

U.S. Army Corps of Engineers (USACE)
NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

For use of this form, see 33 CFR 330; the proponent agency is CECW-CO-R.

Form Approved -
OMB No. 0710-0003
Expires: 08-31-2023

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Program of the Corps of Engineers (Corps); Final Rule 33 CFR 320-332.

Principal Purpose Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.

Disclosure Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see *sample drawings and/or instructions*) and be submitted to the district engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

| | | | |
|--------------------|----------------------|------------------|------------------------------|
| 1. APPLICATION NO. | 2. FIELD OFFICE CODE | 3. DATE RECEIVED | 4. DATE APPLICATION COMPLETE |
|--------------------|----------------------|------------------|------------------------------|

(ITEMS BELOW TO BE FILLED BY APPLICANT)

| | |
|--|---|
| 5. APPLICANT'S NAME First - William & Leslie Middle - Last - Buckalew Company - Company Title - E-mail Address - wfbuckalew@gmail.com | 8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - Evelyn Middle - M. Last - Maurmeyer Company - CER, Inc. E-mail Address - maurmeye@udel.edu |
| 6. APPLICANT'S ADDRESS Address- 1144 Elderon Drive City - Wilmington State - DE Zip - 19808 Country - USA | 9. AGENT'S ADDRESS Address- PO Box 674 City - Lewes State - DE Zip - 19958 Country - USA |
| 7. APPLICANT'S PHONE NOs. with AREA CODE a. Residence b. Business c. Fax d. Mobile (610) 416-0418 | 10. AGENT'S PHONE NOs. with AREA CODE a. Residence b. Business c. Fax d. Mobile (302) 645-9610 |

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Evelyn Maurmeyer to act in my behalf as my agent in the processing of this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

William F. Buckalew 28 MAR 2024
 SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (see instructions)
 BUCKALEW RETAINING WALL AND BACKFILL

25. Is any portion of the nationwide permit activity already complete? Yes No If Yes, describe the completed work:

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (see instructions)

No critical habitats at project site (see IPaC review, attached).
A copy of the PCN has been submitted to the US Fish and Wildlife Service & the Delaware Division of Fish and Wildlife for review and comments.
Responses will be submitted to Corps upon receipt.

27. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (see instructions)

A copy of the PCN has been submitted to the Delaware Division of Historical and Cultural Affairs for review and comments. Response will be forwarded to Corps upon receipt.

28. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

Not applicable (site is not part of a National Wild and Scenic River System).

29. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? Yes No (not applicable)

If "yes", please provide the date your request was submitted to the Corps district:

30. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (see instructions)

See attached Pre-Construction Notification for additional information.

31. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that the information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

DATE

The pre-construction notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in Block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

**Instructions for Preparing a
Department of the Army
Nationwide Permit (NWP) Pre-Construction Notification (PCN)**

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant's Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g., a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands When Pre-Construction Notification is Required. Paragraph (c) of NWP general condition 23 requires compensatory mitigation at a minimum one-for-one replacement ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre, or provide an explanation of why the district engineer should not require wetland compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a Federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit <http://www.rivers.gov/>.

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre-Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

- * NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
- * NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
- * NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
- * NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification.
- * NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
- * NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
- * NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions must be submitted to the district engineer and receive written authorization prior to commencing the activity.
- * NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification.

If more space is needed, attach an extra sheet of paper marked Block 30.

Block 31. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.



COASTAL & ESTUARINE RESEARCH, INC.

Marine Studies Complex
P.O. Box 674
Lewes, Delaware 19958
302-645-9610

April 4, 2024

**PRE-CONSTRUCTION NOTIFICATION:
DEPARTMENT OF THE ARMY
NATIONWIDE PERMIT #18: MINOR DISCHARGES**

APPLICANTS

William F. and Leslie G. Buckalew
1144 Elderon Drive
Wilmington, DE 19808
(610) 416-0418
wfbuckalew@gmail.com

AGENT

Evelyn M. Maurmeyer, Ph. D.
Coastal & Estuarine Research, Inc
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PROJECT LOCATION AND DESCRIPTION

The project site is 17 Love Creek Pines Lane, Lewes, Sussex County, Delaware (Tax Map Parcel #334-18.00-17.00). Latitude: 38.70455° North; Longitude: -75.16218° west. See Figures 1, 2, and 3 for location maps, and Figure 4 for aerial photograph. The site is a vacant residential parcel, approximately 17,111 sq. ft. (0.39 acre) in size. The site is depicted on the USGS topographic map, Fairmount, Delaware quadrangle (Figure 5), and is adjacent to Love Creek, a tributary of Rehoboth Bay. The site is shown on the National Wetlands Inventory Map (Figure 6). Site is mapped uplands; wetlands adjacent to Love Creek are mapped E2EM1P (estuarine intertidal emergent, persistent, *Phragmites australis*, saltwater tidal, irregularly flooded). Love Creek is mapped E1UBL (estuarine subtidal, unconsolidated bottom, subtidal). The site is depicted on State of Delaware DNREC Wetland Map #082, 1988 photobase (Figure 7). The site is mapped O (other, uplands or non-tidal wetlands less than 400 acres). Waterway (Burton Prong, Herring Creek) is mapped W (water). No DNREC-regulated wetlands are mapped on site. The USDA Web Soil Survey of the site and vicinity is shown in Figure 8. Soils on site are mapped:

Br: Broadkill mucky peat, very frequently flooded, tidal
RoA: Rosedale loamy sand, 0 to 2 percent slopes
WHe1: Herring Creek mucky silt loam, 0 to 1 meter water depth (Love Creek)

WETLAND AND MEAN HIGH WATER LINE DELINEATIONS

- a. **Federal 404 Wetland Line.** The Federal 404 wetland line was delineated on site on June 7, 2022 by Evelyn Maurmeyer, CER, Inc. The Federal 404 wetland line is located at a slight break in slope, at the lower limit of loblolly pines (*Pinus taeda*, FAC) and the upper limit of the giant reed (*Phragmites australis*, FACW); at the interface between non-hydric, Rosedale loamy sand hydric Broadkill mucky peat, very frequently flooded, tidal. See Figure 9 for photograph, and Figure 10 for survey prepared by Karins and Associates showing location of Federal 404 wetland line.
- b. **Mean High Water Line:** The mean high water line (MHWL) was delineated on site on April 10, 2023 by Katie Esposito, DNREC Wetlands and Waterways Section (JD-151/22), as described in Attachment 1. See Figure 10 for survey prepared by Karins and Associates showing location of mean high water line.

PROJECT DESCRIPTION

The applicants propose the following activities:

- Construction of a vinyl retaining wall at the high tide line, ranging from 1.5' to 15' landward/ upslope of the mean high water line (see Figure 10). The face of the structure will consist of two segments, approximately 40 linear feet and 65 linear feet, for a total of 105 linear feet, and will be approximately 3' in height. There will be two (2) 20' return walls at the northern and southern property lines.
- The retaining wall will be backfilled with approximately 111 cubic yards of select fill (80% sand, 20% clay). Thickness of the fill will range from 3' on the landward side of the wall and will taper to 0' at the wetland/upland boundary (see inset, Figure 10). All fill will be landward of the MHWL.
- Total impact of the structure and backfill in Federal 404 non-tidal, *Phragmites australis* wetlands will be approximately 1,925 sq. ft. (0.044 acre).
- The structure and backfill will be installed by the applicants' contractor, Precision Marine Construction, Inc. Work will be conducted using excavators, to be placed on mats on the wetland surface during construction. Location lines for the structure will be established; pilings will be driven using a vibratory hammer; walers will be added; and vinyl sheeting for the wall will be installed. Deadmen and tie rods will be installed, then the retaining wall will be backfilled with 111 c.y. select fill using a skid steer, and graded.

PROJECT PURPOSE

Purpose of the project is bank stabilization and reduction of storm flooding on applicants' upland property, where their single family home will be constructed.

TEMPORARY, PERMANENT, AND INDIRECT ENVIRONMENTAL IMPACTS

Permanent changes resulting from the project include fill material in **1,925 sq. ft. (0.044 acre)** of Federal 404 emergent non-tidal *Phragmites australis*-dominated wetlands for installation of a retaining wall and backfill for bank stabilization and reduction of storm flooding on applicants' upland property, where they plan to construct a home (single-family dwelling). Direct and indirect adverse environmental impacts of the retaining wall and backfill include, but are not limited to, the following:

- Loss of cover and resting area for wildlife. Hellings (1990) documents that in many areas, *P. australis* serves as a deer refuge cover; Gallagher (1999) states that small mammals, such as nutria and muskrats, as well as a variety of small birds, such as red wing blackbirds, grackles, sparrows, and finches utilize some stands of *P. australis*. There will be minor habitat loss for wildlife residing in the wetland area, but these species will easily relocate to adjacent undisturbed areas.
- Decrease in production value and detrital material. Tyrawski (1977) documented that *Phragmites* spp. produces a large amount of organic material, which is processed through detrital cycles to provide nutrient materials for other ecosystem components.
- Reduction in groundwater recharge and discharge functions.
- Reduction in nutrient and pollutant removal and retention.

Daiber (1986) refers to *P. australis* as an "ubiquitous weed". Bailey (1997) notes that there is an obvious decrease in plant diversity in *Phragmites* stands because of its tall, dense growth which shades or physically excludes other species. *P. australis* is of little direct food value (Daiber and others, 1976). The spread of *P. australis* throughout Delaware's coastal marshes has greatly reduced the value of these areas as waterfowl, waterbird, and furbearer habitat (Jones and Lehman, 1987). In addition, several researchers (including Roman, 1978; Jones and Lehman, 1987; and Hellings, 1990) have documented that the presence of extensive stands of *P. australis* is a serious fire hazard that can lead to an increase in the number of uncontrollable fires, resulting in personal injury, property damage, and increased insurance rates.

TYPES AND AMOUNTS OF FILL MATERIAL

- Select backfill (80% sand, 20% clay), 0-3' thickness = 111± c.y. (8 truckloads). All fill will be located above/landward of the plane of MHW/HTL.

SURFACE AREA OF WETLANDS FILLED

Underwater: 0 sq. ft.
Intertidal: 0 sq. ft.
SAV: 0 sq. ft. (none present)
Wetlands: 1,925 sq. ft. (0.044acre) of *Phragmites australis*-dominated non-tidal wetlands.

AVOIDANCE/MINIMIZATION/COMPENSATION

Avoidance. Avoidance (no action) would result in continued shoreline erosion. The bulkhead and return wall at the adjacent (downstream) property have resulted in scouring of the applicants' shoreline and landward migration of the mean high water line (see aerial photograph, Figure 4; and site plan, Figure 10). Periodic flooding of the applicants' upland property (where their single family residence will be constructed) occurs during storm events; the retaining wall and backfill (which will raise elevation of the ground surface by 3') will greatly reduce flooding, protecting the home the applicants intend to construct in uplands on the lot.

Minimization. The applicants and their contractor have minimized impacts to the greatest extent feasible and practicable, while still maintaining the function of the structure (bank stabilization and flood minimization). The retaining wall will be located landward of the MHWL, and will be 20±' landward of the neighbor's bulkhead (see Figures 4 and 10). The Applicants' house will be built in line with the neighboring home (see aerial photograph, Figure 4), so that there will be a small backyard behind the house for typical outdoor family activities (picnic table, games, etc.)

Compensation. Since the area of fill is only 1,925 sq. ft. (0.044 acre), less than the 0.1 acre limit for Nationwide Permit #18, no compensation is proposed.

AGENCY COORDINATION

A copy of this Pre-Construction Notification is being emailed to the Federal and State of Delaware agencies listed in Table 1 for 30-day review and comments. Copies of written responses will be submitted to the U.S. Army Corps of Engineers upon receipt.

COMPLIANCE WITH 2021/2022 NATIONWIDE PERMIT GENERAL CONDITIONS

1. **Navigation:** The proposed project will not affect navigation (no fill material will be placed in Waters of the U.S.).
2. **Aquatic Life Movements:** There is not anticipated to be significant disruption of aquatic life movements as a result of this project.
3. **Spawning Areas:** The proposed activity is not anticipated to have an impact on spawning areas.
4. **Migratory Bird Breeding Areas:** The proposed activity is not anticipated to have an impact on migratory bird breeding areas.
5. **Shellfish Beds:** The proposed project site, *Phragmites australis*-dominated emergent non-tidal wetlands, is not an area of concentrated shellfish populations.
6. **Suitable Material:** Vinyl sheeting, salt-treated wood, and galvanized hardware will be used for the retaining wall, pilings, walers, deadmen, and tie rods; and select backfill (80% sand/20% clay) will be placed landward of the structure. All construction materials will be free of toxic pollutants.
7. **Water Supply Intakes:** The proposed project will not affect public water supply intake.
8. **Adverse Effects From Impoundments:** No impoundments are proposed.
9. **Management of Water Flows:** The proposed project is not anticipated to restrict water flow.
10. **Fills Within 100-Year Floodplains:** The structure will comply with code requirements.
11. **Equipment:** Work will be conducted using excavators, to be placed on mats on the wetland surface during construction. Pilings will be driven using a vibratory hammer; walers will be added; and vinyl sheeting for the wall will be installed. Deadmen and tie rods will be installed, then the retaining wall will be backfilled with 111 c.y. select fill using a skid steer, and graded.
12. **Soil Erosion and Sediment Controls:** The retaining wall and return walls (permanent structures) will prevent fill from being discharged into adjacent undisturbed wetlands and the waterway.

13. **Removal of Structures or Temporary Fills:** Other than mats for construction equipment, no temporary structures nor fills are associated with this project. Mats will be removed upon completion of project.
14. **Proper Maintenance:** The project will be properly maintained by the contractor during construction, and by the owners upon completion.
15. **Single and Complete Project.** The proposed activity is a single and complete project.
16. **Wild and Scenic Rivers:** The proposed project is not located within any component of the National Wild and Scenic River system.
17. **Tribal Rights:** The proposed activity will not impact reserved tribal rights.
18. **Endangered Species:** Copies of this PCN are being emailed to the U.S. Fish & Wildlife Service (USF&WS); and the Delaware Division of Fish & Wildlife Species Conservation and Research Program for comments on endangered species. Copies of written responses will be submitted to the U.S. Army Corps of Engineers upon receipt.
19. **Migratory Birds and Bald and Golden Eagles.** Copies of this PCN are being emailed to the U.S. Fish & Wildlife Service (USF&WS); and the Delaware Division of Fish & Wildlife Species Conservation and Research Program for comments on migratory birds. Copies of written responses will be submitted to the U.S. Army Corps of Engineers upon receipt.
20. **Historic Properties:** A copy of this PCN is being emailed to the Delaware Division of Historical and Cultural Affairs for comments on historic properties. Copies of written response will be submitted to the U.S. Army Corps of Engineers upon receipt.
21. **Discovery of Previously Unknown Remains and Artifacts.** The contractor and/or applicants will notify the District Engineer if any previously unknown historic, cultural, or archaeological remains or artifacts are discovered.
22. **Designated Critical Resource Waters:** A copy of this PCN is being submitted to the Delaware Division of Fish & Wildlife Species Conservation and Research Program for comments on Critical Resource Waters/ERES waters; response will be forwarded to the Corps.
23. **Mitigation.** Since the area to be filled is less than the 0.10 acre limitation for Nationwide Permit #18 eligibility, no compensatory mitigation is proposed.

24. **Safety of Impoundment Structures.** No impoundment structures proposed.
25. **Water Quality.** State of Delaware 401 Water Quality Certification (WQC) has been issued for NWP#18. A copy of this PCN is being submitted to the Delaware Division of Fish & Wildlife Species Conservation and Research Program for comments on Critical Resource Waters/ERES waters; response will be forwarded to the Corps.
26. **Coastal Zone Management.** State of Delaware CZM certification has been issued for NWP#18. A copy of this PCN is being submitted to the Delaware Division of Fish & Wildlife Species Conservation and Research Program for comments on Critical Resource Waters/ERES Waters; response will be forwarded to the Corps.
27. **Regional Case-by-Case Conditions:** The project will comply with NWP Regional conditions for Delaware.
28. **Use of Multiple Nationwide Permits:** The proposed project utilizes only Nationwide Permit #18 (Minor Discharges).
29. **Transfer of Nationwide Permit Verifications.** A letter will be submitted to the Corps' Philadelphia District Office if the property is sold, to validate the transfer.
30. **Compliance Certification:** Upon authorization of Nationwide Permit #18 for the proposed project, the permittees will submit a signed certification regarding the completed work.
31. **Activities Affecting Structures of Works Built by the United States.** The proposed project will not alter, occupy, or use a Federally-authorized Civil Works project.
32. **Pre-Construction Notification:** Terms of the General Conditions regarding the timing, contents, form, agency coordination, and District Engineer's decision of the Pre-Construction Notification have been/will be followed.

COMPLIANCE WITH 2021/2022 REGIONAL CONDITIONS FOR DELAWARE

This PCN is in compliance with all applicable NWP Regional Conditions for Delaware:

Condition G-1.

1. Signed application Form 6082 is attached.
2. The PCN describes all activities that the applicants plan to undertake, and is accompanied by the required information (location maps; latitude/longitude; tax map parcel number; photographs; delineation of areas within Federal jurisdiction; etc.) A copy of the PCN is being sent via email to the U.S. Fish & Wildlife Service (USF&WS); the Delaware Division of Fish & Wildlife Species Conservation and Research Program; and Delaware Division of Historical and Cultural Affairs. Avoidance, minimization, and compensation have been addressed.

Condition G-2. Not applicable (not located in the National Wild and Scenic Rivers System).

Condition G-3. A copy of this PCN is being emailed to the USF&WS and Delaware Division of Fish & Wildlife Species Conservation and Research Program for determination of presence of endangered species. Responses will be forwarded to the Corps.

Condition G-4. A copy of this PCN is being emailed to USF&WS and Delaware Division of Fish & Wildlife Species Conservation and Research Program for determination of presence of endangered species.

Condition G-5. A copy of this PCN is being emailed to USF&WS and Delaware Division of Fish & Wildlife Species Conservation and Research Program for recommendations concerning Essential Fish Habitat (EFH).

Condition G-6. Fish & Wildlife Coordination Act will be followed.

REFERENCES CITED

- Bailey, A. R., 1997. Detecting and Monitoring *Phragmites* Invasion of Coastal Wetlands: A Comparison of Remote Sensing Techniques. Master's thesis, College of Marine Studies, University of Delaware, Newark, DE, 112 p.
- Daiber, F. C., 1986. Conservation of tidal marshes. Van Nostrand Reinhold Company, New York, 341 p.
- Daiber, F. C., L. L. Thornton, K. A. Bolster, T. G. Campbell, O. W. Crichton, G. E. Esposito, D. R. Jones, and J. M. Tyrawski, 1976. An Atlas of Delaware's Wetlands and Estuarine Resources: Tech. Report Number 2, Delaware Coastal Management Program, Delaware State Planning Office, Dover, DE, 528 p.
- Gallagher, J. L., 1999. Common reed (*Phragmites australis*): The plant and its relationships, Appendix G, Exhibit G-2-6, in PSE&G Renewal Application, Salem Generating Station, Permit No. NJ0005622, 76 p. + Tables, Figures.
- Hellings, S. E., III, 1990. The effects of salinity and flooding on *Phragmites australis* [Cav.] Trin. ex Steud. and *Spartina alterniflora* Loisel. Master's thesis, College of Marine Studies, University of Delaware, Lewes, DE, 84 p.
- Jones, W. L., and W. C. Lehman, 1987. *Phragmites* control and revegetation following aerial applications of Glyphosate in Delaware, in Whitman, W. R., and W. M. Meredith, Eds., Waterfowl & Wetlands Symposium, DNREC/DCMP, Dover, DE, p. 184-199.
- Roman, C. T., 1978. Tidal restriction: Its impact on the vegetation of six Connecticut coastal marshes. Master's thesis, Connecticut College, 178 p.
- Tyrawski, J. M., 1977. A Study of the common reedgrass (*Phragmites communis* Trin.) in the Coastal Zone of Delaware: Master's thesis, College of Marine Studies, University of Delaware, Newark, DE, 164 p.

**TABLE 1:
PCN NOTIFICATION LIST**

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A copy of this PCN has been submitted to the above-listed Federal and State of Delaware agencies via email.