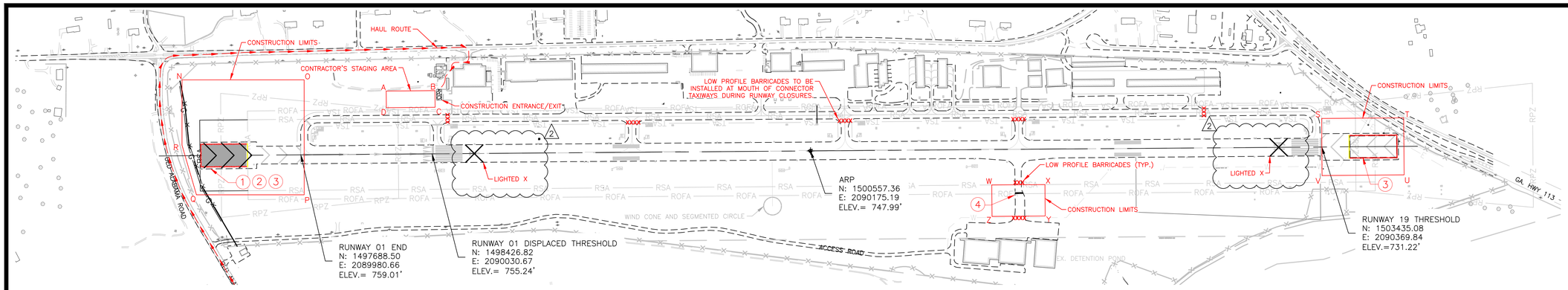
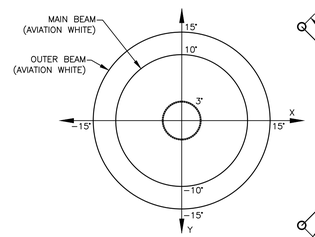
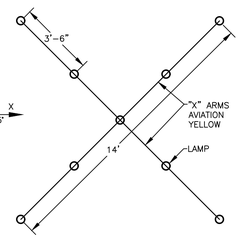




BEAM PATTERN DETAIL
SEE AC 150/5345-55A, FIGURE 1
N.T.S.



LIGHTED "X" DIMENSIONS DETAIL
SEE AC 150/5345-55A, FIGURE 2
N.T.S.

2

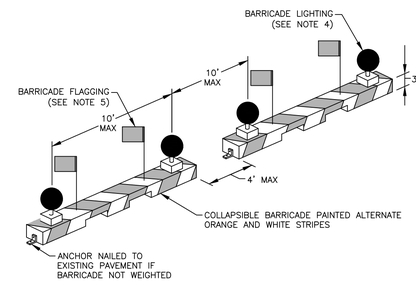
LIGHTED X FOR TEMPORARY RUNWAY CLOSURE

THE CONTRACTOR SHALL PROVIDE A SET OF LIGHTED Xs FOR USE DURING CONSTRUCTION WHEN THE RUNWAY IS CLOSED. CONTRACTOR SHALL BE RESPONSIBLE FOR SET UP, REMOVAL, FUELING AND MAINTENANCE THROUGHOUT THE DURATION OF THE PROJECT.

L-893 TEMPORARY RUNWAY CLOSURE
LIGHTED VISUAL AID DETAILS
N.T.S.

L-893 TEMPORARY RUNWAY CLOSURE LIGHTED VISUAL AID NOTES:

1. L-893 MUST MEET THE FOLLOWING PERFORMANCE STANDARDS:
   - 1.1. BE A PORTABLE UNIT THAT CAN BE QUICKLY TOWED TO AND FROM THE RUNWAY.
   - 1.2. CONSIST OF LIGHT SOURCES THAT TRANSMIT AN AVIATION WHITE COLOR PER SAE-AS25050. THE LIGHT SOURCES SHALL BE ARRANGED IN THE SHAPE OF A LETTER "X" WITH ARMS CROSSED AT AN APPROPRIATE ANGLE TO MAKE THE "X" READILY DISCERNIBLE. THE ARMS MUST BE PAINTED YELLOW ON ALL SIDES SO THAT THE UNIT WILL BE CLEARLY VISIBLE WHEN IT IS IN POSITION. THE COLOR MUST BE NO. 13538, AVIATION YELLOW, PER FED-STD-595.
   - 1.3. ENERGIZED BY A PORTABLE POWER SUPPLY CAPABLE OF A MINIMUM OF 24 HOURS CONTINUOUS OPERATION. THE LIGHT UNIT MUST ALSO ACCEPT 120 VOLTS ALTERNATING CURRENT EXTERNAL POWER WHEN AVAILABLE ON THE AIRFIELD.
   - 1.4. SIMULTANEOUSLY FLASH ALL LIGHT SOURCES MOUNTED ON THE "X" AT A RATE OF 2.5 SECONDS ON (± 20%) AND 2.5 SECONDS OFF (± 20%).
   - 1.5. BE ABLE TO SWITCH BETWEEN DAY AND NIGHT INTENSITIES PER PARAGRAPH 3.3F.
   - 1.6. PROVIDE A MINIMUM DAY EFFECTIVE INTENSITY OF 70,000 CANDELA (CD) AT THE BEAM CENTER. 34,000 CD AT 10 DEGREES RADIUS, AND 13,000 CD AT 15 DEGREES RADIUS. THE MINIMUM NIGHT EFFECTIVE INTENSITY MUST BE 2,000 CD AT BEAM CENTER, 970 CD AT 10 DEGREES RADIUS, AND 370 CD AT 15 DEGREES RADIUS. THE MINIMUM INTENSITY FOR EACH LIGHT SOURCE IS DETERMINED BY DIVIDING THE SPECIFIED MINIMUM INTENSITY BY THE NUMBER OF LIGHT SOURCES.
   - 1.7. PROVIDE FAIL-SAFE PROTECTION TO ENSURE THAT THE UNIT STAYS ON AS CONTINUOUS LIGHT IF THE FLASHER UNIT FAILS.
   - 1.8. INCLUDE AN OPERATIONS PLACARD PLACED IN A CONSPICUOUS LOCATION THAT INSTRUCTS OPERATORS TO VISUALLY CHECK THE OPERATION OF THE DEVICE EVERY 2 HOURS.
   - 1.9. PROVIDE MEANS FOR ADJUSTING AND LEVELING TO ALLOW TILTING TO AN OPTIMUM ANGLE OF 5 DEGREES FROM VERTICAL.
   - 1.10. PROVIDE A MINIMUM LIGHTING ARRANGEMENT WITH AT LEAST 9 LIGHT SOURCES EQUALLY SPACED.
   - 1.11. BE SET UP BY ONE PERSON IN LESS THAN 5 MINUTES.
   - 1.12. ALL MATERIALS AND COMPONENTS OF LIGHTING SYSTEM MUST BE SUITABLE FOR THE INTENDED PURPOSE AND ADEQUATELY PROTECTED AGAINST CORROSION. THE COMPONENTS MUST HAVE ADEQUATE CAPACITY AND MUST NOT BE OPERATED IN EXCESS OF THE COMPONENT MANUFACTURER'S RECOMMENDING RATING. ALL SURFACES OF THE ASSEMBLY MUST BE SMOOTH WITHOUT BURS OR SHARP EDGES.
2. L-893 MUST BE DESIGNED TO OPERATE IN THE FOLLOWING CONDITIONS:
   - 2.1. TEMPERATURE: -40° F (-40° C) TO 130° F (55° C). THE PORTABLE POWER SUPPLY IS EXEMPT FROM THE LOW TEMPERATURE REQUIREMENT.
   - 2.2. HUMIDITY: 95% RELATIVE HUMIDITY.
   - 2.3. WIND: WITHSTAND A MINIMUM WIND SPEED OF AT LEAST 40 MPH WITHOUT ADVERSELY AFFECTING THE AIMING OR OPERATION.
   - 2.4. SUNSHINE: EXPOSURE TO SOLAR RADIATION.
3. SEE AC 150/5345-55A FOR QUALIFICATION PROCEDURES IN TESTING EQUIPMENT.



TYPE 1 BARRICADE DETAIL
N.T.S.

BARRICADE NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF BARRICADES.
2. CONTRACTOR SHALL INSTALL BARRICADE AND CLOSE THE SECTION OF APRON UNDER CONSTRUCTION.
3. BARRICADES MUST BE EASILY COLLAPSIBLE UPON CONTACT WITH AIRCRAFT OR ANY OF ITS COMPONENTS.
4. TWO (2) BATTERY OR SOLAR-POWERED PHOTOCELL ACTUATED FLASHING RED LIGHTS TO BE SECURELY MOUNTED ON EACH END OF BARRICADE, SPACED NO MORE THAN 10' APART. LIGHTS TO HAVE A MINIMUM OF 5 CANDELA LUMINANCE.
5. ALTERNATING ORANGE AND WHITE FLAGS, MINIMUM 20" x 20" SQUARE, TO BE SECURELY MOUNTED ON EACH END OF BARRICADE AND TO INCLUDE BRACING TO MAINTAIN FLAG EXTENSION. MAST AND FLAGGING TO BE FIRMLY SECURED TO BARRICADE TO PREVENT INGESTION BY AIRCRAFT AND FOREIGN OBJECT DEBRIS.
6. BARRICADE TO BE WEIGHTED OR ATTACHED TO EXISTING PAVEMENT. IF AFFIXED TO THE SURFACE, THE BARRICADE MUST BE FRANGIBLE AT GRADE LEVEL OR AS LOW AS POSSIBLE, BUT NOT TO EXCEED 3" ABOVE THE GROUND.
7. NO SEPARATE PAYMENT SHALL BE MADE FOR THE ITEM COST. INSTALLATION AND MAINTENANCE TO BE CONSIDERED AS PART OF THIS PROJECT.
8. CONTRACTOR SHALL IMMEDIATELY REPLACE ANY LIGHT NOT MEETING THE STATED REQUIREMENTS.

WORK ITEMS

2

1. INSTALL ENGINEERED MATERIALS ARRESTING SYSTEM ON RUNWAY 01 END
2. STRIPE RUNWAY 1 END EMAS AND BLAST PAD
3. INSTALL 14" L-853 RETROREFLECTIVE MARKERS AROUND PERIMETER OF RUNWAY 01 AND 19 EMAS BEDS
4. STRIPE RUNWAY HOLDING POSITION MARKING ON TAXIWAY B1

SAFETY NOTES

1. COORDINATION
   - 1.1 DESIGN, BIDDING, AND PRECONSTRUCTION CONFERENCES: PRE-CONSTRUCTION & PERIODIC PROGRESS MEETINGS
   - 1.2 CONTRACTOR PROGRESS MEETINGS: PERIODICALLY AND AS NECESSARY
   - 1.3 SCOPE OR SCHEDULE CHANGES: N/A
   - 1.4 FAA ATO COORDINATION: 7460-1 FILED AND NOTAMS TO BE ISSUED
2. PHASING
   - 2.1 SCOPE OF WORK: EMAS INSTALLATION ON RUNWAY 01 END
   - 2.2 PHASE ELEMENTS: CONSTRUCTION TO BE COMPLETED IN ITS ENTIRETY AND SHALL NOT BE PHASED. CONTRACT TIME OF PROJECT IS 30 CALENDAR DAYS. MAXIMUM TIME FOR RUNWAY 01-19 CLOSURE SHALL BE 14 DAYS FOR NIGHT WORK (7:00 PM - 7:00 AM) ONLY.
   - 2.3 PHASING PLANS: N/A
3. AREAS/OPERATIONS AFFECTED BY PROJECT
   - 3.1 IDENTIFICATION OF AFFECTED AREAS: WORK INSIDE ROFA & RPZ.
   - 3.2 MITIGATION OF EFFECTS TO OPERATIONS: NOTAM OF CONSTRUCTION TO BE ISSUED BY AIRPORT MANAGEMENT
   - 3.3 CONSTRUCTION SAFETY DRAWINGS: INCLUDED IN PLANS
4. PROTECTION OF NAVAIDs, PAPI, LOCALIZER, HIRL, REILS, BEACON
   - 4.1 NAVAID FACILITIES AFFECTED BY CONSTRUCTION: N/A
   - 4.2 PROTECTION OF NAVAID FACILITIES DURING CONSTRUCTION: N/A
5. CONTRACTOR ACCESS
   - 5.1 LOCATION OF STOCKPILED MATERIALS: TO BE LOCATED IN CONTRACTOR'S STAGING AREA
   - 5.2 VEHICLE AND PEDESTRIAN OPERATIONS: ALL OUTSIDE OF AIRPORT OPERATIONS AREA. EQUIPMENT RETURNED TO STAGING AREA AT CONCLUSION OF CONSTRUCTION ACTIVITIES ON DAILY BASIS. CONTRACTOR NOT PERMITTED TO USE ANY ACCESS OR HAUL ROADS OTHER THAN THOSE SHOWN ON PLAN. ALL VEHICLES TO BE FLAGGED AND LIGHTED.
   - 5.3 TWO-WAY RADIO COMMUNICATIONS: CONTRACTOR SHALL HAVE RADIO AVAILABLE AND IN USE AT ALL TIMES WHILE WORKING ON AIRFIELD. UNICOM FREQUENCY 123.05
   - 5.4 AIRPORT SECURITY: CONTRACTOR TO MAINTAIN GATE SECURITY
6. WILDLIFE MANAGEMENT
   - a. TRASH: FOOD SCRAPS AND WASTE TO BE COLLECTED AND REMOVED
   - b. STANDING WATER: N/A
   - c. TALL GRASS AND SEEDS: N/A
   - d. POORLY MAINTAINED FENCING AND GATES: N/A
   - e. DISRUPTION OF EXISTING WILDLIFE HABITAT: CONTRACTOR TO REPORT TO AIRPORT OPERATOR ANY WILDLIFE SIGHTINGS IN AIRPORT SECURE AREA
7. FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT: CONTRACTOR TO SWEEP OR BLOW AIRCRAFT MOVEMENT AREAS
8. HAZARDOUS MATERIAL MANAGEMENT: CONTRACTOR SHALL REFRAIN FROM TOPPING OFF VEHICLES AND HAVE SORBENT MATERIALS IN FUEL AREA
9. NOTIFICATION OF CONST. ACTIVITIES
   - 9.1 MAINTAIN LIST OF RESPONSIBLE INDIVIDUALS: CONTRACTOR WILL HAVE LIST OF RESPONSIBLE INDIVIDUALS
   - 9.2 NOTICE TO AIRMEN (NOTAM): WILL BE ISSUED BY MANAGEMENT; CONTRACTOR MUST NOTIFY MANAGEMENT AT LEAST 72 HOURS PRIOR TO ISSUANCE OF A NOTAM
   - 9.3 EMERGENCY NOTIFICATIONS PROCEDURES: IN THE EVENT OF A POLICE, FIRE FIGHTING, OR MEDICAL EMERGENCY, CONTRACTOR SHALL CALL 911
   - 9.4 COORDINATION WITH ARFF PERSONNEL: N/A
   - 9.5 NOTIFICATION TO FAA: NOTIFY FAA FOR CONSTRUCTION AFFECTING CFR PART 77 NAVIGABLE AIRSPACE, CFR PART 157 CONSTRUCTION, ALTERATION, ACTIVATION, AND DEACTIVATION OF AIRPORTS, OR NAVAID IMPACTS.
10. INSPECTION REQUIREMENTS
   - 10.1 DAILY (OR MORE FREQUENTLY) INSPECTIONS: DAILY
   - 10.2 FINAL INSPECTION: FINAL INSPECTION AFTER COMPLETION
11. UNDERGROUND UTILITIES: N/A
12. PENALTIES: LIQUIDATED DAMAGES OF $500 PER CALENDAR DAY BEYOND TOTAL PROJECT DURATION AND $2,000 PER CALENDAR DAY FOR EXCEEDING RUNWAY CLOSURE TIME.
13. SPECIAL CONDITIONS: N/A
14. RUNWAY/TAXIWAY VISUAL AIDS
   - 14.1 GENERAL: N/A
   - 14.2 MARKINGS: BLAST PAD CHEVRON STRIPING AND RUNWAY HOLD POSITION MARKING ON TAXIWAY B1
   - 14.3 LIGHTING AND VISUAL NAVAIDs: RETROREFLECTIVE MARKERS FOR RUNWAY 01 AND 19 EMAS
   - 14.4 SIGNS: N/A
15. MARKING AND SIGNS FOR ACCESS ROUTES GDOT ACCESS PERMIT: N/A
16. HAZARD MARKING AND LIGHTING
   - 16.1 PURPOSE: TO PREVENT PILOTS FROM ENTERING AREAS CLOSED TO AIRCRAFT AND PREVENT CONSTRUCTION PERSONNEL FROM ENTERING AREAS OPEN TO AIRCRAFT.
   - 16.2 EQUIPMENT: BARRICADES, LIGHTED X FOR NIGHTTIME RUNWAY CLOSURE
17. PROTECTION OF SAFETY AREAS, OFA's, OFZ's, APPROACH AREAS
   - 17.1 RUNWAY SAFETY AREA: WORK INSIDE OF RSA
   - 17.2 RUNWAY OBJECT FREE AREA: WORK INSIDE OF ROFA
   - 17.3 TAXIWAY SAFETY AREA: WORK OUTSIDE OF TSA
   - 17.4 TAXIWAY OBJECT FREE AREA: WORK OUTSIDE OF TOFA
   - 17.5 OBJECT FREE ZONES: WORK INSIDE OF OFZ
   - 17.6 RUNWAY APPROACH/DEPARTURE SURFACES: WORK ABOVE THRESHOLD OF APPROACH/DEPARTURE SURFACES
18. OTHER LIMITATIONS ON CONSTRUCTION
   - 18.1 PROHIBITIONS: NO USE OF TALL EQUIPMENT GREATER THAN 20' IN HEIGHT (CRANES, CONCRETE PUMPS, ETC.) ON PROJECT SITE UNLESS A 7460-1 DETERMINATION LETTER IS ISSUED FOR SUCH EQUIPMENT. NO USES OF OPEN FLAME, WELDING, OR TORCHES UNLESS FIRE SAFETY PRECAUTIONS ARE PROVIDED AND THE AIRPORT OPERATOR HAS APPROVED THEIR USE. NO USE OF ELECTRICAL BLASTING CAPS ON OR WITHIN 1,000 FT OF THE AIRPORT PROPERTY. NO USE OF FLARE POTS WITHIN THE AOA.
   - 18.2 RESTRICTIONS: DAY CONSTRUCTION ONLY

CONTRACTOR'S STAGING AREA

	LAT	LONG	ELEV	AGL	AGSL
A	N34°06'59.88"	W84°51'01.31"	748'	20'	768'
B	N34°07'02.60"	W84°51'01.11"	747'	20'	767'
C	N34°07'02.54"	W84°50'59.99"	751'	20'	771'
D	N34°06'59.83"	W84°51'00.19"	749'	20'	769'

CONSTRUCTION LIMITS – RUNWAY 01 END

	LAT	LONG	ELEV	AGL	AGSL
N	N34°06'48.55"	W84°51'02.99"	766'	20'	786'
O	N34°06'55.36"	W84°51'02.43"	756'	20'	776'
P	N34°06'54.92"	W84°50'54.74"	755'	20'	775'
Q	N34°06'48.92"	W84°50'55.24"	750'	20'	770'
R	N34°06'48.31"	W84°50'58.63"	764'	20'	784'

CONSTRUCTION LIMITS – RUNWAY 19 END

	LAT	LONG	ELEV	AGL	AGSL
S	N34°07'51.86"	W84°50'55.17"	730'	20'	750'
T	N34°07'56.43"	W84°50'54.83"	712'	20'	732'
U	N34°07'56.24"	W84°50'51.01"	711'	20'	731'
V	N34°07'51.66"	W84°50'51.35"	728'	20'	748'

CONSTRUCTION LIMITS – TAXIWAY B1

	LAT	LONG	ELEV	AGL	AGSL
W	N34°07'33.24"	W84°50'52.24"	735'	20'	755'
X	N34°07'36.20"	W84°50'52.02"	730'	20'	750'
Y	N34°07'36.10"	W84°50'49.91"	726'	20'	746'
Z	N34°07'33.13"	W84°50'50.13"	728'	20'	748'

GENERAL SEQUENCE OF CONSTRUCTION:

1. PRE-CONSTRUCTION MEETING TO BE HELD ONSITE PRIOR TO COMMENCEMENT OF ACTIVITIES. ENGINEER TO SCHEDULE AND CONTACT ALL ATTENDEES TO INCLUDE, BUT NOT LIMITED TO, CONTRACTOR, AGENCY REPRESENTATIVES, OWNER, AND SUBCONTRACTORS.
2. CONTRACTOR TO ESTABLISH AND STOCKPILE MATERIALS IN STAGING AREA.
3. CONTRACTOR TO OVERSEE AND ASSIST IN INSTALLATION OF EMAS SYSTEM BY SUBCONTRACTOR.
4. CONTRACTOR TO PERFORM PERMANENT MARKING FOR RUNWAY 1 END EMAS AND BLAST PAD.
5. CONTRACTOR TO PERFORM PERMANENT MARKING FOR TAXIWAY B1 RUNWAY HOLD POSITION MARKING.
6. CONTRACTOR TO INSTALL RETROREFLECTIVE MARKERS AROUND PERIMETER OF RUNWAY 01 AND RUNWAY 19 END EMAS BEDS
7. ENGINEER AND OWNER TO INSPECT SITE FOR CONSTRUCTION COMPLIANCE, AND CONTRACTOR TO REPAIR ITEMS DETERMINED UNSUITABLE.

LEGEND

- EMAS BED
- 990 — EX. MAJOR CONTOURS
- EX. EOP
- EX. BUILDING
- AIRPORT PROPERTY / R.O.W. LINE
- XXXXXXXXXX BARRICADES
- BRL — BUILDING RESTRICTION LINE
- RPZ — RUNWAY PROTECTION ZONE
- ROFA — RUNWAY OBJECT FREE AREA
- RSA — RUNWAY SAFETY AREA
- TOFA — TAXIWAY OBJECT FREE AREA
- TSA — TAXIWAY SAFETY AREA
- EXISTING FENCE
- HAUL ROUTE

N

300 0 300 600 900
SCALE IN FEET

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CARTERSVILLE-BARTOW COUNTY AIRPORT

EMAS INSTALLATION — PHASE II

CITY OF CARTERSVILLE, BARTOW COUNTY, GEORGIA

ISSUED FOR BID

NO.	REVISION REFERENCE	DATE
2	ADDENDUM NO. 2	08/18/22

SEAL

SHEET TITLE
PROJECT LAYOUT AND CONSTRUCTION SAFETY PHASING PLAN

DRAWN BY	CHECKED BY
SAM	RMC
SCALE 1"=300'	ISSUE DATE 06/30/22

PROJECT NUMBER
1350.016

DRAWING NUMBER
G-101

Plot Scale: 1"=300' Drawing Rotation: ####° Plot Style: Design - Color.ctb Plotted By: Sam Malte on 8/18/2022, 11:29 AM
Drawing Location: P:\Marietta\1350 Cartersville-Bartow Co Airport\1350.014 Runway Pavement Rehab\Engineering\Design\Design — 01 EMAS\1350.014 Project Layout_01 EMAS.dwg