



National Park Service  
U.S. Department of the Interior

Cape Hatteras National Seashore  
North Carolina

**FINDING OF NO SIGNIFICANT IMPACT**  
**Construct a New Septic System at Buxton Housing Area – Environmental**  
**Assessment**

Recommended:

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*5/21/18*

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## INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) prepared an Environmental Assessment (EA) to examine alternative actions and environmental impacts associated with the proposed project to install a new septic system for the Buxton Housing Area within Cape Hatteras National Seashore. This system includes a lift station, drain fields, waste water systems and all associated electrical facilities.

The purpose of the EA was to evaluate several alternatives in order to identify a location for a long-term septic system that will be in compliance with Public Health and Safety Regulations and to improve maintenance operations of the housing septic facilities and septic drain fields. In addition to the new system, the project will allow housing occupants to remain in place with an operational septic system that is more resilient to local flooding.

The existing septic drain field across from the Ranger Station occasionally floods during rain and storm events. When the septic drain field becomes saturated, and continues to remain saturated, due to standing water for several weeks at a time, it does not function properly. As a result, the Seashore must cease the use of the septic system's drain field until water dissipates. This system needs to be replaced for the health and safety of persons utilizing these services and failure to upgrade this septic system could result in a complete loss of service.

The statements and conclusions reached in this finding of no significant impact (FONSI) are based on documentation and analysis provided in the EA and associated decision file. To the extent necessary, relevant sections of the EA are incorporated by reference below.

## SELECTED ALTERNATIVE

Based on the analysis presented in the EA, the NPS has selected Alternative B – Construct a New Septic System. The selected alternative was identified in the EA as the NPS preferred alternative and is described below and on pages 11-13 of the EA.

Under the selected alternative the NPS will construct a new community septic system at one end of the housing area in order to create a long-term solution that will be in compliance with Public Health and Safety Regulations. This alternative will relocate the housing septic system out of a flood prone area and subsequently housing occupants can remain in place due to an operational septic system. This alternative will improve overall long-term maintenance operations of the housing septic facilities and septic drain fields.

The existing pump station and tank will be modified to meet the requirements of the new proposed septic system. A new septic tank will be installed next to the pump station. This area has already been previously disturbed from the installation of the pump station itself. The existing force main line will be cut and capped off and abandoned in place. Asphalt and concrete patching will be required along asphalt surfaces where trenching is needed to install the new proposed two inch force main line.

Ground disturbing activities will include the installation of new water lines and a total area of 27,443 square feet (.63 acres) will be disturbed. Installation of new lines from the new septic tank to the new septic drain field will disturb 12,197 square feet (.28 acres). Clearing a 15,246 square feet (.35 acres) area of all vegetation will be required for a new septic drain field. A construction access entrance will be temporarily established on the southeast edge of the proposed community septic drain field. Construction vehicles and staging will be restricted to the project area and along the housing road. Vegetation cleared from the site will either be hauled away or chipped on site.

Any components of the existing system, which will not be reused, will be removed within the project limits of new construction. Any components of the existing system, which will be outside the new construction limits, will be cut and capped, and abandoned in place.

The existing septic drain field and two septic tanks will continue to be connected to the Hatteras Island Ranger Station where employees currently work. The project site will be restored as soon as reasonably possible for housing access and park operations.

In addition, the project will implement a number of best management practices to minimize the degree and/or severity of adverse effects on air quality, cultural resources, lightscapes, soundscapes, soils, vegetation, wildlife and wildlife habitat.

#### RATIONALE FOR THE DECISION

The NPS has selected Alternative B because it best meets the project purpose and need for the project:

- Relocate the housing septic system out of flood prone areas.
- Create a long-term septic system that will be in compliance with Public Health and Safety Regulations
- Improve maintenance operations of the housing septic facilities and septic drain fields

#### BEST MANAGEMENT PRACTICES

The NPS places strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of the park's natural and cultural resources, best management practices (BMPs) will be implemented as part of the selected alternative and can be found on pages 14-16 of the EA. The BMPs are also listed in Attachment B of this document.

#### FINDING OF NO SIGNIFICANT IMPACT

As described in the EA, the selected alternative has the potential for adverse impacts on soils, vegetation, wildlife and wildlife habitat; however, no potential for significant adverse impacts was identified. As defined by 40 CFR 1508.27, significance, as used in NEPA, requires consideration of context and intensity. The following considerations, included in 40 CFR 1508.27, are relevant to this FONSI.

Construction-related activities will cause permanent and temporary adverse impacts to soils, vegetation, wildlife and wildlife habitat as a result of the installation of a new community septic drain field, installation of new water lines, and a new septic tank.

Preparation of the 15,246 square feet site (.35 acres) for the new septic drain field is expected to result in long-term sizable adverse impacts to soils. Vegetation clearing and digging will stir surface soils and allow them to migrate more easily. Migration of soils will be controlled by limiting the area of potential disturbance in concert with the maintenance of silt fencing during and after construction activities. After the construction of the community septic drain field, the soils will be stabilized with mulch along with seeding or planting of native grasses. Some small shrubs with shallow roots systems will be allowed to become reestablished within the septic drain field area, which will also improve soil stability within the site. Trenching during construction will excavate soils within an approximate 12,197 square foot area (.28 acres), but, following construction, this area will be backfilled with excavated soil and then the surface will be reseeded and/or planted with grasses currently present in the project area to stabilize the soils and reduce impacts. Overall, the impact to soils in the short-term will be moderate and adverse however, for the long-term adverse impacts of soil function and values will be minor due to implementing best management practices.

Two large live oaks (*Quercus virginiana*) within the project area were excluded from removal to allow these well established species to remain within the project area and create a visual buffer between housing units and the community septic drain field. This action will help reduce the adverse effects of the clearing of all vegetation. These trees will be protected from removal during construction activities by temporary fencing.

Wildlife and wildlife habitat within the vicinity will be disturbed temporarily and permanently due to project activities. As previously mentioned in the section above, there will be 15,246 square feet (.35 acres) of habitat alteration from the construction of the new community septic drain field. Wildlife utilizing the area are acclimated to some level of vehicle and employee use however; they will be temporarily or permanently displaced to the nearby Buxton Woods during and after project activities. Construction related activities and noise would cause wildlife to completely avoid the project area for the 90-180 days the project is expected to take. Since wildlife disturbance is associated with site preparation activities, adverse impacts are expected to be temporary and minor to wildlife and wildlife habitat in the vicinity. During the evening hours, wildlife could potentially return to the project area while the project is occurring. Larger wildlife may benefit in the long-term from the removal of vegetation found in the project area since this will create a small fragmented habitat that may benefit them by improving herbaceous forage.

The NPS surveyed for species of special concern within the project area. In consultation with the USFWS and State Natural Heritage Program, it was determined that this project will only have no or minimal short-term impacts to federally threatened and endangered or state species of concern, including their habitat, during construction related activities and did not need to be further analyzed in the EA.

There will be no significant impacts on public health, public safety, or unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative

effects, or elements of precedence was identified. Implementation of the NPS selected alternative will not violate any federal, state, or local environmental protection law.

## CONCLUSION

The selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA. Therefore, an EIS is not required for this project and will not be prepared.

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Attachment A – Non-Impairment Determination

Attachment B – Best Management Practices

## Attachment A – Non-Impairment Determination

### INTRODUCTION

This non-impairment determination has been prepared for the selected alternative, as described in the Finding of No Significant Impact to Construct a New Septic System in Buxton Housing Area Environmental Assessment (EA).

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of the Interior and the NPS to manage units "to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (54 U.S.C. 100101).

NPS *Management Policies 2006* (NPS 2006), Section 1.4.4, explains the prohibition on impairment of park resources and values:

"While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them."

An action constitutes impairment when its impacts "harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values" (NPS 2006, Section 1.4.5). To determine impairment, the NPS must evaluate the "particular resources and values that will be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts: (NPS 2006, Section 1.4.5).

National park system units vary based on their enabling legislation, natural and cultural resources present, and mission. Likewise, the activities appropriate for each unit and for areas in each unit also vary. For example, an action appropriate in one unit could impair resources in another unit.

As stated in the NPS *Management Policies 2006* (sec. 1.4.5), an impact on any park resource or value may constitute an impairment, but an impact will be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; or

- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

The significance and importance of each resource, based on the Seashore's enabling legislation, is discussed under the analyzed resource sections below.

The resource impact topics carried forward and analyzed for the NPS selected alternative in the environmental assessment and for which an impairment determination is contained in this attachment are soils, vegetation, wildlife and wildlife habitat. Each resource or value for which impairment is assessed and the reasons why impairment will not occur is described below.

### Soils

As noted in the Seashore's enabling legislation, part of the significance of the Seashore is the preservation of unique physiographic conditions now prevailing in this area. The analysis in the EA indicated up to .63 acres of direct impacts to soil resources from the construction of a new community septic system.

However, NPS will minimize direct and indirect impacts by implementing best management practices (BMPs). Construction zones will be identified (i.e. flagging, construction tape, etc.) to confine activity to the minimum work area required. Erosion control measures that provide for soil stability and prevent movement of soils will be implemented, such as installing silt fencing along the edge of construction. To minimize the amount of ground disturbance, staging and stockpiling areas will be located in previously disturbed sites approved by the NPS. All staging and stockpiling areas will be returned to pre-construction conditions following construction. Soil and fill material will be weed-free and from a source approved by the NPS. BMP's also include measures to ensure the soil used in the drain field is appropriate for the soil absorption systems by requiring the soils to have a soil texture of sand or loamy sand. In addition, the top six inches of the mound system is required to have a finer texture for the establishment of a vegetative cover. The slope of the community septic drain field surface is also required not to exceed two percent to reduce soil erosion.

Exposed soil will be seeded with native plants and grasses and mulched as soon as possible to prevent the establishment of invasive plants. Some small shrubs with shallow roots systems will be allowed to become reestablished within the septic drain field area, which will also improve soil stability within the site. Although up to .63 acres of soil resources may be impacted, the use of best management practices, including soil stabilization practices, will minimize the adverse effects and the NPS has determined that the selected alternative will not result in an impairment of soil resources.

### Vegetation

The significance of the Seashore includes a representative of a mid-Atlantic barrier island system characterized by the diversity of vegetation within it. The analysis in the EA indicated up to .63 acres of direct impacts to vegetation from the construction of a new community septic system. A permanent loss of 15,246 square feet (.35 acres) of vegetation will result from the installation of a new community septic drain field. However, NPS will minimize direct and indirect impacts by implementing best management

practices (BMPs). Construction zones will be identified (i.e. flagging, construction tape, etc.) to confine activity to the minimum work area required. All construction vehicles (including tires, chassis, etc.) must be washed prior to entry into the park and project area to reduce the spread of invasive and exotic plants. Construction sites will abide by best management practices regarding avoidance of tree damage. Trees identified to remain will have fencing placed around them to prevent vehicle damage to main stem, root pruning will be used to trim roots within below grade work zones, and care will be given to avoid compaction of soils over root systems. Vegetation material removed during the project that is unusable for revegetation efforts shall be cut and shredded onsite for use as mulch in the project area.

After the construction of the community septic drain field, the site will be revegetated with native grasses. Some small shrubs with shallow roots systems may be allowed to become reestablished within the drain field area. Two large live oaks (*Quercus virginiana*) within the project area were excluded from removal in place to allow these well established species to remain within the project area and will help create a visual buffer between housing units and the community septic drain field. This action will reduce the adverse effects of the clearing of all vegetation. These trees will be protected from removal during construction activities by temporary fencing. Any transplant and revegetation efforts will be coordinated through the Seashore's Resource Management program to echo the existing, native landscape. Any exotic or non-native vegetation located in the project area throughout revegetation efforts will be removed, thereby reducing competition with native plants and preventing the establishment of additional exotic vegetation. Because native plants and grasses will be planted to replace those removed and best management practices will be implemented to avoid removing more vegetation than needed, the effects to vegetation will be contained to the areas and small and the NPS has determined that the selected alternative will not result in an impairment of vegetation resources.

#### Wildlife and Wildlife Habitat

The significance of the Seashore includes the preservation of natural habitats as well as the fauna within it. Habitat alteration and displacement of wildlife species that are commonly encountered within the Seashore will result from the selected action. Construction related activities and noise may cause wildlife to completely avoid the project area for the 90-180 days the project is expected to take. Construction activities include vegetation clearing and digging and construction vehicle access to the site along with ground disturbance. Project activities will be limited to the daylight hours. Wildlife and wildlife habitat within the vicinity will be disturbed temporarily and permanently. As previously mentioned in the vegetation and soil sections above, there will be 15,246 square feet (.35 acres) of habitat alteration from the construction of the new community septic drain field. However, the Maritime forest habitat is common throughout the adjacent Buxton Woods Natural Heritage Area, which includes approximately 2,583 acres of protected habitat, and project activities will not cause a significant loss of wildlife habitat due its relatively small scale. Wildlife utilizing the area are acclimated to some level of vehicle and employee use and will be temporarily or permanently displaced to the nearby Buxton Woods during and after project activities. Tree/limb removal will only occur outside of avian nesting season (April 1 through August 31). Since wildlife disturbance is associated with site preparation activities, adverse impacts are expected to be temporary and minor to wildlife and wildlife habitat in the vicinity. During the evening hours when construction activities are stopped, wildlife could potentially return to the project area. Larger

wildlife may benefit in the long-term from the removal of vegetation found in the project area since this will create a small fragmented habitat that may benefit them by improving herbaceous forage. Park resource staff throughout the duration of the project will monitor construction site and staging areas in case any special status species unexpectedly appear in the project area. Should any appear, and if park staff become concerned about potential adverse impacts on the species from construction or other project related activities, work will stop and not resume until necessary protective steps are taken to avoid any impacts to the special status species. Because effects to wildlife habitat will be temporary and wildlife will have the ability to relocate, the NPS has determined that the selected alternative will not result in an impairment of wildlife and wildlife habitat.

## **Conclusion**

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent's professional judgment that there will be no impairment of park resources and values from implementation of the selected alternative. The NPS has determined that implementation of the selected alternative will not constitute an impairment of the resources or values of Cape Hatteras National Seashore. This conclusion is based on consideration of the park's purpose and significance, a thorough analysis of the environmental impacts described in the EA, comments provided by the public and others, and the professional judgment of the decision maker guided by the direction of *NPS Management Policies 2006*.

## Attachment B – Best Management Practices

### General Construction

- The NPS is responsible for any testing, surveying, digging, measuring, verifying of existing conditions, etc. necessary to perform the complete design and construction of the selected alternative. Percolation and other soil tests, inspection of existing system for suitability and serviceability tree clearing, air or pipe tests, etc. will also occur within the scope of work.
- The NPS is responsible for abiding by the permit granted through the Dare County Public Health Office.
- The NPS must ensure the contractor will comply with all local, State, and Federal laws, and regulations.
- The project shall include a pre-construction meeting and a final inspection meeting, in addition to regularly scheduled project meetings and site visits.
- All construction generated debris (not including vegetation) will be removed from the park to an approved landfill.
- Equipment must be free of any fluid leaks (fuel, oil, hydraulic fluid, etc.) upon arrival to the work site and will be inspected at the beginning of each shift for leaks. Leaking equipment will be removed off site for necessary repairs before the commencement of work.
- All construction equipment that will leave paved or dirt roads will be pressure-washed prior to entering the park and shall be clean of any soil, plant matter, or other materials. NPS natural resource specialists or the project manager shall inspect the vehicles prior to entry into the park.
- Fueling of any type, whether equipment or vehicles, must be done either on non-pervious surfaces such as concrete or asphalt, or deploy a spill containment pad.
- Equipment, material, and supply storage will be within approved areas only.
- Parking of personal vehicles will be within designated areas only.
- Any park infrastructure affected during construction, including, but not limited to paved and unpaved roadways, walkways, and turf, will be restored to pre-construction conditions upon completion of the project.
- Construction zone will be clearly marked. Fencing or other type of NPS approved temporary barriers will be installed. At completion of action/project all temporary marking/fencing/flagging must be removed.

### Air Quality

- To reduce noise and pollution emissions, construction equipment will not idle any longer than is necessary for safety and/or mechanical reasons.
- All haul loads must be trapped.

### Archeological Resources

- Should construction unearth cultural resources, work will be stopped in the area of discovery and the park will consult with the park Cultural Program Manager, State Historic Preservation Office (SHPO) in accordance with §36 CFR 800.13, Post Review Discoveries.

- In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed.

### **Lightscaapes and Soundscapes**

- Hours of outdoor construction will be limited to hours between sunrise and sunset; therefore, no artificial lighting will be needed.

### **Soils and Vegetation**

- Construction zones will be identified (i.e. flagging, construction tape, etc.) to confine activity to the minimum work area required.
- All construction vehicles (including tires, chassis, etc.) must be washed prior to entry into the park and project area to reduce the spread of invasive and exotic plants.
- Construction sites will abide by best management practices regarding avoidance of tree damage. Trees will have fencing established to prevent vehicle damage to main stem, root pruning will be used to trim roots within below grade work zones, and care will be given to avoid compaction of soils over root systems.
- Soil disturbance shall be minimized to the greatest extent possible to reduce disturbance to native plants and reduce the potential for the introduction or spread of invasive non-native plant species.
- To minimize the amount of ground disturbance, staging and stockpiling areas shall be located in previously disturbed sites approved by the National Park Service. All staging and stockpiling areas shall be returned to pre-construction conditions following construction.
- Erosion control measures that provide for soil stability and prevent movement of soils will be implemented, such as installing silt fencing along the edge of construction.
- Soil and fill material will be weed-free and from a source approved by the National Park Service.
- Exposed soil shall be seeded and mulched as soon as possible to prevent the establishment of invasive plants.
- Vegetation material removed during the project that is unusable for revegetation efforts shall be cut and shredded onsite for use as mulch in the project area. If the material needs to be stored off-site, NPS staff shall work with the project manager to determine the appropriate location.
- Chipping activities shall broadcast the wood chips. No chip deposits shall be over three inches deep.
- Any transplant and revegetation efforts will be coordinated through the Resource Management program to echo the existing, native landscape.

### **Wildlife**

- Tree/limb removal will only occur outside of avian nesting season (April 1 through August 31).
- Construction personnel will be oriented on appropriate behavior in the presence of wildlife and the proper handling and disposal of food and/or other attractants.
- Park resource staff throughout the duration of the project will monitor construction site and staging areas in case any special status species unexpectedly appear in the project area. Should any appear, and if park staff become concerned about potential adverse impacts on the species

from construction or other project related activities, work will stop and not resume until necessary protective steps are taken to avoid any impacts to the special status species.