UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION
BEAUFORT, SOUTH CAROLINA 29904-5001

IN REPLY REFER TO:
ASO 8020.3E
ORD
29 Apr 20

AIR STATION ORDER 8020.3E

From: Commanding Officer
To: Distribution List

Subj: HAZARDS OF ELECTROMAGNETIC RADIATION TO ORDNANCE

Ref: (a) Hazards of Electromagnetic Radiation to Ordnance, Personnel, and Fuel Assessment of Marine Corps Air Station Beaufort, South Carolina, Mar 19
(b) Electromagnetic Radiation Hazards (Hazards to Ordnance), NAVSEA OP 3565, Volume 2, Nineteenth Revision, 1 Jul 16
(c) NAVFAC 11010/31 Parts I and II, Subj: Request for Project Site Approval/Explosive Safety Certification

Encl: (1) General Hazards of Electromagnetic Radiation to Ordnance (HERO) Requirements
(2) Ordnance Acronyms
(3) Ordnance Nomenclature
(4) Installation Drawings and Photographs
(5) HERO EMCON Ordnance Matrix
(6) HERO EMCON Condition Matrix
(7) Antenna and Transmitter Systems
(8) HERO Warning Label and Warning Symbol
(9) Installation Call List for HERO EMCON

1. Situation. Per reference (a), each shore establishment is required to have standard operating procedures for the safe handling of ammunition and explosives (A&E) in the hazards of electromagnetic radiation to ordnance (HERO) environment.

2. Cancellation. ASO 8020.3D

3. Mission. To promulgate policy and procedures for safe handling, transportation, and stowage of ordnance with regard to HERO. Enclosure (1) lists the general HERO requirements. Reference (a) is the current HERO assessment report for Marine Corps Air Station (MCAS) Beaufort.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent

(a) All commands operating aboard MCAS Beaufort shall comply with this Order to ensure the safety of personnel and equipment.

(b) Enclosures (1) through (9) establish procedures and safety requirements while handling A&E aboard MCAS Beaufort within the HERO environment.

(c) This Order is applicable anytime HERO susceptible or HERO unsafe is handled, loaded, or transported aboard MCAS Beaufort at all ordnance locations, the magazine area, the explosive ordnance disposal (EOD) range, or the flight-line.

(2) Concepts of Operations

(a) General Discussion. Per reference (b), electromagnetic radiation hazards stem from the functional characteristics of electrically initiated ordnance and are a result of absorption of electromagnetic energy by the firing circuitry of electrically initiated devices (EIDs). The induced energy can cause heating of the bridge wire and primary explosive and can result in premature, unintended actuation of the EID. Such an event can pose either a safety or reliability problem. In general, ordnance is most susceptible to radio-frequency (RF) electromagnetic environments (EMEs) during assembly, disassembly, handling, loading, and unloading. Therefore, HERO emission control (EMCON) and ordnance handling restrictions and procedures form a compromise which allows for the safe handling of ordnance within the existing EME. HERO EMCON is derived from an analysis of the EMEs produced by the existing antenna/transmitter systems and the ordnance susceptibilities described in reference (b) or through a HERO survey. There are three classifications pertinent to HERO:

1. HERO safe ordnance: Items that require no EME restrictions beyond the general HERO requirements described in Chapter 7, paragraph 7-3 of reference (b).

2. HERO susceptible ordnance: Items that are susceptible and require moderate EME restrictions.

3. HERO unsafe ordnance: Items that are extremely susceptible and require severe EME restrictions.

(b) Electromagnetic Environmental Effects (E3) Team Online. The E3 Team Online Knowledge Management System (KMS) is an official Department of the Navy (DoN) web portal that provides access to HERO and hazards of electromagnetic radiation to personnel and fuel E3 data, technical reports, and radiation hazard (RADHAZ) calculation tools. E3 Team Online contains electronic copies of various ammunition safety references, including the current revision of reference (b). Users can view, search, and print these adobe acrobat PDF formatted references.

(c) HERO Instruction. Provides specific guidance relevant to the antenna/transmitter systems at the Installation to mitigate the concern for HERO. Reference (a) contains the HERO EMCON procedures tailored specifically for this Installation. General HERO requirements are listed in enclosure (1). Enclosure (3) contains the Installation's ordnance list sorted by Department of Defense Identification Code (DoDIC). Each item's respective HERO status is also documented (e.g., "No HERO requirement," "SAFE," "SUSCEPTIBLE," or "UNSAFE"). Enclosure (4) contains the Installation drawings and photographs which show ordnance storage and operational areas, transportation routes, current transmitter and antenna locations, and HERO zones. Enclosure (5) contains the applications for setting HERO conditions. Enclosure (6) contains the HERO EMCON procedures. Enclosure (7) provides HERO safe separation distances for the antenna/transmitter systems.

Enclosure (8) illustrates a recommended HERO warning label and symbol. Through the use of enclosure (9), the HERO Officer, upon notification, will set the appropriate HERO EMCON condition to ensure that EMEs do not exceed acceptable levels.

(d) Action. This instruction shall be disseminated to all personnel/departments impacted by HERO EMCON, to include personnel/departments that handle ordnance, operate transmitter systems, or are responsible for overseeing the safe execution of ordnance operations.

(3) Subordinate Element Mission

(a) Subordinate/Tenant Unit Commanding Officers (COs)/Officers-in-Charge

1. Ensure all operators of antenna/transmitter systems comply with this instruction.

2. Ensure personnel operating antenna/transmitter systems are properly instructed in their use during HERO EMCON conditions.

3. Notify the Explosive Safety Officer (ESO), the Frequency Manager, and the HERO Officer prior to installing and using new radiating electronic equipment.

4. Promulgate supplementary instructions pertaining to their own equipment, personnel, and operating procedures as required for compliance with this instruction.

(b) Ordnance Officer. The Ordnance Officer is the central point of contact (POC) for determination of compliance with the appropriate references as it relates to all forms of ordnance handled aboard the Air Station. As such, he/she will provide the ESO, Frequency Manager, and HERO Officer with all ordnance facility (or handling location) changes.

1. Ensure all ordnance personnel are familiar with HERO restrictions applicable to ordnance operations.

2. When issuing any ordnance (or ordnance component) to a user, advise the user of its HERO status during all stockpile-to-safe-separation sequence phases (i.e., transportation/storage, assembly/disassembly, handling/loading, staged, platform-loaded, and immediate post-launch).

3. Inform the HERO Officer upon receipt of ordnance items categorized as HERO susceptible or HERO unsafe ordnance so the HERO issues can be mitigated to ensure both safety and reliability.

4. Ensure HERO unsafe and HERO susceptible ordnance items are enclosed in sealed, all-metal containers during transport. When transported in sealed, all-metal containers, such ordnance is considered HERO safe. If HERO susceptible ordnance is transported outside a sealed, all-metal container, observe the HERO separation distances listed in enclosure (7) for stationary and portable and mobile antenna/transmitter systems. In the event of an ordnance accident, set the appropriate HERO condition for HERO unsafe ordnance.

5. Place HERO warning signs prohibiting RF transmissions at the entrance to magazine area and all ordnance handling or storage activities. Enclosure (8) illustrates a recommended HERO warning symbol.

(c) HERO Officer

1. Shall be appointed in writing by the CO. Traditionally, the Ordnance Officer serves as the HERO Officer.

2. Be responsible for a continuing program to ensure HERO safety at the Installation.

3. Convene an annual conference of ordnance and RADHAZ personnel who are representative of each unit or organization to discuss and recommend changes to these instructions.

4. The HERO Officer shall be responsible for notifying the appropriate personnel listed in enclosure (9) of the setting of a HERO condition. After normal hours, duties convey to the SDO.

5. Monitor the supply of HERO warning labels and signs to re-stock as necessary.

6. Review RADHAZ requirements and request HERO surveys when required.

(d) Explosive Safety Officer. The ESO is the central POC for determination of compliance with the appropriate references as it relates to all forms of ordnance safety at this Installation. As such, he/she will assist the Weapons Officer in tracking and monitoring all future ordnance facility or handling location changes.

1. Act as a HERO liaison with the HERO Officer and Frequency Manager to track and monitor all future antenna/transmitter system and ordnance changes.

2. Coordinate the HERO program.

3. Account for all command and tenant information as presented in enclosures (3) and (7) concerning ordnance operations and antenna/transmitter systems present.

4. Assist the HERO Officer and Frequency Manager in ensuring future antenna/transmitter system changes at the Installation are submitted for HERO review. This includes, but is not limited to, the following: approve/disapprove (on recommendations from the Frequency Manager) all new or modified antenna/transmitter system installations and frequency coordination at the Installation. Contact the Naval Ordnance Safety and Security Activity (NOSSA) (N8) at INHDNOSSA-HERO@navy.mil for all questions concerning HERO.

(e) Frequency Manager

1. The Frequency Manager shall be responsible for the analysis of planned alterations to the existing antenna/transmitter system configurations and shall advise the CO on the HERO EMCON impact before executing the plan.

2. Ensure all mobile and portable radios under the cognizance of the Command are affixed with HERO warning labels to identify HERO safe separation distances prior to issue.

3. Inform the Ordnance Officer, ESO, HERO Officer, and the Director of Safety and Standardization when stationary transmitters/antenna systems are relocated or new equipment is obtained. These changes should be submitted for HERO review in accordance with reference (c).

4. Establish check-in procedures for owners of citizens band and other mobile radios and cellular telephones to familiarize operators with HERO.

5. Approve/disapprove any request to operate amateur radio equipment aboard the Installation.

(f) Operations Officer

1. When requested, set and secure HERO EMCON conditions as requested.

2. Maintain liaison with tenant commands to resolve any conflicts in setting HERO EMCON conditions.

3. Designate a member of the Operations Department as the Command RADHAZ Control Officer.

4. Ensure all aircraft are notified of applicable HERO conditions.

(g) Safety Department. Shall act as a review authority to ensure compliance with applicable ordnance safety directives and HERO procedures as outlined herein.

(h) Security Department. Shall be responsible for notifying Installation personnel and visitors who have mobile transmitters in their personal vehicles that transmission onboard the Installation shall be permitted only with the written permission of the CO.

(i) Fire Department. In the event of an ordnance accident or incident, shall act as on-scene commander until such time as the situation has been resolved (i.e., EOD responds and the item is rendered safe, or the item is determined safe to transport).

(j) Tenant Command Sections and Activities

1. Shall be responsible for notifying the ESO and HERO Officer of any operation involving HERO susceptible ordnance or HERO unsafe ordnance that would require the setting of a HERO condition.

2. Shall be responsible for ensuring HERO unsafe ordnance is completely enclosed in sealed, all-metal containers during storage and during transfer between designated safe areas.

5. Administration and Logistics

a. Requirements

(1) To ensure ordnance safety, precautions must be taken to limit EMEs in and around ordnance handling areas. Enclosure (1) contains standard HERO requirements and chapter 7 of reference (b) provides HERO requirements during ordnance operations.

(2) When ordnance is being assembled, handled, or transported within the confines of the Installation, emissions from various mobile and portable antenna/transmitter systems should be silenced or the HERO unsafe and HERO susceptible ordnance safe separation distances provided in enclosure (7) should be maintained.

(3) HERO unsafe or HERO susceptible ordnance cannot be moved, transported, or loaded except as specified by the Ordnance Officer, ESO, and the HERO Officer. Enclosures (5) and (6) provide specific HERO EMCON guidance.

(4) Other conditions necessitating deviations from the requirements outlined in reference (b) shall be reported to NOSSA (N8) in accordance with reference (b).

(5) The SDO will be responsible for notifying the appropriate personnel, listed in enclosure (9), of the setting of a HERO condition after normal working hours. In addition, the SDO will receive reports that the ordered HERO condition is set and report to the HERO Officer.

(6) Officers and supervisors shall be responsible for notifying each operator of a government vehicle containing a mobile transmitter that the transmitter is not to be energized within the safe separation distances provided in enclosure (7).

(7) Each civilian employee or military person having a radio transmitter installed in his/her personal vehicle is responsible for its registration with the Safety Department, in accordance with reference (b) (Note: Registration does not authorize use). One copy of the registration form shall be kept in the vehicle with the radio at all times while aboard the Installation; the second copy will remain on file at the Pass and Identification Office. Privately owned radios shall not be operated in any restricted area or in other parts of the Installation while in sight of a vehicle that exhibits an explosive placard.

(8) Each mobile and portable transmitter shall be conspicuously marked (at the operator's location) with the appropriate distance taken from enclosure (7) and marked by a RADHAZ cautionary decal. Cautionary decals will be provided by the HERO Officer/Frequency Manager.

(9) Commands, contractors, and their representatives will coordinate frequency assignment matters through the appropriate DoN Area Frequency Coordinator and Frequency Manager.

b. Procedures

(1) Implement the following procedures to determine the appropriate HERO EMCON to set:

(a) Identify the HERO status of ordnance item(s) involved in the operation, per enclosure (3).

(b) For ordnance item(s) listed as HERO unsafe or HERO susceptible:

1. Identify the HERO zone where the ordnance operation will occur, per enclosure (4).

2. Select the proper HERO condition associated with the HERO zone and HERO classification, per enclosure (5).

3. Apply the appropriate HERO EMCON procedures, per enclosure (6).

a. For ordnance items(s) listed as HERO safe, set HERO condition 0, per enclosure (5) or (6).

b. Item(s) listed as "No HERO Req." require no HERO EMCON.

c. For ordnance item(s) not listed in enclosure (3), refer to the E3 Team Online KMS, an official DoN web portal resource. To request access to E3 Team online, new users must visit https://www.e3teamonline.org. A valid common access card is required for access to this web portal. Upon receipt of account approval, visit https://e3.nswc.navy.mil for log-in. Questions regarding E3 Team online content should be directed to Mr. Richard Magrogan, Naval Surface Warfare Center, Dahlgren Division (B52), at commercial (540)653-3445 or DSN 249-3445, or via electronic mail at richard.magrogan@navy.mil. Questions regarding access to E3 Team Online should be directed to Ms. Rebecca Payne, AECOM, at commercial (540)663-9460 or via electronic mail at rebecca.payne@aecom.com.

(2) The following general procedures apply for implementing HERO EMCON:

(a) The HERO Officer or SDO will be notified 24 hours prior to routine implementation of a HERO condition by the Installation's ordnance personnel. The commencement time and automatic expiration time will require a minimum of three minutes notice by the using activity.

(b) The HERO Officer will contact all activities impacted by HERO (e.g., stationary antenna/transmitter systems) unless specifically exempt in enclosure (7).

(c) In the event of an ordnance accident involving an ordnance carrier along the ordnance transportation route, the appropriate HERO unsafe ordnance condition defined in enclosures (5) and (6) will be set by the ESO, HERO Officer, or SDO and will remain in effect until EOD personnel have completed a Render Safe Procedure or determined that HERO EMCON is no longer required (i.e., the ordnance is safe to transport).

c. Emergency Condition

(1) An emergency condition exists when ordnance that contains EIDs with unknown HERO characteristics, or ordnance known to be HERO unsafe, HERO susceptible, or HERO safe ordnance, has been involved in a mishap that causes the condition of the ordnance to be in question.

(2) In the event of an emergency condition, suspect ordnance will be classified as HERO unsafe ordnance and the appropriate HERO condition for the affected zone will be set in accordance with enclosures (5) and (6).

(3) The HERO Officer or staff duty officer will notify the appropriate personnel of the prescribed HERO condition.

(4) The ESO in conjunction with EOD personnel will determine when the suspect ordnance is HERO safe and control the power-up of antenna/transmitter systems.

6. Command and Signal

a. Command. This Order is applicable to all personnel aboard MCAS Beaufort.

b. Signal. This Order is effective the date signed.

T. P. MILLER

General Hazards of Electromagnetic Radiation to Ordnance (HERO) Requirements

1. The following requirements apply to all ordnance operations involving the presence, handling, and loading/unloading of ordnance unless otherwise specified in reference (b).

a. Ordnance evolutions must be planned so that there is a minimum of ordnance exposure to the EMEs.

b. Avoid touching any exposed firing contact, wiring, or other exposed circuitry with any part of the body or with any metallic object.

c. Ensure all open electrical connectors on the ordnance are covered with non-shorting caps.

d. Ordnance will not be assembled/disassembled in an EME.

e. Ignitors, primers, detonators, and other items containing EIDs will not be stowed in magazines that have flexible waveguides routed through them.

2. Transport and store HERO unsafe ordnance in sealed, all-metal containers.

3. When transporting HERO susceptible ordnance, comply with the ordnance handling requirements listed in reference (a) and Chapter 7 of reference (b).

4. Establish a HERO liaison at each tenant activity to document and monitor future emitter and ordnance operation changes within the activity. This POC should relate all such changes to the Installation's Weapons Officer.

5. The Installation's Weapons Officer shall coordinate the HERO program and account for all Installation and tenant command information concerning ordnance inventory/operations and antenna/transmitter systems present. Additionally, the Installation's Weapons Officer should ensure future transmitter and antenna changes at this Installation are submitted for HERO review in accordance with reference (c).

6. Post and maintain HERO warning signs at all entrance gates to ordnance areas.

7. Ensure boats berthed at the Installation silence all shipboard emitters whenever ordnance operations occur within the HERO safe separation distances listed in enclosure (7) of each ship's respective report.

8. Observe the HERO safe separation distances listed in enclosure (7) for cellular telephones and mobile and portable radios, and affix HERO warning labels stating separation distances for HERO unsafe and HERO susceptible ordnance to device.

9. Maintain control over the number, type, and placement of temporary emitter systems installed at the Installation. Ensure the calculated HERO safe separation distances are maintained between the antennas and ordnance operations. [See Chapter 2, paragraph 2-2.1 of reference (b).]

10. Ensure operators of privately owned amateur and citizens band radios and cellular telephones are familiar with HERO and safe separation distance requirements for their particular radio or telephone.

11. Ensure that radio systems installed in ordnance handling vehicles maintain the minimum 10-foot antenna-to-ordnance separation distance required for HERO safe ordnance. See Chapter 7, paragraph 7-3.2 of reference (b).

12. Ensure that operators, handlers, and riggers transferring ordnance maintain a minimum safe separation distance of 33 feet (10 meters) from HERO unsafe ordnance when using single portable radios operating in the 136-174 MHz frequency range and at a maximum output power of 2 watts. For the use of other single portable radios, refer to enclosure (7) or Chapter 2, paragraph 2-2.1 of reference (b) for applicable HERO safe separation distances.

13. Prior to conducting geophysical surveys for unexploded ordnance using equipment with electromagnetic transmitting detection/location (ground-penetrating radar, ground conductivity meters, etc.) systems, contact NOSSA (N8) for HERO safety guidance.

14. Any changes to the Installation's antenna/transmitter system or ordnance configurations are subject to the requirements cited in reference (c). This applies even if an activity moves from one site to another within the confines of the Installation.

15. For transmitters and ordnance not specifically addressed in this report, see reference (b) for HERO guidance.

16. Cellular telephones and personal pagers should not be operated within ordnance facilities. It is recommended that passive pagers be used to contact personnel in ordnance facilities.

17. Keyless entry systems should not be radiated within ordnance facilities. It is recommended that these systems not be allowed into ordnance facility work areas.

18. In the event of an ordnance accident, ensure that response units maintain a minimum HERO safe separation distance of 150 feet from the accident site when three or more VHF/ultra high frequency (UHF) mobile radios are in use, and 50 feet when three or more portable VHF radios are in use. For single VHF radio use, see the applicable separation distances listed in enclosure (7).

19. If HERO unsafe or HERO susceptible ordnance is exposed on the flight line or in the hangars, silence or apply the HERO safe separation distances listed in enclosure (7) for transmitters on all aircraft. Exceptions are VHF and UHF transmitters operating at less than 20 watts output power if HERO unsafe ordnance is exposed or transmitters operating at less than 40 watts output power if HERO susceptible ordnance is exposed. All transmitters may operate into dummy loads.

ORDNANCE ACRONYMS

A	Bombs, Components, and Countermeasures
AAC	Antiaircraft, Common
A/C, ACFT	Aircraft
AC	Aircraft, Common
AD, ADF	Auxiliary Detonating Fuze
ASM	Air-to-Surface Attack Missile
AGM	Air-to-Ground Attack Missile
AIM	Air Intercept-Aerial Missile
AN/ALE	Army/Navy - Air-Launched, Expendable
ANTI-PERS, APERS	Antipersonnel
APDS	Armor Piercing, Discarding
API	Armor-Piercing Incendiary
APT	Armor-Piercing Tracer
ASSY, AY	Assembly
ATM	Air Training Missile
AUR	All-Up Round
AV	Aircraft Attack Fighter
B	Military Pyrotechnics
BBU	Explosive Items
BCU	Battery Chargers
BDU	Simulated Bombs
BLP	Blind-Loaded and Plugged
BSU	Munitions Stabilizing and Retarding Devices
C	Military Chemicals
CAL	Caliber
CBU	Cluster Bomb Unit
CCG	Computer Control Group
CCU	Actuator Cartridge
CH	Channel
CHG	Charge
Class	Classification
CNTR	Container
CNU	Shipping and Storage Container
C/O	Consist(s) of
CO.	Company
COMB	Combination
COMP	Composition
CP	Case-Percussion
CS	Tear Gas
CS-1	Tear Gas (Super)
CTG	Cartridge
CVT	Controlled Variable Time Fuze
D	Underwater Sound Signals, Sonobuoys, and Components
DBL	Double
DEA	Drug Enforcement Agency
DEMO	Demolition
DET	Detonator
DICASS	Direction Command Active Sonobuoy System
DoDIC	Department of Defense Identification Code
DP	Dual-purpose
DWG	Drawing
E	Demolition explosives and materials
EA	Each
EOD	Explosive Ordnance Disposal
ERDL	Extended Range Data Link
F/	For
FCDC	Flexible, Confined Detonating Cord

ORDNANCE ACRONYMS

FL	Flashless
FLU	Flotation Unit
FMLY	Formerly
FMU	Fuze Munition Unit
FRAG	Fragmentation
FREQ	Frequency
FT	Feet
FWD	Forward
FZ	Fuze
G	Underwater Mines and Components
GA	Gauge
GAU	Gun Aircraft Unit
GN, GR	Grain
GP	General-purpose
GRAN	Granular
GW	Guided Weapon
H	Cartridges and Cartridge-Actuated Devices
HARM	High-Speed Anti-Radiation Missile
HC	High Capacity
HE	High Explosive
HEDP	High Explosive Detonating Point
HEI	High Explosive, Incendiary
HERO	Hazards of Electromagnetic Radiation to Ordnance
HOW	Howitzer
HR	Hour
I, INC	Incendiary
IGN, INGR	Ignition, Igniter
ILLUM	Illuminating
IN	Inch
IR	Infrared
J	Aircraft Rockets and Components
JAU	Initiator, Cartridge-Actuated
L	Marine Corps Ammunition
LAU	Aircraft-Installed Launcher
LB	Pound
LDD	Loaded
M	TOMAHAWK Cruise Missile and Components
MAU	Miscellaneous Armament Unit
MBEU	Multiple Bomb Ejection Unit
MDP	Miniature Double Plug
MECH	Mechanical
MG	Machine Gun
MIN	Minute
MK	Mark
MM	Millimeter
MOD	Model/Modification
MSL	Missile
MTL, METI	Metal
MTR	Motor
MXU	Miscellaneous Units
NATO	North Atlantic Treaty Organization
NAVAIR	Naval Air Systems Command
NAVSEA	Naval Sea Systems Command
NO	Number
NON-ELECT	Non-Electric

ORDNANCE ACRONYMS

NON FRAG	Non-fragmentation
O	Miscellaneous Ammunition Components and Containers
OA	Operational Assembly
OIS	Ordnance Information System
OP	Ordnance Publication
OZ	Ounce
P	Small Arms and landing-force ammunition
PD, PDF	Point-detonating Fuze
PGU	Programmer unit
PIBD	Point-initiating, Base Detonating
P/N	Part Number
PRAC	Practice
PROJ	Projectile
PROP	Propellant
Q	Gun Ammunition, 20 mm to 4-inch
R	Gun Ammunition, over 4-inch
RBOC	Rapid Blooming Offboard Chaff
RD	Round
REF	Reference
REQ.	Requirement
RF	Rapid-Fire
RKT	Rocket
RR	Radar Reflector
S	Torpedoes and Components
SEC	Second
SF	Slow-Fire
SMAW	Shoulder-Mounted Antitank Weapon
SMDC	Shielded, Mild Detonating Cord
SMK	Smoke
SQ	Super-Quick
STL	Steel
SUS	Signal Underwater Sound
SUSP	Suspension
SUU	Suspension and Release Unit
SWU	Switch Unit
T	Surface-launched Guided Missiles and Components
T, TR	Tracer
TACT	Tactical
TNT	Trinitrotoluene
TOW	Tube-Launched, Optically Tracked, Wire-Guided
TP	Target Practice
TRNR	Trainer
UK	United Kingdom
V	Air-Launched Guided Missiles and Components
VT	Variable Time Fuze
W/	With
WAFFAR	Wrap-Around, Folding-Fin Aircraft Rocket
W/O	Without
WP	White Phosphorus
WTU	Warhead Training Unit
WX	Weather
WX PROOF	Weatherproof
Y	Countermeasures and Decoys

ORDNANCE NOMENCLATURE

DODIC	NOMENCLATURE*	PLATFORM	HERO CLASS
1W73 (NAVY) 1325-01-218-8419	RETARDER, INFLATABLE, AIR, BSU-85/B F/MK 83 BOMB, PGK 1/CNU-419/E CNTR. PKG 6 PER PLT IAW MIL-STD-1323-320 , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
2W06 (NAVY) 1325-01-227-1988	BAND ASSEMBLY, RELEASE F/FIN ASSEMBLY, BOMB, MK 15 MOD 6 PKG AS REQUIRED , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
2W08 (NAVY) 1325-01-334-4156	KIT, RETROFIT, FOR MK 20 MODS AND CBU-59/B DISPENSER AND BOMB, AIRCRAFT AUXILIARY RETAINER LANYARD, TETHER ASSY, TWO WASHERS, TWO SCREWS, TWO NUTS AND A STUD, C/O FIN RELEASE BAND ASSY. UNIT PACK CONSISTS OF 10 INDIVIDUAL KITS. PKG IAW MIL-STD-794 , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
2W86 (NAVY) 1420-01-239-9549	WINGS BSU-56C/B (P/N 917AS9879) AND FINS BSU-57/B (P/N 917AS715), SET OF 4 EACH, F/AIM-7F/7M/7P (.25 LB WT WING TIP) PKGD 1 SET PER CNU-199/E CONTAINER	COMPONENT [COMPONENT]	NO REQUIREMENT
3W78 (NAVY) 1410-01-248-4995	ADM-141A TACTICAL AIR LAUNCHED DECOY (TALD) WITH THE 43-24000-105 LAUNCH ADAPTER ASSEMBLY, BRU-42/A (ITER), AV-8B	AV-8B [BRU-42/A (ITER)]	SAFE
3W78 (NAVY) 1410-01-248-4995	ADM-141A TACTICAL AIR LAUNCHED DECOY WITH THE 43-24000-105 LAUNCH ADAPTER ASSEMBLY, BRU-70/A (DITER), AV-8B	AV-8B [BRU-70/A DITER]	SAFE
3W78 (NAVY) 1410-01-248-4995	ADM-141A TACTICAL AIR LAUNCHED DECOY (TALD) WITH THE 43-24000-101, 43-24000-102,43-24000-103, AND 43-24000-104 LAUNCH ADAPTER ASSEMBLIES, BRU-70/A (DITER), AV-8B	AV-8B [BRU-70/A DITER]	SUSCEPTIBLE
3W78 (NAVY) 1410-01-248-4995	ADM-141A TACTICAL AIR LAUNCHED DECOY (TALD) WITH THE 43-24000-101, 43-24000-102,43-24000-103, AND 43-24000-104 LAUNCH ADAPTER ASSEMBLIES, BRU-42/A (ITER), AV-8B	AV-8B [BRU-42/A (ITER)]	SUSCEPTIBLE
3W78 (NAVY) 1410-01-248-4995	A/B37U-1(V)2, TACTICAL AIR LAUNCHED DECOY (TALD), WITH THE LAUNCH ADAPTER ASSEMBLY 43-24000-105, BRU-42/A (ITER) LAUNCHER, F/A-18E/F	F/A-18E/F [BRU-42/A (ITER)]	SAFE

ORDNANCE NOMENCLATURE

3W78 (NAVY) 1410-01-248-4995	A/B37U-1(V)2, TACTICAL AIR LAUNCHED DECOY (TALD), WITH THE LAUNCH ADAPTER ASSEMBLIES 43-24000-101, 43-24000-102, 43-24000-103, AND 43-24000-104, BRU-42/A (ITER) LAUNCHER, F/A-18E/F	F/A-18E/F [BRU-42/A (ITER)]	SUSCEPTIBLE
4W38 (NAVY) 6920-01-260-5131	DECOY, AIR LAUNCHED, TRAINING, RF VEHICLE, INERT, A/B37U-1(V)2, W/WINGS AND FINS AND LANYARD BRIDLE, ELECTRICAL CABLE ASSY ADAPTER. PKG 2 PER CNU-436/E CNTR , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
5W47 (NAVY) 1370-01-215-4822	LANYARD, BREAKAWAY U/W FLARE, AIRCRAFT LUU-2 , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
6W01 (NAVY) 1325-01-198-1925	ARMING WIRE COMPOSITE F/MK 83 G.P. BOMBS; C/O 1 MK 9-0 ARMING WIRE ASSY57.75 IN LG, 1 SAFETY CLIP, 1 SWIVEL AND RING ASSY AND 1 FERRULE; MK 9-0 ARMING WIRE ASSY, SAFETY CLIP AND FERRULE PRE-ASSEMBLED; PKG 50 EA/CNU- 410/E CNTR , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
7W35 (NAVY) 1420-01-166-7328	HARM WING & FIN SET, WINGS BSU-59/B, FINS BSU-60/B, OR BSU-60A/B FOR HARM AGM-88B/C, ATM-88B, CATM-88B/C.PKG 4EAPER CNU-296/E CNTR, 4 EA WING ASSY & 4 EA FIN ASSY. , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
7W79 (NAVY) 1370-01-175-9384	LUU-2 TIMER GUARD ASSEMBLY CONTAINS 1 INSTRUCTION SHEET, 12 HOSE CLAMPS, AND 12 TIMER GUARD ASSEMBLIES PER FIBERBOARD BOX, F/FLARE LUU-2B/B , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
A011 (NAVY) 1305-01-386-2464	12 GAUGE SHOTGUN CARTRIDGE, 12 GAUGE SHOTGUN, PERSONNEL-BORNE	PERSONNEL-BORNE [12 GAUGE SHOTGUN]	NO REQUIREMENT
A011 (NAVY) 1305-01-232-8338	12 GAUGE SHOTGUN CARTRIDGE, 12 GAUGE SHOTGUN, PERSONNEL-BORNE	PERSONNEL-BORNE [12 GAUGE SHOTGUN]	NO REQUIREMENT
A017 (NAVY) 1305-01-232-7415	CARTRIDGE, 12 GAUGE SHOTGUN, NO. 9 SHOT , 12 GAUGE SHOTGUN LAUNCHER, PERSONNEL-BORNE	PERSONNEL-BORNE [12 GAUGE SHOTGUN]	NO REQUIREMENT
A023 (NAVY) 1305-01-282-1256	12 GAUGE SHOTGUN CARTRIDGE, 12 GAUGE SHOTGUN, PERSONNEL-BORNE	PERSONNEL-BORNE [12 GAUGE SHOTGUN]	NO REQUIREMENT
A024 (NAVY) 1305-01-282-1257	12 GAUGE SHOTGUN LOCKBUSTER CARTRIDGE, 12 GAUGE SHOTGUN, PERSONNEL-BORNE	PERSONNEL-BORNE [12 GAUGE SHOTGUN]	NO REQUIREMENT

ORDNANCE NOMENCLATURE

A059 (NAVY) 1305-01-155-5459	M855 MILLIMETER BALL CLIPPED, RIFLE, PERSONNEL-BORNE	PERSONNEL-BORNE [RIFLE]	NO REQUIREMENT
A060 (NAVY) 1305-00-764-8437	DUMMY CARTRIDGE, 5.56 MM, M199, SINGLE RD, ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
A064 (NAVY) 1305-01-131-5246	M855 5.56 MM LINKED CARTRIDGE, RIFLE, PERSONNEL-BORNE	PERSONNEL-BORNE [RIFLE]	NO REQUIREMENT
A075 (NAVY) 1305-01-155-5464	M200 5.56 MILLIMETER BLANK CARTRIDGE, RIFLE, PERSONNEL-BORNE	PERSONNEL-BORNE [RIFLE]	NO REQUIREMENT
A080 (NAVY) 1305-00-005-8005	CARTRIDGE, 5.56 MM, BLANK, XM200 OR M200 SERIES, SINGLE ROUND , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
A111 (NAVY) 1305-01-181-1750	CARTRIDGE, 7.62 MM, BLANK M82, NATO, LINKED FOR M60 MG , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
A131 (NAVY) 1305-01-569-2912	CARTRIDGE, 7.62 MM, 4 BALL M80 AND 1TRACER M62, LINKED, F/M60, MK 43, MK 48, AND M240 SERIES WEAPONS , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
A165 (NAVY) 1305-00-926-3942	CARTRIDGE, 7.62 MM LINKED 4 BALL M80, 1 TR M62 F/MG MINI GAU-2B/A PKG 750/BELT M13, 2 BELT 1500 CTG/METAL BOX M548 , ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
A260 (NAVY) 1305-01-333-3929	CARTRIDGE, 9 MM, SUBSONIC, JACKETED HOLLOW POINT, ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT
A358 (NAVY) 1305-01-214-8684	M939 9 MM PRACTICE CARTRIDGE, M287 PRACTICE LAUNCHER, PERSONNEL-BORNE	PERSONNEL-BORNE [M287 PRACTICE LAUNCHER]	NO REQUIREMENT
A359 (NAVY) 1305-01-206-8351	DUMMY CARTRIDGE, 9 MM, M917, ALL LAUNCHERS LAUNCHER, ALL PLATFORMS	ALL PLATFORMS [ALL LAUNCHERS]	NO REQUIREMENT

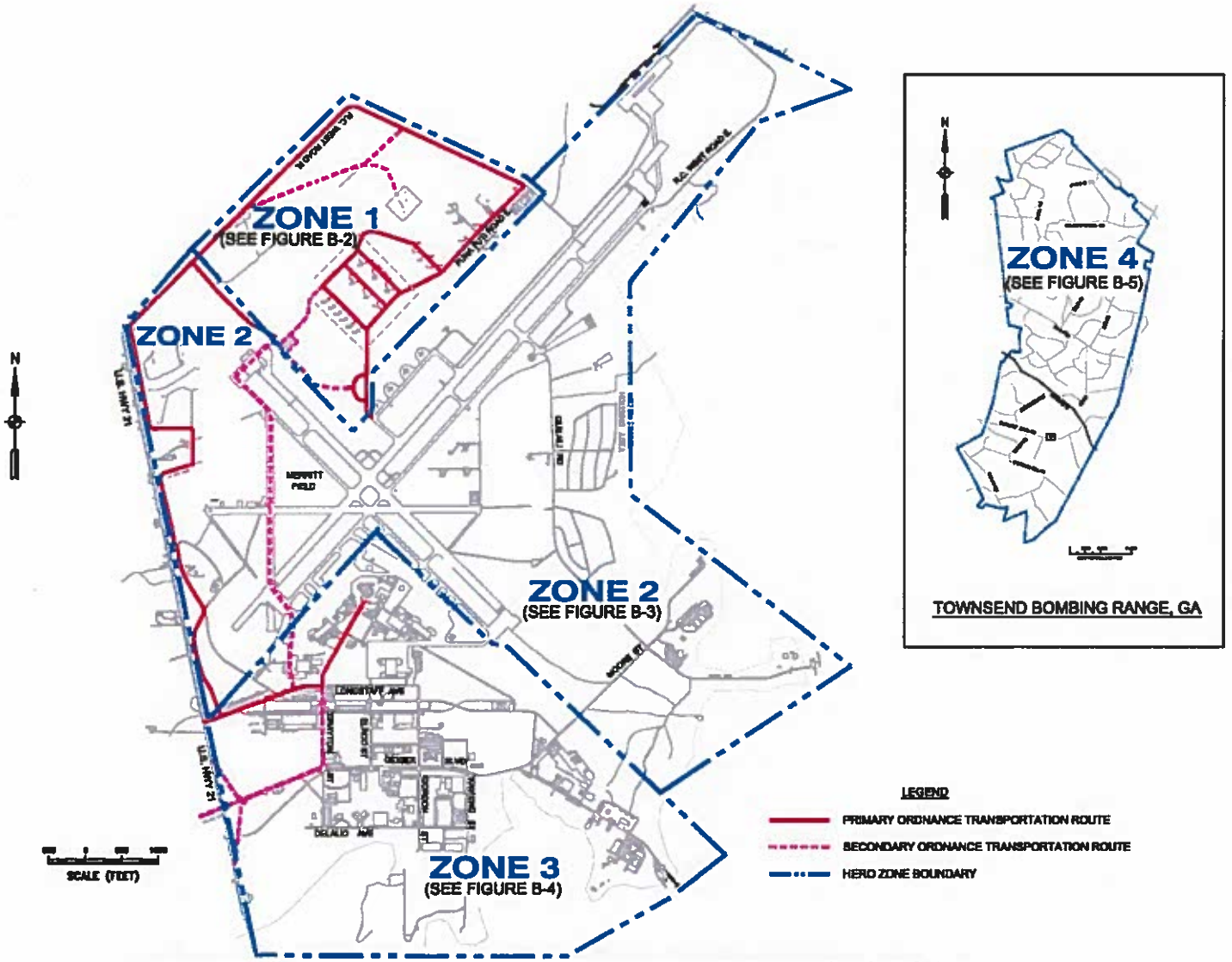


FIGURE B-1. MARINE CORPS AIR STATION BEAUFORT HERO ZONES AND ORDNANCE TRANSPORTATION ROUTES

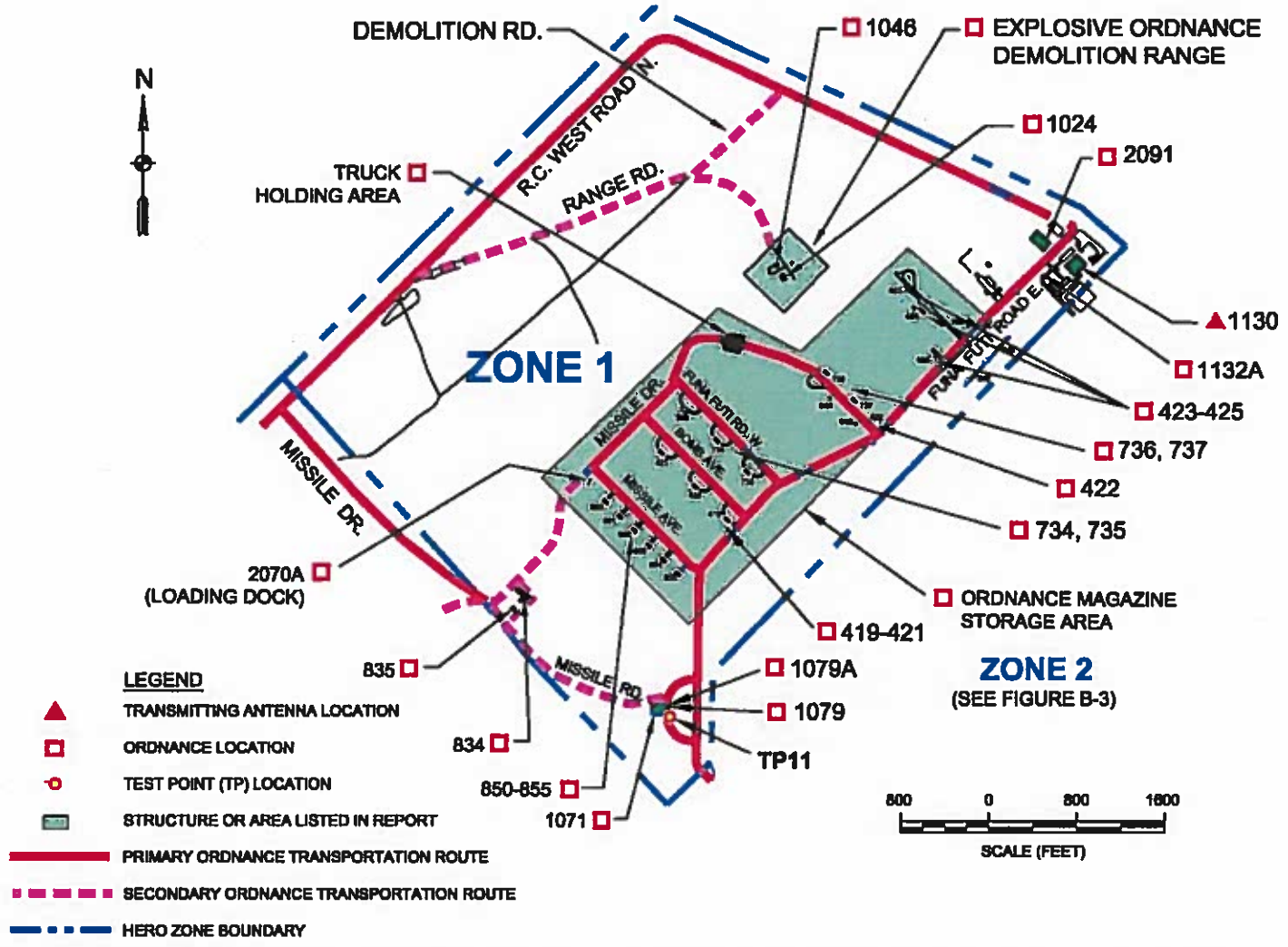


FIGURE B-2. MARINE CORPS AIR STATION BEAUFORT, HERO ZONE 1: TRANSMITTING ANTENNA, ORDNANCE, AND TEST POINT LOCATIONS AND ORDNANCE TRANSPORTATION ROUTES

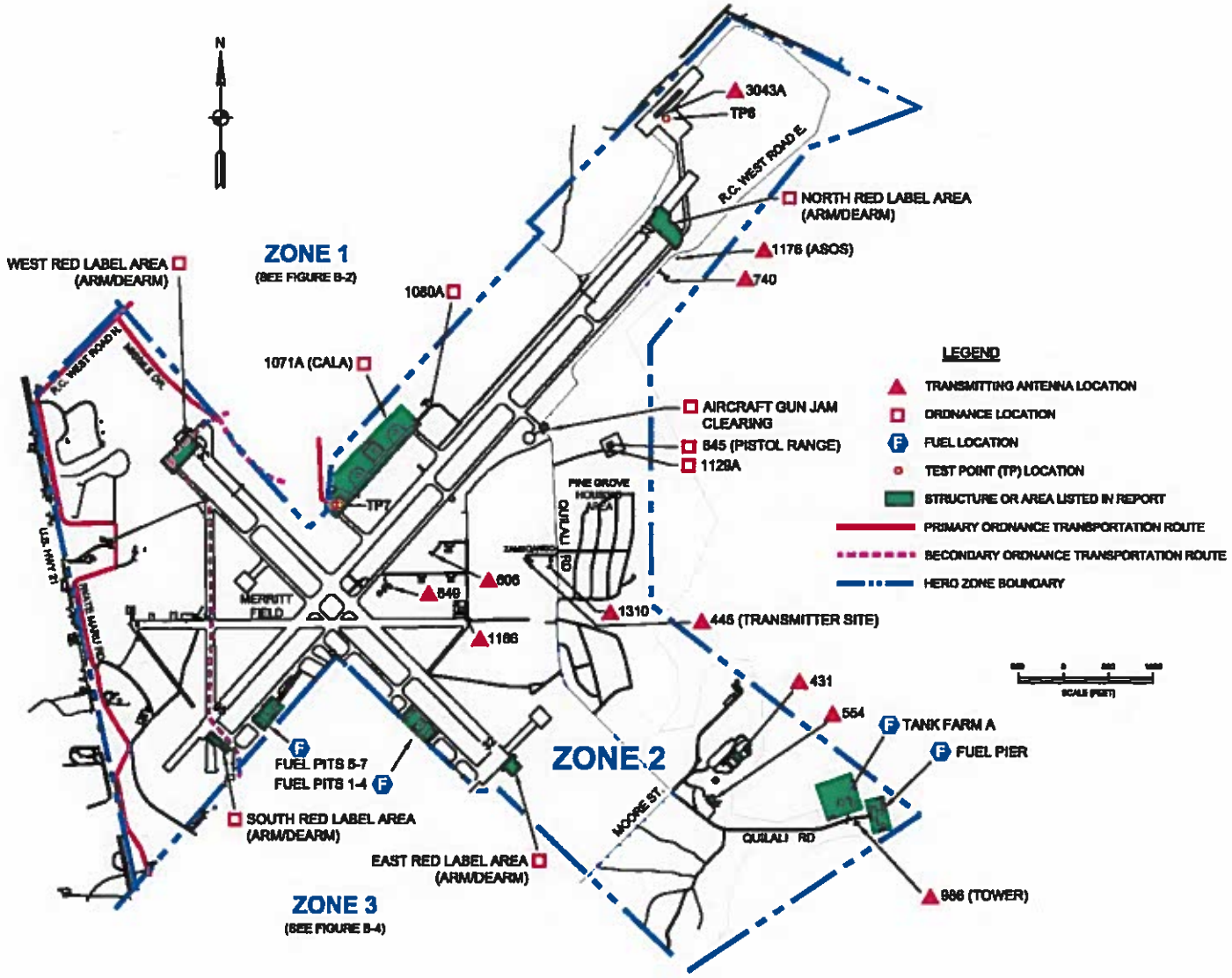


FIGURE B-3. MARINE CORPS AIR STATION BEAUFORT, HERO ZONE 2: TRANSMITTING ANTENNA, ORDNANCE, FUEL, AND TEST POINT (TP) LOCATIONS AND ORDNANCE TRANSPORTATION ROUTES

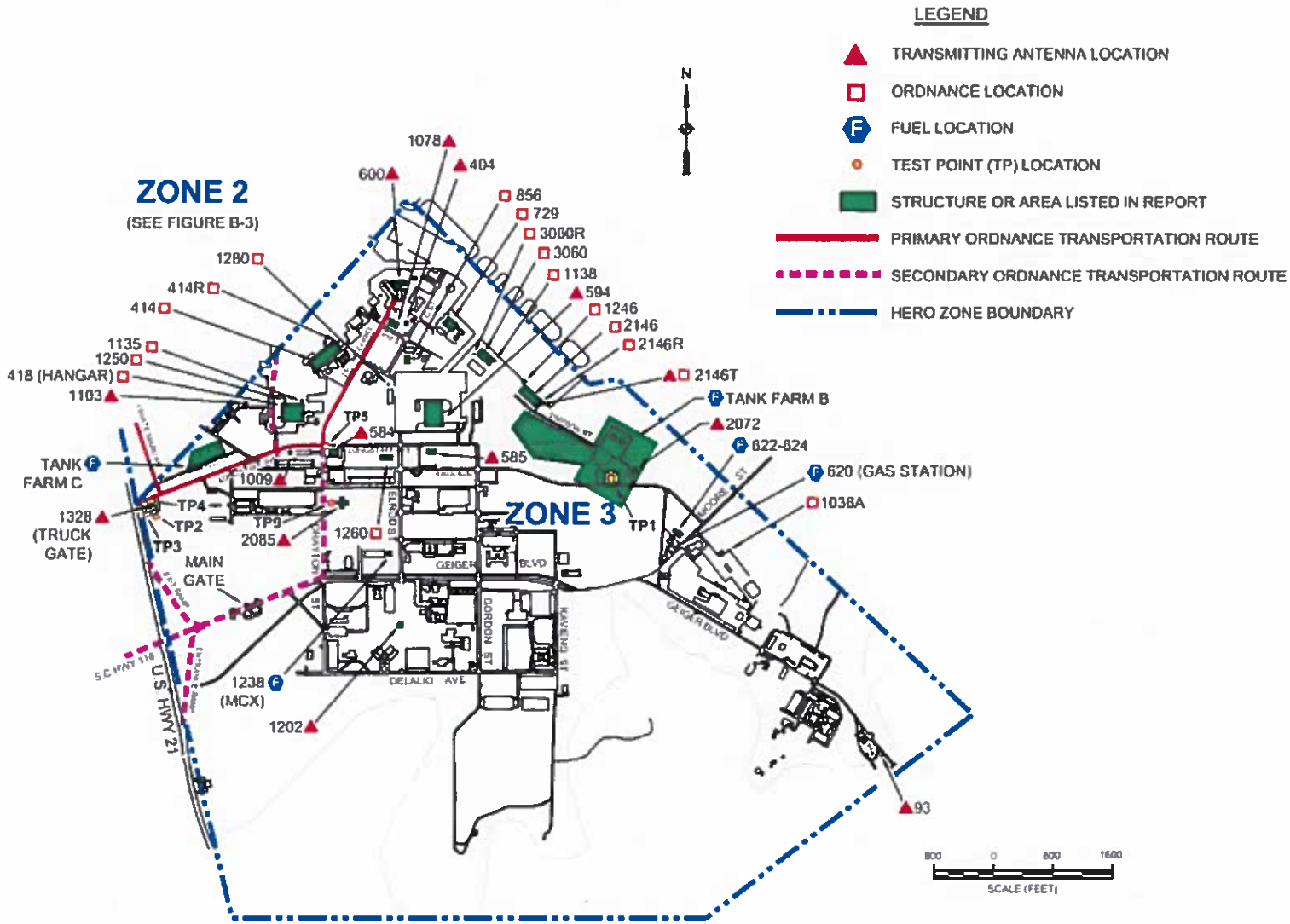


FIGURE B-4. MARINE CORPS AIR STATION BEAUFORT, HERO ZONE 3: TRANSMITTING ANTENNA, ORDNANCE, FUEL, AND TEST POINT (TP) LOCATIONS AND ORDNANCE TRANSPORTATION ROUTES

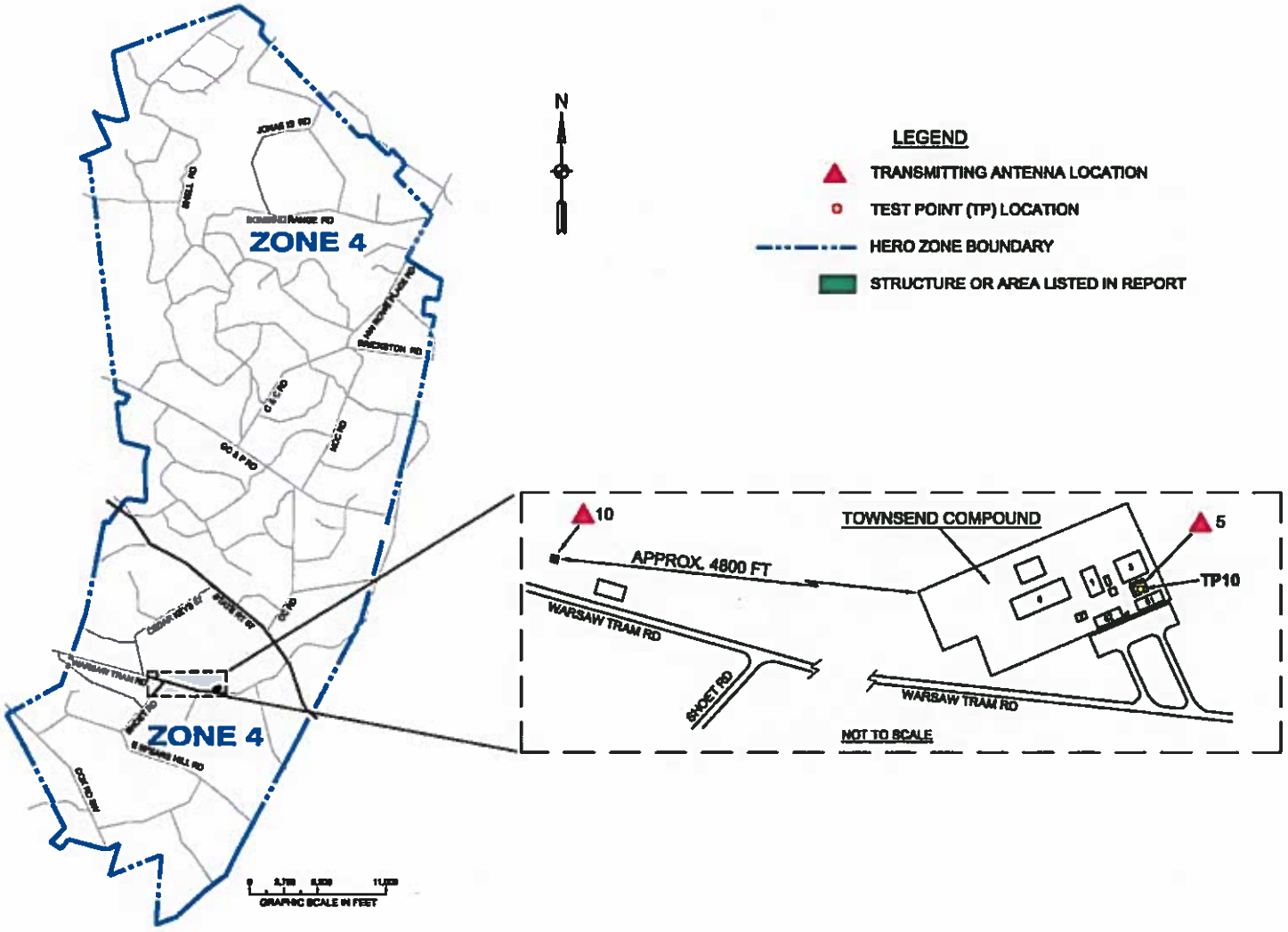


FIGURE B-5. MARINE CORPS AIR STATION BEAUFORT, SC, TOWNSEND BOMBING RANGE, GA HERO ZONE 4: TRANSMITTING ANTENNA AND TEST POINT LOCATIONS

FIGURE B-6. BUILDING 445 TRANSMITTER SITE

FIGURE B-7. BUILDING 584 PROVOST MARSHAL OFFICE ANTENNAS

FIGURE B-8. BUILDING 1078 TACTICAL TRAINING RANGE ANTENNA TOWER

FIGURE B-9. BUILDING 649 (PAR)

FIGURE B-10. BUILDING 606 (TACAN)

FIGURE B-11. BUILDING 1310 (AN/GPN-30 RADAR)

FIGURE B-12. BUILDING 1434A (LHD TOWER)

FIGURE B-13. BUILDING 5, TOWNSEND BOMBING RANGE TOWER

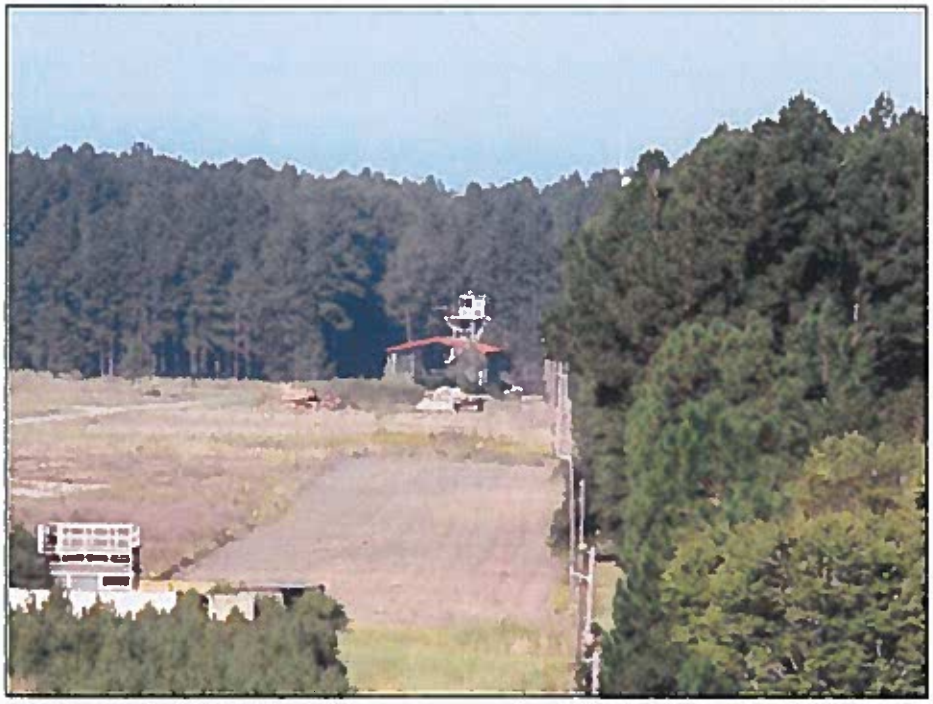


FIGURE B-14. BUILDING 10, TOWNSEND BOMBING RANGE TOWER

FIGURE B-15. MAGAZINE AREA

FIGURE B-16. BUILDING 2070A, LOADING DOCK

FIGURE B-17. BUILDING 1070, BUILD-UP AREA

FIGURE B-18. BUILDINGS 1070A AND 1079, RSLs

FIGURE B-19. BUILDING 1024, EOD RANGE

FIGURE B-20. BUILDING 834, LOADING DOCK

FIGURE B-21. BUILDING 1071A, CALA

FIGURE B-22. BUILDING 1280, RSL

FIGURE B-23. BUILDING 845, PARALOFT

FIGURE B-24. BUILDING 1036A, GAME WARDEN RSL

MCAS BEAUFORT, SC
HERO EMCON ORDNANCE MATRIX - MARCH 2019

DoDIC	ORDNANCE	S4 PHASES	LOCATION	HERO CONDITION
General Applications				
All	HERO SAFE ORDNANCE	All S4 phases	All locations	0
All	HERO UNSAFE ORDNANCE	All S4 phases	Zone 1 Zone 2 Zone 3 Zone 4	1 2 3 4
All	HERO SUSCEPTIBLE ORDNANCE	All S4 phases	Zone 1 Zone 2 Zone 3 Zone 4	5 6 7 8

MCAS BEAUFORT, SC
HERO EMCON CONDITION MATRIX - MARCH 2019

HERO CONDITION	REQUIREMENTS	HERO ZONE
0	HERO EMCON is not required; all transmitters [as listed in enclosure (6)] may be operated. Observe the general HERO requirements outlined in Chapter 7 of OP 3565.	
1	This condition applies to HERO UNSAFE ORDNANCE. • Observe the HERO UNSAFE ORDNANCE safe separation distances listed in enclosure (6) for all mobile and portable transmitters. • For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the safe separation distances cited in enclosure (6) for that specific mobile or portable unit.	1
2	This condition applies to HERO UNSAFE ORDNANCE. • Observe the HERO UNSAFE ORDNANCE safe separation distances for all aircraft transmitters except VHF/UHF communications transmitters operating at less than 20 watts or transmitters operating into dummy loads. • Observe the HERO UNSAFE ORDNANCE safe separation distances listed in enclosure (6) for all mobile and portable transmitters. • For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the safe separation distances cited in enclosure (6) for that specific mobile or portable unit.	2

MCAS BEAUFORT, SC
HERO EMCON CONDITION MATRIX - MARCH 2019

HERO CONDITION	REQUIREMENTS	HERO ZONE
3	This condition applies to HERO UNSAFE ORDNANCE. • Observe the HERO UNSAFE ORDNANCE safe separation distances for all aircraft transmitters except VHF/UHF communications transmitters operating at less than 20 watts or transmitters operating into dummy loads. • For boats, and tugs berthed at the installation, observe the HERO UNSAFE ORDNANCE safe separation distances listed in the ship's HERO Bill for all shipboard line-of-sight (LOS) communications systems. If these safe separation distances cannot be maintained or if the ship does not have a HERO Bill, silence all LOS communications systems with the exception of marine band VHF radios operating in the 1-watt mode. • For boats, and tugs berthed at the installation, silence all shipboard satellite communications (SATCOM) systems whenever ordnance is being lifted/handled by cranes on the pier. • For ships, boats, and tugs berthed at the installation, observe the HERO UNSAFE ORDNANCE safe separation distances listed in the ship's HERO Bill for all shipboard radar systems. If these distances cannot be maintained or if the ship does not have a HERO Bill, silence all non-navigational shipboard radar systems. • For in-flight aircraft carrying ordnance items directly exposed to the installation's EME, observe the HERO UNSAFE ORDNANCE safe separation distances listed in enclosure (6) for all stationary transmitters. • Observe the HERO UNSAFE ORDNANCE safe separation distances listed in enclosure (6) for all mobile and portable transmitters.	3
3	• For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the safe separation distances cited in enclosure (6) for that specific mobile or portable unit.	3
4	This condition applies to HERO UNSAFE ORDNANCE. • Observe the HERO UNSAFE ORDNANCE safe separation distances listed in enclosure (6) for all mobile and portable transmitters. • For an ordnance accident, emergency response units such as the Fire Department, Weapons Department, and Security responding to the scene with radio equipment must maintain a minimum separation distance of 150 feet from the accident site if using 3 VHF (132-174 MHz) mobile radios; similarly, a minimum separation distance of 50 feet must be maintained when using 3 VHF portable radios. Silence all other radios at the scene; for single radio use, apply the safe separation distances cited in enclosure (6) for that specific mobile or portable unit.	4

MCAS BEAUFORT, SC
HERO EMCON CONDITION MATRIX - MARCH 2019

HERO CONDITION	REQUIREMENTS	HERO ZONE
5	This condition applies to HERO SUSCEPTIBLE ORDNANCE. • Observe the HERO SUSCEPTIBLE ORDNANCE safe separation distances listed in enclosure (6) on for all mobile and portable transmitters.	1
6	This condition applies to HERO SUSCEPTIBLE ORDNANCE. • Observe the HERO SUSCEPTIBLE ORDNANCE safe separation distances for all aircraft transmitters except VHF/UHF communications transmitters operating at less than 40 watts or transmitters operating into dummy loads. • Observe the HERO SUSCEPTIBLE ORDNANCE safe separation distances listed in enclosure (6) for all mobile and portable transmitters.	2
7	This condition applies to HERO SUSCEPTIBLE ORDNANCE. • Observe the HERO SUSCEPTIBLE ORDNANCE safe separation distances for all aircraft transmitters except VHF/UHF communications transmitters operating at less than 40 watts or transmitters operating into dummy loads. • For ships, boats, and tugs berthed at the installation, observe the HERO SUSCEPTIBLE ORDNANCE safe separation distances listed in the ship's HERO Bill for all shipboard LOS communications systems. If these safe separation distances cannot be maintained or if the ship does not have a HERO Bill, silence all LOS communications systems with the exception of marine band VHF radios operating in the 1-watt mode. • For ships, boats, and tugs berthed at the installation, silence all shipboard SATCOM systems whenever ordnance is being lifted/handled by cranes on the pier. • For ships, boats, and tugs berthed at the installation, observe the HERO SUSCEPTIBLE ORDNANCE safe separation distances listed in the ship's HERO Bill for all shipboard radar systems. If these distances cannot be maintained or if the ship does not have a HERO Bill, silence all non-navigational shipboard radar systems. • Observe the HERO SUSCEPTIBLE ORDNANCE safe separation distances listed in enclosure (6) for all mobile and portable transmitters.	3
8	This condition applies to HERO SUSCEPTIBLE ORDNANCE. • Observe the HERO SUSCEPTIBLE ORDNANCE safe separation distances listed in enclosure (6) for all mobile and portable transmitters.	4

ANTENNA AND TRANSMITTER SYSTEMS

ANTENNA AND TRANSMITTER SYSTEMS

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
BUILDING 93 (BOAT RAMP)	ICX TECHNOLOGIES STS 1400 PERIMETER SURVEILLANCE RADAR	INTEGRAL RADAR ANTENNA	34.1	34600-35300	0.25	ICX TECHNOLOGIES STS 1400 PERIMETER SURVEILLANCE RADAR	10/3	10/3
BUILDING 404 [AFLCS (ATCM)]	ESTEEM MODEL 95	LOOP	2.1	66-79	1.0	ESTEEM MODEL 95 WIRELESS MODEM	46/14	12/4
BUILDING 431 (BOQ)	CSI AY806	YAGI	14.0	806-824	0.25	DEKOLINK WIRELESS LTD DEKO2489 MINI-REPEATER (ESMR800 MHZ)	10/3	10/3
BUILDING 431 (BOQ)	CSI AY806	YAGI	14.0	896-902	0.25	DEKOLINK WIRELESS LTD DEKO2489 MINI-REPEATER (SMR 900 MHZ)	10/3	10/3
BUILDING 445 (TRANSMITTER SITE)	TACO D2276	DIPOLE	1.0	118-136	50.0	CM-200 VHF (W/CM-50 AMPLIFIER)	194/59	49/15
BUILDING 445 (TRANSMITTER SITE)	DPV-37	DIPOLE	2.1	225-400	50.0	CM-200 UHF (W/CM-50 AMPLIFIER)	115/36	29/9
BUILDING 445 (TRANSMITTER SITE)	TACO D2217	MULDIPOL	2.0	225-400	50.0	CM-200 UHF (W/CM-50 AMPLIFIER)	114/35	29/9
BUILDING 445 (TRANSMITTER SITE)	DPV-35	DIPOLE	2.1	118-136	50.0	CM-200 VHF (W/CM-50 AMPLIFIER)	220/67	55/17
BUILDING 445 (TRANSMITTER SITE)	TACO D2218	MULDIPOL	1.5	225-400	50.0	CM-200 UHF (W/CM-50 AMPLIFIER)	108/33	27/9
BUILDING 554 (OFFICERS' CLUB)	CSI AY806	YAGI	14.0	806-824	0.25	DEKOLINK WIRELESS LTD DEKO2489 MINI-REPEATER (ESMR800 MHZ)	10/3	10/3
BUILDING 554 (OFFICERS' CLUB)	CSI AY806	YAGI	14.0	896-902	0.25	DEKOLINK WIRELESS LTD DEKO2489 MINI-REPEATER (SMR 900 MHZ)	10/3	10/3
BUILDING 584 (PROVOST MARSHAL OFFICE)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	136-174	50.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	269/82	68/21
BUILDING 584 (PROVOST MARSHAL OFFICE)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	380-520	50.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	97/30	25/8
BUILDING 584 (PROVOST MARSHAL OFFICE)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	762-870	35.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	41/13	11/4
BUILDING 584 (PROVOST MARSHAL OFFICE)	MADAHCOM ANT-115-DR	PLANAR ARRAY	15.0	2400-2480	0.1	MADAHCOM WAVES TRX-401 FIELD TRANSCEIVER UNIT	10/3	10/3
BUILDING 585 (MAG-31)	AN/TSC-212 (GATR)	PARABOLIC	43.9	7900-8400	80.0	AN/TSC-212 (GATR) (X-BAND)	510/156	128/39
BUILDING 594 (FRCE)	ARUBA ANT-3X3-5005	OMNIDIRECTIONAL	5.0	5150-5875	0.63	ARUBA AP-275 OUTSIDE ACCESS POINTS (5 GHZ RADIO)	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances	
							HERO UNSAFE ORDNANCE (feet/meters)	HERO SUSCEPTIBLE ORDNANCE (feet/meters)
BUILDING 594 (FRCE)	ARUBA ANT-3X3-2005	OMNIDIRECTIONAL	5.0	2400-2483.5	0.63	ARUBA AP-275 OUTSIDE ACCESS POINTS (2.4 GHZ RADIO)	10/3	10/3
BUILDING 600 (EOC)	MADAHCOM ANT-103-OM	OMNIDIRECTIONAL	3.0	2400-2500	0.1	MADAHCOM WAVES TRX-401 FIELD TRANSCEIVER UNIT	10/3	5/1.5
BUILDING 606 (TACAN)	AS-3184/URN	DIPOLE ARRAY	6.0	962-1213	159.6	AN/URN-32	76/23	19/6
BUILDING 649 [PAR (ATCM)]	AN/FPN-63 OE-250(V)/UPN (ELEVATION)	PARABOLIC	40.3	9100-9160	52.8	AN/FPN-63	238/73	60/19
BUILDING 649 [PAR (ATCM)]	AN/FPN-63 OE-251(V)/UPN (AZIMUTH)	PARABOLIC	39.7	9100-9160	52.8	AN/FPN-63	222/68	56/17
BUILDING 740 [AFLCS (ATCM)]	ESTEEM MODEL 95	LOOP	2.1	66-79	1.0	ESTEEM MODEL 95 WIRELESS MODEM	46/14	12/4
BUILDING 986 (FUEL PIER TOWER)	ICX TECHNOLOGIES STS 4400 PERIMETER SURVEILLANCE RADAR	INTEGRAL RADAR ANTENNA	37.0	16580-17020	0.5	ICX TECHNOLOGIES STS-4400 PERIMETER SURVEILLANCE RADAR	10/3	10/3
BUILDING 1009 (COMMS)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	380-520	50.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	97/30	25/8
BUILDING 1078 [TACTICAL TRAINING RANGE (ATCM)]	28-INCH DISH	PARABOLIC	13.0	1030-1090	50.0	RAYTHEON PARROT	89/27	23/7
BUILDING 1078 (TACTICAL TRAINING RANGE)	TACO D2214	DIPOLE	1.0	225-400	100.0	ROCKWELL COLLINS 721S RADIO TRANSCEIVER	144/44	36/11
BUILDING 1078 (TACTICAL TRAINING RANGE)	UVU-200	DUAL-BAND BASE STATION ANTENNA	2.5	115-174	50.0	AN/URC-200 LOS TRANSCEIVER (VHF) (UPA-55)	236/72	59/18
BUILDING 1078 (TACTICAL TRAINING RANGE)	UVU-200	DUAL-BAND BASE STATION ANTENNA	2.5	225-400	50.0	AN/URC-200 LOS TRANSCEIVER (UHF) (UPA-55)	121/37	31/10
BUILDING 1078 (TACTICAL TRAINING RANGE)	DPV-108	OMNI	13.0	1700-1850	100.0	AN/FSQ-T33 RRU	76/24	19/6
BUILDING 1078 (TACTICAL TRAINING RANGE)	AS-4400/URC	COLLINEAR ARRAY	4.8	969-1206	21.0	AN/URC-107(V)1 (TDMA)	24/8	10/3
BUILDING 1103 [AFLCS (ATCM)]	ESTEEM MODEL 95	LOOP	2.1	66-79	1.0	ESTEEM MODEL 95 WIRELESS MODEM	46/14	12/4
BUILDING 1130 (MALS-31)	CSI AY806	YAGI	14.0	806-824	0.25	DEKOLINK WIRELESS LTD DEKO2489 MINI-REPEATER (ESMR800 MHZ)	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
BUILDING 1130 (MALS-31)	CSI AY806	YAGI	14.0	896-902	0.25	DEKOLINK WIRELESS LTD DEKO2489 MINI-REPEATER (SMR 900 MHZ)	10/3	10/3
BUILDING 1166 (ATC TOWER)	ESTEEM MODEL 95	LOOP	2.1	66-79	1.0	ESTEEM MODEL 95 WIRELESS MODEM	46/14	12/4
BUILDING 1166 (ATC TOWER)	MADAHCOM ANT-115-OM	OMNIDIRECTIONAL	15.0	2400-2500	0.1	MADAHCOM WAVES TRX-401 FIELD TRANSCEIVER UNIT	10/3	10/3
BUILDING 1166 (ATC TOWER)	TACO D2295	DIPOLE	1.0	118-144	10.0	CM-300-VDT	87/27	22/7
BUILDING 1166 (ATC TOWER)	TACO D2296	DIPOLE	1.0	116-400	100.0	ROCKWELL COLLINS 721S RADIO TRANSCEIVER	278/85	70/22
BUILDING 1166 (ATC TOWER)	TACO D2296	DIPOLE	1.0	225-400	10.0	CM-300/UT	46/14	12/4
BUILDING 1166 (ATC TOWER)	TACO D2296	DIPOLE	1.0	118-144	10.0	CM-300-VDT	87/27	22/7
BUILDING 1166 (ATC TOWER)	UVU-100	DIPOLE	2.5	115-174	50.0	AN/URC-200 LOS TRANSCEIVER (VHF) (UPA-55)	236/72	59/18
BUILDING 1176 (ASOS)	ASOS AAI-ACU-DCP	CARDIOD	3.0	410	0.06	ASOS (AUTOMATED SURFACE OBSERVING SYSTEM)	10/3	5/1.5
BUILDING 1202 (WATER TOWER)	MADAHCOM ANT-115-OM	OMNIDIRECTIONAL	15.0	2400-2500	0.1	MADAHCOM WAVES TRX-401 FIELD TRANSCEIVER UNIT	10/3	10/3
BUILDING 1202 (WATER TOWER)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	136-174	50.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	269/82	68/21
BUILDING 1202 (WATER TOWER)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	380-520	50.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	97/30	25/8
BUILDING 1202 (WATER TOWER)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	762-870	35.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	41/13	11/4
BUILDING 1310 [ASR-11 (ATCM)]	AN/GPN-30 (PSR)	PARABOLIC	34.0	2700-2900	1560.0	AN/GPN-30 PSR (ASR-11) (SHORT PULSE)	2107/643	527/161
BUILDING 1310 [ASR-11 (ATCM)]	AN/GPN-30 (MSSR)	PARABOLIC	27.0	1030	120.0	AN/GPN-30 [ASR-11 (MSSR)] (MODES 1, 2, 3A, AND C)	685/209	171/53
BUILDING 1328 (TRUCK GATE)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	762-870	35.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	41/13	11/4
BUILDING 2072 (FUELS)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	380-520	50.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	97/30	25/8

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
BUILDING 2085 (STRUCTURAL FIRE DIVISION)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	136-174	50.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	269/82	68/21
BUILDING 2085 (STRUCTURAL FIRE DIVISION)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	380-520	50.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	97/30	25/8
BUILDING 2085 (STRUCTURAL FIRE DIVISION)	HARRIS 12099-0310-01	OMNIDIRECTIONAL	5.1	762-870	35.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	41/13	11/4
BUILDING 3043A (LHD TOWER)	HASCALL-DENKE MPMP100X4	DIPOLE	2.1	115-174	10.0	AN/URC-200(V)2 (FM)	101/31	26/8
BUILDING 3043A (LHD TOWER)	HASCALL-DENKE MPMP100X4	DIPOLE	2.1	225-400	10.0	AN/URC-200(V)2 (FM)	52/16	13/4
ADJACENT TO ATC TOWER (PERIMETER SURVEILLANCE RADAR)	FLIR RANGER R5D	PARABOLIC	35.5	34750-35500	0.66	FLIR RANGER R5D PERIMETER SURVEILLANCE RADAR	10/3	10/3
FUEL PIER TOWER (PERIMETER SURVEILLANCE RADAR)	FLIR RANGER R5D	PARABOLIC	35.5	34750-35500	0.66	FLIR RANGER R5D PERIMETER SURVEILLANCE RADAR	10/3	10/3
VARIOUS (FIRE ALARM)	DECIBEL PRODUCTS DB201 SERIES	GROUND PLANE	2.1	132-174	1.0	KING FISHER KFRTI-20 INDUSTRIAL RADIO ALARM CONTROL SYSTEM	28/9	10/3
VARIOUS (WIFI)	TELOS POINT-TO-POINT	DIRECTIONAL	26.0	2400-2483	0.4	FORTRESS ES520 SECURE WIRELESS ACCESS BRIDGE	16/5	10/3
VARIOUS (WIFI)	TELOS POINT-TO-POINT	DIRECTIONAL	26.0	5725-5850	0.4	FORTRESS ES520 SECURE WIRELESS ACCESS BRIDGE	10/3	10/3
TOWNSEND BOMBING RANGE								
BUILDING 5 (TOWNSEND BOMBING RANGE)	AT-197A/GR	BROADBAND	1.8	225-400	10.0	AN/URC-200(V)2 (FM)	50/16	13/4
BUILDING 5 (TOWNSEND BOMBING RANGE)	UVU-200	DUAL-BAND BASE STATION ANTENNA	2.5	115-174	10.0	AN/URC-200(V)2 (FM)	106/33	27/9
BUILDING 5 (TOWNSEND BOMBING RANGE)	UVU-200	DUAL-BAND BASE STATION ANTENNA	2.5	225-400	10.0	AN/URC-200(V)2 (FM)	54/17	14/5
TOWNSEND BOMBING RANGE (CONT.)								
BUILDING 5 (TOWNSEND BOMBING RANGE)	TACO D2218	MULDIPOL	1.5	116-174	10.0	AN/URC-200(V)2 (FM)	94/29	24/8

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
BUILDING 5 (TOWNSEND BOMBING RANGE)	TACO D2218	MULDIPOL	1.5	225-400	10.0	AN/URC-200(V)2 (FM)	48/15	12/4
BUILDING 5 (TOWNSEND BOMBING RANGE)	DECIBEL PRODUCTS DB222 SERIES (OMNIDIRECTIONAL)	EXPOSED DIPOLE	5.1	137-174	110.0	MOTOROLA XTL 5000 DIGITAL MOBILE RADIO (136-174 MHZ) (HIGH POWER)	396/121	99/31
BUILDING 10 (TOWNSEND BOMBING RANGE)	10-INCH DISH	PARABOLIC	38.5	23530-23575	0.1	MICRO PASS 2	10/3	10/3
BUILDING 10 (TOWNSEND BOMBING RANGE)	DECIBEL PRODUCTS DB222 SERIES (OMNIDIRECTIONAL)	EXPOSED DIPOLE	5.1	137-174	100.0	MOTOROLA GTR 8000 BASE RADIO	378/116	95/29
PROPOSED CELLULAR SITES								
SC-01	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	30/10	10/3
SC-01	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (AWS LTE - 1 PORT)	25/8	10/3
SC-01	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	5.0	ERICSSON MRRUS 12 [B1 (LTE AND WCDMA)]	10/3	10/3
SC-01	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	1930-1995	80.0	ERICSSON RADIO 2212	38/12	10/3
SC-01	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	80.0	ERICSSON RADIO 2212	35/11	10/3
SC-01	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-01	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-01	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	32/10	10/3
SC-01	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1965-1975	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (PCS LTE - 1 PORT)	26/8	10/3
SC-01	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1850-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
PROPOSED CELLULAR SITES (CONT.)								
SC-01	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	5.0	ERICSSON MRRUS 12 [B2 (LTE AND WCDMA)]	10/3	10/3
SC-01	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	80.0	ERICSSON RADIO 2212 (B2)	37/12	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances HERO SUSCEPTIBLE ORDNANCE (feet/meters)
SC-01	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	40.0	ERICSSON RADIO 4415 B2 (GSM, LTE, WCDMA)	26/8	10/3
SC-01	JMA CYL-X7CAP-2-C (1695-1880 MHZ)	PARABOLIC	8.6	1805-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-01	JMA CYL-X7CAP-2-C (824-896 MHZ)	PARABOLIC	6.8	869-894	80.0	ERICSSON RADIO 2212	65/20	17/5
SC-01	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-757	60.0	ERICSSON RRUS B13 (700 LTE)	63/20	16/5
SC-01	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	5.0	ERICSSON MRRUS 12 [B13 (LTE)]	18/6	10/3
SC-01	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	60.0	ERICSSON RADIO 2212	63/20	16/5
SC-02	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	1930-1995	80.0	ERICSSON RADIO 2212	38/12	10/3
SC-02	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	80.0	ERICSSON RADIO 2212	35/11	10/3
SC-02	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	5.0	ERICSSON MRRUS 12 [B1 (LTE AND WCDMA)]	10/3	10/3
SC-02	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	30/10	10/3
SC-02	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (AWS LTE - 1 PORT)	25/8	10/3
SC-02	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-02	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-02	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	40.0	ERICSSON 4415 B66A REMOTE RADIO HEAD (LTE)	25/8	10/3
SC-02	JMA CYL-X7CAP-2-C (824-896 MHZ)	PARABOLIC	6.8	869-894	80.0	ERICSSON RADIO 2212	65/20	17/5
SC-02	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-757	60.0	ERICSSON RRUS B13 (700 LTE)	63/20	16/5
				PROPOSED CELLULAR SITES (CONT.)				
SC-02	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	5.0	ERICSSON MRRUS 12 [B13 (LTE)]	18/6	10/3
SC-02	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	60.0	ERICSSON RADIO 2212	63/20	16/5
SC-02	JMA CYL-X7CAP-2-C (1695-1880 MHZ)	PARABOLIC	8.6	1805-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances HERO SUSCEPTIBLE ORDNANCE (feet/meters)
SC-02	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	32/10	10/3
SC-02	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1965-1975	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (PCS LTE - 1 PORT)	26/8	10/3
SC-02	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1850-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-02	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	5.0	ERICSSON MRRUS 12 [B2 (LTE AND WCDMA)]	10/3	10/3
SC-02	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	80.0	ERICSSON RADIO 2212 (B2)	37/12	10/3
SC-02	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	40.0	ERICSSON RADIO 4415 B2 (GSM, LTE, WCDMA)	26/8	10/3
SC-03	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-757	60.0	ERICSSON RRUS B13 (700 LTE)	63/20	16/5
SC-03	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	5.0	ERICSSON MRRUS 12 [B13 (LTE)]	18/6	10/3
SC-03	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	60.0	ERICSSON RADIO 2212	63/20	16/5
SC-03	JMA CYL-X7CAP-2-C (824-896 MHZ)	PARABOLIC	6.8	869-894	80.0	ERICSSON RADIO 2212	65/20	17/5
SC-03	JMA CYL-X7CAP-2-C (1695-1880 MHZ)	PARABOLIC	8.6	1805-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-03	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	32/10	10/3
SC-03	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1965-1975	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (PCS LTE - 1 PORT)	26/8	10/3
SC-03	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1850-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-03	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	5.0	ERICSSON MRRUS 12 [B2 (LTE AND WCDMA)]	10/3	10/3
				PROPOSED CELLULAR SITES (CONT.)				
SC-03	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	80.0	ERICSSON RADIO 2212 (B2)	37/12	10/3
SC-03	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	40.0	ERICSSON RADIO 4415 B2 (GSM, LTE, WCDMA)	26/8	10/3
SC-03	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	30/10	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances HERO SUSCEPTIBLE ORDNANCE (feet/meters)
SC-03	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (AWS LTE - 1 PORT)	25/8	10/3
SC-03	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	5.0	ERICSSON MRRUS 12 [B1 (LTE AND WCDMA)]	10/3	10/3
SC-03	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	1930-1995	80.0	ERICSSON RADIO 2212	38/12	10/3
SC-03	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	80.0	ERICSSON RADIO 2212	35/11	10/3
SC-04	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-757	60.0	ERICSSON RRUS B13 (700 LTE)	63/20	16/5
SC-04	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	5.0	ERICSSON MRRUS 12 [B13 (LTE)]	18/6	10/3
SC-04	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	60.0	ERICSSON RADIO 2212	63/20	16/5
SC-04	JMA CYL-X7CAP-2-C (824-896 MHZ)	PARABOLIC	6.8	869-894	80.0	ERICSSON RADIO 2212	65/20	17/5
SC-04	JMA CYL-X7CAP-2-C (1695-1880 MHZ)	PARABOLIC	8.6	1805-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-04	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	32/10	10/3
SC-04	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1965-1975	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (PCS LTE - 1 PORT)	26/8	10/3
SC-04	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1850-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-04	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	5.0	ERICSSON MRRUS 12 [B2 (LTE AND WCDMA)]	10/3	10/3
SC-04	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	80.0	ERICSSON RADIO 2212 (B2)	37/12	10/3
SC-04	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	40.0	ERICSSON RADIO 4415 B2 (GSM, LTE, WCDMA)	26/8	10/3
				PROPOSED CELLULAR SITES (CONT.)				
SC-04	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	30/10	10/3
SC-04	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (AWS LTE - 1 PORT)	25/8	10/3
SC-04	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	5.0	ERICSSON MRRUS 12 [B1 (LTE AND WCDMA)]	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
SC-04	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	1930-1995	80.0	ERICSSON RADIO 2212	38/12	10/3
SC-04	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	80.0	ERICSSON RADIO 2212	35/11	10/3
SC-04	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-04	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-04	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	40.0	ERICSSON 4415 B66A REMOTE RADIO HEAD (LTE)	25/8	10/3
SC-05	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-757	60.0	ERICSSON RRUS B13 (700 LTE)	63/20	16/5
SC-05	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	5.0	ERICSSON MRRUS 12 (B13 (LTE))	18/6	10/3
SC-05	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	60.0	ERICSSON RADIO 2212	63/20	16/5
SC-05	JMA CYL-X7CAP-2-C (824-896 MHZ)	PARABOLIC	6.8	869-894	80.0	ERICSSON RADIO 2212	65/20	17/5
SC-05	JMA CYL-X7CAP-2-C (1695-1880 MHZ)	PARABOLIC	8.6	1805-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-05	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	32/10	10/3
SC-05	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1965-1975	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (PCS LTE - 1 PORT)	26/8	10/3
SC-05	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1850-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-05	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	5.0	ERICSSON MRRUS 12 [B2 (LTE AND WCDMA)]	10/3	10/3
SC-05	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	80.0	ERICSSON RADIO 2212 (B2)	37/12	10/3
				PROPOSED CELLULAR SITES (CONT.)				
SC-05	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	40.0	ERICSSON RADIO 4415 B2 (GSM, LTE, WCDMA)	26/8	10/3
SC-05	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (AWS LTE - 1 PORT)	25/8	10/3
SC-05	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	30/10	10/3
SC-05	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	5.0	ERICSSON MRRUS 12 [B1 (LTE AND WCDMA)]	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
SC-05	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	1930-1995	80.0	ERICSSON RADIO 2212	38/12	10/3
SC-05	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	80.0	ERICSSON RADIO 2212	35/11	10/3
SC-05	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-05	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-05	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	40.0	ERICSSON 4415 B66A REMOTE RADIO HEAD (LTE)	25/8	10/3
SC-06	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-757	60.0	ERICSSON RRUS B13 (700 LTE)	63/20	16/5
SC-06	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	5.0	ERICSSON MRRUS 12 [B13 (LTE)]	18/6	10/3
SC-06	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	60.0	ERICSSON RADIO 2212	63/20	16/5
SC-06	JMA CYL-X7CAP-2-C (824-896 MHZ)	PARABOLIC	6.8	869-894	80.0	ERICSSON RADIO 2212	65/20	17/5
SC-06	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	32/10	10/3
SC-06	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1965-1975	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (PCS LTE - 1 PORT)	26/8	10/3
SC-06	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1850-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-06	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	5.0	ERICSSON MRRUS 12 [B2 (LTE AND WCDMA)]	10/3	10/3
SC-06	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	80.0	ERICSSON RADIO 2212 (B2)	37/12	10/3
				PROPOSED CELLULAR SITES (CONT.)				
SC-06	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	40.0	ERICSSON RADIO 4415 B2 (GSM, LTE, WCDMA)	26/8	10/3
SC-06	JMA CYL-X7CAP-2-C (1695-1880 MHZ)	PARABOLIC	8.6	1805-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-06	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	30/10	10/3
SC-06	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (AWS LTE - 1 PORT)	25/8	10/3
SC-06	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	5.0	ERICSSON MRRUS 12 [B1 (LTE AND WCDMA)]	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
SC-06	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	1930-1995	80.0	ERICSSON RADIO 2212	38/12	10/3
SC-06	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	80.0	ERICSSON RADIO 2212	35/11	10/3
SC-06	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-06	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-06	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	40.0	ERICSSON 4415 B66A REMOTE RADIO HEAD (LTE)	25/8	10/3
SC-07	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-757	60.0	ERICSSON RRUS B13 (700 LTE)	63/20	16/5
SC-07	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	5.0	ERICSSON MRRUS 12 [B13 (LTE)]	18/6	10/3
SC-07	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	60.0	ERICSSON RADIO 2212	63/20	16/5
SC-07	JMA CYL-X7CAP-2-C (824-896 MHZ)	PARABOLIC	6.8	869-894	80.0	ERICSSON RADIO 2212	65/20	17/5
SC-07	JMA CYL-X7CAP-2-C (1695-1880 MHZ)	PARABOLIC	8.6	1805-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-07	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	32/10	10/3
SC-07	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1965-1975	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (PCS LTE - 1 PORT)	26/8	10/3
SC-07	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1850-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
				PROPOSED CELLULAR SITES (CONT.)				
SC-07	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	5.0	ERICSSON MRRUS 12 [B2 (LTE AND WCDMA)]	10/3	10/3
SC-07	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	80.0	ERICSSON RADIO 2212 (B2)	37/12	10/3
SC-07	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	40.0	ERICSSON RADIO 4415 B2 (GSM, LTE, WCDMA)	26/8	10/3
SC-07	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (AWS LTE - 1 PORT)	25/8	10/3
SC-07	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	5.0	ERICSSON MRRUS 12 [B1 (LTE AND WCDMA)]	10/3	10/3
SC-07	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	1930-1995	80.0	ERICSSON RADIO 2212	38/12	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances HERO SUSCEPTIBLE ORDNANCE (feet/meters)
SC-07	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	80.0	ERICSSON RADIO 2212	35/11	10/3
SC-07	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-07	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-07	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	40.0	ERICSSON 4415 B66A REMOTE RADIO HEAD (LTE)	25/8	10/3
SC-07	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	30/10	10/3
SC-08	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-757	60.0	ERICSSON RRUS B13 (700 LTE)	63/20	16/5
SC-08	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	5.0	ERICSSON MRRUS 12 [B13 (LTE)]	18/6	10/3
SC-08	JMA CYL-X7CAP-2 (698-824 MHZ)	PARABOLIC	6.4	746-756	60.0	ERICSSON RADIO 2212	63/20	16/5
SC-08	JMA CYL-X7CAP-2-C (824-896 MHZ)	PARABOLIC	6.8	869-894	80.0	ERICSSON RADIO 2212	65/20	17/5
SC-08	JMA CYL-X7CAP-2-C (1695-1880 MHZ)	PARABOLIC	8.6	1805-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-08	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	32/10	10/3
SC-08	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1965-1975	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (PCS LTE - 1 PORT)	26/8	10/3
				PROPOSED CELLULAR SITES (CONT.)				
SC-08	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1850-1880	5.0	ERICSSON MRRUS 12 [B3 (LTE AND WCDMA)]	10/3	10/3
SC-08	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	5.0	ERICSSON MRRUS 12 [B2 (LTE AND WCDMA)]	10/3	10/3
SC-08	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	80.0	ERICSSON RADIO 2212 (B2)	37/12	10/3
SC-08	JMA CYL-X7CAP-2-C (1850-1990 MHZ)	PARABOLIC	8.8	1930-1990	40.0	ERICSSON RADIO 4415 B2 (GSM, LTE, WCDMA)	26/8	10/3
SC-08	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON RRUS 12 CELLULAR REMOTE RADIO UNIT	30/10	10/3
SC-08	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	40.0	ERICSSON RRUS 32 CELLULAR REMOTE RADIO UNIT (AWS LTE - 1 PORT)	25/8	10/3
SC-08	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2170	5.0	ERICSSON MRRUS 12 [B1 (LTE AND WCDMA)]	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances HERO SUSCEPTIBLE ORDNANCE (feet/meters)
SC-08	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	1930-1995	80.0	ERICSSON RADIO 2212	38/12	10/3
SC-08	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	80.0	ERICSSON RADIO 2212	35/11	10/3
SC-08	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2155	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-08	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	60.0	ERICSSON 4415 B66A REMOTE RADIO HEAD	30/10	10/3
SC-08	JMA CYL-X7CAP-2-C (1920-2180 MHZ)	PARABOLIC	9.0	2110-2180	40.0	ERICSSON 4415 B66A REMOTE RADIO HEAD (LTE)	25/8	10/3
				MOBILE AND PORTABLE				
AN/MRQ-19 (MOBILE) (MACS-2)	HARRIS RF-3120-AT36X	WHIP	0.0	1.6-30	400.0	AN/VRC-104(V)4 [AN/PRC-150(C)] (400-WATT AMPLIFIER)	720/220	180/55
AN/MRQ-19 (MOBILE) (MACS-2)	AS-390/SRC	COAXIAL STUB	2.1	225-400	100.0	AN/PRC-117F(C)	163/50	41/13
AN/MRQ-19 (MOBILE) (MACS-2)	AS-390/SRC	COAXIAL STUB	2.1	292-318	20.0	AN/PRC-117F(C) (UHF SATCOM)	57/18	15/5
AN/MRQ-19 (MOBILE) (MACS-2)	AS-390/SRC	COAXIAL STUB	2.1	400	100.0	AN/PRC-117F(C)	92/28	23/7
AN/MRQ-19 (MOBILE) (MACS-2)	AT-1011/U	32-FOOT WHIP	2.1	2-30	400.0	AN/VRC-104(V)4 [AN/PRC-150(C)] (400-WATT AMPLIFIER)	917/280	230/70
AN/MRQ-19 (MOBILE) (MACS-2)	TRIVEC AVANT AV-2091	OMNIDIRECTIONAL	6.0	243-318	100.0	AN/PRC-117F(C)	236/72	59/18
				MOBILE AND PORTABLE (CONT.)				
AN/MRQ-19 (MOBILE) (MACS-2)	TRIVEC AVANT AV-2091	OMNIDIRECTIONAL	6.0	292-318	20.0	AN/PRC-117F(C) (UHF SATCOM)	88/27	22/7
AN/MRQ-19 (MOBILE) (MACS-2)	OE-340	PHASED ARRAY	41.0	1215-1400	11500.0	AN/TPS-59(V)3 (OPERATING)	28452/8675	7111/2168
AN/MRQ-19 (MOBILE) (MACS-2)	AS-3900A/VRC	WHIP	1.0	30-88	100.0	AN/PRC-117F(C)	404/124	101/31
AN/TPN-31(V)5 (MOBILE) (MACS-2)	OE-449/TPS-73	PARABOLIC	34.0	2705-2895	1100.0	AN/TPS-73	1766/539	442/135
AN/TPN-31(V)5 (MOBILE) (MACS-2)	AT-1011/U	32-FOOT WHIP	2.1	2-30	100.0	AN/URC-94(V)	459/140	115/35
AN/TPN-31(V)5 (MOBILE) (MACS-2)	AT-1011/U	32-FOOT WHIP	2.1	30	50.0	AN/URC-94(V)	325/99	82/25
AN/TPN-31(V)5 (MOBILE) (MACS-2)	TACO D2221	MULDIPOL	1.0	225-400	50.0	AN/GRC-171(V)1 (FM)	102/31	26/8
AN/TPN-31(V)5 (MOBILE) (MACS-2)	TACO D2212	MULDIPOL	1.0	116-150	25.0	AN/GRC-211	139/43	35/11

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
AN/TRN-47 (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	225-420	50.0	AN/PRC-117F(C) MULTIBAND MANPACK RADIO (UHF-LOS) [AN/VRC-103(V)1; RT-1796] (AMPLIFIER)	161/49	41/13
AN/TRN-47 (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	420-512	50.0	AN/PRC-117F(C) MULTIBAND MANPACK RADIO (UHF-LOS) [AN/VRC-103(V)1; RT-1796] (AMPLIFIER)	87/27	22/7
AN/TRN-47 (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	291-318	50.0	AN/PRC-117F(C) MULTIBAND MANPACK RADIO (SATCOM) [AN/VRC-104(V)1 ADAPTOR] (AMPLIFIER)	125/38	32/10
AN/TRN-47 (MOBILE) (MACS-2)	AS-3184A/URN	DIPOLE ARRAY	5.0	962-1213	159.6	AN/URN-32	68/21	17/6
AN/TSQ-120C (MOBILE) (MACS-2)	TACO D2218	MULDIPOL	1.5	116-156	15.0	AN/ARC-210(V) (AM 1 HIGH)	115/35	29/9
AN/TSQ-120C (MOBILE) (MACS-2)	TACO D2218	MULDIPOL	1.5	156-174	23.0	AN/ARC-210(V) (FM 2 HIGH)	105/33	27/8
AN/TSQ-120C (MOBILE) (MACS-2)	TACO D2218	MULDIPOL	1.5	225-400	23.0	AN/ARC-210(V) (FM)	73/23	19/6
AN/TSQ-120C (MOBILE) (MACS-2)	TACO D2218	MULDIPOL	1.5	292-318	23.0	AN/ARC-210(V) (SATCOM)	57/18	15/5
AN/TSQ-120C (MOBILE) (MACS-2)	TACO D2218	MULDIPOL	1.5	400	5.0	AN/ARC-210(V) (FM)	20/6	10/3
MOBILE AND PORTABLE (CONT.)								
AN/TSQ-120C (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	30-88	23.0	AN/ARC-210(V) (FM 1 HIGH)	308/94	77/24
AN/TSQ-120C (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	108-156	15.0	AN/ARC-210(V) (AM 1 HIGH)	184/56	46/14
AN/TSQ-120C (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	156-174	23.0	AN/ARC-210(V) (FM 2 HIGH)	158/48	40/12
AN/TSQ-120C (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	225-400	23.0	AN/ARC-210(V) (FM)	109/34	28/9
AN/TSQ-120C (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	292-318	23.0	AN/ARC-210(V) (SATCOM)	84/26	21/7
AN/TSQ-120C (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	400-512	5.0	AN/ARC-210(V) (FM)	29/9	10/3
AN/TSQ-120C (MOBILE) (MACS-2)	AS-1729/VRC	WHIP ANTENNA	2.1	30-76	50.0	AN/VRC-94F	325/99	82/25
AN/TSQ-120C (MOBILE) (MACS-2)	AT-1011/U	32-FOOT WHIP	2.1	2-30	100.0	AN/URC-94(V)	459/140	115/35

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
AN/TSQ-120C (MOBILE) (MACS-2)	AT-1011/U	32-FOOT WHIP	2.1	30	50.0	AN/URC-94(V)	325/99	82/25
AN/TSQ-120C (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	225-400	50.0	CM-200 UHF (W/CM-50 AMPLIFIER)	161/49	41/13
AN/TSQ-120C (MOBILE) (MACS-2)	AV-452-1	BROADBAND	5.0	117-137	50.0	CM-200 VHF (W/CM-50 AMPLIFIER)	309/95	78/24
AN/TSQ-120C (MOBILE) (MACS-2)	TACO D2218	MULDIPOL	1.5	225-400	50.0	CM-200 UHF (W/CM-50 AMPLIFIER)	108/33	27/9
AN/TSQ-120C (MOBILE) (MACS-2)	TACO D2218	MULDIPOL	1.5	117-137	50.0	CM-200 VHF (W/ CM-50 AMPLIFIER)	207/63	52/16
AN/TSQ-120C (MOBILE) (MACS-2)	TACO D2217	MULDIPOL	2.0	225-400	50.0	CM-200 UHF (W/CM-50 AMPLIFIER)	114/35	29/9
AN/TSQ-216 (MOBILE) (MACS-2)	OE-254/GRC	MULTIELEMENT	-.9	30-88	50.0	AN/PRC-119 MANPACK SINCGARS RADIO (WITH AMPLIFIER)	230/70	58/18
AN/TSQ-216 (MOBILE) (MACS-2)	AT-1011/U	32-FOOT WHIP	2.1	2-30	1000.0	AN/PRC-150(C) FALCON II TACTICAL RADIO (WITH 1 KW AMPLIFIER)	1450/443	363/111
AN/TSQ-216 (MOBILE) (MACS-2)	TRIVEC AVANT AV 463-SERIES	16-ELEMENT RADIAL	4.0	225-400	50.0	AN/PRC-117F(C) MULTIBAND MANPACK RADIO (UHF-LOS) [AN/VRC-103(V)1; RT-1796] (AMPLIFIER)	144/44	36/11
MOBILE AND PORTABLE (CONT.)								
AN/TSQ-216 (MOBILE) (MACS-2)	TRIVEC AVANT AV 463-SERIES	16-ELEMENT RADIAL	4.0	291-318	50.0	AN/PRC-117F(C) MULTIBAND MANPACK RADIO (SATCOM) [AN/VRC-104(V)1 ADAPTOR] (AMPLIFIER)	111/34	28/9
AN/TSQ-216 (MOBILE) (MACS-2)	AS-3900A/VRC	WHIP	1.0	30-88	100.0	AN/PRC-117F(C)	404/124	101/31
AN/TSQ-216 (MOBILE) (MACS-2)	AS-390/SRC	COAXIAL STUB	2.1	225-400	100.0	AN/PRC-117F(C)	163/50	41/13
AN/TSQ-216 (MOBILE) (MACS-2)	AS-390/SRC	COAXIAL STUB	2.1	292-318	20.0	AN/PRC-117F(C) (UHF SATCOM)	57/18	15/5
AN/TSQ-216 (MOBILE) (MACS-2)	AS-390/SRC	COAXIAL STUB	2.1	400	100.0	AN/PRC-117F(C)	92/28	23/7
AN\TSQ-216 RLST (MOBILE) (MACS-2)	HARRIS SB-V35F	WHIP	2.0	2-30	400.0	AN/VRC-104(V)4 [AN/PRC-150(C)] (400-WATT AMPLIFIER)	907/277	227/70
MOBILE	N/A	WHIP	2.1	762-870	35.0	HARRIS CS7000 CONTROL STATION WITH UNITY XG-100M RADIO	29/9	10/3
MOBILE	AT-1011/U	32-FOOT WHIP	2.1	2-30	1000.0	AN/PRC-150(C) FALCON II TACTICAL RADIO (WITH 1 KW AMPLIFIER)	1450/443	363/111

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
MOBILE (BIRD SCATTER)	PARABOLIC	PARABOLIC	68.8	9380-9440	36.0	FURUNO FR-2155	5062/1544	1265/386
MOBILE (EOD)	WHIP	WHIP	2.1	1846	5.0	RONS	10/3	10/3
MOBILE (EOD)	WHIP	WHIP	4.0	1700-1850	2.0	TALON 4	10/3	10/3
MOBILE (EOD)	WHIP	WHIP	2.1	2400-2484	5.0	PACKBOT	10/3	10/3
MOBILE (LSO PLATFORM)	UVU-100	DIPOLE	2.5	115-174	50.0	AN/URC-200 LOS TRANSCEIVER (VHF) (UPA-55)	236/72	59/18
MOBILE (LSO PLATFORM)	UVU-100	DIPOLE	2.5	115-174	10.0	AN/URC-200 LOS TRANSCEIVER (VHF) (FM/AM HIGH POWER)	106/33	27/9
MOBILE (LSO PLATFORM)	DIPOLE	DIPOLE	2.1	136-162	25.0	MOTOROLA MAXTRAC (VHF)	135/42	34/11
MOBILE (LSO PLATFORM)	DIPOLE	DIPOLE	2.1	146-174	45.0	MOTOROLA MAXTRAC (VHF)	169/52	43/13
MOBILE (OPS VAN)	UVU-100	DIPOLE	2.5	225-400	50.0	AN/URC-200 LOS TRANSCEIVER (UHF) (UPA-55)	121/37	31/10
MOBILE (OPS VAN)	UVU-100	DIPOLE	2.5	115-174	50.0	AN/URC-200 LOS TRANSCEIVER (VHF) (WITH UPA-50)	236/72	59/18
MOBILE (PROVOST MARSHAL OFFICE)	ICX TECHNOLOGIES STS 1400 PERIMETER SURVEILLANCE RADAR	INTEGRAL RADAR ANTENNA	34.1	34600-35300	0.25	ICX TECHNOLOGIES STS 1400 PERIMETER SURVEILLANCE RADAR	10/3	10/3
MOBILE AND PORTABLE (CONT.)								
MOBILE (TACTICAL)	MK-148	WHIP	2.1	1.6-30	150.0	AN/MRC-148 (HF HIGH)	562/172	141/43
MOBILE (TACTICAL)	MK-148	WHIP	2.1	30-60	60.0	AN/MRC-148 (VHF)	356/109	89/28
MOBILE (TACTICAL)	AT-1011/U	32-FOOT WHIP	2.1	2-30	20.0	AN/PRC-104 (SSB)	206/63	52/16
MOBILE (TACTICAL)	AT-1011/U	32-FOOT WHIP	2.1	30	50.0	AN/MRC-145 (HIGH)	325/99	82/25
MOBILE (TACTICAL)	AT-1011/U	32-FOOT WHIP	2.1	2-30	150.0	AN/MRC-148 (HF HIGH)	562/172	141/43
MOBILE (TACTICAL)	AT-1011/U	32-FOOT WHIP	2.1	2-30	1000.0	AN/PRC-150(C) FALCON II TACTICAL RADIO (WITH 1 KW AMPLIFIER)	1450/443	363/111
MOBILE (TACTICAL)	AT-741B/A	BLADE	2.6	1030	20.0	AN/TPX-46(V)1	17/6	10/3
MOBILE (TACTICAL)	AT-271A/PRC	WHIP	2.1	2-30	20.0	AN/PRC-104 (SSB)	206/63	52/16
MOBILE (TACTICAL)	WHIP	WHIP	2.1	225-400	30.0	AN/ARC-164 (RT-1146)	90/28	23/7
MOBILE (TACTICAL)	HARRIS RF-1936 (AS-2259/GR)	NVIS	6.0	2-30	400.0	AN/TRC-209 [AN/PRC-150(C)] (RF-5834 HPA)	1437/438	360/110
MOBILE (TACTICAL)	HARRIS SB-V35F	WHIP	2.0	2-30	400.0	AN/TRC-209 [AN/PRC-150(C)] (RF-5834 HPA)	907/277	227/70
MOBILE (TACTICAL)	AS-1729/VRC	WHIP ANTENNA	2.1	30-76	50.0	AN/MRC-145 (HIGH)	325/99	82/25
MOBILE (TACTICAL)	AS-1729/VRC	WHIP ANTENNA	2.1	30-76	50.0	AN/VRC-94F	325/99	82/25

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
MOBILE (TACTICAL)	OE-254/GRC	MULTIELEMENT	-.9	30-88	50.0	AN/PRC-119 MANPACK SINCGARS RADIO (WITH AMPLIFIER)	230/70	58/18
MOBILE (TACTICAL)	AS-3900A/VRC	WHIP	1.0	30-88	50.0	AN/MRC-145 (HIGH)	286/88	72/22
MOBILE (TACTICAL)	HARRIS RF-3183-AT0XX SERIES	WHIP	3.6	138-150	35.0	AN/VRC-82(V)2	187/57	47/15
MOBILE (TACTICAL)	HARRIS RF-3183-AT0XX SERIES	WHIP	3.6	30-90	50.0	AN/VRC-110 [AN/PRC-152(C)] (PEP)	386/118	97/30
MOBILE (TACTICAL)	HARRIS RF-3183-AT0XX SERIES	WHIP	3.6	90-512	20.0	AN/VRC-110 [AN/PRC-152(C)] (LOS)	217/66	55/17
MOBILE (TACTICAL)	HARRIS RF-3183-AT0XX SERIES	WHIP	3.6	225-400	50.0	AN/VRC-110 [AN/PRC-152(C)] (SATCOM BAND HIGH)	137/42	35/11
MOBILE (TACTICAL)	AS-3683	WHIP	1.5	30-88	50.0	AN/VRC-114 [AN/PRC-117G] (RF-300M-V150)	303/93	76/24
MOBILE (TACTS POD)	TCTS (TACTICAL COMBAT TRAINING SYSTEM)	TOP-LOADED MONOPOLE	3.0	1755-1850	3.0	TCTS POD (TACTICAL COMBAT TRAINING SYSTEM)	10/3	10/3
MOBILE (TRANSPONDER)	AT-741B/A	BLADE	2.6	1090	0.56	AN/APX-100(V)1	10/3	10/3
MOBILE (VEHICLES)	DIPOLE	DIPOLE	2.1	380-470	40.0	MOTOROLA ASTRO XTL 5000 (UHF R1)	61/19	16/5
MOBILE AND PORTABLE (CONT.)								
MOBILE (VEHICLES)	WHIP	WHIP	2.1	136-174	5.0	MOTOROLA XTS 2500 DIGITAL PORTABLE RADIO	61/19	16/5
MOBILE (VEHICLES)	WHIP	WHIP	2.1	380-520	5.0	MOTOROLA XTS 2500 DIGITAL PORTABLE RADIO	22/7	10/3
MOBILE (VEHICLES)	WHIP	WHIP	2.1	764-806	3.0	MOTOROLA XTS 2500 DIGITAL PORTABLE RADIO (700 MHZ BAND)	10/3	10/3
MOBILE (VEHICLES)	WHIP	WHIP	2.1	806-870	3.0	MOTOROLA XTS 2500 DIGITAL PORTABLE RADIO (800 MHZ BAND)	10/3	10/3
PORTABLE	UVU-100	DIPOLE	2.5	115-174	10.0	AN/URC-200(V)2 (FM)	106/33	27/9
PORTABLE	UVU-100	DIPOLE	2.5	225-400	10.0	AN/URC-200(V)2 (FM)	54/17	14/5
PORTABLE	PHYSIO CONTROL LIFEPAK 15	INTEGRATED	0.0	2400-2485	0.1	PHYSIO CONTROL LIFEPAK 15	1/0.3	1/0.3
PORTABLE	MOTOROLA XTS 2500	STUB	0.9	136-174	5.0	MOTOROLA ASTRO XTS 2500I (VHF)	53/16	14/4
PORTABLE	MOTOROLA XTS 2500	STUB	0.9	380-470	5.0	MOTOROLA ASTRO XTS 2500I (UHF R1)	19/6	10/3
PORTABLE	MOTOROLA XTS 2500	STUB	0.9	450-520	5.0	MOTOROLA ASTRO XTS 2500I (UHF R2)	16/5	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
PORTABLE	MOTOROLA XTS 2500	STUB	0.9	764-806	3.0	MOTOROLA ASTRO XTS 2500I (700 MHZ)	10/3	10/3
PORTABLE	MOTOROLA XTS 2500	STUB	0.9	806-870	3.0	MOTOROLA ASTRO XTS 2500I (800 MHZ)	10/3	10/3
PORTABLE	MOTOROLA HT 750	STUB	0.9	29-50	6.0	MOTOROLA HT 750 PORTABLE RADIO (HIGH)	98/30	25/8
PORTABLE	MOTOROLA HT 750	STUB	0.9	136-174	5.0	MOTOROLA HT 750 PORTABLE RADIO (HIGH)	53/16	14/4
PORTABLE	MOTOROLA HT 750	STUB	0.9	403-470	4.0	MOTOROLA HT 750 PORTABLE RADIO (HIGH)	16/5	10/3
PORTABLE	HARRIS UNITY XG-100P	WHIP AND INTERNAL (BLUETOOTH)	0.9	136-174	6.0	HARRIS UNITY XG-100P PORTABLE FULL-SPECTRUM MULTIBAND RADIO (VHF)	58/18	15/5
PORTABLE	HARRIS UNITY XG-100P	WHIP AND INTERNAL (BLUETOOTH)	0.9	380-520	5.0	HARRIS UNITY XG-100P PORTABLE FULL-SPECTRUM MULTIBAND RADIO (UHF)	19/6	10/3
PORTABLE	HARRIS UNITY XG-100P	WHIP AND INTERNAL (BLUETOOTH)	0.9	763-805	2.5	HARRIS UNITY XG-100P PORTABLE FULL-SPECTRUM MULTIBAND RADIO (700/800)	10/3	10/3
				MOBILE AND PORTABLE (CONT.)				
PORTABLE	HARRIS UNITY XG-100P	WHIP AND INTERNAL (BLUETOOTH)	0.9	806-870	3.0	HARRIS UNITY XG-100P PORTABLE FULL-SPECTRUM MULTIBAND RADIO (700/800)	10/3	10/3
PORTABLE	HARRIS UNITY XG-100P	WHIP AND INTERNAL (BLUETOOTH)	0.9	2400-2483.5	0.1	HARRIS UNITY XG-100P PORTABLE FULL-SPECTRUM MULTIBAND RADIO (BLUETOOTH)	10/3	5/1.5
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	698-806	2.0	CELLULAR TELEPHONE (HANDHELD) (3G, 4G MEDIAFLO, DVB-H)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	806-824	4.0	CELLULAR TELEPHONE (HANDHELD) (SMR IDEN)	11/4	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	824-849	4.0	CELLULAR TELEPHONE (HANDHELD) (ANALOG/DIGITAL)	10/4	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	851-869	4.0	CELLULAR TELEPHONE (HANDHELD) (SMR IDEN)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	869-894	4.0	CELLULAR TELEPHONE (HANDHELD) (ANALOG/DIGITAL)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	1392-1395	2.0	CELLULAR TELEPHONE (HANDHELD) (1.4 GHZ)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	1432-1435	2.0	CELLULAR TELEPHONE (HANDHELD) (1.4 GHZ)	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	1710-1755	2.0	CELLULAR TELEPHONE (HANDHELD) (3G 4G)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	1805-1880	2.0	CELLULAR TELEPHONE (HANDHELD) (DCS1800 CELL PHONE BAND)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	1850-1910	1.0	CELLULAR TELEPHONE (HANDHELD) (DIGITAL PCS BAND)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	1930-1990	2.0	CELLULAR TELEPHONE (HANDHELD) (DIGITAL PCS BAND)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	2110-2155	2.0	CELLULAR TELEPHONE (HANDHELD) (3G 4G)	10/3	10/3
PORTABLE	CELLULAR TELEPHONE	STUB	3.1	2496-2690	2.0	CELLULAR TELEPHONE (HANDHELD) (4G)	10/3	10/3
PORTABLE	MOTOROLA XTS 5000	STUB	0.9	136-174	6.0	MOTOROLA XTS 5000 DIGITAL PORTABLE RADIO (VHF)	58/18	15/5
PORTABLE	MOTOROLA XTS 5000	STUB	0.9	380-520	5.0	MOTOROLA XTS 5000 DIGITAL PORTABLE RADIO (UHF R1/R2)	19/6	10/3
PORTABLE	MOTOROLA XTS 5000	STUB	0.9	764-806	2.5	MOTOROLA XTS 5000 DIGITAL PORTABLE RADIO (700 MHZ)	10/3	10/3
				MOBILE AND PORTABLE (CONT.)				
PORTABLE	MOTOROLA XTS 5000	STUB	0.9	806-870	3.0	MOTOROLA XTS 5000 DIGITAL PORTABLE RADIO (800 MHZ)	10/3	10/3
PORTABLE (BEACON)	WHIP	WHIP	2.1	243	0.2	AN/URT-33	10/3	5/1.5
PORTABLE (BEACON)	WHIP	WHIP	2.1	243	0.75	AN/PRC-90-1 EMERGENCY LOCATOR TRANSCEIVER (HIGH POWER BEACON)	14/4	10/3
PORTABLE (BEACON)	WHIP	WHIP	2.1	282.2	0.75	AN/PRC-90-1 EMERGENCY LOCATOR TRANSCEIVER (HIGH POWER BEACON)	12/4	10/3
PORTABLE (EOD)	WHIP	WHIP	2.1	385-410	2.6	DRFD	16/5	10/3
PORTABLE (MACS-2)	AT-1011/U	32-FOOT WHIP	2.1	2-30	20.0	AN/PRC-104 (SSB)	206/63	52/16
PORTABLE [SCANNER (PROVOST MARSHAL OFFICE)]	MOTOROLA MC9090-G	INTERNAL	3.0	2412-2462	0.1	MOTOROLA MC9090-G WLAN RADIO (802.11B/G)	10/3	5/1.5
PORTABLE [SCANNER (PROVOST MARSHAL OFFICE)]	MOTOROLA MC9090-G	INTERNAL	3.0	5150-5825	0.1	MOTOROLA MC9090-G WLAN RADIO (802.11A)	10/3	5/1.5
PORTABLE [SCANNER (WEPS)]	INTERMEC CN30	INTERNAL	0.0	2400-2483.5	0.063	INTERMEC CN30	1/0.3	1/0.3
PORTABLE [SCANNER (WEPS)]	INTERMEC 751G	INTERNAL	0.0	2400-2483.5	0.1	INTERMEC 751G (BLUETOOTH)	1/0.3	1/0.3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

							Separation Distances	
Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	HERO UNSAFE ORDNANCE (feet/meters)	HERO SUSCEPTIBLE ORDNANCE (feet/meters)
PORTABLE [SCANNER (WEPS)]	INTERMEC 751G	INTERNAL	0.0	2412-2461	0.1	INTERMEC 751G (802.11B/G)	1/0.3	1/0.3
PORTABLE (TACTICAL)	AN/PRC-152 WHIP	30-512 MHZ HELICAL WHIP	0.9	30-512	5.0	AN/PRC-152(C) FALCON III TACTICAL HANDHELD RADIO (AM, FM, PSK, CPM)	90/28	23/7
PORTABLE (TACTICAL)	AN/PRC-152 WHIP	30-512 MHZ HELICAL WHIP	0.9	292-318	10.0	AN/PRC-152(C) FALCON III TACTICAL HANDHELD RADIO	35/11	10/3
PORTABLE (TACTICAL)	AN/PRC-152 WHIP	30-512 MHZ HELICAL WHIP	0.9	292-318	10.0	AN/PRC-152(C) FALCON III TACTICAL HANDHELD RADIO (SATCOM)	35/11	10/3
PORTABLE (TACTICAL)	AN/PRC-152 WHIP	30-512 MHZ HELICAL WHIP	0.9	30-512	10.0	AN/PRC-152A (RT-1916) FALCON III WIDEBAND NETWORKING HANDHELD RADIO (SATCOM)	145/45	37/12
PORTABLE (TACTICAL)	AN/PRC-148 WHIP	90-512 MHZ HELICAL WHIP	0.9	90-512	5.0	AN/PRC-148(V)(C) MBITR HANDHELD RADIO (FM OR AM)	80/25	20/7
PORTABLE (TACTICAL)	AN/PRC-153	STUB	0.9	380-470	5.0	AN/PRC-153 INTEGRATED INTRA-SQUAD PORTABLE RADIO	19/6	10/3
				F/A-18C/D (HORNET)				
ALCS	BLADE	BLADE	2.1	225-400	15.0	RT-1379A/ASW	63/20	16/5
ALTIMETER	HORN ARRAY	HORN ARRAY	10.5	4250-4350	0.6	AN/APN-194(V)	10/3	10/3
BEACON	AS-2619/APN	SLOTTED WAVEGUIDE	6.0	8500-9500	8.0	AN/APN-202	10/3	10/3
COMMS	AS-3881/ASQ	BLADE	2.1	30-88	23.0	AN/ARC-210(V) (FM 1 HIGH)	220/68	55/17
COMMS	AS-3881/ASQ	BLADE	2.1	108-156	15.0	AN/ARC-210(V) (AM 1 HIGH)	132/41	33/10
COMMS	AS-3881/ASQ	BLADE	2.1	156-174	23.0	AN/ARC-210(V) (FM 2 HIGH)	113/35	29/9
COMMS	AS-3881/ASQ	BLADE	2.1	225-400	23.0	AN/ARC-210(V) (FM)	78/24	20/6
COMMS	AS-3881/ASQ	BLADE	2.1	292-318	23.0	AN/ARC-210(V) (SATCOM)	61/19	16/5
COMMS	AS-3881/ASQ	BLADE	2.1	400-512	5.0	AN/ARC-210(V) (FM)	21/7	10/3
COMMS	AS-3881/ASQ	BLADE	2.1	30-88	15.0	AN/ARC-182(V) [FM (SINCGARS)]	178/55	45/14
COMMS	AS-3881/ASQ	BLADE	2.1	118-156	10.0	AN/ARC-182(V) (VHF-AM)	99/30	25/8
COMMS	AS-3881/ASQ	BLADE	2.1	156-174	15.0	AN/ARC-182(V) (VHF-FM)	91/28	23/7
COMMS	AS-3881/ASQ	BLADE	2.1	225-400	15.0	AN/ARC-182(V) (UHF-FM)	63/20	16/5
ECM	AN/ALQ-99	CLASSIFIED	CLASSIFIED	CLASSIFIED	CLASSIFIED	AN/ALQ-165	83/25	21/6
ELT	SIG-7020-01	WIRE	2.1	243	0.2	AN/URT-33	10/3	5/1.5
IFF	AT-741B/A	BLADE	2.6	1090	0.56	AN/APX-100(V)1	10/3	10/3
IFF	BLADE	BLADE	2.1	1030	0.1915	AN/APX-111 (INTERROGATOR)	10/3	5/1.5
IFF	BLADE	BLADE	2.1	1090	4.19	AN/APX-111 (TRANSPONDER)	10/3	10/3

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	Separation Distances: HERO UNSAFE ORDNANCE (feet/meters)	Separation Distances: HERO SUSCEPTIBLE ORDNANCE (feet/meters)
MIDS	AS-3422/ARN	BLADE	2.6	960-1215	200.0	AN/USQ-140(V)1(C) MIDS: LVT (LINK 16) (NORMAL)	58/18	15/5
MIDS	AS-3422/ARN	BLADE	2.6	960-1215	25.0	AN/USQ-140(V)1(C) MIDS: LVT (LINK 16) (MEDIUM)	21/7	10/3
MIDS	AS-3422/ARN	BLADE	2.6	960-1215	1.0	AN/USQ-140(V)1(C) MIDS: LVT (LINK 16) (LOW)	10/3	10/3
MIDS	AS-3422/ARN	BLADE	2.6	969-1206	106.0	AN/USQ-140(V)1(C) MIDS: LVT (LINK 16) (TACAN)	42/13	11/4
RADAR	AS-3254	PLANAR ARRAY	CLASSIFIED	CLASSIFIED	CLASSIFIED	AN/APG-65	436/133	109/33
RADAR	AS-3254	PLANAR ARRAY	CLASSIFIED	CLASSIFIED	CLASSIFIED	AN/APG-73	436/133	109/33
TACAN	AT-741B/A	BLADE	2.6	1025-1150	10.9	AN/ARN-118(V)	13/4	10/3
				F-35B (JSF STOVL)				
ALTIMETER	BALL AEROSPACE 2ZKH41090	CAVITY-BACKED SLOT	8.0	4200-4400	1.0	AN/ASQ-242(V)1 RADAR ALTIMETER	10/3	10/3
				F-35B (JSF STOVL) (CONT.)				
COMM	NORTHROP 2VSH34201 UV TAIL CAP HIGH	CAVITY-BACKED MONOPOLE	-4.5	225-400	22.5	AN/ASQ-242(V)1 UHF/VHF COMMUNICATIONS [UHF (AM/FM)]	37/11	10/3
COMM	NORTHROP 2VSH34201 UV TAIL CAP MID	CAVITY-BACKED MONOPOLE	-8.8	118-156	22.5	AN/ASQ-242(V)1 UHF/VHF COMMUNICATIONS [VHF (AM)]	42/13	11/4
COMM	NORTHROP 2VSH34201 UV TAIL CAP MID	CAVITY-BACKED MONOPOLE	-8.8	137-174	56.0	AN/ASQ-242(V)1 UHF/VHF COMMUNICATIONS [VHF (FM)]	57/18	15/5
COMM	BALL AEROSPACE 2ZKH41110 UHF LOWER APERTURE	CAVITY-BACKED SLOT	0.4	225-400	22.5	AN/ASQ-242(V)1 UHF/VHF COMMUNICATIONS [UHF (AM/FM)]	64/20	16/5
COMM	NORTHROP 2VSH34201 UV TAIL CAP LOW	CAVITY-BACKED MONOPOLE	-16.5	30-88	56.0	AN/ASQ-242(V)1 UHF/VHF COMMUNICATIONS (SINCGARS AND LOW VHF)	41/13	11/4
COMM	BALL AEROSPACE 2ZKH41100 UHF UPPER APERTURE	CAVITY-BACKED SLOT	1.2	225-400	22.5	AN/ASQ-242(V)1 UHF/VHF COMMUNICATIONS [UHF (AM/FM)]	70/22	18/6
IFF	BAE SYSTEMS AFT TYPE 8385480G1	PHASED ARRAY	CLASSIFIED	CLASSIFIED	CLASSIFIED	AN/ASQ-242(V)1 IFF-MADL	10/3	10/3
IFF	BAE SYSTEMS FORWARD TYPE	PHASED ARRAY	CLASSIFIED	CLASSIFIED	CLASSIFIED	AN/ASQ-242(V)1 IFF-MADL	10/3	10/3
IFF	BALL AEROSPACE L LOWER TRANSMIT	LINEAR	5.6	1090	2.64	AN/ASQ-242(V)1 MARK-XII CNI IFF TRANSPONDER	10/3	10/3
LINK 16	BALL AEROSPACE F-35 LINK 16	CAVITY-BACKED ANNULAR SLOT	5.0	962-1206	200.0	NORTHROP GRUMMAN F-35 LINK-16	76/23	19/6

ANTENNA AND TRANSMITTER SYSTEMS (CONT.)

							Separation Distances	
Antenna Location	Antenna Nomenclature	Antenna Type	Antenna Gain (dBi)	Transmitter Frequency (MHz)	Transmitter Avg. Power (watts)	Transmitter Type	HERO UNSAFE ORDNANCE (feet/meters)	HERO SUSCEPTIBLE ORDNANCE (feet/meters)
MADL	HARRIS CORP MADLANT	PHASED ARRAY	CLASSIFIED	CLASSIFIED	CLASSIFIED	AN/ASQ-242(V)1 IFF-MADL	10/3	10/3
RADAR	AN/APG-81	CLASSIFIED	CLASSIFIED	CLASSIFIED	CLASSIFIED	AN/APG-81	725/221	181/55
TACAN	BALL AEROSPACE 2ZKH4108X TACAN	CAVITY-BACKED SLOT	5.65	1025-1150	800.0	AN/ASQ-242(V)1 TACAN	152/47	38/12

HERO WARNING LABEL AND WARNING SYMBOL

The recommended HERO warning symbol is shown below. This symbol is placed at entry points to ordnance operations areas (e.g., missile assembly, ammunition pier, etc.) to alert operators of mobile and portable emitter systems such as radios and cellular phones to a potential hazard when using radios and cellular phones past this point. Guidance for manufacturing symbols is provided below.

HERO WARNING SYMBOL

Materials: Anodized aluminum, adhesive backing optional.

Colors: Base material of anodized silver background; black anodized messages in bottom triangle: alternating colored blocks of anodized red and yellow in a border surrounding black anodized logogram in top triangle.

Logogram: Design will be a pictorial presentation of a radar antenna consisting of a pylon with a dot simulating an antenna and concentric area simulating pulsed energy.

Wording: The title, WARNING: RADIO FREQUENCY HAZARD, is standard for all symbols; the messages in the lower triangle will vary according to particular situation; use of descriptive wording or warning information is the user's option.

HERO WARNING LABEL AND WARNING SYMBOL

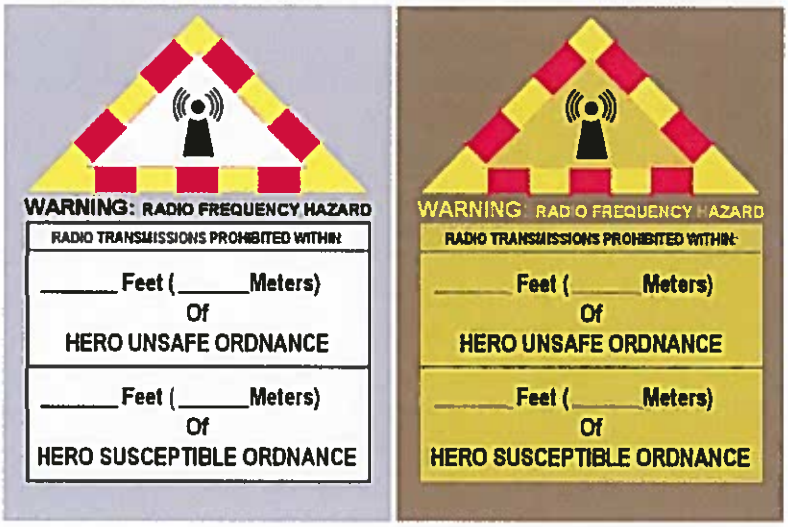
The HERO warning label (white and olive drab versions shown below) shall be affixed to emitters that meet the zero distance exception of reference (b). In accordance with reference (b), all emitter systems used in the vicinity of ordnance require that a HERO warning label be affixed to the device.

HERO WARNING LABEL FOR EMITTERS THAT MEET THE ZERO DISTANCE EXCEPTION

HERO warning labels may be downloaded from NOSSA's website at https://nossa.dc3n.navy.mil/nrws3/Programs/HazardsofElectromagneticRadiationtoOrdnance/WarningLabels.aspx and generated by the user with word processing software.

HERO WARNING LABEL AND WARNING SYMBOL

The HERO warning label (white and olive drab versions shown below) shall be affixed to mobile and portable emitter systems such as radios and cellular phones. This warning label alerts the emitter operator to a potential hazard if the emitter is operated within the prescribed distance of ordnance operations.



HERO WARNING LABEL

The label has blank spaces for inserting HERO UNSAFE ORDNANCE and HERO SUSCEPTIBLE ORDNANCE safe separation distances. The distances are obtained from enclosure (6) of this instruction for individual mobile or portable emitter systems.

INSTALLATION CALL LIST FOR HERO EMCON

The Explosive Safety Officer/HERO Officer should generate and maintain a list of names and phone numbers for those activities impacted by HERO EMCON and provide to the SDO/Officer of the Day.

Station CO/XO:	(843)228-7158
SDO:	(843)228-7121
MAG-31:	(843)228-7321
VMFA-115:	(843)228-7647
VMFA(AW)-224:	(843)228-9400
VMFA-251:	(843)228-7509
VMFA-312:	(843)228-7509
VMFA(AW)-533:	(843)228-6440
VMFAT-501:	(843)228-9774
MCAS FIRE:	(843)228-7339
ATC:	(843)228-6230
ATC MAINT:	(843)228-7163
Weather:	(843)228-7927
ARFF:	(843)228-6416
Recovery:	(843)228-6120
VAL:	(843)228-7110
MACS-2:	(843)228-6559