



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

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OFFICE OF THE
SECRETARY

Secretary's Order No. 2014-S-0025

RE: Application of Delaware City Refining Company, LLC for Federal Coastal Zone Management Act Consistency Determination for Shoreline Restoration Project along the Delaware River near Delaware City, New Castle County

Date of Issuance: December 3, 2014
Effective Date: December 3, 2014

I. BACKGROUND

This Order of the Secretary of The Department of Natural Resources and Environmental Control (Department) reviews a record on Delaware City Refining Company, LLC's (Applicant) May 15, 2014 joint application,¹ which was submitted to the Department's Delaware Coastal Management Program (DCMP) for a federal consistency determination under the federal Coastal Zone Management Act (CZMA), *16 U.S.C §1451 et seq.*, and Department regulations, *Delaware Coastal Management Program Federal Consistency Policies and Procedures at 7 DE Admin. Code 5104*.

Applicant seeks approval to restore approximately 2,700 feet of the Delaware River shoreline (Project) landward of Applicant's dock facilities at its oil refinery near Delaware City, New Castle County. The Project requires a permit from the United States Department of Army Corps of Engineers, which triggers the Department's Consistency Determination review.

¹ Applicant also has an application pending before the Department's Division of Water, Wetlands and Subaqueous Lands Section for a subaqueous land lease and permit and water quality certification.

Delaware's Good Nature depends on you!

The Department received requests for a public hearing on the application, which was held September 23, 2014 before a Department presiding hearing officer. The hearing officer prepared the attached Report, which recommends issuance of the Consistency Determination as drafted by DCMP. The Report is adopted to the extent it is consistent with this Order.

II. FINDINGS AND REASONS

The Applicant proposed the Project to protect important public safety infrastructure from damage from erosion. The record shows that almost 10,000 square feet of the shoreline has been eroded since 1997. The extent of the erosion, if continued unabated, would soon cause the loss of firefighting infrastructure needed to protect the dock facilities. Applicant proposed the Project, which should protect the shoreline from erosion for an estimated fifty years because of the restoration method that would be used, namely, the installation of Wave Attenuating Devices© (WADs).

The WADs to be installed are hollow triangle sided concrete structures, which would be placed in two rows on the Delaware River bottom at the near low water line and approximately 100 feet from the high water line. The WADs are designed and placed to absorb and reduce the erosive energy in waves, as opposed to other methods of shoreline protection that redirect waves to other locations. The record shows that the WADs would reduce two feet high waves generated by a design storm event to less than four inches. The WADs also are designed to cause sediment in the water to be deposited, which should further protect of the shoreline by natural accretion. In addition, the Project would install a permanent oil spill boom between the docks and the WADs, which is designed to

contain any oil spill. Finally, the Project would deposit dredged material from the nearby routine dredging to restore the area where the shoreline has severe erosion.

The Project primarily was opposed by comments concerned with any improvement to the habitat for wildlife and aquatic life near the docks. This concern was that an improved habitat would attract more birds and aquatic life, which in turn would be exposed to a greater risk of harm. The comments identified the risk of harm from an oil spill, and the risk to aquatic life from the oil refinery's cooling water intake located upstream of the Project. The comments recommended that the shoreline be restored using hardened methods such as riprap, and that the oil spill response plan be modified to keep birds away from the area.

The Department finds that the Project will provide shoreline protection for a longer period of time than other methods considered. The shoreline protection is needed to protect important firefighting infrastructure that is threatened by damage from erosion. The Project may improve the habitat that would attract wildlife and aquatic life as the Applicant's experts claim, but the Department's experts do not expect much change to the environment. Under either an improved habitat or the same habitat, the Department finds the Project satisfies the policies set forth in the Department's Regulations based upon DCMP's review of the many environmental factors.

The concern with the possible risk of harm from an oil spill is a concern shared by the Department, but the Department finds that this concern is addressed by the addition of an oil boom that will provide more protection than currently exists. In addition, the WADs should also act as a barrier to help contain any oil spill that may go past the oil boom. There is a dispute whether the Project will improve the environment, but for

purposes of this decision the Department finds that the Project should lower the damage from an oil spill because the WADs and oil boom will provide additional protection from oil spreading and should limit the contamination area. Thus, the Department finds the Project is better for the environment than the alternatives suggested in the comments.

The Department agrees with the Applicant's experts that the WADs will provide a better form of shoreline protection for a longer time period of fifty years, as compared to the shorter expected life of other alternatives considered such as a hardened shoreline. The Project's longer estimated service life should delay the need for future restoration of the shoreline, which would increase the time between construction activities that are disruptive to the environment. Moreover, the Department finds the possibility of a better habitat for fish and wildlife than currently exists is a reason to approve the Project is consistent with the Department's policies that seek to improve the environment. The risk of harm to the environment as improved by the Project does not provide a reason to stop the improvement. Thus, the Project is well-supported by the record to restore the shoreline and to improve the environment.

The Department's experts in DCMP and in the Division of Fish and Wildlife support the Project based upon the draft Consistency Determination, including conditions, prepared by DCMP. The Department's experts consider that the Project should not result in any significant change to the habitat in the area. Consequently, they consider that the Project will not attract more fish and wildlife to the area. Again, the Project should be approved based upon either no change or an improvement to the habitat based upon the concerns with the continued erosion of the shoreline.

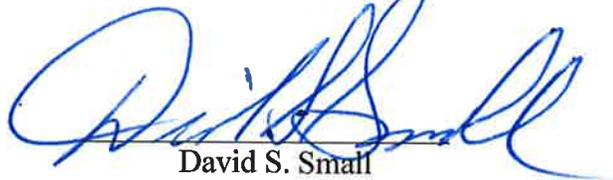
The Department finds that the record supports issuance of the Consistency Determination, and that the Applicant be allowed to construct the Project in order to protect the shoreline from erosion for an estimated fifty year time period.

III. CONCLUSION

The following findings and conclusions are entered:

1. The Department has authority pursuant to *7 DE Admin. Code 5104, Coastal Zone Management Act Section 307*, and *15 CFR 930.61* to conduct a hearing when warranted for the public to supplement information provided by the applicant for a federal consistency review.
2. The Department has statutory authority pursuant to *7 Del. C. Chapter 60* to issue an Order after a public hearing;
3. The Department provided adequate public notice of the application and held a public hearing requested by those commenting on the application for a Consistency Determination in a manner required by the law and regulations;
4. The Department held a public hearing in a manner required by the law and regulations;
5. The Department considered the public comments timely received on the application;
6. The Report is adopted, and the record, as reviewed in the Report, supports issuance of the Consistency Determination including the conditions as prepared by DCMP;
7. The Department shall publish the Order on its website and shall provide legal notice of the Order in the same manner as public notice of the application; and

8. Issuance of the Consistency Determination from the DCMP will allow the U.S. Army Corps of Engineers to proceed with review of the Permit.



David S. Small
Secretary

HEARING OFFICER'S REPORT

TO: The Honorable David S. Small
Secretary, Department of Natural Resources and Environmental Control

FROM: Robert P. Haynes, Esquire
Senior Hearing Officer, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: Application of Delaware City Refinery Company, LLC for federal Coastal Zone Management Act Consistency Determination for a Shoreline Restoration Project along the Delaware River near Delaware City, New Castle County

DATE: November 14, 2014

I. PROCEDURAL HISTORY

This Report considers the record and makes recommendations to the Secretary of the Department of Natural Resources and Environmental Control (Department) on Delaware City Refining Company, LLC's (Applicant) May 15, 2014 joint application¹ submitted to the Department's Coastal Management Program (DCMP) for a shoreline restoration project (Project), which would entail construction in public subaqueous lands along approximately 2,700 feet of the Delaware River landward of Applicant's dock facilities. The dock facilities are used to serve the petroleum refinery located near Delaware City, New Castle County.

The Department published public notice of the application on June 18, 2014, and received two written comments that opposed the Project and requested a public hearing. The Department determined to hold a public hearing, and on August 24, 2014 published public notice of the public hearing, which was held September 23, 2014 at the Kathleen H. Wilbur Elementary School, 4050 Wrangle Hill Road, near Delaware City, New Castle County. At the public hearing an extension of the public comment period was requested, and a seven day extension was

¹ Applicant seeks a Consistency Determination issued under the federal Coastal Zone Management Act (CZMA), and Delaware regulations *Federal Consistency Policies and Procedures at 7 DE Admin. Code 5104*. In addition, an application was submitted to the Department's Division of Water, Wetlands and Subaqueous Lands Section for a subaqueous land lease and permit and water quality certification.

granted. An additional written public comment was received during this extended public comment period.

Following the public hearing, I requested technical assistance from DCMP, which provide the attached Technical Response Memorandum (TRM) along with a draft consistency determination. DCMP requested additional information from the Applicant, which Applicant provided.

II. SUMMARY OF THE RECORD

I find that the record consists of: 1) the verbatim transcript of the public hearing, 2) the documents introduced as exhibits at the public hearing or identified in this Report, and 3) this Report and the attached TRM.

DCMP representatives Tricia Arndt, Federal Consistency Coordinator, and Molly Ellwood, Environmental Scientist, attended the public hearing to answer questions and provided the following documents for the record²: DNREC Ex. 1-the permit application, DNREC Ex 2-public comments from Sierra Club and Delaware Audubon Society (DAS) received in response to the initial public notice; DNREC Ex 3- supplemental information from the National Marine Fisheries Service; DNREC Ex 4-DCMP request for more information; and DNREC Ex. 5- Department Regulations for the DCMP.

The Applicant's representatives at the public hearing included Rebecca Gudgeon, an environmental engineer, Tom Godlewski, the environmental manager, and Ryan Rupprecht and Doug Janiec, consultants from Cardno ENTRIX. Ms. Gudgeon spoke about the data gathered from the Project's site that showed the extent of the erosion of the shoreline since 2007, which she said totaled the loss of 9,500 square feet of shoreline over a six year period. She mentioned the loss of a light pole to shoreline erosion, which soon would threaten fire protection equipment.

² The Department has no obligation to develop the record at the public hearing, but instead provides documents to assist the public in making comments at the hearing. Also this Report corrects names in the transcript.

Mr. Rupprecht spoke next on the Project's use of Wave Attenuating Devices© (WADs), which he described as hollow concrete structures deployed along the shoreline to dissipate wave energy. He said the WADs allow water to pass through, dissipating the wave energy and that would allow sediment to drop off, which would provide for natural accretion landward of the WADs. He showed slides of how the WADs reduce wave energy during storm events.

Ms. Grudgeon also explained that another benefit of the Project over the alternative of a hardened shoreline protection was that WADs would provide fifty years of protection, whereas a bulkhead or breakwater shoreline protection alternatives would only provide twenty years of protection before repairs would be needed. She also responded to the issues raised in the public comments received following the public notice and said that no public funds would be used and that the Project would not increase the risk of oil spills. She also said that the Project would not create a habitat for fish because at low tide the WADs would not be in the water. She described the monitoring and modeling that was used for designing the Project. Finally, she described the Project's emergency boom that would be installed between the WADs and the docks.

Dr. Amy Roe spoke as a representative of the Sierra Club. She requested an extension of the public comment period, which Applicant opposed. After discussion, a seven day extension was granted. She commented on the status of water and air permits for the Applicant. She questioned the location of historic structures as shown in the application. She questioned the increased amount of sediment that the Project would cause and indicated that it may cause problems with the navigation nearby. She also commented on what she described as the hypocrisy of the Project, which she viewed was in response to erosion caused by climate change that in turn she claimed was in part caused by the petroleum refinery.

Dave Carter spoke as the Conservation Chair of DAS. He highlighted the importance of Pea Patch Island to the heron population and he expressed his concern that the Project would

create a habitat that would expose birds and fish to an increased risk of harm from oil spills from the dock facilities. He mentioned that his usual position would be to support the creation of a living shoreline as a shoreline protection alternative, but he did not support the Project because of the concerns with exposing fish and birds to an increased risk of harm from an oil spill. He recommended a hardened shoreline. He also suggested using the living shoreline for the areas where the herons now are in order to improve the habitat there. He also opposed the creation of a habitat close to the cooling water intake, which he said caused fish mortality from impingement and entrainment estimated to cause the death of 45 million fish annually. He also expressed a concern with using the WADs without sufficient due diligence on the impacts they may have on the environment.

Martin Willis commented in support of the Project and discussed the threat from erosion to the boathouse and firefighting equipment.

Rick McCorkle spoke against the Project based upon its creation of a fish habitat that could be harmed by an oil spill. He recommended that the oil pollution plan be updated if the Project is approved. He also supported requiring more monitoring.

Matthew Sarver spoke as the conservation chair of the Delmarva Ornithological Society. He also commented on the need to protect the environment in the event of an oil spill and on the need to update the oil spill response plan to provide a way for hazing any birds in the event of a spill. He also discussed the possible installation of a boom landward of the WADs.

During the post-hearing public comment period the Department received supplemental comments from the Audubon Society that responded to Applicant's presentation at the public hearing, which I marked as Audubon Ex. 2.

The record also includes DCMP's request for additional information from the Applicant and Applicant's response to the request, which is identified as DNREC Ex.6.

The Department's experts in DCMP and the Division of Water conducted on-site visits to assess the Project's site.

The DCMP's recommendation is set forth in the attached TRM, which includes a draft Consistency Determination. The TRM also discusses the public comments and relied on the Department's experts in the Division of Fish and Wildlife, who determined that the Project would not significantly change the habitat of the shoreline. The TRM also review the Project under the standards for a Consistency Determination and concluded that the Project satisfied the standards.

III. DISCUSSION OF FINDINGS AND REASONS

The Applicant proposed the Project in response to shoreline erosion, which was shown in the photographs in Applicant's presentation. Applicant Ex. 1. The erosion threatens Applicant's existing fire protection infrastructure located along the shoreline of the Delaware River landward of Applicant's docking facilities and which is vital to provide adequate fire protection to the docks. The docks are used primarily for the transportation of crude oil and petroleum products to and from Applicant's petroleum refinery. The firefighting infrastructure exists along the shoreline and is needed to protect the docks and other facilities from fire damage. Applicant's experts also provided an analysis of the erosion experienced at the location over the past seven years that has caused the loss of approximately 10,000 square feet of shoreline. Consequently, I find that there is a need for shoreline protection in order to protect existing firefighting infrastructure.

In determining the type of shoreline protection to construct, Applicant retained the engineering firm of Cardno Entrix and the consulting firm of Living Shoreline Solutions, Inc. These firms developed the Project, which primarily would rely on WADs to protect the shoreline from erosions from waves. The WADs would be placed in two rows in two sections separated

by the mouth of Dragon Creek. The two rows would extend a total of 2,714 linear feet. The WADs would be placed near the mean low water line and be approximately 100 feet from the mean high water line. The WADs would have gaps for the mouth of Dragon Creek and for emergency vessel access.

Each WAD is a triangle sided and hollow concrete structure with three holes on each side to allow water to pass through. A WAD would have three eleven and half feet long base segments and five feet wide top segments and would be five feet tall. The base would rest on 14 square feet of subaqueous lands for a total proposed use of 13,076 square feet for the 934 WADs proposed. At low tide the WADs would not be in the water, but at high tide they would be partially submerged. The WADs are designed and placed to reduce the wave energy. The effectiveness of the WADs to reduce the force of waves was supported by studies by Applicants' experts, who determined a worst case storm event would result in waves two feet high waves hitting the WADs, but then result in waves less than four inches high landward of the WADs. The Applicant's experts also determined that the WADs would provide for the natural accretion of sediment around the WADs and landward, which would create a more natural environment than currently exists. Applicant proposes to monitor the WADs' locations for any movement, but the WADs are designed to remain in place during storm events.

Applicant considered alternatives to WADs, such as constructing breakwaters or sills, but selected the WADs as for the shoreline protection because the WADs would: 1) eliminate the majority of the wave energy that caused erosion of the shoreline, 2) provide a 50 year solution to protecting the shoreline, 3) stabilize the shoreline stabilization and produce an ecological uplift, 4) encourage natural accretion to supplement the beach nourishment proposed as part of the Project, and 5) result in intertidal elevations that would be optimal for natural vegetation.

In addition to the WADs, the Project would place approximately 1,015 cubic yards of dredge material at two locations totaling 7,425 square feet to restore area particularly eroded. The dredge material will be placed between the WADs and coir fiber logs placed near the shoreline. This would repair damage to the shoreline from erosion, to provide better protection of the infrastructure on the land, and to provide a gently sloped intertidal zone for natural establishment of vegetation towards creating a marsh environment.

The Project also proposes installing a permanent boom system designed to protect the WADs and the shoreline from any oil spill. This part of the Project will require 44 pilings to secure the booms. Applicant's current plan for emergency booming strategy in response to any oil spills will remain in effect, and would not be impacted by the Project.

The Project requires a Consistency Determination because a permit is required from the U.S. Army Corps of Engineers (USACE) for the proposed dredging, which is the federal permit that triggered the Department's review and a Consistency Determination. Applicant also has sought a permit from the Department's Division of Water, Wetlands and Subaqueous Lands Section. subaqueous lands lease and permit for the Project and a federal Clean Water Act water quality certification.

The public comments raised several concerns and issues with the Project. First, the Delaware Audubon Society (DAS) questioned the creation of a bird attracting habitat near the docks, which was an area of increased risk from oil spill pollution that would harm wildlife and fish. DAS recommended an updated oil spill response plan, bird hazing and a bird deterrent plan. The Department's experts recommend that the Consistency Determination provides sufficient environmental safeguards in the oil response plan in the event of a spill and that the creation of habitat offers an improvement over the alternatives of a hardened shoreline.

DAS also questioned the Project's attraction of fish to an area near the cooling water intake for the oil refinery and thereby cause increase fish morbidity as a result of the cooling water intake's impingement and entrainment of fish. The Department's experts considered the creation of habitat was beneficial and would benefit the fish population, while recognizing the threat to the fish from the cooling water intake that was located sufficiently far upstream from the Project to provide some protection to fish in the habitat to be created by the Project.

The DAS comments also proposed increased monitoring of the bird and fish populations to evaluate the impact of the Project, including more monitoring before construction. There is an immediate need to protect the shoreline and hence any delay as requested for more monitoring before construction is rejected given the threat to public safety infrastructure.

DAS also suggested that a lower cost hardened be used as opposed to the Project and that the savings be used to improve the cooling water intake. In addition, DAS requested WADs be installed to protect Pea Patch Island, and that a wetlands project be established at Land March and Augustine Marsh. The Department's experts disagree and support the Project as consistent with the DCMP's regulations.

I find that the Project is supported by the record and is consistent with the Department's regulations and delegated authority under the federal CZMA. The position taken by certain public comments may be summarized as not wanting the Project because it would create an attraction for fish and wildlife, which could be harmed by the possibility of an oil spill. I reject this position as contrary to sound environmental regulation, which should seek to improve natural habitat whenever possible absent some compelling reason. Applicant has provided support for the Project that it claims will both improve the environment and provide long term solution to shoreline erosion at its dock facilities. The opponents of the Project object because

creating a better habitat could expose more fish and wildlife to harm if an oil spill were to occur and make the analogy to the attractive nuisance theory in tort law.

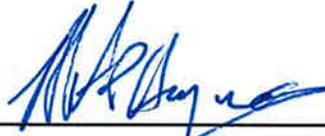
Assuming that the WADs will provide a better environment than currently exists, and attracts more aquatic life and bird to the Project's location, I nevertheless find that any increase use of the area by birds or fish does not provide grounds to reject the Project. First, I agree with the Applicant's assessment that the risk of an oil spill will remain the same with or without the Project. I disagree with DAS and others who opposed the Project that the possible creation of a better habitat that could attract more birds and fish to the Project's location should be a reason to oppose the Project. The fear of a possible oil spill should not prevent improvements to the environment. Moreover, the Project includes a boom designed to provide more protection of the location than currently exists to reduce the damage from a spill. Applicant's oil spill response plan, which the Department's experts approved, provides sufficient safeguards for the damage to any number of fish or birds that may be harmed from a spill. The crux of the opposition to the Project is that because the Project would create something better than currently exists, it should not be undertaken because the improved environment increases the damage possible should the environment be harmed. Under that logic, few environmental improvements would ever be justified because they, like this Project, could possibly be harmed. Overall any benefits of the Project outweigh any fear of possible harm to the environment

Finally, the Department's experts in DCMP consulted with experts in the Division of Fish and Wildlife about the Project's impact on the current habitat. Their conclusion was that the Project will not result in much change to the current habitat for fish or wildlife. Even with no change in the habitat, I find the record supports the Project as justified under the Department's DCMP regulations to preserve the firefighting and other infrastructure that is threatened by continued erosion.

I find that the record supports issuance of a Department order approving issuance of the Consistency Determination. I find that the Project, as designed, will be in compliance with the applicable laws and regulations for the shoreline restoration. The Department's experts in the Division of Fish and Wildlife and DCMP support approval of the Project. DCMP's draft Consistency Determination provides its review of the Project and includes environmental safeguards. I recommend the Department issue the Consistency Determination as quickly as possible, which will allow Applicant to undertake the shoreline protection needed to preserve important firefighting equipment and other infrastructure threatened by shoreline erosion.

IV. CONCLUSION

Based on the record developed, I recommend approval of the Consistency Determination prepared by DCMP, and I recommend that the Secretary issue the attached Order that authorizes DCMP to issue the Consistency Determination.



Robert P. Haynes, Esquire
Senior Hearing Officer

Technical Response Memorandum

To: Bob Haynes, Hearing Officer

From: Molly Ellwood, Delaware Coastal Programs, Environmental Scientist

Date: November 5, 2014

RE: Delaware City Refining Company, LLC, Federal Consistency Determination

Project Description:

The applicant, Delaware City Refining Company, LLC. (DCRC), proposes to install two sets of wave attenuating devices (WAD) parallel to 2,600 lf of shoreline to protect the eroded bank along the Delaware River in New Castle County, Delaware. Portions of the shoreline will be stabilized with approximately 1,015 cubic yards of material from an on-site dredged material storage area. Proposed work is in response to erosion from storms in the area and will protect the ship docking and associated landward infrastructure required by the DCRC by reestablishing the natural marsh and the beach through the design of the WADs. To provide additional protection within the project area 44 piling will be installed to support a new permanent boom system that will be installed around the array to protect the structures, as well as the shoreline, in the event of an oil spill at DCRC's docking facility. DCRC's current emergency booming strategy for oil spills will not be impeded during any phase of this project.

An individual permit is required from the U.S. Army Corps of Engineers. The Delaware Coastal Programs reviews federal activities and activities requiring a federal license or permit for consistency with the state's coastal management policies pursuant to the federal Coastal Zone Management Act, Federal Consistency Regulations (15 CFR 930).

The DCP policy document including complete text of each policy referenced in this memo is available online:

<http://www.dnrec.delaware.gov/coastal/Documents/Federal%20Consistency/2011DCMPPolicyDocument.pdf>

The DCP evaluated the project for adherence to the protections addressed with the following applicable coastal management policies:

5.1 Wetlands Management

5.1.1 The productive public and private wetlands in the state shall be preserved and protected to prevent their despoliation and destruction consistent with the historic right of private ownership of lands. [7 Del. C. §6602]

No wetlands will be impacted from the work associated with this project and all identified wetlands have been avoided.

5.1.2 Activities in or adjacent to wetlands shall be conducted so as to minimize wetlands destruction or degradation, to preserve the natural and beneficial values of wetlands, and to protect the public interest therein. [7 Del. C. §§6602, 6603(a)(2), 6119, 4001]

The proposed WADs are designed to reduce the erosion currently occurring to the existing wetlands on site and to maintain them in a means to provide shoreline protection for DCRC infrastructure that is currently threatened. The WADs are also expected to allow for accretion to occur and monitoring will be conducted to observe if wetlands are expanding within the project area.

5.3 COASTAL WATERS MANAGEMENT

5.3.1.2 The water resources of the state shall be protected from pollution which may threaten the safety and health of the general public. [7 Del. C. §§6001 (a)(5), 6001 (c)(2)]

As proposed, 44 pilings will be installed that will be used to support a new permanent boom that will provide additional protection to the WAD array and to the shoreline within the project area in the event of an oil spill.

5.3.1.3 The coastal water resources of the state shall be protected and conserved to assure continued availability for public recreational purposes and for the conservation of aquatic life and wildlife. [7 Del. C. §6001(a)(4)]

The new permanent boom system that will be in place as part of this project, along with the current standard operating procedures and emergency response plans DCRC already implements, will aid in protecting coastal water resources in the event of an oil spill. Additionally, work associated with this shoreline stabilization project will not have a significant adverse impact upon the wildlife and fisheries resources in the area as the sediment that will accrete in the project area will be sediments that are already part of the system. Activities at DCRC's docking facilities are not expected to change as a result of this project and thus will not increase the amount of contaminants that are already in the system.

5.3.1.9 In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the Water Quality Act of 1987. [Delaware Surface Water Quality Standards, Section 5.4, amended July 11, 2004]

There are no thermal discharges associated with this shoreline stabilization project, therefore this policy is not applicable.

5.3.1.15 The discharge of oil from a vessel, truck, pipeline, storage, tank or tank car which causes or poses a threat of making a film on, emulsion in or sludge beneath the waters of the state or its shoreline shall be prohibited. [7 Del. C. §§6203, 6202(7)(5)(9)]

As part of the proposed project, a new permanent boom will be established between the WAD array and the docks. This new boom system will provide additional protection to the WAD array and adjacent shoreline. Additionally, the current emergency boom system and response plan will still be implemented in the event of an oil spill and all applicable emergency response plans will be updated to include information about the WAD array.

5.4 SUBAQUEOUS LANDS AND COASTAL STRIP MANAGEMENT

5.4.2 The natural environment of the coastal strip shall be protected from the impacts of heavy industry and oil pollution for the purpose of recreation, tourism, fishing, crabbing, and gathering other marine life useful in food production. [7 Del. C. §§7001, 6201]

The shoreline stabilization project proposed by DCRC will reduce the wave energy in the vicinity of the existing wetlands thereby allowing for accretion within the area and eventual gain in wetland habitat. The DCRC is an existing industry within the coastal strip and the proposed project is not expected to negatively impact the marine life in the upper Delaware Bay.

5.4.8.5 Effect on neighboring land uses including, but not limited to, effect on public access to tidal waters, effect on recreational areas, and effect on adjacent residential and agricultural areas.

DCMP does not foresee that the proposed project will have a negative effect on adjacent land uses. The protection of the existing wetlands and shoreline in the vicinity of DCRC's docking facilities and the potential accretion and maintenance of shallow bottom habitat from the proposed project may create attractive areas to bird species in the area for foraging. This foraging habitat is not anticipated to be at a size that would attract a significant number of birds from the other nearby natural areas within a similar distance from Pea Patch Island. The new permanent boom system that will be constructed along with this project will decrease the likelihood of adverse impacts to any birds within the project area in the event of an oil spill. As part of the already established oil response plans for the site, regional bird experts will be involved in implementing up to date bird hazing techniques to deter any birds that continue to try to forage within the project area during an oil spill situation.

5.4.17 State subaqueous lands within the boundaries of Delaware constitute an important resource of the State and shall be protected against uses or changes which may impair the public interest in the use of tidal or nontidal waters. [7 Del. C. Ch. 72]

As proposed, the DCRC's shoreline stabilization project will not result in changes that would impair the public interest in the use of tidal or nontidal waters within the Delaware Bay. The WAD array will be installed landward of the existing dock facility in a private area that already restricts the use of the area by the public. The design and intent of the project will also not result in a significant change to adjacent areas which would thus not alter the public interests in those areas.

5.4.23 The DNREC shall consider the impact on the environment, including but not limited to, the following:

5.4.23.3 Any harm to aquatic or tidal vegetation, benthic organisms or other flora and fauna, and their habitats;

DCRC's shoreline stabilization project is not expected to significantly harm the aquatic or tidal vegetation, benthic organisms or other flora and fauna, nor their habitats that occurs on site or in adjacent areas from this project. The project has avoided all wetland impacts and the accretion expected to result from this project should result in moderate increases in wetland vegetation within the project area. Additionally, wetland vegetation will be monitored for three years post construction to identify changes in wetland vegetation on site and to evaluate the effectiveness of the project. Minor and temporary impacts are expected to benthic organisms when the WADs are initially installed and the

minimized footprint of the hollow WAD structures that are open on the bottom that reduces these impacts to the greatest extent practicable. Fauna that occur on the site may be disturbed by the increased activities associated with the construction of this project, but there long term impacts are not expected. Fill material and expected accretion from this project is not expected to substantially increase the quality or amount of existing habitat to significantly increase the use of the area by local wildlife species. The habitat within the project area is additionally protected from any potential oil spills by the establishment of a new permanent boom system as well as from the emergency boom system that DCRC already has.

5.11 LIVING RESOURCES

5.11.1.1 No activity shall have an adverse environmental effect on living resources and shall include consideration of the effect of site preparation and the proposed activity on the following wetland values:

5.11.1.1.2 Habitat Value

5.11.1.1.2.1 Habitat for resident species of wildlife including furbearers, invertebrates, finfish.

It is expected that the habitat created from DCRC's shoreline stabilization project will not be significantly different in quality and size from what has historically occurred on the site during the operation of the Refinery and its docking facility. Wildlife and fisheries species that may be attracted to the project area will be afforded additional protection than they previously were provided from any potential oil spills by the new permanent boom system that will be put in place waterward of the WAD array. The current approved oil spill response plans address ways to minimize impacts from an oil spill to resident species of wildlife including furbearers, invertebrates and finfish, and their habitats, thus DCMP does not expect that the project will have significant adverse impacts to these habitats.

5.11.1.1.2.2 Habitat for migratory wildlife species including waterfowl, wading birds, shorebirds, passerines, finfish, shrimp.

It is expected that the habitat created from DCRC's shoreline stabilization project will not be significantly different in quality and size from what has historically occurred on the site during the operation of the Refinery and its docking facility. Based on the distance of the WAD array from the water intake structure and the current intake velocities, DCMP does not expect that the shoreline stabilization project will significantly impact migratory species by being an attractive nuisance. Comments submitted by the National Marine Fisheries Service requested that no in-water work occur from March 1 to June 30 to avoid any impacts to anadromous fish migration and spawning. Because of this information, DCMP does not expect that the project will create an attractive nuisance that would have significant adverse impacts to the habitat for migratory wildlife species including waterfowl, wading birds, shorebirds, passerines, finfish and shrimp.

5.11.1.1.2.3 Rearing area, nesting area, breeding grounds for various species.

The location of the proposed project near the Pea Patch Island heronry should not result in a significant negative impact to this regionally important area. The shoreline stabilization project is not expected to create habitat for these important bird species that is notably different in quality and size from what was historically on the site. While there is the risk of a potential oil spill at the site, DCRC has taken all the necessary measures to limit the detrimental impacts that would result in the event of an oil spill. The additional permanent boom system that will be installed in supplement to the existing emergency boom

system will further reduce any negative impacts in the event of an oil spill. The oil spill response plans that DCRC has in place identifies regional bird experts that will be contacted in the event of an oil spill that are expected to provide the most up to date advice for hazing and protecting bird species that may occur in the area during an oil spill.

5.11.2 FISH AND WILDLIFE

5.11.2.1 All forms of protected wildlife shall be managed and protected from negative impacts. [7 Del. C. §102(a)]

It is expected that the habitat created from DCRC's shoreline stabilization project will not be significantly different in quality and size from what has historically occurred on the site during the operation of the Refinery and its docking facility. Based on the distance of the WAD array from the water intake structure and its current intake velocities, DCMP does not expect that the shoreline stabilization project will significantly impact migratory species by increasing the likelihood for impingement and entrainment. DCMP does not expect that the project will create an attractive nuisance that would have significant adverse impacts on protected wildlife species. Comments submitted by the National Marine Fisheries Service requested that no in-water work occur from March 1 to June 30 to avoid any impacts to important anadromous fish, such as Atlantic sturgeon, in the area.

5.11.3 NONGAME AND ENDANGERED SPECIES

5.11.3.2 Rare and endangered species are in need of active, protective management to preserve and enhance such species. The diversity and abundance of the native flora and fauna of Delaware, particularly those deemed rare or endangered, shall be preserved and enhanced through the protection of the habitat, natural areas, and areas of unusual scientific significance or having unusual importance to their survival. [7 Del. C. §201(1)(2)]

The habitat, natural areas, and areas of unusual scientific significance that support the diversity and abundance of Delaware's native flora and fauna are not expected to be significantly affected from the proposed shoreline stabilization project. The WAD structures will be located 0.5 mile from the entrance to the water intake channel and the structures will be almost entirely exposed at low tide. Additionally, the proximity of the project to Pea Patch Island should not result in a significant impact to nesting and foraging birds. While the project may create additional foraging habitat in the area, there will be additional measures taken through the installation of a permanent boom system as well as updates to DCRC's oil response plans.

2.25 COASTAL MANAGEMENT COORDINATION

The DCRC has taken all necessary early coordination and permitting steps to provide information on this project to state and federal agencies.

Conclusion and Recommendation:

The Delaware City Refinery was first commissioned in 1956 and is currently owned by the Delaware City Refining Company, LLC. The proposed shoreline stabilization project is to address significant erosion that is occurring near the docking facility; erosion that is threatening important infrastructure. As proposed, this project will not result in, nor is in response to, any changes in operations at the Refinery or at the docking facility. DCMP coordinated with DNREC's Wetlands and Subaqueous Lands Section (WLS), DNREC's Division of Fish and Wildlife, U.S. Army Corps of Engineers (USACE), and National Marine Fisheries Service (NMFS) for expert opinions on potential impacts to important state resources as a result of this project. The Delaware Division of Fish and Wildlife did not have any significant concerns relating to this project. NMFS requested that no in-water work occur from March 1 to June 30 of each year due to the presence of anadromous fish in the Delaware Bay and River. They also requested that clean dredge material be used and that a monitoring plan be implemented that evaluates the success of the coir logs and WADs associated with this project. DCMP met with DCRC along with the USACE and WLS onsite to evaluate the erosion issues and the need for the project. Two sets of public comments were initially received from Delaware Audubon and from the Delaware Chapter of the Sierra Club that had concerns about the project being an attractive nuisance to wildlife and fisheries species along with other concerns. The comments received also each requested a public hearing. DCMP met with DCRC to discuss the public comments received, the need for a public hearing, and what information DCRC would need to submit as part of the public hearing. The public hearing was held on September 23, 2014 at the Kathleen H. Wilbur Elementary School in Bear, DE where five speakers gave oral comments and the Delaware Audubon Society submitted additional written comments. Comments received at the public hearing were mixed: three people were against the project, one person was in support of the project, and one person felt there needed to be an addendum about bird hazing in the event of an oil spill, but was not against the project.

The DCP reviews projects on a case by case basis and has determined that this project is compatible with the existing uses and natural environment at the project site and can be constructed in a manner consistent with DCP's approved coastal management policies.

Should the Secretary decide to approve the project, a draft consistency determination is included for consideration.

Concern	Delaware Coastal Programs	Other state and federal agency input	Delaware City Refining Corporation's Response
Updates needed for the DCR's Oil Spill Response Plan	DCP has requested a copy of any updates to the Facility Response Plan and the Emergency Response Action Plan that are expected to be made in reaction to the project's proposed improvements to the emergency boom deployment system. Additionally, DCP requests a copy of the most recent Integrated Contingency Plan for DCR.		Upon completion of the proposed project, DCR will update the Facility Response Plan and Emergency Response Action Plan which are integrated into the facility's more comprehensive Integrated Contingency Plan to reflect the pertinent information and changes in protocols associated with the project.
Essential Fish Habitat		National Marine Fisheries Service (NMFS) requested that no in-water work from 3/1 to 6/30 to anadromous fish migration and spawning. These species are a food source for federally managed species such as bluefish, winter flounder, little skate, winter skate, scup, and summer flounder. An adverse effect on prey species can be considered an adverse effect on EFH.	No in-water work is proposed from 3/1 to 6/30 in any given year.
Seeding mix for shoreline stabilization		Delaware Fish and Wildlife requested information on the seed mix that was going to be used as part of the shoreline stabilization.	DCRC provided this information via email. Because of the area being immediately supratidal, a wide range of moisture is possible, so a mix with a wide moisture tolerance between species will be used. The seed mixture percentages and volume (per acre) will be per suppliers recommendation plus an additional 40% volume. Species list is: Little Bluestem (<i>Schizachyrium scoparium</i>), Autumn Bergnass (<i>Agrostis perennans</i>), Virginia Wild Rye (<i>Elymus virginicus</i>), River Wild Rye (<i>Elymus riparius</i>), Northern Gamagrass (<i>Tripsacum dactyloides</i>), Switch Grass (<i>Panicum virgatum</i>).
Monitoring Plan	Additional information about the sounding data that is collected off the docks which is used to set draft limits for the vessels. This information may be useful to determine if there is an additional benefit of the WADs by reducing the frequency of maintenance dredging that occurs at the docks.	NMFS requested that the DCR develop and implement a monitoring plan to evaluate the success of the cor logs and WADs and to determine the rate of sediment accretion, if any, behind the WADs. This plan should also include provisions for the removal of the WADs if it is shown that they are unsuccessful in reducing erosion.	DCRC believes the monitoring plan provided in the U.S. Army Corps of Engineers Individual Permit application package is appropriate and satisfies the recommendations of the NMFS. Additional information on sounding data will be summarized and included in our monitoring data that will be provided to DNERC.
Use of Clean Dredged Material		NMFS requested that DCR use only clean dredged material of a suitable grain size for the placement behind cor logs.	Prior to transport of the dredged material, representative sediment quality data will be provided to DNERC and the USACE for review and approval. The proposed dredge material originated from the periodic dredging of the turnaround channel. The sediment for the turnaround channel consists of a mixed grain size composition similar to the found along the Project's shoreline.



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE COASTAL
MANAGEMENT PROGRAM

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October 27, 2014

Jose Dominguez
Delaware City Refining Company
4550 Wrangle Hill Rd.
Delaware City, DE 19706

**Re: Delaware City Refining Company LLC's (DCRC) Shoreline Stabilization & Restoration Project
Delaware Coastal Management Federal Consistency Certification (FC 2014.0118)**

Dear Mr. Dominguez,

The Delaware Coastal Management Program (DCMP) has reviewed your consistency determination requesting to install two sets of wave attenuating devices (WAD) parallel to 2,600 linear feet of shoreline along the Delaware River at the Delaware City Refinery in New Castle County, Delaware. Portions of the shoreline will be stabilized with approximately 1,015 cubic yards of material from an on-site dredged material storage area. Additionally, 44 pilings will be installed waterward of the WADs to support an improved oil spill response boom system. Proposed work is in response to sediment erosion and is necessary to protect the shoreline and landward infrastructure. The WADs are anticipated to reduce wave energy, which will allow for sediment accretion and reestablishment of natural marsh.

A public hearing was held on September 23, 2014, for this project as requested by two separate public comments received in the initial commenting period. A technical response was submitted by DCMP to David Small, Secretary of the Department of Natural Resources and Environmental Control (DNREC), after the public hearing summarizing our review of the project and incorporating the additional information submitted at the hearing.

Based upon our review and pursuant to National Oceanic & Atmospheric Administration regulations (15 CFR 930), the DCMP *conditionally* concurs with your consistency certification for the above referenced project.

This concurrence is based upon the following conditions:

1. In-water construction activities and beach fill for this project shall be conducted in accordance with the National Marine Fisheries Services time-of-year restrictions that prohibit such activities from March 1 to June 30;
2. The emergency oil spill protection boom system currently in place must be fully operational during all phases of construction, until such a time that the pilings and new boom system are erected and ready for use.
3. The DCRC must update the facility's Oil Spill Response Plan to reflect changes to the shoreline and the placement of structure as a result of this project. Updates must use methods and techniques approved by the U.S. Coast and/or the U.S. Environmental Protection Agency and should address decontamination of the WADs and other hard structure, and procedures for

protecting birds and other wildlife in the event of a spill originating at the facility or in the Delaware River. Documented approval from the responsible federal agency must be submitted to DCMF.

4. The DCRC must assess and document the efficacy of the WADs to reduce shoreline erosion and promote sediment accretion. Monitoring reports shall be submitted annually to the Delaware Coastal Management Program for a period of three years post construction of the final phase of the WAD array. Information in the monitoring reports will include:
 - a. The rate of accretion based on readings at the six proposed pre-established base points along the project area. Readings will be taken from each point prior to work beginning in order to establish the baseline elevation, and subsequently taken at least twice a year after work commences;
 - b. Findings and descriptions of shallow borings of deposition profiles taken at low tide at six points along the length of the project area;
 - c. Detailed observations and applicable maps for changes in vegetation in the project area;
 - d. Descriptions of the structural stability of the WADs;
 - e. Summary of depth soundings taken at the ship berth area in order to assess a possible secondary benefit of the WADs to reduce the frequency of dredging in that area;
 - f. Observations of habitat use by wildlife and fish species; and
 - g. A description of major weather events during the time periods between data collection events.
5. The DCRC must provide a contingency plan for removal or reinstallation/repair of the WADs due to damage from catastrophic storm events. Additional coordination and permit review may be required.
6. The project must adhere to the restrictions and/or conditions outlined within DNREC's Wetlands and Subaqueous Lands Section permit issued to you for this project.

If you have any questions, please contact me or Molly Ellwood of my staff at (302) 739-9283.

Sincerely,

Sarah W. Cooksey, Administrator
Delaware Coastal Programs

SWC/mme

cc: File 2014.0118

Jim Chaconas, DNREC, WSLS

Kate Fleming, DNREC FW

Larry Slavitter, USACE

Karen Green, NOAA NMFS

Rebecca Gudgeon, DCRC

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