STRUCTURAL NOTES

GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND CIVIL LANDSCAPE DRAWINGS. CONSULT THESE DRAWINGS FOR AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

2. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.

3. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE WALL IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE WALL AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING (AND ACCOMPANYING FOOTINGS), GUYS OR TIEDOWNS.

4. ADDITIONAL OBSERVATIONS AS A RESULT OF REJECTION OF WORK COMPLETED AND/OR ADDITIONAL OBSERVATIONS DUE TO THE DEFICIENCIES IN WORK OBSERVED WILL BE AT THE EXPENSE OF THE CONTRACTOR.

5. ALL STRUCTURAL SHOP DRAWINGS TO BE REVIEWED BY JOB SUPERINTENDENT IN ADDITION TO ALL PERSONNEL DEEMED NECESSARY BY CONTRACTOR PRIOR TO SUBMITTAL TO ENGINEER FOR APPROVAL.

6. THE DESIGN OF THE STRUCTURE SHOWN IN THESE CONSTRUCTION DOCUMENTS IS FOR THE ONE-TIME USE AT THE SPECIFIC SITE REFERENCED IN THE GEOTECHNICAL REPORT

DESIGN CODES:

- 2012 INTERNATIONAL BUILDING CODE.
- ACI 318-11 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.
- ACI 530-11 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES

DESIGN LOADS:

THE STRUCTURAL SYSTEMS HAVE BEEN DESIGNED WITH THE FOLLOWING SUPERIMPOSED LOADINGS:

ROOF:	LIVE LOAD	20 PSF
	DEAD LOAD	SELF WEIGHT
WIND:	BASIC WIND SPEED	115 MPH (FACTORED)
	EXPOSURE CATEGORY	C
SEISMIC:	SEISMIC DESIGN CATEGORY	C
	SITE CLASSIFICATION	D
	RESPONSE COEF., SDS	0.215 g
	RESPONSE COEF., SD1	0.418 g
LATERAL:	ACTIVE EFEP	46 psf
	PASSIVE EFEP	319 psf
	BACKFILL UNIT SOIL WEIGHT	120 pcf
	COHESION	0
	COEF. OF BASE FRICTION	0.3

FOUNDATIONS:

1. SEE THE FOLLOWING REPORT FOR COMPLETE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES. SITE PREPARATION AND FOUNDATION SHALL COMPLY WITH THE FOLLOWING:

– PREPARED BY: TERRACON CONSULTANTS, INC.

– TITLE: GEOTECHNICAL ENGINEERING REPORT
SALISBURY NATIONAL CEMETERY EXP
SALISBURY NATIONAL CEMETERY
SALISBURY, NORTH CAROLINA
PROJECT NO. 71155065

– DATE: NOVEMBER 24, 2015

2. GEOTECHNICAL RECOMMENDATIONS WERE PREPARED WITH SPECIFIC KNOWLEDGE OF THE SPECIFIC STRUCTURE TYPE, CONSTRUCTION TYPE, AND LIKELY LOADS SHOWN ON THE CONSTRUCTION DOCUMENTS. DETERMINING THE AMOUNT OF SETTLEMENT ACCEPTABLE FOR THE STRUCTURE TYPE IS THE RESPONSIBILITY OF THE GEOTECHNICAL ENGINEER. ALL STRUCTURAL DESIGNS WERE BASED UPON STAYING WITHIN THE LIMITS GIVEN WITHIN THE GEOTECHNICAL REPORT FOR THE LOADS PRESCRIBED BY THE BUILDING CODE REFERENCED IN THE DESIGN CODES SECTION OF THESE STRUCTURAL NOTES.

3. DESIGNS BASED UPON AN ALLOWABLE BEARING CAPACITY OF 2,500 psf. SEE GEOTECHNICAL REPORT FOR ALL REQUIREMENTS RELATED TO THE CONSTRUCTION OF THE FOOTINGS ON EXISTING SOILS OR COMPACTED FILL.

PLUMBING SLEEVES:

MINIMUM SLEEVE SPACING SHALL BE TWO DIAMETERS CENTER TO CENTER TO THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

CONCRETE TESTING:

1. CONCRETE TESTING SHALL BE PAID FOR BY THE CONTRACTOR. TESTING LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST-IN-PLACE CONCRETE:

A) ASTM C143 – "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE."
B) ASTM C39 – "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER(S) QUANTITIES AND TEST AGE AS FOLLOWS:
1 AT 7 DAYS
2 AT 28 DAYS

PROVIDE ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

PENETRATIONS:

NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS OTHER THAN THOSE LOCATED ON THESE DRAWINGS WITHOUT PREVIOUS APPROVAL OF THE ENGINEER.

CONCRETE MIX DESIGN:

1. SHALL BE MIX DESIGNED BY A RECOGNIZED TESTING LABORATORY TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:

4,000 psi – RETAINING WALL FOOTINGS AND WALLS
5,000 psi – CSP ARCH HEADWALL FOOTINGS AND WALLS
4,000 psi – ALL OTHER CONCRETE

2. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1 AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.

3. CONCRETE SHALL UTILIZE TYPE I/II CEMENT.

4. THE CONCRETE STRENGTHS SHOWN IN THE SECTION ABOVE AND IN THE SPECIFICATIONS ARE MINIMUM COMPRESSIVE STRENGTHS. THE ENGINEER SHALL DETERMINE IF THE CONCRETE IS ACCEPTABLE, OR TO BE REMOVED, OR TO RECEIVE SPECIAL CURING IF THE COMPRESSIVE STRENGTHS ARE LESS THAN SPECIFIED.

5. ALL CONCRETE SHALL NOT BE AIR ENTRAINED UNLESS NOTED OTHERWISE.

6. WATER REDUCING AGENTS MAY BE USED IN THE CONCRETE MIX. PLASTICIZERS AND UPER-PLASTICIZERS MAY BE USED ONLY WHEN WRITTEN PERMISSION OF THE ENGINEER IS GIVEN.

7. NO SALTS OF ANY KIND MAY BE USED IN CONCRETE BEFORE OBTAINING THE ENGINEER'S WRITTEN PERMISSION FOR THEIR USE.

8. MAXIMUM WATER TO CEMENTITIOUS MATERIAL RATIO FOR ALL CONCRETE SHALL NOT EXCEED 0.5.

CONCRETE AND REINFORCING PLACEMENT:

1. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 301 AND ACI 117.

2. ALL REINFORCING STEEL TO BE ASTM A615, GRADE 60 (#4 AND LARGER), EXCEPT WHERE NOTED OTHERWISE. REINFORCING SHALL NOT BE WELDED.

3. ALL REINFORCING STEEL BARS TO BE DETAILED AND PLACED IN ACCORDANCE WITH THE LATEST ACI MANUALS.

4. LAP ALL REINFORCING SPLICES IN CONCRETE A MINIMUM OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER, UNLESS NOTED OTHERWISE ON DRAWINGS (CLASS B SPLICE).

5. PROVIDE CORNER BARS OF SAME BAR DIAMETER AS SPECIFIED FOR THE WALL, BEAM OR FOOTING. PROVIDE MINIMUM OF 40 BAR DIAMETER LAP FOR ALL CORNER BARS, UNLESS NOTED OTHERWISE.

6. PROVIDE FOUNDATION DOWELS AS SHOWN. MINIMUM SIZE DOWELS TO BE #4, UNLESS OTHERWISE NOTED. ALL VERTICAL REINFORCING STEEL IN COLUMNS AND PIERS, OR VERTICAL REINFORCING IN WALLS, SHALL BE DOWELED INTO THE FOOTINGS WITH SAME SIZE AND QUANTITY DOWEL AS THE VERTICAL REINFORCING.

7. WHERE SHOWN ON THE DRAWINGS, PROVIDE WELD PLATES, WELDMENTS, OR CONCRETE INSERTS FOR FASTENING AND SECURING OTHER COMPONENTS. CONCRETE INSERTS SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM AND INSTALLED BY THE CONTRACTOR CASTING THE CONCRETE AROUND THEM. CLIP ANGLES SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM.

8. REINFORCING STEEL SHALL RECEIVE CONCRETE COVER AS FOLLOWS:

DESCRIPTION	MINIMUM COVER
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
EXPOSED TO EARTH OR WEATHER	
#6 THROUGH #18 BARS	2"
#5 BARS OR SMALLER	1½"
NOT EXPOSED TO EARTH OR WEATHER OR IN CONTACT WITH THE GROUND, SLABS AND WALLS	
#11 BARS OR SMALLER	¾"
#14 AND #18	1½"
BEAMS AND COLUMNS	1½"

9. PROVIDE TWO (2) #5'S, ONE AT EACH FACE, UNLESS NOTED OTHERWISE, AROUND ALL OPENINGS GREATER THAN 12"x12" IN CAST-IN-PLACE CONCRETE. EXTEND REINFORCING 2'-0" BEYOND OPENING IN BOTH DIRECTIONS. CONTACT ENGINEER FOR ALL OPENINGS GREATER THAN 12"x12" FOR DESIGN.

10. COLD WEATHER AND HOT WEATHER PROVISIONS OF ACI 306 AND 305 (CURRENT EDITIONS), RESPECTIVELY, SHALL BE MAINTAINED.

PRECAST CONCRETE COLUMBARIUM UNITS

1. SEE S-SERIES 400 AND L-SERIES DRAWINGS FOR NOTES, SECTIONS AND DETAILS.

2. REFER TO SPECIFICATION SECTION 034550 "PRECAST CONCRETE COLUMBARIUM UNITS" FOR FURTHER INFORMATION.

SPECIAL INSPECTION AND TESTING:

1. SPECIAL INSPECTION AND MINIMUM TESTING SHALL BE PERFORMED IN ACCORDANCE WITH 2012 IBC AND ALL REFERENCED MATERIALS AND TABLES.

2. INSPECTION SHALL BE PROVIDED BY AN INDEPENDENT TESTING AGENCY HIRED AT THE CONTRACTOR'S EXPENSE. AGENCY INSPECTION PERSONNEL SHALL MEET THE INSPECTOR QUALIFICATIONS FOR EACH MATERIAL ITEM AS INDICATED IN THE SPECIFICATIONS.

3. ANY MATERIAL OR PLACEMENT DEVIATIONS FROM MINIMUMS SHOWN ON THE DRAWINGS OR IN SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

4. IN ADDITION TO THE CONCRETE IBC INSPECTION TABLES, THE INSPECTOR SHALL VERIFY THAT ALL CONCRETE MAINTAIN TOLERANCES SPECIFIED IN ACI 117-90 STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION & MATERIALS.

5. TESTING – ANY FAILED FIELD TEST SHALL BE REPORTED TO THE RE/COR IMMEDIATELY.

MASONRY MATERIALS:

1. MASONRY UNITS SHALL MEET ASTM C90 TYPE I, GRADE N, FOR HOLLOW LOAD BEARING TYPE MASONRY WITH A UNIT STRENGTH OF 2,800 psi ON THE NET AREA (f'm = 2,000 psi).

2. MORTAR SHALL BE TYPE "M" (BELOW GRADE) OR "S" (ABOVE GRADE) AND SHALL MEET ASTM C270. GROUT SHALL BE 3,000 psi PEA-GRAVEL CONCRETE AND SHALL MEET ASTM C476. MORTAR MIX SHALL BE A PRE-BLENDED MIX AS MANUFACTURED BY SPEC-MIX, OR APPROVED EQUAL. GROUT SHALL BE A READY-MIX GROUT AND SHALL HAVE THE MIX DESIGN SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION.

MASONRY AND REINFORCED MASONRY PLACEMENT:

1. ALL MASONRY SHALL BE LAID IN RUNNING BOND UNLESS NOTED OTHERWISE. MATERIALS TO BE LAID AND MATERIALS TO BE BUILT UPON SHALL BE FREE FROM SNOW AND ICE.

2. PROVIDE HOOKED DOWELS INTO FOOTINGS FOR ALL VERTICAL REINFORCING ABOVE AS SHOWN IN THE DRAWINGS. LAP SPLICES A MINIMUM OF 48 BAR DIAMETERS. AT THE OPTION OF THE CONTRACTOR, DOWELS MAY BE DRILLED AND EPOXIED INTO FOOTING IN LIEU OF HOOKS. EPOXY SHALL BE AS NOTED ON THIS SHEET UNDER 'CHEMICAL ANCHORS,' 6" MIN. EMBEDMENT FOR #5 OR SMALLER DOWELS, 8" MIN. EMBEDMENT FOR #6 DOWELS.

3. PROVIDE DUR-O-WALL (OR EQUAL PER SPECIFICATIONS) LADDER OR TRUSS HORIZONTAL JOINT REINFORCEMENT AT EACH SECOND COURSE IN RUNNING BOND, AND EACH COURSE IN STACKED BOND, UNLESS NOTED OTHERWISE. DISCONTINUE HORIZONTAL JOINT REINFORCEMENT AT CONTROL JOINTS.

4. PROVIDE BOND BEAMS REINFORCED WITH (2) #5 BARS EVERY 6'-0" OF VERTICAL WALL, AT TOPS OF ALL MASONRY WALLS, AND WHERE SHOWN ON DRAWINGS. AT BOND BEAM CORNERS AND TEE JOINTS, PROVIDE BENT BARS TO MATCH QUANTITY AND BAR SIZE IN THE BOND BEAM. LAPS IN BOND BEAMS SHALL BE 48 BAR DIAMETERS OR A MINIMUM OF 2'-0", WHICHEVER IS GREATER.

5. WHERE SHOWN ON THE DRAWINGS, CORES IN CONCRETE BLOCK UNITS SHALL BE FILLED WITH 3,000 psi CONCRETE GROUT FROM TOP OF FOOTING TO BOTTOM OF BEARING, OR TO THE TOP OF WALL, DEPENDING ON THE CONDITION. INSPECTION OF OPENING AT BOTTOM IS REQURIED.

6. WHERE REINFORCING STEEL IS CALLED FOR IN FILLED CORES, IT SHALL EXTEND FROM TOP OF FOOTING TO BOTTOM OF BEARING, OR TOP OF WALL, DEPENDING ON CONDITION.

7. WHERE REINFORCING STEEL IS INTERRUPTED BY AN OPENING IN THE WALL, THE QUANTITY OF BARS INTERRUPTED ARE TO BE MOVED TO EACH SIDE OF THE OPENING, HALF OF REINFORCING TO ONE SIDE AND REMAINING HALF TO THE OTHER SIDE. REINFORCING SHALL BE FROM TOP OF FOOTING TO TOP OF WALL. PROVIDE A MINIMUM OF (2) #5 VERTICAL REINFORCING BARS AT EACH JAMB. SEE PLAN NOTES AND/OR DETAILS FOR VERTICAL REINFORCING SPACING.

8. WHERE VERTICAL REINFORCING STEEL IS SPLICED IN MASONRY, PROVIDE A MINIMUM OF 48 BAR DIAMETERS, LAP SPLICE, UNLESS NOTED OTHERWISE.

9. THE MINIMUM DISTANCE BETWEEN PARALLEL BARS, EXCEPT IN COLUMNS, SHALL BE NOT LESS THAN THE DIAMETER OF THE BAR EXCEPT THAT LAPPED SPLICES MAY BE WIRED TOGETHER. THE CENTER TO CENTER SPACING OF BARS WITHIN A COLUMN SHALL BE NOT LESS THAN 2 AND ONE-HALF TIMES THE BAR DIAMETER.

10. ALL BARS SHALL BE COMPLETELY EMBEDDED IN MORTAR OR CONCRETE. REINFORCEMENT EMBEDDED IN HORIZONTAL MORTAR JOINTS SHALL HAVE NOT LESS THAN 5/8" MORTAR COVERAGE FROM THE EXPOSED FACE. ALL OTHER REINFORCING SHALL HAVE A MINIMUM COVERAGE OF ONE BAR DIAMETER OVER ALL BARS, BUT NOT LESS THAN ¾", EXCEPT WHERE EXPOSED TO WEATHER OR SOIL IN WHICH CASE THE MINIMUM COVERAGE SHALL BE 2".

11. WHERE REINFORCING IS SHOWN TO BE LOCATED ALONG TWO FACES OF A CONCRETE BLOCK WALL, THE CONTRACTOR SHALL BREAK OUT THE SHELL OF THE LOWEST CONCRETE BLOCK TO GAIN ACCESS TO THE REINFORCING STEEL. THE REINFORCED STEEL SHALL THEN BE WIRED INTO ITS CORRECT POSITION, AND THE ACCESS HOLE COVERED. THE CONCRETE GROUT FILL SHALL BE PUDDLED OR VIBRATED TO ASSURE COMPLETE FILLING OF THE CORE.

12. REINFORCED MASONRY PIERS AND COLUMNS SHALL HAVE THE REINFORCING STEEL ACCURATELY LOCATED BY WIRING THE TOP AND BOTTOM OF ALL VERTICAL STEEL INTO ITS CORRECT POSITION. PROVIDE AN ACCESS HOLE AT THE BOTTOM OF ALL COLUMNS OR PIERS.

13. ALL REINFORCED HOLLOW UNIT MASONRY SHALL BE BUILT TO PRESERVE THE UNOBSTRUCTED VERTICAL CONTINUITY OF THE CELLS TO BE FILLED. WALLS AND CROSS WEBS FORMING SUCH CELLS TO BE FILLED SHALL BE FULL BEDDED IN MORTAR TO PREVENT LEAKAGE OF CONCRETE GROUT. ALL HEAD (OR END) JOINTS SHALL BE SOLIDLY FILLED WITH MORTAR FOR A DISTANCE IN FROM THE FACE OF THE WALL OR UNIT NOT LESS THAN THE THICKNESS OF THE LONGITUDINAL FACE SHELLS. BOND SHALL BE PROVIDED BY LAPPING UNITS IN SUCCESSIVE VERTICAL COURSES OR BY EQUIVALENT MECHNICAL ANCHORAGE.

A) VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED CONTINUOUS VERTICAL CELL MEASURING NOT LESS THAN 2"x3".

B) CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF ALL CELLS TO BE FILLED AT EACH POUR OF CONCRETE WHERE SUCH CONCRETE POUR IS IN EXCESS OF 6' IN HEIGHT. ANY OVERHANGING MORTAR, OTHER OBSTRUCTION OR DEBRIS SHALL BE REMOVED AND/OR CLEANED AT TIME OF INSPECTION AND PRIOR TO CORE FILLING. INSPECT AND SEAL ALL OPENINGS BEFORE CONCRETING.

C) VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 DIAMETERS OF THE REINFORCEMENT.

D) ALL CELLS CONTAINING REINFORCEMENT SHALL BE FILLED SOLIDLY WITH CONCRETE. CONCRETE SHALL BE POURED IN LIFTS OF 8' MAXIMUM HEIGHT. ALL CONCRETE SHALL BE CONSOLIDATED AT THE TIME OF POURING BY PUDDLING FOR LIFTS OF 4' OR LESS, OR BY VIBRATING FOR LIFTS GREATER THAN 4'. CONCRETE SHOULD LATER BE CONSOLIDATED AGAIN BY PUDDLING, BEFORE PLASTICITY IS LOST.

E) WHEN TOTAL CONCRETE POUR EXCEEDS 8' IN HEIGHT, THE CONCRETE SHALL BE PLACED IN 4' MAXIMUM LIFTS. MINIMUM CELL DIMENSION SHALL BE 3".

F) WHEN CONCRETING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF CONCRETE 1½" BELOW THE TOP OF THE UPPERMOST UNIT.

14. PROVIDE A MINIMUM OF 8" BEARING FOR ALL MASONRY LINTELS.

15. WHERE LINTEL BLOCKS ARE USED IN LIEU OF HOLLOW CONCRETE BLOCKS, THE REINFORCING STEEL SHALL BE ANCHORED TO THE LOWER STEEL OR DOWELS AND THE LINTEL BLOCKS LAID AROUND THE STEEL. THE CONCRETE FILL SHALL BE INSTALLED IN LIFTS NOT TO EXCEED 2' IN HEIGHT. THE REINFORCING STEEL SHALL BE MAINTAINED IN THE SAME POSITION AS THE DOWELS. STOP THE POUR OF THE CONCRETE 1½" BELOW THE TOP OF THE UPPERMOST UNIT.

16. SPECIFICATION REQUIREMENTS FOR COLD WEATHER AND HOT WEATHER MASONRY CONSTRUCTION SHALL BE MAINTAINED.

ABBREVIATIONS

ADD'L	–ADDITIONAL	CONT	–CONTINUOUS	GT	–GIRDER TRUSS	NOM	–NOMINAL	SQ	–SQUARE
@	–AT	CONTR	–CONTRACTOR	HS	–HEADED STUD	NIC	–NOT IN CONTRACT	STD	–STANDARD
&	–AND	D BRG	–DECK BEARING	HP	–HIGH POINT	NTS	–NOT TO SCALE	STL	–STEEL
APA	–AMERICAN PLYWOOD ASSOCIATION	DL	–DEAD LOAD	HK	–HOOK	#	–NUMBER	TEMP	–TEMPERATURE
		°	–DEGREE	H/C	–HOLLOW CORE PLANK	OC	–ON CENTER	THRU	–THROUGH
AB	–ANCHOR BOLT	DEMO	–DEMOLITION	HSS	–HOLLOW STRUCTURAL SECTION	OPNG	–OPENING	T&G	–TONGUE AND GROOVE
ALT	–ALTERNATE	DET	–DETAIL	HORIZ	–HORIZONTAL	OPP	–OPPOSITE	T&B	–TOP AND BOTTOM
ARCH	–ARCHITECTURAL	ø	–DIAMETER	IN	–INCH	OH	–OVER HEAD	TOB	–TOP OF BEAM
BSMT	–BASEMENT	DIM	–DIMENSION	INSUL	–INSULATION	PAF	–POWDER ACTUATED FASTENER	TOC	–TOP OF CONCRETE
BM	–BEAM	DWL	–DOWEL	INT	–INTERIOR	/	–PER	TOFTG	–TOP OF FOOTING
BRG	–BEARING	DWG'S	–DRAWING'S	JNT	–JOINT	PLK	–PLANK	TOM	–TOP OF MASONRY
BIT	–BITUMINOUS	D P	–DRILLED PIER	JST	–JOIST	P	–PLATE	TOP	–TOP OF PIER
BLK	–BLOCK	EA	–EACH	JST BRG	–JOIST BEARING	PW	–PLYWOOD	TOS	–TOP OF STEEL
BLKG	–BLOCKING	E F	–EACH FACE	k	–KIPS (1,000 LBS. = 1 KIP)	PT	–POST TENSION	TOW	–TOP OF WALL
BD BM	–BOND BEAM	E W	–EACH WAY	LVL	–LAMINATED VENEER LUMBER	#	–POUND	TRANS	–TRANSVERSE
BD	–BOARD	E	–EAST	L W	–LIGHT WEIGHT	PSF	–POUNDS PER SQUARE FOOT	TYP	–TYPICAL
BOT	–BOTTOM	ELEC	–ELECTRICAL	LTL	–LINTEL	PSI	–POUNDS PER SQUARE INCH	UNO	–UNLESS NOTED OTHERWISE
BLDG	–BUILDING	EL	–ELEVATION	L L	–LIVE LOAD	P/C	–PRECAST	VERT	–VERTICAL
CANT	–CANTILEVER	ELEV	–ELEVATOR	LLH	–LONG LEG HORIZONTAL	R	–RADIUS	FV	–FIELD VERIFY
℄	–CENTER LINE	EQ	–EQUAL	LLV	–LONG LEG VERTICAL	REINF	–REINFORCE	WWF	–WELDED WIRE FABRIC
CC	–CENTER TO CENTER	(E)	–EXISTING	LONGIT	–LONGITUDINAL	REQ'D	–REQUIRED	W	–WEST
C	–CHANNEL	EXP JT	–EXPANSION JOINT	MAS	–MASONRY	REV	–REVERSE	W/	–WITH
CIP	–CAST IN PLACE	EXT	–EXTERIOR	M O	–MASONRY OPENING	RD	–ROOF DRAIN	WD	–WOOD
CLR	–CLEAR	F FLR	–FINISHED FLOOR	MAX	–MAXIMUM	RS	–ROUGH SAWN	±	–PLUS OR MINUS
COL	–COLUMN	FT	–FOOT	MECH	–MECHANICAL	SS	–STAINLESS STEEL		
COMP	–COMPOSITE	FTG	–FOOTING	ML	–MICRO LAMINATED LUMBER	SCHED	–SCHEDULE		
CONC	–CONCRETE	FDN	–FOUNDATION	MIN	–MINIMUM	SEC	–SECTION		
CMU	–CONCRETE MASONRY UNIT	GALV	–GALVANIZED	MISC	–MISCELLANEOUS	SER	–STRUCTURAL ENGINEER OF RECORD		
CONN	–CONNECTION	GA	–GAUGE	M	–MOMENT	SHT	–SHEET		
CONST	–CONSTRUCTION	G C	–GENERAL CONTRACTOR	MANUF	–MANUFACTURER	SIM	–SIMILAR		
CONTR J	–CONTROL JOINT	GLU-LAM	–GLUED LAMINATED LUMBER	N	–NORTH	S	–SOUTH		
		GYP BD	–GYPSUM BOARD	NEC	–NECESSARY	SPEC	–SPECIFICATION		

MATERIALS LEGEND

DENOTES EXISTING IN PLAN & SECTION
COMPACTED FILL
GRANULAR FILL
CONCRETE IN SECTION
GROUT IN SECTION
DIMENSION LUMBER
WOOD BLOCKING
PLYWOOD IN SECTION
LAMINATED VENEER LUMBER IN SECTION
I-JOIST IN SECTION
GLU-LAMINATED LUMBER IN SECTION
RIM BOARD VENEER LUMBER IN SECTION
RIGID INSULATION
STEEL IN SECTION (SHAPE VARIES)
STEEL STUDS (SHAPE VARIES) IN SECTION
STUD WALL IN PLAN/SECTION
MASONRY IN SECTION
PAINT ALL STEEL WITH BITUMINOUS PAINT BELOW CONCRETE

IBC 2012 TABLE 1705.6
REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTION	
	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X

REQUIRED VERIFICATION AND INSPECTION 0F CONCRETE CONSTRUCTION IBC 2012 (TABLE 1705.3)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE	PERIODIC STAGES	REQUIRED ON THIS PROJECT
1.INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.		X	ACI 318: 3.5, 7.1-7.7	1910.4	PRIOR TO STARTING POURS WHERE CONCRETE TO BE SAMPLED	YES
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE1705.2.2, ITEM 2B.			AWS D1.4 ACI 318: 3.5.2		PRIOR TO ENCLOSING	YES
3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.		X	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1		NO
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.		X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1		YES
5. VERIFYING USE OF REQUIRED DESIGN MIX.		X	ACI 318: CH. 4, 5.2-5.4	1904.2, 1910.2, 1910.3	EACH TIME FRESH CONCRETE SAMPLED	YES
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X		ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1910.10	EACH TIME CONCRETE CYLINDERS TAKEN SEE STRUCTURAL NOTES	YES
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X		ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8	EACH TIME FRESH CONCRETE SAMPLED	YES
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X	ACI 318: 5.11-5.13	1910.9	(1) UNANNOUCED INSPECTION FOR EVERY 250 CUBIC YARDS OF CONC. PLACED FOR ENTIRE PROJECT	YES
9. THE INSPECTION OF PRESTRESSED CONCRETE:			ACI 318: 18.20 ACI 318: 18.18.4			NO
a. APPLICATION OF PRESTRESSING FORCES.	X					
b. GROUTING ON BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE-RESISTING SYSTEM.	X					
10. ERECTION OF PRECAST CONCRETE MEMBERS.		X	ACI 318: CH. 16		PRIOR TO ENCLOSING	NO
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE & PRIOR TO REMOVAL OF SHORES & FORMS FROM BEAMS & STRUCTURAL SLABS.		X	ACI 318: 6.2			YES
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		X	ACI 318:6.1.1			YES

TMS 402-11/ACI 530-11/ASCE 5-11 TABLE 1.19.2
TMS 602-11/ACI 530.1-11/ASCE 6-11 TABLE 4
LEVEL B QUALITY ASSURANCE MINIMUM INSPECTION

INSPECTION TASK	FREQUENCY(a)		REFERENCE FOR CRITERIA	
	CONTINUOUS	PERIODIC	TMS 402/ACI 530/ASCE 5	TMS 602/ACI 530.1/ASCE 6
1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS		X		ART. 1.5
2. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
a. PROPORTIONS OF SITE-PREPARED MORTAR		X		ART. 2.3, 2.6 A
b. CONSTRUCTION OF MORTAR JOINTS		X		ART. 3.3 B
c. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES		X		ART. 2.4 B, 2.4 H
d. LOCATION OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES		X		ART. 3.4, 3.6 A
e. PRESTRESSING TECHNIQUE		X		ART. 3.6 B
f. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X(b)	X (c)		ART. 2.1 C
3. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE