

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

EDWARD E. BINTZ,	:	CIVIL ACTION NO. 1:16-CV-1024
	:	
Plaintiff	:	(Chief Judge Conner)
	:	
v.	:	
	:	
THE FEDERAL EMERGENCY MANAGEMENT AGENCY, THE DEPARTMENT OF HOMELAND SECURITY, and PETER T. GAYNOR,¹	:	
	:	
Defendants	:	

MEMORANDUM

Plaintiff Edward E. Bintz (“Bintz”) commenced this action against defendants seeking judicial review of final agency action by the Federal Emergency Management Agency (“FEMA”) under the National Flood Insurance Act (“NFIA”), 42 U.S.C. § 4001 *et seq.* Before the court are the parties’ cross-motions (Docs. 43, 45) for summary judgment.

I. Factual Background & Procedural History²

The FEMA Administrator oversees the National Flood Insurance Program which enables individuals to purchase flood insurance “against loss resulting from

¹ Defendant W. Craig Fugate was Administrator of the Federal Emergency Management Agency when the instant action was filed against him in his official capacity. On March 8, 2019, Peter T. Gaynor became Acting Administrator. Pursuant to Federal Rule of Civil Procedure 25(d), Peter T. Gaynor is substituted as the defendant in this action. See FED. R. CIV. P. 25(d).

² The following factual narrative is derived primarily from relevant portions of the administrative record which are located at various docket entries. (See Docs. 77-1, 77-2, and 80).

physical damage to or loss of real property or personal property.” 42 U.S.C.

§§ 4003(a)(6), 4011(a). The Administrator, together with the Technical Mapping Advisory Council, must “identify, review, update, maintain, and publish National Flood Insurance Program rate maps” with respect to populated areas within the 100-year and 500-year floodplain and near other geographical features such as dams and levees. Id. § 4101b(a), (b)(1)(A). Each flood insurance rate map shall develop flood data on a “watershed basis” (1) to provide the “most technically effective and efficient studies and hydrologic and hydraulic modeling” and (2) “to eliminate, to the maximum extent possible, discrepancies in base flood elevations between adjacent political subdivisions.” Id. § 4101b(b)(2)(B)(i)-(ii).

Following a flood insurance study,³ FEMA publishes a flood insurance rate map which delineates “special hazard areas and . . . risk premium zones” applicable to a particular community for purposes of determining insurance rates. 44 C.F.R. §§ 59.1, 64.3(a)(1). Two components of a flood insurance study are pertinent to this litigation: the “base flood” and the “water surface elevation.” A base flood, or 100-year flood, is “the flood having a one percent chance of being equalled or exceeded in any given year.” Id. § 59.1. Water surface elevation is “the height . . . of floods of various magnitudes and frequencies in the flood plains of coastal or riverine areas”

³ The terms “flood insurance study” and “flood elevation study” are used interchangeably. 44 C.F.R. § 59.1. A flood elevation study includes the “examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations” of a particular area. Id.

over the mean sea level.⁴ Id. The base flood and the water surface elevation are used to determine the base flood elevation which is the “the flood level that has a one percent or greater chance of occurrence in any given year.” See id. FEMA divides the coastline into “transects”—cross sections of a beach that run perpendicular to the shoreline—and assigns a base flood elevation to each transect.⁵ (See Doc. 77-1 at 65-66; Doc. 77-2 at 196). If a community’s flood insurance rate map contains special flood hazard areas, new construction (or substantial improvements to existing structures) must “have the lowest floor (including basement) elevated to or above the base flood level.” See, e.g., 44 C.F.R. § 60.3(e)(1)-(2), (4).

Flood insurance rate maps are designed to inform property owners of flooding risks associated with shore erosion from “single, large storm events.” (Doc. 77-2 at 36). In creating these maps, FEMA and its mapping partners evaluate whether primary frontal dunes in a given transect are effective barriers during a base flood by considering the potential for “storm-induced dune erosion.” 44 C.F.R. § 65.11(a); (see Doc. 77-2 at 5, 20, 40-41, 135-42). A primary frontal dune is “a continuous or nearly continuous mound or ridge of sand[,] with relatively steep seaward and landward slopes[,] immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major

⁴ The mean sea level is the National Geodetic Vertical Datum. 44 C.F.R. § 59.1. At all relevant times, the base flood elevation was measured against mean sea level established by the National Geodetic Vertical Datum of 1988. (See, e.g., Doc. 77-1 at 9, 22).

⁵ Transects are spaced “approximately 0.5 mile[s] apart in developed areas and closer to 2.0 miles apart in undeveloped or very steep areas.” (Doc. 77-2 at 196).

coastal storms.” 44 C.F.R. § 59.1; (see also Doc. 77-2 at 42). A frontal dune has a “dune toe” which is located “at the junction between [the] gentle slope seaward and a slope of 1:10 or steeper, marking the front dune face.”⁶ (Doc. 77-2 at 42).

To be an effective barrier, a primary frontal dune’s cross-sectional (perpendicular to the shoreline) must be at least 540 square feet above the stillwater elevation. 44 C.F.R. § 65.11(b); (Doc. 77-2 at 19-20, 42). The stillwater elevation “is the base elevation upon which the waves ride” and is calculated using the mean sea level, the corresponding fluctuations in astronomic tide, and storm surge data. (Doc. 77-2 at 24; see also id. at 81). Storm-induced erosion can result in either “dune removal” or “duneface retreat” depending on the size of this cross-sectional area. According to FEMA mapping guidelines, storm-induced erosion can be expected to “obliterate” or “remove” a primary frontal dune with less than the requisite 540 square feet in cross-sectional area. (Id. at 41, 44). By contrast, a larger dune with at least 540 square feet of cross-sectional area will experience a “retreat of the seaward duneface” caused by storm erosion “with the dune remnant remaining as a surge and wave barrier.” (Id. at 41, 44). Application of dune removal and duneface retreat methodologies is depicted in the figure below:

⁶ A dune slope of 1:10 represents an elevation increase of one foot for every 10 feet moving inland from the dune toe. Comparatively, a dune slope of 1:50 represents an elevation increase of one foot for every 50 feet moving inland from the dune toe.

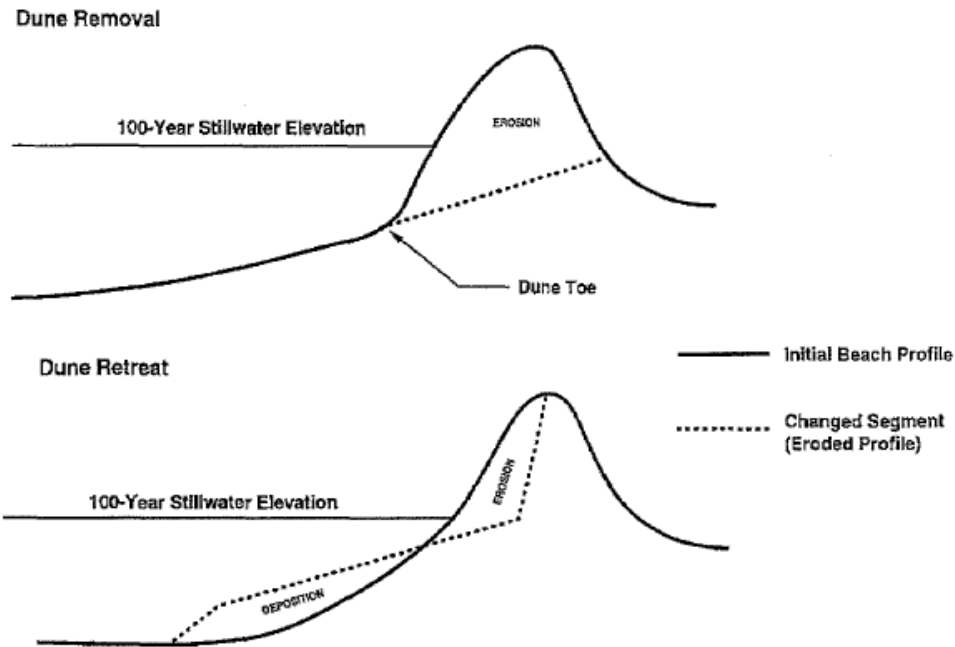


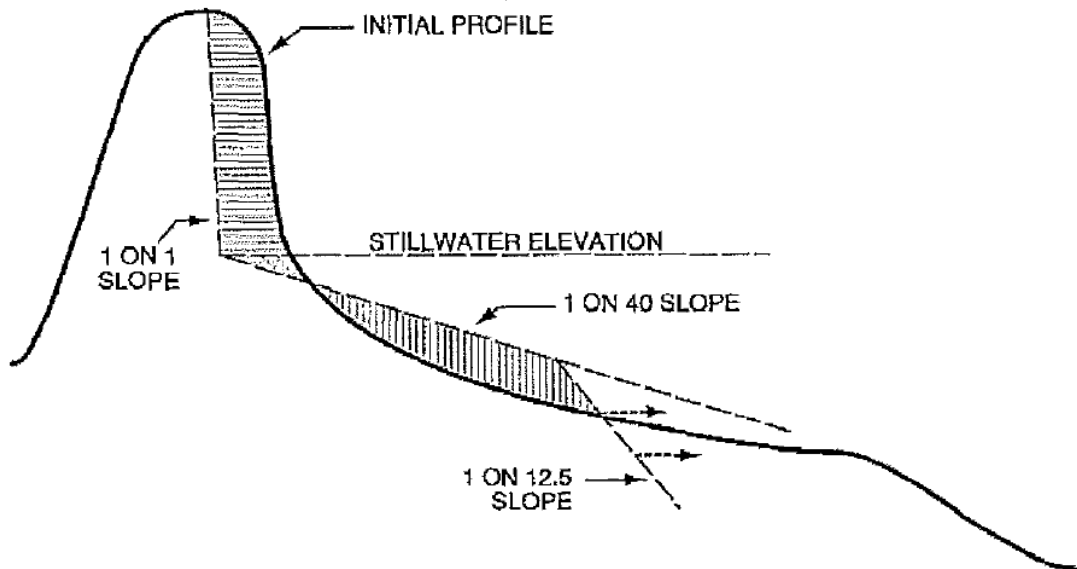
Figure D.2.9-7. Schematic Cases of Eroded Dune Geometries with Planar Slopes

(Id. at 46). The initial determination of whether to treat erosion in a particular area as a dune removal or a duneface retreat case is based solely on the size of the frontal dune reservoir. (Id. at 44).



FEMA guidelines set forth default methodologies for effecting dune removal and duneface retreat. In a dune removal case, the eroded beach profile is taken to be “a seaward-dipping slope of 1:50 running through the dune toe” that is “spliced onto the flanking segments of a given transect.” (Id. at 47). This treatment “removes the major vertical projection of the frontal dune from the transect” resulting in a gentle ramp beach profile. (Id.) If the dune toe in a particular transect is not clearly ascertainable, the dune toe can be located at either (1) “the typical elevation of definite dune toes on nearby transects within the study area,” or (2) the local 10% stillwater elevation. (Id.)

In a duneface retreat case, the “eroded profile consists of three planar slopes” as represented in the figure below. (Id. at 50). The first plane is a retreated duneface slope of 1:1 which is connected to the “extensive middle slope of 1:40.” (Id.) This middle slope is connected to a third, short slope of 1:12.5. (Id.) The portion of the duneface in front of the 1:1 slope is eroded away and deposited in the area nestled at the intersection of the 1:40 slope and the 1:12.5 slope. (See id. at 50-51).

Figure D.2.9-12. Procedure Giving Eroded Profile in Cases of Duneface Retreat, and Simplification of Dune Retreat Model Developed by Delft Hydraulics Laboratory of the Netherlands



PROCEDURE:

- 1 - CONSTRUCT RETREATED DUNEFACE WITH 540 FT² EROSION [] ABOVE 100-YEAR STILLWATER ELEVATION AND SEAWARD OF 1 ON 1 SLOPE.
- 2 - DETERMINE ADDITIONAL DUNE EROSION QUANTITY, SHOWN DOTTED, IN WEDGE BETWEEN STILLWATER ELEVATION, 1 ON 40 SLOPE, AND INITIAL PROFILE.
- 3 - BALANCE TOTAL DUNE EROSION WITH POSTULATED DEPOSITION [] BY APPROPRIATE PLACEMENT OF 1 ON 12.5 SLOPE AS LIMIT TO DEPOSITION.

(Id. at 51; see also id. at 52). This erosion profile is “spliced onto the unchanged landward and seaward portions of the pre-storm [beach] profile.” (Id. at 51). FEMA and its contractors can then apply wave runup modeling on the new beach profile to determine “an appropriate flood elevation on the dune remnant.” (Id.)

Recognizing the variability of dune erosion during extreme storms, FEMA mapping guidelines permit departure from standard methodologies for duneface retreat and dune removal under certain circumstances. (See id. at 51, 53). Erosion treatment may be modified to render results that are more consistent with definitive historical evidence of “the extent of flooding, erosion, and damage in an extreme storm event comparable to the local 1-percent-annual-chance flood.” (Id.) When “available historical evidence is not definitive,” FEMA should use only the size of the “frontal dune reservoir”—the 540-square-foot method outlined *supra*—in determining whether to classify a particular transect as a duneface retreat or dune removal case. (Id.)

Governmental entities frequently engage in “beach nourishment projects” by constructing new dunes or reconstructing existing, damaged dunes. (See id. at 62). During flood insurance studies, these “artificial” dunes are evaluated pursuant to the same 540-square-foot method applied to natural dunes. (Id.) An artificial dune must be “well-established with long-standing vegetative cover” to be considered an effective barrier to coastal flooding irrespective of its size and cross-sectional area. See 44 C.F.R. § 65.11; (Doc. 77-2 at 62). In such circumstances, FEMA’s mapping partners utilize “[p]re-nourishment topography . . . for non-vegetated artificial dunes and nourished beaches unless special consideration is granted” by FEMA’s flood insurance study representative. (Doc. 77-2 at 62).

The mapping guidelines also establish parameters for evaluating the impact of coastal structures on an erosion analysis. If a coastal structure is not certified to withstand a base flood, FEMA’s mapping partner must determine whether that

structure “will partially or completely fail during the base flood.” (Id. at 62). A coastal structure that completely fails should be removed entirely from the erosion analysis, and “[t]he remaining soil profile should be altered to achieve its likely slope immediately after structure failure.” (Id.) If an uncertified coastal structure only partially fails during a base flood, FEMA’s mapping partner must evaluate the seaward and landward storm-induced erosion. (Id. at 63).

A. Flood Insurance Rate Map for South Bethany, Delaware

Bintz’s Ocean Drive property is located in transect 1610 in South Bethany, Delaware. (Doc. 37 ¶ 22; Doc. 38 ¶ 22). On January 31, 2013, FEMA issued a preliminary flood insurance rate map to South Bethany, Delaware, (Doc. 77-1 at 2-151; Doc. 77-2 at 401), and subsequently published the preliminary map in the Federal Register on December 23, 2013 (“2013 Preliminary Map”), (Doc. 77-2 at 401); Proposed Flood Hazard Determinations, 78 Fed. Reg. 77481-01 (Dec. 23, 2013). The 2013 Preliminary Map reduced the base flood elevation for South Bethany transects from 12 feet (pursuant to the 2005 flood insurance rate map) to 10 feet. (See Doc. 77-1 at 169, 180, 209). In reaching this outcome, FEMA and its mapping partners treated South Bethany transects as dune removal cases. (See Doc. 77-2 at 324). The dune toe was set at the 10% stillwater elevation and a 1:50 slope was applied to the erosion profile, together resulting in a “mild slope after erosion.”⁷ (Id.)

⁷ The closest transect to Transect 1610 for which the 10% stillwater elevation was measured is Transect 1590. (See Doc. 77-1 at 74). Transect 1590’s dune toe was set at 6.7 feet and Transect 1600 was assigned a 6.6-foot dune toe. (See Doc. 77-1 at 74; Doc. 77-2 at 324).

George Junkin (“Junkin”) was a member of the South Bethany town council and chairman of the Sea Level Rise and Storm Surge Committee. (Doc. 77-1 at 152, 172). On April 1, 2014, Junkin emailed FEMA asserting that South Bethany believed the base flood elevation for oceanfront homes should be 12 feet. (Id. at 152). Junkin attached historical photographs and news stories depicting damage to the South Bethany coastline from storms in March 1962, February 1998, and February 2003. (Id. at 154-67; see id. at 292). He also included a bar graph of undated elevations by street in South Bethany and a March 11, 2014 email from the Delaware Department of Natural Resources and Environmental Control (the “Department”) discussing “‘repetitive loss’ properties”—properties that “have made more than one large claim on their flood insurance.” (Id. at 163, 166). In the email, the Department stated that at least half of the 41 repetitive loss properties in South Bethany have their “lowest horizontal structural member of the lowest floor between 0 and 8 feet above” the then-existing 12-foot base flood elevation. (Id. at 166). The Department further noted that in 1999, FEMA provided grant money to raise two Transect 1610 homes four feet above the then-12-foot base flood elevation. (Id.; see id. at 227). FEMA treated Junkin’s April 2014 email as an appeal by South Bethany and revised the 2013 Preliminary Map to increase the base flood elevation from 10 feet to 13 feet for properties on Ocean Drive. (Id. at 169-71). The 2013 Preliminary Map became final on September 16, 2014. (Id. at 180).

FEMA contracted with Risk Assessment, Mapping, and Planning Partners (“RAMPP”) to issue a technical support data notebook for Sussex County, Delaware, dated October 16, 2014. (Doc. 77-2 at 187, 194). RAMPP concluded that

South Bethany experienced more severe erosion than what had been previously modeled in the original 2013 Preliminary Map, leading RAMPP to apply “a unique erosion methodology.” (Id. at 201). In reaching this conclusion, RAMPP relied on Junkin’s April 2014 email, data provided by the Department, and “discussions with State and Local officials regarding firsthand experience of the erosion at South Bethany Beach.” (Id.) RAMPP simulated the “true conditions of the erosion experienced in this area” by (1) completely eroding the South Bethany dunes, and (2) keeping Ocean Drive “intact” consistent with observations by state and local officials and because Ocean Drive was built with non-erodible materials. (Id.)

South Bethany objected to FEMA’s treatment of Junkin’s email as an appeal, asserting that South Bethany never authorized the filing of an appeal and Junkin’s email did not comply with regulatory requirements.⁸ (Doc. 77-1 at 172-73). On February 25, 2015, FEMA rescinded the 2013 Preliminary Map and restored the 12-foot base flood elevation established by the 2005 flood insurance rate map. (Id. at 180). FEMA then issued a new preliminary flood insurance rate map on May 18, 2015 (“2015 Preliminary Map”), which assigned a base flood elevation of 13 feet to Ocean Drive properties in South Bethany. (Id. at 203-06, 209). FEMA contracted with Compass PTS JV (“Compass”) to perform an independent review of the 2015 Preliminary Map. (Id. at 184-86). Compass issued a March 20, 2015 memorandum wherein it concluded that FEMA’s “dune removal and resultant steep profile based

⁸ South Bethany clarified that its objection to FEMA’s treatment of Junkin’s email “[was] not to imply that [Junkin] acted inappropriately” as Junkin was authorized to investigate the base flood elevations set forth in the 2013 Preliminary Map. (Doc. 77-1 at 172).

on the pre-nourishment beach profile adhere to existing [mapping] guidance and was performed in consultation with state officials.” (Id. at 186). In reaching this conclusion, Compass described Ocean Drive’s presence as a “unique driver of the shape of the eroded profile.” (Id. at 185).

On June 12, 2015, FEMA hosted a community meeting open to all South Bethany residents to discuss the 2015 Preliminary Map. (Doc. 77-2 at 389). Representatives from FEMA, RAMPP, the Department, and the United States Army Corps of Engineers (the “Army Corps”) attended the meeting. (Id. at 390-91). RAMPP identified the following “new data” that FEMA received after the 2013 Preliminary Map was issued: elevation data for Ocean Drive collected in 2013 and 2014; historic photographs and newspaper articles concerning storm damage near Ocean Drive; beach elevation profiles from before and after hurricanes in 2009 (Ida) and 2012 (Sandy) as surveyed by the Army Corps; and “repetitive loss information for properties along Ocean Drive showing damage above 12 feet.” (Id. at 405). During the meeting, FEMA and RAMPP used Transect 1600 as an example of how dune erosion modeling was revised in the 2015 Preliminary Map. (Id. at 324). In Transect 1600, the dune toe was lowered to an elevation of 1.1 feet and the transect was treated as a duneface retreat case which resulted in a “steep slope after erosion.” (Id.)

FEMA published a notice of the proposed base flood elevations for South Bethany transects in the Federal Register on September 25, 2015, providing for submission of comments on or before December 24, 2015. (Doc. 77-1 at 220-21). On October 6, 2015, South Bethany’s mayor received notification of the proposed

base flood elevations. (Id. at 213-16). FEMA subsequently published the notice in a local newspaper, *Coastal Point*, on October 16 and October 23, 2015. (Id. at 217-19). The notice referenced the 90-day administrative appeal period as well as the public online and physical locations of the 2015 Preliminary Map and related flood insurance study. (Id. at 213-21).

B. Administrative Appeals of the 2015 Preliminary Map

South Bethany filed an appeal with FEMA on January 15, 2016, raising a bevy of challenges to the technical and scientific correctness of the 2015 Preliminary Map. (Doc. 77-1 at 222-79; Doc. 77-2 at 244-301). FEMA used 2005 topographical information to develop the base flood elevations in the 2013 and 2015 Preliminary Maps. (Doc. 37 ¶ 46; Doc. 38 ¶ 46). South Bethany argued that FEMA should have relied on 2014 topographical data in creating the 2015 Preliminary Map, as that data more accurately represented the current South Bethany shoreline and included an artificial 16-foot dune constructed in 2008 by the Department and the Army Corps. (Doc. 77-1 at 228-31). The 2008 artificial dune included fencing and dune grass, and the Department and Army Corps continually provided periodic nourishment every three years and made necessary repairs following severe storms in 2009 (Hurricane Ida) and 2012 (Hurricane Sandy).⁹ (Id. at 233-35).

FEMA’s non-standard methodology began dune erosion “on the seaward side of the dune at elevations between [.7] and 1.1 feet” for South Bethany transects. (Id.

⁹ South Bethany acknowledged that the 2008 artificial dune’s cross-sectional area was greater than 540 square feet in Transect 1600 and less than 540 square feet in Transects 1610, 1620, 1640, and 1650. (Id. at 237).

at 240; Doc. 77-2 at 359). South Bethany noted that these elevations were below the 10% annual stillwater elevation of 6.6 feet and that the toe of erosion in adjacent transects (Transects 1590 and 1650) was more than 5.0 feet lower than the toe of erosion in the transects impacted by the non-standard methodology. (Doc. 77-1 at 240). FEMA's methodology resulted in a 1:100 slope of erosion moving landward and culminated in a 1:3 slope up to Ocean Drive. (Id.) South Bethany observed that FEMA's altered erosion profile "ha[d] the configuration of duneface retreat" but failed to follow FEMA's mapping guidelines for same, "including balancing of the eroded sediment volume across the seaward portion of the profile." (Id.) According to South Bethany, dune removal treatment would have better accounted for the damage depicted in the historical photographs as they showed "large areas of overwash, destruction/erosion of Ocean Drive, and structural damage to many buildings." (Id.) South Bethany argued that FEMA should have used standard dune removal methodology to create the 2015 Preliminary Map because the historical evidence was not definitive and FEMA had relied on 2005 topography data which showed only a small dune with a frontal dune reservoir of less than 540 square feet. (Id. at 240-41).

On January 19, 2016, Bintz submitted an appeal of the 2015 Preliminary Map to South Bethany, (id. at 280-93; Doc. 77-2 at 302-47; Doc. 80 at 4-49), which South Bethany forwarded to FEMA one day later, (Doc. 77-1 at 294). Bintz reiterated South Bethany's position as to FEMA's duneface retreat methodology for South Bethany's transects, but also noted that FEMA provided inconsistent explanations regarding the precise non-standard erosion methodology used. (Doc. 80 at 8-11).

He noted that RAMPP's technical support notebook for the 2015 Preliminary Map stated that South Bethany dunes were completely eroded whereas materials presented to the community during the June 2015 meeting indicated that duneface retreat was utilized to create a steep erosion slope. (Id.)

Bintz also challenged the reliability and sufficiency of the historical evidence used to develop a non-standard erosion methodology. (Id. at 11). He argued that FEMA's reliance on "erosion data relating to the post-replenishment beach after [Hurricanes] Ida and Sandy" in 2009 and 2012, respectively, is inconsistent with its use of 2005 topographical data which depicted a beach with a mild slope and small dunes. (Id. at 11-12). RAMPP representatives visited South Bethany ten days after Hurricane Ida, and on February 22, 2013, the Department provided FEMA historical evidence including photographs depicting damage to South Bethany from storms in March 1962 and January 1992. (Id. at 13, 38-49; see also Doc. 77-2 at 339, 344-45). Bintz averred that FEMA and RAMPP were "well aware of storm damage in South Bethany . . . when preparing the 2013 Preliminary [Map]." (Doc. 80 at 13).

As to the Department's evidence of repetitive loss properties included in the Junkin email, Bintz suggested that such information was unreliable because flood insurance covers non-habitation property such as stairways, pilings, and other support structures and flood damage can occur "from inundation on the landward side of a property." (Id.) Bintz noted that (1) Junkin's undated elevation data might not be representative of the beach elevation during historic storms and (2) such data was likely available to FEMA when the 2013 Preliminary Map was created. (Id.

at 13-14). He concluded by challenging FEMA's exclusion of the 2008 artificial dune from its dune erosion analysis. (Id. at 15-16).

FEMA issued responsive letters to South Bethany and Bintz on April 6, 2016, resolving their respective appeals. (Doc. 77-1 at 295-304). As to South Bethany's appeal, FEMA noted that following collection of 2014 topography data, a storm hit South Bethany in fall 2015, causing 20% to 40% loss to the 2008 artificial dune. (Id. at 296). In January 2016, a second storm event resulted in "approximately 45% dune loss at the northern end of the town and a gradual increase to complete dune loss at the southern end of the town." (Id.) For these reasons, FEMA declined to revise the 2015 Preliminary Map to include the 2008 artificial dune or the 2014 topographical data. (See id.) FEMA also defended its non-standard methodology applying duneface retreat rather than dune removal to South Bethany transects. (Id. at 297). In support of its methodology, FEMA pointed to historic photographic evidence of past storm damage, the National Flood Insurance Program's repetitive loss data, and "discussions with State and Local officials regarding firsthand experience of the beach erosion in South Bethany." (Id.)

As to Bintz's appeal, FEMA declined to reconsider its non-standard methodology for the same reasons set forth in response to South Bethany's appeal. (Compare id. at 301 with id. at 297). FEMA stated that the dune toe elevation was lowered to 1.1 feet "to simulate the damaged beach after major storms described by local officials" and in alignment with the Army Corps' post-storm profile survey data. (Id. at 301-02). During major storms along South Bethany's coastline, the wave energy "is high and causes much more severe erosion than that produced

with [] standard methodology.” (Id. at 302). FEMA grounded this conclusion in the historic photographs and “beach elevation profiles surveyed before and after major storms” by the Army Corps. (Id.) FEMA found this evidence sufficient to support the non-standard methodology. (Id. at 302-03). In denying his appeal, FEMA noted that Bintz could submit additional material within 30 days or seek review of the at-issue scientific and technical data by a Scientific Resolution Panel. (Id. at 302).

On May 5, 2016, Bintz submitted a letter and additional documentation to FEMA in further support of his January 2016 appeal. (Doc. 80 at 51-111). Therein, Bintz argued that the 2015 Preliminary Map caused discrepancies in base flood elevations between adjacent political subdivisions in violation of federal law. (Id. at 52-54). He contended that the non-standard erosion methodology identified dune toes so low that they “would be submerged by ocean water for a substantial portion of normal non-storm high tide cycles” causing the entire beach to be treated as a dune. (Id. at 54-55, 64, 106). Bintz challenged FEMA’s authority to depart significantly from the 540-square-foot rule based on “vague” and “unsupported” references to the participation of state and local officials in describing major storm damage, post-storm profile data, and repetitive loss information. (Id. at 55-58). Bintz concluded his May 5 letter by restating his objection to FEMA’s exclusion of the 2008 dune from its erosion analysis and by criticizing FEMA for disseminating “inaccurate” and “incomplete” information to the community concerning the 2015 Preliminary Map. (Id. at 58-60). On August 5, 2016, FEMA sent a summary letter to South Bethany acknowledging receipt of Bintz’s May 5 letter and stating that Bintz

provided insufficient data to warrant a revision to the 2015 Preliminary Map. (Doc. 77-1 at 359).

C. Procedural History

Bintz filed the instant appeal on November 4, 2016, pursuant to 42 U.S.C. § 4104(g) and 44 C.F.R. § 67.12(a). Bintz seeks (1) reversal of FEMA’s denial of his administrative appeal and (2) implementation of the 10-foot base flood elevation established in the 2013 Preliminary Map for transect 1610. We denied Bintz’s request to supplement the administrative record and conduct additional discovery. Bintz then filed an amended complaint, alleging that defendants also violated notice-and-comment requirements when they promulgated the 2015 Preliminary Map and corresponding base flood elevations. The parties have filed cross-motions for summary judgment which are fully briefed and ripe for disposition.

II. Legal Standard

Through summary adjudication, the court may dispose of those claims that do not present a “genuine dispute as to any material fact” and for which a jury trial would be an empty and unnecessary formality. FED. R. CIV. P. 56(a). Courts may resolve cross-motions for summary judgment concurrently. See Lawrence v. City of Philadelphia, 527 F.3d 299, 310 (3d Cir. 2008); see also Johnson v. FedEx, 996 F. Supp. 2d 302, 312 (M.D. Pa. 2014); 10A CHARLES ALAN WRIGHT ET AL., FEDERAL PRACTICE AND PROCEDURE § 2720 (3d ed. 2015).

The cross-motions in the case *sub judice* seek judicial review under the Administrative Procedure Act (“APA”), 5 U.S.C. § 701 *et seq.* Summary judgment is the “mechanism for deciding, as a matter of law, whether the agency action is

supported by the administrative record and otherwise consistent with the APA standard of review.” La. Forestry Ass’n v. Solis, 889 F. Supp. 2d 711, 720 (E.D. Pa. 2012) (quoting Sierra Club v. Mainella, 459 F. Supp. 2d 76, 90 (D.D.C. 2006)), aff’d sub nom. La. Forestry Ass’n v. Sec’y U.S. Dep’t of Labor, 745 F.3d 653 (3d Cir. 2014).

The customary summary judgment standard does not apply. Am. Bioscience, Inc. v. Thompson, 269 F.3d 1077, 1083 (D.C. Cir. 2001); Am. Farm Bureau Fed’n v. U.S. E.P.A., 984 F. Supp. 2d 289, 308 (M.D. Pa. 2013), aff’d, 792 F.3d 281 (3d Cir. 2015) (citations omitted). Instead, the APA supplies the applicable standard: courts may “hold unlawful and set aside agency action, findings, and conclusions found to be” either “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law” or implemented “without observance of procedure required by law.”

5 U.S.C. § 706(2)(A), (D).

III. Discussion

The NFIA requires the FEMA Administrator to publish proposed flood elevation determinations to allow for public comment or appeal by affected municipalities and individuals. See 42 U.S.C. § 4104(a)-(b). An owner or lessee of real property within an affected community may appeal the Administrator’s proposed base flood elevation determination to the local government if the owner or lessee believes that the proposed elevations for a specific area are “scientifically or technically incorrect.” Id. § 4104(b). The local government may choose to either independently appeal the proposed flood elevation determination on behalf of its residents or submit copies of the individual appeals to the Administrator for collective review. Id. § 4104(c). Any individual “aggrieved by” the Administrator’s

resolution of their administrative appeal may seek judicial review with the appropriate district court. Id. § 4104(g). The scope of the district court’s review is governed by Chapter 7 of the APA. Id.

Bintz appeals FEMA’s implementation of a 13-foot base flood elevation in Transect 1610 on several grounds, asserting: (1) FEMA inappropriately relied on historical evidence to justify departing from standard erosion methodologies; (2) FEMA acted arbitrarily and capriciously and not otherwise in accordance with law by developing a non-standard erosion methodology premised on incorrect and unsupported modeling assumptions; and (3) FEMA violated notice-and-comment requirements in proposing the 2015 Preliminary Map.¹⁰ FEMA disputes Bintz’s contention that it acted improperly in establishing the 13-foot base flood elevation for Transect 1610 and, as a threshold matter, argues that Bintz’s appeal should be dismissed because of the insufficiency of his underlying administrative appeal.

¹⁰ The parties argue extensively as to whether Bintz can base his appeal on FEMA’s alleged violation of the APA’s notice-and-comment requirements in light of the NFIA’s more specific notice-and-comment provisions outlined in 42 U.S.C. § 4104. (See Doc. 69 at 12-15; Docs. 71, 74, 76, 78). As noted above, our review of Bintz’s appeal is governed by Chapter 7 of the APA. 42 U.S.C. § 4104(g). Section 706(D) permits a district court to set aside an agency action, finding, or conclusion that is “found to be . . . without observance of procedure required by law” and results in prejudice. 5 U.S.C. § 706(D). Bintz can raise his procedural arguments in the context of the NFIA’s notice-and-comment provisions and related federal regulations. Therefore, we need not address the parties’ arguments concerning the interplay of the respective notice-and-comment provisions of the APA and the NFIA. We will also deny Bintz’s pending motion to strike, which concerns this dispute, as moot.

A. Sufficiency of Administrative Appeal

Federal regulations impose specific data requirements on appellants seeking to demonstrate that “the elevations proposed by FEMA are scientifically or technically incorrect.” 44 C.F.R. § 67.6(a). The regulation imposes different data requirements for three types of alleged error: technical incorrectness based on “mathematical or measurement error or changed physical conditions”; technical incorrectness premised on “an error in application of hydrologic, hydraulic[,] or other methods or use of inferior data in applying such methods”; and scientific incorrectness. See id. § 67.6(b)(1)-(3). According to the amended complaint, Bintz’s administrative appeal challenged FEMA’s proposed base flood elevations as “scientifically and/or technically incorrect.” (Doc. 37 ¶¶ 9, 10, 12, 16, 50, 74-75, 79-81, 87, 89-90). In his briefing, Bintz limits the scope of his administrative appeal to challenging the proposed base flood elevations solely on scientific incorrectness. (See Doc. 47 at 4; Doc. 69 at 11-12).

A methodology or assumption is scientifically incorrect if it is “inappropriate for the physical processes being evaluated or [is] otherwise erroneous.” 44 C.F.R. § 59.1. An appellant must demonstrate the scientific incorrectness of FEMA’s proposed base flood elevations by

- (i) Identifying the methods, or assumptions purported to be scientifically incorrect[;]
- (ii) Supporting why the methods, or assumptions are scientifically incorrect[;]
- (iii) Providing an alternative analysis utilizing methods, or assumptions purported to be correct[;]

(iv) Providing technical support indicating why the appellant's methods should be accepted as more correct[;]
and

(v) Providing documentation of all locations where the appellant's base flood elevations are different from FEMA's.

Id. § 67.6(b)(3)(i)-(v). Bintz challenged the historical evidence and other supporting data underlying FEMA's decision to use a non-standard erosion methodology in creating the 2015 Preliminary Map. (Doc. 80 at 11-14). He explained that the base flood elevations in South Bethany transects were incorrect due to FEMA's non-standard erosion treatment of South Bethany dunes, establishment of a low dune toe, and classification of Ocean Drive as non-erodible. (Id. at 8-11).

FEMA suggests that Bintz's submission was deficient because he failed to have it certified by a registered professional engineer. (Doc. 52 at 3). Federal regulations only impose such a requirement on appellants challenging a base flood elevation for technical incorrectness. See 44 C.F.R. § 67.6(b)(1), (b)(2)(v). Bintz provided survey data identifying the location of the shoreline, dune toe and ridge, and residential structures in Transect 1610. (Doc. 80 at 12, 32-37). FEMA found that Bintz's January 19, 2016 administrative appeal was timely and "satisfied the data requirements defined in [44 C.F.R. § 67.6]." (Doc. 77-1 at 300). We conclude that Bintz's January 19, 2016 letter constituted a valid administrative appeal of the base flood elevations established by the 2015 Preliminary Map.

B. Judicial Review of Agency Action

The APA provides that a court may "hold unlawful and set aside agency action, findings, and conclusions found to be" either "arbitrary, capricious, an

abuse of discretion, or otherwise not in accordance with law” or implemented “without observance of procedure required by law.” 5 U.S.C. § 706(2)(A), (D). A party claiming agency action or omission violated Section 706 must show that the violation resulted in prejudice to the party seeking judicial review. Id. § 706; see Columbia Venture LLC v. S.C. Wildlife Fed’n, 562 F.3d 290, 294 (4th Cir. 2009).

Under this narrow standard of review, the court should not “substitute its judgment for that of the agency.” Prometheus Radio Project v. FCC, 824 F.3d 33, 40 (3d Cir. 2016) (quoting Motor Vehicle Mfrs. Ass’n of U.S. v. State Farm Mut. Auto. Ins., 463 U.S. 29, 43 (1983)). Rather, the reviewing court considers whether the agency “examine[d] the relevant data and articulate[d] a satisfactory explanation for its action[,] including a rational connection between the facts found and the choice made.” Id. at 40 (certain alterations in original) (quoting State Farm, 463 U.S. at 43). An agency acts arbitrarily and capriciously if, *inter alia*, it “has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, [] is so implausible that it could not be ascribed to a difference in view or the product of agency expertise,” or provides “insufficient reasons for treating similar situations differently.” Pa. Dep’t of Human Servs. v. United States, 897 F.3d 497, 504 (3d Cir. 2018) (quoting State Farm, 463 U.S. at 43); Nazareth Hosp. v. Sec’y U.S. Dep’t of Health & Human Servs., 747 F.3d 172, 179-80 (3d Cir. 2014) (citation omitted).

1. *Historical Evidence*

Initially, we conclude that FEMA reasonably revisited its application of standard erosion methodology to the South Bethany shoreline in the 2013 Preliminary Map following receipt of Junkin's April 2014 email. (See Doc. 77-2 at 201). Junkin was a local official with firsthand knowledge of storm-related erosion and damage to South Bethany. He provided FEMA with historical photographs and newspaper articles concerning storms in March 1962, February 1998, and February 2003, as well as an email from the Department discussing repetitive loss properties in South Bethany. (Doc. 77-1 at 152, 154-67). The Department identified numerous properties situated at or above the original 12-foot base flood elevation that suffered repetitive flood damage including two homes in Transect 1610 that FEMA paid to raise from 12 to 16 feet in 1999. (Id. at 166-67).

Bintz avers that FEMA conducted no meaningful analysis of the information presented by Junkin. (Doc. 44 at 18-22). Yet FEMA possessed or obtained additional data that corroborated Junkin's historical evidence calling into question the adequacy of the base flood elevations in the 2013 Preliminary Map. FEMA received further historical evidence from the Department in February 2013, concerning the March 1962 storm and a January 1992 storm. (Doc. 80 at 13, 38-49; Doc. 77-2 at 339, 344-45). The Department's evidence overlapped with the content of Junkin's submission concerning damage and flooding from severe storms in March 1962 and throughout the 1990s. (See Doc. 77-1 at 152, 154-67; Doc. 77-2 at 339, 344-45; Doc. 80 at 13, 38-49). The Army Corps provided beach elevation data associated with Hurricanes Ida and Sandy, which reflected significant beach

erosion in Transect 1610 following the storms. (Doc. 77-2 at 406, 413, 421-22; see Doc. 77-1 at 227).

Bintz asseverates that FEMA likely possessed some of the information attached to Junkin's email prior to creation of both the 2013 and 2015 Preliminary Maps. (Doc. 44 at 18-19). To the extent Bintz is suggesting that FEMA artificially inflated the importance of this anecdotal storm evidence to manufacture a higher base flood elevation, we find no support in the administrative record for such a proposition. FEMA's purported failure to adequately consider historical storm damage in selecting an appropriate erosion methodology in 2013 did not compel FEMA to ignore such evidence in future flood insurance studies, once that evidence was brought to its attention. The historical evidence and corroborating data were sufficiently definitive to support FEMA's decision to develop a non-standard erosion methodology for the South Bethany shoreline.

2. *Non-Standard Erosion Methodology*

Bintz challenges FEMA's development of the non-standard erosion methodology used in the 2015 Preliminary Map by pinpointing three decisions which he contends were scientifically incorrect and resulted in the 13-foot base flood elevation for Transect 1610: (1) finding a dune in Transect 1610 that was not present in the 2013 Preliminary Map; (2) assigning a 0.7-foot dune toe and a 1:100 erosion slope to that discovered dune; and (3) treating Ocean Drive as non-erodible. We take these arguments in turn.

To create the 2013 Preliminary Map, FEMA applied standard dune erosion methodology to South Bethany's 2005 topography. (See Doc. 77-2 at 324). In June

2015, FEMA represented to the community that it treated South Bethany transects as dune removal cases and applied the standard seaward-dipping slope of 1:50 and a dune toe located at the 10% stillwater elevation. (See id. at 47, 324). The 2013 Preliminary Map reflected no dune in Transects 1610, 1620, and 1640 and identified no erosion methodology applied. (Id. at 135, 138-39). In its briefing, FEMA claims that the 2013 Preliminary Map “did not reflect a removal of this dune because the dune slope was so mild that when the removal calculation was applied, the sand volume had no significant impact.” (Doc. 46 at 16). FEMA cites to nothing in the administrative record that supports this assertion. (See id.) Moreover, for transects that had a dune, the 2013 Preliminary Map identified the type of dune and the form of erosion modeling applied thereto (removal or retreat). (See, e.g., id. at 137-38).

Even if we credited FEMA’s explanation for its purported treatment of the dune in South Bethany, the remaining modeling assumptions undergirding the 2013 Preliminary Map find little to no support in the administrative record. FEMA selected a .7-foot dune toe and an erosion slope of 1:100 for Transect 1610. (Doc. 77-1 at 240; Doc. 77-2 at 359). Bintz notes that the nothing in the administrative record elucidates how FEMA arrived at the .7-foot dune toe. (Doc. 47 at 8). The June 2015 presentation materials represent that FEMA considered beach elevation profiles from before and after Hurricanes Ida (2009) and Sandy (2012). (Doc. 77-2 at 405; see id. at 413-41). FEMA posits that because the beach elevation data from both before and after Hurricane Ida show dune toes at or below the mean sea level for South Bethany transects, the dune toes it chose are reasonable and could have been set even lower. (Doc. 52 at 6). The fact that FEMA could have set the dune

toes lower based on the Hurricane Ida data only serves to underscore the absence of specific reasoning as to how it selected the particular dune toes used to create the 2015 Preliminary Map.

FEMA also does not explain why it utilized the 2009 storm data and not the 2012 storm data. The beach elevation profiles from both before and after Hurricane Sandy in 2012 appear to reflect significantly higher dune toes than those present in 2009. (Compare Doc. 77-2 at 418-23 with id. at 434-39). Hurricanes Ida and Sandy both struck South Bethany after completion of an artificial dune in 2008. (See Doc. 77-1 at 228-31). This artificial dune's cross-sectional area is less than 540 square feet in all South Bethany transects except Transect 1600 and therefore would be subject to removal under standard erosion methodology. (Id. at 47, 237). FEMA declined to use the 2014 topography data and 2008 artificial dune in its modeling because a fall 2015 storm resulted in 20% to 40% dune loss and a storm in January 2016 caused between 45% and complete loss to the 2008 artificial dune. (Id. at 296). FEMA does not adequately explain why, after electing to exclude the 2014 topographical data that depicted the 2008 artificial dune from its erosion analysis, it then applied beach elevation data collected from that same post-replenishment beach in 2009 to the 2005 topography selected as the baseline for the 2015 Preliminary Map.

The technical support notebook for the 2015 Preliminary Map indicated that RAMPP simulated the erosion experienced in South Bethany by keeping Ocean Drive "intact" because it was built with non-erodible materials. (Doc. 77-2 at 201). In response to Bintz's argument that historical evidence shows that Ocean Drive frequently suffers significant damage during severe storms, FEMA argues that

“standard engineering practice . . . treats roads landward of dune systems and along the beach as non-erodible when the erosion profile reaches the road.” (Doc. 46 at 16). FEMA further clarified that the phrase non-erodible as applied to roads does not mean that Ocean Drive suffers no damage but that, under storm conditions, such roads “will not erode in the same manner that sand dunes do.” (Id.) FEMA cites to nothing in the administrative record in support of this proposition.

FEMA’s explanation for its treatment of Ocean Drive also contravenes existing mapping guidelines. There is no evidence that Ocean Drive is certified to withstand a base flood. In treating Ocean Drive as non-erodible, FEMA does not describe whether the road completely or partially fails during a base flood or how that determination informed the assignment of a steep 1:3 slope of erosion thereto. (Cf. Doc. 77-2 at 62-63). In the absence of record support for its application of a “standard engineering practice,” FEMA points the court to the independent review by Compass wherein Ocean Drive’s presence is described as a “unique driver of the shape of the eroded profile.” (Doc. 52 at 7; Doc. 77-1 at 185). FEMA suggests that this modicum of evidence is sufficient to conclude that none of the Compass engineers challenged the assumption that Ocean Drive was constructed with non-erodible materials.” (Doc. 52 at 7-8). We disagree. The three-page Compass memorandum sheds no light on precisely whether and, if so, how FEMA evaluated Ocean Drive’s performance during a base flood and summarily concludes that the

non-standard erosion methodology adhered to FEMA’s mapping guidelines.¹¹ (See Doc. 77-1 at 184-86).

The 2015 Preliminary Map identified a dune in Transects 1600, 1610, and 1640 and described the erosion treatment applied as “revised removal.”¹² (Doc. 77-2 at 225, 228-29). In the technical support notebook, RAMPP indicated that the erosion modeling was “revised to have the dunes completely erode” in South Bethany transects, (id. at 201), suggesting some form of removal methodology was applied. In its administrative appeal, South Bethany noted that erosion guidelines for dune removal were followed for Transects 1610, 1620, 1640, and 1650, yet actual modeling of the erosion profile presented a “configuration of duneface retreat.” (Id. at 259, 262). FEMA responded by noting that its non-standard erosion methodology did not conform to either a standard removal or retreat erosion model and instead resulted in complete removal of the dune and retention of a steep slope at Ocean Drive. (See Doc. 77-1 at 297). But in materials provided during the June 2015 community meeting, RAMPP represented that the South Bethany dunes were “[t]reated as [a] retreat case.” (Doc. 77-2 at 305, 324). These shifting descriptions of the non-standard erosion methodology only further obscure the manner in which FEMA developed the 2015 Preliminary Map and corresponding base flood elevations.

¹¹ Bintz calls into question the purported independence of Compass. (See Doc. 69 at 6-7).

¹² The 2015 Preliminary Map noted the presence of a dune in Transect 1620 but identified no erosion methodology applied thereto. (Doc. 77-2 at 229).

Bintz claims that FEMA’s unique erosion methodology creates unlawful discrepancies between South Bethany and adjacent towns and a post-storm beach profile that “def[ies] common sense.” (Doc. 44 at 24). Federal law requires each flood rate insurance map to develop flood data on a watershed basis “to eliminate, to the maximum extent possible, discrepancies in base flood elevations between adjacent political subdivisions.” 42 U.S.C. § 4101b(b)(2)(B)(ii). The plain language of Section 4101b—“to the maximum extent possible”—appears to provide some flexibility to the entity responsible for eliminating such discrepancies. See id. § 4101b(b)(2)(B)(ii). Neither party provides a meaningful standard for determining what degree of difference in base flood elevation between adjacent political subdivisions constitutes an impermissible discrepancy.¹³ (See Docs. 47, 52, 69).

FEMA ascribed the three-foot difference in base flood elevation between South Bethany and its southern neighbor, Fenwick Island State Park, to the park’s milder beach profile slopes. (Doc. 77-1 at 210). In justifying the lower base flood elevation in the town to the north, FEMA pointed to the “significant erosion and steeper slopes” reflected in the storm data from Hurricanes Ida and Sandy. (Id.) As discussed at length *supra*, several of FEMA’s key decisions underlying the formulation of its non-standard erosion methodology, including its use of storm data from Hurricanes Ida and Sandy, are not clearly supported by the

¹³ The technical support notebook for the 2015 Preliminary Map noted that when the base flood elevation between adjacent zones in populous areas was four feet or greater, transition zones were added to the mapping to reduce these discrepancies. (Doc. 77-2 at 209). How FEMA arrived at a four-foot discrepancy standard is unclear.

administrative record. FEMA does not adequately explain why these storms impacted South Bethany's beach in a vastly different manner than the political subdivisions immediately to its north or why it conducted no inquiry into such apparent disparity.

FEMA also noted that Ocean Drive and oceanfront homes are closer to the shore in South Bethany as a justification for the three-foot discrepancy. (Id.) It is reasonable to conclude that the more seaward an oceanfront home is located, the more vulnerable that home will be to "storm surge and high wave energy." (Doc. 52 at 9). However, the administrative record reflects that wave runup—which is "very dependent on the slope of the shoreline"—was the primary driving force behind the three-foot discrepancy in base flood elevation and not the position of oceanfront homes. (See 77-1 at 191, 210). We cannot find that FEMA sufficiently complied with the requirement of Section 4101b(2)(B)(ii) that FEMA eliminate, to the maximum extent possible, discrepancies in base flood elevations between adjacent political subdivisions.

Bintz also argues that FEMA's application of non-standard erosion methodology to South Bethany transects results in an illogical beach profile outcome. The 2015 Preliminary Map applies standard removal erosion methodology to Transect 1590—the first non-South Bethany transect moving north along the shoreline—by identifying a 6.7 dune toe (the 10% stillwater elevation) and applying a 1:50 slope of erosion. (Doc. 77-1 at 74; Doc. 77-2 at 359; see Doc. 77-2 at 47). The non-standard erosion methodology applied to South Bethany Transect 1600 a 1.1-foot dune toe and a dune slope of erosion (1:100) that is twice as mild as

neighboring Transect 1590. (Doc. 77-1 at 240; Doc. 80 at 26, 105). Simulating erosion on these adjacent transects using vastly different models seemingly results in a stretch of eroded shoreline in South Bethany that is depressed about 5 feet lower than the eroded shoreline of the adjacent political subdivision. (See Doc. 80 at 109). FEMA rejoins that Bintz misunderstands the flood risk analysis process but it fails to explain why the two methodologies do not produce the results projected above. (See Doc. 46 at 17-18). FEMA also misinterprets Bintz's position, suggesting he asserts that a dune cannot exist on the South Bethany transects. (Doc. 52 at 5-6). *Per contra*, Bintz merely asserts that the vast discrepancy in erosion elevation between adjacent transects due to the different methodologies applied to each. (Doc. 69 at 4).

We are mindful that the court's role is not to "substitute its judgment for that of the agency" but to ensure agencies set forth satisfactory explanations for their actions. Prometheus Radio Project, 824 F.3d at 40 (citations omitted). Nothing in this opinion should be construed as the court stating that no possible basis exists for application of a non-standard erosion methodology to South Bethany transects resulting in a 13-foot base flood elevation. But discrepancies in the administrative record combined with FEMA's myriad unsupported conclusions preclude the court from identifying a rational chain of supported inferences leading to the 2015 Preliminary Map. As aptly stated by FEMA, "there are instances where FEMA's articulation [of] the basis of its modeling assumptions could have been more robust." (Doc. 52 at 5). We agree. For all of these reasons, we are constrained to conclude that FEMA acted arbitrarily and capriciously and not in accordance

with law in developing the base flood elevations for South Bethany in the 2015 Preliminary Map.

3. Notice and Comment

The NFIA imposes notice-and-comment procedures on FEMA for proposed base flood elevations and the designation of special flood hazard areas. 42 U.S.C. § 4104(a). Base flood elevations must be proposed by publication in the Federal Register, by direct notification to an affected community’s chief executive officer, and by publication twice in a prominent local newspaper within ten days of notification to the relevant chief executive officer. 42 U.S.C. § 4104(a)-(b). The ability to appeal FEMA’s proposed base flood elevation determination is limited to “any owner or lessee of real property within the community who believes his [or her] property rights to be adversely affected.” *Id.* § 4104(b). Any such appeal must be brought within 90 days of the second publication in a local newspaper. *Id.*

A notice of the proposed base flood elevations for South Bethany transects was published in the Federal Register on September 25, 2015. (Doc. 77-1 at 220-21). FEMA notified the mayor of South Bethany of the proposed base flood elevations by letter dated October 6, 2015. (*Id.* at 213-16). The notice was then published in a local newspaper, *Coastal Point*, on October 16 and October 23, 2015. (*Id.* at 217-19). FEMA identified the statutorily prescribed 90-day appeal period (expiring January 21, 2016) in the notice as well as the public locations of the 2015 Preliminary Map and related flood insurance study report for South Bethany. (*Id.* at 213-21). The Federal Register notice also provided for submission of comments on or before

December 24, 2015. (Id. at 220). FEMA’s notice adequately complied with the strictures of Section 4104.

FEMA has adopted regulations that further govern the notice-and-comment process for proposed base flood elevations. See 44 C.F.R. §§ 1.12, 1.13. A notice of proposed rulemaking published in the Federal Register pursuant to statute must include a reference to the legal authority on which the proposal is issued, the time period for comment submission, an explanation regarding permissible participation by the public, and “[t]he substance or terms of the proposed rule or a description of the subject matter and issues involved.” Id. § 1.12(a)-(d). An interested person may submit written views, arguments, or data during the comment period. Id. § 1.13(a). The regulations further direct the FEMA Administrator to employ additional methods of encouraging “early and meaningful” participation in development of rules. Id. § 1.4(d). Such methods may include convening public forums, holding open conferences, or publicizing notices of proposed regulations in local publications. Id.

The notice published in the Federal Register invited comments on proposed flood hazard determinations including additions and modifications to base flood elevations on the flood insurance rate maps and to the flood insurance studies. (Do. 77-1 at 220). The notice also identified the online and physical locations of the preliminary map and flood insurance study. (Id. at 220-21). Neither the preliminary map nor the flood insurance study identified the three chief assumptions undergirding FEMA’s development of a non-standard erosion methodology for South Bethany’s transects: FEMA’s identification of a dune in South Bethany, the

erosion treatment applied to that dune in each transect, and the classification of Ocean Drive. (See Doc. 11-2 at 240-352). Withholding such critical information negatively impacted Bintz's ability to meaningfully comment on or challenge the proposed base flood elevations in the 2015 Preliminary Map. However, FEMA complied with its notice-and-comment regulations by identifying in the Federal Register base flood elevations for South Bethany as the substance or terms of the proposed rulemaking. (See Doc. 77-1 at 220-21).

Assuming *arguendo* that FEMA failed to provide the affected community with the abovementioned assumptions and determinations concerning the base flood elevations, we find that Bintz was not prejudiced by this omission. Bintz obtained the technical support notebook and other relevant materials from South Bethany before the close of the comment period through a Freedom of Information Act request. (Doc. 69 at 14). He was able to challenge each of FEMA's assumptions concerning development of the non-standard erosion methodology in his January 2016 administrative appeal and May 2016 supplement thereto. (See Doc. 80). Bintz avers that had he received the information earlier in the comment period, he would have submitted affidavits from coastal engineers and engineering analysis in support of his January 2016 administrative appeal. (Doc. 47 at 18). Yet when FEMA provided Bintz an opportunity to supplement his appeal, (Doc. 77-1 at 302), he included only a short memorandum from an engineering firm, (see Doc. 80 at 63-68). In promulgating the proposed base flood elevations in the 2015 Preliminary Map, FEMA did not disregard statutory or regulatory procedure.

C. Remedy

As we have discussed, the scope of our review of Bintz's appeal is governed by the APA. 42 U.S.C. § 4104(g). The APA requires that, upon a finding that an agency has acted arbitrarily and capriciously, a reviewing court shall "hold unlawful and set aside" the offending agency action, finding, or conclusion. 5 U.S.C. § 706(2). Bintz asks the court to order implementation of the 10-foot base flood elevation established by the now rescinded 2013 Preliminary Map, (Doc. 44 at 29-30), but the scope of the matter *sub judice* does not include review of the agency's implementation of the 2013 Preliminary Map. Moreover, imposing the 10-foot base flood elevation contravenes this court's limited role by requiring it to substitute our judgment for that of the agency. Therefore, we will set aside the base flood elevations for Transect 1610 as established in the 2015 Preliminary Map and remand the matter to FEMA for further investigation.

IV. Conclusion

The court will grant in part Bintz's motion (Doc. 43) for summary judgment, deny in part defendants' motion (Doc. 45) for summary judgment, and enter judgment in Bintz's favor. An appropriate order shall issue.

/S/ CHRISTOPHER C. CONNER
Christopher C. Conner, Chief Judge
United States District Court
Middle District of Pennsylvania

Dated: September 4, 2019