

STRUCTURAL ABBREVIATIONS:	
ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
ARCH	ARCHITECTURAL
B	BOTTOM
BLDG	BUILDING
BOTT	BOTTOM
CL	CENTER LINE
CFMF	COLD FORM METAL FRAME
CFS	COLD FORMED STEEL
CIP	CAST IN PLACE
CIPL	CAST-IN-PLACE LINTEL
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COEFF	COEFFICIENT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
COORD	COORDINATE
CSJ	CONSTRUCTION JOINT
CTJ	CONTROL JOINT
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EMBED	EMBEDMENT
EQUIV	EQUIVALENT
ETC	ET CETERA
EW	EACH WAY
EXT	EXTERIOR
FTG	FOOTING
GA	GAUGE
HORIZ	HORIZONTAL
HRS	HOURS
IBC	INTERNATIONAL BUILDING CODE
INT	INTERIOR
Kg	KILOGRAM
KIP	KIPS (1 KIP = 1,000 POUNDS)
kN	KILONEWTON
kPa	KILOPASCAL
L#	ANGLE (# INDICATES SIZE)
LLV	LONG LEG VERTICAL
M	METER
MAX	MAXIMUM
MBM	METAL BUILDING MANUFACTURER
MECH	MECHANICAL
MFG	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MM	MILLIMETER
MPa	MEGAPASCAL
MTL	METAL
MWFRS	MAIN WIND FORCE RESISTING SYSTEM
N	NEWTON
NORTH	NORTH
N/A	NOT APPLICABLE
#	NUMBER SYMBOL FOR REBAR SIZE
NTS	NOT TO SCALE
OC	ON CENTER
OPNG	OPENING
PL	PLATE
PRE-ENG	PRE-ENGINEERED
REINF	REINFORCED
REQ'D	REQUIRED
SIM	SIMILAR
SPECS	SPECIFICATIONS
STD	STANDARD
STRUCT	STRUCTURAL
SW	SHEAR WALL
T	TOP
T/ELEV	TOP OF
T&B	TOP ELEVATION
THK	TOP AND BOTTOM
THK	THICK
TM	TRADE MARK
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W	WIDTH
W/	WITH

GENERAL NOTES

- THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS AND MATERIALS INDICATED ON THE SHEETS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGING, BRACING, SHEETING AND SHORING, ETC.
- COORDINATE THESE SHEETS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL SHEETS. ALL DIMENSIONS SHOWN ON THE SHEETS ARE MILLIMETERS UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL FLOOR AND ROOF OPENING SIZES AND LOCATIONS, EQUIPMENT PAD SIZES AND LOCATIONS, ANCHOR BOLT LAYOUTS, ETC WITH EQUIPMENT SELECTED. THE CONTRACTOR SHALL MAKE ANY REQUIRED MODIFICATIONS AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING SHEETS FOR SLEEVES, CURBS, INSERTS OR OPENINGS, ETC. NOT HEREIN INDICATED.
- SLAB OPENINGS SMALLER THAN 250mm DIA TO BE CORE DRILLED IN FIELD UON. SEE MECHANICAL, ELECTRICAL AND PLUMBING SHEETS FOR LOCATIONS OF THESE OPENINGS.
- WORK NOT INCLUDED ON THE SHEETS BUT IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES ELSEWHERE ON THE SHEETS SHALL BE REPEATED.
- IN CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS THE MOST RIGID REQUIREMENTS SHALL GOVERN.
- SEE ARCHITECTURAL SHEETS FOR LOCATIONS OF MASONRY AND DRYWALL NON-LOAD BEARING PARTITIONS. PROVIDE COMPRESSIBLE FIRESAFING AT TOP OF WALL AS REQUIRED BY ARCHITECTURAL SHEETS.
- COORDINATE FINISHED FLOOR DATUM ELEVATION 0.0m WITH THE CIVIL SHEETS.
- FOUNDATION NOTES**
- THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED ON SHEET S2 SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.
- SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS TO THOSE OUTLINED IN THE GEOTECHNICAL INVESTIGATION FOR EXCAVATION AND PREPARATION OF THE FOUNDATION AND THE SLAB ON GRADE SUBGRADE INCLUDING COMPACTION PROCEDURES.
- EXCAVATIONS FOR FOOTINGS SHALL HAVE THE SIDES AND BOTTOMS TEMPORARILY LINED WITH 0.25mm POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HRS OF THE EXCAVATION OF THE FOOTING.
- FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE GENERAL CONTRACTOR BEFORE FURTHER CONSTRUCTION IS ATTEMPTED. SEE PROJECT SPECIFICATIONS.
- NO FOOTINGS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL. FROST DEPTH ASSUMED TO BE 800MM
- ALL SLAB-ON-GRADE, TRENCH BOTTOMS AND OTHER ON-GRADE INTERIOR HORIZONTAL SURFACES SHALL BE PLACED OVER A 0.25mm VAPOR RETARDER OVER A 100mm #57 STONE WATER BARRIER PLACED ON SUBGRADE PROPERLY PREPARED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. (UON)
- SEE PLUMBING, ELECTRICAL & CIVIL SHEETS FOR REQUIRED UNDERSLAB UTILITIES. SEE ARCHITECTURAL SHEETS FOR ALL WATERPROOFING DETAILS AND MATERIALS.
- IF UNDERMINING OF FOOTINGS OCCURS, FILL VOIDS WITH 15MPa CONCRETE. DO NOT ATTEMPT TO REPLACE AND RECOMPACT SOIL.
- CONCRETE**
- CONCRETE SHALL HAVE THE UNIT WEIGHT AND THE MINIMUM COMPRESSIVE STRENGTHS (f'c) AT 28 DAYS AS SHOWN IN THE CONCRETE MATERIALS SCHEDULE ON THIS SHEET. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. ENTRAIN AIR TO PRODUCE TOTAL AIR CONTENT ACCORDING TO THE SPECIFICATIONS FOR CONCRETE EXPOSED TO FREEZING TEMPERATURES (EXTERIOR FOOTINGS, SLAB TURNDOWNS, EXTERIOR SLABS AND SLABS-ON-GRADE, EXTERIOR RETAINING WALLS, AND EXTERIOR GRADE BEAMS.)
- GROUT FOR BASE PLATES SHALL BE NON-SHRINKABLE GROUT AND SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH AT 28 DAYS OF 35MPa, UNLESS NOTED OTHERWISE.
- NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
- MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO ACI 301M-05.
- ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318M MANUAL (metric), "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND REQUIREMENTS OUTLINED IN THE CONTRACT SPECIFICATIONS. WHEN THERE IS A CONFLICT BETWEEN ACI AND THE SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN.
- CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 20mm x45 DEGREE CHAMFER UON.
- CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615M, GRADE 420, REINFORCING BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT, UNLESS INDICATED ON THE CONTRACT DOCUMENTS. ALL LAP SPLICES SHALL BE CLASS "B" UON.
- HORIZONTAL FOOTING AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL HAVE 90 DEGREE BENDS AND EXTENSIONS, OR CORNER BARS OF EQUIVALENT SIZE LAPPED WITH A CLASS B TENSION SPLICE AT CORNERS AND INTERSECTIONS. TOP BAR CRITERIA SHALL APPLY IF 300mm OR MORE OF FRESH CONCRETE IS PLACED BELOW BAR.
- SLABS-ON-GRADE SHALL HAVE CONSTRUCTION JOINTS OR CRACK CONTROL JOINTS AS SHOWN ON THE SHEETS. CONSTRUCTION JOINTS CAN BE USED AT CONTROL JOINT LOCATIONS AT CONTRACTORS OPTION. SEE SLAB PLANS & JOINT DETAILS FOR ADDITIONAL INFORMATION. FOR AREAS NOT SHOWN ON THE SHEETS, THE MAXIMUM SPACING OF CONSTRUCTION/ CRACK CONTROL JOINTS SHALL BE 4800 mm.

- SEE SPECIFICATIONS FOR ALL WATERPROOFING/DAMP-PROOFING REQUIREMENT.
- ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318M, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315M, LATEST EDITION.
- SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.
- ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS NOTED OTHERWISE ON THE SHEETS.
- ADDITIONAL BARS SHALL BE PROVIDED AROUND ALL FLOOR AND WALL OPENINGS AS SHOWN ON THE SHEETS.
- SEE ARCHITECTURAL SHEETS FOR TYPE AND LOCATION OF ALL FLOOR FINISHES.
- THE CONTRACTOR SHALL COORDINATE ADDITIONAL WALL/SLAB OPENINGS NOT SHOWN ON STRUCTURAL SHEETS. SEE MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL SHEETS.
- THE SUB-CONTRACTOR SHALL VERIFY ALL OPENINGS, PAD SIZES, AND ANCHOR BOLTS WITH EQUIPMENT SELECTED.
- FOR ALL WALLS & PIERS, PROVIDE DOWELS INTO FOOTING AT EACH VERT REINF BAR, UON DOWEL SIZE SHALL BE SAME AS VERT REINF.
- ALL REINFORCING INDICATED TO BE WELDED SHALL BE IN ACCORDANCE WITH ASTM A706M. "LOW ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT". ANY INSTALLATIONS USING MANUFACTURER'S EQUIPMENT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE CONCRETE POUR STOPS OR FORMED AS REQUIRED FOR INSTALLATION OF ALL CONCRETE WORK.
- PROVIDE ADDITIONAL (2)-#13 x 600mm REINFORCING BARS IN SLAB-ON GRADE AT ALL RE-ENTRANT CORNERS. PLACE BARS AT MID-DEPTH OF SLAB WITH A CLEARANCE OF 50mm FROM CORNER UON.
- CONCRETE MASONRY**
- MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF THESE CONTRACT DOCUMENTS AND THE PROJECT SPECIFICATIONS.
- THE SPECIFIED ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE MASONRY (f'm) ON THE NET AREA IS A MINIMUM OF 10.4 MPa.
- PROVIDE TWO #16 BARS CONTINUOUS IN ALL CMU AND CAST-IN-PLACE BOND BEAMS UON ON THE SHEETS. BOND BEAMS SHALL BE CONTINUOUS AND SPACED AT A MAXIMUM OF 1200mm OC VERTICALLY. PROVIDE BOND BEAM STARTER COURSE AT BOTTOM OR FIRST COURSE ON ALL MASONRY WALLS AND PARTITIONS. ALL BOND BEAMS SHALL BE A MINIMUM OF 200mm IN DEPTH WITH REINFORCING BEING CONTINUOUS AND HAVING STANDARD ACI 180° HOOKS AT EACH END. PROVIDE STANDARD BAR SPLICES AS SPECIFIED.
- FOR WALL REINFORCING, SEE DETAIL 7 ON SHEET S5
- CMU CELLS THAT REQUIRE VERTICAL REINFORCING BARS AS INDICATED ON THE CONTRACT DRAWINGS AND/OR SPECS SHALL HAVE REINF BARS PLACED IN CENTERS OF CMU CELLS AND CONTINUOUSLY GROUTED UON.
- PROVIDE LADDER TYPE JOINT REINFORCEMENT AT (200mm EXTERIOR & 400mm INTERIOR) ON CENTER MAXIMUM UON MINIMUM ROD SIZE USED SHALL BE 9 GA. DEFORMED WIRE AND CONFORM TO ASTM A82M, UON.
- PROVIDE CONTROL JOINTS AS INDICATED ON THE ARCHITECTURAL SHEETS.
- GROUT FOR MASONRY SHALL BE NORMAL WEIGHT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa AT 28 DAYS. GROUT SHALL CONFORM TO ASTM C476M. GROUT LIFTS SHALL NOT EXCEED 1400mm.
- USE MORTAR TYPE S CONFORMING TO ASTM C270M, SEE SPECIFICATIONS.
- CONCRETE MASONRY UNITS SHALL BE NORMAL WEIGHT AND CONFORM TO ASTM C90M.
- ALL CMU CELLS, OPEN CAVITIES, AND AIR SPACES SHALL BE GROUTED TO STOP FRAGMENTS FROM MORTAR BLAST
- BOND BEAM REINFORCING SHALL BE DISCONTINUOUS AT CONTROL JOINTS (UON). MAXIMUM CONTROL JOINT SPACING SHALL BE AS INDICATED ON THE ARCHITECTURAL SHEETS.
- CONTRACTOR SHALL COORDINATE LOCATION OF ALL OPENINGS SEE ARCH, MECH, ELEC, AND PLUMBING SHEETS. FOR SIZE AND LOCATION OF OPENINGS.
- MASONRY WALLS SHALL NOT BE BACK FILLED PRIOR TO THE MORTAR AND GROUT ATTAINING THEIR RESPECTIVE MAXIMUM DESIGN STRENGTHS PER SPECIFICATIONS.

- CFMRF - COLD FORM METAL ROOF FRAMING SYSTEM**
- CFMF SHALL BE DESIGNED BY CFMF MANUFACTURER'S ENGINEER FOR ALL LOADING PER CODE AND AS INDICATED ON THE SHEETS.
- FOR WIND LOADS, SEE THE DESIGN CRITERIA ON SHEET S2.
- SUBMIT VENDOR'S PUBLISHED LITERATURE, TEST DATA AND INSTALLATION INSTRUCTIONS FOR METAL STUD ASSEMBLY AND ACCESSORIES INCLUDING OTHER DATA AS MAY BE REQUIRED TO CERTIFY COMPLIANCE WITH PERFORMANCE REQUIREMENTS SPECIFIED HEREIN.
- SHOP DRAWINGS AND DESIGN ANALYSIS SHALL BE STAMPED AND APPROVED BY A LICENSED PROFESSIONAL ENGINEER. CONNECTIONS AND GAUGE SIZES ARE MINIMUM AND SHALL BE INCREASED AS NECESSARY TO PROVIDE A STRUCTURALLY ADEQUATE SYSTEM. KICKERS MAY BE ADDED TO REDUCE THE STUD HEIGHTS WHERE ACCEPTABLE AND COORDINATED WITH THE ARCHITECTURAL DRAWINGS.
- CFMRF SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

STUD/RAFTER/EAVE STRUT:
 Fy = 344 MPa
 GAUGE = 18
 DEPTH = 152.3 mm
 WIDTH = 34.8 mm
 MOMENT OF INERTIA, Ix = 847x10³ mm⁴
 SECTION MODULUS, Sx = 11.2x10³ mm³

TRACK:
 Fy = 344 MPa
 GAUGE = 16
 DEPTH = 152.3 mm
 WIDTH = 38 mm
 MOMENT OF INERTIA, Ix = 1083x10³ mm⁴
 SECTION MODULUS, Sx = 13.8x10³ mm³

PURLIN:
 Fy = 393 MPa
 GAUGE = 16
 MOMENT OF INERTIA (TOP COMPRESSION), Ixt = 23.7x10³ mm⁴
 MOMENT OF INERTIA (BOTT COMPRESSION), Ixb = 22.7x10³ mm⁴
 SECTION MODULUS (TOP COMPRESSION), Sxt = 1.8x10³ mm³
 SECTION MODULUS (BOTT COMPRESSION), Sxb = 1.7x10³ mm³

STRUCTURAL ELEMENT	f'c CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS (MPa)
SLAB-ON-GRADE/TURN-DOWN SLABS	28
ROOF AND FLOOR SLABS	28
ALL FOOTINGS (UON)	28
MISC. CURBS, WALLS AND PADS UON	28
CAST-IN-PLACE LINTEL	28

BAR SIZE	BASIC LAP SPLICE Ld FOR CMU REINFORCING(mm)
#10	450
#13	600
#16	750

- NOTES:**
- ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE. (2400 Kg/m³ UON)
 - ALL CONCRETE SHALL HAVE A WATER-CEMENT RATIO OF 0.45.

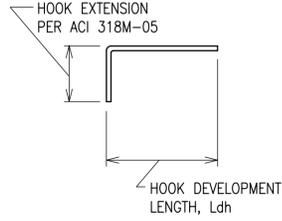
MINIMUM LAP SPLICES OF REINFORCING BARS IN TENSION (PER ACI 318M-05)

BAR SIZE	f'c = 28 MPa CONCRETE				
	CENTER TO CENTER BAR SPACING	(--TOP BARS--)		(--OTHER BARS--)	
		LESS THAN 4db	4db OR MORE	LESS THAN 4db	4db OR MORE
#10	460	460	410	410	40
#13	660	610	510	480	50
#16	1020	760	790	580	60

- NOTES:**
- LAP SPLICES ABOVE ARE IN MILLIMETERS UON.
 - YIELD STRENGTH OF REINFORCEMENT, fy, IS 420MPa (LAP SPLICE LENGTH IS IN MILLIMETERS).
 - CONCRETE IS NORMAL WEIGHT (2400Kg/m³).
 - TOP BAR INDICATES HORIZONTAL REINFORCEMENT WHICH IS PLACED ABOVE 300mm OR MORE OF FRESH CONCRETE.
 - SEE COLUMN SCHEDULE FOR COLUMN AND SHEAR WALL VERTICAL LAP SPLICE.
 - STRAIGHT DEVELOPMENT LENGTH OF AN UNLAPPED BAR IS EQUAL TO VALUE FROM TABLE DIVIDED BY 1.3. CATEGORY FOR BARS SPACED LESS THAN 4d, OR ON CENTER CORRESPONDS TO CATEGORY 1 IN THE CRSI HANDBOOK WHEREAS FOR BARS SPACED 4d, OR MORE ON CENTER CORRESPOND TO CRSI CATEGORY 5.

STANDARD HOOKS IN TENSION PER (ACI 318M-05)

BAR SIZE	f'c 28 MPa
#10	180
#13	250
#16	300
#19	380
#22	430
#25	480
#29	560
#32	610
#36	690



- NOTES:**
- CONCRETE IS NORMAL WEIGHT CONCRETE.
 - BAR YIELD STRENGTH, fy = 420 MPa
 - SIDE COVER REQUIREMENTS OF ACI SECT. 12.5.3 ARE ASSUMED TO NOT BE MET.
 - TIE OR STIRRUP REQUIREMENTS OF ACI SECT. 12.5.3 ARE ASSUMED TO NOT BE MET.
 - REDUCTION FOR EXCESS REINFORCEMENT IS NOT TAKEN.
 - HOOK DEVELOPMENT LENGTH IS VALID FOR 180° HOOKS ALSO.



DATE	DESCRIPTION	SYMBOL

DESIGNED BY: DATE: 09-30-09
 GDH
 SUBMITTED BY: BAKER
 MDB
 FILE NO.: ANPDS-001XXX
 CWV
 Michael Baker Jr. Inc.
 A Unit of Michael Baker Corporation
 1000 Business Park
 Moon Township, PA 15108
 www.mbakercorp.com

AFGHAN NATIONAL POLICE
 STANDARD DESIGN
 WELL HOUSE
 GENERAL NOTES

SHEET REFERENCE NUMBER:
S1

STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AS APPLICABLE

1.0 DESIGN LOADS

1.1 DEAD LOADS

1.1.1 ROOF DEAD LOADS – CONVENTIONAL FRAMING

	MAXIMUM GRAVITY LOAD	MINIMUM GRAVITY LOAD
LIGHT GAUGE FRAMING	0.20 KPa	0.15 KPa
METAL ROOFING	0.14 KPa	0.05 KPa
INSULATION	0.10 KPa	0.05 KPa
MISC	0.05 KPa	0.00 KPa
	0.49 KPa	0.25 KPa

1.1.2 ROOF DEAD LOADS – CONCRETE FRAMING

	MAXIMUM GRAVITY LOAD
CONC FLAT SLAB	4.80 KPa
MECH/ELEC/PLUMBING	0.15 KPa
MISC	0.05 KPa
	5.00 KPa

1.2 LIVE LOADS (PER IBC 2006)

1.2.1 ROOF LIVE LOADS: ALL BUILDINGS

GREATER OF 1.0 KPa MINIMUM OR SNOW LOAD

1.2.2 SLAB-ON-GRADE LIVE LOADS

ALL BUILDINGS 4.80 KPa

1.3 SNOW LOADS (PER IBC 2006)

1.3.1 DESIGN PARAMETERS

GROUND SNOW LOAD (per UFC 3-310-01)	PER LOCAL CONDITION
SNOW IMPORTANCE FACTOR	1.0 KPa
SNOW EXPOSURE FACTOR	1.0 KPa

1.4 SEISMIC LOADS (PER IBC 2006 & UFC 3-310-04)

1.4.1 SEISMIC PARAMETERS – LOAD BEARING MASONRY

SEISMIC OCCUPANCY CATEGORY	II
SEISMIC IMPORTANCE FACTOR (I)	1.0
SEISMIC SITE CLASS	D
Ss	1.280
S1	0.510
Sds	0.853
Sd1	0.510
SEISMIC DESIGN CATEGORY	D
SEISMIC RESISTING SYSTEM	BEARING WALL SYSTEM
	SPECIAL REINF MASONRY SHEAR WALLS
RESPONSE MODIFICATION FACTOR (R)	5.0
RESPONSE COEFFICIENT (Cs)	0.17
SEISMIC ANALYTICAL PROCEDURE	EQUIV LATERAL FORCE
SEISMIC BASE SHEAR	49 kN

1.6 WIND LOADS (PER IBC 2006)

1.6.1 DESIGN PARAMETERS

BASIC WIND SPEED	137 Km/h
WIND IMPORTANCE FACTOR	1.0
WIND EXPOSURE CATEGORY	D
DIRECTIONALITY COEFFICIENT (Kd)	0.85
TOPOGRAPHIC FACTOR (Kzt)	1.0

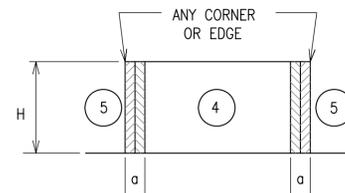
1.6.2 DESIGN WIND PRESSURE – MAIN WINDFORCE RESISTING SYSTEM

LOCATION	CORNER ZONE WIDTH "a"	MEAN ROOF HEIGHT (h)	WINDWARD WALL (@ MEAN ROOF HEIGHT)	LEEWARD WALL (@ MEAN ROOF HEIGHT)	ROOF
FIELD ZONE	N/A	3890mm	582 N/m ²	-463 N/m ²	-803 N/m ²
CORNER ZONE	900mm	3890mm	883 N/m ²	-689 N/m ²	-1244 N/m ²

a = 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 0.9M.
h = MEAN ROOF HEIGHT, IN METERS, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ANGLE GREATER THAN 10°.

1.6.3 DESIGN WIND PRESSURE – WALL COMPONENTS AND CLADDING

EXTERIOR WALL SYSTEMS & THEIR ATTACHMENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE DIAGRAM BELOW:



LOCATION	WINDWARD PRESSURE N/m ² (inward)		LEEWARD PRESSURE N/m ² (outward)		a
	④	⑤	④	⑤	
MAIN BUILDING					(mm)
AREA = 1 m ²	627	627	-986	-1216	900
AREA = 2 m ²	589	589	-948	-1134.8	900
AREA = 5 m ²	565	565	-910	-1086.9	900
AREA = 10 m ²	565	565	-910	-1086.9	900

NOTES:

- DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
- PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

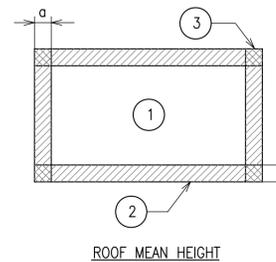
MASONRY CONCRETE LINTEL SCHEDULE

OPENING TYPE OR SIZE, BEAM LOCATION OR TYPE	MAX SPAN (mm)	BEAM DEPTH (mm)	MAIN REINFORCING			SHEAR REINF STIRRUPS
			TOP	BOTTOM	OTHER	
EXT WINDOW OR DOOR	900	400	(2)-#13	(2)-#13		----
INT WALL OPENING, NON-BEARING	1800	400	(2)-#13			----
INT WALL OPENING, NON-BEARING	900	200	(2)-#13			----

- STRUCTURAL DRAWINGS DO NOT INDICATE ALL OPENINGS IN MASONRY WALLS. VERIFY NUMBER, SIZE AND LOCATION OF ALL OPENINGS IN MASONRY WALLS FROM ARCHITECTURAL SHEETS AND APPROVED PLUMBING, MECHANICAL, AND ELECTRICAL SHOP DRAWINGS.
- PROVIDE 200mm BEARING EA END FOR 200mm DEEP CMU LINTEL PROVIDE 400mm BEARING EA END FOR 400mm DEEP CIPL.
- FOR HEAD DETAILS REFER TO ARCHITECTURAL SHEETS.
- REINFORCING SHALL BE ASTM A615M, GRADE 400. CONCRETE FOR CAST-IN-PLACE BEAMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa AT 28 DAYS.
- CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS AND SCHEDULES SHOWING SIZE, DETAILS, LOCATIONS, ETC FOR ALL CAST-IN-PLACE BEAMS IN CMU WALLS.

1.6.4 DESIGN WIND PRESSURE – ROOF COMPONENTS AND CLADDING

ROOF COMPONENTS & THEIR ATTACHMENTS SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE ADJACENT DIAGRAM & TABLE BELOW:



1.6 WIND LOADS (CON'T)

LOCATION	GROSS UPLIFT PRESSURE N/m ² (upward)			a
	①	②	③	
MAIN BUILDING				(mm)
AREA = 1 m ²	-838	-1460	-1460	900
AREA = 2 m ²	-838	-1460	-1460	900
AREA = 5 m ²	-838	-1460	-1460	900
AREA = 10 m ²	-838	-1460	-1460	900

NOTES:

- DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
- PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

2.0 FOUNDATION DESIGN CRITERIA (TO BE CONFIRMED BY THE CONTRACTOR)

THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED BELOW SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.

2.1.1 SOIL DESIGN PARAMETERS

NET ALLOWABLE SOIL BEARING CAPACITY	96.0 KPa
UNIT WEIGHT OF SOIL (moist)	1800 Kg/m ³
COEFF ACTIVE EARTH PRESSURE (Kpa)	0.30
COEFF PASSIVE EARTH PRESSURE (Kpp)	3.33
COEFF AT-REST EARTH PRESSURE (Kpr)	.55
COEFF OF SOIL FRICTION	.35
SUBGRADE MODULUS	4120 g/m ³
MINIMUM BEARING DEPTH BELOW GRADE	800mm
SEISMIC SITE CLASS (based on in-situ soil)	D

CONCRETE COVER SCHEDULE

MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS: (SEE ACI 318M-05, SECTION 7.7 FOR CONDITIONS NOT NOTED). DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE. DIMENSIONS ARE IN mm.

FOOTINGS (EARTH FORMED)	70
COLUMNS / PIERS (TO TIES)	40
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOP	40
BOTTOM (EARTH FORMED)	70
SIDES (EARTH FORMED)	70
SIDES (BOARD FORMED)	40
	#16 BAR & SMALLER
	#19 THRU #36 BAR
ELEVATED BEAMS & SLABS:	
BEAM TIES & STIRRUPS (NOT EXPOSED TO WEATHER)	40
BEAM TIES & STIRRUPS (EXPOSED TO WEATHER)	50
FLOOR SLABS (NOT EXPOSED TO WEATHER)	20
FLOOR SLABS (EXPOSED TO WEATHER)	
#19 & LARGER	50
#13 & SMALLER	40
ROOF SLAB BARS	25
SLABS-ON-GRADE (NO EXPOSURE TO WEATHER) FROM TOP	20
SLABS-ON-GRADE (EXPOSURE TO WEATHER) FROM TOP	40
UTILITY TUNNEL WALLS, RETAINING WALLS AND SHEAR WALLS, (NO SURFACES SHALL BE EARTH FORMED)	
EARTH SIDE AND FRONT SIDE (EXPOSED TO WEATHER):	
#16 BAR AND SMALLER	40
#19 THRU #36 BAR	50
PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED.	

US Army Corps of Engineers
Afghanistan Engineer District

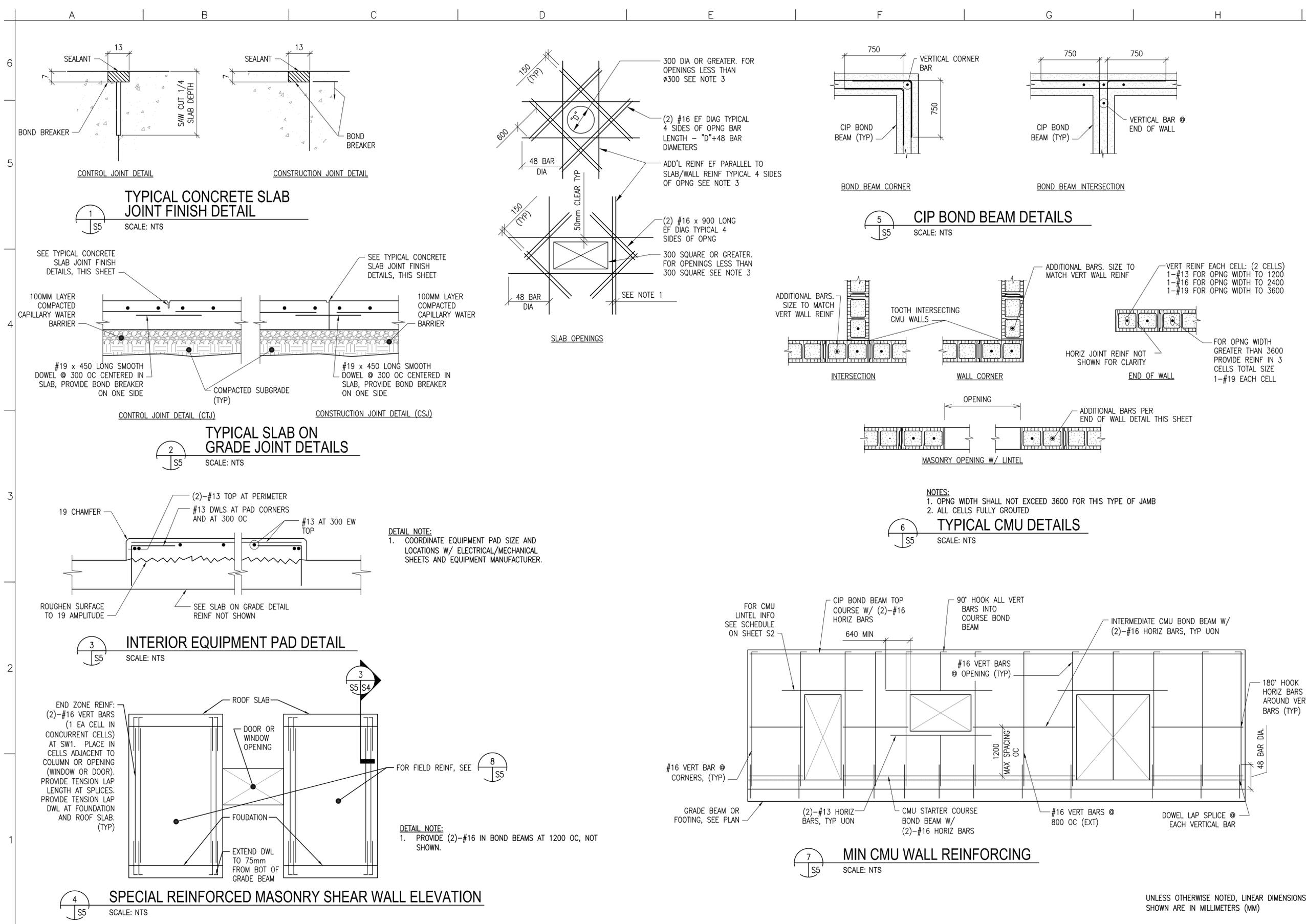
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DESIGNED BY: GDH	DATE: 09-30-09
DWN BY: MDB	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANPSDS-002XXX

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STANDARD DESIGN
WELL HOUSE
DESIGN CRITERIA & SCHEDULES

SHEET REFERENCE NUMBER:
S2



DATE	DESCRIPTION	SYMBOL
APR		

DESIGNED BY: GDH	DATE: 09-30-09
DWN BY: RCG	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANPSDS-505XXX

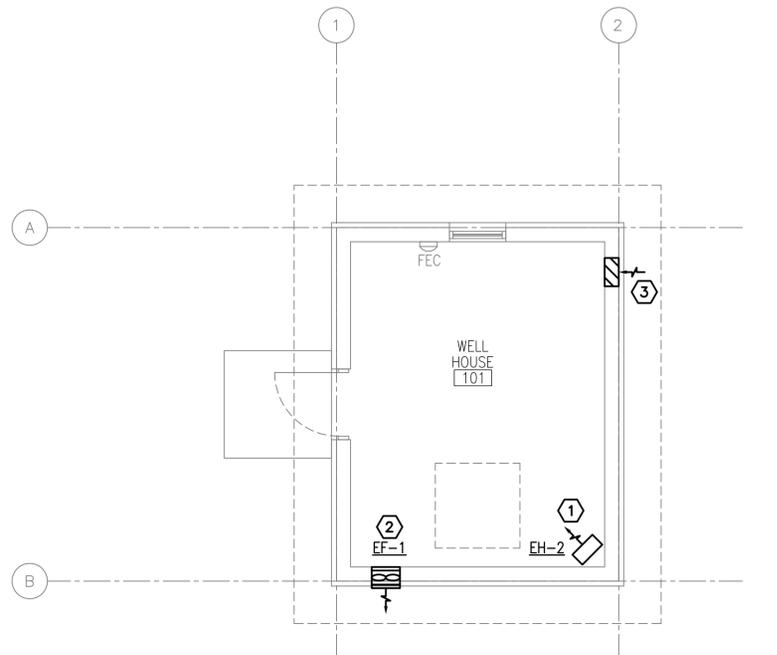
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1400 Spring House Road
100 Spring House, PA 15108
www.mbakercorp.com

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STANDARD DESIGN
WELL HOUSE

TYPICAL DETAILS

SHEET REFERENCE NUMBER:
S5

100% SUBMISSION



1
M1 | M1 HVAC PLAN
SCALE: 1:50

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS – ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
2. ALL WORK PERFORMED ON THIS BUILDING SHALL BE IN COMPLIANCE WITH ALL PERTINENT CODES, RULES, ORDINANCES AND REGULATIONS OF THE GOVERNING AUTHORITIES.
3. ALL WORK PERFORMED UNDER AND IN CONNECTION WITH THESE DRAWINGS AND SPECIFICATIONS SHALL BE IN STRICT COMPLIANCE WITH THE LATEST SAFETY AND HEALTH STANDARDS.

NUMBERED NOTE:

- ① CORROSION RESISTANT ELECTRIC UNIT HEATER SUSPENDED FROM STRUCTURE ABOVE.
- ② CORROSION RESISTANT WALL MOUNTED EXHAUST FAN.
- ③ 200x400 (8x16) LOW LEAKAGE GRAVITY WALL LOUVER FOR INTAKE. PROVIDE WEATHER PROOF LOUVER W/0.05mm (2") WASH DOWN FILTER AND SAND TRAP.

ELECTRIC UNIT HEATER SCHEDULE

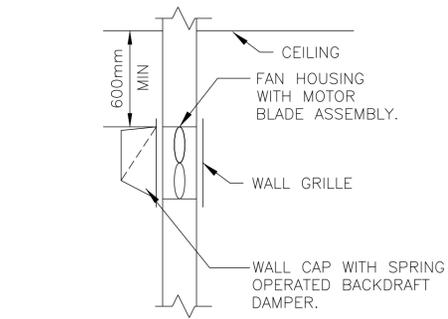
NO.	CMS	KW	F.A.T. °C	ELECT. CHAR.	MOUNTING
EH-2	.200	2.6	33	370/1/50	CEILING

- NOTES:
1. HEATERS SHALL BE CORROSION RESISTANT

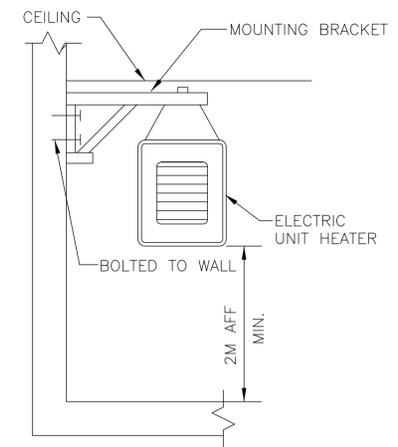
EXHAUST FAN SCHEDULE

NO.	TYPE	FAN CMS	DRIVE	HP	SP mmH2O	ELECT. CHAR.	SWITCH
EF-1	WALL	0.100	DIRECT	FRACT	13	220/1/50	⊙ WALL

- NOTES:
1. WALL MOUNTED EXHAUST FAN MOUNT AT 600mm BELOW CEILING.
2. FANS SHALL HAVE LOW LEAKAGE GRAVITY LOUVER AND SECURITY GRILLE.
3. FANS SHALL BE EXPLOSION PROOF.



WALL MOUNTED EXHAUST FAN DETAIL
N.T.S.



ELECTRIC UNIT HEATER MOUNTING
N.T.S.

US Army Corps of Engineers
Afghanistan Engineer District

SYMBOL	DESCRIPTION	DATE

DESIGNED BY: DATE: 09-30-09
RML
SUBMITTED BY: BAKER
OWN BY: JUN
CHK BY: CJM
FILE NO.: ANPSDM-101XXX

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HVAC PLAN

SHEET REFERENCE NUMBER:
M1

100% SUBMISSION

A B C D E F G H

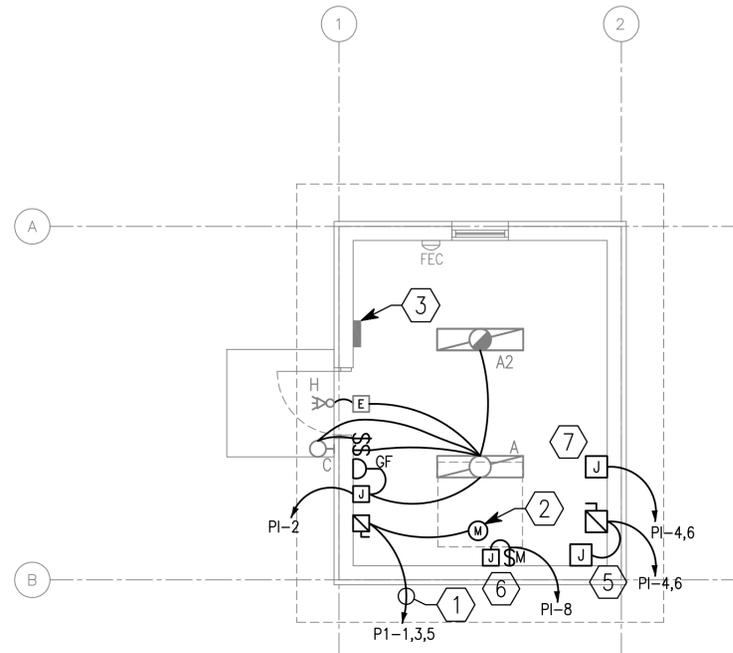
6
5
4
3
2
1

GENERAL NOTES:

1. REFER TO DRAWING #E0 FOR THE ELECTRICAL SYMBOLS LIST.
2. EXIT SIGNS SHALL BE WIRED AHEAD OF ANY LOCAL SWITCHING ON CIRCUITS.
3. REFER TO DRAWING #E3 FOR THE LIGHTING FIXTURE SCHEDULE.
4. REFER TO DRAWING #E2 FOR THE POWER RISER.
5. REFER TO DRAWING #E4 FOR PANEL SCHEDULES.
6. LIGHT FIXTURES INDICATED AS EMERGENCY SHALL BE PROVIDED WITH A BATTERY BACKUP BALLAST.

NUMBERED NOTE:

- ① REFER TO RISER DIAGRAM FOR FEEDER SIZE.
- ② WELL WATER PUMP.
- ③ PANEL P1
- ④ 3 4mm + 1 4mm GND. IN 20mm C.
- ⑤ PROVIDE POWER CONNECTION TO ELECTRIC UNIT HEATER #2. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
- ⑥ PROVIDE POWER CONNECTION TO EXHAUST FAN. SEE DRAWINGS #E5 AND #M1 FOR MORE INFORMATION.
- ⑦ PROVIDE POWER CONNECTION TO CHLORINATION UNIT. COORDINATE FINAL LOCATION IN THE FIELD.



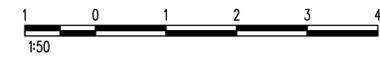
1
E1 E1

LIGHTING AND POWER PLAN

SCALE: 1:50



UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)



SYMBOL	DESCRIPTION	DATE

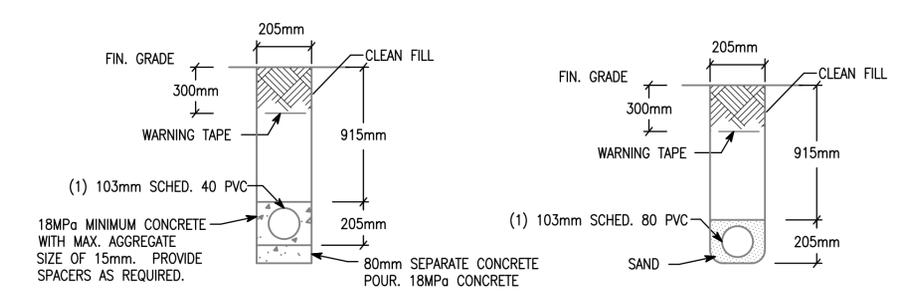
DESIGNED BY: JRG	DATE: 09-30-09
DWN BY: JRG	SUBMITTED BY: BAKER
CHK BY: JRG	FILE NO: ANPSDE-101XXX

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AFGHAN NATIONAL POLICE
STANDARD DESIGN
WELL HOUSE
LIGHTING AND POWER PLAN

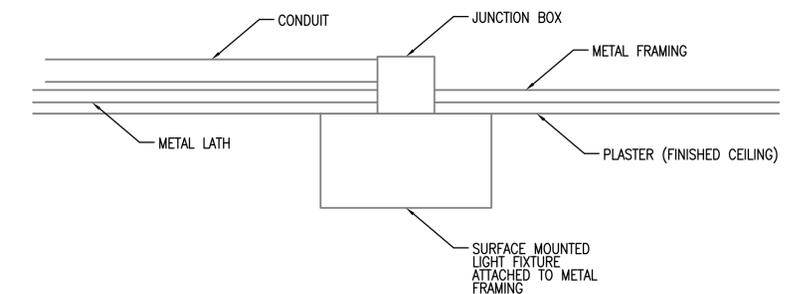
SHEET
REFERENCE
NUMBER:
E1

100% SUBMISSION

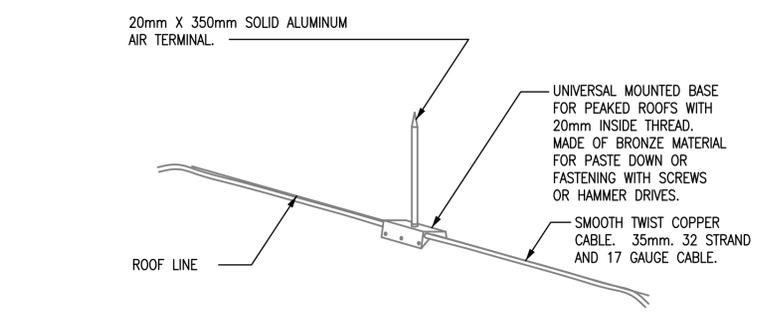


NOTE: PVC CONDUIT SHALL BE DIRECT BURIED SCHEDULE 80 FOR NO TRAFFIC AREAS AND CONCRETE-ENCASED SCHEDULE 40 FOR UNDER ROADWAYS OR TRAFFIC AREAS.

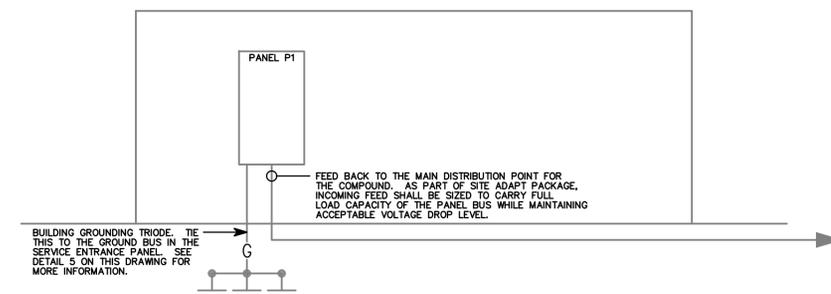
1 TYPICAL DUCT BANK DETAILS FOR CONDUIT IN SAND OR CONCRETE
SCALE: N.T.S.



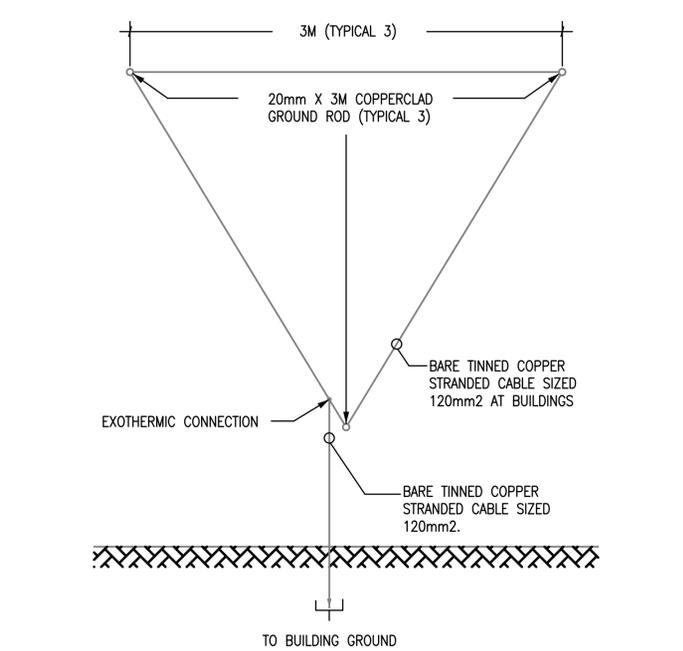
2 TYPICAL DETAIL FOR SURFACE MOUNTED LIGHT FIXTURES
SCALE: N.T.S.



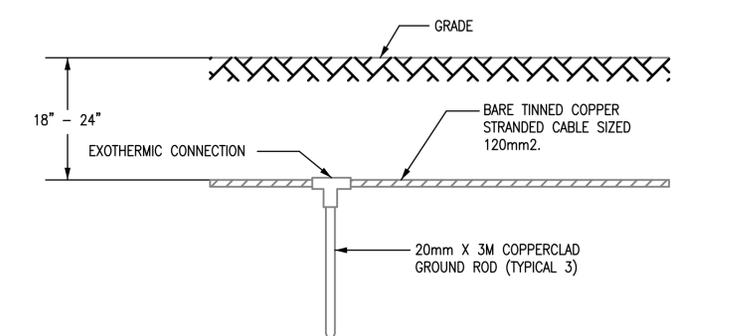
3 LIGHTNING PROTECTION AIR TERMINAL DETAIL
SCALE: N.T.S.



4 WELLHOUSE RISER DIAGRAM
SCALE: N.T.S.



5 GROUND TRIPOD SYSTEM DETAIL - PLAN
SCALE: N.T.S.



6 GROUND TRIPOD SYSTEM DETAIL - ELEVATION
SCALE: N.T.S.

US Army Corps of Engineers
Afghanistan Engineer District

NO.	SYMBOL	DESCRIPTION	DATE

DESIGNED BY:	JRG	DATE:	09-30-09
DWN BY:	JRG	SUBMITTED BY:	BAKER
CHK BY:	JRG	FILE NO.:	ANPSDE-502XXX

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AFGHAN NATIONAL POLICE
STANDARD DESIGN
WELL HOUSE
DETAILS

SHEET REFERENCE NUMBER:
E2

100% SUBMISSION

STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AS APPLICABLE

1.0 DESIGN LOADS

1.1 DEAD LOADS

1.1.1 ROOF DEAD LOADS – CONVENTIONAL FRAMING

	MAXIMUM GRAVITY LOAD	MINIMUM GRAVITY LOAD
LIGHT GAUGE FRAMING	0.20 KPa	0.15 KPa
METAL ROOFING	0.14 KPa	0.05 KPa
INSULATION (batt)	0.10 KPa	0.05 KPa
MISC	0.05 KPa	0.00 KPa
	0.49 KPa	0.25 KPa

1.1.2 ROOF DEAD LOADS – CONCRETE FRAMING

	MAXIMUM GRAVITY LOAD
CONC FLAT SLAB	4.80 KPa
MECH/ELEC/PLUMBING	0.15 KPa
MISC	0.05 KPa
	5.00 KPa

1.2 LIVE LOADS (PER IBC 2006)

1.2.1 ROOF LIVE LOADS: ALL BUILDINGS

GREATER OF 1.0 KPa MINIMUM OR SNOW LOAD

1.2.2 ELEVATED FLOOR UNIFORM LIVE LOADS

GUARD TOWER 4.80 KPa

1.2.3 SLAB-ON-GRADE LIVE LOADS

ALL BUILDINGS 4.80 KPa

1.3 SNOW LOADS (PER IBC 2006)

1.3.1 DESIGN PARAMETERS

GROUND SNOW LOAD (per UFC 3-310-01)	PER LOCAL CONDITION
SNOW IMPORTANCE FACTOR	1.0 KPa
SNOW EXPOSURE FACTOR	1.0 KPa

1.4 SEISMIC LOADS (PER IBC 2006 & UFC 3-310-04)

1.4.1 SEISMIC PARAMETERS – LOAD BEARING MASONRY

SEISMIC OCCUPANCY CATEGORY	II
SEISMIC IMPORTANCE FACTOR (I)	1.0
SEISMIC SITE CLASS	D
Ss	1.280
S1	0.510
Sds	0.853
Sd1	0.510
SEISMIC DESIGN CATEGORY	D
SEISMIC RESISTING SYSTEM	MOMENT RESISTING FRAME SYSTEM SPECIAL REINF CONC MOMENT FRAME
RESPONSE MODIFICATION FACTOR (R)	8.0
RESPONSE COEFFICIENT (Cs)	0.133
SEISMIC ANALYTICAL PROCEDURE	EQUIV LATERAL FORCE
SEISMIC BASE SHEAR	75.6 kN

1.5 WIND LOADS (PER IBC 2006)

1.5.1 DESIGN PARAMETERS

BASIC WIND SPEED	137 Km/h
WIND IMPORTANCE FACTOR	1.0
WIND EXPOSURE CATEGORY	D
DIRECTIONALITY COEFFICIENT (Kd)	0.85
TOPOGRAPHIC FACTOR (Kzt)	1.0

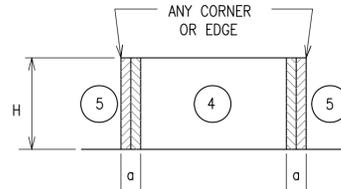
1.5.2 DESIGN WIND PRESSURE – MAIN WINDFORCE RESISTING SYSTEM

LOCATION	CORNER ZONE WIDTH "a"	MEAN ROOF HEIGHT "h"	WINDWARD WALL (@ MEAN ROOF HEIGHT)	LEEWARD WALL (@ MEAN ROOF HEIGHT)	ROOF
FIELD ZONE	N/A	6025mm	528 N/m ²	298 N/m ²	803 N/m ²
CORNER ZONE	900mm	6025mm	800 N/m ²	515 N/m ²	-1244 N/m ²

a = 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 0.9M.
h = MEAN ROOF HEIGHT, IN METERS, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ANGLE GREATER THAN 10°.

1.5.3 DESIGN WIND PRESSURE – WALL COMPONENTS AND CLADDING

EXTERIOR WALL SYSTEMS & THEIR ATTACHMENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE DIAGRAM BELOW:



LOCATION	WINDWARD PRESSURE N/m ² (inward)		LEEWARD PRESSURE N/m ² (outward)		a (mm)
	④	⑤	④	⑤	
MAIN BUILDING					
AREA = 1 m ²	943	943	-1020	-1264	900
AREA = 2 m ²	900	900	-982	-1173	900
AREA = 5 m ²	804	804	-886	-981	900
AREA = 10 m ²	804	804	-886	-981	900

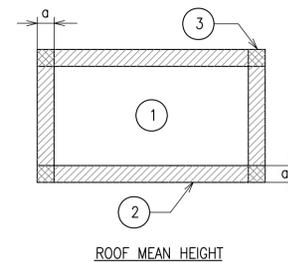
NOTES:

- DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
- PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

1.5 WIND LOADS (CONT)

1.5.4 DESIGN WIND PRESSURE – ROOF COMPONENTS AND CLADDING

ROOF COMPONENTS & THEIR ATTACHMENTS SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE ADJACENT DIAGRAM & TABLE BELOW:



LOCATION	GROSS UPLIFT PRESSURE N/m ² (upward)			a (mm)
	①	②	③	
MAIN BUILDING				
AREA = 1 m ²	-866	-1513	-1513	900
AREA = 2 m ²	-866	-1513	-1513	900
AREA = 5 m ²	-866	-1513	-1513	900
AREA = 10 m ²	-866	-1513	-1513	900

NOTES:

- DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
- PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

CONCRETE COLUMN SCHEDULE

MARK	SIZE (LxW)	REINFORCING	
		VERT BARS	TIES
C1	400x400	(8)-#25	#16 @ 100 (CORE OF EXT & CORNER COLUMNS) #13 @ 150 (CORE OF INTERIOR COLUMNS) #13 @ 200 (OTHER)

NOTE:

- DIMENSIONS NOTED ARE MILLIMETERS (mm) UON.
- SECOND STORY COLUMNS ARE SAME AS FIRST STORY COLUMNS.
- CORE INDICATES THE AREA OF COLUMN & BEAM INTERSECTION
- TIE INDICATES PERIMETER & CROSS TIE COMBINED

2.0 FOUNDATION DESIGN CRITERIA (TO BE CONFIRMED BY THE CONTRACTOR)

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2.1.1 SOIL DESIGN PARAMETERS

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COEFF AT-REST EARTH PRESSURE (Kpr)	.55
COEFF OF SOIL FRICTION	.35
SUBGRADE MODULUS	4120 g/m ³
MINIMUM BEARING DEPTH BELOW GRADE	800mm
SEISMIC SITE CLASS (based on in-situ soil)	D

CONCRETE COVER SCHEDULE

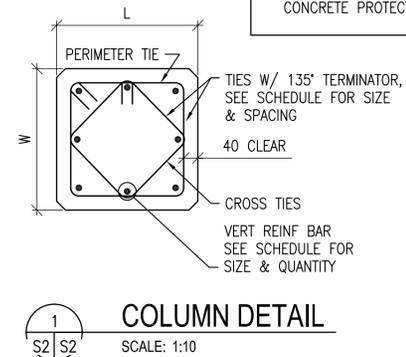
MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS: (SEE ACI 318M-05, SECTION 7.7 FOR CONDITIONS NOT NOTED). DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE. DIMENSIONS ARE IN mm.

FOOTINGS (EARTH FORMED)	70
COLUMNS / PIERS (TO TIES)	40
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOP	40
BOTTOM (EARTH FORMED)	70
SIDES (EARTH FORMED)	70
SIDES (BOARD FORMED)	40
	#16 BAR & SMALLER
	#19 THRU #36 BAR
ELEVATED BEAMS & SLABS:	
BEAM TIES & STIRRUPS (NOT EXPOSED TO WEATHER)	40
BEAM TIES & STIRRUPS (EXPOSED TO WEATHER)	50
FLOOR SLABS (NOT EXPOSED TO WEATHER)	20
FLOOR SLABS (EXPOSED TO WEATHER)	
	#19 & LARGER
	#13 & SMALLER
ROOF SLAB BARS	25
SLABS-ON-GRADE (NO EXPOSURE TO WEATHER) FROM TOP	20
SLABS-ON-GRADE (EXPOSURE TO WEATHER) FROM TOP	40
UTILITY TUNNEL WALLS, RETAINING WALLS AND SHEAR WALLS, (NO SURFACES SHALL BE EARTH FORMED)	
EARTH SIDE AND FRONT SIDE (EXPOSED TO WEATHER):	
	#16 BAR AND SMALLER
	#19 THRU #36 BAR
PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED.	

CONCRETE BEAM SCHEDULE						
FLOOR BEAM						
MARK	SIZE (mm) (BxH)	REINFORCING				REMARKS
		TOP	BOTTOM	STIRRUPS	MIDBAR	
FB1	400x400	(2)-#25	(2)-#25	#13 @ 250	N/A	TOP BAR LAP AT CENTER BOTT BAR LAP PAST COL
ROOF BEAM						
MARK	SIZE (mm) (BxH)	REINFORCING				REMARKS
		TOP	BOTTOM	STIRRUPS	MIDBAR	
RB1	400x400	(2)-#16	(2)-#16	#13 @ 250	N/A	TOP BAR LAP AT CENTER BOTT BAR LAP PAST COL

MASONRY CONCRETE LINTEL SCHEDULE						
OPENING TYPE OR SIZE, BEAM LOCATION OR TYPE	MAX SPAN (mm)	BEAM DEPTH (mm)	MAIN REINFORCING		SHEAR REINF STIRRUPS	
			TOP	BOTTOM OTHER		
INT WALL OPENING, NON-BEARING	1800	400	(2)-#13		----	
INT WALL OPENING, NON-BEARING	900	200	(2)-#13		----	

- STRUCTURAL DRAWINGS DO NOT INDICATE ALL OPENINGS IN MASONRY WALLS. VERIFY NUMBER, SIZE AND LOCATION OF ALL OPENINGS IN MASONRY WALLS FROM ARCHITECTURAL SHEETS AND APPROVED PLUMBING, MECHANICAL, AND ELECTRICAL SHOP DRAWINGS.
- PROVIDE 200mm BEARING EA END FOR 200mm DEEP MASONRY LINTEL PROVIDE 400mm BEARING EA END FOR 400mm DEEP CIPL.
- FOR HEAD DETAILS REFER TO ARCHITECTURAL SHEETS.
- REINFORCING SHALL BE ASTM A615M, GRADE 420. CONCRETE FOR CAST-IN-PLACE BEAMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa AT 28 DAYS.
- CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS AND SCHEDULES SHOWING SIZE, DETAILS, LOCATIONS, ETC FOR ALL CAST-IN-PLACE BEAMS IN CMU WALLS.



COLUMN DETAIL

SCALE: 1:10

US Army Corps of Engineers
Afghanistan Engineer District

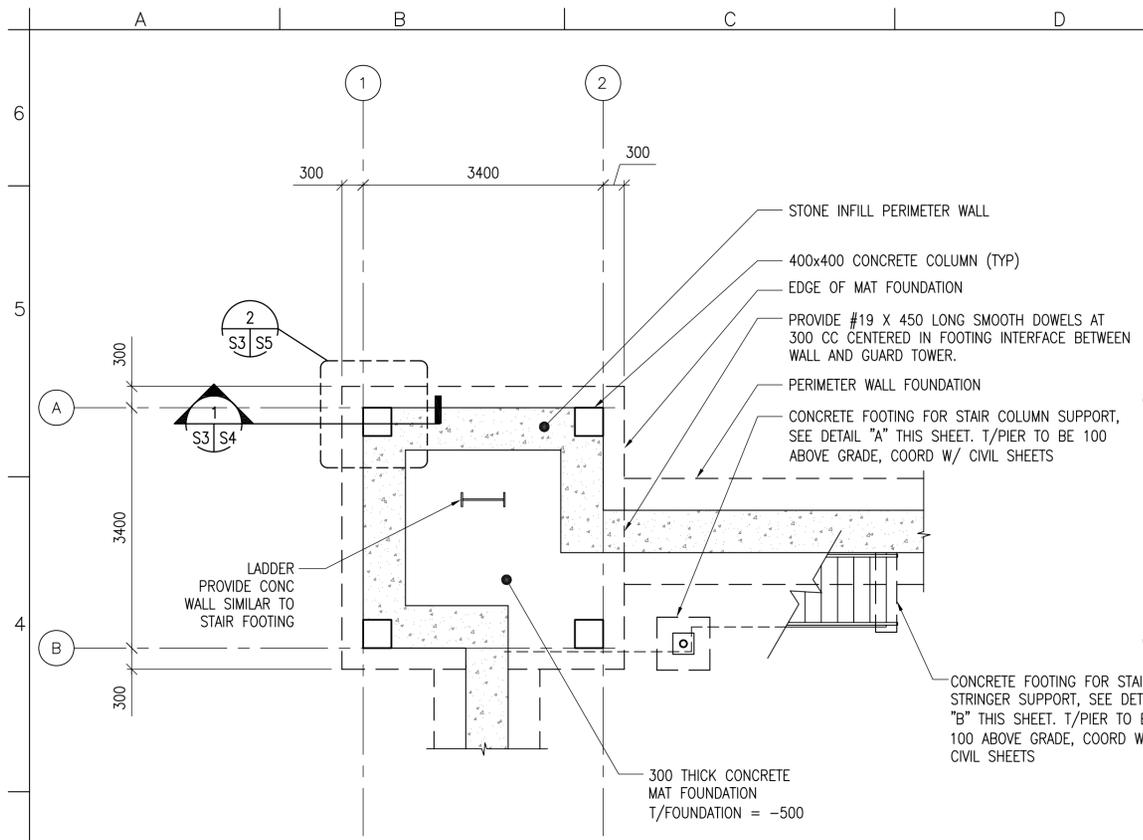
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DESIGNED BY: GDH	DATE: 09-30-09
DWN BY: MDB	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANPSD-02XXXX

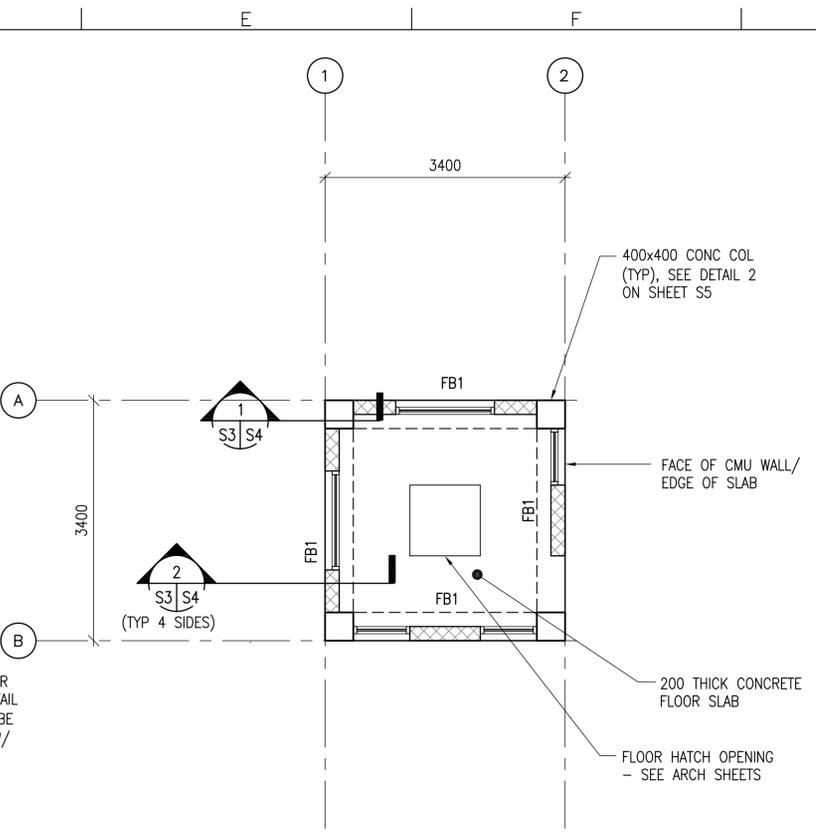
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1000 Business Park
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www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
GUARD TOWER
DESIGN CRITERIA & SCHEDULES

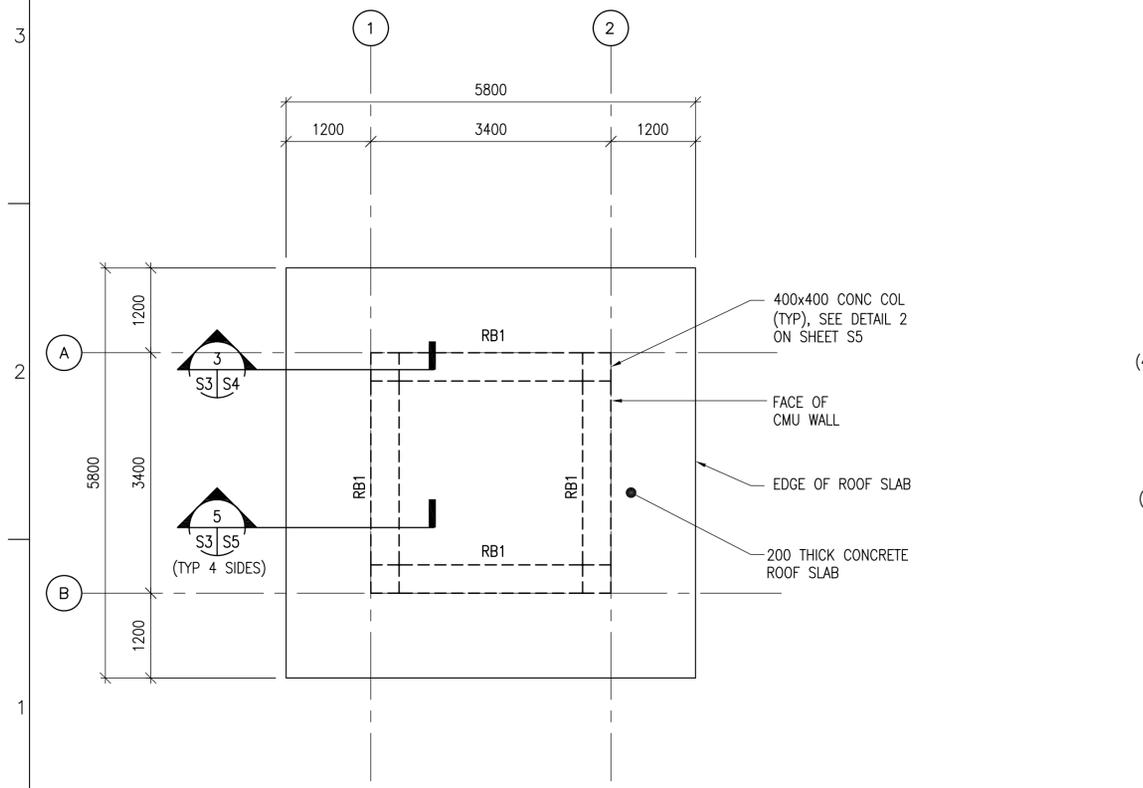
SHEET REFERENCE NUMBER:
S2



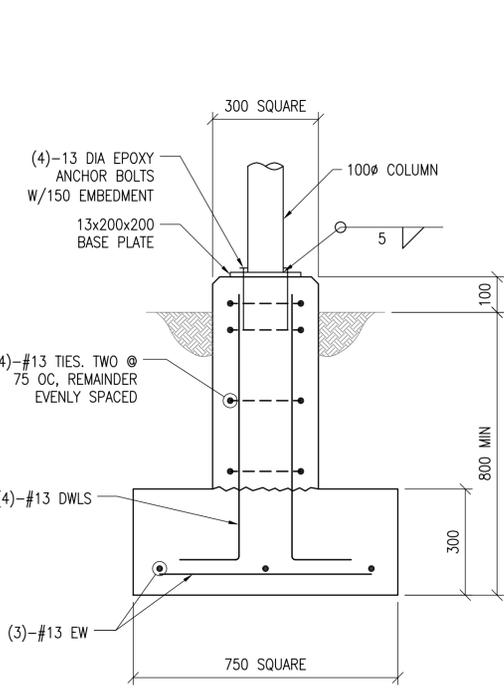
1 GUARD TOWER FOUNDATION PLAN
 S3 | S3 SCALE: 1:50



2 GUARD TOWER ELEVATED FLOOR FRAMING PLAN
 S3 | S3 SCALE: 1:50

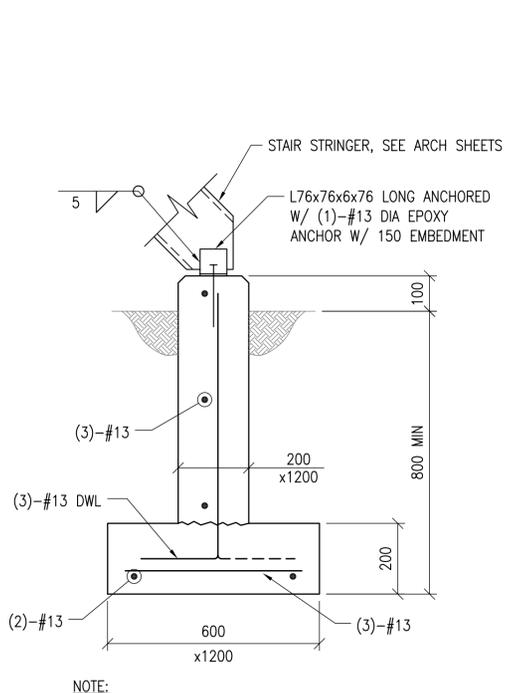


3 GUARD TOWER ROOF FRAMING PLAN
 S3 | S3 SCALE: 1:50



NOTE: AT WEST STAIR COLUMN FOUNDATION OMIT FOOTER & DOWEL INTO PERIMETER WALL FOUNDATION

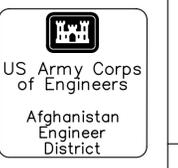
A DETAIL
 S3 | S3 SCALE: 1:10



NOTE:
 1. USE SIMILAR DETAIL FOR LADDER.

B DETAIL
 S3 | S3 SCALE: 1:10

- NOTES:**
1. FINISH GRADE ELEVATION SHALL BE (DATUM 0.0) ALL PLUS OR MINUS DIMENSIONS INDICATED ON PLAN OR REFERRED TO IN NOTES RELATE TO FINISH GRADE ELEVATION.
 2. TOP OF FOOTINGS: SEE PLAN
 3. REFER TO SHEETS S1 AND S2 FOR STRUCTURAL NOTES, BASIS OF DESIGN, SYMBOLS AND ABBREVIATIONS.
 4. REFER TO ARCHITECTURAL SHEETS FOR MASONRY PARTITION TYPES
 5. ALL CMU CELLS TO BE FULLY GROUTED. SEE SHEET S5 FOR REINF SIZE, SPACING & DETAILS.
 6. CONCRETE ROOF AND FLOOR STRUCTURE SHALL BE POURED-IN-PLACE IN ONE CONTINUOUS OPERATION AND SHORED AS REQUIRED UNTIL THE CONCRETE REACHES 75% OF ITS STRENGTH AS A MINIMUM.
 7. COORD W/ ARCHITECTURAL SHEETS FOR COLD-FORMED STEEL OVERBUILT FRAMING ABOVE ROOF SLAB.
 8. COLD-FORMED METAL OVERBUILT ROOF FRAMING NOT SHOWN FOR CLARITY. SEE OVERBUILT ROOF FRAMING DETAILS AND SECTIONS ON SHEET S4.



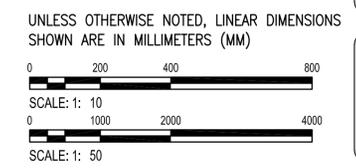
SYMBOL	DATE	DESCRIPTION

DESIGNED BY: GPH	DATE: 09-30-09
DWN BY: MDB	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANPSUS-103XXX

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 1000 Business Park
 Moon Township, PA 15108
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AFGHAN NATIONAL POLICE
 STANDARD DESIGN
 GUARD TOWER
 FOUNDATION, FLOOR FRAMING AND ROOF PLANS

SHEET REFERENCE NUMBER:
S3



100% SUBMISSION

DATE	DESCRIPTION	SYMBOL
APR		

DESIGNED BY: GPH	DATE: 09-30-09
DWN BY: MDB	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANPSD-304XX

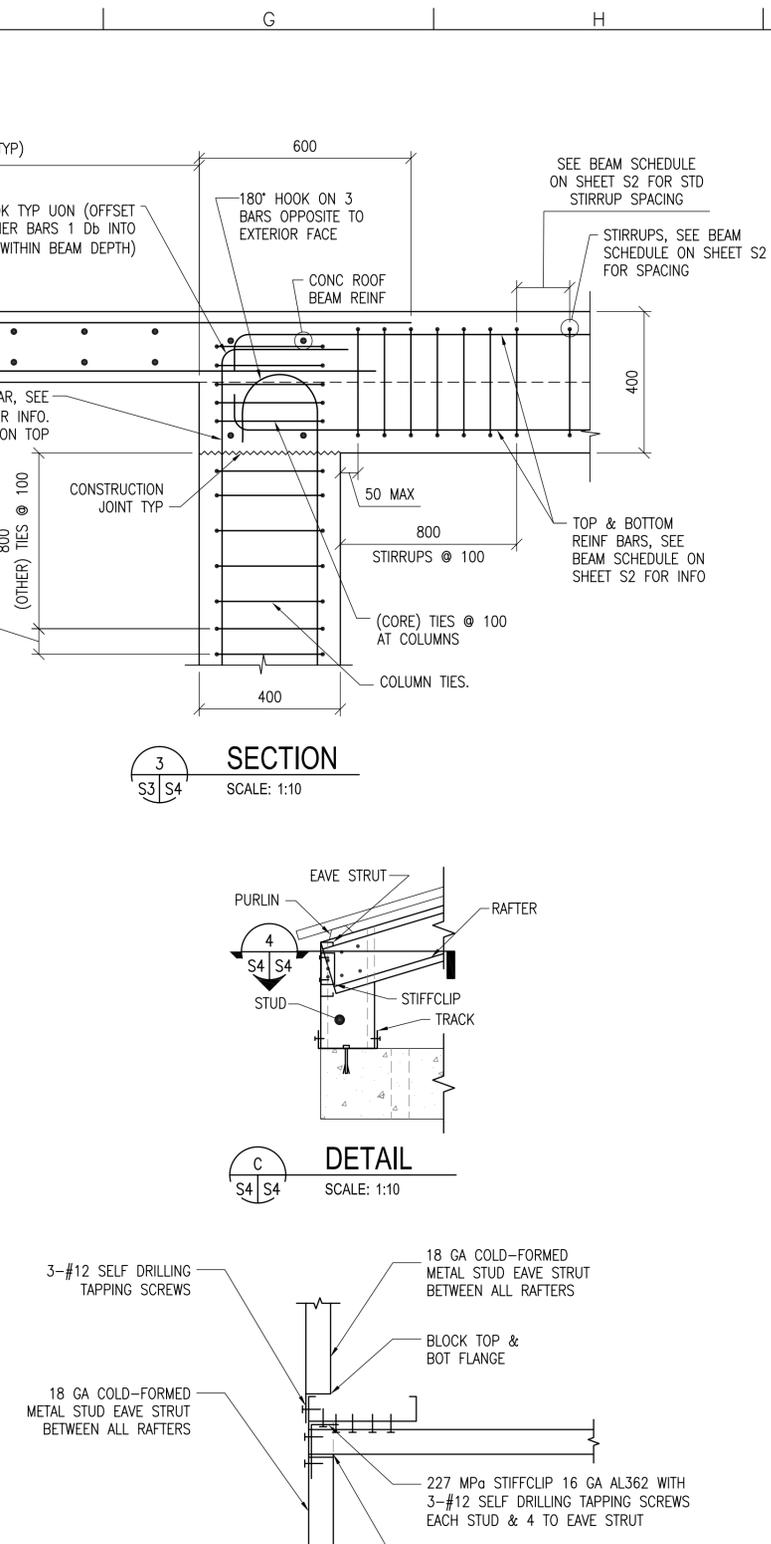
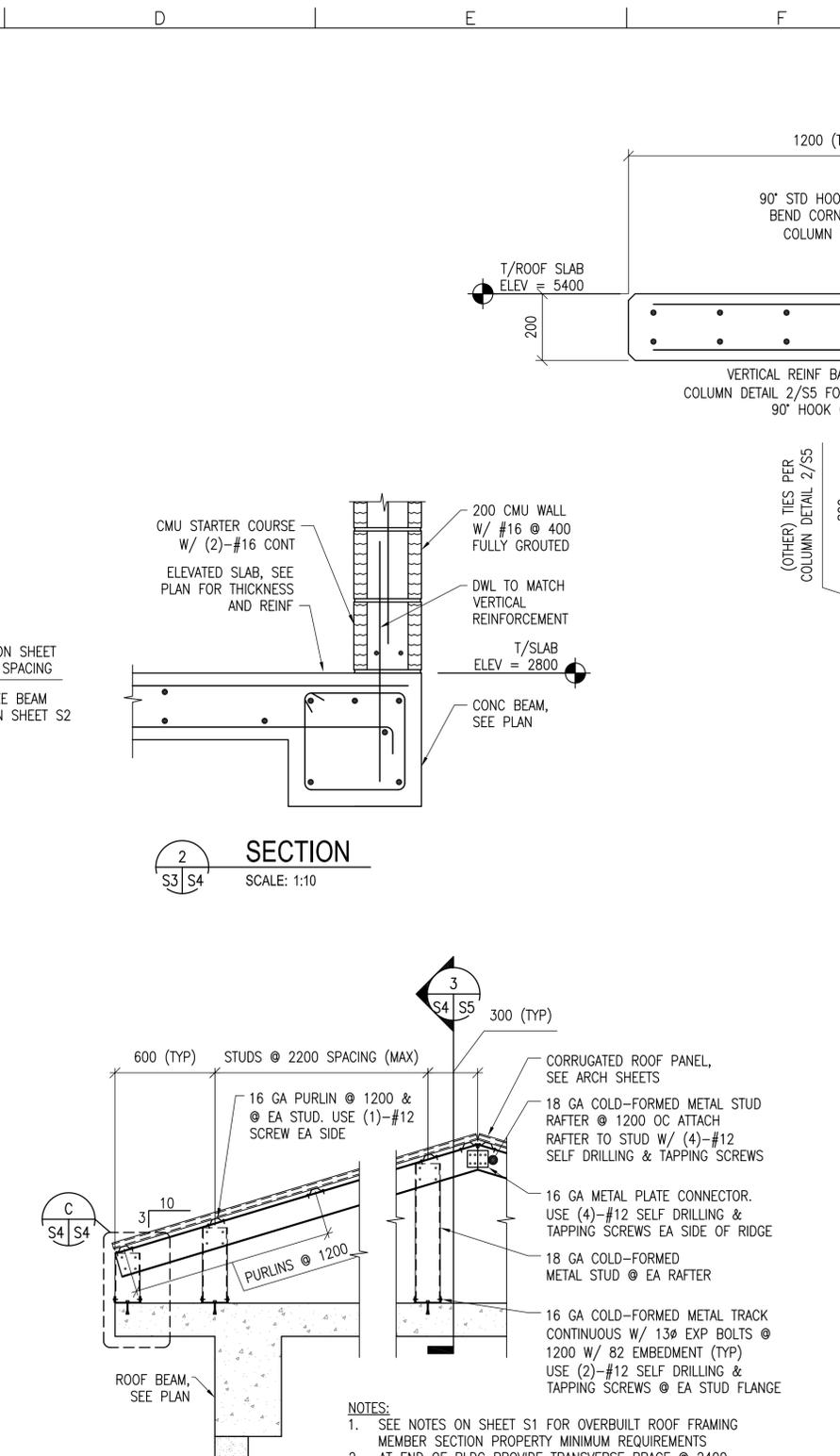
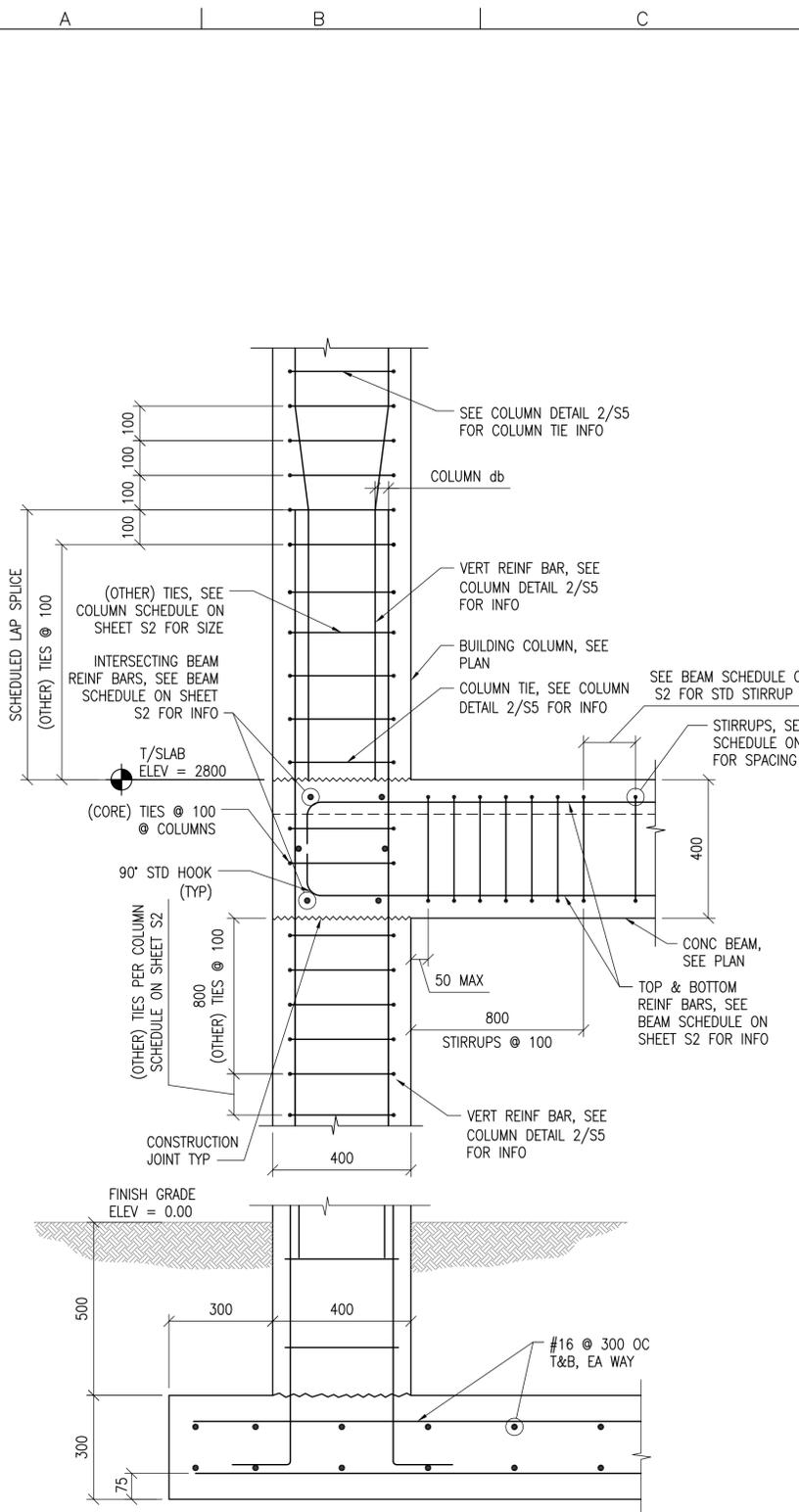
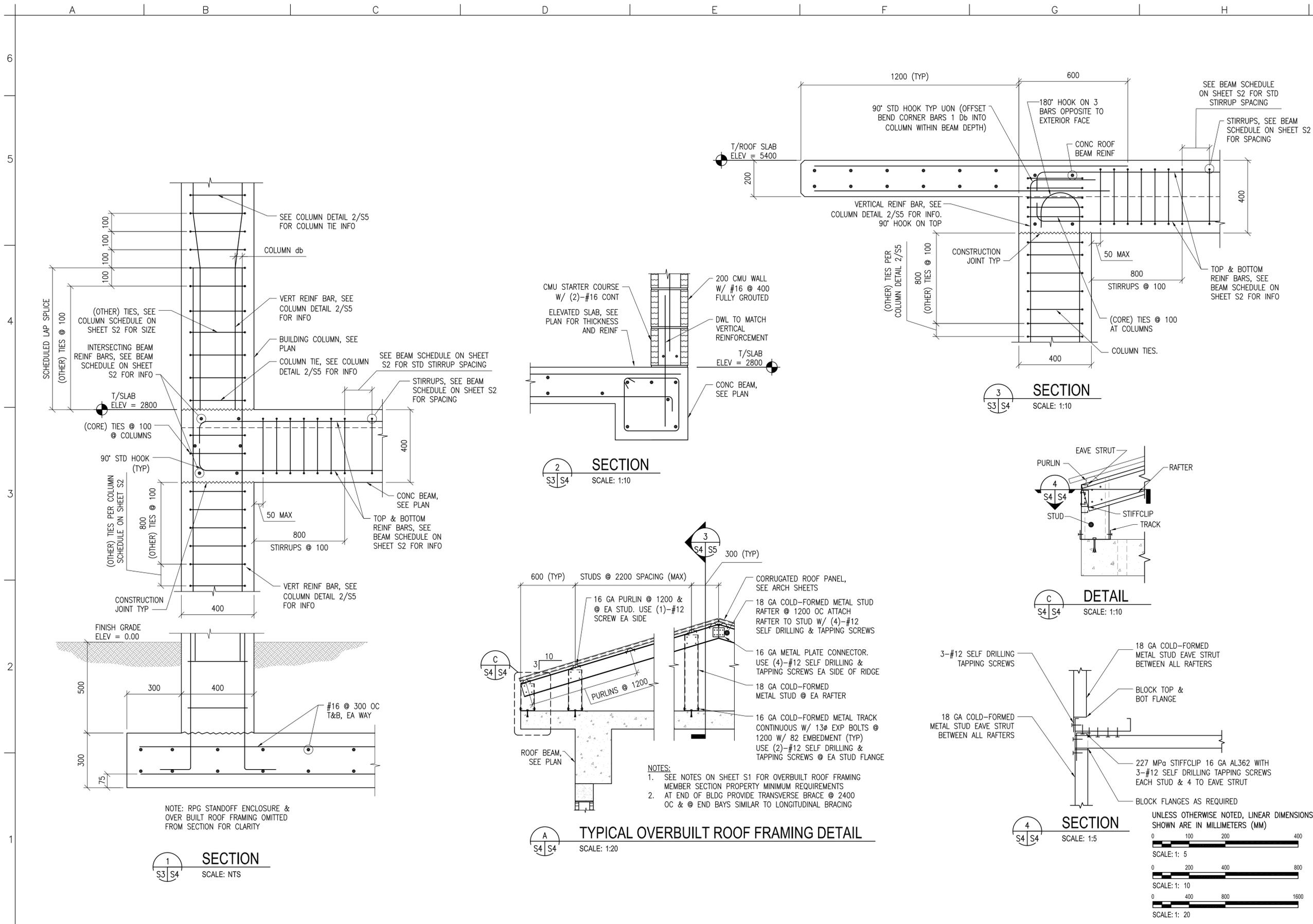
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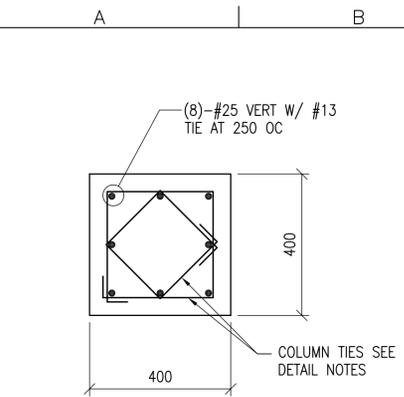
AFGHAN NATIONAL POLICE
 STANDARD DESIGN
 GUARD TOWER

SECTIONS AND DETAILS

SHEET REFERENCE NUMBER:
S4

100% SUBMISSION





1
TYPICAL COLUMN REINFORCING DETAIL

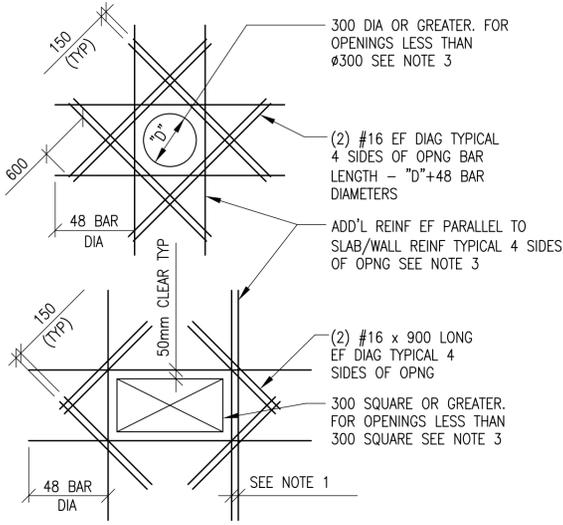
SCALE: 1:10

- DETAIL NOTES:**
- PROVIDE #16 COLUMN TIES @ 100 WITHIN COLUMN CORE, OTHERWISE PROVIDE #13 TIES @ 200.
 - COLUMN CORE INDICATES AREA OF COLUMN BETWEEN THE TOP AND BOTTOM OF AN INTERSECTING BEAM.

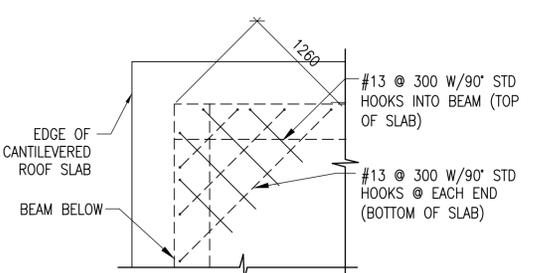


2
CIP BOND BEAM DETAILS

SCALE: NTS



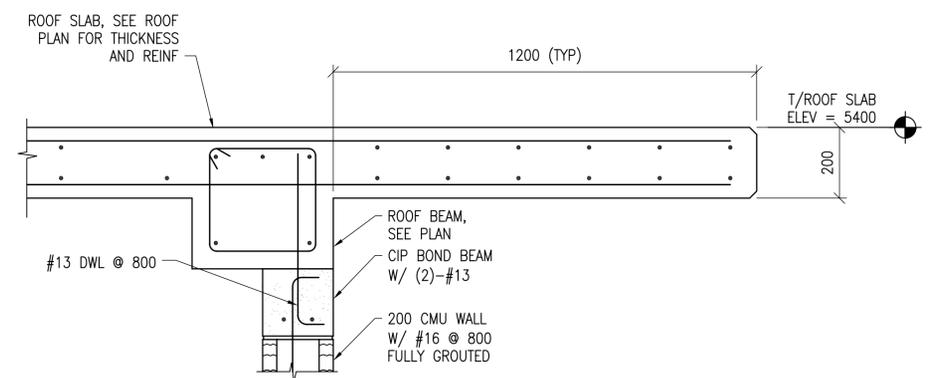
SLAB OPENINGS



ELEVATED SLAB CORNERS

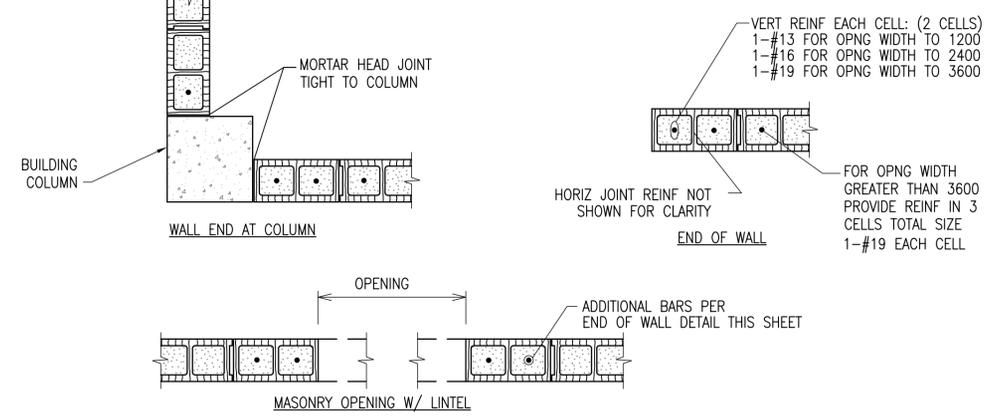
4
ADD'L REINFORCEMENT DETAILS

- SCALE: NTS
- DETAIL NOTES:**
- WHERE MORE THAN ONE ADDITIONAL BAR IS REQUIRED PARALLEL TO THE EXISTING SLAB/WALL REINFORCING THE ADDITIONAL REINFORCING BARS SHALL BE SPACED AT 100 ON CENTER.
 - ADDITIONAL REINFORCING PARALLEL TO THE SLAB/WALL REINFORCING SHALL BE #15 BARS THAT PROVIDE A STEEL AREA ON EACH SIDE OF THE OPENING EQUAL TO 1/2 THE AREA OF THE REINFORCING CUT BY THE OPENING.
 - FOR OPENINGS WITH SIDES OR DIAMETERS LESS THAN 300 SPREAD THE SLAB/WALL REINFORCING TO CLEAR THE OPENING.



5
SECTION

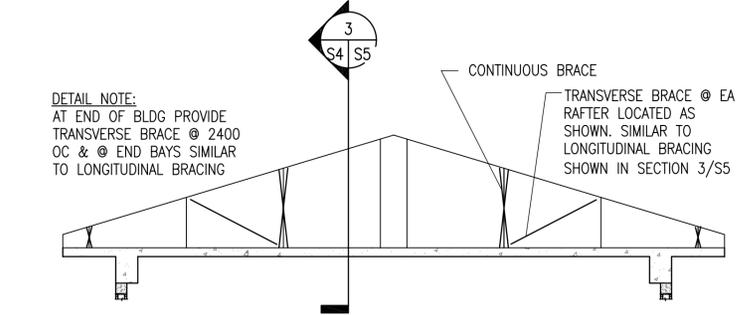
SCALE: NTS



NOTE:
1. ALL CMU CELLS FULLY GROUTED.

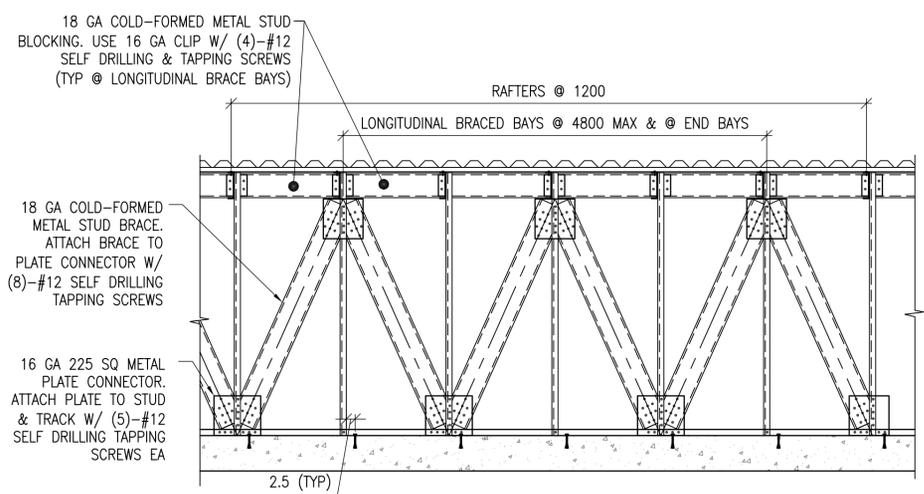
6
TYPICAL CMU DETAILS

SCALE: NTS



3
TYPICAL ROOF BRACE LAYOUT DETAIL

SCALE: NTS

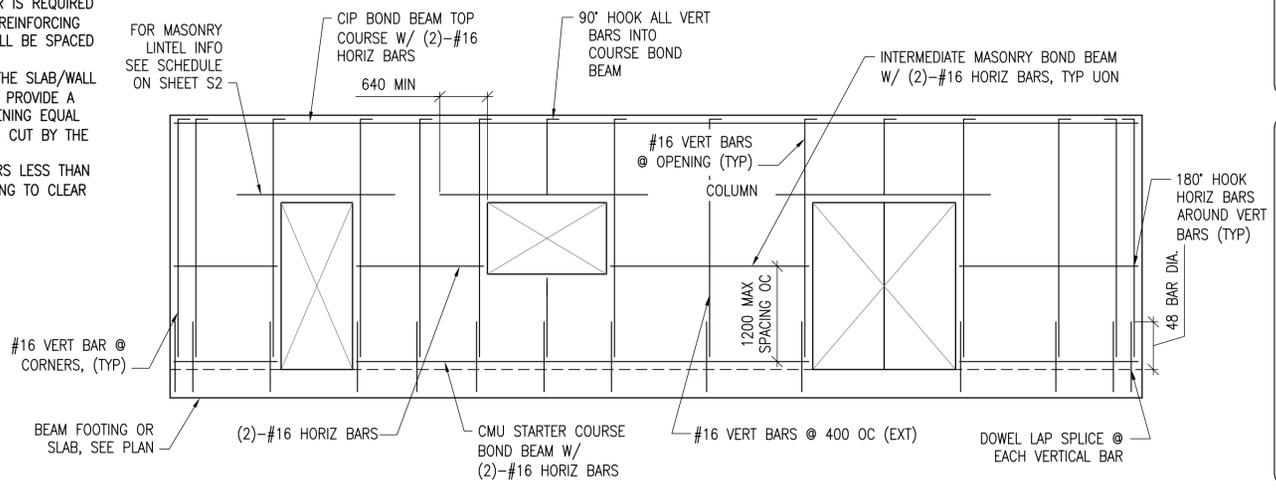


3
SECTION

SCALE: NTS

TYPICAL HIP FRAMING DETAIL

SCALE: 1:5



7
MIN CMU WALL REINFORCING

SCALE: NTS

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)



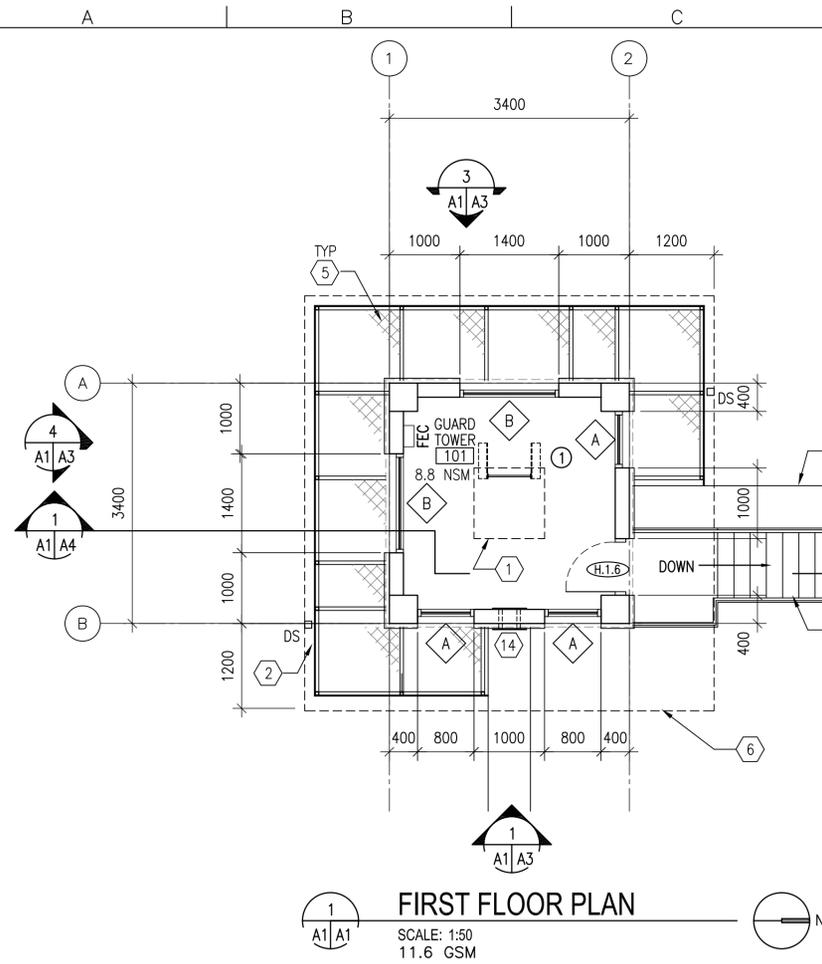
SCALE: 1: 10

DATE	DESCRIPTION	SYMBOL

DESIGNED BY: GDH	DATE: 09-30-09
DWN BY: RCG	SUBMITTED BY: BAKER
CHK BY: CWV	FILE NO: ANFSUS-505XXX

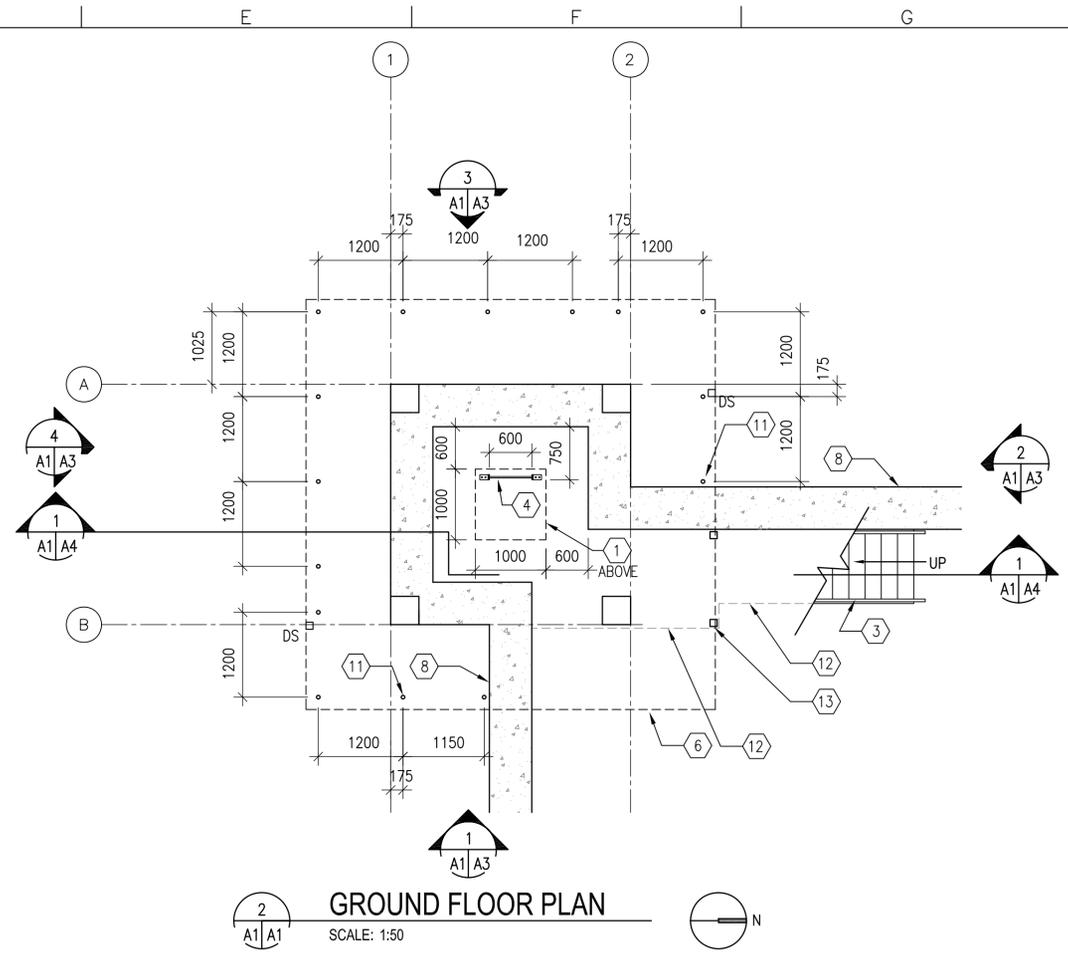
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STANDARD DESIGN
GUARD TOWER
TYPICAL DETAILS



1
A1 | A1

FIRST FLOOR PLAN
SCALE: 1:50
11.6 GSM



2
A1 | A1

GROUND FLOOR PLAN
SCALE: 1:50

- ROOM FINISHES:** (X)
- WALLS: PAINTED PLASTER,
FLOOR: SEALED CONCRETE
CEILING: PAINTED PLASTER APPLIED TO STRUCTURE

- LEGEND:**
- (F.1.4) DOOR TYPE, SEE SHEET A5
 - (A) WINDOW TYPE, SEE SHEET A5
 - (X) KEY NOTE
 - FEC FIRE EXTINGUISHER CABINET
 - (1) ROOM FINISH TYPE DESIGNATION

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

SCALE: 1: 50

GENERAL NOTES:

- OPENINGS FOR DOORS SHALL BE LOCATED 200 MM FROM THE ADJACENT WALL UNLESS NOTED OTHERWISE.
- SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF FOREIGN MATTER BEFORE APPLICATION OF PAINT. CLEANING SHALL BE SCHEDULED SO THAT DUST AND OTHER CONTAMINANTS WILL NOT FALL ON WET, NEWLY PAINTED SURFACES.
- CONCRETE AND INTERIOR MASONRY SURFACES GROUTED SOLID SHALL BE ALLOWED TO DRY AT LEAST 30 DAYS BEFORE PAINTING EXCEPT CONCRETE SLAB ON GRADE WHICH SHALL BE ALLOWED TO CURE 90 DAYS BEFORE PAINTING.
- PAINTS CONTAINING LEAD IN EXCESS OF 0.06 PERCENT BY WEIGHT OF THE TOTAL NONVOLATILE CONTENT SHALL NOT BE USED.
- MERCURIAL FUNGICIDES SHALL NOT BE USED IN OIL-BASE PAINT.
- REMOVE LOOSE DIRT AND CLEAN SURFACES BEFORE PAINTING. APPLY PAINT TO INTERIOR STRUCTURAL RIGID FRAMINGS AND CEILINGS AND TEST FOR ADHESION. PRIMER COAT FOR MASONRY. INITIAL FIRST COAT WITH AN ACRYLIC LATEX PAINT FOR EXTERIOR SURFACES AND A SECOND COAT WITH A WATER REPELLENT ACRYLIC LATEX PAINT.
- METAL DOORS AND FRAMES SHALL RECEIVE A PRIMER COAT PLUS TWO COATS OF PAINT.
- DIMENSIONS ARE TO STRUCTURAL COLUMN GRID, EDGE OF WINDOW OPENINGS, AND TO HINGE SIDE OF DOOR OPENINGS.

KEY NOTES: (X)

- 900 MM x 900 MM FLOOR HATCH - RE: DETAIL 1/A6.
- RPG STANDOFF SCREEN
- EXTERIOR STEEL STAIR.
- LADDER - RE: DETAIL 3/A6.
- RETURN FENCE HORIZONTALLY TO FACE OF WALL.
- LINE OF ROOF OVERHANG, ABOVE.
- NOT USED
- STONE FORCE PROTECTION WALL.
- NOT USED
- NOT USED
- 50 MM DIAMETER GALVANIZED STEEL PIPE SUPPORT.
- LINE OF STEEL STAIR AND PLATFORM ABOVE.
- STEEL STAIR COLUMN.
- TWO-PIECE WALL THIMBLE AND TRIM PLATE FOR OPTIONAL WOOD BURNING STOVE CHIMNEY PIPE. STOVE AND PIPE BY OTHERS.



DATE	DESCRIPTION	SYMBOL

DESIGNED BY: DATE: 09-30-09	DESIGNED BY: PFF	DATE: 09-30-09
DWN BY: PFF	CHK BY: NLJ	FILE NO: ANPSDA-101XXX
SUBMITTED BY: BAKER		

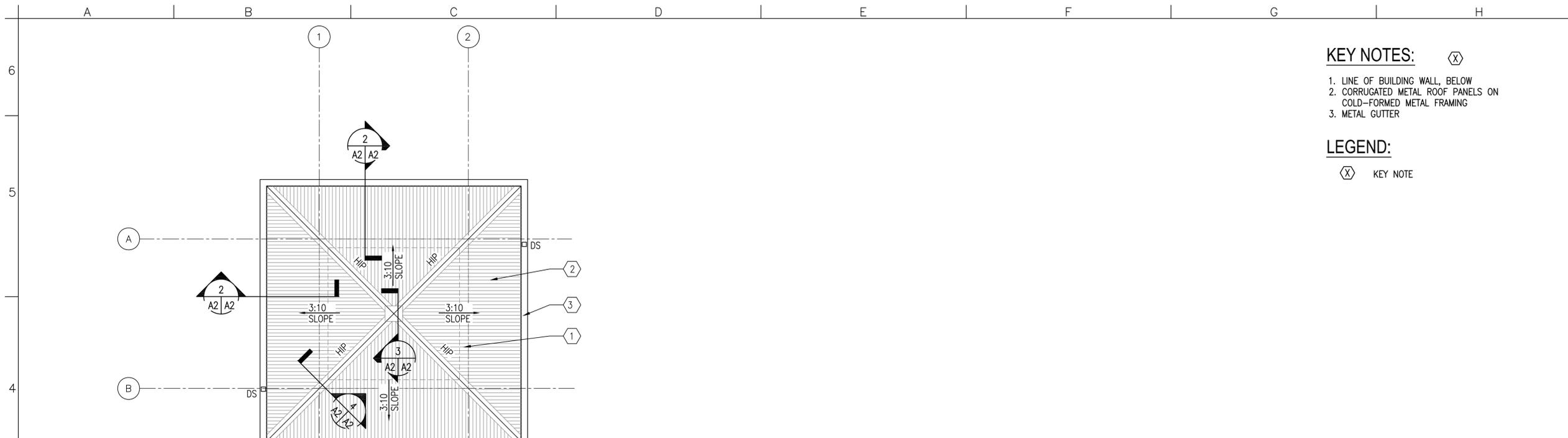
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STANDARD DESIGN
GUARD TOWER

FLOOR PLANS

SHEET REFERENCE NUMBER:
A1

100% SUBMISSION



1
A2 A2
ROOF PLAN
SCALE: 1:50

KEY NOTES:

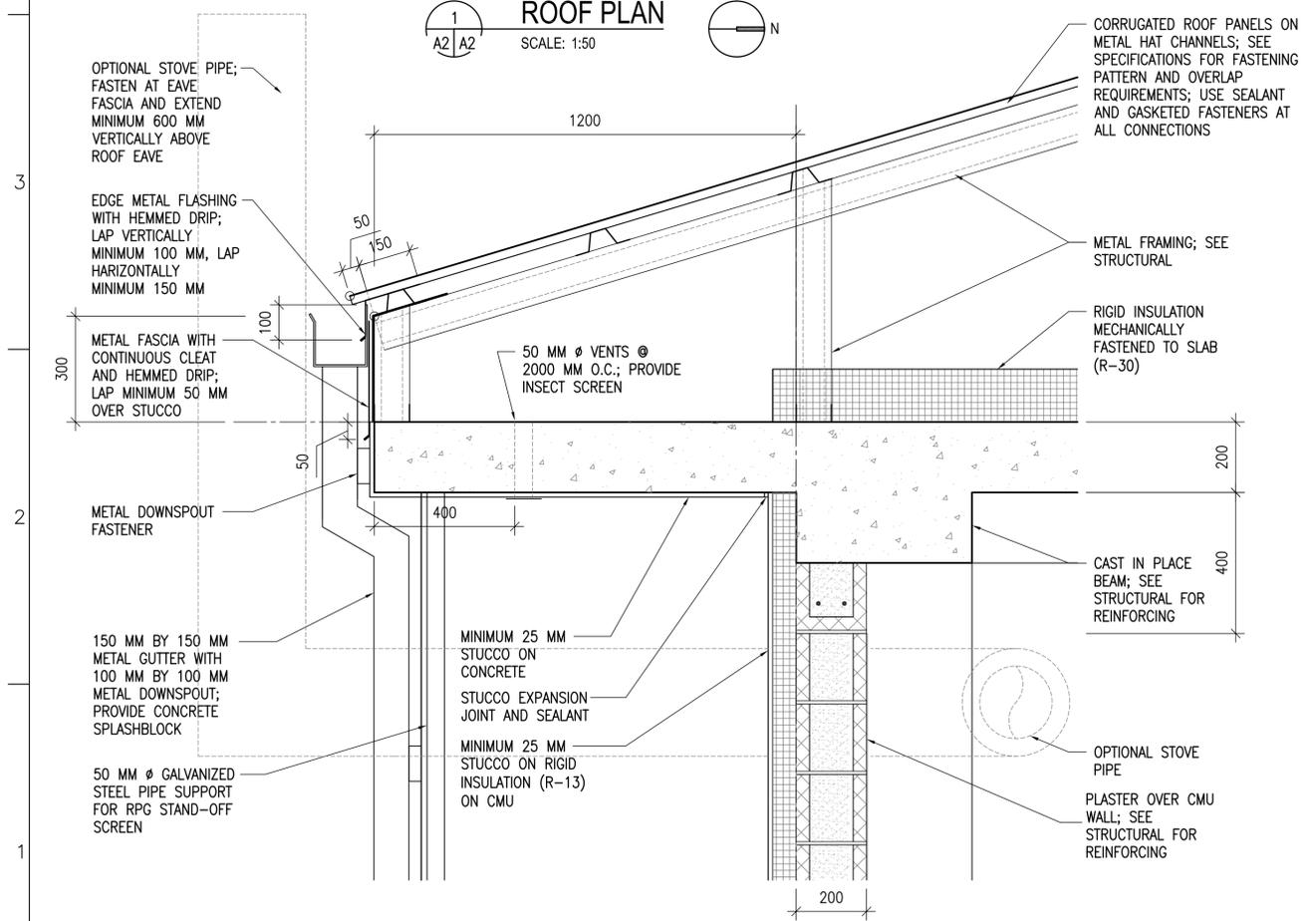
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- 2. CORRUGATED METAL ROOF PANELS ON COLD-FORMED METAL FRAMING
- 3. METAL GUTTER

LEGEND:

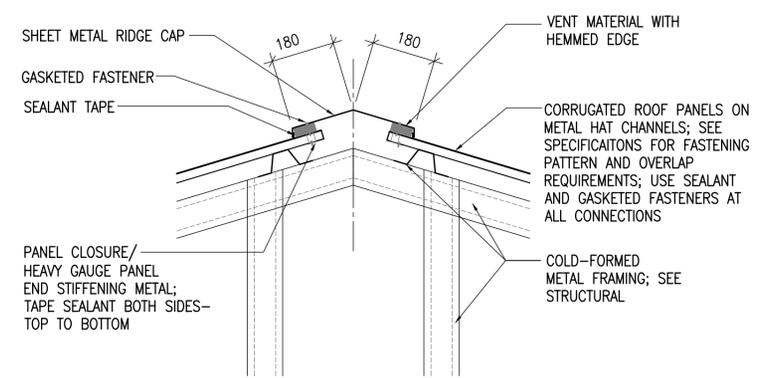
⊗ KEY NOTE

US Army Corps
of Engineers
Afghanistan
Engineer
District

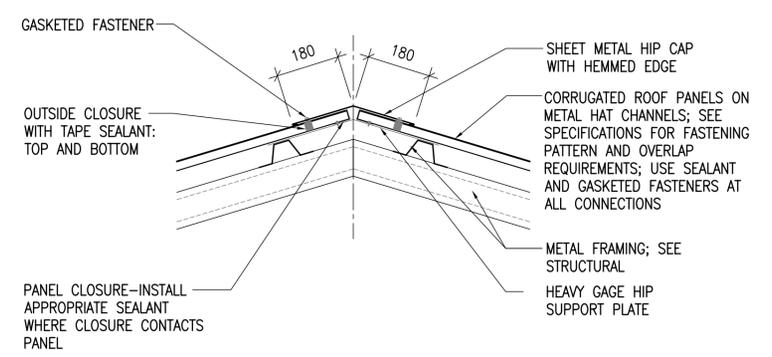
SYMBOL	DESCRIPTION	DATE	APP



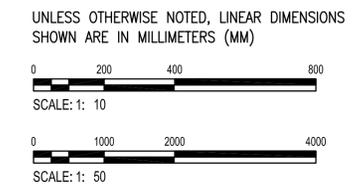
2
A2 A2
EAVE DETAIL
SCALE: 1:10



3
A2 A2
RIDGE VENT DETAIL
SCALE: 1:10



4
A2 A2
HIP DETAIL
SCALE: 1:10



DESIGNED BY:	DATE:
PFF	09-30-09
DWN BY:	SUBMITTED BY:
PFF	BAKER
CHK BY:	FILE NO.:
NLJ	ANPSDA-102XXX

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AFGHAN NATIONAL POLICE
STANDARD DESIGN
GUARD TOWER

ROOF PLAN AND DETAILS

SHEET
REFERENCE
NUMBER:
A2

100% SUBMISSION

KEY NOTES:

1. STUCCO AND RIGID INSULATION SYSTEM ON CMU AND CONCRETE
2. RPG STANDOFF SCREEN
3. STONE FORCE PROTECTION WALL, BEYOND
4. STEEL PIPE RAILING
5. STEEL STAIR TREADS
6. STEEL DIAMOND PLATE PLATFORM
7. STEEL FRAME AND DOOR WITH PLEXI GLASS LITE
8. ~~WOOD-AWNING WINDOW SLIDERS~~
9. STEEL FASCIA
10. SEE STRUCTURAL DRAWINGS FOR CONCRETE FOOTING
11. TWO-PIECE WALL THIMBLE AND TRIM PLATE FOR OPTIONAL WOOD BURNING STOVE CHIMNEY PIPE, STOVE AND PIPE BY OTHERS.
12. CORRUGATED METAL ROOF PANELS ON COLD-FORMED METAL FRAMING
13. CAST CONCRETE WALL CAP
14. 50 DIAMETER GALVANIZED STEEL PIPE SUPPORTS
15. METAL GUTTER
16. METAL DOWNSPOUT WITH SPLASH BLOCK


 US Army Corps of Engineers
 Afghanistan Engineer District

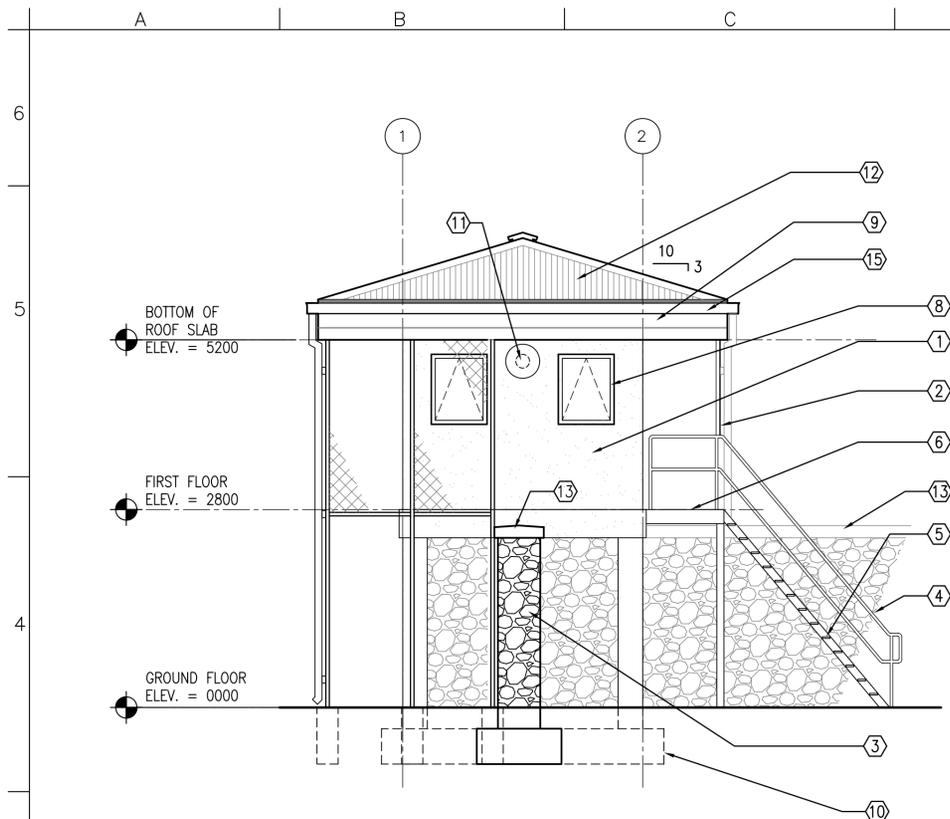
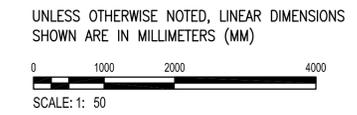
DESCRIPTION	DATE	APP

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DWN BY: PFF	SUBMITTED BY: BAKER
CHK BY: NLJ	FILE NO: ANPSDA-203XXX

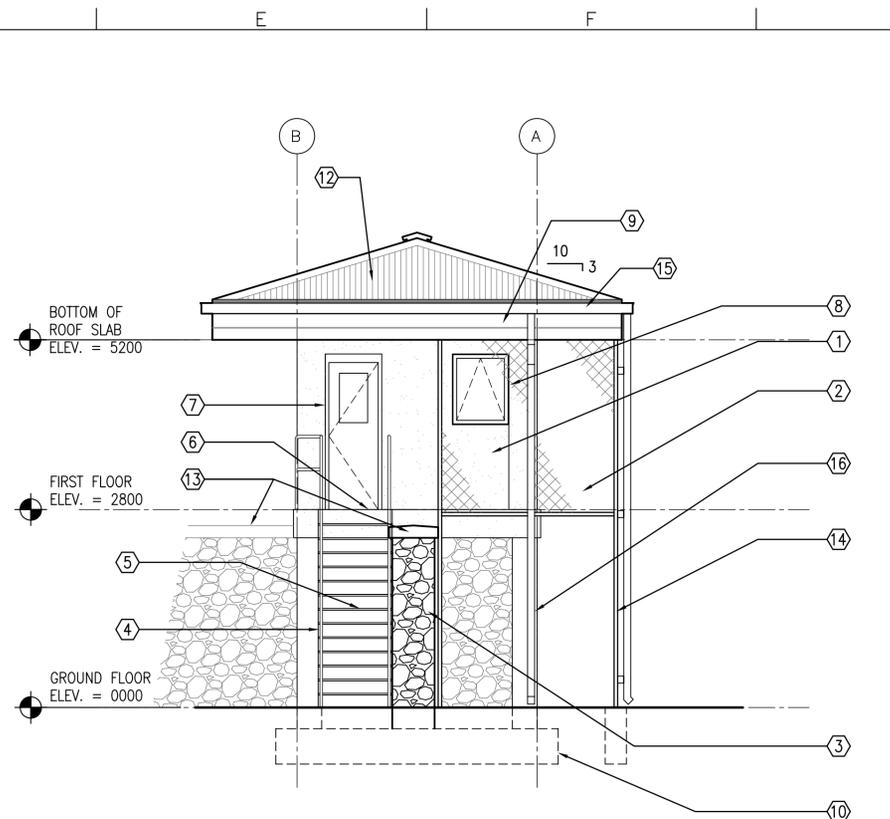
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AFGHAN NATIONAL POLICE
 STANDARD DESIGN
 GUARD TOWER
 EXTERIOR ELEVATIONS

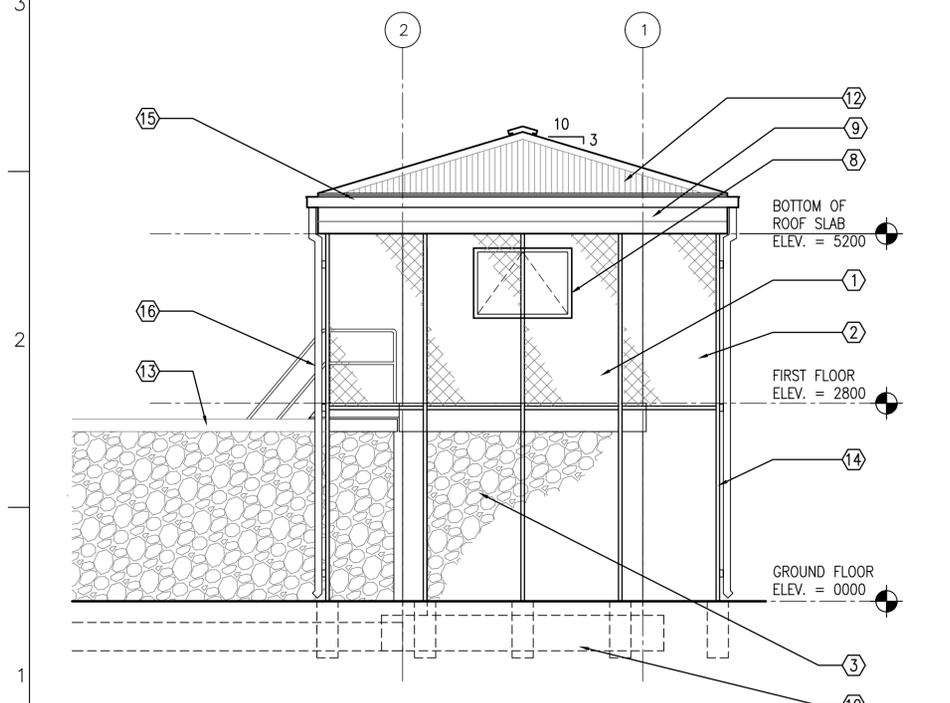
SHEET
 REFERENCE
 NUMBER:
A3



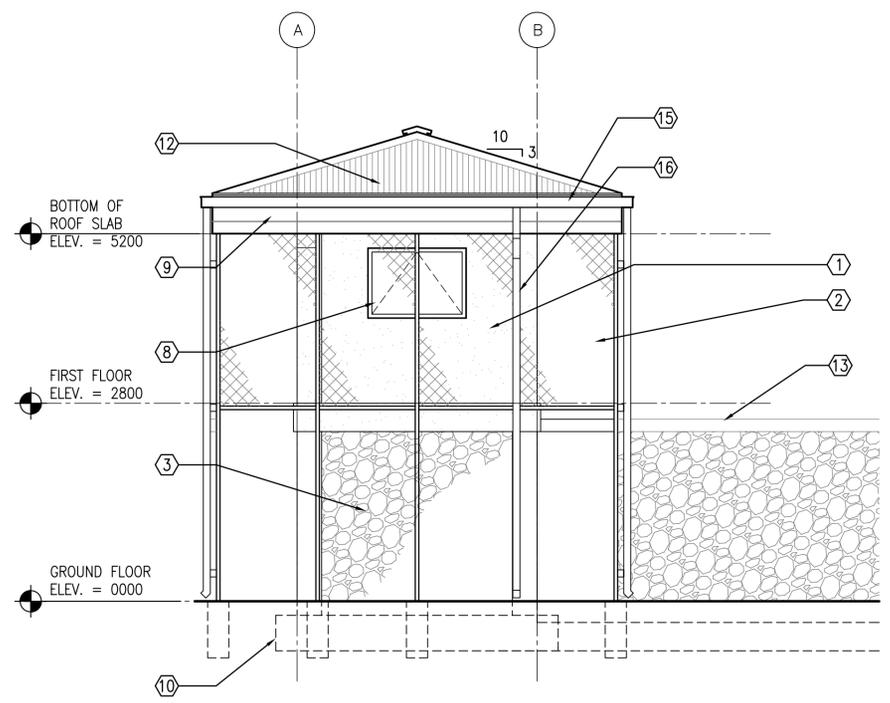
1 EAST ELEVATION
 A1 | A3 SCALE: 1:50



2 NORTH ELEVATION
 A1 | A3 SCALE: 1:50

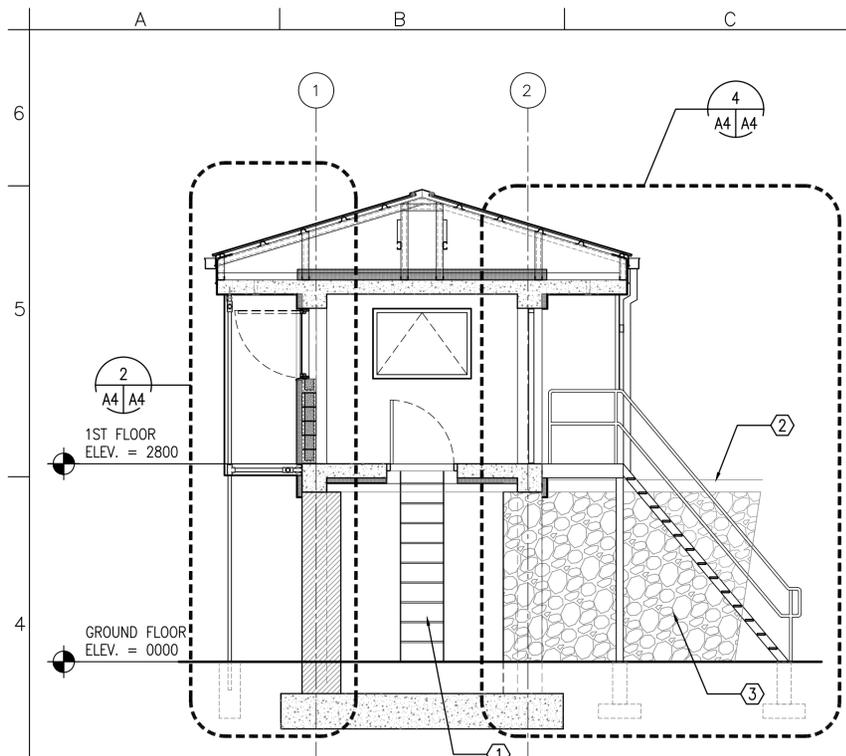


3 WEST ELEVATION
 A1 | A3 SCALE: 1:50

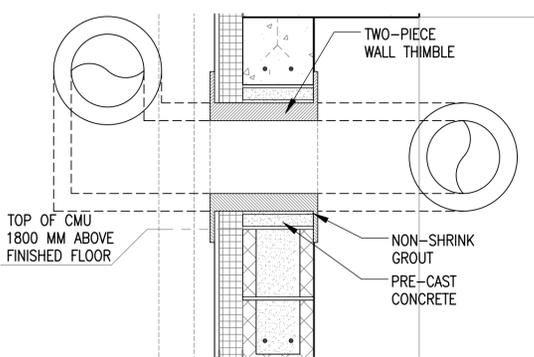


4 SOUTH ELEVATION
 A1 | A3 SCALE: 1:50

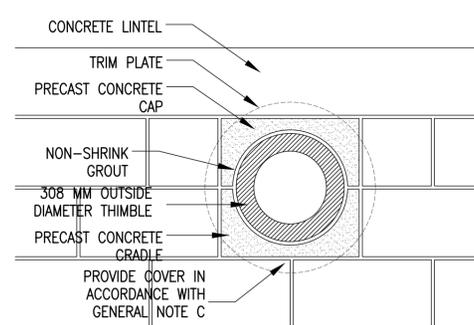
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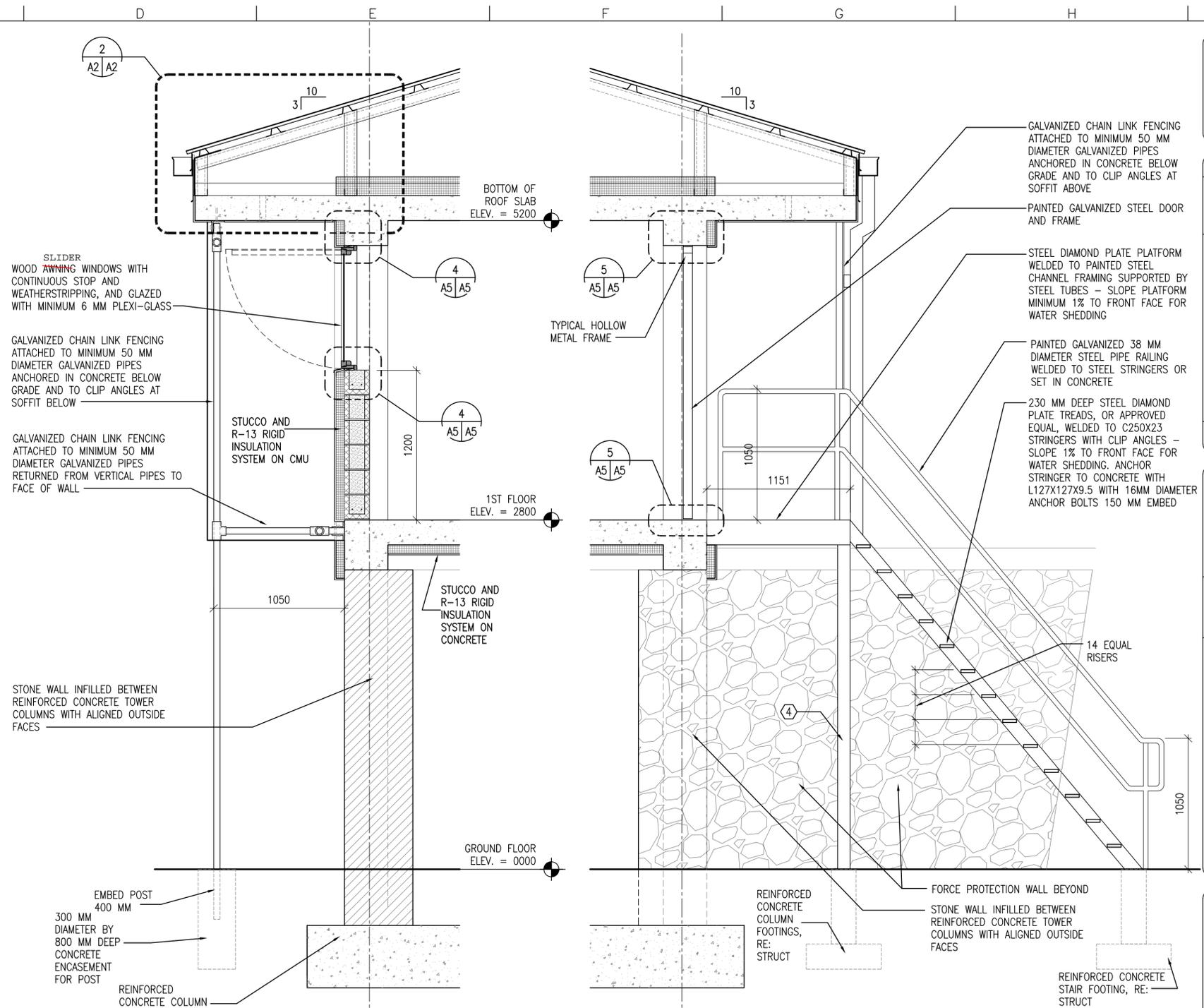
1 BUILDING SECTION
SCALE: 1:50



4 THIMBLE DETAIL, TYPICAL
SCALE: 1:10



5 THIMBLE DETAIL, TYPICAL
SCALE: 1:10

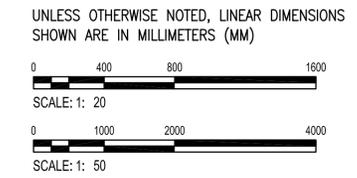


2 WALL SECTION
SCALE: 1:20

4 WALL SECTION
SCALE: 1:20

- GENERAL NOTES:**
- COORDINATE SIZE AND LOCATION OF OPENINGS FOR MECHANICAL ITEMS WITH MECHANICAL DRAWINGS.
 - PROVIDE STRUCTURAL LINTELS AS REQUIRED - RE: STRUCT
 - PROVIDE 480 MM SQUARE, 1.5 MM THICK GALVANIZED SHEET METAL COVER WITH 13 MM HEMMED EDGE FOR WALL THIMBLE UNTIL STOVE PIPE IS PROVIDED. INSTALL COVER ON EXTERIOR FACE OF THIMBLE TRIM PLATE. COVER SHALL BE SET IN SILICONE SEALANT AND FASTENED WITH 4 STAINLESS STEEL SCREWS. ALIGN FASTENER LOCATIONS WITH COVER PLATE FASTENER OPENINGS SO ADDITIONAL FASTENER PENETRATIONS ARE NOT CREATED IN EXTERIOR FINISH.

- KEY NOTES:**
- STEEL LADDER; REFER TO 3/A6
 - CAST CONCRETE WALL CAP
 - STONE FORCE PROTECTION WALL
 - STEEL STAIR COLUMN.



US Army Corps of Engineers
Afghanistan Engineer District

DATE	DESCRIPTION	SYMBOL

DESIGNED BY: PFF	DATE: 09-30-09	SUBMITTED BY: BAKER	FILE NO: ANPSDA-304XXX
DWN BY: PFF		CHK BY: NLJ	
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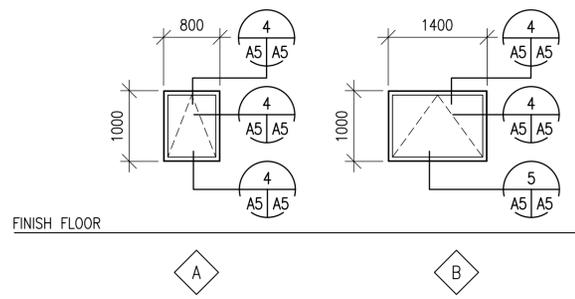
AFGHAN NATIONAL POLICE
STANDARD DESIGN
GUARD TOWER

BUILDING AND WALL SECTIONS

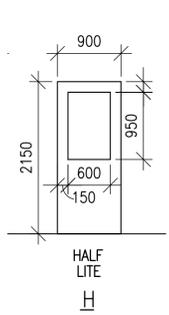
SHEET REFERENCE NUMBER:
A4

100% SUBMISSION

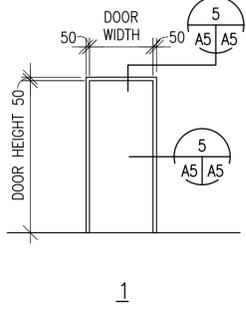
A B C D E F G H



1 WINDOW TYPES SCALE: 1:50



2 DOOR TYPE SCALE: 1:50



3 FRAME TYPE SCALE: 1:50

WINDOW TYPES NOTES:

- 1. ALL EXTERIOR WINDOWS SHALL BE WOOD WITH INSECT SCREENS. WINDOWS SHALL BE COMMERCIAL GRADE.
2. GLAZING SHALL BE ACRYLIC SHEET.

DOOR TYPES NOTES:

- 1. EXTERIOR METAL DOORS AND FRAME COLORS SHALL MATCH ADJACENT WALL COLORS AS SELECTED BY THE CONTRACTING OFFICER.
2. HARDWARE SHALL BE HEAVY DUTY, COMMERCIAL GRADE, STAINLESS STEEL WITH A MATTE FINISH.
3. FRAMES, EXCEPT FIRE-RATED FRAMES, SHALL BE MOUNTED AND ADJUSTED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
4. DIMENSIONS SHOWN ON DOOR SCHEDULE ARE BASED UPON MODULAR MASONRY (OR ROUGH OPENING), HEIGHT OF 2200mm FOR STANDARD PERSONNEL DOORS.



HARDWARE TYPES:

- HW-6 1-1/2 PR HINGES
1 EA LOCKSET, F04 ENTRY LOCK W/LEVERS, GRADE 1
1 EA DOOR CLOSER, C02061, LOW RESISTANCE
1 EA THRESHOLD J32130

US Army Corps of Engineers
Afghanistan Engineer District

Table with columns: SYMBOL, DESCRIPTION, DATE

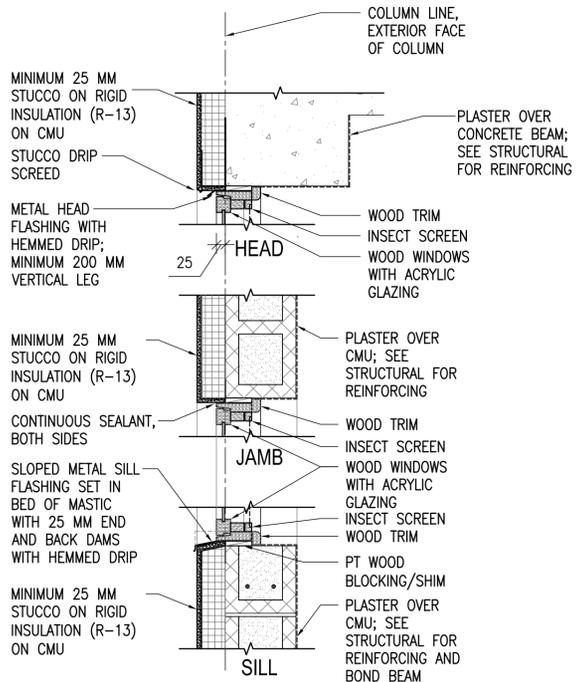
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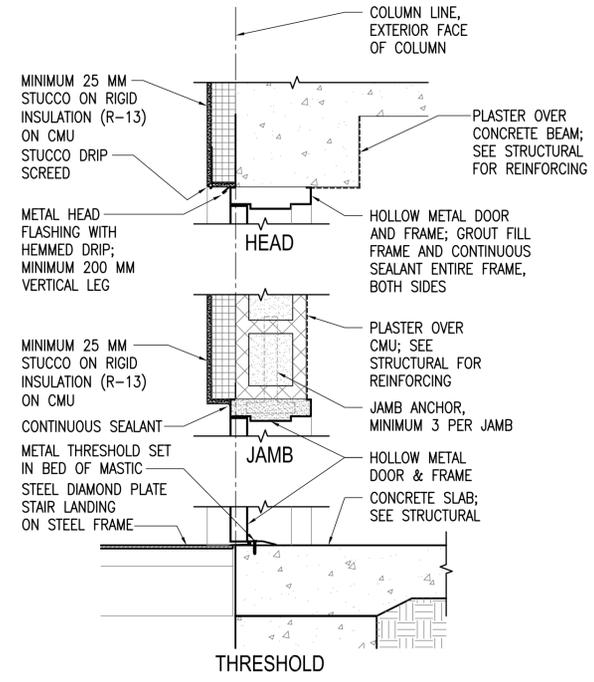
AFGHAN NATIONAL POLICE
STANDARD DESIGN
GUARD TOWER
DOOR, WINDOW & FINISH TYPES & DETAILS

SHEET REFERENCE NUMBER: A5

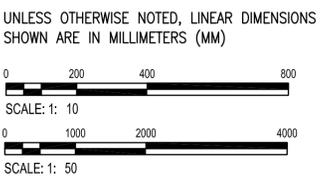
100% SUBMISSION

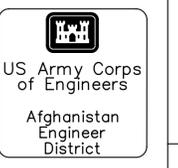
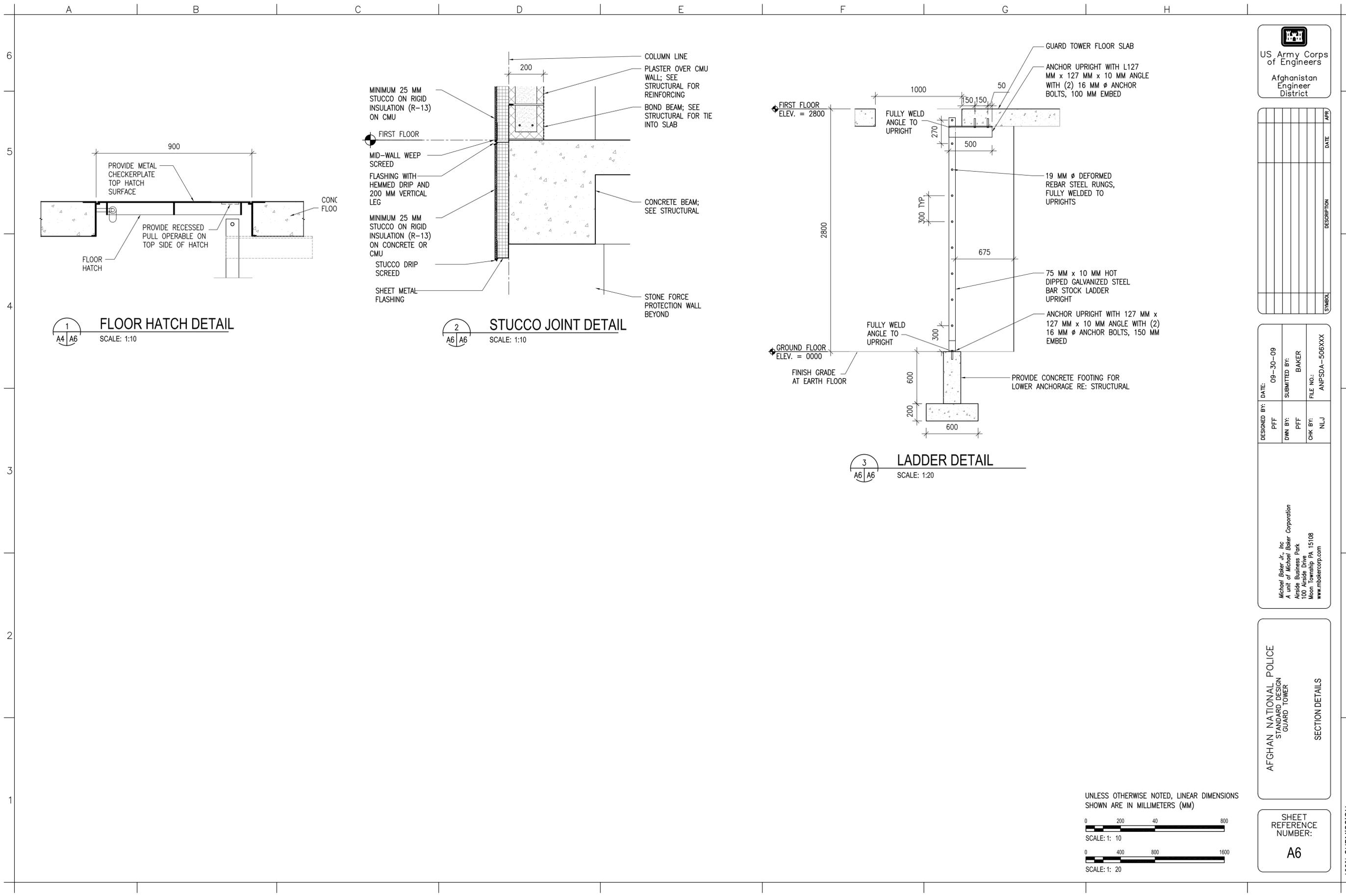


4 WINDOW DETAILS SCALE: 1:10



5 EXTERIOR DOOR DETAILS SCALE: 1:10





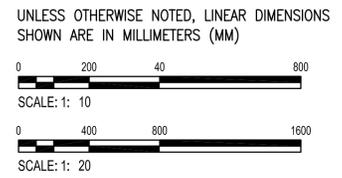
DATE	DESCRIPTION	SYMBOL

DESIGNED BY: PFF	DATE: 09-30-09
DWN BY: PFF	SUBMITTED BY: BAKER
CHK BY: NLJ	FILE NO: ANPSDA-506XXX

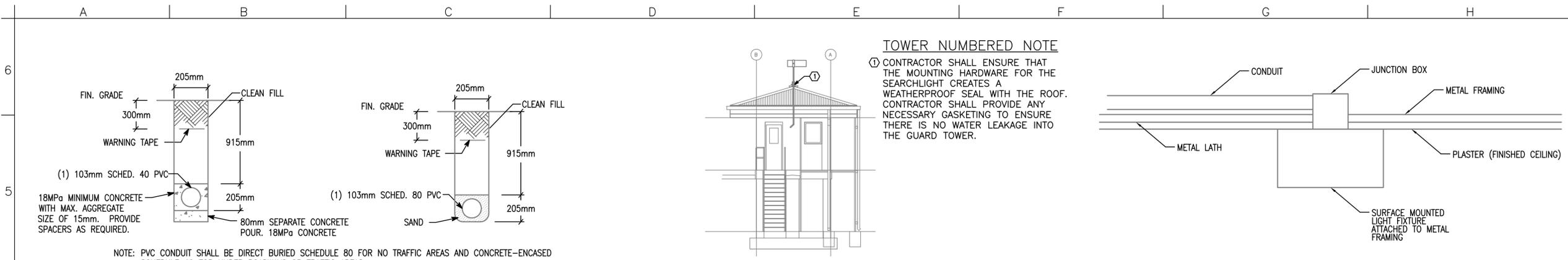
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STANDARD DESIGN
GUARD TOWER
SECTION DETAILS

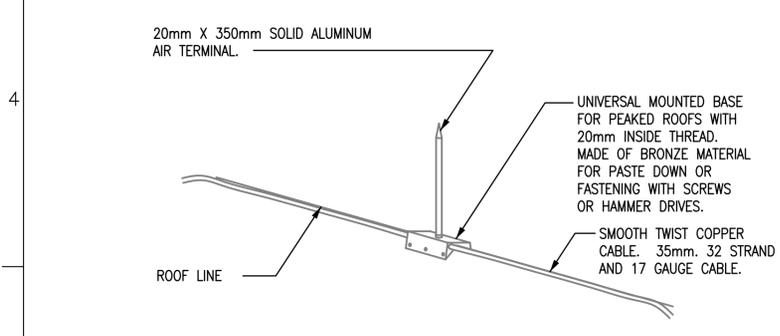
SHEET REFERENCE NUMBER:
A6



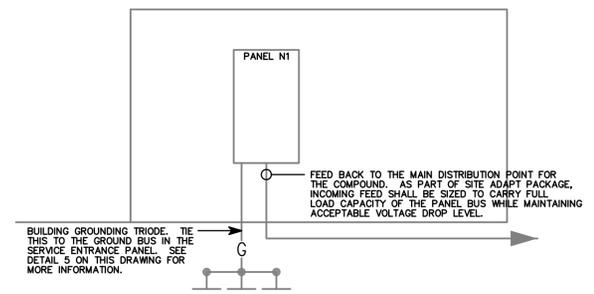
100% SUBMISSION



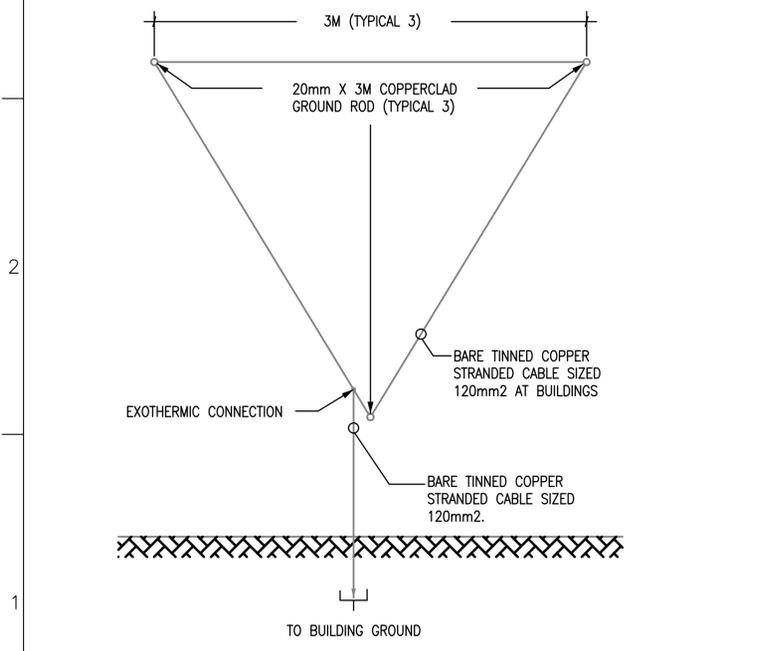
① E2 | E2 SCALE: N.T.S. ② E2 | E2 SCALE: N.T.S. ③ E2 | E2 SCALE: N.T.S.



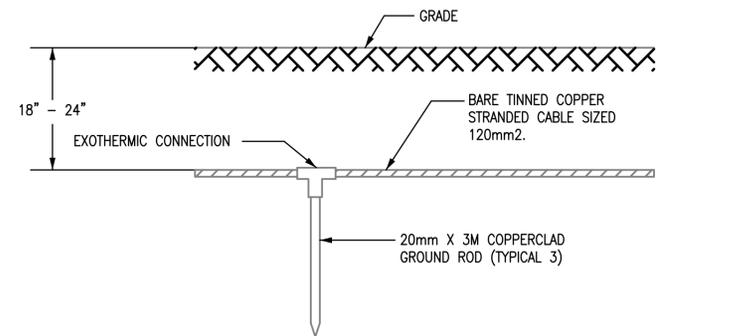
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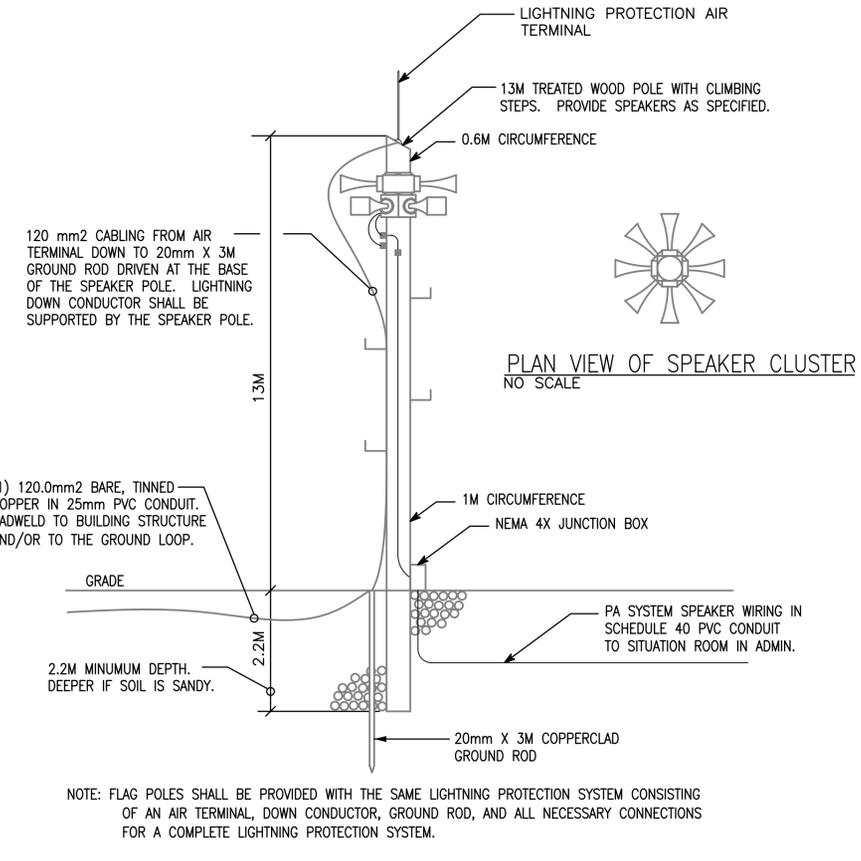
⑤ E2 | E2 SCALE: N.T.S.



⑥ E2 | E2 SCALE: N.T.S.



⑦ E2 | E2 SCALE: N.T.S.



⑧ E2 | E2 SCALE: N.T.S.

US Army Corps of Engineers
Afghanistan Engineer District

NO.	DATE	DESCRIPTION	SYMBOL

DESIGNED BY: JRG DATE: 09-30-09
 DWN BY: JRG SUBMITTED BY: BAKER
 CHK BY: JRG FILE NO.: ANFSDE-502XXX

Michael Baker, Jr. Inc.
 A Unit of Michael Baker Corporation
 1000 Business Park
 1000 Business Park
 Moon Township, PA 15108
 www.mbakercorp.com

AFGHAN NATIONAL POLICE
 STANDARD DESIGN
 GUARD TOWER

DETAILS

SHEET REFERENCE NUMBER:
E2

100% SUBMISSION

A

B

C

D

E

F

G

H

6

5

4

3

2

1



20 METER WATER TOWER



U.S. Army Corps
OF Engineers
AFGHANISTAN ENGINEER DISTRICT
AFGHANISTAN, APO AE, 09356

17 DECEMBER 2009



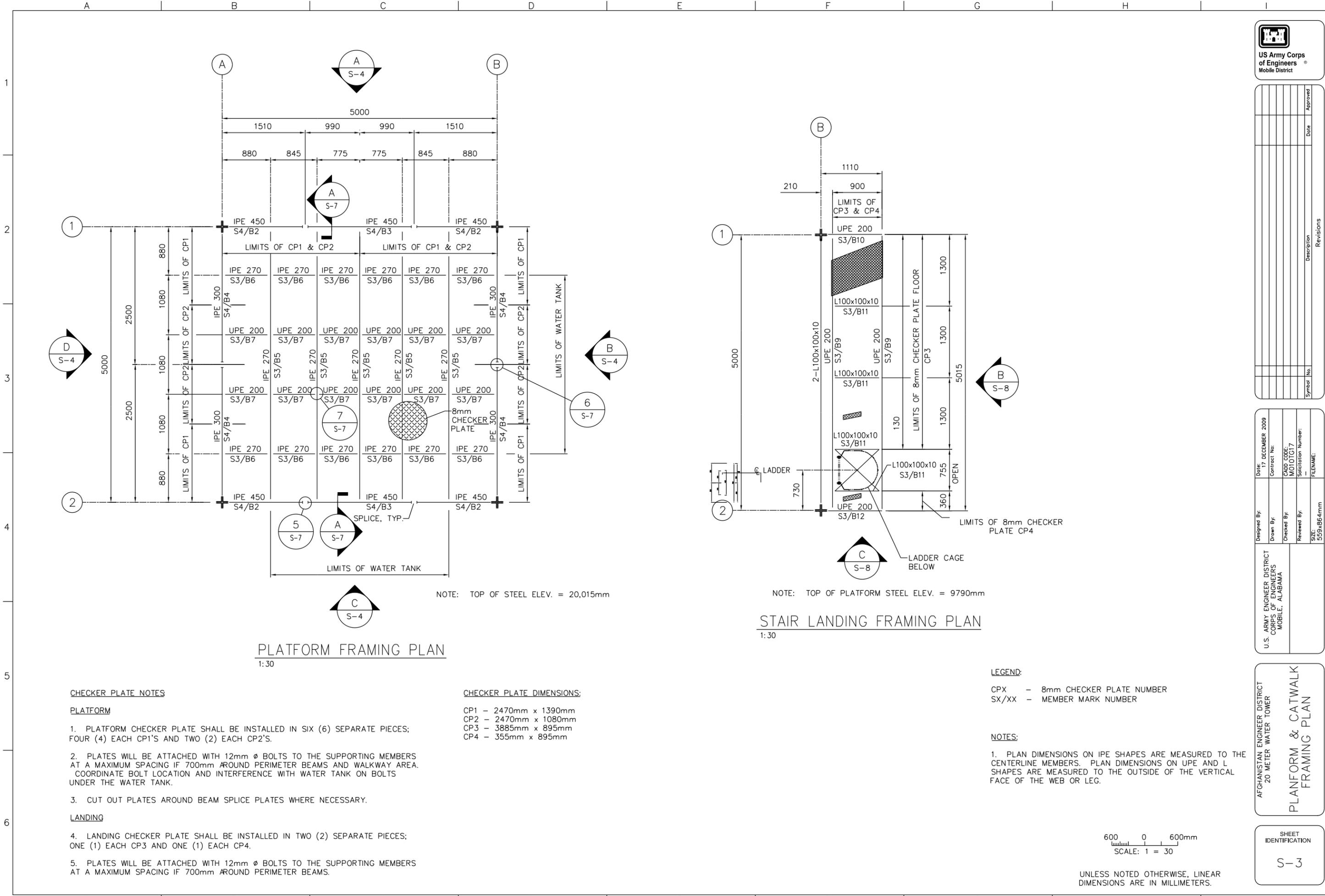
US Army Corps of Engineers
Mobile District

Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
	FILENAME:	

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
PLANFORM & CATWALK
FRAMING PLAN

SHEET IDENTIFICATION
S-3



PLATFORM FRAMING PLAN
1:30

STAIR LANDING FRAMING PLAN
1:30

CHECKER PLATE NOTES

PLATFORM

1. PLATFORM CHECKER PLATE SHALL BE INSTALLED IN SIX (6) SEPARATE PIECES; FOUR (4) EACH CP1'S AND TWO (2) EACH CP2'S.
2. PLATES WILL BE ATTACHED WITH 12mm Ø BOLTS TO THE SUPPORTING MEMBERS AT A MAXIMUM SPACING IF 700mm AROUND PERIMETER BEAMS AND WALKWAY AREA. COORDINATE BOLT LOCATION AND INTERFERENCE WITH WATER TANK ON BOLTS UNDER THE WATER TANK.
3. CUT OUT PLATES AROUND BEAM SPLICE PLATES WHERE NECESSARY.

LANDING

4. LANDING CHECKER PLATE SHALL BE INSTALLED IN TWO (2) SEPARATE PIECES; ONE (1) EACH CP3 AND ONE (1) EACH CP4.
5. PLATES WILL BE ATTACHED WITH 12mm Ø BOLTS TO THE SUPPORTING MEMBERS AT A MAXIMUM SPACING IF 700mm AROUND PERIMETER BEAMS.

CHECKER PLATE DIMENSIONS:

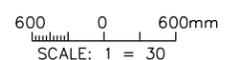
- CP1 - 2470mm x 1390mm
- CP2 - 2470mm x 1080mm
- CP3 - 3885mm x 895mm
- CP4 - 355mm x 895mm

LEGEND:

- CPX - 8mm CHECKER PLATE NUMBER
- SX/XX - MEMBER MARK NUMBER

NOTES:

1. PLAN DIMENSIONS ON IPE SHAPES ARE MEASURED TO THE CENTERLINE MEMBERS. PLAN DIMENSIONS ON UPE AND L SHAPES ARE MEASURED TO THE OUTSIDE OF THE VERTICAL FACE OF THE WEB OR LEG.



UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.

NOTE: TOP OF STEEL ELEV. = 20,015mm

NOTE: TOP OF PLATFORM STEEL ELEV. = 9790mm



US Army Corps of Engineers
Mobile District

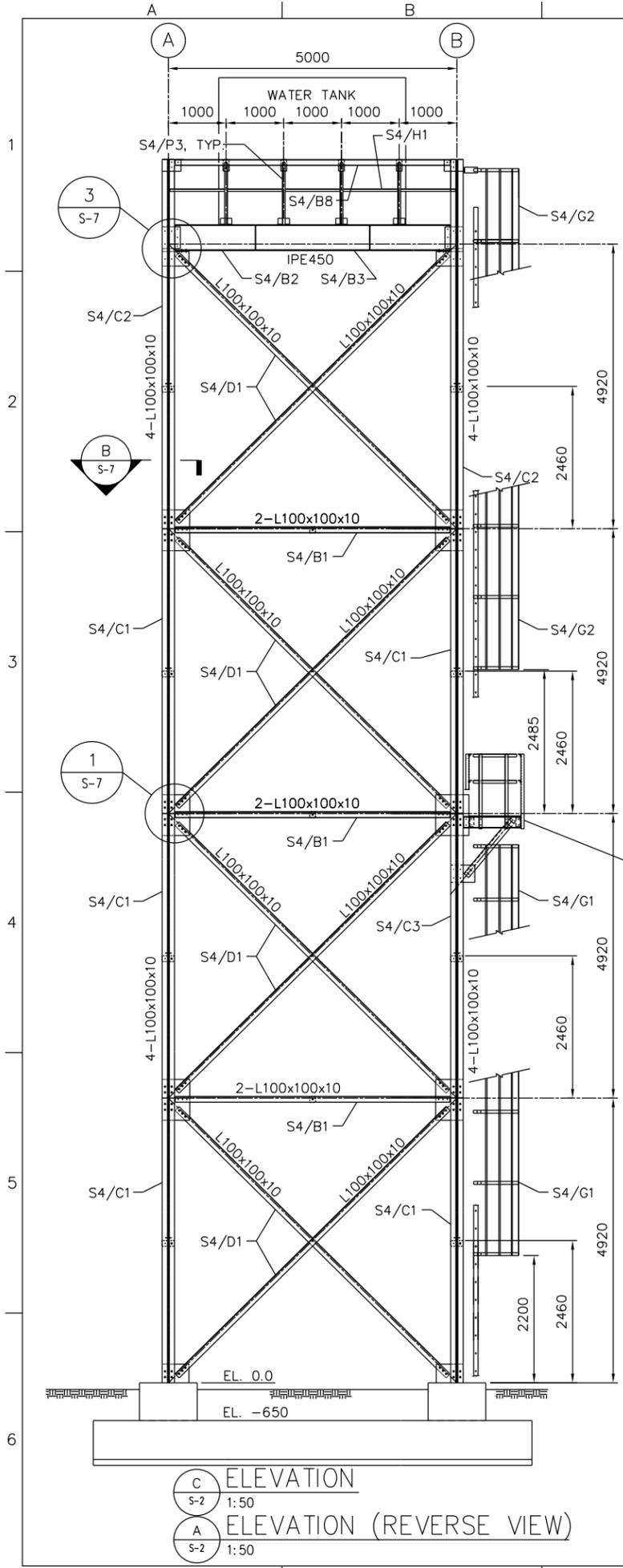
Symbol No.	Description	Date	Approved

Designed By:	Date: 17 DECEMBER 2009
Drawn By:	Contract No:
Checked By:	CADD CODE: M010TC17
Reviewed By:	Solicitation Number:
SIZE: 559x864mm	FILENAME:

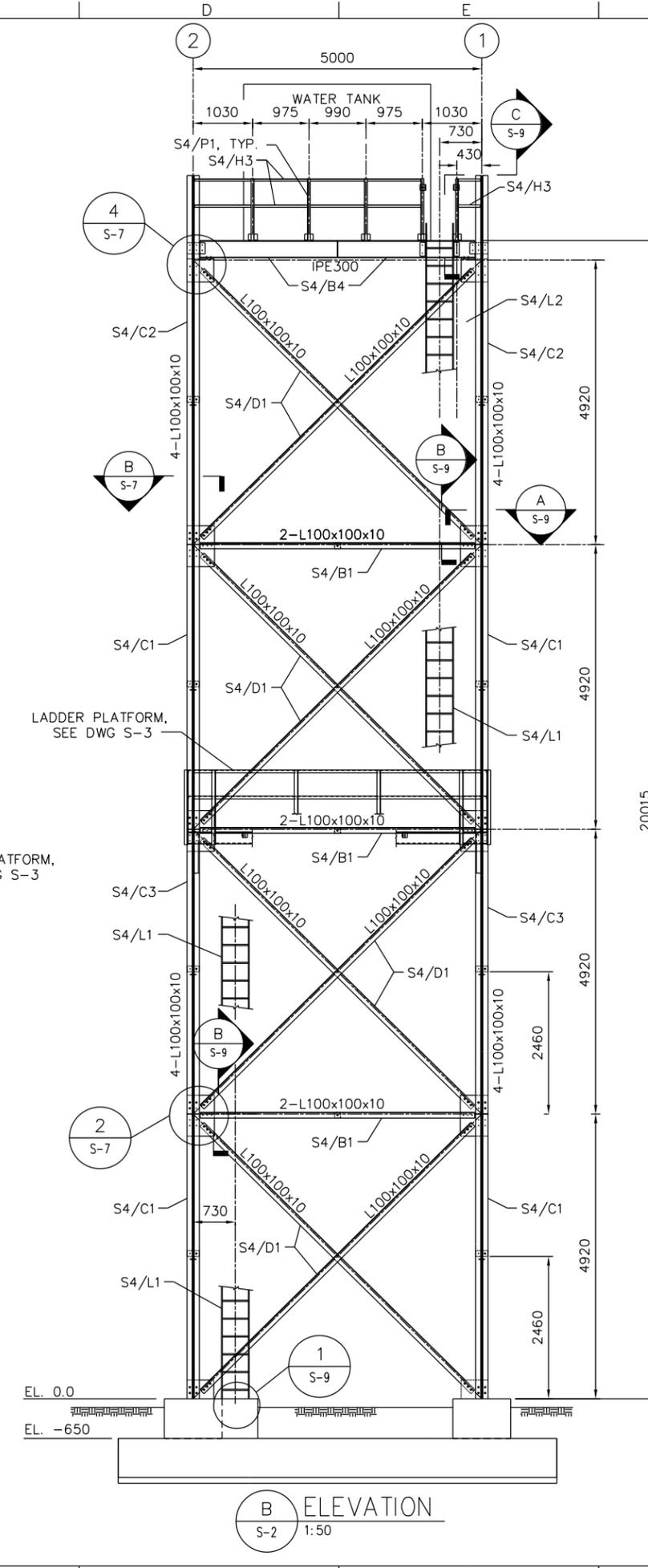
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
ELEVATIONS

SHEET IDENTIFICATION

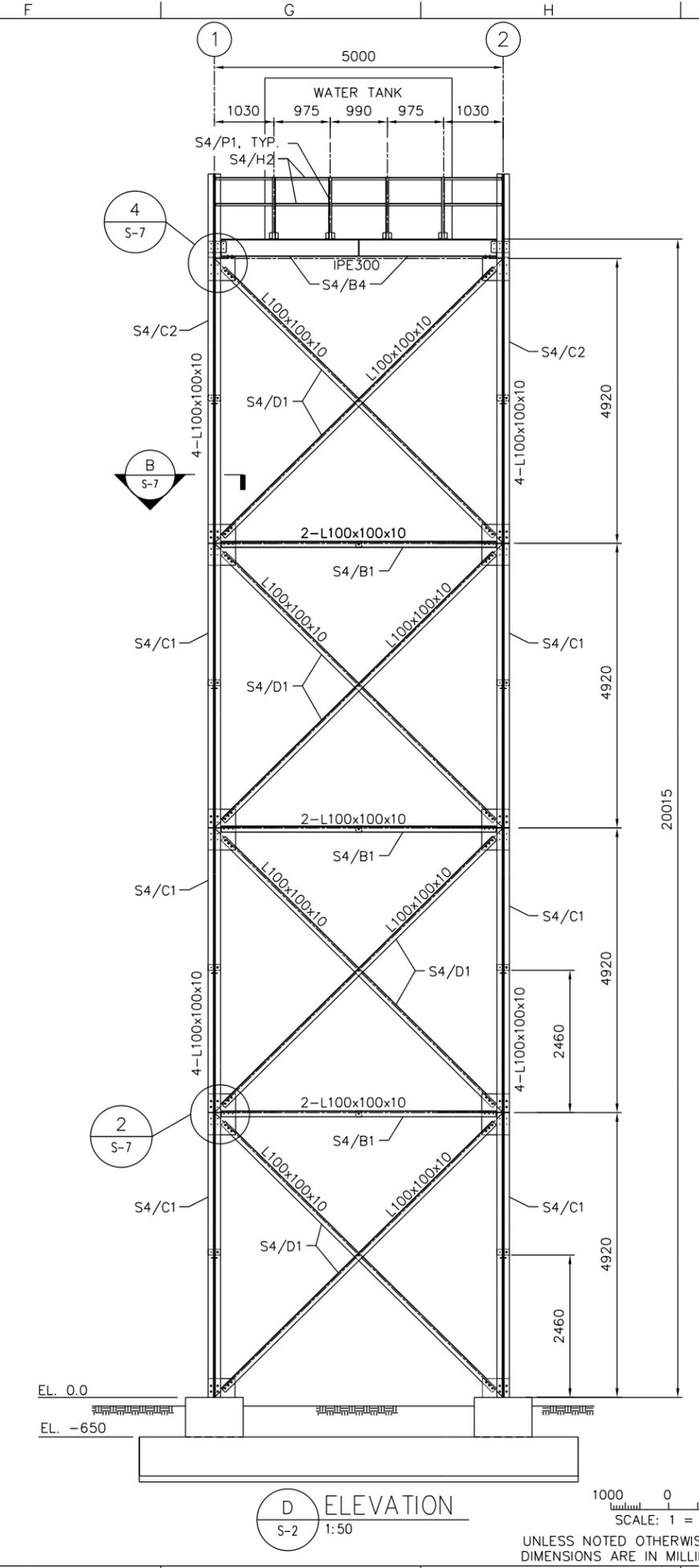
S-4



A ELEVATION (REVERSE VIEW)
S-2 1:50



B ELEVATION
S-2 1:50



D ELEVATION
S-2 1:50

1000 0 1000mm
SCALE: 1 = 50

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps of Engineers
Mobile District

Symbol No.	Description	Date	Approved

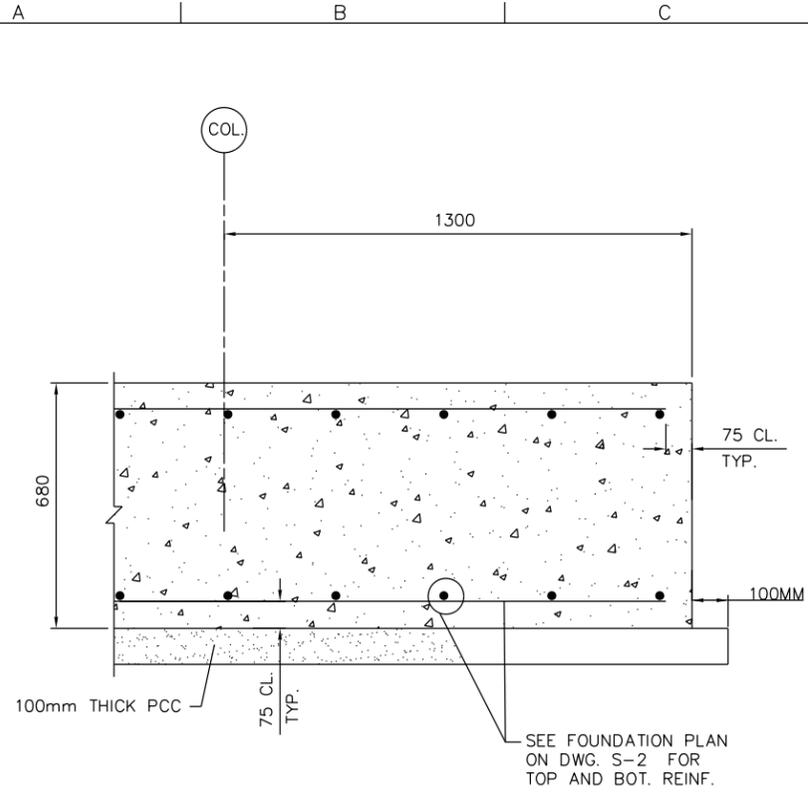
Designed By:	Date:	17 DECEMBER, 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
	FILENAME:	

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

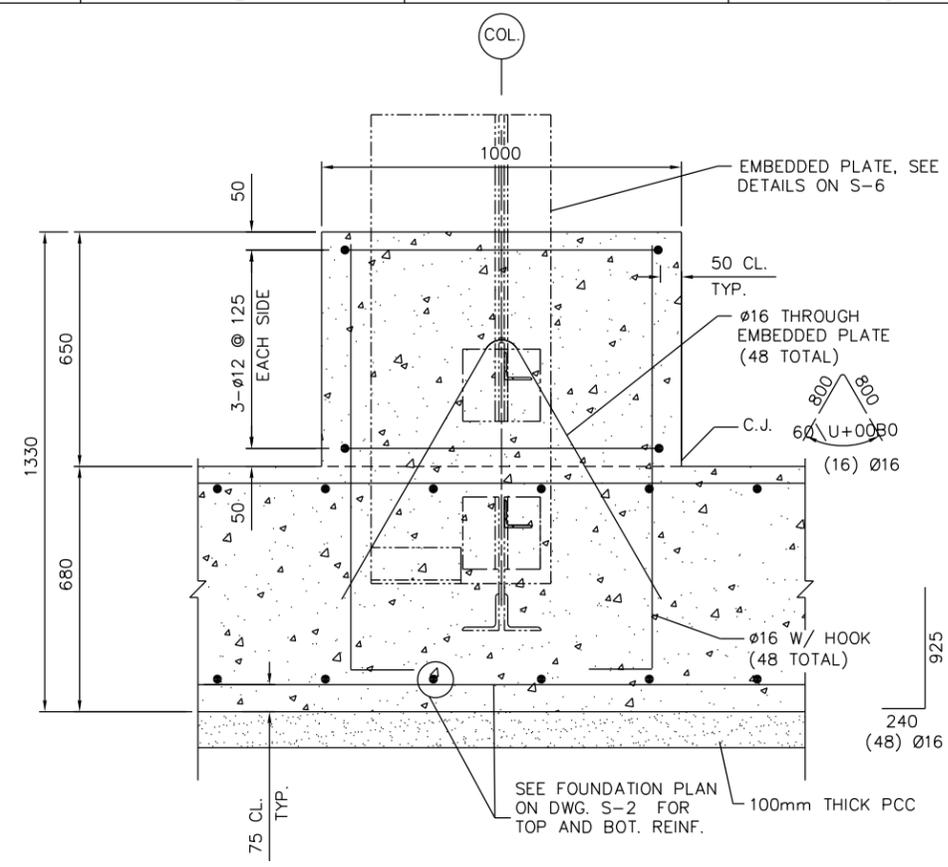
FOUNDATION SECTIONS

SHEET IDENTIFICATION
S-5



SECTION A
1:10
S-2

SEE FOUNDATION PLAN ON DWG. S-2 FOR TOP AND BOT. REINF.



SECTION B
1:10
S-2
S-5

EMBEDDED PLATE, SEE DETAILS ON S-6

50 CL. TYP.

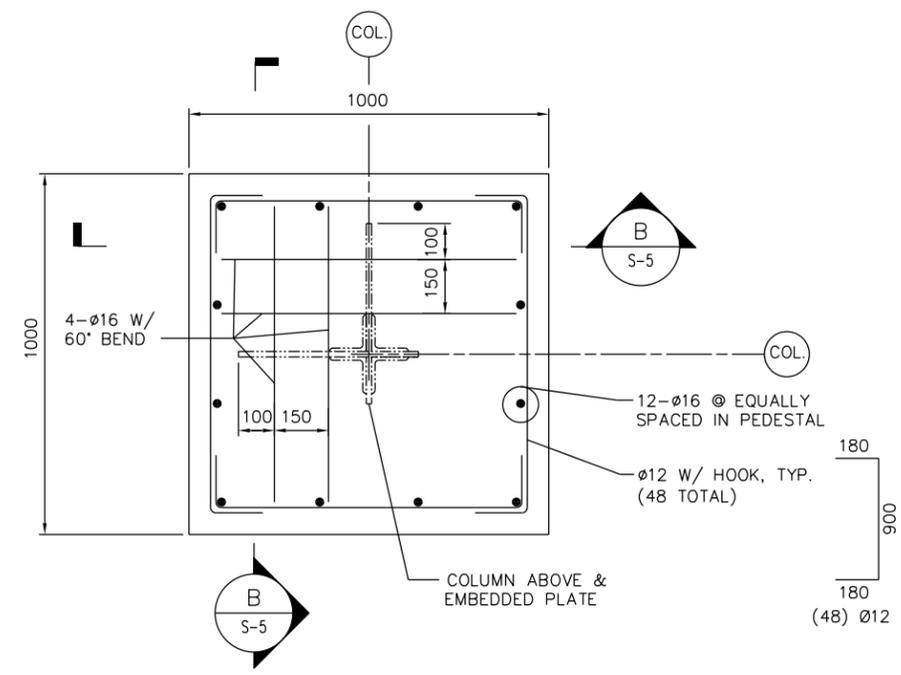
Ø16 THROUGH EMBEDDED PLATE (48 TOTAL)

C.J. 60° U+0080 (16) Ø16

Ø16 W/ HOOK (48 TOTAL)

240 (48) Ø16

SEE FOUNDATION PLAN ON DWG. S-2 FOR TOP AND BOT. REINF.

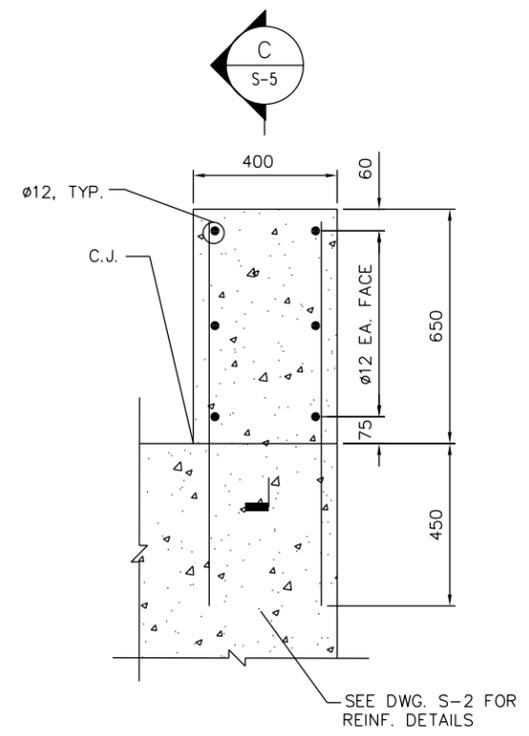


DETAIL 1
1:10
S-2

COLUMN ABOVE & EMBEDDED PLATE

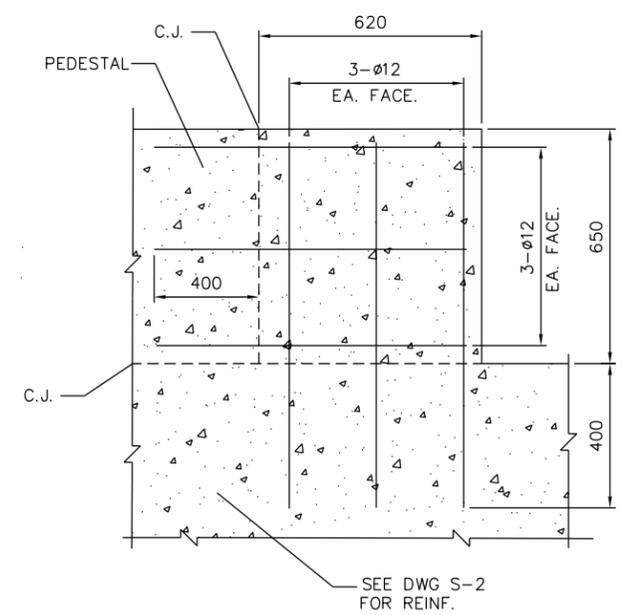
12-Ø16 @ EQUALLY SPACED IN PEDESTAL

Ø12 W/ HOOK, TYP. (48 TOTAL)



DETAIL 2
1:10
S-2

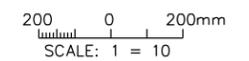
SEE DWG. S-2 FOR REINF. DETAILS



SECTION C
1:10
S-5

SEE DWG S-2 FOR REINF.

NOTE: SEPARATE CONCRETE PLACEMENT. SEE DETAIL 1 ON DRAWING S-9 FOR ANCHOR BOLT REQUIREMENTS.



UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.

A B C D E F G H

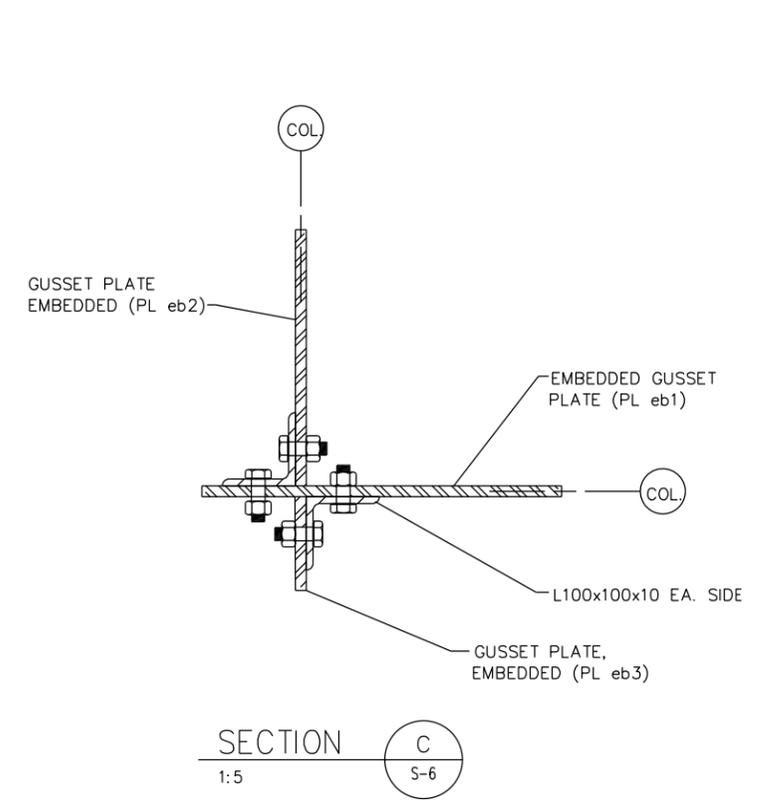
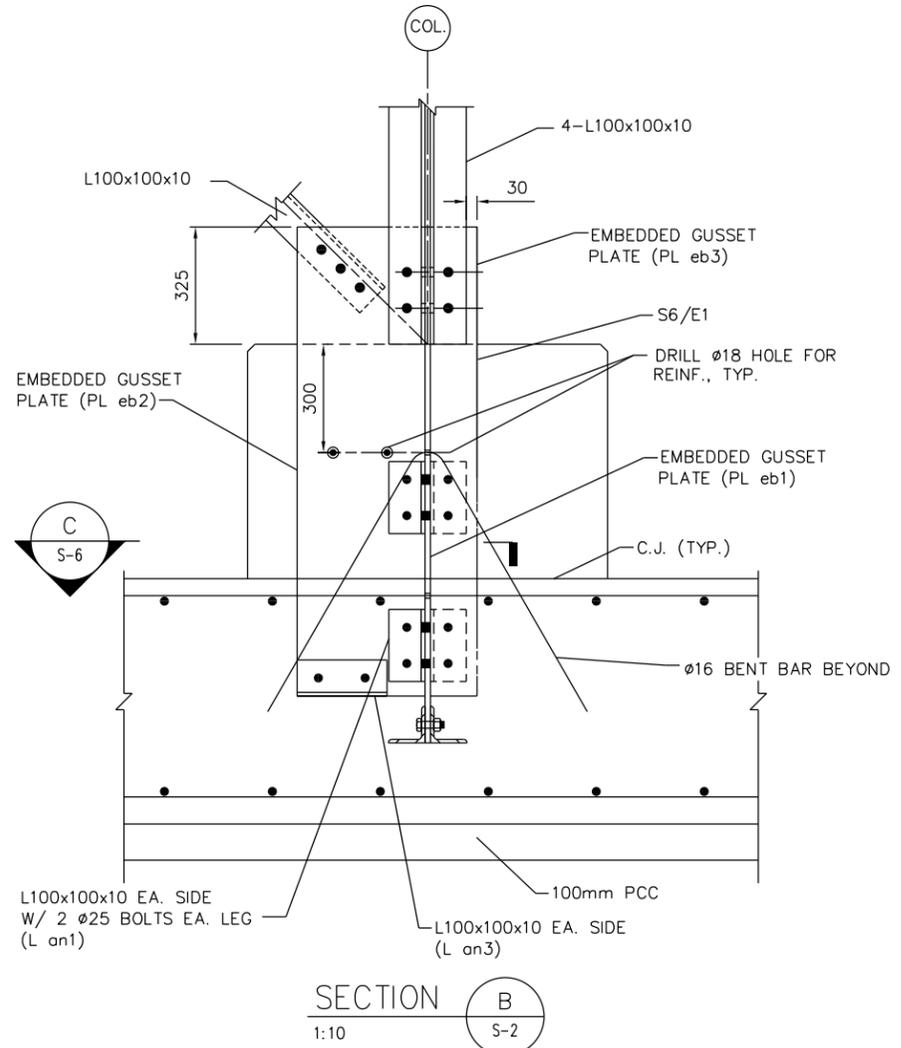
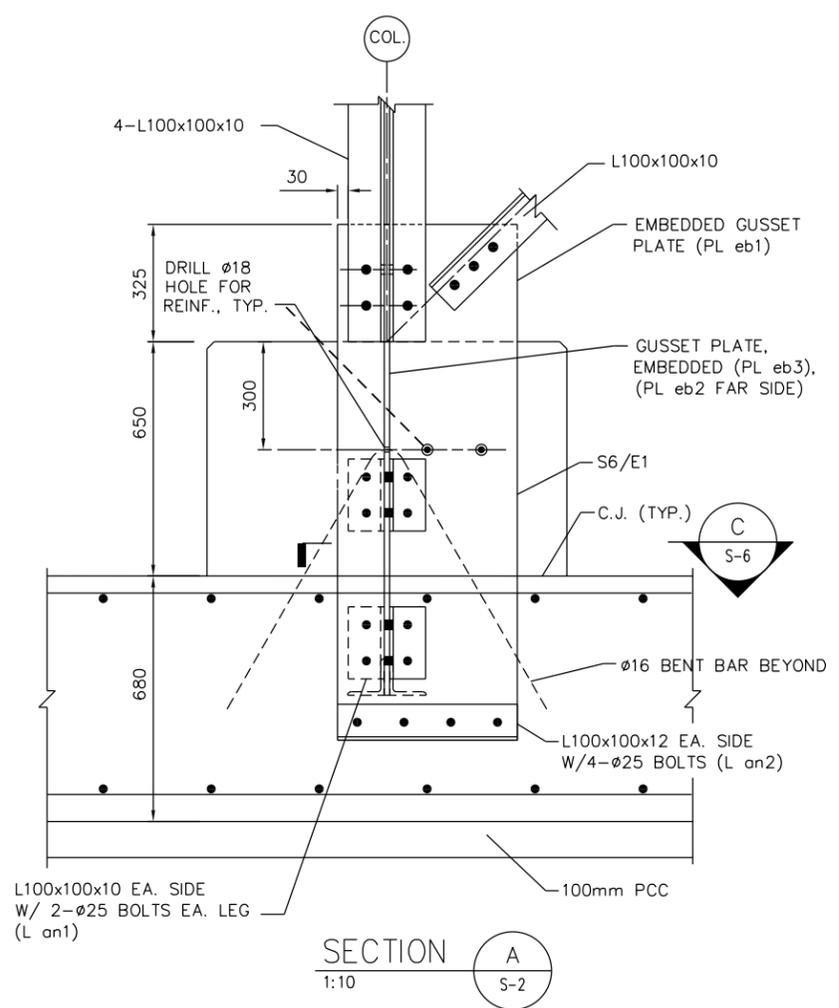


Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
	FILENAME:	
	SIZE:	559x864mm

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
FOUNDATION STEEL
FRAMING SECTIONS

SHEET IDENTIFICATION
S-6



UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps of Engineers
Mobile District

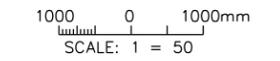
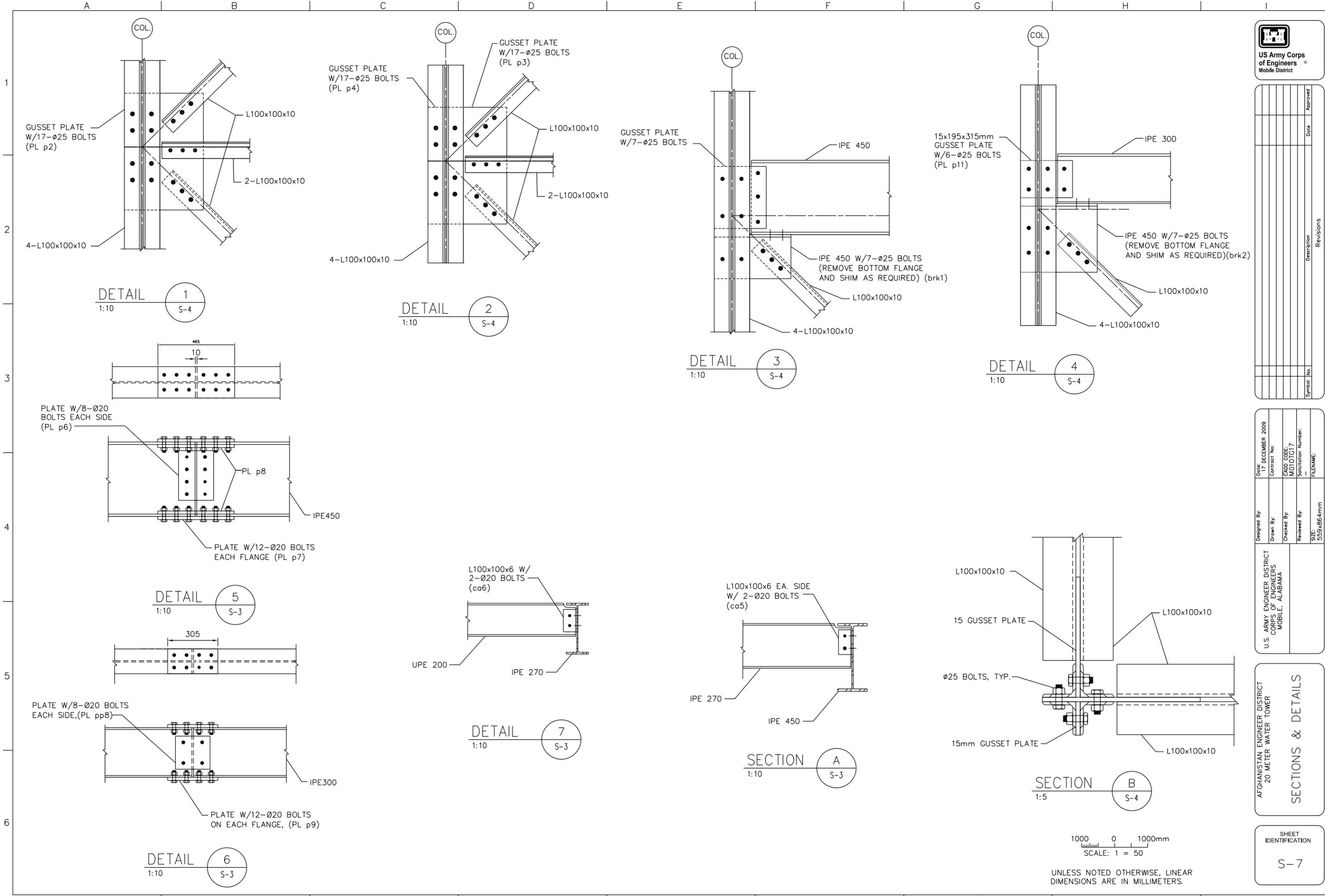
Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
	FILENAME:	
	SIZE:	559x864mm

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

SHEET IDENTIFICATION
S-7



UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps of Engineers
Mobile District

Symbol No.	Description	Date	Approved

Designed By:	Date:	Contract No:
Drawn By:	17 DECEMBER 2009	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
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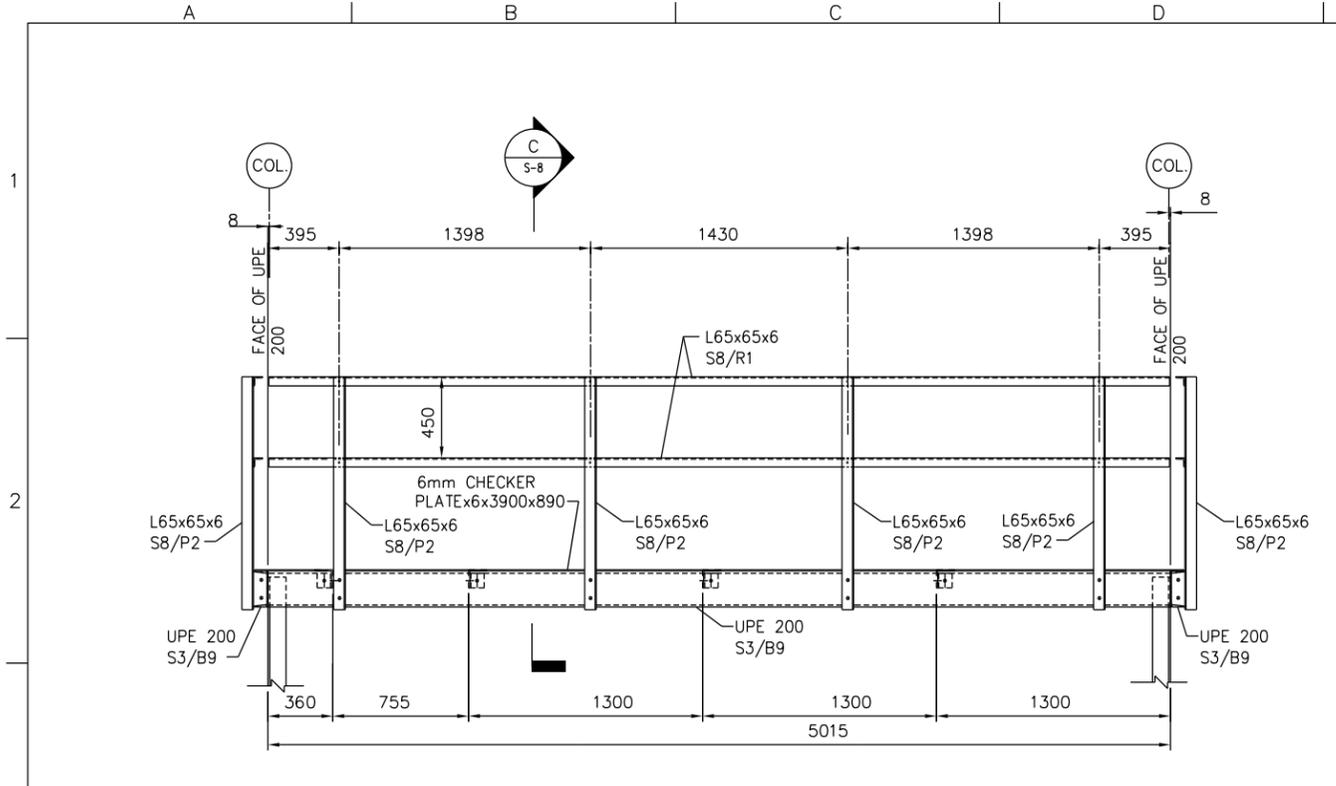
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

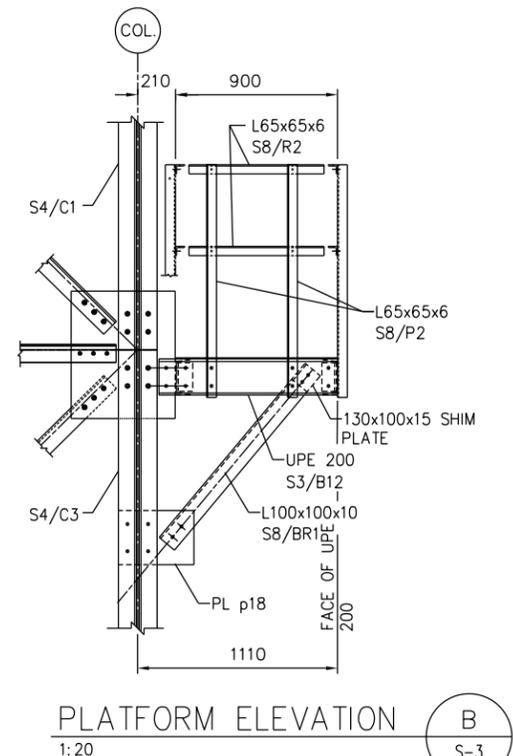
SECTION & DETAILS

SHEET IDENTIFICATION

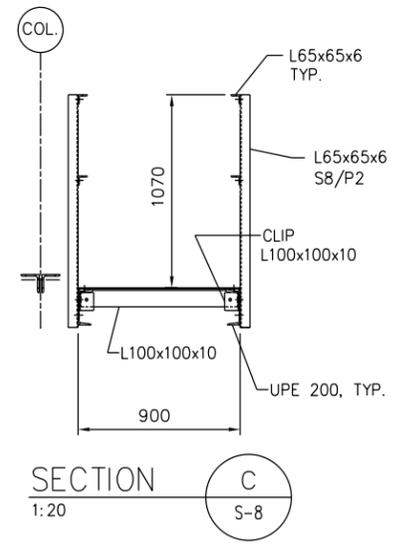
S-8



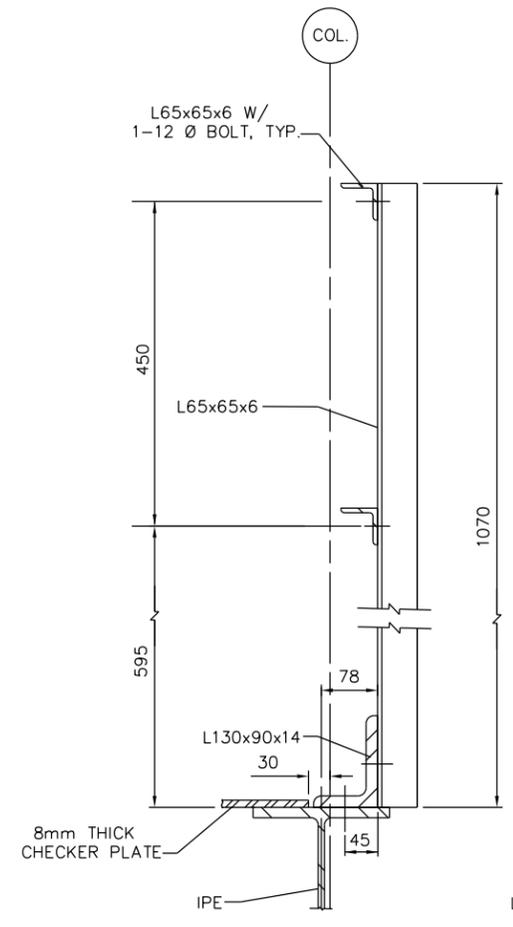
PLATFORM ELEVATION A
1:20



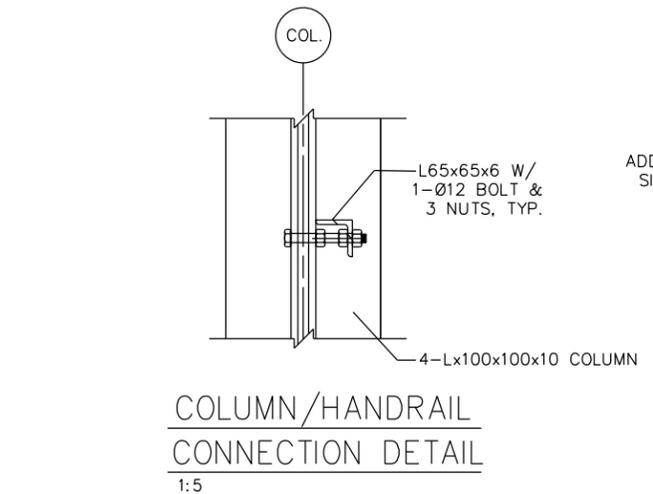
PLATFORM ELEVATION B
1:20



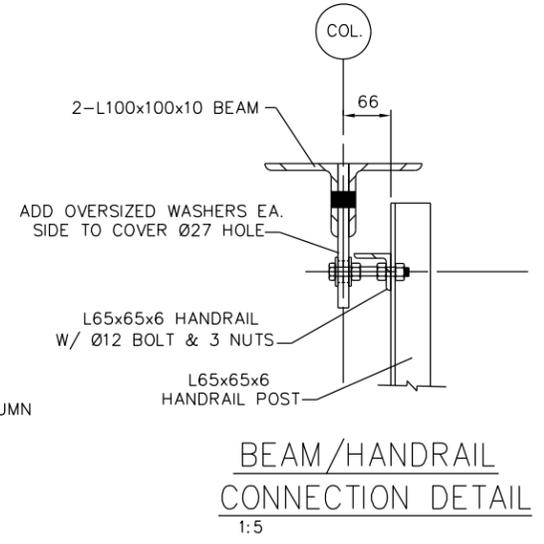
SECTION C
1:20



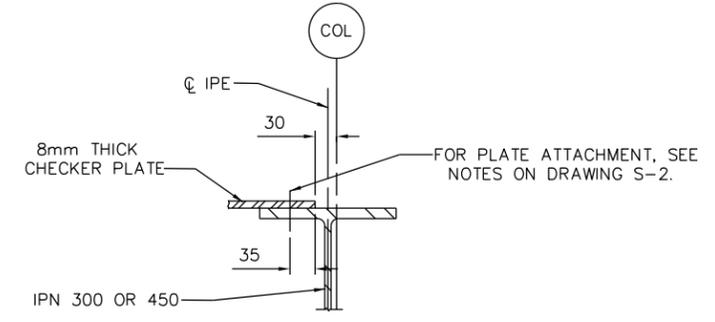
PLATFORM HANDRAIL DETAIL
1:5



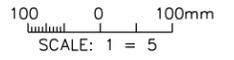
COLUMN/HANDRAIL CONNECTION DETAIL
1:5



BEAM/HANDRAIL CONNECTION DETAIL
1:5



CHECKER PLATE ATTACHMENT DETAIL
1:5



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US Army Corps
of Engineers
Mobile District

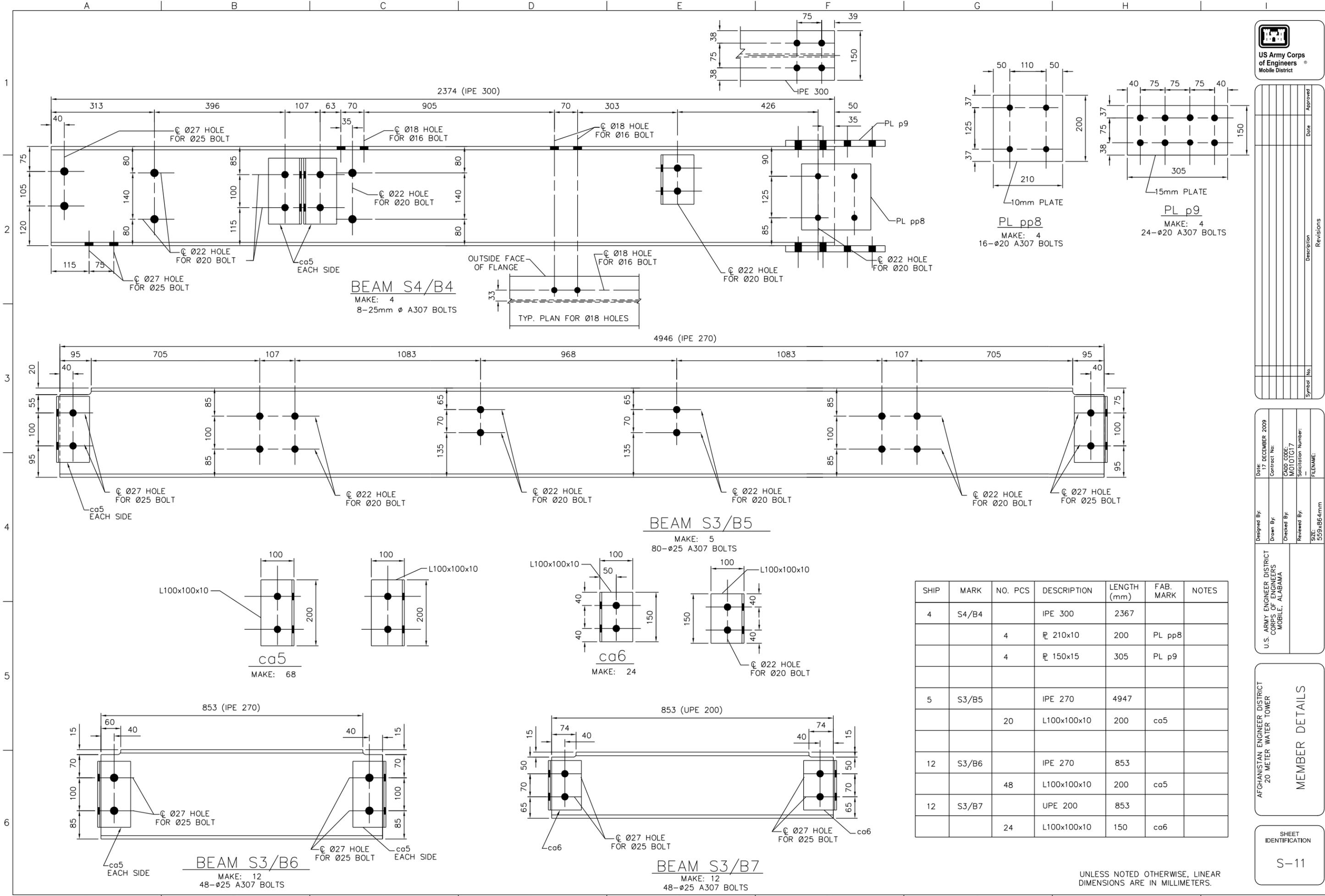
Symbol No	Description	Date	Approved

Designed By:	Date:
Drawn By:	Contract No:
Checked By:	CADD CODE:
Reviewed By:	Solicitation Number:
SIZE:	FILENAME:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-11



UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



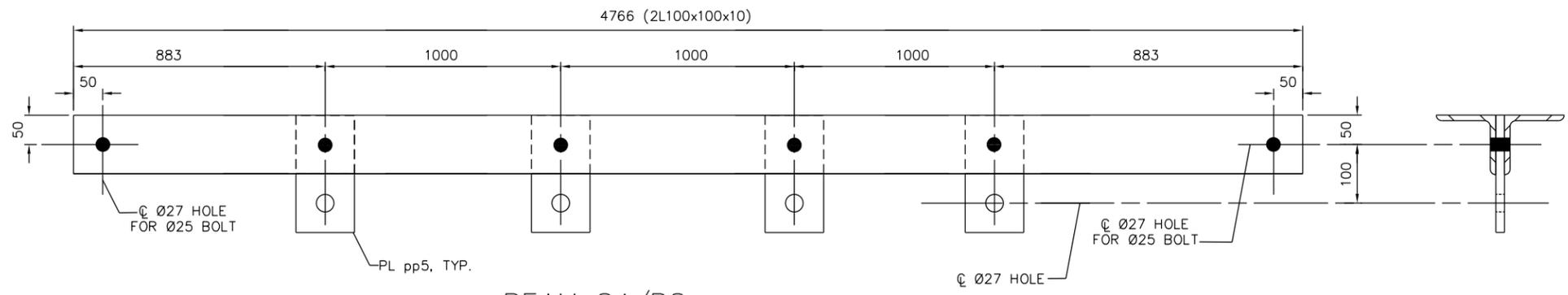
US Army Corps
of Engineers
Mobile District

Symbol No.	Description	Date	Approved

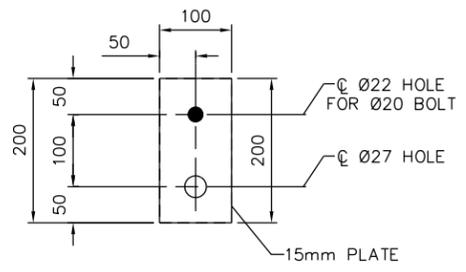
Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
SIZE:	FILENAME:	
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA		

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-12



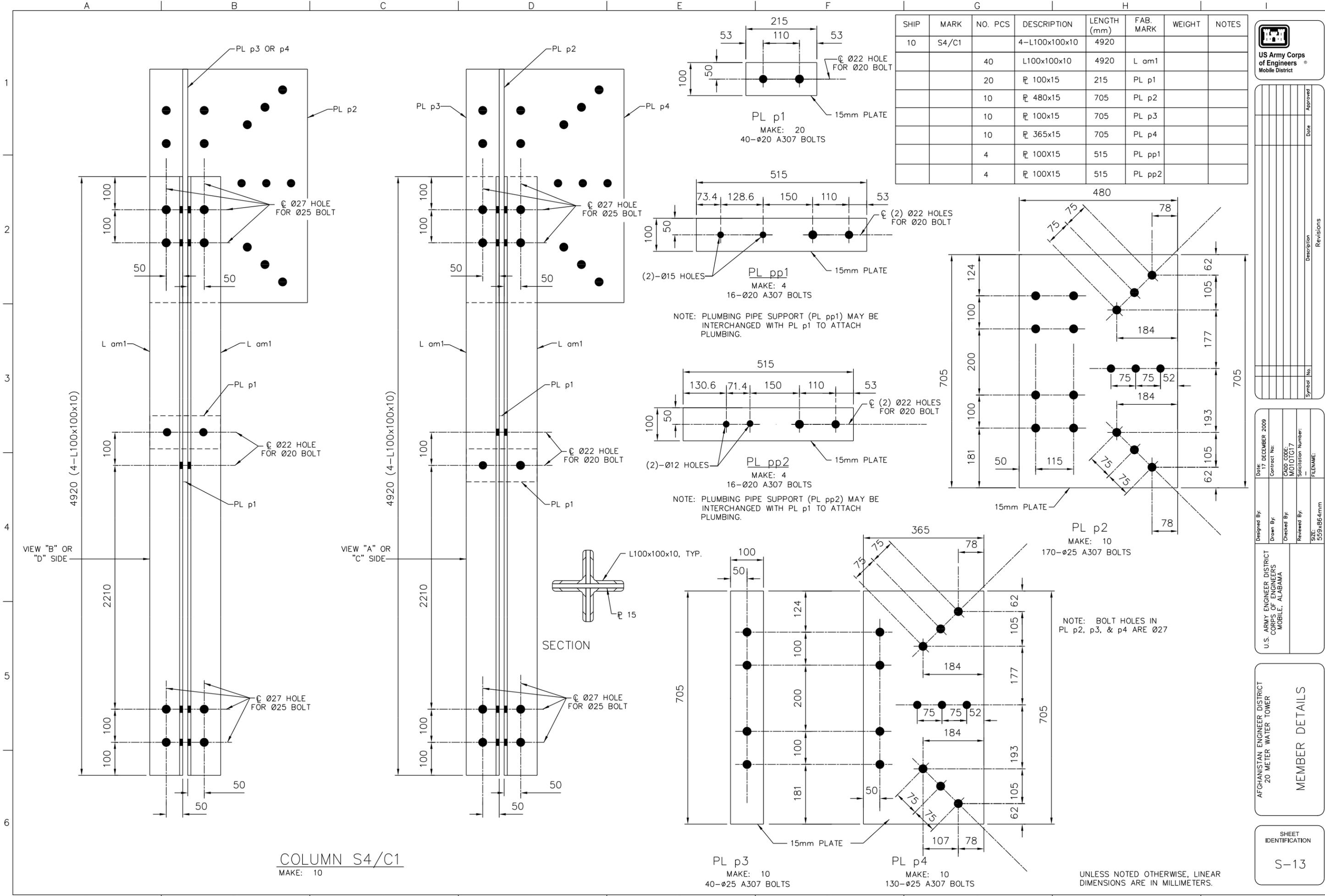
BEAM S4/B8
MAKE: 2
4-Ø25 A307 BOLTS



PL pp5
MAKE: 8
8-Ø20 A307 BOLTS

SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	NOTES
4	S4/B8		2L100x100x10	4766		
		4	PL 15x100	200	PL pp5	

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps of Engineers
Mobile District

Symbol No	Description	Date	Approved

Designed By:	Date: 17 DECEMBER 2009
Drawn By:	Contract No:
Checked By:	CADD CODE: M010TG17
Reviewed By:	Solicitation Number:
SIZE: 559x864mm	FILENAME:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

MEMBER DETAILS

SHEET IDENTIFICATION

S-13



US Army Corps
of Engineers
Mobile District

Symbol No	Description	Date	Approved

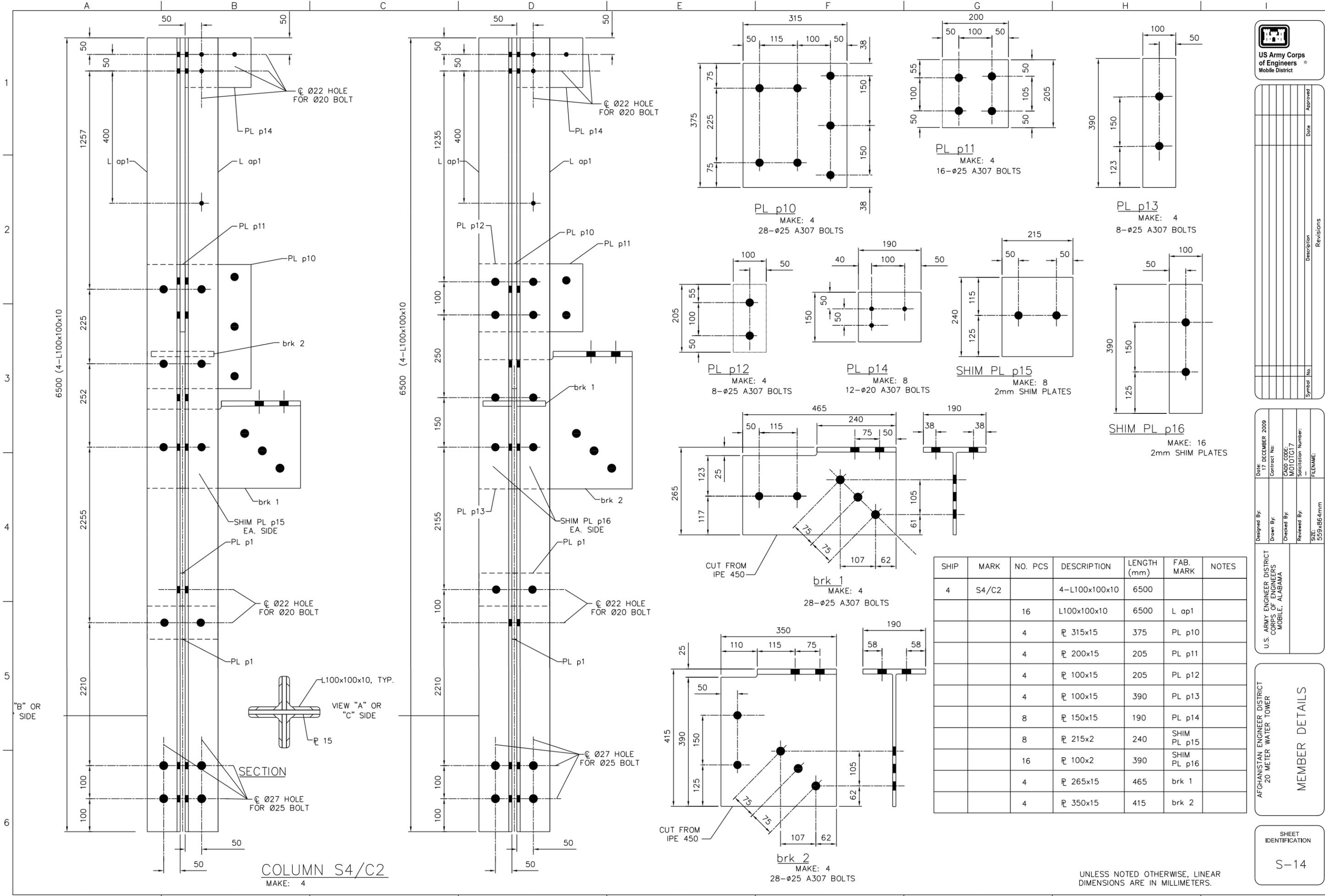
Designed By:	Date:	Contract No:
Drawn By:	17 DECEMBER 2009	
Checked By:	CADD CODE:	MO10TC17
Reviewed By:	Solicitation Number:	
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	SIZE:	559x864mm

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION

S-14

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



6500 (4-L100x100x10)

6500 (4-L100x100x10)

COLUMN S4/C2
MAKE: 4

SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	NOTES
4	S4/C2		4-L100x100x10	6500		
		16	L100x100x10	6500	L op1	
		4	PL 315x15	375	PL p10	
		4	PL 200x15	205	PL p11	
		4	PL 100x15	205	PL p12	
		4	PL 100x15	390	PL p13	
		8	PL 150x15	190	PL p14	
		8	PL 215x2	240	SHIM PL p15	
		16	PL 100x2	390	SHIM PL p16	
		4	PL 265x15	465	brk 1	
		4	PL 350x15	415	brk 2	



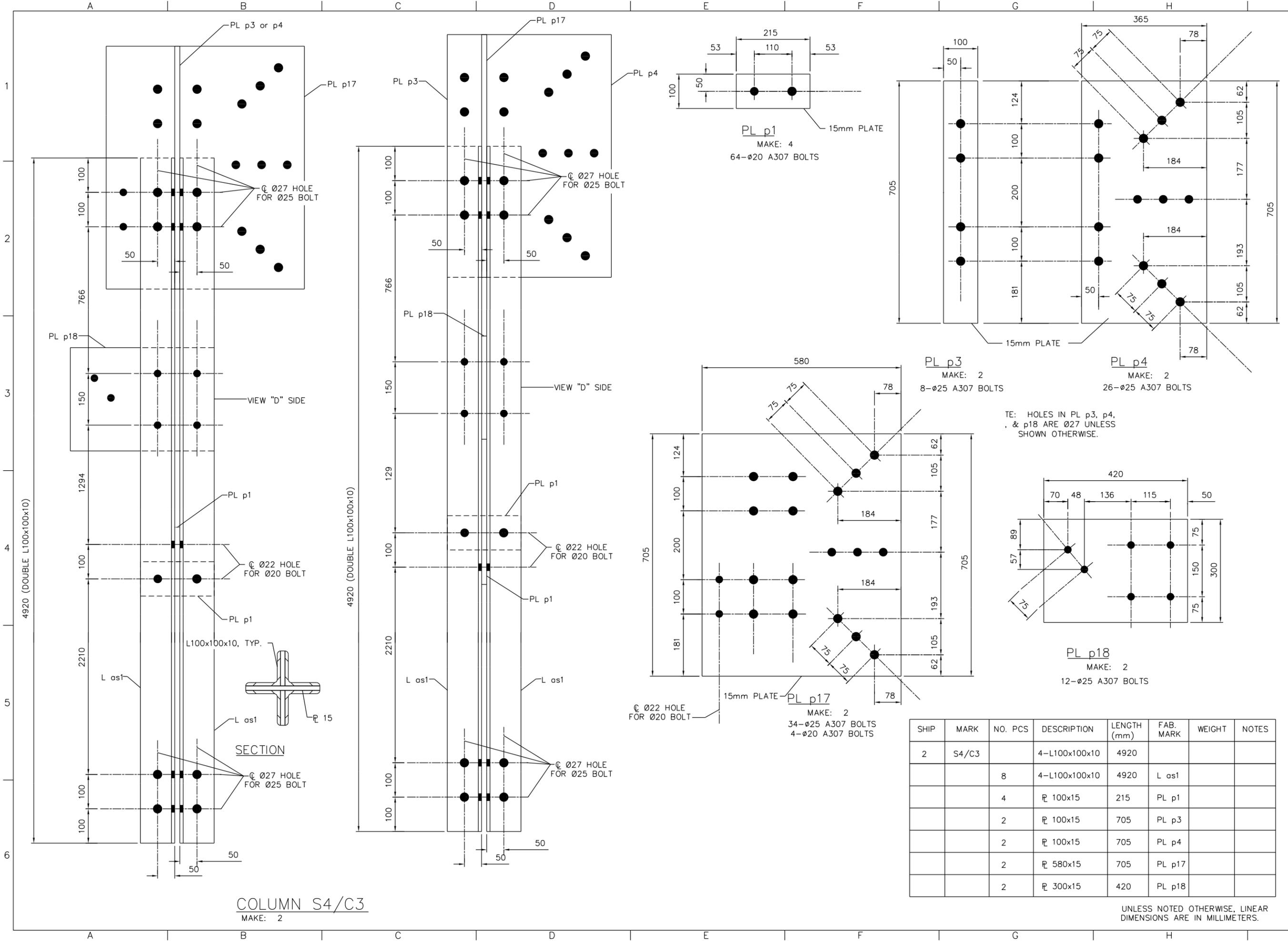
US Army Corps
of Engineers
Mobile District

Symbol No	Description	Date	Approved

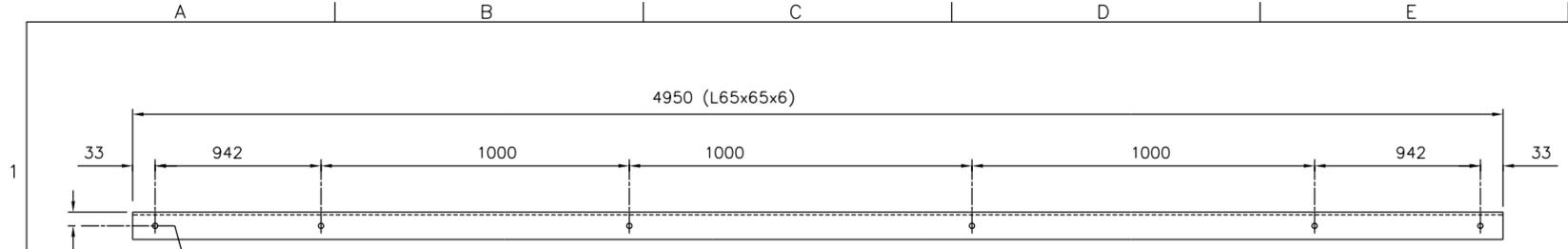
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Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
SIZE:	FILENAME:	

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

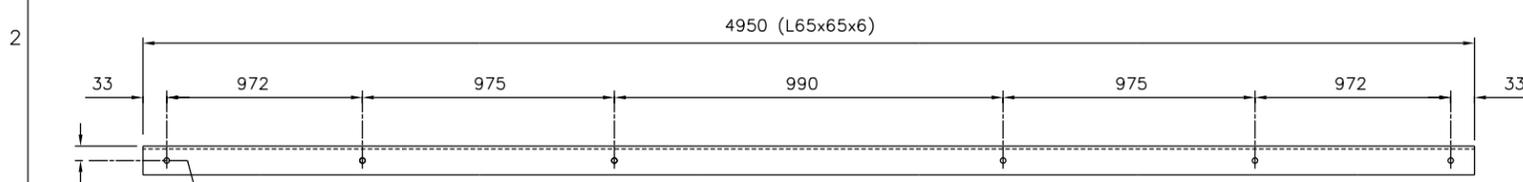
SHEET IDENTIFICATION
S-15



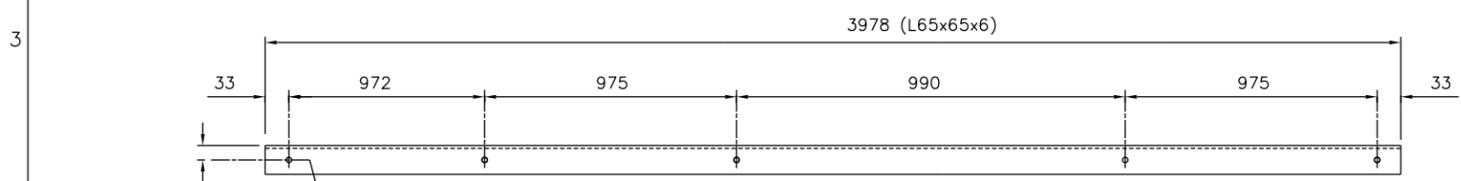
COLUMN S4/C3
MAKE: 2



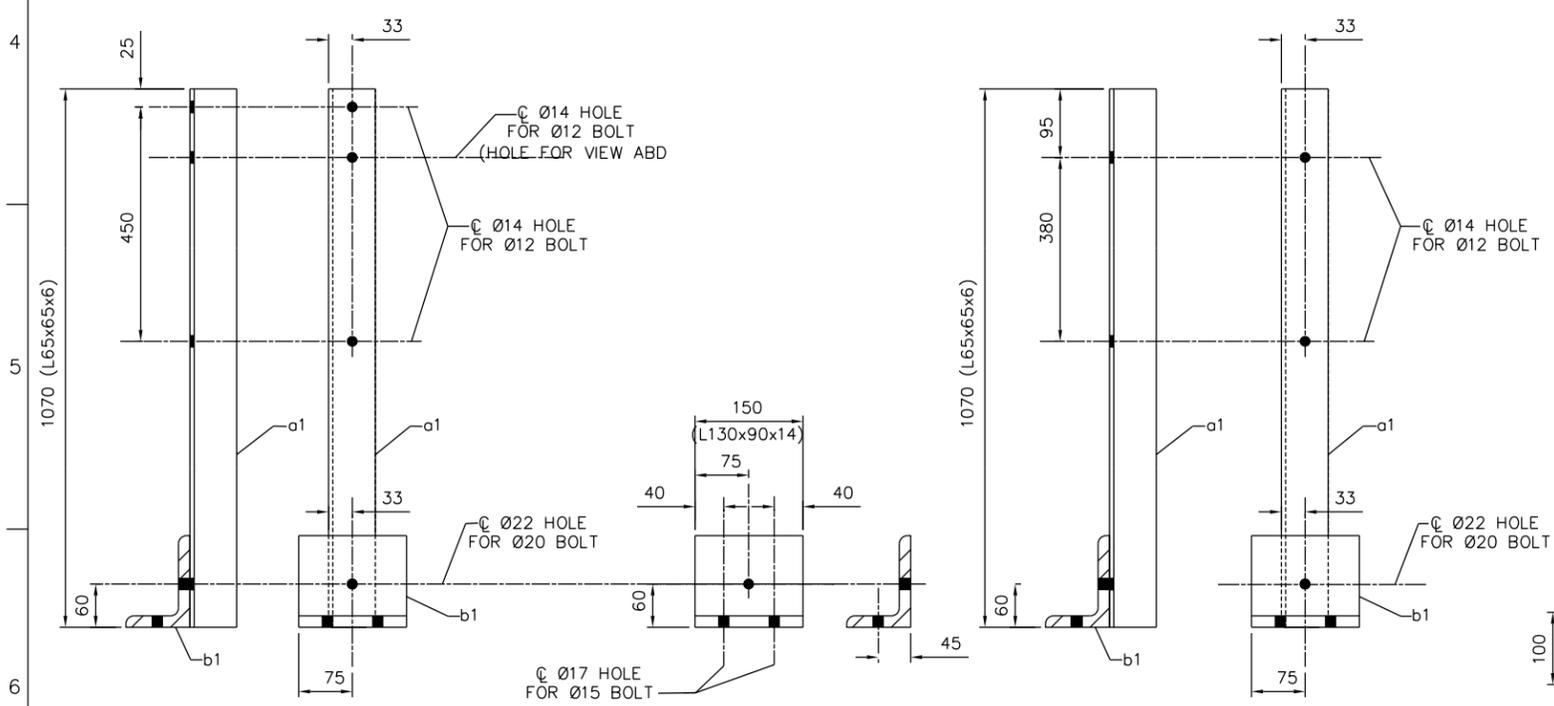
HANDRAIL S4/H1
MAKE: 2
24-Ø12 A307 BOLTS



HANDRAIL S4/H2
MAKE: 2
20-Ø12 A307 BOLTS

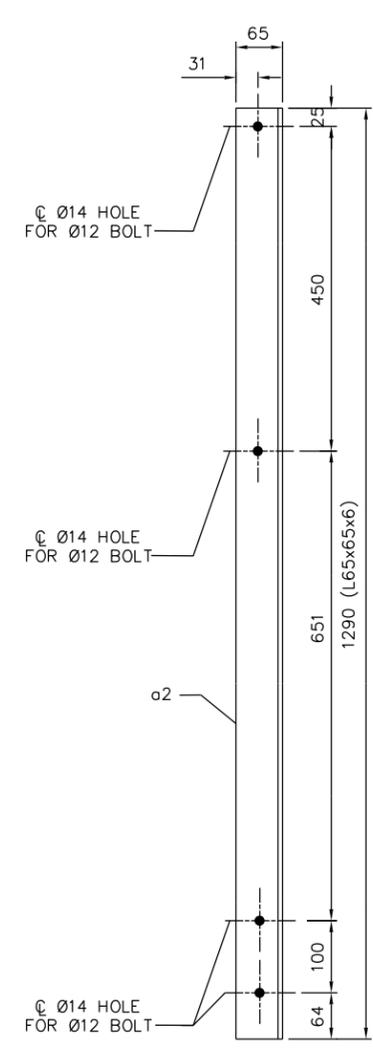


HANDRAIL S4/H3
MAKE: 2
10-Ø12 A307 BOLTS

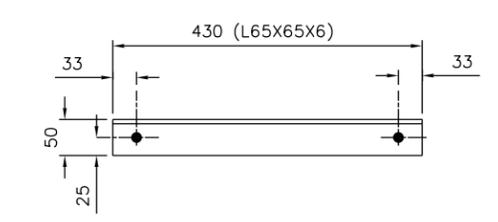


HANDRAIL POST S4/P1
MAKE: 9
28-Ø12 A307 BOLTS
42-Ø15 A307 BOLTS

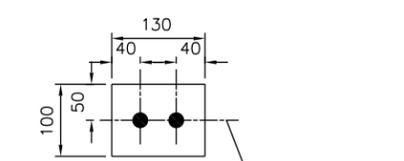
HANDRAIL POST S4/P3
MAKE: 8
28-Ø12 A307 BOLTS
42-Ø15 A307 BOLTS



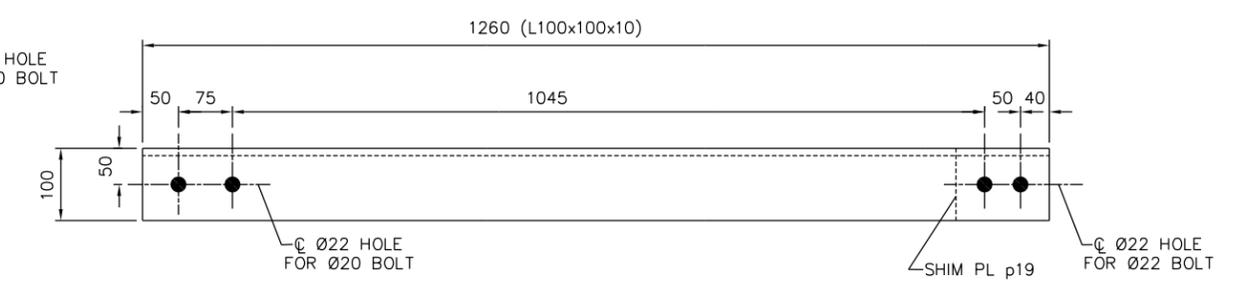
HANDRAIL POST S8/P2
MAKE: 12
48-12 Ø A307 BOLTS



HANDRAIL S4/H4
MAKE: 2
4-Ø12 A307 BOLTS



SHIM PL_p19
MAKE: 2
15mm SHIM PLATES



BEAM S8/BR1
MAKE: 2
4-Ø15 A307 BOLTS

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.

SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	NOTES
2	S4/H1		L65x65x6	4950		
2	S4/H2		L65x65x6	4950		
2	S4/H3		L65x65x6	3978		
2	S4/H4		L65x65x6	3978		
14	S4/P1		L65x65x6	1070		
		14	L130x90x14	150	b1	
12	S4/P2		HANDRAIL POST	1290		
		14	L65x65x6	1290	a2	
2	S8/BR1		L100x100x10	1260		
		2	PL 100x15	130	PL p19	



US Army Corps of Engineers
Mobile District

Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
SIZE:	FILENAME:	

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-16



US Army Corps
of Engineers®
Mobile District

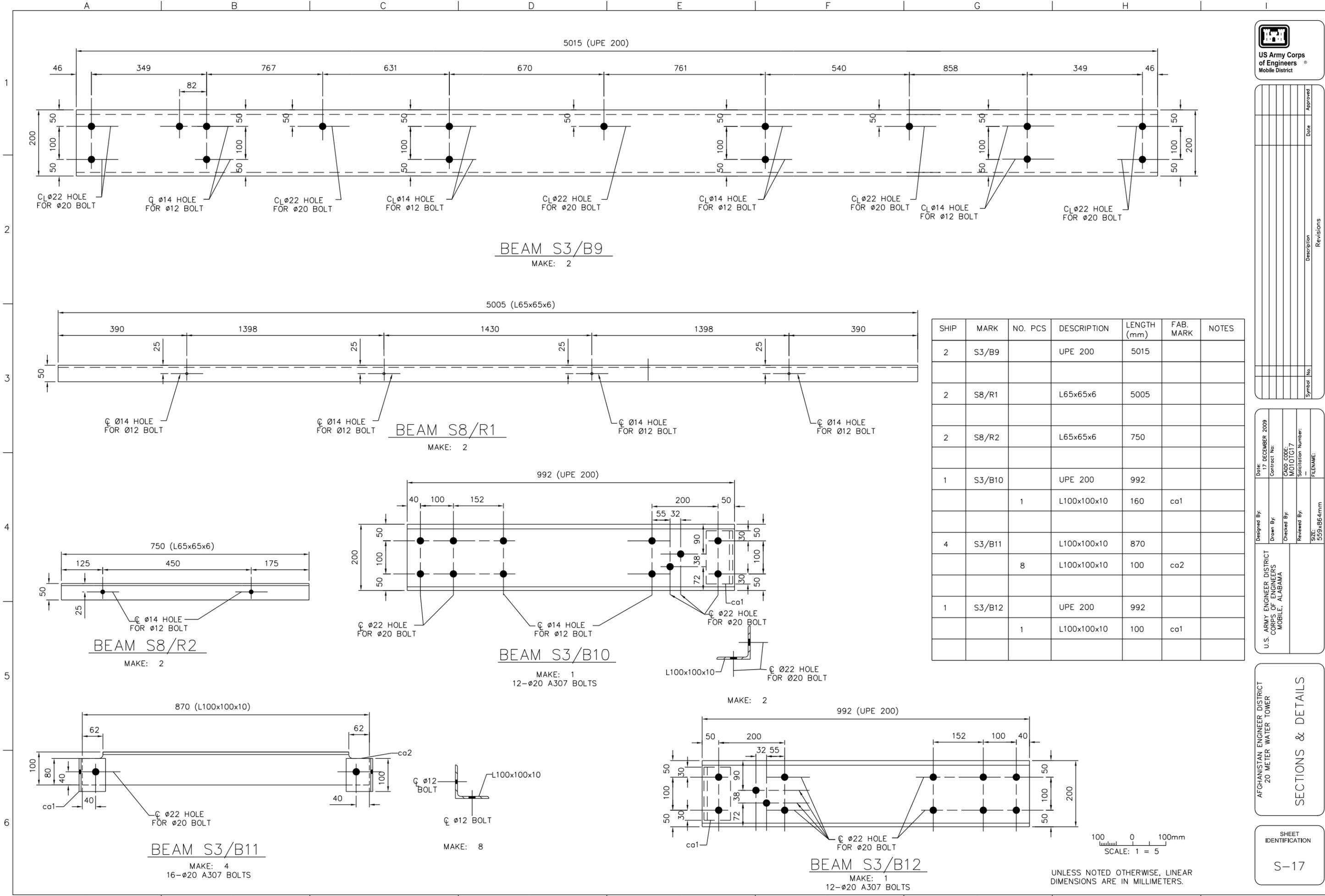
Symbol No	Description	Date	Approved

Designed By:	Date:	7 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
	FILENAME:	
	SIZE:	559x864mm

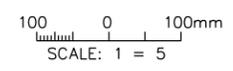
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

SHEET IDENTIFICATION
S-17

SECTIONS & DETAILS



SHIP	MARK	NO.	PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	NOTES
2	S3/B9			UPE 200	5015		
2	S8/R1			L65x65x6	5005		
2	S8/R2			L65x65x6	750		
1	S3/B10			UPE 200	992		
		1		L100x100x10	160	ca1	
4	S3/B11			L100x100x10	870		
		8		L100x100x10	100	ca2	
1	S3/B12			UPE 200	992		
		1		L100x100x10	100	ca1	



UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



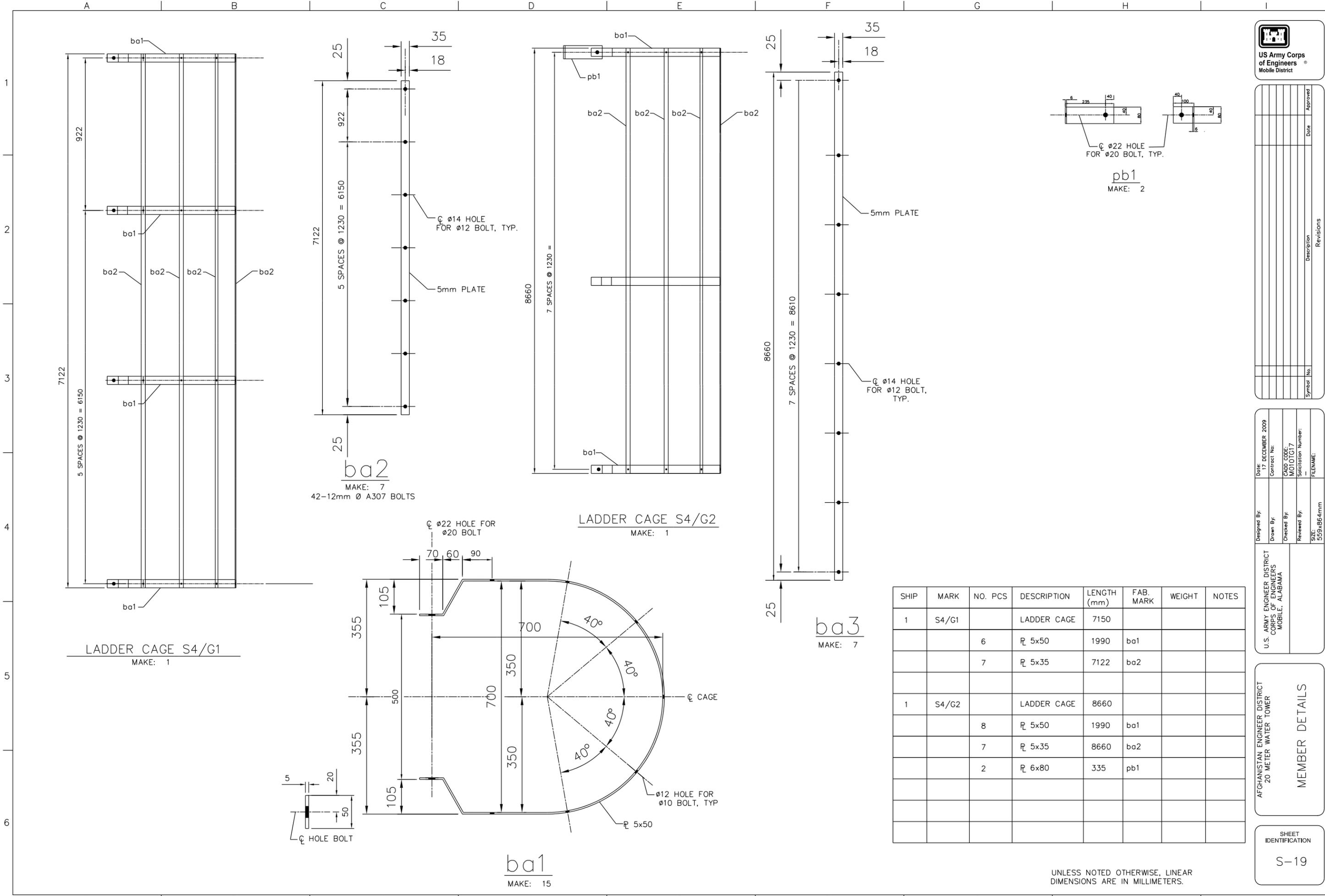
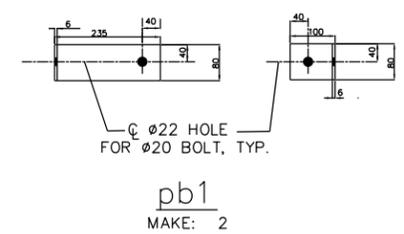
US Army Corps
of Engineers
Mobile District

Symbol No	Description	Date	Approved

Designed By:	Date:	17 DECEMBER 2009
Drawn By:	Contract No:	
Checked By:	CADD CODE:	MO10TG17
Reviewed By:	Solicitation Number:	
SIZE:	FILENAME:	
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA		

AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER
MEMBER DETAILS

SHEET IDENTIFICATION
S-19



SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	WEIGHT	NOTES
1	S4/G1		LADDER CAGE	7150			
		6	\angle 5x50	1990	ba1		
		7	\angle 5x35	7122	ba2		
1	S4/G2		LADDER CAGE	8660			
		8	\angle 5x50	1990	ba1		
		7	\angle 5x35	8660	ba2		
		2	\angle 6x80	335	pb1		

UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.



US Army Corps
of Engineers
Mobile District

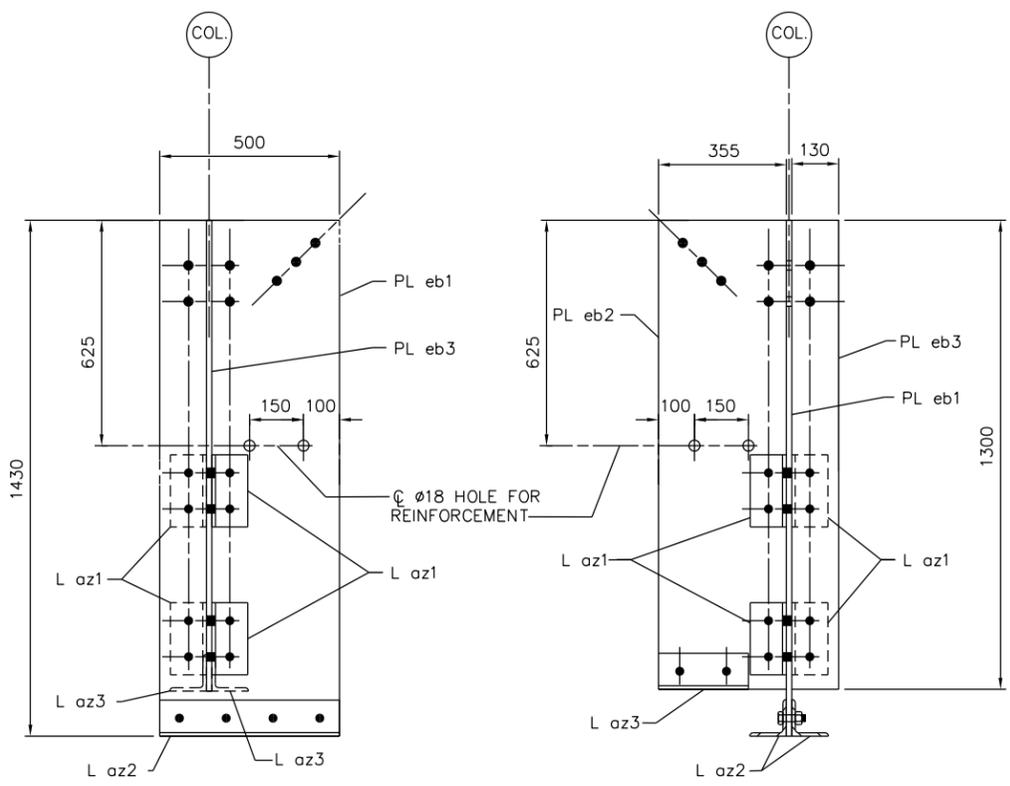
Symbol No	Description	Date	Approved

Designed By:	Date:	Contract No:
Drawn By:	17 DECEMBER 2009	
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Reviewed By:	Solicitation Number:	
	FILENAME:	

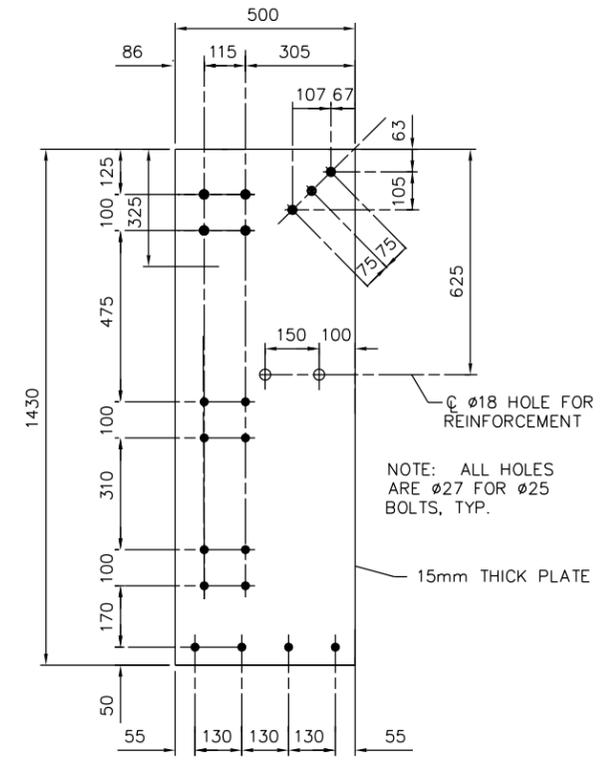
AFGHANISTAN ENGINEER DISTRICT
20 METER WATER TOWER

MEMBER DETAILS

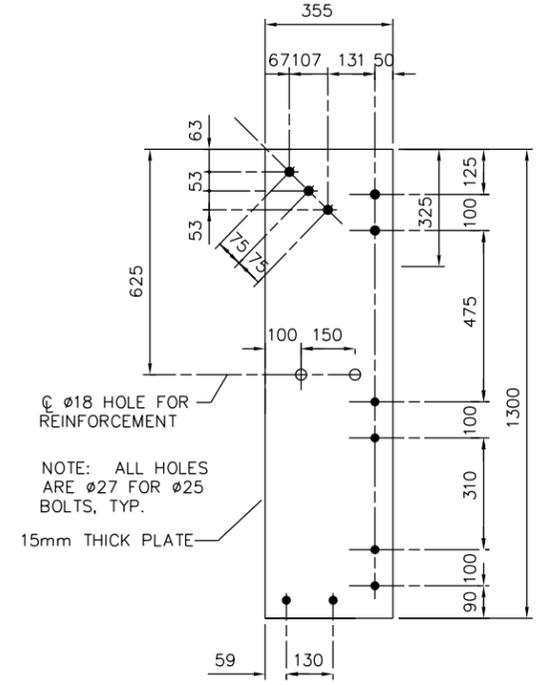
SHEET IDENTIFICATION
S-20



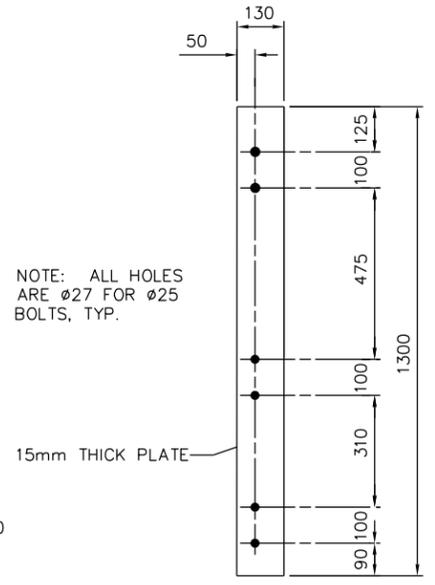
EMBEDDED ANCHOR PLATE S6/E1
MAKE: 4



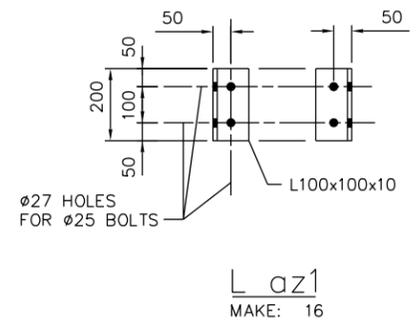
PL eb1
MAKE: 4
76-Ø25 A307 BOLTS



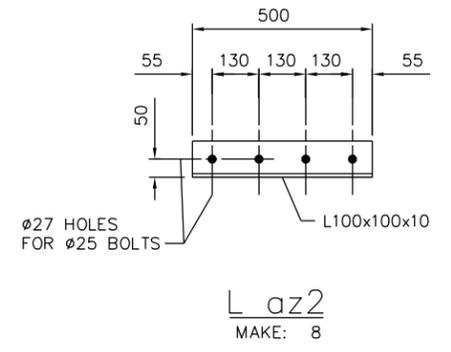
PL eb2
MAKE: 4
44-Ø25 A307 BOLTS



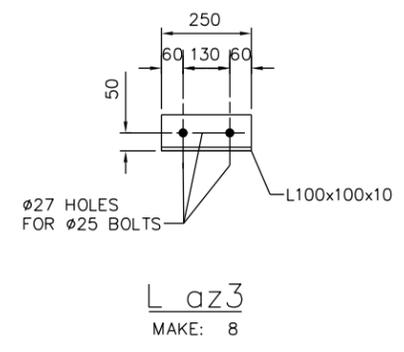
PL eb3
MAKE: 4
24-Ø25 A307 BOLTS



L az1
MAKE: 16



L az2
MAKE: 8



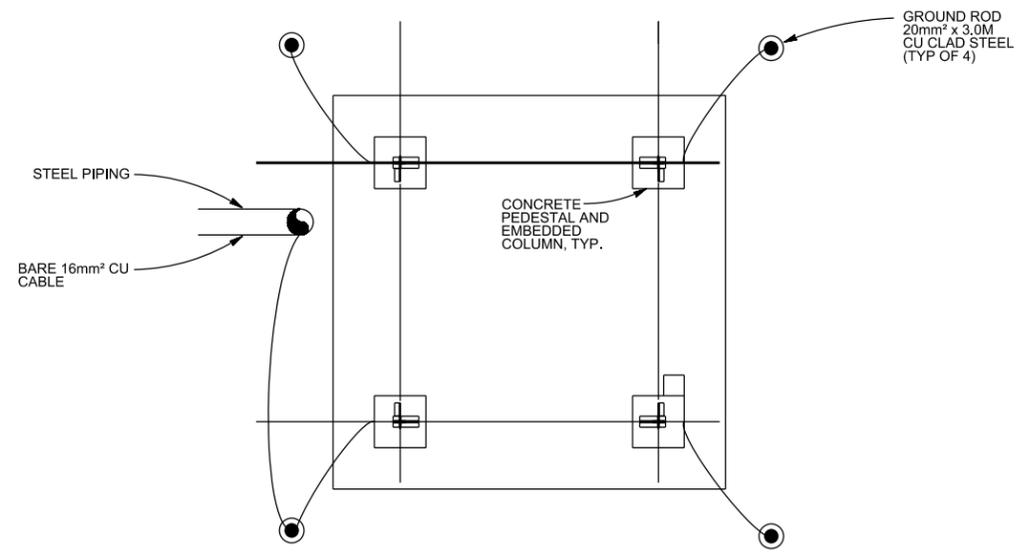
L az3
MAKE: 8

SHIP	MARK	NO. PCS	DESCRIPTION	LENGTH (mm)	FAB. MARK	WEIGHT	NOTES
4	S6/E1		EMBEDDED ANCHOR PLATE	1430			
		4	PL 15x500	1430	PL eb1		
		4	PL 15x355	1300	PL eb2		
		4	PL 15x130	1300	PL eb3		
		16	L100x100x10	200	L az1		
		8	L100x100x10	500	L az2		
		8	L100x100x10	250	L az3		

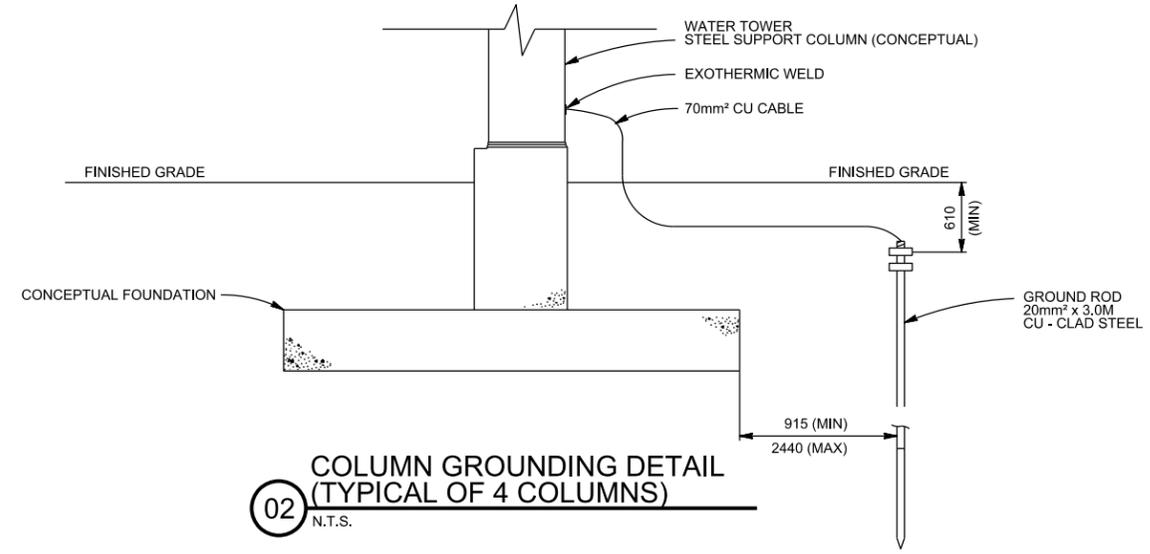
UNLESS NOTED OTHERWISE, LINEAR DIMENSIONS ARE IN MILLIMETERS.

A B C D E F G H

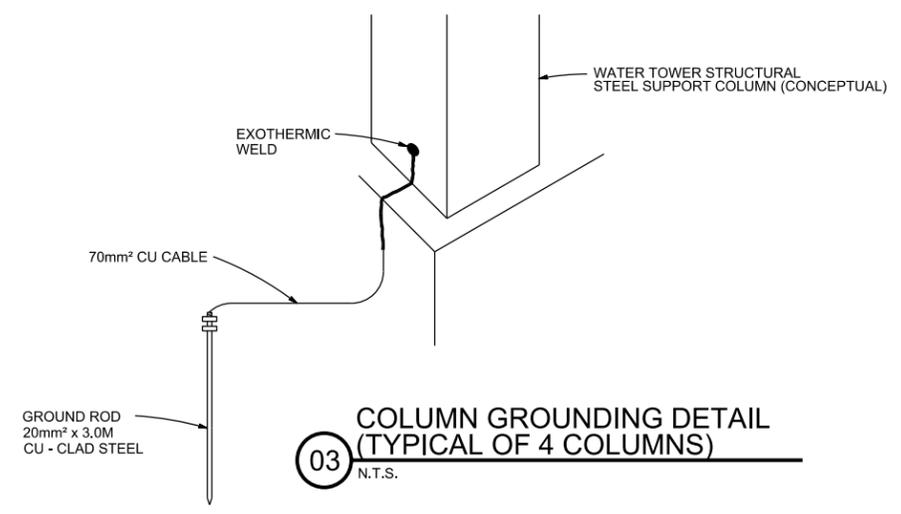
6
5
4
3
2
1



01 GROUNDING ELECTRODE PLAN
N.T.S.



02 COLUMN GROUNDING DETAIL (TYPICAL OF 4 COLUMNS)
N.T.S.



03 COLUMN GROUNDING DETAIL (TYPICAL OF 4 COLUMNS)
N.T.S.

LIGHTING PROTECTION PLANS AND DETAILS
N.T.S.

- NOTES:**
1. CONTRACTOR SHALL MAKE ALL METALLIC ELEMENTS OF WATER TOWER TANK AND SUPPORT STRUCTURE ELECTRICALLY CONTINUOUS BY BOLTING REINFORCEMENT STEEL SHALL BE MADE ELECTRICALLY CONTINUOUS BY METALLIC WIRE TIES.
 2. BOND EACH METALLIC UNDERGROUND PIPE TO AT LEAST ONE GROUND ROD WITH 16mm² CU CABLE.
 3. EACH COLUMN SHALL BE BONDED TO A 20mm² x 3.0M CU CLAD STEEL GROUND ROD VIA A BARE 70mm² CU CABLE. CABLE SHALL BE EXOTHERMIC ALLY WELDED TO COLUMN 150mm ABOVE CONCRETE FOUNDATION.



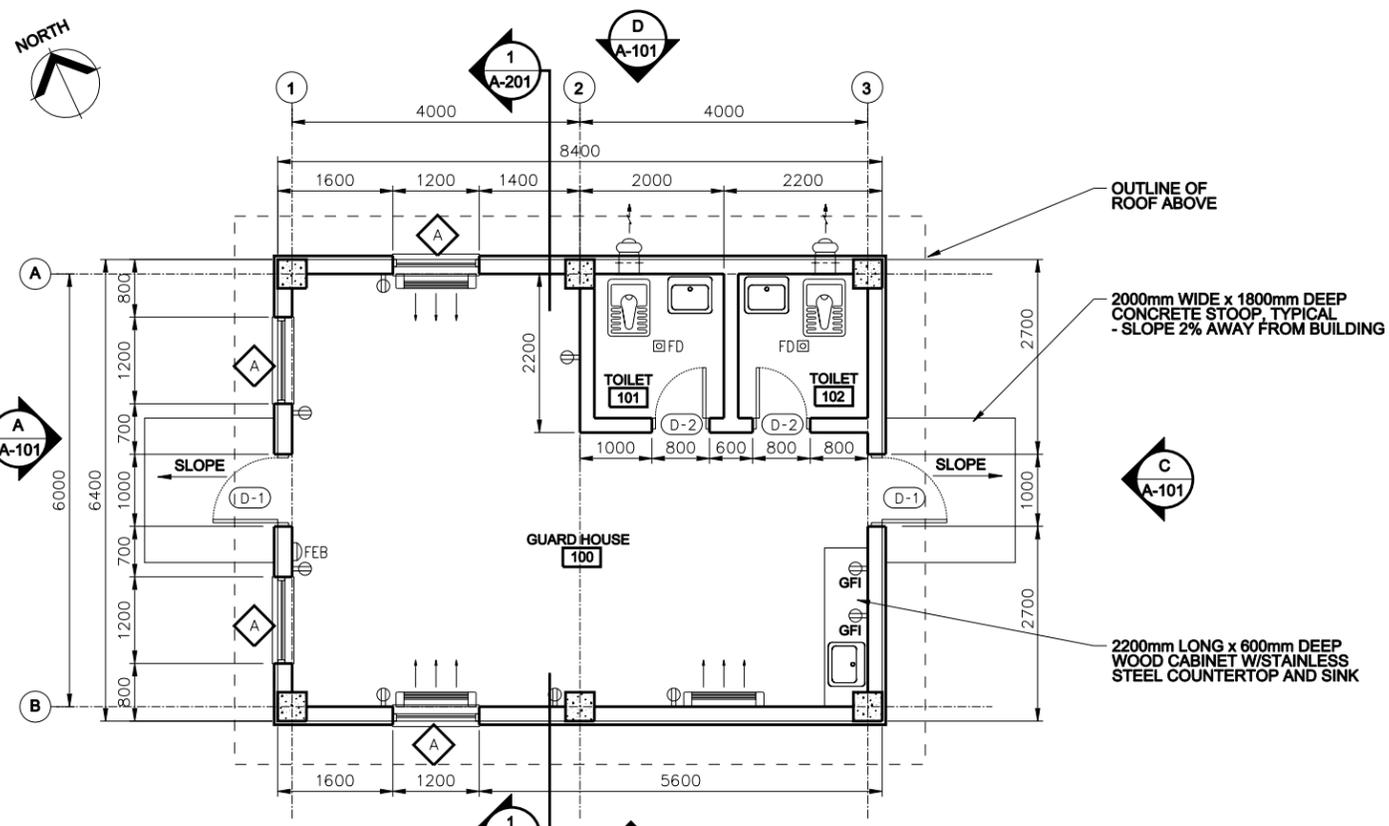
US ARMY CORPS OF ENGINEERS
AFGHANISTAN ENGINEER DISTRICT

REV	DATE	DESCRIPTION

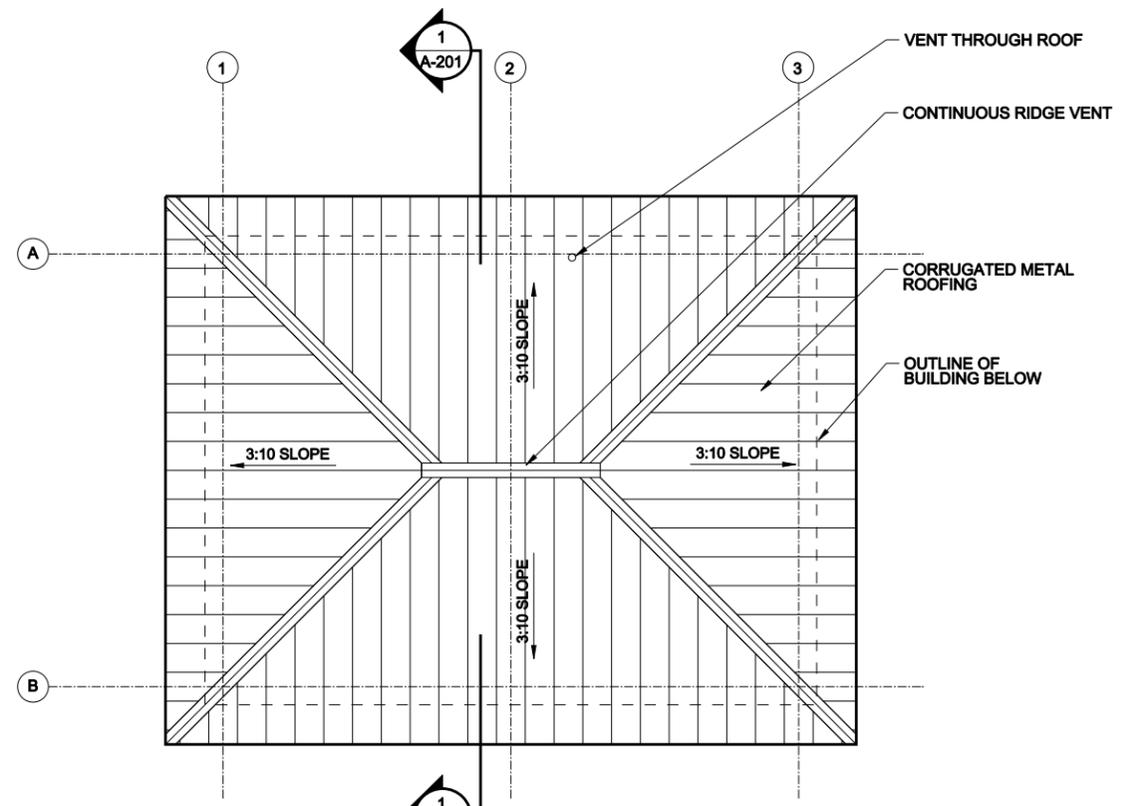
DESIGNED BY: _____	DATE: 17 DEC 2010
DRAWN BY: _____	DESIGN FILE NO: _____
REVIEWED BY: _____	DRAWING CODE: _____
SUBMITTED BY: _____	FILE NAME: _____
	PLOT SCALE: _____
	PLOT DATE: _____

20 METER WATER TANK
AFGHANISTAN
LIGHTING PROTECTION DETAILS

SHEET REFERENCE NUMBER:
E-01



1 FLOOR PLAN
A-101 SCALE: 1:50



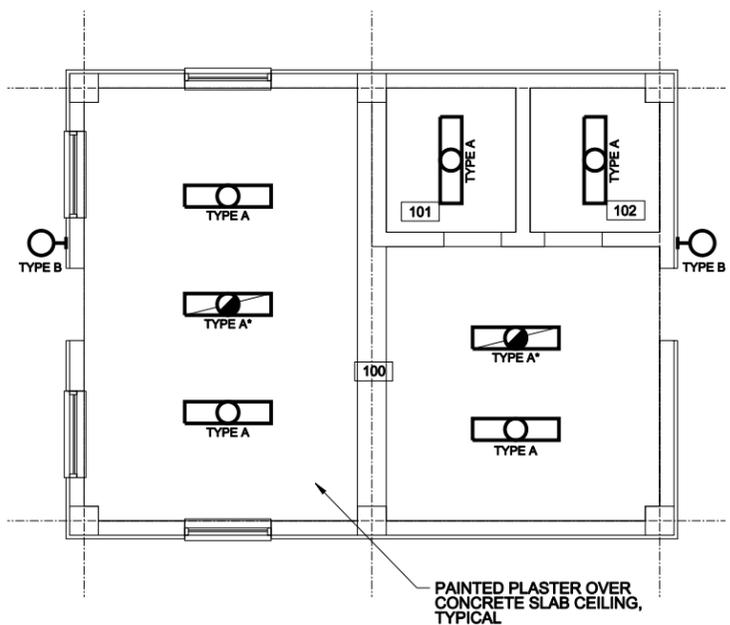
2 ROOF PLAN
A-101 SCALE: 1:50

LEGEND:

- DOOR TYPE, SEE PLATE A-601
- FIRE EXTINGUISHER AND WALL MOUNTED BRACKET
- WINDOW TYPE, SEE PLATE A-601
- FLOOR DRAIN
- SPLIT PACK HVAC HEAT PUMP
- EXHAUST FAN
- 220V DUPLEX ELECTRICAL RECEPTACLE
- 220V DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER

GENERAL NOTES:

1. WALL FINISHES SHALL BE AS INDICATED IN FINISH SCHEDULE ON PLATE A-601.
2. SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF FOREIGN MATTER BEFORE APPLICATION OF PAINT. CLEANING SHALL BE SCHEDULED SO THAT DUST AND OTHER CONTAMINANTS WILL NOT FALL ON WET, NEWLY PAINTED SURFACES.
3. CONCRETE AND INTERIOR MASONRY SURFACES GROUTED SOLID SHALL BE ALLOWED TO DRY AT LEAST 30 DAYS BEFORE PAINTING.
4. PAINTS CONTAINING LEAD IN EXCESS OF 0.06 PERCENT BY WEIGHT OF THE TOTAL NONVOLATILE CONTENT SHALL NOT BE USED.
5. MERCURIAL FUNGICIDES SHALL NOT BE USED IN OIL-BASE PAINT.
6. REMOVE LOOSE DIRT AND CLEAN SURFACES BEFORE PAINTING. APPLY PAINT TO INTERIOR STRUCTURAL RIGID FRAMINGS AND CEILINGS AND TEST FOR ADHESION. PRIMER COAT FOR MASONRY. INITIAL FIRST COAT WITH AN ACRYLIC LATEX PAINT FOR EXTERIOR SURFACES AND A SECOND COAT WITH A WATER REPELLENT ACRYLIC LATEX PAINT.
7. DIMENSIONS ARE TO EDGE OF MASONRY OPENINGS.
8. GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLES AT CABINET SHALL BE PLACED ON TWO SEPARATE AND DEDICATED CIRCUITS.



3 REFLECTED CEILING PLAN
A-101 SCALE: 1:50

LEGEND:

- FIXTURE MARK "A"**
 WRAP AROUND, SURFACE MOUNTED, FLUORESCENT FIXTURE WITH PRISMATIC ACRYLIC LENS AND ELECTRONIC BALLAST
- (2) 32W 3500K BULBS
- 220V - 1Ø 50HZ
- FIXTURE MARK "A"**
 WRAP AROUND, SURFACE MOUNTED, FLUORESCENT FIXTURE WITH PRISMATIC ACRYLIC LENS AND ELECTRONIC BALLAST WITH EMERGENCY BALLAST
- (2) 32W 3500K BULBS
- 220V - 1Ø 50HZ
- FIXTURE MARK "B"**
 INCANDESCENT, WALL MOUNTED, ONE PIECE W/APPROVED LENS STABILIZED HIGH IMPACT POLYCARBONATE.
- (1) A19 - 100W INCANDESCENT
- 220V - 1Ø 50HZ



REV.	DATE	DESCRIPTION	DATE

DESIGNED BY: AED	DATE: XX-XX-XX	REV.
DWN BY: AED	DESIGN FILE NO.	
REVIEWED BY:	DRAWING CODE:	
SUBMITTED BY:	FILE NAME:	
	PLOT SCALE: AS SHOWN	
	CONTRACT NO. XX-XX-XX	

U.S. ARMY CORPS OF ENGINEERS
AFGHANISTAN ENGINEER DISTRICT
APO AE 09356

ENGINEERING AND
CONSTRUCTION DIVISION

CNPA HEADQUARTERS COMPOUND
KABUL, AFGHANISTAN

GUARD HOUSE
**FLOOR PLAN, ROOF PLAN,
AND REFLECTED CEILING PLAN**

SHEET
REFERENCE
NUMBER:
A-101
SHEET 7 OF 9

