

**BEFORE THE
NEW JERSEY BOARD OF PUBLIC UTILITIES**

**IN THE MATTER OF THE PETITION OF OCEAN WIND LLC
PURSUANT TO N.J.S.A. 48:3-87.1(F) FOR A DETERMINATION
THAT CERTAIN EASEMENTS AND CONSENTS NEEDED FOR
CERTAIN ENVIRONMENTAL PERMITS IN, AND WITH RESPECT
TO, THE COUNTY OF CAPE MAY ARE REASONABLY
NECESSARY FOR THE CONSTRUCTION OR OPERATION OF
THE OCEAN WIND 1 QUALIFIED OFFSHORE WIND PROJECT**

Direct Testimony

of

Pilar Patterson

**Re: Onshore Cable Routes Considered, Easements, and Consents For
Environmental Permits for the Ocean Wind 1 Project**

Dated: May 20, 2022

1 **I. INTRODUCTION AND BACKGROUND**

2 **Q. Please state your name and business address.**

3 A. My name is Pilar Patterson. My business address is Orsted North America, Inc.,
4 399 Boylston Street, 12th Floor, Boston, MA 02116.

5 **Q. By whom are you employed and in what capacity?**

6 A. I am employed by Orsted North America, Inc. as Head of Mid-Atlantic Permitting,
7 which includes responsibility for the Ocean Wind LLC (“Ocean Wind”) Qualified
8 Offshore Wind Project (“QOWP”). My responsibilities include developing and
9 executing permitting strategy, define and manage permitting risk, manage and
10 perform high level stakeholder engagement.

11 **Q. Please describe your professional experience and educational background.**

12 A. I have more than 30 years of experience with state and national regulatory
13 permitting, compliance and implementation. I served as a Bureau Chief with the
14 New Jersey Department of Environmental Protection (“NJDEP”), during which
15 time I led a team of 30 professionals that oversaw more than 400 municipal and
16 industrial treatment plants in the State. I worked with the federal EPA, permittees
17 and local officials in a combined effort to reduce raw sewage overflows. After my
18 time at the NJDEP, I was employed by Kleinfelder Inc., an international
19 engineering consulting firm with 55 offices, as a Program Manager and regulatory
20 expert. I worked with both public and private entities covering a wide range of
21 environmental permitting and compliance issues, including water permitting,
22 wetlands permitting, threatened and endangered species, stormwater permitting,
23 Federal Energy Regulatory Commission approval, and contaminated sites. In June

1 2020, I joined Orsted as Permit Manager for Ocean Wind 1. In November 2021, I
2 was promoted to New Jersey Program Permit Manager, in March 2022 I was
3 promoted to Head of Mid-Atlantic Permitting.

4 I graduated from Rutgers College of Engineering with a B.S. in Industrial
5 Engineering. I am also a Certified Public Manager based on coursework at the
6 Human Resources Development Institute and Fairleigh Dickinson University.

7 My education, experience and qualifications are fully set forth in Appendix A to
8 my testimony.

9 **Q. Have you previously testified in Board of Public Utilities (“Board” or “BPU”)**
10 **proceedings?**

11 A. Yes. I submitted pre-filed testimony in support of Ocean Wind’s Petition to the
12 Board in BPU Docket No. QO22020041.

13 **Q. Have you testified in proceedings before other utility regulatory commissions**
14 **or administrative bodies?**

15 A. Yes. I have testified before the New Jersey Office of Administrative Law in
16 connection with an appeal of total maximum daily load water quality report while
17 employed by the NJDEP as a Bureau Chief. I also testified in connection with a
18 litigated matter in Montana.

19 **Q. Would you describe the purpose of your testimony?**

20 A. I am testifying on behalf of petitioner Ocean Wind in support of its petition seeking
21 a determination that certain easements and certain county consents for New Jersey
22 Department of Environmental Protection (“NJDEP”) permits in the County of Cape
23 May (“Cape May County” or “County”) are reasonably necessary for the

1 construction or operation of the Ocean Wind 1 Project (“Ocean Wind 1” or
2 “Project”). More specifically, my testimony will address the following topics: (1)
3 easements over real property owned by the County that Ocean Wind requires to
4 construct the on-shore portion of the Project; and (2) consents needed from Cape
5 May County with respect to NJDEP permits or approvals necessary for the Project.
6 I will also address the efforts Ocean Wind undertook to determine the most
7 appropriate onshore route for the electric facilities necessary for the Project,
8 including other potential routes considered. Finally, I explain why the selected
9 route that passes through Cape May County (which I will refer to as the “Preferred
10 Route”) is reasonably necessary for both the construction and operation of the
11 Project.

12 **II. Easements Across Cape May County-Owned Property**

13 **Q. Please describe the process by which Ocean Wind evaluated potential on-shore**
14 **routes for the electric facilities at issue in this matter.**

15 A. First, let me note that witness Jason Kalwa discusses the specific electric facilities
16 required for the onshore portion of the Project that will pass through Cape May
17 County in his direct testimony, Exhibit OW-1. I will explain the process by which
18 Ocean Wind evaluated potential onshore routes.

19 Ocean Wind’s siting process involved determining onshore interconnection
20 points and substation locations that could form the onshore endpoints for the
21 Project, and developing offshore and onshore export cable route corridors, landfall
22 options and export cable routes. Additional potential route options were developed
23 and analyzed based on Ocean Wind’s purpose and need, schedule, geographic

1 requirements, avoidance and minimization of potential impacts during
2 construction, operation and maintenance, and decommissioning, as well as on
3 agency feedback and to minimize impacts to sensitive resources (community and
4 natural resources). Onshore components of the Project have been sited within
5 previously disturbed areas and existing road rights-of-way (ROWS) to the
6 maximum extent practicable to minimize environmental impacts.

7 Interconnection Points

8 The selection of interconnection points was conducted based on a phased
9 screening approach, which included an initial high-level screening, then a desktop
10 study, and finally site-specific surveys. A total of 15 interconnection points were
11 reviewed for the Project. Based on: (i) discussions with utilities regarding
12 substation upgrades, engineering constraints, environmental and permitting
13 constraints, available real estate; (ii) available technology; and (iii) the results of
14 the desktop study; the following interconnection point options were identified to
15 carry forward for further project development: (1) the Oyster Creek nuclear plant
16 in Lacey Township, Ocean County, New Jersey; (2) the B.L. England plant in
17 Upper Township, Cape May County, New Jersey (“B.L. England”); and (3) the
18 Higbee and Ontario substations in Atlantic City, New Jersey.

19 Although the Higbee and Ontario substations in Atlantic City are located
20 closest to the Wind Farm Area (i.e., the portion of the Bureau of Ocean Energy
21 Management (“BOEM”) lease area that contains the offshore infrastructure,
22 including turbines, offshore substations and array, and substation interconnector
23 cables), these substations are unable to accept the output of the Project without

1 major widespread onshore system upgrades. These upgrades could not be
2 completed within the timeframe necessary to contribute to meet the Board-
3 approved commercial operations dates. Finally, the site required for the onshore
4 substation associated with the Higbee and Ontario point of interconnection would
5 have additional impacts to visual resources, cultural resources, and overburdened
6 communities. Therefore, this interconnection point was not further considered for
7 this Project.

8 The Oyster Creek nuclear plant was retired during the Project development
9 phase and is entering the decommissioning phase. Similarly, the B.L. England coal,
10 oil, and diesel electric generation plant has been retired in phases from 2014 to
11 2019. Utilizing the existing grid infrastructure used to formerly interconnect these
12 plants provides the most efficient method of connecting offshore wind energy to
13 the grid. In addition, the sites adjacent to the existing generation facilities are
14 optimal for placement of the substations because they allow for minimized
15 interconnection lines, take advantage of previously disturbed areas, and are
16 consistent with existing uses.

17 For these reasons, Oyster Creek and B.L. England were selected as
18 interconnection points for the Project.¹ The onshore cable facilities at issue in this
19 matter are those required for the interconnection at B.L. England.

¹ Due to the amount of electricity that will be generated by Ocean Wind 1 and injected into the grid, two interconnection points are necessary.

1 Onshore and Offshore Export Cable Route Landfalls, Corridors and Substations

2 *Substations*

3 Once the terminal points (the offshore lease area and interconnection points)
4 were identified, further desktop analysis was conducted to determine opportunities
5 and constraints for the onshore substations. Three locations within Upper
6 Township tax parcel 76 were evaluated for potential substation locations for the
7 B.L. England point of interconnection. The parcel is substantial (over 290 acres)
8 and several areas were evaluated. Ocean Wind selected a portion of the parcel for
9 substation development because of its close proximity to the onshore
10 interconnection point at the B.L. England, and because the topography of the
11 proposed development area is relatively flat and would not require extensive import
12 of fill. Siting the onshore substation in this area would also make use of the adjacent
13 generating station access road and limit the amount of additional impervious
14 surface required to access the substation.

15
16 *Offshore and onshore export cables*

17 Resource maps were developed using existing GIS resource data. Existing
18 resources were reviewed, and such review included bathymetry, geology,
19 contaminated sediments, commercial and recreational fishing activities, navigation
20 channels, anchorage areas, shipping activities, restricted areas, public open space,
21 environmentally sensitive areas, cultural and historical resources, existing
22 infrastructure, surface waters (wetlands and watercourses), and threatened and
23 endangered species, as these resources are likely to impact the development,
24 permitting, and construction of the Project.

1 The resource maps were used to identify and develop study areas, corridors,
2 and route options. Corridors were selected to take advantage of opportunities and
3 avoid constraints where possible. Route options were then developed based on
4 resource opportunities and constraints in combination with engineering
5 requirements. Onshore routes that crossed railroad ROWs were eliminated based
6 on engineering and construction challenges.

7 Routes that crossed inlets, wildlife refuges, and wildlife management areas
8 (which were defined based on federal and state GIS data sets, publicly available
9 reports, and coordination with agencies) were eliminated due to sensitive habitats
10 and permitting requirements. Inlets were identified based on several data sources
11 including NOAA navigational charts and New Jersey Department of Transportation
12 Office of Marine Resources. Inlets and channels were evaluated based on their
13 designation as either federal- or state-maintained to specific depths for navigational
14 purposes. For resource maps that utilized GIS, data sets were collected from the
15 latest NOAA charts available online through the NOAA website. After
16 identification of listed federal- and state-maintained channels via GIS resource
17 maps, the Project team scheduled pre-application meetings with applicable
18 agencies to confirm designated channel dimensions, maintained depths, and
19 required burial depths for submarine cables within the channel. This coordination
20 was incorporated into the phased siting and routing approach discussed in item #1
21 above.

22 Wildlife Management Areas are multi-use public lands administered by the
23 NJDFW and managed by the New Jersey Division of Bureau of Land Management.

1 They are maintained and managed for a diversity of wildlife species through
2 forest/field manipulation and habitat improvement, as well as for public access
3 (NJDFW 2018b). Wildlife Management Areas were defined based on publicly
4 available data sets including New Jersey Department of Fish & Wildlife designated
5 Wildlife Management Areas (NJDFW 2018a), National Wetlands Inventory data
6 sets, U.S. Fish and Wildlife Service WMA Impoundment Management report
7 (USFWS 2018b), and National Park Service website regarding National Natural
8 Landmarks, Manahawkin Bottomland Hardwood Forest (NPS 2016).

9 Several landfall options were identified within each study area during the
10 desktop study. These landfall sites were then reviewed to determine if they met
11 design and construction criteria. If the landfall did not meet the design and
12 construction criteria, the landfall was removed from further evaluation. The
13 remaining landfalls were then screened based on real estate availability, windshield
14 surveys, and meetings with the local municipalities. The landfall options described
15 below were identified, and based on preliminary engineering, were deemed suitable
16 for cable installation. Ocean Wind plans to use trenchless technology (horizontal
17 directional drilling or “HDD”) to make landfall at beaches.

18 **Q. Can you describe the Preferred Route and what led you to determine that it**
19 **was the best alternative?**

20 A. Based on the route planning and site selection process, the Preferred Route would
21 make landfall at the beach lots owned by the City of Ocean City (“Ocean City”) via
22 HDD at 35th Street in Ocean City. The underground cable would travel west to
23 Bay Avenue, north on Bay Avenue to Roosevelt Boulevard (County Route 623),

1 west across Peck Bay (undeveloped area) at Roosevelt Boulevard Bridge (via
2 HDD) and then continue on within the Roosevelt Boulevard ROW, turning north
3 on State Route 9 (North Shore Road) to the proposed substation property at the
4 decommissioned B.L. England. The Preferred Route is depicted on Appendix B to
5 my testimony and in Appendix C to the Direct Testimony of Jason Kalwa.

6 With the exception of the crossing of the beach lots east of 35th Street and
7 the crossing of Peck Bay under Alternative 1 (discussed below), the Preferred Route
8 is sited within existing previously disturbed road ROW areas, thereby avoiding
9 impacts to wetlands, onshore water bodies, and residential and historic properties.
10 The County Property (which I define below) is proposed to be crossed via HDD.
11 HDD landfall from the Atlantic Ocean will allow the Project to avoid impacts to
12 sensitive resources such as beaches, dunes, and overwash areas. The beach is part
13 of a beach nourishment project, which is not currently active, and HDD installation
14 will allow for burial below the depth of closure while avoiding surface impacts.
15 Landfall is within 35th Street, a previously disturbed, paved area with sufficient
16 space for HDD work areas. As to the Peck Bay crossing, use of the HDD method
17 will allow for avoidance of impacts to shellfish, wetlands, and recreational facilities
18 (a floating dock).

19 **Q. Did Ocean Wind consider alternative landfall and routes to B.L. England? If**
20 **so, can you describe each alternative route and why each was not chosen?**

21 A. Ocean Wind considered several different landfall locations and onshore export
22 cable routes to reach B.L. England as part of its alternatives analysis. These landfall

1 and route locations are depicted on Appendix C to my testimony and discussed in
2 detail below.

3 Ocean City Landfall and Route Alternatives: Ocean Wind considered two other
4 landfall locations in Ocean City in addition to Preferred Route landfall at 35th Street.
5 Specifically, Ocean Wind considered landfall at 5th and 13th Streets in Ocean City.
6 The 5th Street route would follow 5th Street to West Avenue, the cable would then
7 be within West Avenue to 35th Street, then would follow the Preferred Route. The
8 13th Street route would follow 13th Street to West Avenue, the cable would then be
9 within West Avenue to 35th Street, then would follow the Preferred Route.

10 Each of these route alternatives crossed beaches and Green Acres
11 encumbered parcels owned by Ocean City to make landfall in highly developed
12 areas. While the routes would be located within existing road ROWs after crossing
13 the beach, both the 5th Street and 13th Street routes cross through historic districts
14 and are longer than the Preferred Route, increasing overall impacts, particularly
15 those related to traffic and surrounding land use.

16 Great Egg Harbor Inlet: Ocean Wind considered a route through Great Egg Harbor
17 Inlet, the Shipping Channel and Great Egg Harbor Bay, making landfall near the
18 substation site. The route was not carried forward due to increased impacts within
19 Great Egg Harbor Inlet and Great Egg Harbor Bay. Sediments in the inlet are
20 dynamic; therefore, additional cable protection such as cable mattresses would be
21 needed, resulting in additional impacts to natural resources. Access to the inlet by
22 other vessels would be restricted during construction, which would result in
23 additional impacts to other marine uses and navigation. There is an existing United

1 States Army Corps of Engineers (“USACE”) borrow area at the mouth of the inlet.
2 USACE typically does not authorize crossing of borrow areas or would require
3 impracticable mitigation including burial depths of up to 80 feet below the federal
4 project limit. An in-water route through the Great Egg Harbor Bay and Shipping
5 Channel would result in 5.8 miles of cable burial within designated shellfish habitat.
6 Strathmere Landfall: Ocean Wind considered a landfall in Strathmere, within
7 Upper Township, Cape May County, New Jersey. The Strathmere route would
8 continue west on a local roadway to Sea Isle City then would follow the Sea Isle
9 City route (described below). This route was not carried forward because it would
10 be longer than the Preferred Route and would increase impacts. The offshore export
11 cable route to Strathmere would cross prime fishing areas, extensive borrow areas,
12 and the Carl Shuster Horseshoe Crab Reserve. This route would proceed through a
13 highly developed area, and would also have the impacts associated with the Sea
14 Isle City route below.

15 Sea Isle City Landfall and Route: Ocean Wind also considered a landfall in Sea
16 Isle City. The Sea Isle City route would continue west from landfall to Route 625
17 (Sea Isle Boulevard) then follow Route 625 to Route 9 (North Shore Road) and
18 continue north on Route 9 to the substation. The Sea Isle City route was not carried
19 forward because the route would be longer and would increase impacts. The
20 offshore cable route would cross USACE and state borrow areas, prime fishing
21 areas, an artificial reef and Carl Shuster Horseshoe Crab Reserve. The onshore
22 route following Sea Isle City Boulevard and Route 9 would involve several stream
23 crossings, including a major tributary of Ludlam Bay (intracoastal waterway), as

1 well as crossings of underground pipeline connectors. These types of crossings
2 would not be necessary using the Preferred Route. The onshore cable route would
3 cross or be adjacent to multiple historic sites and districts including the Atlantic
4 City Railroad Cape May Division Historic District. The route may abut or cross
5 through several National Heritage Priority Sites, including the Corson Inlet South
6 and Whale Beach, the Seaville Methodist Church Site, and the Magnolia Lake Site.
7 The route would potentially cross or abut Excursion Park and/or JFK Boulevard
8 Park and Pinelands regional growth and forest areas and would cross a known
9 groundwater contamination area.

10 **Q. Please summarize why Ocean Wind is proceeding with the Preferred Route**
11 **instead of the other routes evaluated?**

12 A. Compared to the potential alternatives, the Preferred Route is technically feasible,
13 and has the least impacts to natural resources, including wetlands and water bodies,
14 and residential and historic properties.

15 **Q. In regard to the Peck Bay crossing, is the Project considering alternatives?**

16 A. Yes. Ocean Wind is considering two alternatives for the Peck Bay crossing:

17 (1) Alternative 1 is the crossing described as within the Preferred Route,
18 where the onshore cable will cross Peck Bay to the north of the County-owned
19 bridge. *See* Appendix B. This alternative would cross the bay from the east at
20 Block 3350.01, Lot 17, which is property owned by Ocean City. Ocean Wind has
21 requested the Board approve an easement over Block 3350.01, Lot 17 in its Petition
22 pending before the Board in Docket No. QO22020041. As discussed below,

1 Alternative 1 would also require temporary and permanent easements over property
2 owned by Cape May County.

3 (2) Alternative 2 is a crossing to the south of the bridge. This alternative
4 would cross the bay from the east and the entire route would be constructed within
5 public (County road) ROW. See Appendix B. Because the entire portion of
6 Alternative 2 would be in public ROWs, no easements would be needed.

7 **Q. Please describe the specific easements the Project needs over properties owned**
8 **by Cape May County in connection with Alternative 1.**

9 A. Ocean Wind has not been able to definitively ascertain from the County whether
10 the County recognizes the area crossed by Alternative 1 as County road ROW or
11 other County-owned property. Therefore, if the County takes the position that any
12 portion of the route under Alternative 1 is not within public road right-of-way,
13 Ocean Wind will require temporary and permanent easements from Cape May
14 County. Specifically, Ocean Wind requires a temporary easement over Block
15 3350.01, Lot 17.01, on the Official Tax Map of Ocean City, totaling 0.257 acres,
16 for use during the construction phase of the onshore export cable. The duration of
17 this temporary easement will be 18 months from the start of construction. A
18 drawing depicting the temporary easement is included in Appendix D to my
19 testimony.

20 In addition, for Alternative 1, Ocean Wind requires permanent rights of way
21 and easements, approximately 30 feet in width, for the construction, reconstruction,
22 installation, operation, maintenance, inspection, patrolling, decommissioning,
23 replacement and repair of a certain onshore export cable and associated equipment

1 and facilities upon, across, and under Cape May County-owned properties
2 identified on the Official Tax Map of Ocean City as Block 3350.01, Lot 17.01,
3 totaling 0.357 acres. Please refer to Appendix D to my testimony. The property
4 owned by Cape May County over which Ocean Wind requires a temporary
5 easement and a permanent easement is referred to as the “County Property.”

6 **Q. Has Ocean Wind attempted to obtain the easements directly from Cape May**
7 **County?**

8 A. Yes. Ocean Wind has reached out to the County on several occasions in an attempt
9 to ascertain the status of the property in question. On April 12, 2022, Ocean Wind
10 made an offer of compensation to the County for the necessary temporary and
11 permanent easements. Ocean Wind witness Madeline Urbish discusses Ocean
12 Wind’s efforts to obtain the required easements from Cape May County in her
13 testimony, Exhibit OW-3. These efforts have been unsuccessful because Cape May
14 County has been unwilling to provide information on the status of the land on which
15 Ocean Wind is seeking easements. Ocean Wind has not yet received a reply.

16 **Q. Do the easements you just described cross properties that are Green Acres**
17 **restricted?**

18 A. No. We have confirmed with NJDEP that Block 3350.01, Lot 17.01 is not
19 encumbered with Green Acres restrictions.

20 **Q. Are the easements over the County Property you describe in this testimony**
21 **reasonably necessary for the construction or operation of the Project?**

22 A. Yes. As discussed above, Ocean Wind followed a comprehensive process to
23 identify potential onshore electric cable routes for the Project. It considered and

1 weighed the benefits and detriments of the alternative routes identified. Based on
2 this process, it has determined that the Preferred Route is the best alternative. In
3 addition, Ocean Wind has determined that one of the two alternatives for the Peck
4 Bay crossing I describe above will be required. Therefore, in my opinion, the
5 temporary and permanent easements across the County Property are reasonably
6 necessary for both the construction and the operation of the Project.

7

8 **III. NJDEP Permitting Consents**

9 **Q. What other NJDEP permits or approvals will the Project require for the**
10 **portion of the onshore electric cable that passes through Cape May County²?**

11 A. The applications include the following:

- 12 • New Jersey Department of Environmental Protection (NJDEP) Division of Land
13 Resource Protection (DLRP) permits, including:
 - 14 • NJDEP DLRP Multi-Permit Application
 - 15 • Waterfront Development Permit
 - 16 • Coastal Areas Facility Review Act (CAFRA) Permit and Coastal Consistency
17 Determination
 - 18 • Coastal Wetlands Permit
 - 19 • Freshwater Wetlands Permit, Transition Area Waiver(s)
 - 20 • Geotechnical Survey Investigation Permits (if additional surveys required)
- 21 • Tidelands license from the NJDEP Bureau of Tidelands Management where Cape
22 May County is the upland owner.
- 23 • Cape Atlantic Conservation District Erosion and Sediment Control Approval for
24 the cable installation.
- 25 • NJDEP Short Term de Minimis General Permit (B7) for groundwater discharge
26 resulting from construction dewatering activities
- 27 • Temporary Dewatering permits for water withdrawal from construction
28 dewatering activities

29

² This testimony only addresses the consents required from Cape May County. Ocean Wind's petition in BPU Docket No. QO22020041 addresses the consents required from Ocean City.

1 In addition, once construction is underway, additional NJDEP permits or
2 approvals may be required.

3 **Q. Absent the filing of this Petition, would Ocean Wind be required to obtain**
4 **Cape May County’s consent to obtain those permits from the NJDEP?**

5 A. Yes. Ocean Wind must have the legal authority and/or consent from Cape May
6 County to perform the Project activities on the County Property and within Cape
7 May County’s road ROWs for the NJDEP to issue the permits for the Project. Cape
8 May County has been unwilling to provide Ocean Wind with the consent required
9 for the NJDEP permit applications.

10 **Q. Did Ocean Wind attempt to secure Cape May County’s cooperation in**
11 **obtaining consents for these NJDEP permit applications?**

12 A. Yes. In her Direct Testimony, Ocean Wind witness Madeline Urbish discusses
13 Ocean Wind’s efforts to secure the consents needed from Cape May County. To
14 date, the County has not been willing to consent to the Project activities on the
15 County Property and within Cape May County’s road ROWs.

16 **Q. Can you address the timing requirements for these NJDEP permits?**

17 A. In order for BOEM to issue its Record of Decision for the Project, NJDEP must
18 issue its federal consistency determination in accordance with an agreement
19 between the NJDEP and the Project. Specifically, on March 31, 2021, NJDEP and
20 Ocean Wind agreed to stay the six-month review period under the Coastal Zone
21 Management Act, 16 U.S.C. 1451-1466, and implementing regulations at 15 CFR
22 part 930, subpart D and subpart E, until October 28, 2022. The Project anticipates
23 that this date will be extended by agreement of both parties to January 2023. In

1 order to meet the anticipated January 2023 deadline, Ocean Wind has been advised
2 by NJDEP that the Project must receive all relevant NJDEP permits and approvals
3 before the NJDEP is in a position to issue its federal consistency determination.
4 The permit applications must be filed within a timely manner for NJDEP to have
5 sufficient time to review, receive public comment, and issue a decision prior to the
6 assumed January 2023 extended deadline.

7 **Q. Are the County consents for the NJDEP permits reasonably necessary for the**
8 **construction or operation of the Project?**

9 A. Yes. For the reasons I discussed above, the Preferred Route is the best route for the
10 onshore electric cable. The NJDEP permits I discuss in this testimony are required
11 before Ocean Wind can begin construction on this portion of the onshore electric
12 cable. In addition, where a federal consistency is indicated, BOEM requires that
13 such federal consistency be issued by the affected state (in this case NJDEP) prior
14 to BOEM's issuance of ROD. ROD approval is required prior to construction of
15 the project. NJDEP has stated they require that all necessary NJDEP permits be
16 issued, prior to the NJDEP issuing a decision on federal consistency. Therefore,
17 the consents from Cape May County are reasonably necessary for the construction
18 and operation of the Project. Accordingly, Ocean Wind is seeking approval from
19 the Board that preempts or supersedes Cape May County's consent rights with
20 respect to such permits.

21 **IV. Summary of Ocean Wind's Requests for Relief**

22 **Q. What is Ocean Wind requesting that the NJBPU approve regarding the**
23 **temporary and permanent easements across the County Property?**

1 A. I have been advised by counsel that pursuant to New Jersey law, the NJBPU has
2 jurisdiction to approve Ocean Wind's acquisition of the required easements.
3 Accordingly, Ocean Wind is requesting that the NJBPU issue an Order granting the
4 easements described in my testimony to Ocean Wind.

5 **Q. What is Ocean Wind requesting that the NJBPU approve regarding county**
6 **consents needed for the NJDEP permits required for the Project with respect**
7 **to construction within Cape May County?**

8 A. I have also been advised by counsel that, under New Jersey law, the NJBPU has
9 jurisdiction to preempt or supersede County consents or other affirmative filings
10 that are a condition of the issuance of a permit or other approval of the NJDEP and
11 are reasonably necessary for the construction or operation of a QOWP. Since the
12 onshore cable route crosses properties owned by the County, including Cape May
13 County's road ROW, Ocean Wind would need the County's consent as part of the
14 above-discussed NJDEP permit applications. Therefore, Ocean Wind is requesting
15 that the NJBPU issue an order preempting or superseding all consents needed from
16 Cape May County for the above NJDEP permits.

17 **Q. Does this conclude your direct testimony at this time?**

18 A. Yes, it does.

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SUMMARY OF EXPERIENCE

Bringing more than 30 years of experience with state and national regulatory permitting, compliance and implementation, I support engineering solutions and provide regulatory insight to complex federal and state regulatory challenges.

Orsted (June 2020 to present)

- Ocean Wind Permit Manager June 2020 – Nov 2021

Scope of work – Ocean Wind

- New Jersey Program Permit Manager (Nov 2021-Mar 2022)

Scope of Work – Ocean Wind and Ocean Wind 2

- Head of Mid-Atlantic Permitting (Mar 2022-present)

Scope of Work – Ocean Wind; Ocean Wind 2; Skipjack Wind

Leading a team of professionals in a range of environmental, permitting and scientific topics to support both permitting and construction. Coordinates with federal, state and local government agencies, stakeholders, and others to provide and support regulatory aspects of the Ocean Wind Offshore Wind Farm (1,100 MW), Ocean Wind 2 Wind Farm (1,148 MW) and Skipjack Wind (966 MW).

Private Consulting (2016-2020)

Employed by Kleinfelder Inc., an international engineering consulting firm with 55 offices, as a Program Manager and regulatory expert. Worked with both public and private entities covering a wide range of environmental permitting and compliance issues, including water permitting, wetlands permitting, threatened and endangered species, stormwater permitting, Federal Energy Regulatory Commission approval, and contaminated sites.

Provided regulatory expertise primarily in the eastern US at both the federal and state levels to support clients in regulatory areas such as permitting, compliance, negotiated consent agreements, and Expert Witness services. As a collaborative technical problem solver, brought insight and highlighted shared goals of clients, local municipalities, and state and federal regulators, thereby saving clients time, money, and effort while creating an environment of four-cornered support: local citizens, state and federal regulators, and client goals, budget and timeline.

New Jersey Department of Environmental Protection, Bureau Chief (1987-2016)

Oversaw over 400 municipal and industrial treatment plants in the state. Worked closely with EPA Headquarters, Region 2 and local governments to develop a NJ Combined Sewer Overflow Program in New Jersey that used a collaborative approach among permittees, regulators and the local community. Led a team of 30 professionals, for the first time in NJ history we successfully brought together 26 treatment facilities and municipalities into a combined effort to reduce raw sewage overflows. In addition, also for the first time in this NJ program, we required the approach include extensive community involvement including the creation of local public participation teams to work together with treatment facilities and municipalities to ensure a local focus on all levels of development and encourage universal project support.

SELECT PROJECT EXPERIENCE

Orsted (2020 to present)

Manage the environmental and regulatory review and permitting of the Ocean Wind 1,100 MW offshore wind farm through:

- Manage and coordinate revisions to the Construction and Operations Plan (COP) and submission to the Federal Bureau of Ocean Energy Management

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- Coordinate for purposes of COP inclusion on-going environmental assessments completed by Orsted program area experts and consultants including:
 - Geophysical and Geotechnical Site Investigations
 - Oceanography and Meteorology
 - Benthic Resources
 - Fisheries
 - Marine Mammals
 - Sea Turtles
 - Birds and Bats
 - Terrestrial Resources
 - Sensitive Biological Resources and Habitats
 - Existing Infrastructure
 - Cultural Resources
 - Coastal Use and Social and Economic Resources
- Manage the preparation of applications to agencies and regulator entities
- Manage schedules and budgets
- Manage and represent Ocean Wind and Orsted in meetings with relevant stakeholders, local, state and federal authorities and government agencies in relation to various environmental topics, permits, regulations and surveys
- Report to the senior project management on progress, budget and key risks for the permitting process

Private Consulting (2016-2020)

(select projects)

- **City of Newark Regulatory Expert Permitting (2019-2020)** preparing regulatory compliance manual, emergency compliance manual, assignment matrix and responsible party calendar.
- **Passaic Valley Sewerage Commission Regulatory Expert Permitting (PVSC) (NJ) (2017 - 2020)** On-call regulatory expert for this 330 MGD facility (113 CSOs in eight communities). Provide regulatory support for all aspects of NJPDES (New Jersey Pollutant Discharge Elimination System) permitting, water quality management planning, water quality models and their application, CSO support and other associated regulatory issues.
- **Springfield Water and Sewer Commission (MA) Regulatory Expert Permitting (2017 - 2020)** In-depth analysis of NPDES permitting requirements for 67 MGD facility with 23 combined sewer overflows. Recommendations regarding regulatory options and flexibility, preparation of comments to U.S. Environmental Protection Agency (EPA), public meeting and comments.
- **Confidential Client Regulatory Expert Transco Pipeline (2017 - 2020)** Provide regulatory review of the Transco Pipeline FERC process and Environmental Impact
- **Long Island Sound TMDL (total maximum daily load) for Springfield Water and Sewer Commission Regulatory Expert (MA) (2017 - 2020)** In-depth analysis and regulatory support regarding the Long Island Sound Total Maximum Daily Load for Nitrate impacts and regulatory requirements for Springfield Water and Sewer Commission Facility. Preparation of extensive comments regarding EPA proposal using empirical modeling to establish nitrogen endpoints for embayments, large riverine systems, and western Long Island Sound Open Water.
- **City of Cambridge (MA) NPDES Permitting, LTCP and CWA compliance (2019 - 2020)** Regulatory expert for the City's NPDES permits, combined sewer overflow program, variance procedures, and related aspects of Clean Water Act compliance. Providing regulatory support for Long Term Control Plan requirements, water quality monitoring and modeling intended goals, and related state and federal requirements.

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- **SUEZ Water Princeton Meadows Regulatory Analysis (NJ)** (2017 - 2020) Performed a regulatory analysis for 1.64 MGD plant rehabilitation and expansion. Evaluated all permitting and expansion regulatory requirements including anti-degradation analysis; water quality management planning; NJPDES permitting for point source, stormwater and groundwater (I/P lagoon); land use permitting; treatment unit closure requirements; local and county approvals; and Delaware and Raritan Canal Commission.
- **Confidential Client in Montana Expert Witness** (2019 - 2020) Provide expert report regarding regulatory aspects of NPDES permitting and treatment plant/collection system permitting; scheduled for expert witness testimony Fall 2019.
- **Confidential Client Superfund Site** (2017 - 2020) Providing technical and regulatory counsel for a “Potentially Responsible Party” to the Berry’s Creek Superfund site in Bergen County, New Jersey. Characterized potential contribution pathways for our client’s site, provided regulatory support for fate and transport of identified chemical of concern.
- **Confidential Client Water Quality Management Plan (WQMP) Site-Specific Amendment (NJ)** (2018 - 2020) Prepared necessary components of the amendment including build-out analysis, mapping, threatened and endangered species evaluation, public notification, and coordination with the Highlands Council and the NJDEP.
- **Middlesex Water Company Stormwater Audit (NJ)** (2017) Conducted extensive on-site regulatory audit of maintenance and storage yard, shop buildings, office and parking areas to determine type and extent of stormwater permitting needs and regulatory options available.
- **North Brookfield Wastewater Treatment Facility Regulatory Expert NPDES Permitting (MA)** (2017- 2018) Evaluated EPA Region 1 issued draft NPDES permit and prepared extensive comments for this 0.76 MGD treatment facility. In-depth analysis of nutrient issues, relationship to the Long Island Sound TMDL, metals and anti-degradation evaluation.
- **Confidential Client Industrial Wastewater Non-POTW NPDES Analysis Regulatory Expert Services (NJ)** (2018 - 2020) On-call regulatory expert for NPDES permitting including applicability of EPA effluent limitation guidelines (ELGs) and centralized waste treatment effluent guideline.

State Government; New Jersey Department of Environmental Protection (2001-2016)

Managed a team of 34 professionals in the implementation of the federal NPDES program (delegated to NJDEP) regulating the discharge of pollutants to surface waters in New Jersey. Regulated entities include over 400 publicly and privately owned treatment works, nuclear and other power generating facilities, contaminated site clean-ups, construction activities, water quality modeling and the combined sewer overflow program.

- Specialties include high-level expertise implementing or providing:
 - Federal Clean Water Act Permit Program
 - Combined Sewer Overflow NPDES Permitting Program

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- Blending and NPDES authorized bypassing at POTWs
- No Feasible Alternatives Analysis
- Point Source (municipal and industrial) NPDES Permitting Program
- Long Term Control Plan regulatory requirements
- Surface Water Quality Variance procedures
- Surface Water Quality Standards
- Total Maximum Daily Load (TMDL) regulatory implementation
- Expert testimony
- Federal Anti-degradation Analysis
- Regulatory negotiations pertaining to state and federal consent decrees and administrative orders
- Regulatory requirements of Delaware River Basin Commission (DRBC); Interstate Sanitation Commission (IEC); NY/NJ Harbor Estuary Program
- Phosphorus technical manual
- Capacity Assurance/Build-out analysis
- Team Author for the creation and updating of state regulations for program implementation

State Government; New Jersey Department of Environmental Protection (1987-2001)

- Regulatory design standards for the construction and operation of treatment works (collection systems, pumping station, wastewater treatment plants)
- Minimum regulatory requirements for Inflow/Infiltration management
- State Revolving Fund Financing Program
- Team Author for the creation and updating of state regulations for program implementation

EDUCATION

- BS Industrial Engineering, Rutgers College of Engineering, NJ
- Certified Public Manager, Human Resources Development Institute and Fairleigh Dickinson University.



TWO OPTIONS ARE SHOWN FOR THE CROSSING OF CROOK HORN CREEK. THESE OPTIONS ARE DEPICTED AT A PRELIMINARY ENGINEERING STAGE. EXACT LOCATION IS SUBJECT TO CHANGE BASED ON FINAL DESIGN.

END OF CAPE MAY COUNTY HIGHWAY OCCUPANCY

PROPOSED LANDING SITE

LEGEND NOT ALL ITEMS ARE TO SCALE

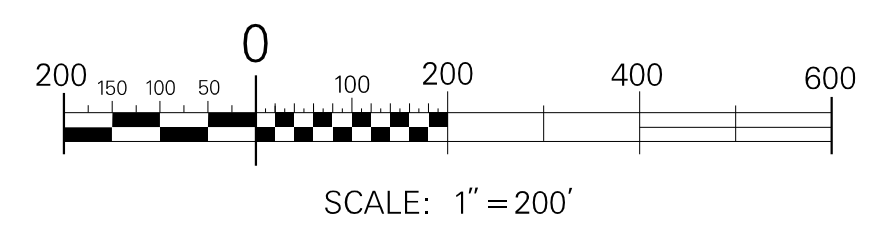
- APPROXIMATE PROJECT ALTERNATIVE 1
- APPROXIMATE PROJECT ALTERNATIVE 2
- PROPOSED STATION PROPERTY BOUNDARY (REF. 6)
- PROPOSED EASEMENTS (REF. 6)
- MUNICIPAL LINE
- 49 TAX BLOCK LINE & NUMBER
- 29 TAX LOT LINE & NUMBER
- UTILITY EASEMENTS

NOTES:

- MAPPING IS BASED ON THE NJ STATE PLANE COORDINATE SYSTEM. HORIZONTAL DATUM = NAD-83(2011) UNITS = U.S. FOOT
- THESE PLANS ARE FOR DISPLAY PURPOSES ONLY AND NOT INTENDED FOR CONSTRUCTION.

REFERENCES:

- RIGHT OF WAY INFORMATION BASED ON SURVEYS PREPARED THROUGH AUGUST 24, 2021 BY FRAUNGER ENGINEERING, BRIDGE TON, NJ.
- NEW JERSEY STATE ORTHOPHOTOGRAPHY WAS CAPTURED IN APRIL AND MAY 2016, AND PRODUCED AT A SCALE OF 1:2400 (1"=200') WITH A 1 FOOT PIXEL RESOLUTION, PROVIDED BY NJ OFFICE OF INFORMATION TECHNOLOGY (NOIT), OFFICE OF GEOGRAPHIC INFORMATION.
- TOWNSHIP OF UPPER TAX MAP SHEETS 27.01, 27.02, 27.03, 27.04, 27, 28.01, 28.02, 28.03, 28.04, 28 & 29.
- OCEAN CITY TAX MAP SHEETS 2, 27, 28, 33, 34, 35 & 335.
- BL ENGLAND PLAN ENTITLED "BOUNDARY SURVEY PLAN, BLOCK 479, LOT 76, 76.01 AND BLOCK 661, LOT 81, 900 NORTH SHORE ROAD, TOWNSHIP OF UPPER, COUNTY OF CAPE MAY - STATE OF NEW JERSEY, PREPARED BY SHAHEED A. SMITH GEOSPATIAL, LLC, ONE GATEWAY CENTER, SUITE 2600-625 NEWARK, NJ 07102," LAST REVISED 10-28-21.
- OPTION AGREEMENT TO PURCHASE BETWEEN RC CAPE MAY HOLDINGS, LLC AND OCEAN WIND LLC DATED AS OF JANUARY 31, 2020



Ocean Wind
An Ørsted & PSEG project

NO.	DATE	DESCRIPTION	BY	CHKD
3	05/13/22	UPDATED LEGEND	CCK	MDR
2	03/17/22	ADDED ALTERNATE CROSSING	CCK	MDR
1	01/10/22	UPDATED PROPOSED STATION & ROUTE	MP	MDR

PSEG CORPORATE HEADQUARTERS
Services Corporation
80 Park Plaza T20
Newark, N.J. 07102-4194
Email: surveying@pseg.com

B.L. ENGLAND SUBSTATION & ONSHORE ROUTING

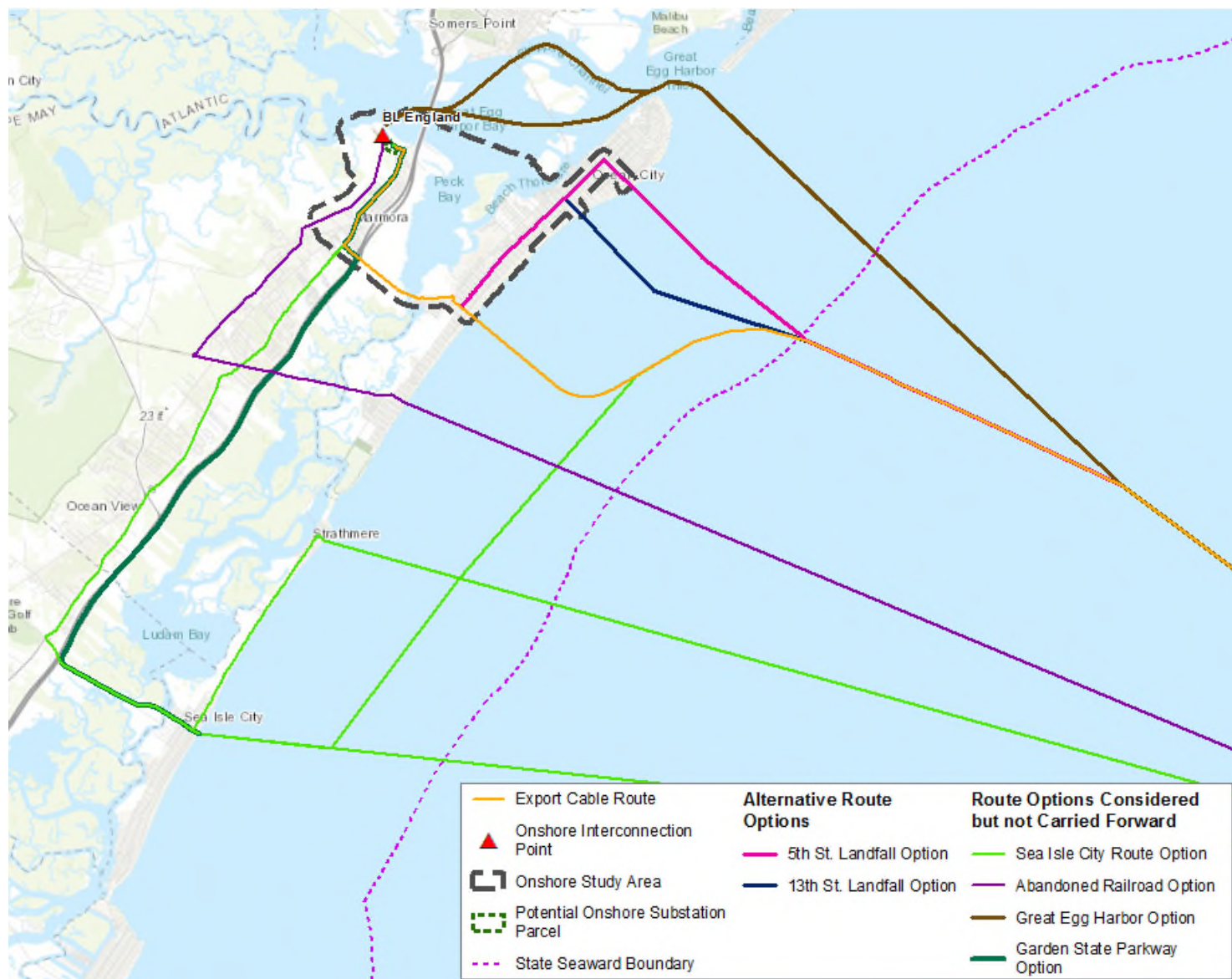
OCEAN CITY, NJ
UPPER TWP

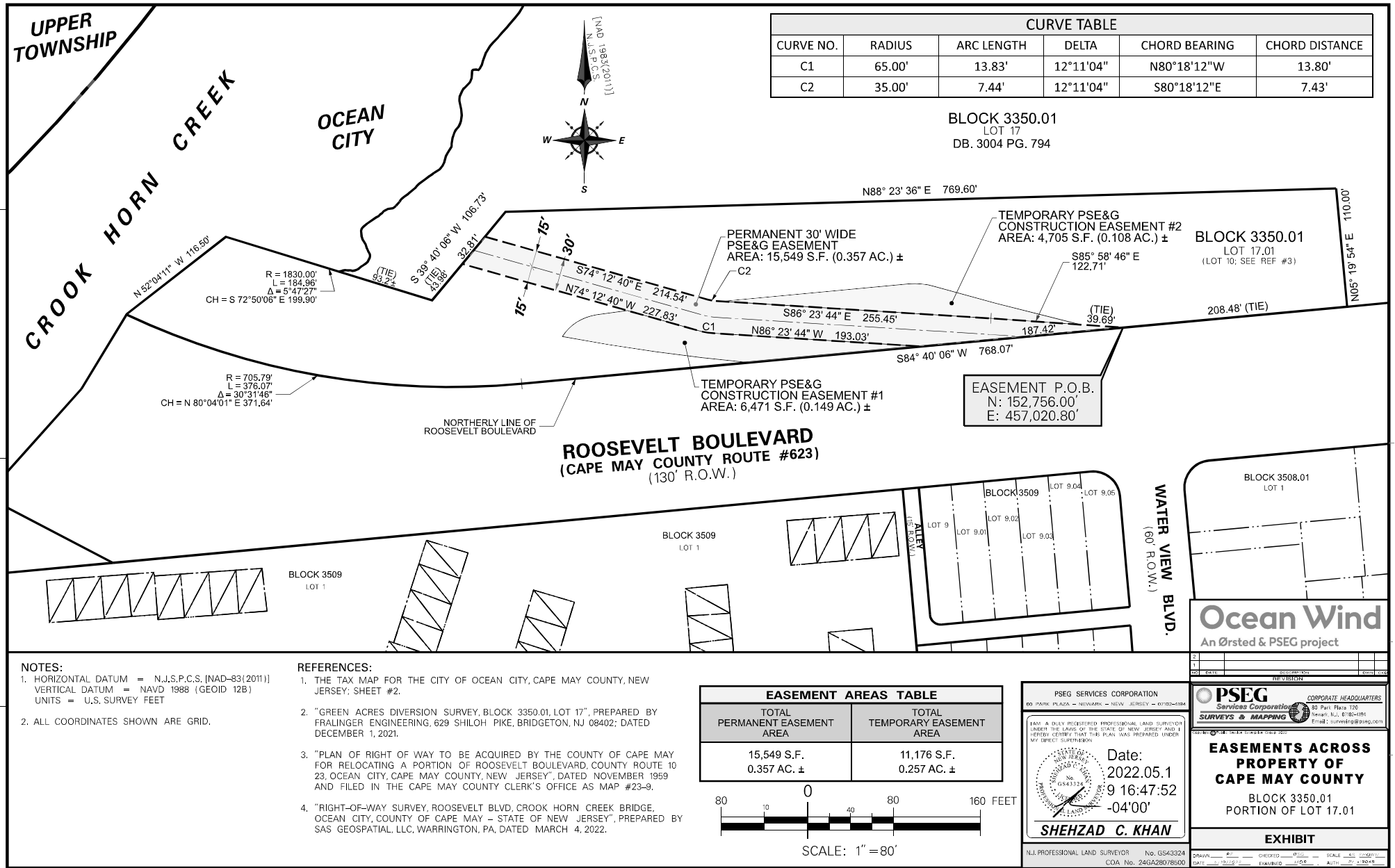
CAPE MAY CO., NJ
CAPE MAY CO., NJ

MUNICIPAL EXHIBIT

DRAWN: CCK CHECKED: BSG SCALE: AS SHOWN
DATE: 11-2-2021 EXAMINED: MDR AUTH: PJ-19048

BL England Landfall and Onshore Export Cable Route Alternatives Considered





Plot Date: 5/19/2022 4:27:24 PM

File: G:\Projects\Electric\Transmission\Prj-19048 Offshore Wind\Plans\Exhibits\Easement & Laydown Areas\Beesleys Point\Block 3350.01 - Lot 17,01119048_EXHIBIT_Beesleys Point Rte_Lands of Cape May Cty.dgn

OCEAN CITY

**METES AND BOUNDS DESCRIPTION
PROPOSED 30 FOOT WIDE PERMANENT EASEMENT
ACROSS LANDS OF CAPE MAY COUNTY
BLOCK 3350.01, PORTION OF LOT 17.01
CITY OF OCEAN CITY
CAPE MAY COUNTY, NEW JERSEY**

BEGINNING at a point in the northerly line of Roosevelt Boulevard (Cape May County Route #623; 130 foot wide Right-of-Way) distant 208.48 feet along the same from the intersection of the same with the dividing line between lands now or formerly of Cape May County (Tax Lot 17.01, Block 3350.01) and lands now or formerly of the City of Ocean City (Tax Lot 17, Block 3550.01 as described in Deed Book 3004, Page 794, said beginning point having New Jersey State Plane Coordinate System Grid Values [NAD 1983 (2011)] of North: 152,756.00 feet, East: 457,020.80 feet, running thence on the ground in NAD 1983 (2011) N.J.S.P.C.S. bearing base the following nine (9) courses:

1. Continuing along said line of Roosevelt Boulevard, South $84^{\circ}40'06''$ West, a distance of 187.42 feet to a point in line of the same, thence;
2. Departing said line through and across said lands of Cape May County along a new line, North $86^{\circ}23'44''$ West, a distance of 193.03 feet to a point of curvature in the same, thence;
3. Through the same on a curve to the right, having a radius of 65.00 feet, an arc length of 13.83 feet, turning a central angle of $12^{\circ}11'04''$, the chord of which bears North $80^{\circ}18'12''$ West, a chord distance of 13.80 feet to a point of tangency in the same, thence;
4. Through the same, North $74^{\circ}12'40''$ West, a distance of 227.83 feet to the intersection of the same with the dividing line between said lands of Cape May County and said lands of the City of Ocean City, thence;
5. Along said dividing line, North $39^{\circ}40'06''$ East, a distance of 32.81 feet to a point in line of the same, thence;
6. Departing said line through and across said lands of Cape May County, South $74^{\circ}12'40''$ East, a distance of 214.54 feet to a point of curvature in the same, thence;
7. Through the same on a curve to the left having a radius of 35.00 feet, an arc length of 7.44 feet, turning a central angle of $12^{\circ}11'04''$, the chord of which bears, South $80^{\circ}18'12''$ East, a chord distance of 7.43 feet to a point of tangency in the same, thence;
8. Through the same, South $86^{\circ}23'44''$ East, a distance of 255.45 feet to a point in the same, thence;

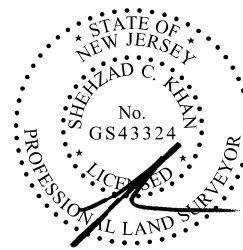
9. Through the same, South $85^{\circ}58'46''$ East, a distance of 122.71 feet to the intersection of the same with the aforementioned northerly line of Roosevelt Boulevard and the point and place of **BEGINNING**.

The above-described easement contains 15,549 Square Feet of Land or 0.357 Acre, more or less.

TOGETHER WITH two (2) Temporary Construction Easements, containing a total area of 11,176 Square Feet of Land or 0.257 Acre, more or less.

Subject to any and all easements of record.

This description is prepared in accordance with a map entitled "Exhibit, Easements Across Property of Cape May County, Block 3350.01 - Lot 17.01, Ocean City, Cape May Co., New Jersey", prepared by PSEG Services Corporation, Surveys & Mapping, 80 Park Plaza, T20, Newark, N.J. 07102, dated May 19, 2022.



Date:
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Shehzad C. Khan, P.L.S
NJ Professional Land Surveyor
License No. GS43324