2013, at 44.
2 Id.
4 Seabrook, supra note 1, at 44.
5 Id.
6 Id.
7 Id.
8 Id.
would block homeowners' views of the ocean from the main floor, unless the house was elevated. The proposed easements would also allow the Corps and the State of New Jersey the right to access the property "in perpetuity" for dune maintenance. The majority of residents in Harvey Cedars signed the easements but twelve property owners, including Harvey and Phyllis Karan declined.

Notwithstanding the refusal of the Karans and others to voluntarily provide the easements sought for the project, the project went forward as planned. Now the Karans sit on their deck and look out at a pile of sand. The couple can no longer watch their grandchildren play on the beach from their deck. They believe the public works project reduced the value of their $1.9 million home by approximately $500,000. The town offered $700 for their property rights, arguing that the project protected their home and actually increased the value of their property.

The Karans filed suit and a jury heard their case in 2011 and awarded damages of $375,000. The matter was appealed. Shortly before the New Jersey Supreme Court decided the case, Superstorm Sandy ("Sandy") ravaged the New Jersey coastline. The Karans' property suffered very little damage in large part due to the dune the Corps had built.

The New Jersey Supreme Court decision in Harvey Cedars v. Karan marks a new beginning in New Jersey partial takings jurisprudence. Prior to Harvey Cedars, juries were only permitted to weigh the benefits that befell the property owner specifically and not the general community. Following the Harvey Cedars decision, juries must consider reasonably calculable benefits of the partial taking to

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9 Id.
10 Id.
11 Id.
12 Id.
13 Id.
14 Id.
15 Id.
16 Id. at 48.
17 Despite its disastrous impact, the weather system was technically a superstorm, not a hurricane. Al Conklin, What's in a Name? Sandy: Hurricane or Superstorm?, WBTV.com, Mar. 27, 2013. ("While Sandy appeared to almost everyone to be a hurricane, the fact is, by definition, just before landfall, the storm lost its tropical characteristics.").
18 Seabrook, supra note 1, at 48.
19 Id. at 44–45.
20 70 A.3d 524 (N.J. 2013).
22 Id.
the homeowner, even if these benefits accrue to the community as well. Having relegated the distinction between special benefits and general benefits to the dustbin of history, the Harvey Cedars decision is of paramount importance in New Jersey as state and local entities make decisions regarding rebuilding on the New Jersey coast after Sandy.

This Comment discusses the current battle over the post-Sandy restoration plan in coastal communities such as Mantoloking, New Jersey, another Ocean County shore town, north of Harvey Cedars. Mantoloking was one of the hardest-hit Sandy-damaged areas. It had not received a public works project like the one in Harvey Cedars prior to Sandy. Some of the greatest damage in Mantoloking came from an ocean breach that formed an inlet from the Atlantic Ocean through the narrow barrier island town to the Barnegat Bay. This breach destroyed the houses, roads, and other infrastructure in its path. According to one observer, "[f]our months after the storm, the place still looks like it was just bombed. Huge mansions lie splintered. Some houses are cracked in half with their innards revealed: TVs, rugs, lamps, books, and furniture." Fifty hurricane-destroyed houses were demolished including three houses that were washed off their foundations and pushed into the Barnegat Bay.

23 Id. at 518–19.
25 David Gessner, After Hurricane Sandy, One Man Tries to Stop the Reconstruction, OUTSIDE MAGAZINE, Oct. 8, 2013 (calling Mantoloking "ground zero for Sandy destruction").
26 Seabrook, supra note 1, at 44.
28 Id. ("At the epicenter of Sandy's destruction, Mantoloking had about 200 of its 521 homes either washed away, destroyed or in need of demolition. The storm surge that breached the narrow dunes in four places also destroyed Route 35 and the eastern end of the Mantoloking Bridge . . .").
29 David Gessner, After Hurricane Sandy, One Man Tries to Stop the Reconstruction, OUTSIDEONLINE.COM, Oct. 8, 2013.
30 Wayne Parry, Mantoloking, New Jersey, Sandy-Damaged Beach Community, Begins Demolishing Homes, HUFFINGTON POST, May 10, 2013; see also Demolition Work Starts on House That Was Swept into Bay by Hurricane Sandy in Mantoloking, N.Y. POST, May 2, 2013 ("Works crews on Thursday began demolishing a house that was washed into the Barnegat Bay by the violent surge from the Oct. 29 storm. It was one of eight virtually intact homes that the storm washed into bays around the state; work on removing the others will begin soon.").
This Comment analyzes the environmental and legal implications of the post-Sandy restoration plan in New Jersey. It specifically examines the Mantoloking Seawall Project. In Part II, this Comment considers the unique environmental concerns for barrier island communities like Mantoloking. In Part III, this Comment discusses the legal implications of the Mantoloking Project by considering the Public Trust Doctrine that preserves beaches and navigable waters for the public. New Jersey has a particularly robust public trust doctrine. The doctrine requires the preservation of public beaches. The legal implications of takings are likewise important in post-Sandy restoration.

In Part IV, this Comment considers the legal implications of the Takings Doctrine. The power to take private property for the public good is an ancient and invaluable tool of the government. This powerful tool of eminent domain is kept in check by constitutional and statutory protections. In New Jersey, this power is subject to (1) the New Jersey Constitution, Article 1, Section 20 that requires just compensation for a taking and (2) the Eminent Domain Act, N.J. Stat. § 20:3-1, which details the process a governmental entity must follow in order to take private property through an eminent domain proceeding.

Part V discusses eminent domain and its requirement of due process. Ultimately, this Comment will conclude that the plan to build a steel sea wall in Mantoloking, New Jersey is legally permissible as long as the proper eminent domain proceedings are followed. However, Part VI discusses how the Mantoloking Project is not ecologically sound and may lead to legal difficulties in the future.

This Comment will go on to analyze an alternative solution in Part VII that will strike a balance between respecting private property owners’ rights while encouraging ecologically sound measures to protect Mantoloking, its inhabitants and the inhabitants of neighboring communities.

I. POST-SANDY RESTORATION PLAN

Following the destruction, a steel seawall was built in Mantoloking in an attempt to prevent any future breaches ("Mantoloking Seawall

31 See Arnold v. Mundy, 471 A.2d 365 (N.J. 1821).
33 7-G1 NICHOLS ON EMINENT DOMAIN § G1.02 (referencing the declaration of independence to define eminent domain and the ultimate goal of governance which is to "secure the right of individual liberty, while providing for the public good").
It is meant to supplement a state-wide dune replenishment project ("State-wide Dune Project"). New Jersey Governor Chris Christie and his administration insist that private property owners surrender their rights and voluntarily sign easements to allow access for the proposed projects to go forward as planned.

New Jersey officials are emboldened by the *Harvey Cedars* decision. In response to the New Jersey Supreme Court's ruling, Governor Christie responded, "I think this should be a clear message to the 1,400 or so folks who have not yet given easements along the 127 miles of New Jersey's coastline. You're not going to be paid a windfall for your easement." Private property owners have been chastised for refusing to sign easements. Throughout New Jersey, "Mayors and businesses posted the names of holdouts on websites and storefronts. Governor Christie derided the property owners as selfish. Residents bombarded them with phone calls, visits to their homes and letters calling them out in newspapers." In Mantoloking, the municipal government wrote to all beachfront landowners demanding that they "voluntarily" sign an easement before the end of the year.

Three years after Sandy, the municipality has not filed a lawsuit in connection with eminent domain proceedings. Nevertheless, the New Jersey Department of Environmental Protection ("NJDEP") has completed construction on a three-and-a-half mile steel wall revet-

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34 Spoto, *supra* note 27.
35 Id.
The seawall is forty-five feet deep, thirty feet of it below sea level. The Federal Highway Administration is paying for most of the $23.8 million cost to protect its $265 million investment in the rebuilt Route 35, a federal highway, portions of which were destroyed during Sandy. The Corps will be responsible for the State-wide Dune Project. The Corps will need to widen the beach by approximately 200 feet and maintain a continuous dune more than twenty feet above sea level in order to make sure the buried vertical seawall remains covered. If the wall becomes exposed, erosion will likely be exacerbated and may result in the beach disappearing altogether.

This process has already begun as the wall is exposed due to winter storms.

According to a spokesman for the Governor, the proposed public works projects, “paid for with public dollars benefit everyone, including holdouts who selfishly refuse to provide easements to protect not just their own homes but the homes and businesses inland of them as well.” Rather than selfishly holding out for windfalls as the Christie Administration suggests, many private oceanfront property owners are concerned with their constitutional right to just compensation for a public taking and worried that the proposed steel wall revetment is not the best way to protect their communities. An appreciation of the unique characteristics of barrier islands is important to fully understand the public policy issues at stake.

II. BARRIER ISLANDS

Mantoloking is in a particularly vulnerable area because of its location on a barrier island; something that became frighteningly clear.

42 Id.
43 Id.
44 Id.
45 Id.
46 Id.
47 See Judy Smestad-Nunn, Steel Wall Exposed: 15-Foot Drop at Brick Beach, THE BRICK TIMES, Oct. 16, 2015, http://micromediapubs.com/steel-wall-exposed-15-foot-drop-at-brick-beach/ (discussing the town to the south of Mantoloking that is part of the same restoration project: “Even after the township bulldozed 20-foot tall piles of sand into place to cover the oceanfront steel revetment ahead of one nor’ easter, within a matter of days all the sand had been washed away, officials said, leaving as much as 15 feet of the wall exposed creating a sudden drop on the beachfront”).
48 Boyer, supra note 37.
during Sandy.\textsuperscript{50} Barrier islands are long, narrow accumulations of sand disconnected from the mainland by a body of open water.\textsuperscript{51} Mantoloking is located along the Atlantic Ocean with the Barnegat Bay separating it from the mainland.

\textbf{A. Ecology}

Barrier islands continually accrete and erode in response to the high tides and storms that threaten the mainland.\textsuperscript{52} As waves interact with a barrier island, they create a longshore current that runs parallel to the beach and carries sand south along the barrier island, causing a gradual process of erosion.\textsuperscript{53} The longshore current is also responsible for creating dunes—as the longshore current drags the sand near the ocean with it, sand begins to accumulate in the backshore area. Piles of sand build up to eventually form dunes.\textsuperscript{54} Vegetation takes root and strengthens these dunes providing important protection for barrier islands and the mainland.\textsuperscript{55} During high tides or strong storm surges, it is natural for barrier islands to be washed over, carrying sand from the ocean-side of the barrier island to the opposite side.\textsuperscript{56} This is part of the process by which barrier islands are constantly shifting when left to their natural state.

\begin{itemize}
\item \textsuperscript{52} Id.
\item \textsuperscript{53} Id.
\item \textsuperscript{54} Id.
\item \textsuperscript{55} Id.; see generally Coastal Barrier Resources System Map Modernization: Supporting Coastal Resiliency and Sustainability following Hurricane Sandy, U.S. FISH AND WILDLIFE SERVICE, Nov. 2013 (recognizing the importance of barrier islands and the importance of preserving their natural state, finding: "[c]ertain actions and programs of the Federal Government (such as beach nourishment and flood insurance) have historically subsidized and encouraged development on coastal barriers, resulting in the loss of natural resources; threats to human life, health, and property; and the expenditure of millions of tax dollars each year. To remove the Federal incentive to develop these biologically important, highly dynamic, and storm-prone areas, Congress enacted the Coastal Barrier Resources Act (CBRA; 16 U.S.C. 3901 et seq.) in 1982. CBRA and its amendments designated relatively undeveloped coastal barriers along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts, as part of the CBRS, and made these areas ineligible for most new Federal expenditures and financial assistance. CBRA does not prohibit development and it imposes no restrictions on development conducted with non-Federal funds").
\item \textsuperscript{56} NOAA.GOV, supra note 51.
\end{itemize}
Notwithstanding the delicate balance and constantly shifting nature of barrier islands, people flock to build homes and businesses in such areas. This is largely because of their location adjacent to the ocean. Well-to-do people in particular have been populating the areas and real estate values have skyrocketed.

B. Population

Despite the natural processes that cause these landforms to constantly shift, populations in coastal shoreline counties continue to increase. In 2010, 39% of the United States population lived in coastal shoreline counties representing a high population density of about 446 people per square mile. Productive activities on or along the ocean contribute more than one trillion dollars to the United States' gross domestic product. In New Jersey, beach-related tourism contributes nineteen billion dollars in revenue.

C. Attempts to Protect

To protect the costly development on the coast and the capital created by tourism, stopping the natural process of erosion and accretion can be done through so-called "hard" or "soft" measures. Hard measures use structures to keep the shoreline in a fixed position, such as seawalls and revetments. Soft measures use more systems that imitate nature to maintain the shoreline. This includes beach replenishment that pumps sand from the ocean floor to extend the beach and build a dune. Soft armoring is generally considered preferable to hard armoring because it is less disruptive to natural habitats. Hard measures are commonly thought to have se-
vere environmental and economic impacts. An important legal concept that impacts efforts to protect and maintain a coastline by the use of artificial means is the Public Trust Doctrine.

III. THE PUBLIC TRUST DOCTRINE

The origins of the Public Trust Doctrine date back to ancient Rome. In ancient Rome, beaches and riverbanks were considered essential to a society's survival and thus could not be owned by private individuals. Under Roman law, any person could use a waterway up to its highest tide for navigation, trade, or fishing as long as their use did not interfere with the use of others. This practice became a part of English common law with the caveat that the sovereign owned these common areas and thus the land could not be owned privately but could be used by the public. The Public Trust Doctrine was inherited by and then adopted in the United States.

The Public Trust Doctrine, as defined by the United States Supreme Court, "has its basis in state ownership of the beds and banks of navigable waters, and, as between the federal and state governments, the question of title to these beds and banks is a matter of federal law." Once title is conferred from the federal government to state governments, states have wide discretion in redefining property rights. Accordingly, the public trust is a function of state law; state law determines what property rights attach to private ownership of land abutting water, commonly known as riparian rights:

The States have authority to establish for themselves such rules of property as they may deem expedient with respect to the streams of water within their borders both navigable and non-navigable, and the owner-

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65 Megan M. Herzog and Sean B. Hecht, Combatting Sea Level Rise in Southern California: How Local Governments Can Seize Adaptation Opportunities While Minimizing Legal Risk, 19 HASTINGS W. NW. J. ENVTL. L. & POL'Y 463, 473-74 (2013). Hard armoring has an erosive effect on beaches and wetlands. This threatens the safety and aesthetic appeal of coastal communities.
66 Carboni, supra note 60, at 100.
67 Id.
68 Id. at 100–01.
72 Id.
ship of the lands forming their beds and banks, subject, however, in the case of navigable streams, to the paramount authority of Congress to control the navigation so far as may be necessary for the regulation of commerce among the States and with foreign nations. While state public trust doctrines vary from the federal Public Trust Doctrine, they largely expand the public trust—as is the case in New Jersey.

The Public Trust Doctrine was first imported to the United States in 1821 in the New Jersey case of *Arnold v. Mundy.* There, the court held that all citizens enjoy rights to the land under navigable waterways and coastal areas under the state’s sovereign power and citizens have a right to use the lands subject to certain regulation:

I say I am of [the] opinion, that by all these, the navigable rivers in which the tide ebbs and flows, the ports, the bays, the coasts of the sea, including both the water and the land under the water, for the purpose of passing and repassing, navigation, fishing, fowling, sustenance, and all the other uses of the water and its products (a few things excepted) are common to all the citizens, and that each has a right to use them according to his necessities, subject only to the laws which regulate that use; that the property, indeed, strictly speaking, is vested in the sovereign, but it is vested in him not for his own use, but for the use of the citizen, that is, for his direct and immediate enjoyment.

The issue in *Arnold v. Mundy* was whether the oyster bed off of a private citizen’s land in tidal water was the private property of the landowner. The plaintiff claimed that he planted oysters in shallow water adjacent to his property so that they could grow and be harvested and by taking those oysters, the defendant stole. The court discussed the history of the Public Trust Doctrine and concluded that citizens have a right to use and enjoy navigable water as well as the land that is subject to the ebb and flow of the tide. The Public Trust Doctrine was adopted into federal common law in *Illinois Central Railroad Co. v. Illinois.*

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74 See Craig, supra note 71, at 5 (“[W]hen state law public trust doctrines vary from the U.S. Supreme Court’s pronouncements, they almost always expand the federal public trust doctrine.”).
75 Carboni, supra note 60, at 101.
77 *Id.* at 44.
78 *Id.*
79 *Id.* at 76–77.
80 146 U.S. 387 (1892) (laying the modern foundations of the public trust doctrine); see also Carboni, supra note 60, at 101 (noting that the “incorporation of England’s public trust doctrine into American common law was later affirmed” by the Supreme Court in *Illinois Central Railroad Co.*).
A. Adoption into Federal Law

In Illinois Central Railroad Co., the State of Illinois filed suit to assert its rights to lands granted to the Illinois Central Railroad Company by an Act of Congress. The act “granted to the State of Illinois a right of way, not exceeding one hundred feet in width, on each side of its length, through the public lands, for the construction of a railroad from the southern terminus of the Illinois and Michigan Canal...” Particularly, the railroad acquired land bordering Lake Michigan and filled it for use by the company. The Court discussed riparian rights:

It is not, therefore, true that the railroad company was the owner of the fee of this right of way.... It had merely an easement or right of way in this land, which neither conferred any riparian right upon the railroad, nor affected such right in the owner of the land over which the right of way extended .... The riparian right was in the city.

The Court determined the State of Illinois did not have the right to convey title to the land under Lake Michigan because of its public trust duty. According to the Court, “[t]he trust devolving upon the State for the public, and which can only be discharged by the management and control of property in which the public has an interest, cannot be relinquished by a transfer of the property.” Ultimately the Court determined that Lake Michigan and its bed are of great importance to the public and cannot be wholly ceded to a private corporation. This decision reflects the importance of the Public Trust Doctrine in the United States.

B. Expansion of the Public Trust Doctrine in New Jersey

New Jersey has expanded the Public Trust Doctrine. New Jersey has been in the forefront of states that protect the public trust in favor of its citizens. Borough of Neptune City v. Borough of Avon-by-the-Sea was the first case to expand the Public Trust Doctrine in New Jersey.

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82 Id. at 446.
83 Id. at 425 (citation omitted).
84 See id. at 453 (“Such abdication is not consistent with the exercise of that trust which requires the government of the State to preserve such waters for the use of the public.”).
85 Id.
86 See id. at 454 (“[T]he idea that...[the] legislature can deprive the State of control over its bed and waters and place the same in the hands of a private corporation...is a proposition that cannot be defended.”).
87 294 A.2d 47, 54 (N.J. 1972) (“The public trust doctrine, like all common law principles, should not be considered fixed or static, but should be molded and extended to meet changing conditions and needs of the public it was created to benefit.”).
Beach crowding became an issue in the late 1960s and early 1970s. In an attempt to manage the number of beachgoers, most New Jersey oceanfront municipalities began to charge a fee for use of the public beaches. One such municipality was Avon-by-the-Sea ("Avon"). The municipality amended its beach fee ordinance to charge non-residents significantly more than residents or taxpayers of the town. Avon’s inland neighbor Neptune City and two of its residents sued due to this unequal treatment of residents and non-residents. The New Jersey Supreme Court focused on the public’s right to access the beach and decided the case based on the Public Trust Doctrine:

We have no difficulty in finding that, in this latter half of the twentieth century, the public rights in tidal lands are not limited to the ancient prerogatives of navigation and fishing, but extend as well to recreational uses, including bathing, swimming and other shore activities. The public trust doctrine, like all common law principles, should not be considered fixed or static, but should be molded and extended to meet changing conditions and needs of the public it was created to benefit.

Ultimately, the court found the upland sand area owned by a municipality as a public beach must be open to all without preference. The court required Avon to charge the same fees for residents and non-residents alike.

The New Jersey Supreme Court later held that the same reasoning that applied to municipally owned beaches applied to privately owned beaches as well. In Matthews v. Bay Head Improvement Association, non-residents of the town of Bay Head challenged Bay Head Improvement Association’s policy of not selling beach badges needed for access to its beaches to non-residents except for guests of “[m]embers [and] . . . [m]embers of the Bay Head Fire Company, Bay Head Borough employees, and teachers in the municipality’s school system . . . .” The court found the Bay Head Improvement Association was a quasi-governmental body because, among other things, it maintained control of virtually the entire oceanfront in the borough and performed services which mirrored those of a municip-

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89 Id. at 776.
90 Id.
91 Id.
92 Neptune, 294 A.2d at 54.
93 Poirier, supra note 88, at 778.
94 Carboni, supra note 60, at 102-03.
96 Id. at 359.
palty including operating out of the municipal building. Accordingly, all of the property it owned in fee and those it controlled by way of revocable easements granted to it by oceanfront property owners had to be available to the public:

Exercise of the public’s right to swim and bathe below the mean high water mark may depend upon a right to pass across the upland beach. Without some means of access the public right to use the foreshore would be meaningless. To say that the public trust doctrine entitles the public to swim in the ocean and to use the foreshore in connection therewith without assuring the public of a feasible access route would seriously impinge on, if not effectively eliminate, the rights of the public trust doctrine. This does not mean the public has an unrestricted right to cross at will over any and all property bordering on the common property. The public interest is satisfied so long as there is reasonable access to the sea.

Since there was no public beach in Bay Head, the court found it was a frustration of the Public Trust Doctrine to limit membership at the private beaches to Bay Head residents. The Association’s membership and, as such, its beaches must be open to the public. Building on this precedent, in Raleigh Beach Association v. Atlantis Beach Club, the New Jersey Supreme Court held that the public has a right to access the dry sand area at a private beach club. Again, partially based on the fact that the town had few public beaches, the court decided “the [private beach club’s] upland sands must be available for use by the general public under the public trust doctrine.” However, as with public beaches, the opinion also discusses the club’s right to charge a “reasonable fee” for access.

Despite taking away the exclusivity that made the private beach club attractive, the court found this was nevertheless not a taking because land bordering tidal water has always been subject to the Public Trust Doctrine. This determination is seen by many as a taking requiring the government to pay just compensation to the private oceanfront land owners.

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97 Id. at 368.
98 Id. at 364.
99 Id. at 368.
100 Id.
101 879 A.2d 112 (N.J. 2005).
102 Id. at 124.
103 Id.
104 Id. at 113.
105 Id. at 124.
The leading takings test comes from *Penn Central Transportation Co. v. New York City*[^106^] Penn Central owned Grand Central Station and planned to let another company build on top of the iconic train station.[^107^] The plan was not permitted because the building had been given landmark status.[^108^] Penn Central argued that this regulation amounted to a taking because their property interest in the valuable air rights above the building was eliminated by the zoning. As such, Penn Central argued that it was owed the fair market value of these air rights.[^109^]

The Court, however, concluded there was no taking and no compensation was required because "[t]he restrictions imposed are substantially related to the promotion of the general welfare and not only permit reasonable beneficial use of the landmark site but also afford appellants opportunities further to enhance not only the Terminal site proper but also other properties."[^110^] For more than a century, the Court's public use jurisprudence has afforded legislatures broad latitude in determining the extent to which public needs justify the use of the takings power.[^111^]

If government action results in a permanent physical invasion on private property, the courts do not use the *Penn Central* test but look to the Supreme Court's reasoning in *Loretto v. Teleprompter Manhattan CATV Corp.*[^112^] In *Loretto*, a New York law provided that landlords could not interfere with the installation of cable television equipment in their buildings.[^113^] The law set forth that the one-time payment of


[^108^]: Id. at 115–16.

[^109^]: Id. at 130; see also *United States v. Causby*, 328 U.S. 256, 266–67 (1946) (holding that while airspace is a public highway, an owner must have exclusive control over immediate reaches of the enveloping atmosphere and that the government use of low flying military aircraft in the airspace close to the land owned by the private property owner constitutes a taking); *Dugan v. Rank*, 372 U.S. 609, 625 (1963) (analyzing the Central Valley Reclamation Act and concluding that the taking of water rights is analogous to the taking of air rights in *Causby*).


[^111^]: See, e.g., *Kelo v. City of New London*, 545 U.S. 469, 472 (2005) (noting that the question presented is whether the City's proposed disposition of the property qualified as a "public use" within the meaning of the Takings Clause of the Fifth Amendment).


[^113^]: *Loretto*, 458 U.S. at 423.
$1 was the normal fee to which the landlord was entitled when cable equipment was installed on their property.\textsuperscript{114}

The Court distinguished permanent physical takings from other cases: "[W]hen the ‘character of the governmental action,’ \ldots is a permanent physical occupation of property, our cases uniformly have found a taking to the extent of the occupation, without regard to whether the action achieves an important public benefit or has only minimal economic impact on the owner."\textsuperscript{115} Despite any policy goal of the New York law in making cable television available to its citizens, the Court found this was a taking because "[t]he installation involved a direct physical attachment of plates, boxes, wires, bolts, and screws to the building, completely occupying space immediately above and upon the roof and along the building’s exterior wall."\textsuperscript{116} As such, compensation was required for this intrusion on private property.\textsuperscript{117}

A. Takings Application to Riparian Rights

As set forth in the United States Supreme Court’s recent decision in \textit{Stop the Beach Renourishment, Inc. v. Florida Department of Environmental Protection},\textsuperscript{118} the Takings Clause applies to riparian rights in the same way it applies to any other property right.\textsuperscript{119} \textit{Stop the Beach Renourishment, Inc.} challenged a state law enacted in order to restore beaches damaged by Hurricane Opal in 1995.\textsuperscript{120} Pursuant to the state law, a coastal survey was done to set an “erosion control line” at the mean high water line.\textsuperscript{121} Based on the Florida law at issue, this erosion control line set the boundary between publicly owned land and privately owned land.\textsuperscript{122}

\textsuperscript{114} \textit{Id.} at 423–24.
\textsuperscript{115} \textit{Id.} at 434–35 (quoting \textit{Penn Central}, 438 U.S. at 124).
\textsuperscript{116} \textit{Id.} at 438.
\textsuperscript{117} \textit{Id.} at 441.
\textsuperscript{118} 560 U.S. 702 (2010).
\textsuperscript{119} \textit{Id.} at 707.
\textsuperscript{120} Walton Cnty. v. \textit{Stop the Beach Renourishment, Inc.}, 998 So. 2d 1102, 1106 (Fla. 2008), \textit{aff’d}, \textit{Stop the Beach Renourishment, Inc. v. Fla. Dep’t of Envtl. Prot.}, 560 U.S. 702 (2010).
\textsuperscript{121} See generally \textit{NOAA TIDES & Currents}, http://tidesandcurrents.noaa.gov/datum_options.html (last visited Mar. 15, 2015) (defining mean high water line as "[t]he average of the higher high water height of each tidal day observed over the National Tidal Datum Epoch. For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch"); \textit{Stop the Beach Renourishment}, 560 U.S. at 710–11.
\textsuperscript{122} Walton Cnty., 998 So. 2d at 1106.
stitution, the land seaward of the mean high water line is held in trust for the public. The Court observed that these rights had to be balanced against the rights of oceanfront landowners. These rights included:

[S]everal special or exclusive common law littoral rights: (1) the right to have access to the water; (2) the right to reasonably use the water; (3) the right to accretion and reliction; and (4) the right to the unobstructed view of the water. These special littoral rights are such as are necessary for the use and enjoyment of the upland property, but these rights may not be so exercised as to injure others in their lawful rights.

Especially at issue was the right to accretion and reliction. According to Florida common law, upland owners are entitled to gradual additions to uplands.

Under the doctrines of erosion, reliction, and accretion, the boundary between public and private land is altered to reflect gradual and imperceptible losses or additions to the shoreline. In contrast, under the doctrine of avulsion, the boundary between public and private land remains the [mean high water line] as it existed before the avulsive event led to sudden and perceptible losses or additions to the shoreline.

Ultimately, the Florida Supreme Court concluded it was not a taking to set private property rights at the mean high water line based largely on policy considerations. Florida's highest court found that the State of Florida acted pursuant to the State's constitutional duty to preserve its beaches for the public. It found that the Florida Legislature was also very careful to achieve a balance between public and private interests—upland owners benefit from a restored beach, protect their property from future storm damage, and also maintain their littoral rights of use and view. The United States Supreme Court in Stop the Beach Renourishment, Inc. v. Florida Department of Environmental Protection agreed with the holding of the Florida Supreme Court in Walton that setting the erosion control line did not constitute a taking of oceanfront property owners' riparian rights. The Court further concluded that the Florida Supreme Court's decision in Walton did not amount to a judicial taking.

123 Id. at 1109.
124 Id. at 1111 (quotation marks and citations omitted).
125 Id. at 1114.
126 Id. at 1120; Stop the Beach Renourishment, 560 U.S. at 733.
127 Walton Cnty., 998 So. 2d at 1110; FLA. CONST. art. II, § 7.
128 Walton Cnty., 998 So. 2d at 1120.
129 Stop the Beach Renourishment, 560 U.S. at 733.
B. Takings in New Jersey

In New Jersey, the *Harvey Cedars* case\textsuperscript{130} is the leading partial-takings case. Before this decision, New Jersey distinguished between special benefits to property owners and general benefits to the wider public in calculating the value of property taken for public use. Importantly, benefits to the general public that also accrued to the property owner could not be considered in valuing the taking before the *Harvey Cedars* decision.\textsuperscript{131} Following the *Harvey Cedars* decision, the court no longer considers the special/general distinction.\textsuperscript{132}

In abandoning the special/general benefit distinction, the New Jersey Supreme Court noted that the distinction historically arose out of common railroad company practices. Railroad companies justified taking property on the grounds that a railroad provides a general benefit to the public and, therefore, the benefit to the remaining land was greater than the value of the part taken.\textsuperscript{133} As such, private landowners were historically not paid for their confiscated land.\textsuperscript{134} Courts found this practice untenable; general benefits could not be used to offset the decrease in value to property caused by a taking.\textsuperscript{135}

This was an issue of fairness: “there is no reason why the man whose land is occupied by a public highway should be made to contribute more for the public and common benefit than his neighbor, whose lands are not occupied, but who is equally benefited by the improvement.”\textsuperscript{136} This analysis has changed since Sandy.

In 1996, the NJDEP and the Corps conducted a study of Long Beach Island, New Jersey and found long-term erosion had left the eighteen-mile barrier island in Ocean County vulnerable to future storms.\textsuperscript{137} The study led to the Long Beach Island Shore Protection Project discussed in Part I, which plans to replenish the beach at six year intervals for the next fifty years.\textsuperscript{138} As part of the Project, oceanfront landowners were required to provide perpetual easements.\textsuperscript{139} Property owners including Phyllis and Harvey Karan mentioned

\begin{footnotes}
\item[130] *Borough of Harvey Cedars*, supra note 3, at 524.
\item[131] Id. at 526.
\item[132] Id.
\item[133] Id. at 537.
\item[134] Id.
\item[135] Id. at 535.
\item[136] Id. (quoting State v. Miller, 23 N.J.L. 383, 384–85 (N.J. 1852)).
\item[137] lozzia, supra note 21, at 502.
\item[138] Seabrook, supra note 1, at 44, 47.
\item[139] lozzia, supra note 21, at 502; see generally BLACK’S LAW DICTIONARY (2d ed.) (defining perpetual easement as a “term given to the right of a non-owner to use the adjoining land for right of way forever”).
\end{footnotes}
above resisted and eminent domain proceedings ensued. The Karans rejected a settlement offer from the Borough of Harvey Cedars of $300. Later, they rejected a $700 offer.

In considering factors to weigh in determining how to value property taken from the Karans, the New Jersey Supreme Court decided that the special / general distinction had become unclear and that, "[w]e need not pay slavish homage to labels that have outlived their usefulness." Ultimately, based on the Karan's case, the New Jersey Supreme Court established the "before and after" formula as the standard for valuing property in takings cases:

"[J]ust compensation" to the owner must be based on a consideration of all relevant, reasonably calculable, and non-conjectural factors that either decrease or increase the value of the remaining property. To calculate that loss, we must look to the difference between the fair market value of the property before the partial taking and after the taking.

The Court concluded that although the dune replenishment project at issue was meant to protect the entire Harvey Cedars community from future storm damage, the Karans' benefit in a very quantifiable way more than others in the community since their home is directly on the ocean. The Court reversed and remanded with a finding that:

the quantifiable decrease in the value of their property—loss of view—should have been set off by any quantifiable increase in its value—storm-protection benefits. The Karans are entitled to just compensation, a reasonable calculation of any decrease in the fair market value of their property after the taking. They are not entitled to more, and certainly not a windfall at the public's expense.

Ultimately, the Karans settled the case for $1.

V. EMINENT DOMAIN PROCEEDINGS

The earliest known instance of an eminent domain proceeding is found in the Bible when Naboth is put to death for refusing to sell his land to King Ahab. The power of eminent domain is great:

140 Iozzia, supra note 21, at 503.
141 Harvey Cedars, 70 A.3d at 528.
142 Seabrook, supra note 1, at 44.
143 Harvey Cedars, 70 A.3d at 540.
144 Id. at 526-27.
145 Id. at 542.
146 Id. at 527.
147 Id. at 544.
148 Iozzia, supra note 21, at 525.
149 1-1 Nichols on Eminent Domain § 1.2.
The law and practice of eminent domain measures the quality of freedom in a given society. Most expositors on the subject of eminent domain begin by stating that eminent domain is an inherent attribute of sovereignty. From the dawn of society, it was essential that the will of one could not prevent the use by all of what was necessary to accomplish the goals and functions of society. Eminent domain is the right, or rather, the power of the sovereign to take private property from its owner with or without the owner’s consent. It is known to be one of the harshest remedies which government may have against the individual. 150

This immense power can be counter-balanced by compensation to the individual whose property is taken.

In the United States, a person whose property is taken by the government is constitutionally entitled to just compensation. Eminent domain proceedings allow the government to acquire private land needed for public use while affording the private-land owner due process and just compensation. 151 In New Jersey the process proceeds as follows:

1. An attempt to resolve the acquisition outside of litigation through bona fide negotiations between the condemnor and the property owner; in lieu thereof;
2. Final disposition by judgment of the authority and due exercise of the power of eminent domain by the condemnor;
3. Non-binding arbitration of the issue of just compensation by commissioners appointed by the court;
4. Trial of the issue of just compensation. 152

This process was codified by the Eminent Domain Act of 1971, N.J. Stat. § 20:3-1 ("Eminent Domain Act"). A private landowner is entitled to the fair market value of the portion of the property taken and the loss in value to the remaining property. 153 New Jersey case law has pinpointed three distinct limits on the State’s eminent domain power, “First, the State must pay ‘just compensation’ for property taken by eminent domain ... Second, no person may be deprived of property without due process of law ... Third, ... the State may take private property only for a ‘public use.’” 154

Nearly a year after Sandy, Governor Christie issued Executive Order 140 155 to coordinate efforts to obtain necessary property rights to

150 7-G1 Nichols on Eminent Domain § G1.02 (footnote omitted).
151 7-G1 Nichols on Eminent Domain § G1.06.
152 N.J. Condemnation Practice § 8.2.1.
carry out the post-Sandy restoration plan. The Executive Order cites the refusal of property owners to voluntarily sign easements as a threat to public safety:

WHEREAS, despite the responsible actions of... many property owners, other residents have frustrated the State’s rebuilding and resiliency plans by refusing to grant easements, thereby jeopardizing the construction of Flood Hazard Risk Reduction Measures for all of New Jersey’s citizens, undermining the essential benefits of these systems, and subjecting entire communities to unnecessary risks and dangers; and

WHEREAS, these recalcitrant property owners have had ample time and notice to voluntarily agree to grant these easements to help to ensure the health, safety, and welfare of their communities; and

WHEREAS, the continued absence of Flood Hazard Risk Reduction Measures in coastal communities creates an imminent threat to life, property, and the health, safety, and welfare of those communities...  

As such, Executive Order 140 establishes that the Attorney General and the New Jersey Department of Environmental Protection “shall immediately take action to coordinate those legal proceedings necessary to acquire the necessary easements or other interests in real property for the system of Flood Hazard Risk Reduction Measures.”

In Margate and Long Beach, towns in New Jersey, Executive Order 140 has been used to justify taking private property without first filing

WHEREAS, employing the procedures set out in N.J.S.A. 20:3-1 et seq., public entities are empowered to condemn private property for public purposes, including the creation of Flood Hazard Risk Reduction Measures; and

WHEREAS, pursuant to N.J.S.A. 12:3-64, the New Jersey Department of Environmental Protection (“DEP”) is authorized to acquire any lands in the State that it deems advisable, and may enter upon and take property in advance of making compensation therefore where for any reason it cannot acquire the property by agreement with the owner; and

WHEREAS, all of the aforementioned authority is necessary to protect the public health, safety, and welfare from future natural disasters; and

NOW, THEREFORE, I, CHRIS CHRISTIE, Governor of the State of New Jersey, by virtue of the authority vested in me by the Constitution and the statutes of this State, do hereby ORDER and DIRECT:

1. The Commissioner of Environmental Protection shall create in the DEP the Office of Flood Hazard Risk Reduction Measures (the “Office”). The Office shall be headed by a Director appointed by the Commissioner to serve at the Commissioner’s pleasure and who shall report to the Commissioner on the work of the Office. The Office shall lead and coordinate the efforts of the DEP to acquire the necessary interests in real property to undertake Flood Hazard Risk Reduction Measures and shall perform such other duties as the Commissioner may from time to time prescribe.

2. The Attorney General of the State of New Jersey, in conjunction with the Office, shall immediately take action to coordinate those legal proceedings necessary to acquire the necessary easements or other interests in real property for the system of Flood Hazard Risk Reduction Measures.

156 Id.
157 Id.
eminent domain proceedings as mandated by the Eminent Domain Act.

A. Margate

In Margate, citizens overwhelmingly voted against the State-wide Dune Project in a referendum. Margate opposes the plan not only because the proposed dunes will block ocean views but because it will negatively interact with their unique system for dealing with flooding. Margate uses bulkheads that allow for drainage of flooding into the ocean. Dunes would counteract this system by trapping floodwater. The NJDEP insists, however, that in order for the state-wide dune to be effective, it must be continuous notwithstanding the opposition of the citizens of Margate.

With regard to the State’s failure to properly follow the procedures in the Eminent Domain Act, the United States District Court, District of New Jersey determined, “[the NJDEP’s] reliance on an administrative order from Gov[ernor] Christie to seize municipal easements—like those from Margate—was ‘misplaced’ and it ordered the sides to try to reach an agreement. Margate and the Corps engaged in a dialogue in hopes of compromise as ordered by the United States District Court but ultimately the talks were futile and the Commissioner of the NJDEP took the property in question by Administrative Order.

In part, the NJDEP Commissioner relied upon Executive Order 140 as the authority to take the property at issue. Margate filed for injunctive relief to prevent the project from commencing due to the administrative order that bypassed the requirements of eminent domain proceedings. The District Court decision of Margate v. United States Army Corps of Engineers deemed these orders an administrative taking because Margate was not given any due process to challenge the State-wide Dune Project.

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159 Id.
160 Id.
161 Id.
162 Id.
163 Urgo, supra note 158.
165 Id.
The District Court decided the State-wide Dune Project planned in Margate could not go forward without the State complying with the Eminent Domain Act. Although the government is generally given broad discretion in taking private land for the public good, there are certain constitutional limits that must be respected.\textsuperscript{166} The Eminent Domain Act requires eminent domain proceedings and the opportunity for property owners to challenge the state’s power of condemnation.\textsuperscript{167} The NJDEP’s response that Margate would eventually be justly compensated was insufficient. While “[t]he Takings Clause presupposes that the government has acted in pursuit of a valid public purpose, \textit{Lingle v. Chevron U.S.A., Inc.}, 544 U.S. 528, 543 (2005) . . . [a] property owner nonetheless has a due process right to challenge such purpose; the fact that the owner may receive compensation is irrelevant.”\textsuperscript{a}

A court of law is the final arbiter of the rights of a private citizen subjected to takings proceedings and compensation owed by the government. In particular, a state must afford

ea property owner an opportunity to be heard before the final determination of public use. “Defendant must be provided with ‘an opportunity [to] be heard at a meaningful time and in a meaningful manner.’ That is, he must be given the opportunity to challenge the City’s authority to condemn as well as its authority to set just compensation.” \textit{City of Passaic v. Shennett}, 390 N.J. Super. 475, 485 (App. Div. 2007) (citations omitted) “To say [then] that no right to notice or a hearing attaches to the public use requirement would be to render meaningless the court’s role as an arbiter of a constitutional limitation on the sovereign’s power to seize private property.” \textit{Brody v. Village of Port Chester}, 434 F.3d 121, 129 (2d Cir. 2005).\textsuperscript{169}

The DEP’s promise that property owners will be paid at a later date misses the point because the Eminent Domain Act requires more than compensation; it requires due process as well. A New Jersey Trial Court came to the same determination in \textit{Minke Family Trust v. Township of Long Beach.}\textsuperscript{170}

\textbf{B. Long Beach}

The dispute in \textit{Minke Family Trust} had its genesis in Resolution 14-1006.01 passed by the Township of Long Beach in October 2014.\textsuperscript{171}

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{166} \textit{Id.} at 15.
\item \textsuperscript{167} \textit{Id.}
\item \textsuperscript{168} \textit{Id.}
\item \textsuperscript{169} \textit{Id.} at 15–16.
\item \textsuperscript{171} \textit{Id.} at 5.
\end{enumerate}
\end{footnotesize}
The Resolution references property needed to implement the State-wide Project and
authorize[s] the appropriate municipal or government officials or agencies . . . to enter upon such property within ten (10) days of the passage of such a resolution to take control and possession thereof, and to do such acts as may be required without first paying any compensation therefor; . . . the Municipality hereby declares it has taken a perpetual easement and right-of-way for the flood hazard risk reduction measures in, on, over, and across that land.172

Similar to the Margate District Court opinion, the Superior Court of New Jersey found this resolution was a violation of proper eminent domain proceedings. The Court held that Executive Order 140 does not authorize the action taken by the government because, “[t]he Legislature did not intend, with the enactment of the Disaster Control Act, to trump the procedural due process under the Eminent Domain Act, which is guaranteed to a property owner faced with a taking of their property.”173 The court in Minke Family Trust determined that the process required by the Eminent Domain Act must be followed by the government in order to effectuate a taking.174 At the very least, these proceedings provide a forum for the property owner to voice her opposition to the government action and to be heard with regard to the value of the property taken.

VI. PROBLEMS WITH THE POST-SANDY RESTORATION PLAN

According to renowned geologist Orrin Pilkey, the post-Sandy discourse in New Jersey is unsettling because he does not think the damaged areas should be rebuilt at all:

Particularly appalling for [Pilkey] is what’s happening now in New Jersey, where emotional cries to rebuild at all costs started the morning after Sandy roared through. The $60 billion federal aid package—hastily passed by Congress . . . specified that a significant portion of the funding should go toward what the bill called the ‘most impacted and distressed areas.’ As [Pilkey] points out, this means using taxpayer money to rebuild in flood zones, on the same spots that were just wiped out. Which is a little like rebuilding on a train track.175

Notwithstanding Pilkey’s fears, New Jersey has chosen to rebuild and to supplement rebuilding by supporting massive public works pro-

172 Id.
173 Id. at 14.
174 Id.
175 Gessner, supra note 25.
jects to attempt to protect the coastline through both soft armoring and hard armoring. 176

The *Harvey Cedars* 177 decision, Harvey and Phyllis Karan’s case, was a virtual stamp of approval for taking ocean-front property for beach replenishment projects. According to one commentator,

[the *Harvey Cedars* decision] seems to have made eminent domain proceedings nothing more than a mere formality required by law... A jury, likely aware of the political pressures and perhaps even in favor of the dune construction, was left to determine the Karans’ fate. While the court seemed very concerned with not awarding a windfall to landowners, it may have overlooked the possibility of awarding a windfall to the government. 178

Similar to the historic railroad cases, the *Harvey Cedars* decision gives the government private land for beach restoration projects for little to no compensation because of what it considers to be a substantial benefit to the affected property as well as a benefit to the entire community. While the New Jersey Supreme Court decided to eschew the general / specific benefits distinction in favor of a fair market approach, there were various other ways the court could have decided to determine the valuation.

For instance, in Florida, the fair market value is also used except in cases where the taking only involves an easement or the property interest is not unique and none of the improvements on the property have been displaced. 179 In New York the calculation is based on the value of land taken and does not consider any benefit to the remaining property. 180 Notwithstanding the support from New Jersey’s highest court, the Mantoloking Project faces considerable deficiencies which may impact legal rights going forward.

A. Problems with the Soft Armoring Portion of the Mantoloking Project

Since 1970, the Corps has pumped more than 370 million cubic yards of sand onto East Coast beaches. 181 This represents a cost of $3.7 billion, much of it coming from the taxes of those who will never see these replenished beaches because they live nowhere near the

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176 See supra Part I.
177 70 A.3d at 389–90.
179 Hromadka, supra note 178, at 883–84.
180 Id. at 885–86.
181 Seabrook, supra note 1, at 46.
Effective administration of the project also presents a problem. For instance, many of the dunes planned post-Sandy were planned before Sandy as well but were never completed:

Absecon Island, a barrier island in Atlantic County, stretches approximately eight miles along the Atlantic Ocean and is made up of four coastal municipalities: Atlantic City, Ventnor, Margate, and Longport. According to NJDEP, Absecon Island has been one of the hardest hit of all the barrier islands in New Jersey during coastal storms. Although the Corps had begun construction of what was known as the Absecon Island Shore Protection Project in 2003 . . . only the Atlantic City and Ventnor City portions of the project had been completed by the time Hurricane Sandy ravaged parts of the New Jersey shore in 2012.

Once the plan is actually put in place, the sand has to be replenished periodically. The Corps claims beaches and dunes need to be replenished every three to seven years. Some question the effectiveness of this as a long-term plan. A representative of the Littoral Society has questioned “How long do you think they can keep that going? . . . The sea wants to keep pushing back in. In the end, it’s not a fight we are going to win.” New Jersey need only look to Florida to realize this.

In Florida, beach replenishment has been used for decades to combat erosion. However, “concerns over erosion and the quest for sand are particularly urgent for one reason: there is almost no sand left offshore to replenish the beaches.” There is considerable tension between Florida counties over who has the right to certain areas of sand. With offshore sand becoming scarce, certain Florida counties are considering the options of buying sand from mines in Central Florida, buying sand from Caribbean countries or even recycling glass to use in small areas. Sand is a finite resource and any beach replenishment project has an expiration date. This concern applies equally to hard armoring projects as well because beach replenishment is often vital to maintain hard structures.

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182 Id.
183 Margate, supra note 158, at 3.
184 Bello, supra note 38.
185 Id.
186 Lizette Alvarez, Where Sand is Gold, the Reserves Are Running Dry, N.Y. TIMES, Aug. 24, 2013.
187 Id. (describing the critical situation facing beaches in south Florida, in particular).
188 Id.
189 Id.
B. Problems with the Hard Armoring Portion of the Mantoloking Project

Unlike the beach replenishment project, the steel wall in Mantoloking is being constructed landward of the beach restoration project and thus on private property not previously considered subject to the public trust doctrine. Further, as a permanent structure like that in *Loretto*, this case is unlike the typical beach replenishment case where the government will only temporarily be using a private landowner’s property to build a dune. It seems clear the government has the obligation to engage in eminent domain proceedings, a process that is just starting now with the valuation of oceanfront property. Due to the fact that the steel wall is a permanent structure, compensation to the private property owner should be greater.

1. Threat to the Public Trust

Considering New Jersey’s expansive public trust doctrine, one could argue that the state should be allowed to use whatever means necessary to hold the beach in place—the public, after all, has a right to use the beach for commerce and recreation. This argument in the abstract supports the state’s plan to replenish the beaches and build hard structures. In reality, the steel wall revetment threatens the public trust in Mantoloking. Unless the steel wall revetment is kept constantly covered in sand, a herculean task, the beach will become completely eroded. This will leave the ocean meeting the wall directly with no beach on which the public can recreate.

The steel wall revetment as planned may completely erode the beach and as such would not only fail in its intended goal of preserving and replenishing the dry sand but also result in a direct threat to the public trust. If the steel wall revetment is not continuously covered with sand, the wall will create a standing wave effect that will have an even more devastating effect than if the wall were not there at all. Specifically:

Although hard armoring can be effective at preventing flooding from damaging critical infrastructure and densely developed areas, hard struc-
tures have high economic, environmental, and social costs. By preventing the natural landward migration of beaches and deflecting wave energy, hard armoring contributes to beach and wetland erosion. Erosion negatively impacts both ecosystem functions and the public’s ability to access the coast. Over time, the inundation and erosion related to sea level rise could cause dune, beach, and wetland ecosystems backed by hard armoring to disappear... In addition to the environmental impacts, the visual impacts of a concrete coast are stark and may be offensive to local residents and beachgoers. As successive property owners armor the coast, hard armoring may lower property values in the larger community. Consequently, many governments are moving away from hard armoring as a primary sea level rise adaptation strategy.9

High economic, ecological and societal costs result from such measures due to a false sense of security that encourages development in vulnerable areas and the high costs associated with properly maintaining hard structures.196

This threat to the public trust has already occurred in other areas of New Jersey that use hard armoring. For instance, Mantoloking need only look a few towns north to see a hard armoring project that failed: “In 1931, a seventeen-foot-high seawall was completed from Sea Bright to Monmouth Beach, to protect the oceanfront houses... The wall... accelerated beach erosion, earning Sea Bright a new distinction as one of the first beachless beach towns.”197 Hard armoring has significant negative impacts. One impact that should be of great concern to all those who do not own oceanfront land is the threat to eliminate public trust land and thus severely undermine the Public Trust Doctrine as it relates to ocean beaches.

In Mantoloking, the process has already begun. The sand has been washed away by a winter storm leaving the steel wall exposed and a narrow beach. As such, all of Mantoloking’s beaches have been closed since October 12, 2015 and will remain closed for an indefinite period of time.198 According to the engineers for the town:

Due to the erosion of the dune and beach system, the Borough has vertical drop-offs along its seawall and dune scarps initially between eight (8) and twelve (12) feet but now five (5) to eight (8) feet in some areas making access to the beach almost impossible for the entire length of the Borough’s 2.2 mile oceanfront. The event’s erosion has exposed over 6,000 LF of the Borough’s steel sheet pile sea wall however the integrity and protective value of the sea wall has not compromised in any fashion.

195 Herzog & Hecht, supra note 65.
196 Id.
197 Seabrook, supra note 1, at 47.
Accordingly, at this time the Borough is limiting access to beach for emergency/construction personnel only until conditions improve.\(^{199}\)

It should be a significant concern to residents and non-residents alike that the Borough is already eliminating beach access so soon after the construction of the steel wall revetment.\(^{200}\)

2. Possibility of Inverse Condemnation Proceedings

The Mantoloking Project also exposes the government to the possibility of future inverse condemnation suits. In *United States v. Lynah*,\(^{201}\) the government constructed a dam that the plaintiffs claimed caused flooding which made their private property valueless.\(^{202}\) The Court found the official procedures required by the Fifth Amendment had not been followed in this instance—there had been no adjudication and no fee for title; in fact, there had been no proceeding at all.\(^{203}\) However, despite the lack of formal eminent domain procedures, the Court decided it was an inverse condemnation—a taking—that required just compensation because the government action for the public led to the destruction of private property.\(^{204}\) Similarly, a government project that caused temporary but recurrent flooding was also recently determined to be a taking.\(^{205}\)

The wall may be detrimental to beachfront property owners. The land owners at the end of the steel wall revetment are exposed to an increased risk of harm as storm surges will scour out the sand in front of the steel wall revetment and scallop deeper cuts at the ends of the steel wall revetment.\(^{206}\)

Further, because the steel wall is buried thirty feet below sea level, some predict this will impede ground water flow from the Barnegat Bay to the ocean and may cause inland flooding.\(^{207}\) During Sandy, inland flooding was caused by a surge of water from the south, not solely from ocean water increasing the tide levels in the Barnegat Bay

\(^{199}\) *Id.*

\(^{200}\) *Contra* note 185 and associated text. This also indicates that the beaches and dunes need be replenished every three to seven years is a gross underestimate.

\(^{201}\) 188 U.S. 445 (1903).

\(^{202}\) *Id.* at 467–68.

\(^{203}\) *Id.* at 468.

\(^{204}\) *Id.* at 469–70.

\(^{205}\) *See* Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 515 (2012) ("[R]ecurrent floodings . . . . are not categorically exempt from Takings Clause liability.").


\(^{207}\) *Id.*
when an inlet cut through the barrier island. In a similar situation in the future, the steel wall could keep water trapped on the landward side of the steel wall and exacerbate flooding.

While these risks do not appear to have been assessed by the government, the government may have to compensate private property owners for any taking of their land caused by the steel seawall.

VII. ALTERNATIVE SOLUTION

Considering the problems associated with the Mantoloking Seawall Project, a better solution is implementing a “rolling easement.” The term rolling easement refers to the various ways of causing human activities to yield to the incoming of a naturally migrating shoreline. The easement is an interest in land that attaches to the shoreline, no matter where the shoreline moves. Rolling easements provide that as the natural process of accretion and erosion takes place, the public trust land should be able to “roll” naturally with these changes. Rolling easement policies exist in different forms in Maine, South Carolina, North Carolina, Massachusetts, Rhode Island and Oregon.

Rolling easements typically prohibit construction of shore protection structures past a certain point. They commonly rely on boundaries that are already established and as the sea level rises, the chosen boundary rolls inland. Regulatory rolling easement policies currently in place set that boundary for shore protection structures on or seaward of the dunes. Houses on the beach as a result of erosion are usually exempt from the policies unless they are seaward of the boundary line and thus encroaching on public land. Rolling setbacks, which limit new construction within a certain distance of dunes, are often used along with this approach. As millions of dol-

208 Spoto, supra note 27.
209 James G. Titus, Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches Without Hurting Property Owners, 57 MD. L. REV. 1279, 1313 (1998) (defining “rolling easements” as a “narrowly tailored way to ensure that natural shorelines survive rising sea level[s]”).
210 Id.
211 Id. at 1337.
213 Id. at 118.
214 Id.
215 Id.
216 Id.
217 Id.
lars have already been spent on the Mantoloking Seawall Project, this solution may be too late for Mantoloking but other areas facing similar problems should consider it. Furthermore, if the current project fails and Mantoloking becomes another beachless beach town, a process that has already begun, the municipality should consider implementing rolling easements moving forward. Importantly, there are various ways to implement rolling easements and the State-wide Dune Project is compatible with some versions of this potential strategy.

A. Implementing Rolling Easements

On the more extreme end of the rolling easement spectrum, the government would forbid any artificial means of stopping the natural process of erosion. This includes beach replenishment projects like the State-wide Dune Project. Such a policy would allow the natural process of the ocean to impact oceanfront land of private property owners. Oceanfront property buyers would have to consider the prospect of erosion due to natural forces when considering whether to purchase land abutting the ocean. This is not feasible in New Jersey because of the high density of people living on the barrier islands, the capital invested in fortifying barrier islands and the amount of money New Jersey beaches generate.

Another way to implement a rolling easement is for the government to purchase a property right to take possession of private land at a point in the future. Under an amortization strategy, landowners are given notice and time to find a new residence while providing a fair payment structure. A better strategy, the government could pay the property owner immediately and only take possession of the property when the sea level rises to a certain point. This is essentially an eminent domain proceeding with advanced notice because if the sea level rises to such a point, eminent domain has become necessary. Tying relocation to a certain sea level rise is preferable because activity on the barrier island can be undisturbed until absolute-

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218 Titus, supra note 209, at 210 (discussing how increasing cost to erect bulkheads and decreasing the benefit of erecting the structure are two ways the government employ to prevent development).

219 Id. at 1329 (stating that "[t]he economic, legal, and technical merits of a policy are largely irrelevant if the political process cannot adopt or enforce it"). Similarly, laws forbidding rebuilding where property has been destroyed by Sandy would be politically impossible.

220 Titus, supra note 209, at 1309–12 (generally discussing the different methods that the government uses to prevent development).

221 Hunter, supra note 106, at 293.

222 Id.

223 Titus, supra note 209, at 1339.
ly necessary. This way, "[r]olling easements...are not tied to a specific scenario. If the sea level does not rise, [the status quo on the barrier island will be maintained]. If it does rise, the...beaches will be protected."\textsuperscript{224}

The government would be able to implement this rolling easement strategy by relying on the Public Trust Doctrine.\textsuperscript{225} According to the Congressional Research Service:

As long as state courts are able to ground such extensions of public trust lands in traditional common law, no Fifth Amendment taking from beachfront property owners is likely to be discerned. Title to coastal property (or any other property) is assumed to be qualified by traditional common law principles, and public trust doctrine certainly falls into this category. On the other hand, if courts use sea level rise as an occasion to expand public trust doctrine beyond its traditional state-law parameters or to otherwise shrink littoral rights, the possibility of a so-called "judicial taking" may arise.

The concept of judicial takings was established in \textit{Stop the Beach Renourishment} as discussed above.\textsuperscript{227} No court has yet to find a judicial taking.\textsuperscript{228}

As discussed in Part V, the government has the power to take private land for the public good.\textsuperscript{229} To avoid any violation of takings jurisprudence, the government should pay private property owners immediately upon implementing rolling easements. To control costs, the government might only require a narrow area of land on oceanfront property. However, the government could also purchase the rights to bigger areas of land and this still would not cost as much as the current project in Mantoloking, especially considering the maintenance requirements into the foreseeable future.\textsuperscript{230}

\textsuperscript{224} \textit{Id.} at 1327.
\textsuperscript{225} Hunter, \textit{supra} note 106, at 288.
\textsuperscript{226} \textit{Robert Meltz, Cong. Research Serv., RL42613, Climate Change and Existing Law: A Survey of Legal Issues Past, Present, and Future} 25 (2014). \textit{But see} Severance v. Patterson, 370 S.W.3d 705 (Tex. 2012) (holding that Texas does not recognize rolling easements where the shoreline moved to a lot that was unencumbered by such an easement in an avulsive event). Putting aside the dubious distinction between gradual accretion and more sudden avulsive events, the rolling easement strategy I am proposing envisions paying ocean-front landowners for their property rights. \textit{See generally} Kevin J. Mahoney, \textit{Mitigating Myopia: Climate Change, Rolling Easements, and the Jersey Shore}, \textit{44 Seton Hall L. Rev.} 1130, 1148–51 (2014).
\textsuperscript{228} Meltz, \textit{supra} note 226 at 25.
\textsuperscript{229} \textit{Id.} at 21–24. In the case of implementing rolling easements, the public good is preserving the beach for the public.
\textsuperscript{230} \textit{Id.} at 1–2.
With strong support in the law for implementation, rolling easements also balance policy considerations. The strategy strikes the proper balance between private property rights and the public’s right to access the beach, especially if payment is immediate and relocation is triggered by a certain sea level rise. Rolling easements give property owners notice that land must give way to the sea to preserve the public trust but property owners will continue to own the land above the public trust land and will be returned property rights through the natural process of reliction. Further, rolling easements are a practical solution because they will incentivize less investment in an area that may eventually be taken over by the sea. Preserving the public trust should be considered invaluable to the government.

B. Rolling Easements Applied to Mantoloking

Rolling easements would prevent the construction of a seawall but not dunes. As long as there is available sand and available funds, the State-wide Dune Project is complementary to rolling easements. However, beach replenishment alone is merely a stop-gap measure. When the government is no longer able to sustain the State-wide Dune Project, private property owners could still be allowed to use their own means to prevent the ocean from overtaking their property as long as they preserve public trust land. Strong opposition to the current post-Sandy restoration plan is wasting public money where private money can offer better solutions.

In Bay Head, New Jersey, one town north of Mantoloking, private property owners have decided to protect their land without public funding. One leading opponent to the State-wide Dune Project who is a resident of Bay Head has criticized Governor Christie saying, “Stupid is stupid; you can call it what it is . . . The science and the economics don’t support what they are doing. This sand will wash

231 Titus, supra note 209, at 1315–16.
232 Id. (stating that “[s]etbacks expand the public domain as a means for guarding against developmental encroachment”).
233 This could be accomplished using nuisance law. Enacting a rolling easement to preserve the beach for the public preserves the public trust as a common law right. Any action by private property owners that interferes with this right could be handled through a tort. See Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1029–31 (1992) (discussing when compensation is required by takings law).
Bay Head residents are not giving easements voluntarily. Most oceanfront homeowners in Bay Head say they have no objection to larger dunes—many of the dunes in front of their homes are already 22 feet or higher. But they do oppose granting an easement that they believe permanently transfers a hefty portion of their private, beachfront property into the hands of the public, with no compensation. Instead, beachfront owners are paying their own money to replenish—or establish—the rock revetment in front of their houses that they believe has a long history of protecting oceanfront properties from nor’easters and other storms. Allowing private action such as the rock wall, in conjunction with a rolling easement seems a fair compromise between private property owners and the public.

VIII. CONCLUSION

As areas devastated by Sandy work to restore their coastal communities, it is important to keep in mind the environmental intricacies of barrier islands when considering legal doctrines governing use and appropriation of private property, including the public trust, takings and eminent domain. Fortifying barrier islands with seawalls threatens to eliminate public trust land and cause problems for property owners in hard-hit Mantoloking and nearby towns. A better alternative in the effort to rebuild post-Sandy is implementation of rolling easements which will preserve the public trust and compensate private property owners fairly. Instead of working against nature, state actors should work with nature in compliance with legal doctrines to preserve beautiful beaches and protect private property rights.

235 Id.