



Environmental Review Form for Argonne National Laboratory

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Version:	5
Your Form ID:	ANL-985-1816
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Creator

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Cost Center:	256	Division:	WSE
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General Information

Project/Activity Title: AMF3 Project Installation and Operation at USDA/USFS Bankhead National Forest

ASO NEPA Tracking No.: _____ Type of Funding: _____

B & R Code: _____ Identifying Number: ANL-985-1816

SPP Proposal Number: _____ CRADA Proposal Number: _____

Work Project Number: _____ ANL Accounting Number: _____ (Item 3a in Field Work Proposal)

Other (explain): _____

List appropriate NEPA Owners: _____

Division: EVS NEPA Owner: _____

Financial Plans

To select a Financial Plan, click the magnifying glass icon to open a search window.

Cost Center: Project: Phase: Task:

Description of Proposed Action

This ERF covers activities associated with the installation and operation of the third ARM Mobile Facility (AMF3); which is operated under the U.S. Department of Energy (DOE) Atmospheric Radiation Measurement (ARM) Program user facility. The ARM user facility is a DOE Office of Science user facility managed by the Office of Biological and Environmental Research (BER). The user facility provides the climate research community with strategically located in situ and remote-sensing observatories designed to improve the understanding and representation, in climate and earth system models, of clouds and aerosols as well as their interactions and coupling with the Earth's surface. ARM approved deployment of the AMF3 to the U.S. Department of Agriculture / U.S. Forest Service (USDA/USFS)-managed Bankhead National Forest (BNF), (Figure 1). USDA/USFS would be hosting AMF3 at and nearby its existing Black Warrior Work Center (BWWC) building located within BNF. During future phase II of the project, an additional 4 supporting sites, consisting of 3 supplemental sites and 1 radar site, would be installed in the surrounding area at approximately 50 + miles from the main site at BWWC, but not on federal lands. **REFER TO THE "ERF SUPPORTING ATTACHMENT" FOR COMPLETE LIST OF ACTIVITIES INCLUDED** (all text does not fit on form)

Description of Affected Environment

Proposed activities for the main site would occur within the U.S. Department of Agriculture / U.S. Forest Service (USDA/USFS)-managed Bankhead National Forest (BNF). The BNF is located in northwest Alabama within Lawrence, Winston, and Franklin Counties. It covers approximately 182,000 acres and includes the Sipsey Wilderness Area and the Black Warrior Wildlife Management Area. The main site work would be focused near the Black Warrior Work Center (BWWC) of the BNF, located along Alabama State Route 33 in Lawrence County, Alabama. The BWWC is heavily disturbed by years of U.S. Forest Service activity. The future phase II supporting sites of the project would have their duty stations within Lawrence County; however, the sites would not be located on USDA/USFS property. The potential supporting sites would be on private land and potentially on land owned or leased by the University of Alabama.

Potential Environmental Effects

- Attach explanation for each "yes" response near bottom of form.
- **See Instructions for Completing Environmental Review Form.**

Section A (Complete For All Projects)		Yes	No	Explanation
1.	Project evaluated for Pollution Prevention and Waste Minimization opportunities and details provided under items 2, 4, 6, 7, 8, 16, and 20 below, as applicable	<input checked="" type="radio"/>	<input type="radio"/>	See individual explanations below. The proposed action would be evaluated before implementation to identify options to reduce or eliminate generation of waste materials
2.	Air Pollutant Emissions	<input checked="" type="radio"/>	<input type="radio"/>	Minor emissions from cars and light duty vehicles.
3.	Noise	<input checked="" type="radio"/>	<input type="radio"/>	Noise from construction and installation activities would occur. Normal operations may create minor noise at times. All appropriate standards would be followed and personal protective equipment used as required.
4.	Chemical/Oil Storage/Use	<input checked="" type="radio"/>	<input type="radio"/>	Amounts of chemicals such as, flammables, oxidizing agents, and corrosives would be stored and used at the main site during normal operations under the EPA designation of "Very Small Quantity Generator". Chemical use during the construction and Installation process would be governed under ES&H documentation and follow appropriate EPA requirements.
5.	Pesticide Use	<input type="radio"/>	<input checked="" type="radio"/>	
6.	Toxic Substances Control Act (TSCA) Substances			
6a.	Polychlorinated Biphenyls (PCBs)	<input type="radio"/>	<input checked="" type="radio"/>	
6b.	Asbestos or Asbestos Containing Materials	<input type="radio"/>	<input checked="" type="radio"/>	
6c.	Other TSCA Regulated Substances	<input type="radio"/>	<input checked="" type="radio"/>	
6d.	Import or Export of Chemical Substances	<input type="radio"/>	<input checked="" type="radio"/>	
7.	Biohazards	<input type="radio"/>	<input checked="" type="radio"/>	
8.	Effluent/Wastewater (If yes, see question #12 and contact Peter Lynch (HSE) at 2-4582 or lynch@anl.gov)	<input checked="" type="radio"/>	<input type="radio"/>	The main office areas would connect to existing septic for regular operations. In the event of a field campaign when more people would be on site, port-a-potties would be rented and the vendor would follow proper disposal of contents. No discharge of wastewater to a storm sewer system would occur.
9.	Waste Management			
9a.	Construction or Demolition Waste	<input checked="" type="radio"/>	<input type="radio"/>	Construction debris may be generated from these actions. All debris would be collected and placed in appropriate collection systems for recycling where appropriate. Wastes generated would be characterized to determine if they meet the Clean Construction or Demolition Debris (CCDD) criteria for Alabama. If not, wastes would be disposed of in accordance with EPA - RCRA or other applicable authorities.
	Hazardous			The ARM AMF3 would generate minor amounts of hazardous waste on an inconsistent basis and qualify as a Very Small Quantity Generator (VSQG) as defined in 40 CFR Part 262.13 and

	9b. Waste	<input checked="" type="radio"/>	<input type="radio"/>	262.14 of the Code of Federal Regulations (CFR). Waste would be disposed of in accordance to applicable requirements.
	9c. Radioactive Mixed Waste	<input type="radio"/>	<input checked="" type="radio"/>	
	9d. Radioactive Waste	<input type="radio"/>	<input checked="" type="radio"/>	
	9e. Asbestos Waste	<input type="radio"/>	<input checked="" type="radio"/>	
	9f. Biological Waste	<input type="radio"/>	<input checked="" type="radio"/>	
	9g. No Path to Disposal Waste	<input type="radio"/>	<input checked="" type="radio"/>	
	9h. Nano-material Waste	<input type="radio"/>	<input checked="" type="radio"/>	
10.	Radiation	<input checked="" type="radio"/>	<input type="radio"/>	Sealed sources would be used in operation of and for calibration of equipment. These include : * 2 x Kr85 10 millicuries * 2 x Po210 500 microcuries * 1 x Ni63 15 millicuries (detection device for leaks of Kr85 gas) * 1 x Am-241 .00305 microcuries (use in leak test equipment) * 1 x Sr90 112200 disintegrations per minute (use in leak test equipment) * 1 x Cs-137 10 microcuries (used in leak test equipment) * 1 x Ni63 10 millicuries (used in leak test equipment) * 1 x Po210 10 microcuries (used in field campaign equipment) * Class 1 Radiation Generating Devices The list above is also found in section 6 of the attached SF-299_AMF3_BNF and are the same types of instruments and sources used at the ARM SGP site. ARM AMF3 would be a designated radiological facility under PROC-45 and would fall under ANLs Radiation Protection Program. All requirements for storage, use, surveys, inventory, disposal, and compliance to ALARA would be followed. There are no homes near the site and chance for spill is zero due to the nature of sealed sources.
11.	Threatened Violation of ES&H Regulations or Permit Requirement	<input type="radio"/>	<input checked="" type="radio"/>	
12.	New or Modified Federal or State Permits	<input checked="" type="radio"/>	<input type="radio"/>	ARM AMF3 has applied for a Special Use Permit with the USDA/USFS. AMF3 operations would follow all other applicable state or local regulations
13.	Siting, Construction, or Major Modification of Facility to Recover, Treat, Store, or Dispose of Waste	<input type="radio"/>	<input checked="" type="radio"/>	
14.	Public Controversy	<input type="radio"/>	<input checked="" type="radio"/>	
15.	Historic Structures and Objects	<input type="radio"/>	<input checked="" type="radio"/>	A cultural resources survey was conducted in September 2022 and included an intensive field survey of all proposed site locations within phase one of the AMF3 Project. No sites that appear on the National Register of Historic Places (NRHP) have been previously recorded in the survey area. Existing " Site LA758" is a potentially eligible site for the NRHP located near the project area, but the proposed actions would not impact the sites' eligibility for NRHP listing. During the surveying no cultural materials were recovered at any of the proposed locations. The report was sent to the Alabama SHPO and consulting tribes. The Muscogee Nation agreed with the determination of no adverse effects. Neither the SHPO nor other tribes provided a response within 30 days.; which is identified in the USFS Decision Memo. During the start of phase II of the AMF3 project for the supporting locations, a hold point would be established to ensure the future sites are supported by this ERF and or seek a new ERF if required prior to starting work. See attached report for more information on the phase I survey : HRM Report # 2023-01-001
16.	Disturbance of Pre-existing Contamination	<input type="radio"/>	<input checked="" type="radio"/>	
17.	Energy Efficiency, Resource Conserving, and Sustainable Design Features	<input type="radio"/>	<input checked="" type="radio"/>	
Section B (For				

Projects that Occur Outdoors)		Yes	No	
18.	Threatened or Endangered Species, Critical Habitats, and/or other Protected Species	<input checked="" type="radio"/>	<input type="radio"/>	A Biological Assessment-Biological Evaluation (BA-BE) was performed within the proposed locations for phase I of the AMF3 project. The BA-BE identified that the project may affect, but is not likely to adversely affect, the federally listed gray bat, Indiana bat, and northern long-eared bat. The project may impact the tricolored bat, found on the Regional Foresters' Sensitive Species (RFSS) list. The RFSS represents animals identified within the state and region. Mitigation measures would be taken to protect federally listed and RFSS bats and include restricted tree clearing during winter, from Dec 1 through Feb 28, and no tree clearing within 200 ft of any cave entrance, which none of the project work locations come within this distance. The USFWS concurred with the finding of the BA-BE. During the start of phase II of the AMF3 project for the supporting locations, a hold point would be established to ensure the future sites are supported by this ERF and or seek a new ERF if required prior to starting work. See attached BA-BE report for more information
19.	Wetlands	<input type="radio"/>	<input checked="" type="radio"/>	There are no wetlands located in the proposed project locations. See attached BA-BE report for more information.
20.	Floodplain	<input type="radio"/>	<input checked="" type="radio"/>	There are no floodplains located in the proposed project locations. See attached BA-BE report for more information.
21.	Landscaping	<input type="radio"/>	<input checked="" type="radio"/>	
22.	Navigable Air Space	<input checked="" type="radio"/>	<input type="radio"/>	AMF3 Tower height of 140 ft, is below the 150 ft limit for FAA towers. Went through the application process of the FAA where it was determined that there is no impact. See Notice Criteria Form in supporting documentation. ARM program would obtain FAA approvals for all items pertaining to navigable airspace. Instruments meeting this requirement consist of a High Spectral Resolution Lidar, Doppler Lidar, Ceilometer, Raman Lidar, and Micropulse lidar consistent with our process at SGP. Approval would be sought after site locations are finalized every two years. AMF3 would launch Unmanned Free Balloons from the main site at BWWC. There is the possibility that Unmanned Aerial Vehicles may be used in some campaigns, such as AAFs Artic Shark, a DOE owned UASs and/or fixed wing aircraft, may fly over the AMF3 site. Possible Moored (tethered) balloon may be launched in the forest in future campaigns. Any UAV/UAS campaign would follow FAA requirements and flight plans, and as applicable for ANL Users the ANL Aviation Safety Program for off-site flights.
23.	Clearing or Excavation	<input checked="" type="radio"/>	<input type="radio"/>	The ARM/AMF3 would clear trees in response to ARM special use permit approval. An area of approximately 300ft x300ft would be cleared for the main site instrumentation field in phase one. The process would acquire the Alabama construction general permit and follow all requirements related to erosion control and storm water pollution prevention for the tree clearing process. The ARM program would further grade and level the land to prep for instruments and install gravel and concrete pads/piers at depths up to approximately 5 ft. The extent of tree clearing for phase II sites is anticipated to be less than phase 1, as the sites would be open fields.
24.	Archaeological Resources	<input type="radio"/>	<input checked="" type="radio"/>	A cultural resources survey was conducted in September 2022 and included an intensive field survey of all proposed site locations within phase one of the AMF3 Project. During the surveying no cultural materials were recovered at any of the proposed locations. The report was sent to the Alabama SHPO and consulting tribes. The Muscogee Nation agreed with the determination of no adverse effects. Neither the SHPO nor other tribes provided a response within 30 days. During the start of phase II of the AMF3 project for the supporting locations, a hold point would be established to ensure the future sites are supported by this ERF and or seek a new ERF if required prior to starting work. See attached report for more information : HRM Report # 2023-01-001
25.	Underground Injection	<input type="radio"/>	<input checked="" type="radio"/>	
26.	Underground Storage Tanks	<input type="radio"/>	<input checked="" type="radio"/>	
27.	Public Utilities or Services	<input checked="" type="radio"/>	<input type="radio"/>	ARM AMF3 ANL would extend current power and fiber utilities along existing roads and would tap into an existing septic at the BWWC.
28.	Depletion of a Non-Renewable Resource	<input type="radio"/>	<input checked="" type="radio"/>	
Section C (For Projects Outside of ANL)		Yes	No	
	Prime, Unique, or			

29.	Locally Important Farmland	<input type="radio"/>	<input checked="" type="radio"/>	
30.	Special Sources of Groundwater (such as sole source aquifer)	<input type="radio"/>	<input checked="" type="radio"/>	
31.	Coastal Zones	<input type="radio"/>	<input checked="" type="radio"/>	
32.	Areas with Special National Designations (such as National Forests, Parks, or Trails)	<input checked="" type="radio"/>	<input type="radio"/>	Work would be done in Bankhead National Forest located in northwest Alabama within Lawrence, Winston and Franklin Counties.
33.	Action of a State Agency in a State with NEPA-type Law	<input type="radio"/>	<input checked="" type="radio"/>	
34.	Class I Air Quality Control Region	<input type="radio"/>	<input checked="" type="radio"/>	

Categorical Exclusion

Other (Use field below to enter other categorical exclusion)

ANL NEPA Reviewer Use Only

- My approval is the final approval necessary
- This form requires additional approval from DOE

To be Completed by DOE/ASO

Section D	Yes	No
Are there any extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal?	<input type="radio"/>	<input checked="" type="radio"/>
Is the project connected to other actions with potentially significant impacts or related to other proposed action with cumulatively significant impacts?	<input type="radio"/>	<input checked="" type="radio"/>
If yes, is a categorical exclusion determination precluded by 40 CFR 1506.1 or 10 CFR 1021.211?	<input type="radio"/>	<input type="radio"/>
Can the project or activity be categorically excluded from preparation of an Environment Assessment or Environmental Impact Statement under Subpart D of the DOE NEPA Regulations?	<input checked="" type="radio"/>	<input type="radio"/>
If yes, indicate the class or classes of action from Appendix A or B of Subpart D under which the project may be excluded: This project may be excluded from the following class of action from Appendix B of 10 CFR 1021 Subpart D: B 3.1 Site Characterization and Environmental Monitoring		
If no, indicate the NEPA recommendation and class(es) of action from Appendix C or D to Subpart D to Part 1021 of 10 CFR.		

Attachments

- File Description:** ARM SF-299 Attachment [View Attachment](#)
- File Description:** ERF Supporting Attachment [View Attachment](#)
- File Description:** BA-BE Survey Report [View Attachment](#)
- File Description:** HRM Report # 2023-01-001 [View Attachment](#)

Comments

Add Approver

Approver Name	Approver Badge	Reason	Delete

Ritsche, Michael T.	53492	ARM Team	
Hickmon, Nicki L.	215793	ARM Team	
Campbell, Patty	231600	ARM Team	

Notifications

The approval notification email will be copied to the people listed below.

Badge	Name	Division	Delete
53492	Ritsche, Michael T.	EVS	
215793	Hickmon, Nicki L.	EVS	
231600	Campbell, Patty	EVS	

ASO-CX Number

ASO-CX- 399

Comments:

Approval

<u>Approver</u>	<u>Action</u>	<u>Date Routed</u>	<u>Action Date</u>	<u>Approval Reason / Comments</u>	<u>Approval Type</u>
Harris, Shana E	APPROVED	2022-12-01	2022-12-01 11:59:20.0	Creator :	PRIMARY
Harris, Shana E	APPROVED	2022-12-01	2022-12-01 11:59:20.0	Allows access to the form :	PRIMARY
Harris, Shana E	APPROVED	2022-12-01	2022-12-01 11:59:20.0	Project Manager :	PRIMARY
Ritsche, Michael T.	APPROVED	2022-12-01	2022-12-01 12:11:34.0	ARM Team :	PRIMARY
Hickmon, Nicki L.	APPROVED	2022-12-01	2022-12-01 16:53:28.0	ARM Team :	PRIMARY
Campbell, Patty	APPROVED	2022-12-01	2022-12-01 12:46:46.0	ARM Team :	PRIMARY
Wozny, Bryan M.	APPROVED	2022-12-01	2022-12-01 16:57:33.0	NEPA Owner Approval for Argonne Environmental Review :	PRIMARY
Ptak, Jill S.	APPROVED	2022-12-01	2022-12-02 10:36:54.0	ANL NEPA Reviewer : AMF3 installation in Alabama not covered under ARM-SGP NEPA approvals	PRIMARY
Hellman, Karen B.	APPROVED	2022-12-02	2022-12-08 09:02:35.0	ANL-985 Review and Approval :	PRIMARY
Dunn, Michael W.	APPROVED	2022-12-08	2022-12-08 10:28:56.0	ANL-985 ANL Deputy COO Review and Approval :	PRIMARY
Joshi, Kaushik N.	APPROVED	2022-12-08	2022-12-08 15:10:46.0	ANL-985 DOE-ASO Review and Approval : This NEPA ERF CX approval by DOE is tracked as ASO-CX-399.	PRIMARY
Siebach, Peter Rudolf	APPROVED	2022-12-08	2022-12-08 17:12:21.0	ANL-985 DOE NEPA Compliance Officer Review and Approval :	PRIMARY

Argonne National Laboratory
U.S. Department of Energy (DOE) Atmospheric Radiation Measurement (ARM) Program
Installation and Operation of the ARM Program Third Mobile Facility (AMF3) Project
Environmental Review Form (ERF) – Description of Proposed Action

Background: This ERF covers activities associated with the installation and operation of the third ARM Mobile Facility (AMF3); which is operated under the U.S. Department of Energy (DOE) Atmospheric Radiation Measurement (ARM) Program user facility. The ARM user facility is a DOE Office of Science user facility managed by the Office of Biological and Environmental Research (BER). The user facility provides the climate research community with strategically located in situ and remote-sensing observatories designed to improve the understanding and representation, in climate and earth system models, of clouds and aerosols as well as their interactions and coupling with the Earth's surface.

Base Scope: The U.S. Department of Agriculture / U.S. Forest Service (USDA/USFS) would be hosting AMF3 at and nearby its existing Black Warrior Work Center (BWWC) building located within Bankhead National Forest (BNF) under a Special Use Permit (SUP). The USDA/USFS, SUP process will continue after NEPA completion, and no work outlined in phase I will be performed until full approval of the SUP.

Phase I: The ARM Program approved deployment of the AMF3 to the USDA/USFS-managed Bankhead National Forest (BNF), (Figure 1). Upon approval of the USDA/USFS, SUP, the AMF3 BNF site would operate at the BWWC for approximately 5-8 years. Final locations for the main site under consideration would include an AMF3 office at the BWWC (Figure 2), a 300ft x 300ft instrument field on the south part of the BWWC (Figure 3), and a 140 ft tower in the forest. (Figure 4) Entire Aerial view of proposed actions.(Figure 5)

Phase II: This part of the project would occur in the future after phase I is complete. Phase II would encompass an additional 4 supporting sites, consisting of 3 supplemental sites and 1 radar site, would be installed in the surrounding area at approximately 50 + miles from the main site at BWWC, but not on federal lands.

Base Scope Actions: In preparation for the installation of ARM's meteorological sampling instrumentation at the main site at BWWC, the AMF3 would prepare the surface of the land by clearing trees, residual tree stumps and leveling the ground in the area identified. Concrete pads would be poured on site to support the instrumentation and mobile trailer buildings and gravel added to upgrade existing roads and new/existing parking areas. The current septic system in the area would be extended to the main office for AMF3. New fencing would be installed around the new tractor pad area, meteorological instrumentation, and trailers. Underground power and fiber would be extended from existing transformers along already existing roads. AMF3 would also utilize, and store chemicals required to operate and calibrate instrumentation. Some instruments would utilize sealed radioactive sources, both to function and for calibration, which would be approved under the Argonne National Laboratory – Radiation Protection Program. During

operations the site would launch different types of weather balloons and operate lidars and radars. Operations at the AMF3 would include the operation of Unmanned Aerial Systems (UASs) from the ARM Aerial Facility, guest UASs, fixed wing aircrafts, and Tethered Balloon Sondes (TBS) operated by non-Argonne institutions or users.

Future Scope: Prior to the start of the anticipated AMF3 phase II to install the four supporting sites (three supplemental sites and a single radar site), this ERF would be reviewed to ensure phase II actions are adequately covered before continuing the phase II implementation.

The three supplemental sites for phase II would be located in predominantly agricultural or pasture fields with a minimum distance of 1200 feet of open space around each site. Of the three supplemental sites, 2 would have a 33’ tower co-located approximately 1.5 miles away from the supplemental site within a forested area. The tower height would be dependent on the height of the trees located in the area; the precise location is unknown and would be identified during phase II. The single radar site would be located in an open agriculture or pasture field in an elevated area with open viewing for one half-mile radius in all directions.

Future Scope Actions: The three supplemental sites within phase II of the project would each have an approximate 160’ x 60’ footprint contained within one acre of land that would hold meteorological and soil probe instrumentation. The instrumentation would consist of a 33’ tower, a flux measurement tower, and soil-temperature-moisture instrumentation; all on cement piers dug to an approximate depth of 5’. Instrumentation would also include a radiometer station, rain gauge, and communications hub on a cement pad dug to an approximate depth of 2’- 3’. A modified overland sea container would be placed at 2 of the 3 supplemental sites. All sites would have underground power provided by the private land host and would be surrounded by a cattle fence. The 33’ towers that would be present on 2 of the supplemental sites have not yet been identified and are expected to follow the parameters outlined for location and actions identified for the supplemental sites.

The single radar site would be located on an approximate 80’ x 94’ footprint contained within one acre and include a total of three radars, supported by five modified overland sea containers. The radar site would also include a backup diesel generator, a camera security system, fencing, and the installation of underground power and fiber. A communications tower may be installed if fiber is not feasible. The radars would sit on cement foundations dug to an approximate depth of 2’ – 3’ and the remainder of the site would be gravel.

Phase II Supporting Sites	Site Total Footprint/ Instrumentation Footprint	Potential Location	Site Equipment
Supplemental site #1	1 acre / 9600 sq. ft.	Private Land in Alabama 50+ miles from main site	Meteorological and soil probe instrumentation. 33’ Tower
Supplemental site #2	1 acre / 9600 sq. ft.	Private Land in Alabama 50+ miles from main site	Meteorological and soil probe instrumentation. 33’ Tower
Supplemental site #3	1 acre/ 9600 sq. ft.	Private Land in Alabama 50+ miles from main site	Meteorological and soil probe instrumentation.

Radar Site #1	1 acre / 7520 sq. ft	Private Land in Alabama 50+ miles from main site	3 radars, soil, and meteorological instrumentation
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Project Closeout: At the conclusion of the project, Argonne National Laboratory would return the phase II land to the landowner's expectation. This can include removal of all cement platforms and removal of all underground electrical cables and remediation of the land as requested by landowner.

Project proposed affected areas

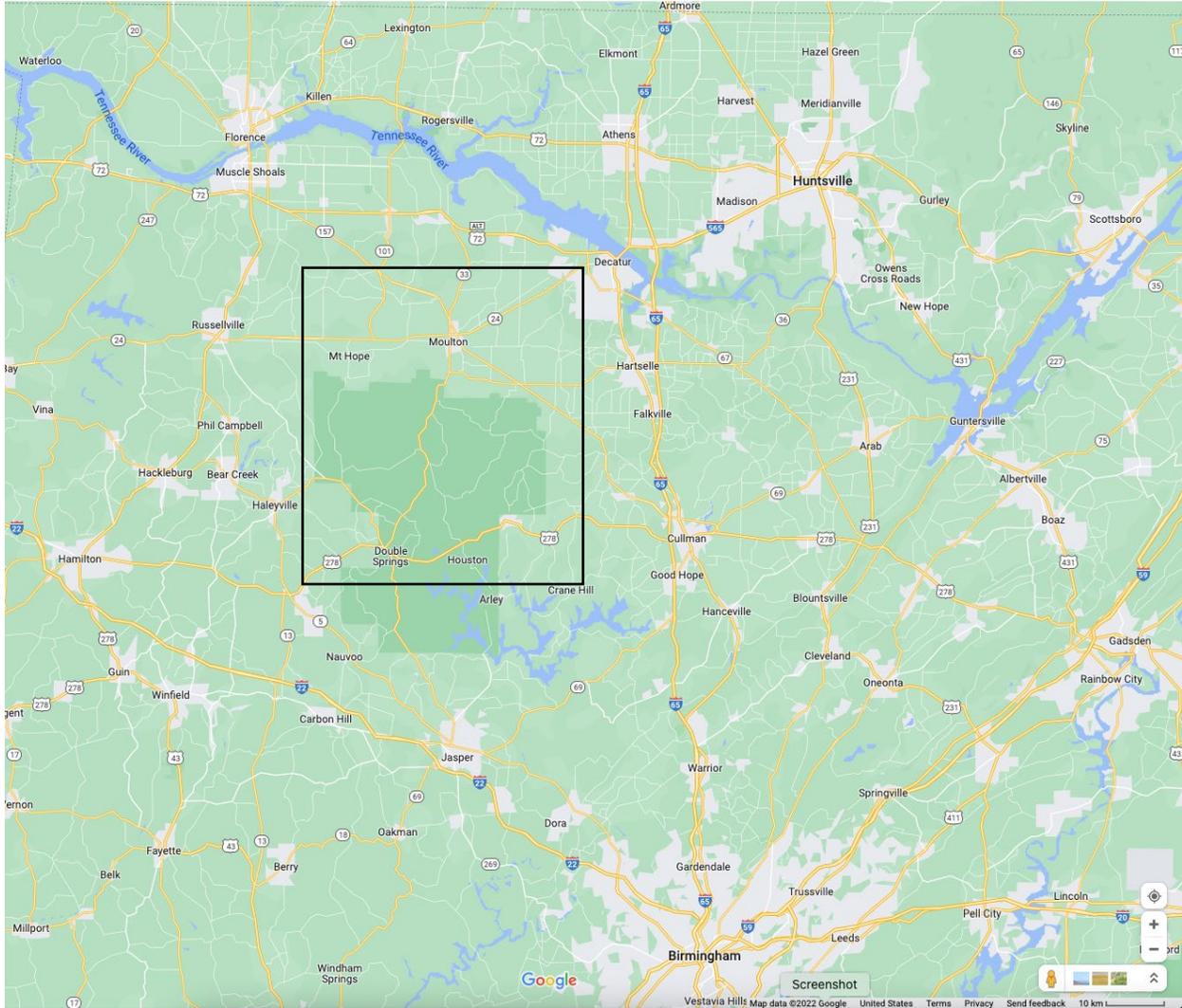


Figure 1 Northern Alabama showing Bankhead National Forest in Dark green.



Figure 2: AMF3 office site at the BWWC. Showing in green is the ARM AMF3 Office site that would replace the current tractor port with a balloon launch station in pink.



Figure 3 New tractor port and fence line at the BWWC.

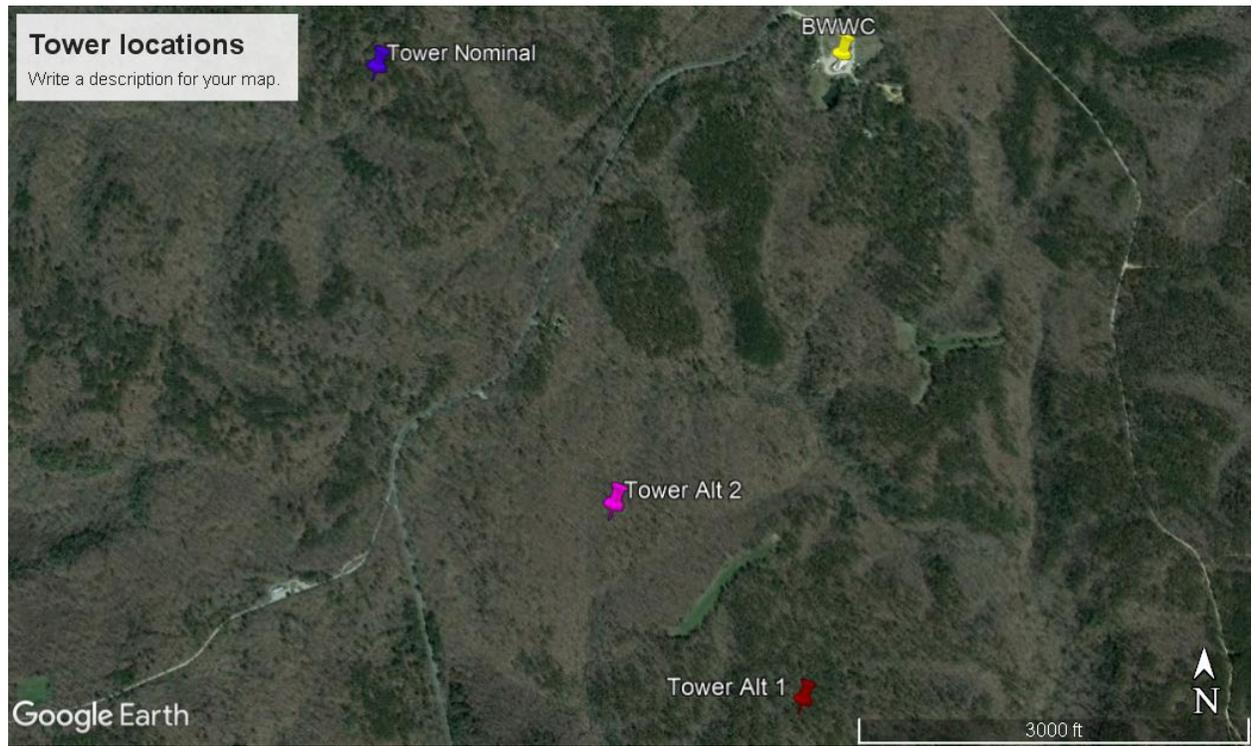


Figure 4 USDA/USFS proposed 140ft tower location.

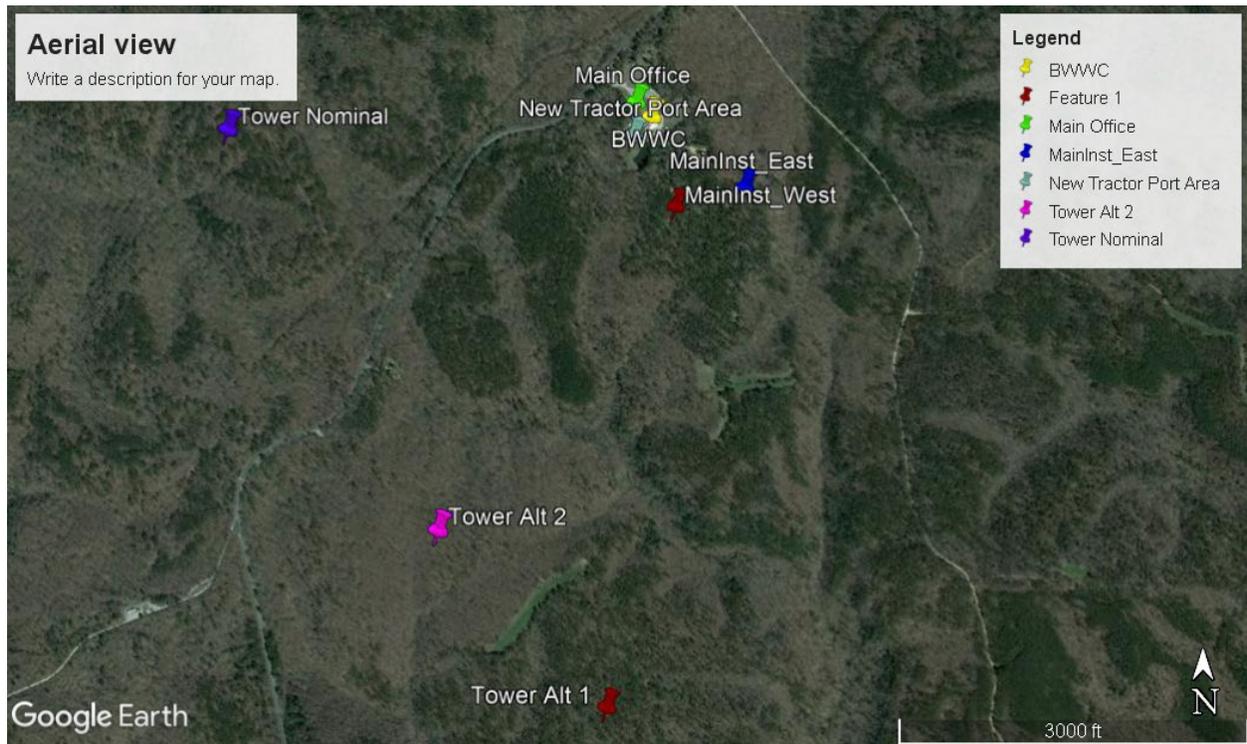


Figure 5 Aerial view of AMF3 at BNF

Obstruction Evaluation
Version 2021-SEP-14

Home

FAA OE/AAA Offices

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The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference [CFR Title 14 Part 77.9](#).

You must file with the FAA at least 45 days prior to construction if:

- + your structure will exceed 200ft above ground level
- + your structure will be in proximity to an airport and will exceed the slope ratio
- + your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- + your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#)
- + your structure will be in an instrument approach area and might exceed part 77 Subpart C
- + your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- + your structure will be on an airport or heliport
- + filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

Latitude: Deg M S

Longitude: Deg M S

Horizontal Datum:

Site Elevation (SE): (nearest foot)

Structure Height : (nearest foot)

Traverseway:

(Additional height is added to certain structures under 77.9(c)
User can increase the default height adjustment for
Traverseway, Private Roadway and Waterway

Is structure on airport: No Yes

Results

You do not exceed Notice Criteria.

Figure 6 FAA Notice Criteria Determination for 140' Tower

Future Scope Supplemental Site Instrumentation and Layout Examples



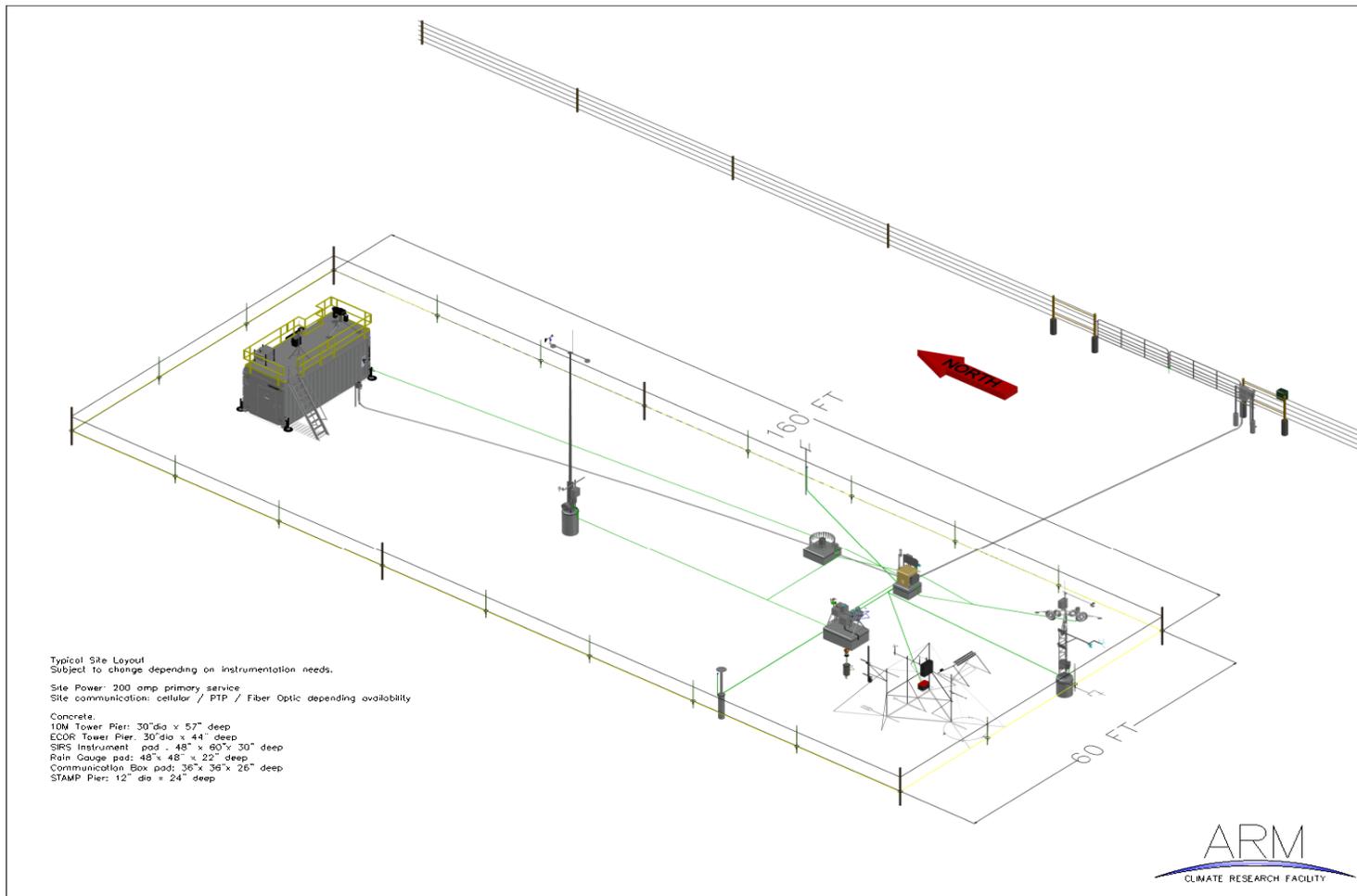
Supplemental Site Instrumentation and Modified Overland Sea Container - Example 1



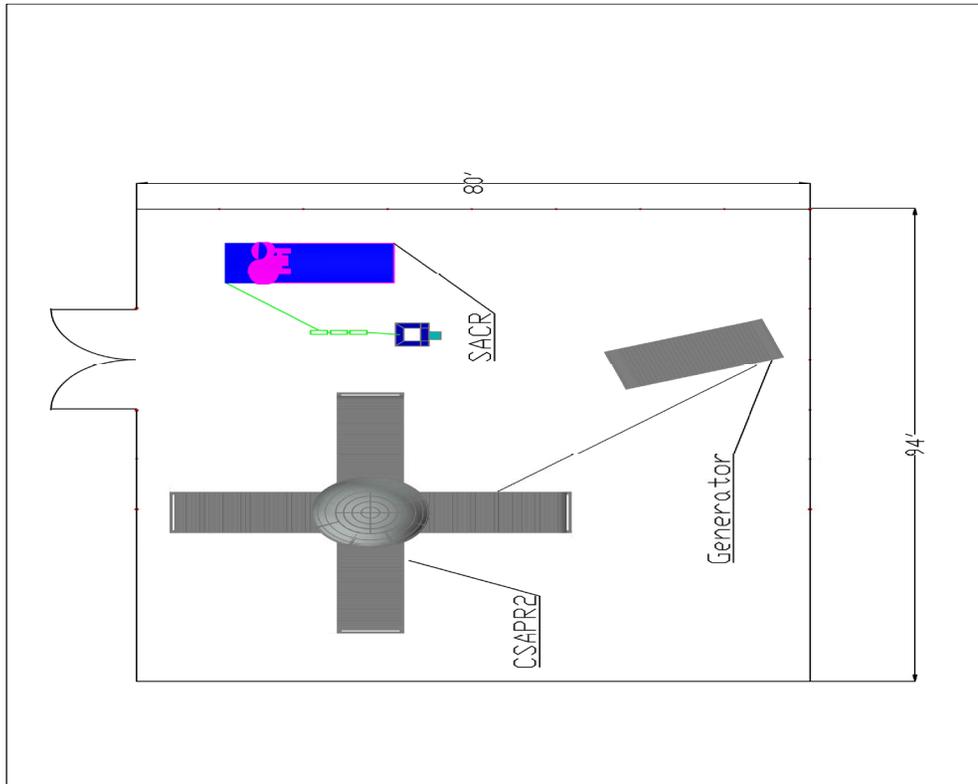
Supplemental Site Modified Overland Sea Container and 33' Meteorological Tower - Example 2



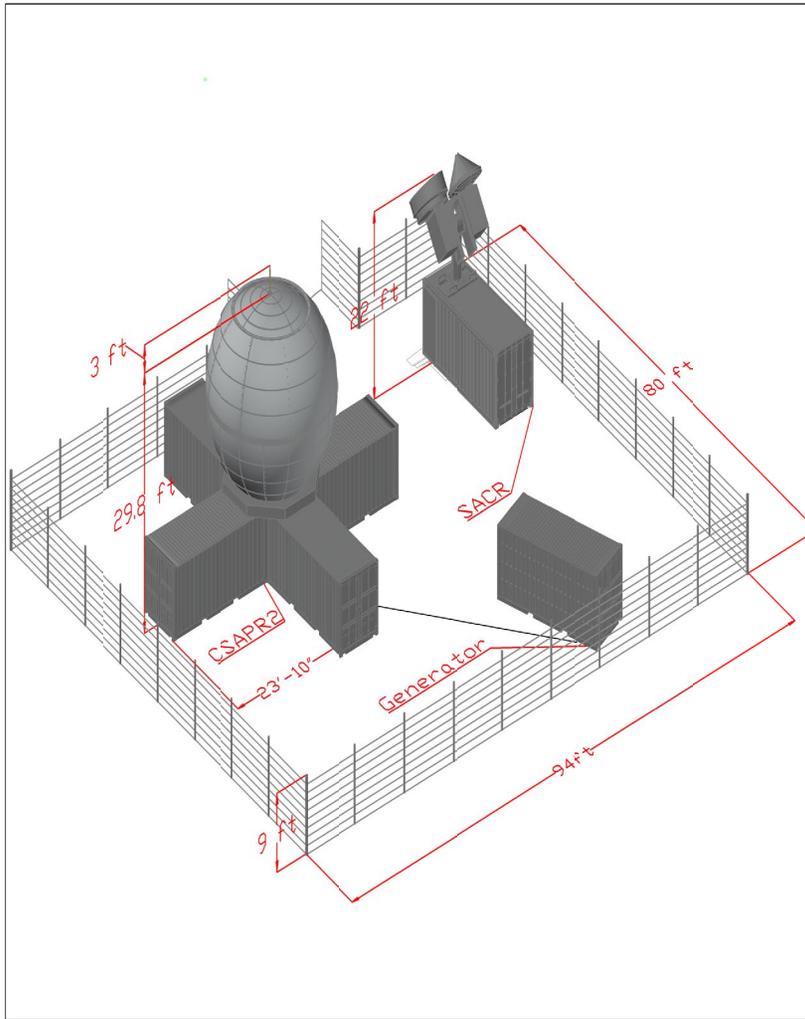
Supplemental Site Flux Tower and Instrumentation - Example 3



Supplemental Site Planimetric with Cement and underground power/data lines - Drawing Example 1



CSAPR2 is one radar and dome on 4 containers. SACR is two radars on pedestal mounted on 1 container - Radar Site Planimetric Drawing Example 2



Three dimensional view to show heights and distances of radars - Radar Site Planimetric 3D Drawing - Example 3