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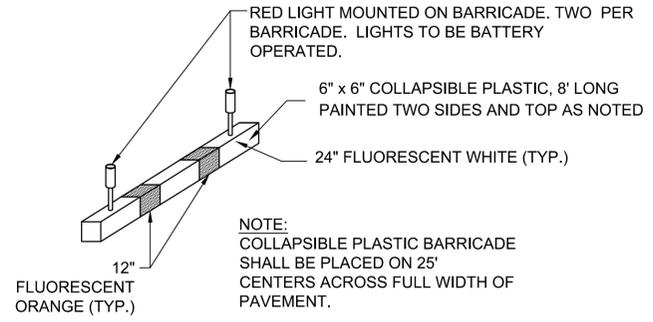
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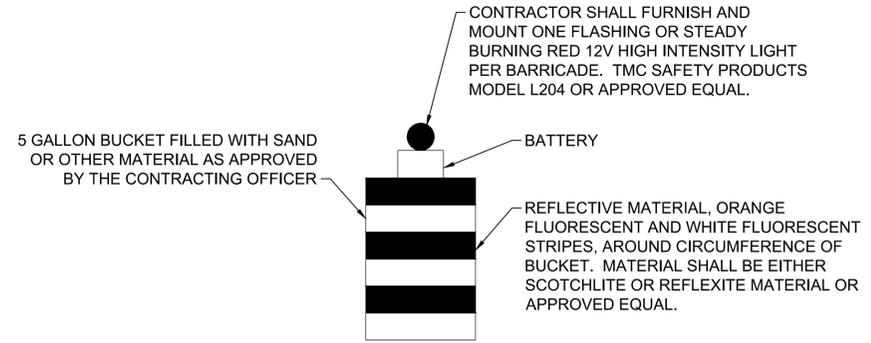
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**1** **TEMPORARY MOVEMENT AREA AIRFIELD BARRICADE DETAIL**  
SCALE: NTS

**NOTES:**

- CONTRACTOR SHALL PROVIDE A FAA APPROVED (FAA AC 150/5370-2E), LIGHTED RUNWAY CLOSURE MARKER AS A TEMPORARY CLOSED MARKER TO WARN PILOTS OF CLOSED RUNWAYS AND TAXIWAYS.
- LOCATION OF TEMPORARY CLOSED MARKERS SHALL BE COORDINATED WITH THE CONTRACTING OFFICER.



**2** **BUCKET AVIATION BARRICADE DETAIL**  
SCALE: NTS

**NOTES:**

- LIGHT SHALL BE CLAMPED TO BUCKET BARRICADE OR MOUNTED TO LID.
- FOR AIRSIDE USE ONLY.
- CONTRACTOR SHALL USE BUCKET BARRICADES TO DELINEATE HAUL ROADS ALONG ACTIVE AIRCRAFT MOVEMENT AREAS. MAXIMUM 100' SPACING, 50' ON CURVES.

FILE NAME: N:\14072\04 CAD\03a-youm\132243-G-0005.dwg LAYOUT NAME: 0005 PLOTTED: Tuesday, June 09, 2015 - 9:43am USER: mm

APPROVED	ISSUED FOR BID	DATE	APPR.
FOR COMMANDER NAVFAC	0	8 JUN 15	
ACTIVITY	DESCRIPTION		
SATISFACTORY TO DATE			
DES MWK   DRW MRM   CHK JMM			
PROJECT MANAGER			
IPIT TECH. BRANCH HEAD			
CHIEF ENGINEER (CORE)			
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL AIR STATION JACKSONVILLE CHIEF CORE NAS CORPUS CHRISTI NAS CORPUS CHRISTI AIRFIELD REPAIRS AIRFIELD LIGHTING VAULT PHASING DETAILS			
SCALE: NTS			
PROJECT NO.:			
CONSTR. CONTR. NO.:			
NAVFAC DRAWING NO. 15095075			
SHEET 5 OF 54			
<b>GI005</b>			
DRAWING REVISION: 5 APRIL 2012			

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# GENERAL STRUCTURAL NOTES

**D. MASONRY CONTINUED -**

**3. VERTICAL WALL REINFORCING -**

A. PROVIDE VERTICAL REINFORCING (NORMAL REINFORCING) IN GROUT FILLED CELLS IN ALL WALLS AS FOLLOWS UNLESS OTHERWISE NOTED -

WALL TYPE	REINF. IN FILLED CELLS	MAXIMUM SPACING
8 IN. PARTIALLY GROUTED CMU	1 - #6	24 IN.

THERE SHALL BE A FOUNDATION DOWEL CAST INTEGRAL WITH THE SUPPORTING MEMBER FOR EACH VERTICAL REINFORCING BAR (NORMAL REINFORCING). ALL VERTICAL REINFORCING BARS AND DOWELS SHALL BE CENTERED IN THE WALL UNLESS NOTED OTHERWISE.

B. PROVIDE AN ADDITIONAL VERTICAL REINFORCING BAR WITH FOUNDATION DOWEL IN GROUT FILLED CELL, OF SAME SIZE AND LENGTH AS THE NORMAL REINFORCING BAR, AT THE FOLLOWING LOCATIONS -

1. EACH SIDE OF A CONTROL OR ISOLATION JOINT.
2. INTERSECTION OF EXTERIOR WALLS.
3. EACH SIDE OF A WALL OPENING.
4. EACH END OF A WALL.

C. VERTICAL REINFORCING SHALL EXTEND CONTINUOUSLY FROM THE TOP OF THE SUPPORTING FOUNDATION MEMBER TO EMBED AT LEAST 6 INCHES INTO THE TOP COURSE BOND BEAM.

**4. HORIZONTAL WALL REINFORCING -**

A. PROVIDE GROUT FILLED BOND BEAM AT THE TOP OF WALL OR PARAPET, AT ROOF LEVEL, AT FLOOR LEVELS (ABOVE GRADE), AT BOTTOM OF WALLS, AT TOP OF OPENINGS, BELOW OPENINGS, AT BEARING LOCATIONS, AND INTERMEDIATELY AT EVERY SIXTH COURSE (48 INCHES). BOND BEAMS SHALL BE REINFORCED AT FOLLOWS -

WALL TYPE	BOND BEAM REINF.
8 IN. CMU	2 - #4

B. ALL INTERIOR STRUCTURAL WALLS (SHEAR AND/OR BEARING) SHALL HAVE INTERMEDIATE BOND BEAMS LOCATED AT THE SAME ELEVATIONS AS EXTERIOR BOND BEAMS.

C. PROVIDE BENT CORNER BARS TO MATCH EACH HORIZONTAL BAR SIZE AND SPACING AT ALL CORNERS AND INTERSECTION UNLESS NOTED OTHERWISE.

**5. REINFORCING SHALL MEET THE FOLLOWING LAP, SPLICE, AND EMBEDMENT REQUIREMENTS -**

REINF. BAR SIZE	LAP OR SPLICE LENGTH IN WALL (IN.)	DOWELS INTO FOUNDATION EMBEDMENT W/ STD. ACI HOOK (IN.)	
		STRAIGHT EMBEDMENT (IN.)	STRAIGHT EMBEDMENT (IN.)
#4	36	10	25
#5	45	12	31
#6	54	15	37

FOUNDATION DOWELS SHALL EXTEND A LAP LENGTH INTO THE MASONRY WALL.

**6. HORIZONTAL BARS AROUND PERIMETER OF OPENINGS SHALL EXTEND NOT LESS THAN 40 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS LARGER, BEYOND THE CORNER OF THE OPENING.**

**7. CELLS WHICH CONTAIN REINFORCING STEEL (VERTICAL CELLS, BOND BEAMS, LINTELS, AND PILASTERS) SHALL BE FILLED SOLIDLY WITH GROUT.**

**8. VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL NOT LESS THAN 2 INCHES X 3 INCHES IN PLAN DIMENSIONS.**

**9. BOND BEAM REINFORCING FOR ALL WALLS SHALL BE CONTINUOUS THROUGHOUT, EXCEPT AT CONTROL AND ISOLATION JOINTS IT SHALL BE AS FOLLOWS -**

A. INTERMEDIATE BOND BEAM REINFORCING SHALL BE DISCONTINUOUS AT CONTROL JOINTS EXCEPT THAT REINFORCEMENT IN BOND BEAMS AT FLOOR AND ROOF DIAPHRAGM LEVELS SHALL BE CONTINUOUS.

**10. LOCATION AND DETAILS OF MASONRY CONTROL JOINTS AND ISOLATION JOINTS IN REINFORCED MASONRY SHALL BE AS SHOWN ON THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. THE MAXIMUM SPACING OF CONTROL JOINTS SHALL BE AT A LENGTH TO HEIGHT RATIO OF 4 TO 1 OR 24 FEET ON CENTER, WHICHEVER IS LESS. THE CONTRACTOR SHALL SUBMIT A JOINT LAYOUT PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.**

**11. MASONRY UNITS IN CONTACT WITH SOIL SHALL HAVE VOIDS FILLED WITH GROUT.**

**12. LINTELS WITH A CLEAR OPENING WIDTH UP TO 6'-4" SHALL CONSIST OF 8 INCH GROUT FILLED BOND BEAM UNIT WITH (2) - #5 BARS AT THE BOTTOM, U.N.O.**

**13. ALL CMU WALLS SHALL BE PLACED IN A RUNNING BOND.**

**E. STRUCTURAL STEEL -**

1. ALL STRUCTURAL STEEL HAS BEEN DESIGNED AND SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE "BUILDING CODE", ANSI/AISC 360-10 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (22 JUNE 2010), AND THE AISC STEEL CONSTRUCTION MANUAL (14TH EDITION) CONFORMING TO THE PROVISIONS OF THE LOAD RESISTANCE FACTOR DESIGN (LRFD).

A. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STEEL ERECTION STANDARDS 29-CFR, SUBPART R.

2. STRUCTURAL STEEL SHALL MEET THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE NOTED ON THE DRAWINGS -

TYPE	ASTM	GRADE	FY (MIN.)
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STRUCTURAL WIDE FLANGE BEAMS AND COLUMNS (W-SHAPES) A992 OR A572 50 KSI

STRUCTURAL TEES (WT-SHAPES) A992 OR A572 50 KSI

STRUCTURAL CHANNELS AND ANGLES (C, MC, AND L-SHAPES) A36 36 KSI

STRUCTURAL PLATES AND BARS (TYPICAL U.N.O.) A36 36 KSI

STRUCTURAL CONTINUITY PLATES A572 50 KSI

STRUCTURAL COLUMN CONTINUITY CAP PLATES A572 50 KSI

STRUCTURAL STEEL PIPE A53 B, TYPE E OR S 35 KSI

STRUCTURAL STEEL TUBING (TS-SHAPES) A500 B 46 KSI

HOLLOW STRUCTURAL SHAPES (HSS-SHAPES - RECTANGULAR OR SQUARE) A500 B 46 KSI

STRUCTURAL ANCHOR RODS (BOLTS) F1554 36 KSI WITH WELDABILITY SUPPLEMENT S1 & CARBON EQUIVALENT FORMULA PER ASTM F1554 SECTION 1.5.2.1

STRUCTURAL HIGH STRENGTH BOLTS A325TC FU=120 KSI

**3. STRUCTURAL STEEL CONNECTIONS -**

A. ALL CONNECTIONS NOT DETAILED OR OTHERWISE NOTED SHALL BE DESIGNED BY THE FABRICATOR. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED BEARING THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

NON-COMPOSITE AND COMPOSITE BEAM SHEAR CONNECTIONS SHALL BE AS SHOWN ON THE "TYPICAL BEAM CONNECTION SCHEDULE" UNLESS NOTED OTHERWISE.

CONNECTION DESIGN BASED ON BEARING TYPE BOLTED CONNECTIONS WITH BOLTS "SNUG TIGHT" PER RCSC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS"

C. CONNECTION BOLTS INDICATED ON THE DRAWINGS ARE 3/4 INCH DIAMETER ASTM A325-N BEARING TYPE BOLTS UNLESS NOTED OTHERWISE.

D. BOLTS SHALL BE INSTALLED IN STANDARD SIZE HOLES UNLESS NOTED OTHERWISE. DO NOT USE OVERSIZED HOLES OR SLOTTED HOLES FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE CONTRACT DOCUMENTS OR APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD.

E. ALL WELDING SHALL BE IN ACCORDANCE WITH LATEST AWS CODE. ALL WELDS SHALL USE E70XX ELECTRODES (FU=70 KSI) UNLESS NOTED OTHERWISE. WELDS CONNECTING STEEL DECK TO STRUCTURAL STEEL SUPPORTS SHALL USE E60XX ELECTRODES (60 KSI).

**E. STRUCTURAL STEEL CONTINUED -**

4. STEEL FRAMING CONNECTIONS SHALL BE TIGHTENED AND COLUMNS SHALL BE LEVELED AND GROUTED IN PLACE BEFORE DECKING IS ATTACHED TO FRAMING.

5. ALL COPES, HOLES, OPENINGS AND MODIFICATIONS REQUIRED IN STRUCTURAL STEEL MEMBERS FOR ERECTION OR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE STRUCTURAL STEEL SHOP DRAWINGS AND REQUIRE WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

6. FIELD MODIFICATIONS (HOLES, LENGTH ADJUSTMENTS, ETC.) OF STRUCTURAL STEEL IS PROHIBITED WITHOUT WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

**F. STEEL JOISTS AND STEEL JOIST GIRDERS -**

1. STEEL JOISTS AND STEEL JOIST GIRDERS SHALL BE DESIGNED, MANUFACTURED, AND ERECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE "BUILDING CODE" AND THE LATEST STEEL JOIST INSTITUTE (SJI) SPECIFICATIONS.

A. STEEL JOISTS AND STEEL JOIST GIRDERS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STEEL ERECTION STANDARDS 29-CFR, SUBPART R.

2. STEEL JOISTS SHALL BE FIELD WELDED TO SUPPORTING MEMBERS EXCEPT PROVIDE BOLTED CONNECTIONS IN ACCORDANCE WITH THE STEEL JOIST INSTITUTE SPECIFICATIONS WHERE COLUMNS ARE NOT FRAMED IN TWO DIRECTIONS OR UNLESS OTHERWISE NOTED.

3. ALL BRIDGING SHALL BE PERMANENTLY INSTALLED BEFORE CONSTRUCTION LOADS ARE APPLIED. EACH LINE OF BRIDGING SHALL BE ANCHORED AT ENDS TO WALLS OR BEAMS.

4. TOP AND BOTTOM JOIST CHORDS ARE NOT DESIGNED FOR CONCENTRATED LOADS. PLACE LOADS AT PANEL POINTS OR FIELD WELD L2X2X3/16 AS WEB MEMBER BETWEEN TOP AND BOTTOM CHORDS FROM POINT OF LOAD TO NEAREST PANEL POINT ON OPPOSITE CHORD, SEE DETAIL 4/S-006.

5. STEEL JOIST MANUFACTURER SHALL DESIGN THE STEEL JOIST FOR AN UNFACTORED SERVICE-LEVEL WIND NET UPLIFT PRESSURE OF 56 PSF.

**G. STEEL DECK -**

1. STEEL ROOF AND FLOOR DECKS SHALL COMPLY WITH THE LATEST EDITION OF THE STEEL DECK INSTITUTE (SDI) SPECIFICATIONS.

2. ROOFS (TYP. U.N.O.) - STEEL ROOF DECK SHALL BE 1-1/2 INCH DEEP WIDE RIB STEEL ROOF DECK WITH AN UNCOATED DESIGN THICKNESS OF 0.0358 IN. (20 GAUGE). DECKING SHALL HAVE A MINIMUM YIELD STRENGTH OF 80 KSI, A MINIMUM IP OF 0.201 IN./4FT., A MINIMUM IN OF 0.222 IN./4FT., A MINIMUM SP OF 0.234 IN./3FT., AND A MINIMUM SN OF 0.247 IN./3FT.. DECKING SHALL RECEIVE A G-90 GALVANIZED FINISH PER SPECIFICATION. DECKING SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SUPPORTS. EACH DECK UNIT SHALL BE ATTACHED TO SUPPORTING MEMBERS AND ADJACENT PANELS AS SHOWN ON DETAIL 7/S-006.

3. ALL ROOF DECK OPENINGS GREATER THAN 6 INCHES WIDE MEASURED PARALLEL TO THE SUPPORTING MEMBERS SHALL BE FRAMED WITH FRAMING ANGLES PER DETAILS 1/S-006 AND 2/S-006 UNLESS SHOWN OR NOTED OTHERWISE.

4. LOADS MAY NOT BE DIRECTLY HUNG FROM THE ROOF DECK.

**E. MISCELLANEOUS -**

1. SHOP DRAWINGS SHALL BE ORIGINAL DRAWINGS, PREPARED BY CONTRACTOR, SUBCONTRACTOR, SUPPLIER OR DISTRIBUTOR. REPRODUCTION OF CONTRACT DOCUMENTS AS ERECTION PLANS OR DETAILS WILL NOT BE PERMITTED AND WILL BE REJECTED WITHOUT REVIEW.

2. THE CONTRACTOR SHALL DESIGN AND PROVIDE ALL ITEMS FOR ATTACHING ARCHITECTURAL, MECHANICAL AND ELECTRICAL EQUIPMENT AND ELEMENTS TO THE BUILDING STRUCTURE TO RESIST ALL LOADS INCLUDING SEISMIC LOADS. ATTACHMENT SHALL BE MADE SO AS NOT TO OVERSTRESS THE STRUCTURAL MEMBERS. THE CONTRACTOR SHALL COORDINATE THE ATTACHMENTS AND LOCATIONS OF THE EQUIPMENT AND ELEMENTS AND INCORPORATE THEIR REQUIREMENTS INTO THE STRUCTURAL SHOP DRAWINGS. REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PROCESS DRAWINGS FOR ADDITIONAL REQUIREMENTS.

**E. MISCELLANEOUS CONTINUED -**

3. THE CONTRACTOR SHALL INCLUDE AND PROVIDE THE FOLLOWING SERVICES -

A. VERIFICATION OF ALL DIMENSIONS, ELEVATIONS, OPENING SIZES, AND EQUIPMENT WEIGHTS PRIOR TO STARTING WORK AND INCORPORATE THIS INFORMATION INTO THE PROJECT'S STRUCTURAL SHOP AND ERECTION DRAWINGS.

B. VERIFICATION OF ALL DIMENSIONS, MEMBER SIZES AND CONDITIONS RELATING TO ANY EXISTING BUILDINGS OR SITE FOUNDATIONS.

C. VERIFICATION OF ALL FLOOR SLOPES, DEPRESSIONS, AND OFFSETS WITH ARCHITECTURAL DRAWINGS PRIOR TO THE SUBMITTAL OF REINFORCING SHOP DRAWINGS.

D. REMOVE ALL ABANDONED FOUNDATIONS, UTILITIES, PIPELINES, ETC. THAT MAY INTERFERE WITH THE NEW CONSTRUCTION.

E. REVIEW AND APPROVE ALL SHOP DRAWINGS PRIOR TO SUBMITTAL NOTING CHANGES MADE WHICH DO NOT COMPLY WITH DESIGN DRAWINGS. PRIOR WRITTEN APPROVAL FROM THE ARCHITECT/ENGINEER SHALL BE REQUIRED FOR ALL DEVIATIONS FROM THE DESIGN DOCUMENTS MADE BY THE CONTRACTOR.

F. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY DURING CONSTRUCTION.

4. PLANS, SECTIONS, AND DETAILS SHALL NOT BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.

5. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS, SLEEVES, CURBS, PADS, INSERTS, ETC. NOT SHOWN ON THE ARCHITECTURAL DRAWINGS. BEFORE FABRICATION OF MATERIALS, COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS AND PROVIDE ALL MISCELLANEOUS AND STRUCTURAL ITEMS INDICATED OR REQUIRED TO COMPLETE THE WORK.

6. THE DESIGN DOCUMENTS REFLECT THE FINAL COMPLETED STATE OF STRUCTURAL SYSTEMS AND ELEMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION RELATED ENGINEERING TO INCLUDE BUT NOT BE LIMITED TO CONSTRUCTION MEANS AND METHODS, TEMPORARY SUPPORTS AND BRACING, TEMPORARY USE OF STRUCTURES, PARTIALLY CONSTRUCTED STRUCTURES AND INCOMPLETE STRUCTURES. ALL CONSTRUCTION AND RELATED ENGINEERING SHALL BE IN ACCORDANCE WITH ASCE 37-02; "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION".

7. IN ACCORDANCE WITH UFC 1-200-01 SECTION 2-17, THE CONTRACTOR IS RESPONSIBLE FOR HIRING AN APPROVED INDEPENDENT THIRD PARTY AGENCY TO PROVIDE TESTING AND INSPECTION INDICATED IN THE PROJECT DRAWINGS. SEE THE "STATEMENT OF SPECIAL INSPECTIONS" ON THIS SHEET FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

8. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES TO NOT INTERFERE WITH NAVAL AIR STATION CORPUS CHRISTI OPERATIONS.

	DATE 8 JUN 15
	ISSUED FOR BID
	
	
	
	
APPROVED FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES DPS DRW JGF CHK STW	
PM / DM	
BRANCH MANAGER	
CHIEF ENG / ARCH	
FIRE PROTECTION	
NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST NAVAL AIR STATION JACKSONVILLE CORPUS CHRISTI, TEXAS NAS CORPUS CHRISTI AIRFIELD LIGHTING VAULT GENERAL STRUCTURAL NOTES	
SCALE: NTS	
PROJECT NO.:	
CONSTR. CONTR. NO.:	
NAVFAC DRAWING NO. 15095077	
SHEET 7 OF 54	
S-002	
DRAWING REVISION: 5 APRIL 2012	

FILE NAME: P:\Y08\1641-060\A3\2051\134600\_NAS\_Corpus\_Christi\_Airfield\_Repair\_V01\_DESIGN\00\_DRAWING\134600-03-5-002.dwg LAYOUT NAME: 134600-03-5-002 PLOTTED: Tuesday, June 09, 2015 - 11:40am USER: houn01nj

