NC-ALR FY26 Fire Breaks
Performance of Work Statement (PWS)
04-27-2026

BACKGROUND & NEED: The Alligator River National Wildlife Refuge (NC-ALR) is pursuing a service contract for the mastication of five (5) fuel breaks in Dare County, NC. See the enclosed maps for location information. These breaks are designed specifically to protect the people, homes, and property of three Wildland Urban Interface (WUI) communities that are adjacent to NC-ALR – Mashoes, Manns Harbor, and Stumpy Point. These communities have been threatened by multiple large wildfires over the years.

Historically, the largest wildfires in NC history have occurred on the Albemarle-Pamlico Peninsula and have oftentimes included NC-ALR and the surrounding private lands. Once established, these wildfires can become long-duration incidents with long-term risks to the public and firefighter safety. Unique local challenges to firefighters include ground fire and large tracts of dense, volatile fuels with the potential for fast-moving wildfires. Additionally, the soil is very wet and generally mucky with severe equipment limitations. As such, the costs of suppressing these large fires are exorbitantly high, potentially ranging into the tens of millions of dollars or more.

Fuel breaks are one of the primary means of mitigating these challenges. They provide areas of lighter fuels and moderated fire behavior from which firefighters can more safely and effectively fight the fire. They provide additional tactical suppression options for firefighters while supporting fuel mitigation through prescribed fire use.

Figure-1: Fire Break Summary for Alligator River NWR

#	FUEL BREAK	LENGTH		[1]WIDTH	ACRES	TYPE
		(ft)	(mi)	(ft)		
1.1	Mashoes Ditch Bank (shaded fuel break)	4,680.93	0.887	20	2.2	Rubber-tracked/wheeled (ex. boom-axe or similar brush cutter)
1.2	Mashoes Marsh (full break)	8,696.16	1.647	50	10.0	Amphibious mastication
2	Manns Harbor (full break)	5,300.00	1.004	85	10.3	Amphibious mastication
3.1	South Stumpy Point (full break)	3,200.00	0.606	40	2.9	Amphibious mastication
3.2	Parched Corn Bay A (full break)	6,405.00	1.213	40	5.9	Amphibious mastication
	TOTAL:	**28,282.09**	**5.36**	**-**	**31.3**	

[1]Fuel break width is measured from the road shoulder inside mow line or the ditch/canal edge (waterline).

TREATMENT AREA DESCRIPTIONS & SITE-SPECIFIC INSTRUCTIONS:

1. Mashoes Area (Map 1):

1.1. Ditch Bank Shaded Fuel Break (green area) – This treatment area is on the west side of the private drive (between it and the canal). The target post-treatment condition is a 20-foot shaded fuel break where the understory brush and vegetation is masticated leaving the mature trees standing and undamaged. To avoid damage to the paved drive, any mechanized equipment used in this area must be rubber-tracked or rubber-wheeled. Metal-tracked equipment is prohibited on the pavement. The ditch bank may be masticated from the canal side if equipment capabilities permit. Some light hand felling &/or brush removal may be needed in this area. Most of the vegetation consists of shrubs and vines with occasional trees of up to 3-4 inches dbh.

1.2. Mashoes Marsh (yellow area) – The target condition here is a full 50-foot fuel break where all vegetation is masticated. Current vegetation consists of dense marsh grass with thick shrubs, saplings, small trees, and scattered snags. The live trees generally range from 1-4 inches dbh with heights of 6-15 feet. There are some larger snags ranging up to 10-15 inches in diameter and maybe 30-40 feet in height, but they are sparsely stocked across most of the treatment area. However, the southern portion of the break – near Ed Sawyer Rd – has a higher stocking of snags – maybe 500-700 trees per acre (tpa) in that area. This treatment area is marsh having severe equipment limitations and very poor equipment trafficability. As such, amphibious machinery is required in this unit.

2. **Manns Harbor Area (Map 2, yellow area):** The Mann's Harbor Fuel Break was newly cut in 2024 but there was a 5,300-foot section where only approximately 15-20 feet of the 100-foot width was treated. In this section, the remaining 85' needs mastication with the target conditions being a full fuel break. Current vegetation consists of a denser stocking of a larger mixed hardwood overstory. Due to the tight tree spacing and larger diameters, some chainsaw felling may be needed depending upon equipment capabilities.

3. **Stumpy Point (Map 3, yellow areas):**

3.1. S Stumpy Point Fuel Break: The target condition here is a full 40-foot-wide fuel break. This is an existing fuel break that has not been maintained for approximately 20 years or more. Current vegetation consists of dense pond pine, red maple, and other mixed hardwoods with heights ranging up to 30-40 feet and diameters up to approximately 10-15 inches or more.

3.2. Parched Corn Bay A Fuel Break: Part of this break was treated in 2024, but progress stopped just before the dog leg. As such, mastication should begin there and be taken all the way out to the sound shore, with the target being a full 40-foot-wide fuel break. Mixed hardwoods are dense in this area until it opens up to marsh. Tree heights range up to 60-70 feet and diameters up to 20 inches or more. Due to the tight tree spacing and larger diameters, some chainsaw felling may be needed depending upon equipment capability.

SOILS & EQUIPMENT TRAFFICABILITY: The soils in the treatment areas are very poorly drained with severe equipment limitations. The water table is at or near the surface - within 6" in the driest areas - and large areas often flooded. Amphibious equipment is needed everywhere except for the Mashoes Ditch Bank. Wheeled equipment cannot operate off the road, and even rubber tracked LGP machinery has excessive ground pressure for these conditions.

*****Due to the unique equipment challenges, a site visit is recommended for bidders who are unfamiliar with the terrain, topography, and vegetation of the area. *****

GENERAL STATEMENT OF WORK: Utilize mastication equipment to cut fuel breaks according to the dimensions in Figure-1 above. Due to the very wet nature of the area and the size of the fuels present, the project will require a medium- or large-sized amphibious excavator on pontoons. Fuel break width shall be measured from the canal/ditch edge. All vegetation, logs, stumps, etc. within the footprint of the fire break shall be masticated (mulched or ground) down to ground level to enable mowing with a Marsh Master. Debris and chip piles shall be kept to 6-inches in height or less. In some cases, and with approval, larger trees may be treated around and left as shaded fuel break providing that a Marsh Master can mow around residual trees. Due to the density of larger trees in some areas – especially in the Manns Harbor and Stumpy Point breaks – some chainsaw felling may be needed to achieve the target conditions. The contractor shall receive a briefing and instructions from the

POC before beginning operations and before moving to a new treatment area.

It is the contractor's responsibility to maintain the appropriate width and location of the treated area for the duration of the project. Should the boundaries of the treatment area become unclear, the contractor will immediately contact the POC for guidance on how to proceed. In certain areas the contractor may have to utilize mapping apps (ex. Avenza) and/or other navigational methods to accurately install the break as mapped. Notify the POC if you need a georeferenced PDF map for use with Avenza.

***The contractor will be responsible for recovery/extrication if/when heavy equipment and vehicles get stuck or become immobilized. FWS personnel and equipment will not be available for equipment and vehicle recovery. The contractor shall have additional equipment available on site, as appropriate, for this purpose. ***

Vegetation may be removed from the firebreak and taken off refuge to be sold for biomass. For any materials sold as biomass, the contractor will inform the POC of the approximate amount (by weight) sold.

Transportation & Access: The contractor shall provide all equipment, operators and support personnel, transportation, parts, fluids, fuel, etc. It is the contractor's daily responsibility to transport the equipment to and from the site and to provide for the transportation of personnel, fuel, parts, fluids, etc. Personal vehicles are not to be left on Refuge property overnight. Regardless of time-of-day, vehicles, equipment, etc. shall not block gates, roads, and other access points. At the end of shift, the contractor shall lock all gates on the way out unless otherwise advised by the POC.

Invasive Species Mitigation: All equipment used by the contractor will be clean of dirt, mud, and plant material, within tracks and undercarriage, prior to entering the Refuge. If equipment leaves the work site for any reason it will be cleaned prior to re-entering the Refuge. This requirement is to limit the potential for spread of exotic and invasive plants onto the Refuge.

Protection of Trees: The Contractor shall take every necessary precaution to prevent damage to trees and vegetation outside of the treatment area.

Spill Containment & Trash Pick-up: The contractor shall have the necessary equipment and supplies required to mitigate any fuel or fluid spills. All spills are to be reported to the FWS POC as soon as they occur. All trash from operations, including but not limited to hydraulic fluid and oil containers, water bottles, food wrappers and containers, etc. shall be removed from the project site.
Erosion Control: Contractor shall take reasonable care to minimize soil impacts. Vehicles will not be operated on Refuge roads, power line rights-of-way, road shoulders, or permanent fire lines when soil moisture conditions are such that excessive rutting or soil movement will occur.

Repair of Damages: The contractor is responsible for any damage to roads, road shoulders, culverts, water control structures, or other infrastructure.

Smoking: Smoking by Contractor personnel is permitted only in cleared areas designated by the site rep/POC such as permanent fire lines or utility rights-of-way. Smoking materials shall not be left on Refuge lands. The Contractor may be held liable for any wildland fire that is started by their personnel from negligence.

Work Hours: All activity will be performed during posted business hours of 8:00 am to 4:00 pm, Monday through Friday. Any deviation needs prior approval from on-site representative/POC.

Supervision: To ensure performance and accomplishment of the work as outlined herein, the Contractor shall provide adequate and competent onsite supervision (with the ability to effectively communicate in English), for all work to be accomplished by the Contractor's employees. When contract work is in progress, supervisory personnel shall be available at all times to receive notices, reports, or requests from the Site Representative or his authorized representative. At no time shall Government representatives direct or supervise the activities of the Contractor's employees.

PROJECT LOCATION: This project is located on the Alligator River National Wildlife Refuge in mainland Dare County, NC. See the enclosed maps for specific fire break locations. Physical addresses do not exist for the project areas but a general lat/long is included on the enclosed maps.

NC-ALR Milltail Maintenance Shop
13518 Milltail Rd.
East Lake, NC 27953
252-473-1744 (office
252-473-1375 (fax)

BID PROPOSAL: Prospective contractors shall submit bids on a cost-per-acre basis and as a total project cost. If funds are insufficient to cover the total project cost, the contract will be awarded on a cost-per-acre price with no award granted until a project size matching available funds is reached. Bids should include a description of equipment to be used so that evaluators may determine the adequacy and efficacy of proposed machinery.

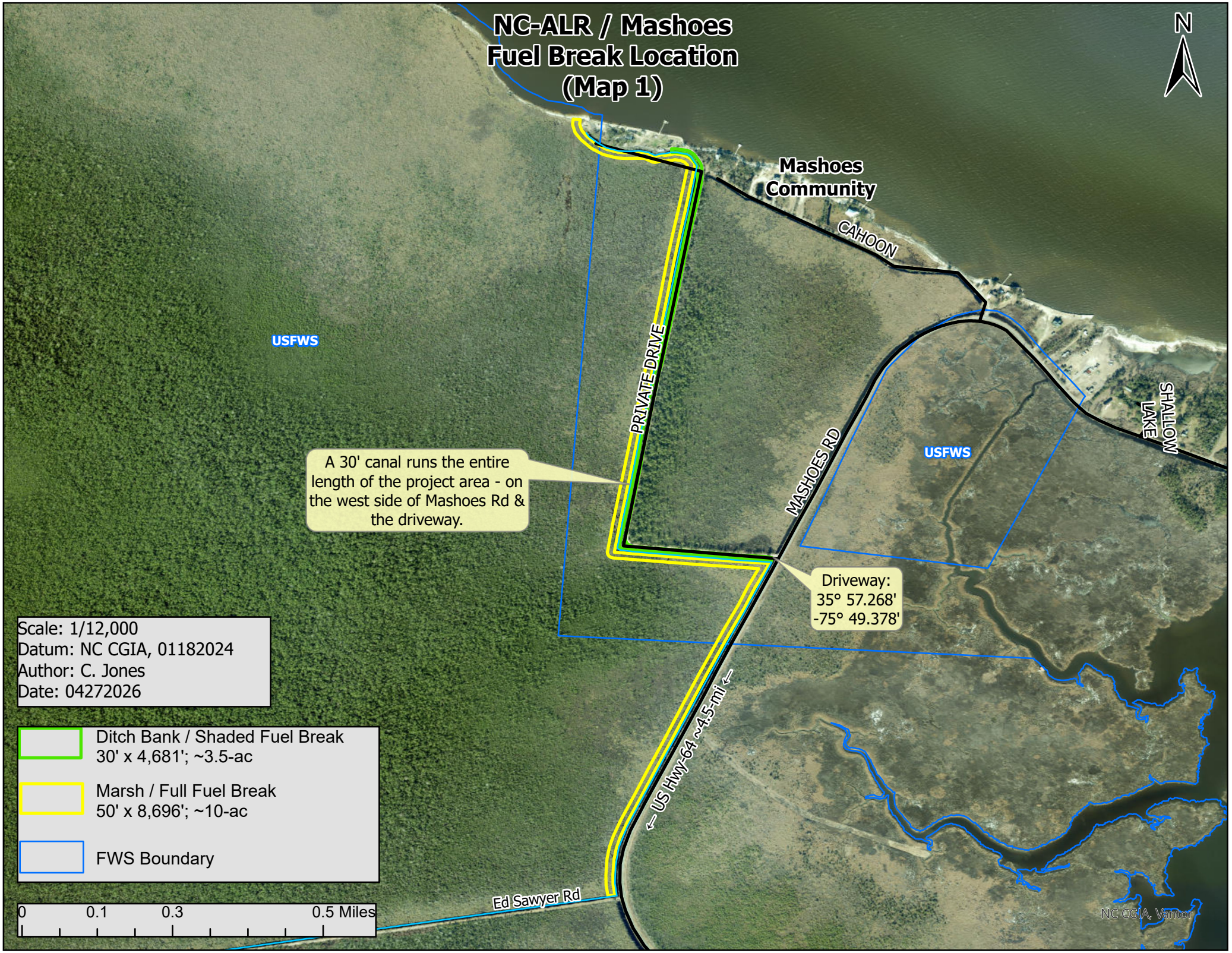
PERIOD OF PERFORMANCE & WORK SCHEDULE: Work should begin no earlier than July 16, 2026. It is estimated that this project should reasonably conclude by December 15, 2026 (5 months) if not sooner, assuming no weather-related or other delays. Extended severe weather or high fire danger could potentially delay or prolong operations. The contractor will be asked to pause operations under significant fire conditions. To protect roosting bats, any work past December 15 will have additional constraints to include diameter limit restrictions based upon air temperature.

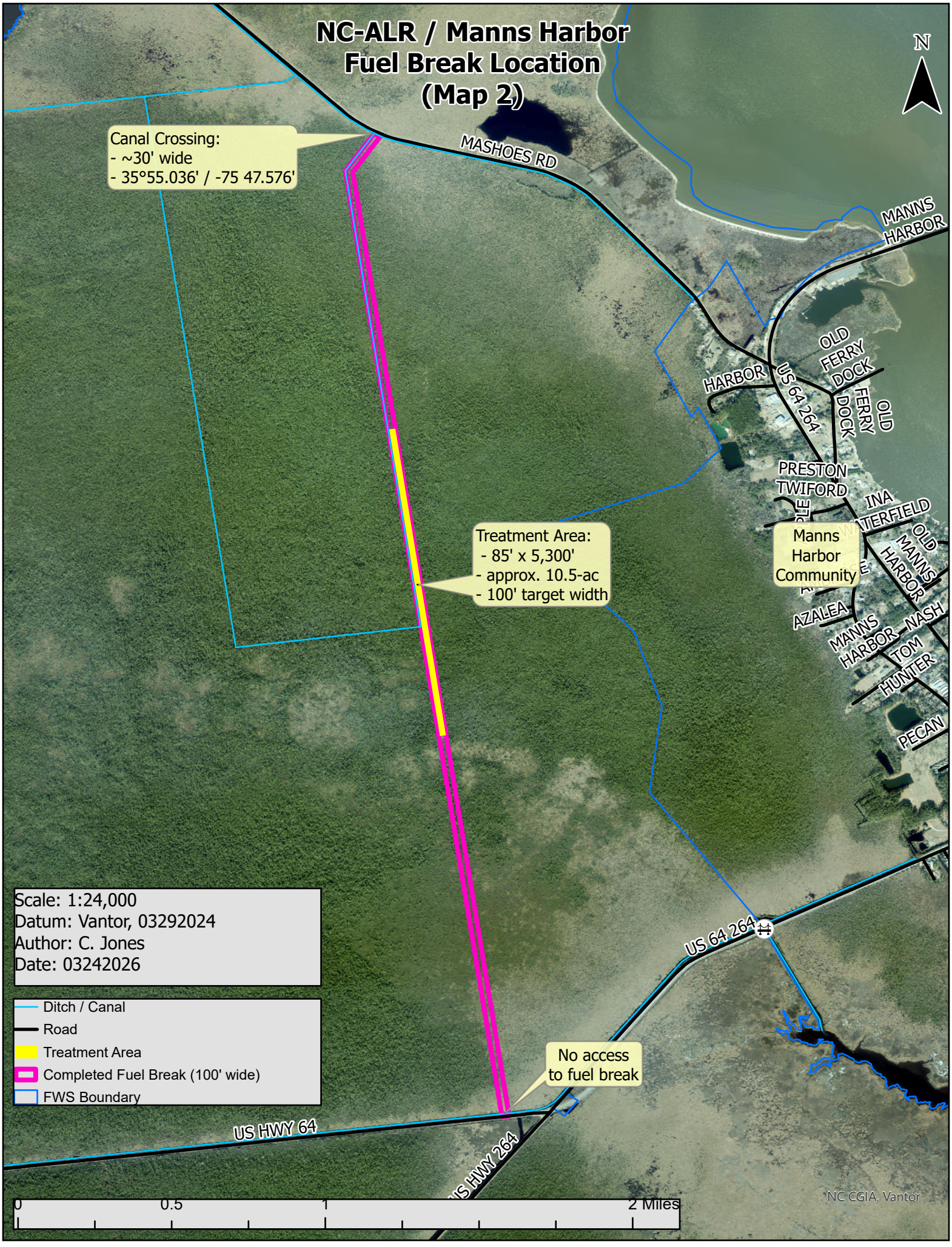
TECHNICAL POINTS OF CONTACT (POC):

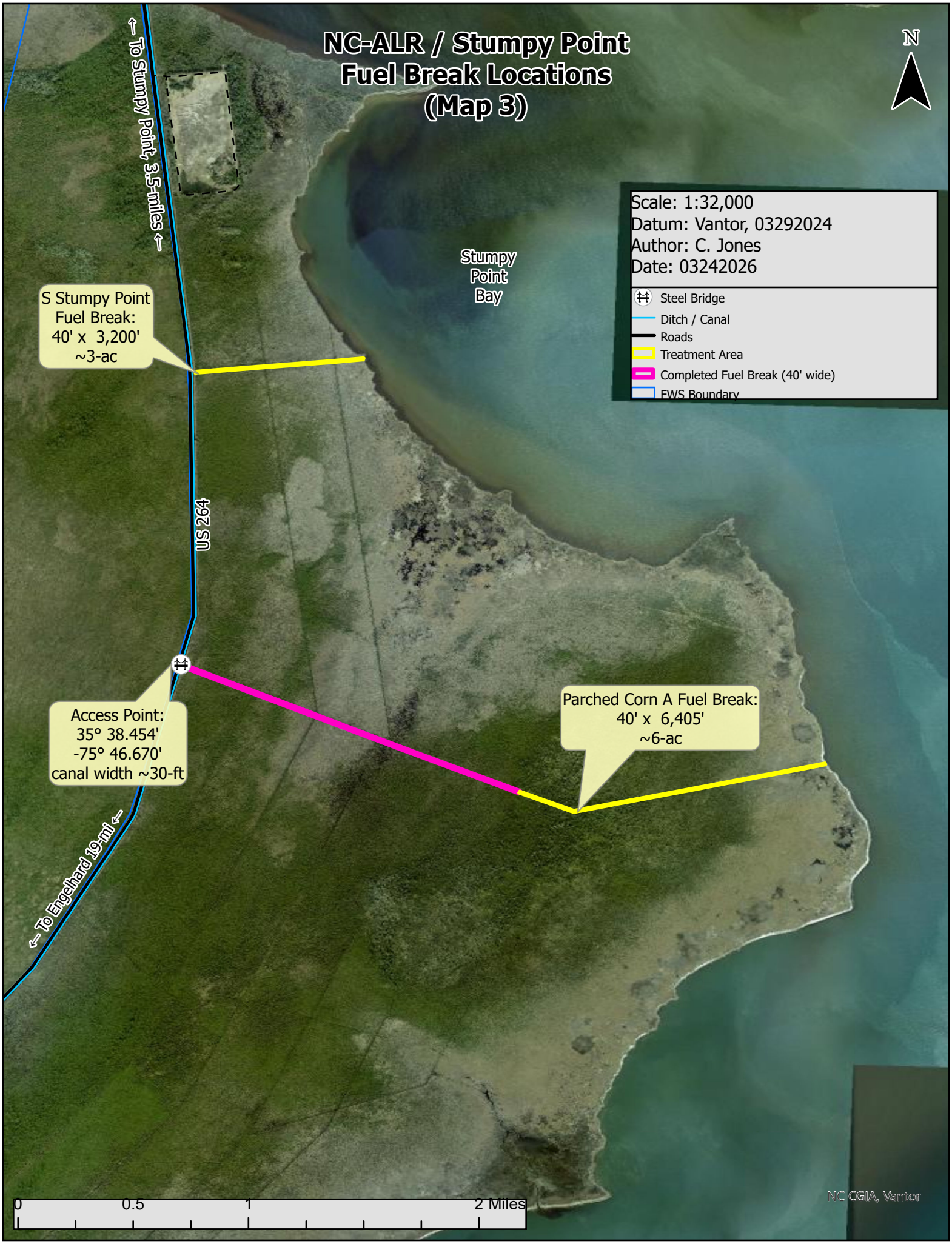
Caleb Jones
East Zone Fuels Coordinator
252-394-0234
caleb_jones@fws.gov

John Cook
East Zone Fire Management Officer (ZFMO)
252-553-0671
shawn_turner@fws.gov
john_c_cook@fws.gov

Enclosed: 3 Project Maps


NC-ALR / Mashoes
Fuel Break Location
(Map 1)
N
Mashoes
Community
CAHOON
USFWS
PRIVATE DRIVE
MASHOES RD
USFWS
SHALLOW
LAKE
A 30' canal runs the entire length of the project area - on the west side of Mashoes Rd & the driveway.
Driveway:
35° 57.268'
-75° 49.378'
Scale: 1/12,000
Datum: NC CGIA, 01182024
Author: C. Jones
Date: 04272026
Ditch Bank / Shaded Fuel Break
30' x 4,681'; ~3.5-ac
Marsh / Full Fuel Break
50' x 8,696'; ~10-ac
FWS Boundary
← US Hwy-64 ~4.5-mi ←
Ed Sawyer Rd
0
0.1
0.3
0.5 Miles
NC CGIA, Vantor


NC-ALR / Manns Harbor
Fuel Break Location
(Map 2)
N
Canal Crossing:
- ~30' wide
- 35°55.036' / -75 47.576'
MASHOES RD
MANNS HARBOR
OLD FERRY DOCK
HARBOR
US 64 264
PRESTON
TWIFORD
INA
Treatment Area:
- 85' x 5,300'
- approx. 10.5-ac
- 100' target width
Manns Harbor Community
OLD MANNS HARBOR
AZALEA
MANNS HARBOR
NASH
TOM HUNTER
PECAN
US 64 264
No access to fuel break
US HWY 64
US HWY 264
Scale: 1:24,000
Datum: Vantor, 03292024
Author: C. Jones
Date: 03242026
Ditch / Canal
Road
Treatment Area
Completed Fuel Break (100' wide)
FWS Boundary
0
0.5
1
2 Miles
NC CGIA, Vantor


NC-ALR / Stumpy Point
Fuel Break Locations
(Map 3)
N
Scale: 1:32,000
Datum: Vantor, 03292024
Author: C. Jones
Date: 03242026
Steel Bridge
Ditch / Canal
Roads
Treatment Area
Completed Fuel Break (40' wide)
FWS Boundary
← To Stumpy Point 3.5-miles ←
Stumpy
Point
Bay
S Stumpy Point
Fuel Break:
40' x 3,200'
~3-ac
US 264
Access Point:
35° 38.454'
-75° 46.670'
canal width ~30-ft
Parched Corn A Fuel Break:
40' x 6,405'
~6-ac
← To Engelhard 19-mi ←
0
0.5
1
2 Miles
NC CGIA, Vantor