

STRUCTURAL NOTES:

BUILDING CODES

- A. THE 2012 INTERNATIONAL BUILDING CODE (IBC) AND ALL SUBSEQUENT SUPPLEMENTS  
B. 2014 FLORIDA BUILDING CODE  
C. GOVERNING LOCAL BUILDING CODE

DESIGN LOADS

- A. IN ADDITION TO SELF WEIGHT, AND CAP WEIGHT THE PRECAST COLUMBARIUMS SHALL BE DESIGNED FOR THE FOLLOWING LOADS:

LIVE LOAD	SUPERIMPOSED	50 PSF
TYPICAL DEAD		
ROOF LIVE	20 PSF	

- B. WIND LOAD DESIGN CRITERIA:

BASIC WIND SPEED	130 MPH
WIND EXPOSURE	C
EXTERNAL PRESSURE COEFFICIENT (Cf ):	± 1.35
IMPORTANCE FACTOR ( I ):	1.0

- C. EARTHQUAKE LOAD DESIGN CRITERIA:

SIMPLIFIED PROCEDURE:	II
SEISMIC OCCUPANCY CATEGORY:	B
SEISMIC DESIGN CATEGORY:	1.0
IMPORTANCE FACTOR ( I ):	1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS	(Ss) = 0.149 (S1) = 0.062
SPECTRAL RESPONSE COEFFICIENTS	(SDS) = 0.127 (SD1) = 0.099
SOIL SITE CLASS:	D

SPREAD FOOTING FOUNDATIONS

- A. REFER TO "CAST IN PLACE CONCRETE" FOR APPLICABLE CODES AND STANDARDS.
- B. PARAMETERS FOR FOUNDATIONS PER THE GEOTECHNICAL REPORT FOR JACKSONVILLE NATIONAL CEMETERY PREPARED BY KCI TECHNOLOGIES, INC., DATED OCTOBER 2015 ARE AS FOLLOWS:
1. MINIMUM DEPTH TO BOTTOM OF EXTERIOR FOOTINGS = 24 IN BELOW GRADE  
2. NET ALLOWABLE BEARING CAPACITY = 2000 PSF
- C. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOUNDATIONS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 2000 PSF, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
- D. ALL EXCAVATION AND BACKFILLING OPERATIONS WITHIN THE BUILDING FOOTPRINT, INCLUDING ALL COMPACTION TESTS AND INSPECTIONS, SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.
- E. ALL EXISTING SOIL CONTAINING GRAVEL, CONSTRUCTION OR DEMOLITION DEBRIS, ORGANIC SUBSTANCES, OR OTHER FOREIGN OBJECTS SHALL BE REMOVED FROM THE REGION WITHIN THE FOOTPRINT OF THE STRUCTURE.

CAST IN PLACE CONCRETE: (SEE SPECIFICATION - 03 30 53)

- A. CODES AND STANDARDS:
1. ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"  
2. ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"  
3. ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS"  
4. ACI 305 "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING"  
5. ACI 306 "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING"  
6. ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORM WORK"  
7. ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"  
8. CRSI "MANUAL OF STANDARD PRACTICE"
- B. SUBMITTALS:
1. SHOP DRAWINGS FOR REINFORCEMENT INCLUDING BAR LENGTHS AND SPACING. REFER TO SPECIFICATIONS FOR ADDITIONAL CLARIFICATION.  
2. CONCRETE MIX DESIGNS, WITH LOCATIONS AND USAGE DENOTED PER MIX.
- C. REINFORCING MATERIALS:
1. STEEL REINFORCEMENT: ASTM A 615, GRADE 60, DEFORMED
- D. CONCRETE MATERIALS:
1. PORTLAND CEMENT: ASTM C 150, TYPE I/II  
2. FLY ASH: ASTM C 618, CLASS F  
3. NORMAL WEIGHT AGGREGATES: ASTM C 33  
4. WATER: ASTM C 94, POTABLE  
5. REFER TO SPECIFICATIONS FOR ADDITIONAL CLARIFICATION.
- E. ADMIXTURES:
1. AIR ENTRAINMENT: ASTM C 260  
2. WATER-REDUCER: ASTM C 494  
3. SILICA FUME: ASTM C 1240  
4. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED.
- F. CONCRETE MIXTURES:
1. FLY ASH, POZZOLAN, GROUND GRANULATED BLAST FURNACE SLAG, AND SILICA FUME MAY BE USED AS NEEDED TO REDUCE THE TOTAL AMOUNT OF PORTLAND CEMENT WHICH WOULD OTHERWISE BE USED BY NOT MORE THAN 40 PERCENT.  
a. MAXIMUM SUBSTITUTION OF FLY ASH SHALL BE 20 PERCENT.  
b. MAXIMUM SUBSTITUTION OF SILICA FUME SHALL BE 10 PERCENT.

G. PROPORTION NORMAL WEIGHT CONCRETE MIXES AS FOLLOWS:

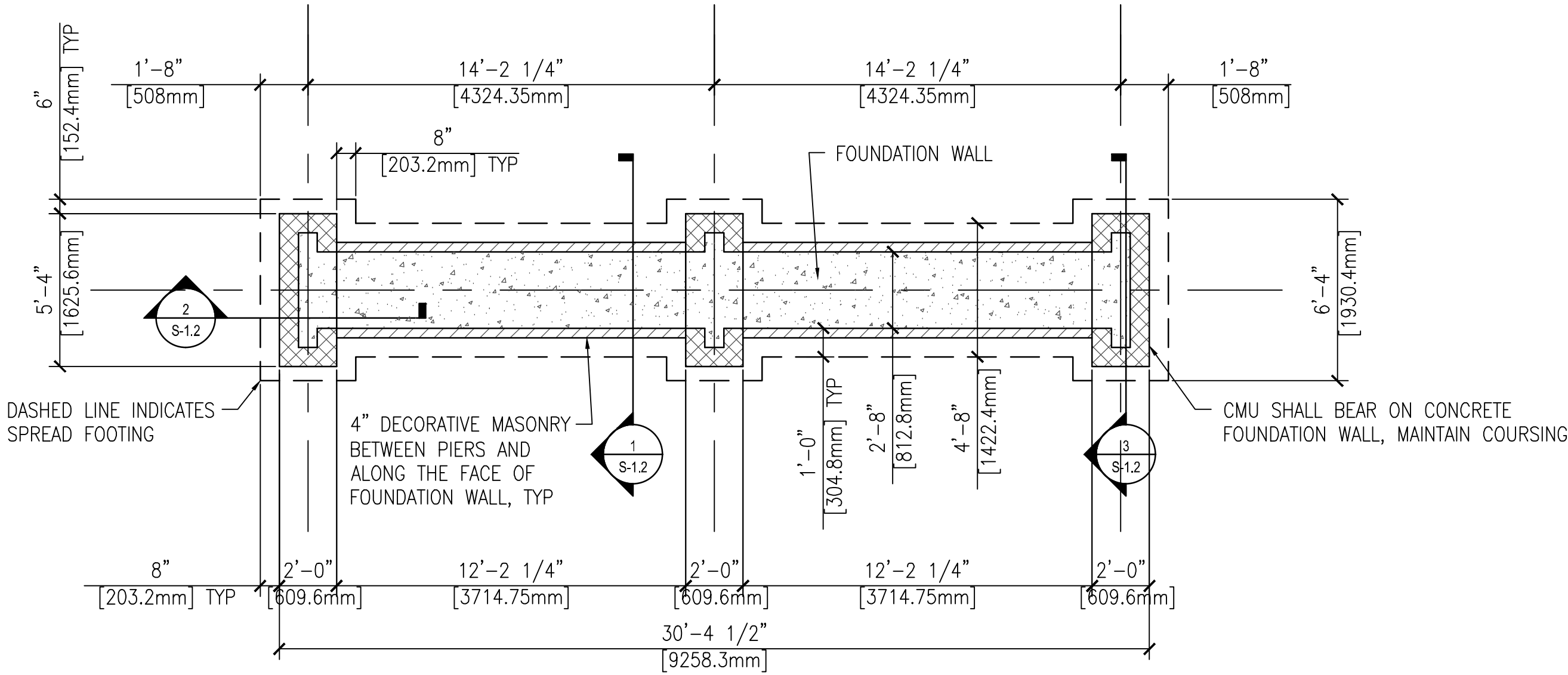
LOCATION	28 DAY STRENGTH (f'c)	WATER-CEMENTIOUS RATIO	SLUMP LIMIT	AIR CONTENT
FOUNDATIONS	3000 PSI	0.50	4" MAX	6.0% +/- 1.5%

- H. ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.
- I. ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.
- J. MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:

FOUNDATIONS	3 INCHES
SLABS ON GRADE	2 INCHES (TOP)
WALLS	2 INCHES

CONCRETE MASONRY: (SEE SPECIFICATIONS - 04 05 13, 04 05 16, AND 04 20 00)

- A. CODES AND STANDARDS:
1. ACI 530/ASCE 5/TMS 4021 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"  
2. ACI 530.1/ASCE 6/TMS 602 "SPECIFICATIONS FOR MASONRY STRUCTURES"  
3. ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
- B. SUBMITTALS:
1. MATERIAL CERTIFICATES FOR DECORATIVE MASONRY UNITS, GROUT MIXES, MORTAR MIXES, REINFORCEMENT, ANCHORS/TIES, AND WEEP VENT PRODUCTS.  
2. SHOP DRAWINGS INCLUDING DETAIL BENDING AND PLACEMENT OF UNIT MASONRY REINFORCING  
3. ADDITIONAL SAMPLE SUBMITTALS MAY BE REQUIRED BY ARCHITECT/OWNER. REFER TO ARCHITECTURAL DRAWINGS.
- C. MATERIALS:
1. CONCRETE MASONRY ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (f'm) OF 1500 PSI.  
2. NORMAL WEIGHT HOLLOW LOAD BEARING CONCRETE MASONRY UNITS: ASTM C 90 WITH UNIT NET AREA COMPRESSIVE STRENGTH OF 1900 PSI.  
a. GRADE N-I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE GRADE S-I OR N-I AT CONTRACTOR'S OPTION.  
3. MASONRY MORTARS: ASTM C 270  
a. TYPE M BELOW GRADE (MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI)  
b. TYPE S ABOVE GRADE (MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1800 PSI)  
4. MASONRY GROUT: ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2000 PSI.  
5. REINFORCEMENT:  
a. UNCOATED STEEL REINFORCING BARS: ASTM A 615, GRADE 60  
b. HORIZONTAL JOINT REINFORCEMENT: ASTM A 951, STAINLESS STEEL EITHER LADDER OR TRUSS TYPE WITH MINIMUM 0.16 INCH DIAMETER.  
a. VENEER TIES: SEE SPECIFICATION 04 20 00, SECTION 2.3 "ANCHORS, TIES, AND REINFORCEMENT"
- D. INSTALLATION:
1. UNLESS OTHERWISE INDICATED, ALL BOND BEAMS SHALL BE REINFORCED WITH 2-#5 BARS RUNNING CONTINUOUS AND LAP SPICED A MINIMUM OF 36 BAR DIAMETERS. PROVIDE CORNER BARS AT CORNERS.  
2. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED PER DETAILS FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.  
3. CONTRACTOR IS RESPONSIBLE FOR BRACING AND SHORING OF ALL MASONRY WALLS AS REQUIRED UNTIL ROOF AND FLOOR SYSTEMS HAVE BEEN COMPLETELY INSTALLED.
- E. INSPECTIONS BY INDEPENDENT INSPECTION AGENCY:
1. ALL MASONRY SHALL BE FIELD INSPECTED IN ACCORDANCE WITH IBC LEVEL 1 SPECIAL INSPECTIONS INCLUDING VERIFICATION OF THE MASONRY COMPRESSIVE STRENGTH, VERIFICATION OF GROUT COMPRESSIVE STRENGTH, COMPLIANCE OF ALL MATERIALS TO CONTRACT DOCUMENTS, THE CONDITION SIZE, SPACING, AND PLACEMENT OF REINFORCEMENT, AND THE QUALITY AND PLACEMENT OF ALL JOINTS.



FOUNDATION PLAN NOTES:

1. CONSTRUCTION CONSISTS OF CONCRETE SPREAD FOOTINGS SUPPORTING PRECAST COLUMBARIUM UNITS.
2. REFER TO SITE PLANS FOR WALL DESIGNATIONS AND LOCATIONS.
3. BOTTOM OF ALL FOOTINGS SHALL BE PLACED MINIMUM 24" BELOW GRADE. CONTRACTOR SHALL REFER TO SITE PLANS FOR GRADE AT EACH WALL LOCATION AND COORDINATE ELEVATIONS WITH PROPOSED GRADING.

A TYPICAL DOUBLE SIDED COLUMBARIUM WALL CONCRETE FOUNDATION PLAN  
SCALE: 1/4"=1'-0"

MISCELLANEOUS

- A. THE CONTRACTOR SHALL LOCATE ALL UTILITIES IN THE AREA OF CONSTRUCTION AND PREVENT DAMAGE TO THEM. SHOULD DAMAGE OCCUR TO ANY UTILITIES, THE CONTRACTOR IS REQUIRED TO REPAIR THE DAMAGE TO THE SATISFACTION OF THE OWNER AT HIS OWN EXPENSE.
- B. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND CONSTRUCTION OF THE PROJECT. THE SHOP DRAWINGS SHALL INDICATE ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.
- C. THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.
- D. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION.
- E. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
- F. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- G. SEE SPECIFICATION, 04 42 00 - STONE MASONRY, FOR SPECIAL STONE FACING/FINISHES.

CONSULTANTS:



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ARCHITECT/ENGINEERS:



101 Bellevue Road Pittsburgh, PA 15229 (412) 931-6455

Drawing Title

COLUMBARIUM FOUNDATION  
PLAN + STRUCTURAL NOTES

Approved Project Director

Project Title

Construct 1,361 Pre-Placed Crypts, 1,152  
Niche Columbarium & 932 In-Ground  
Cremains

Location

JACKSONVILLE NATIONAL CEMETERY  
4083 Lannie Road Jacksonville, FL 32218

Date

MARCH 10, 2016

Checked

KGD

Drawn

NDB

Project Number

928CM3001

Building Number

-

Drawing Number

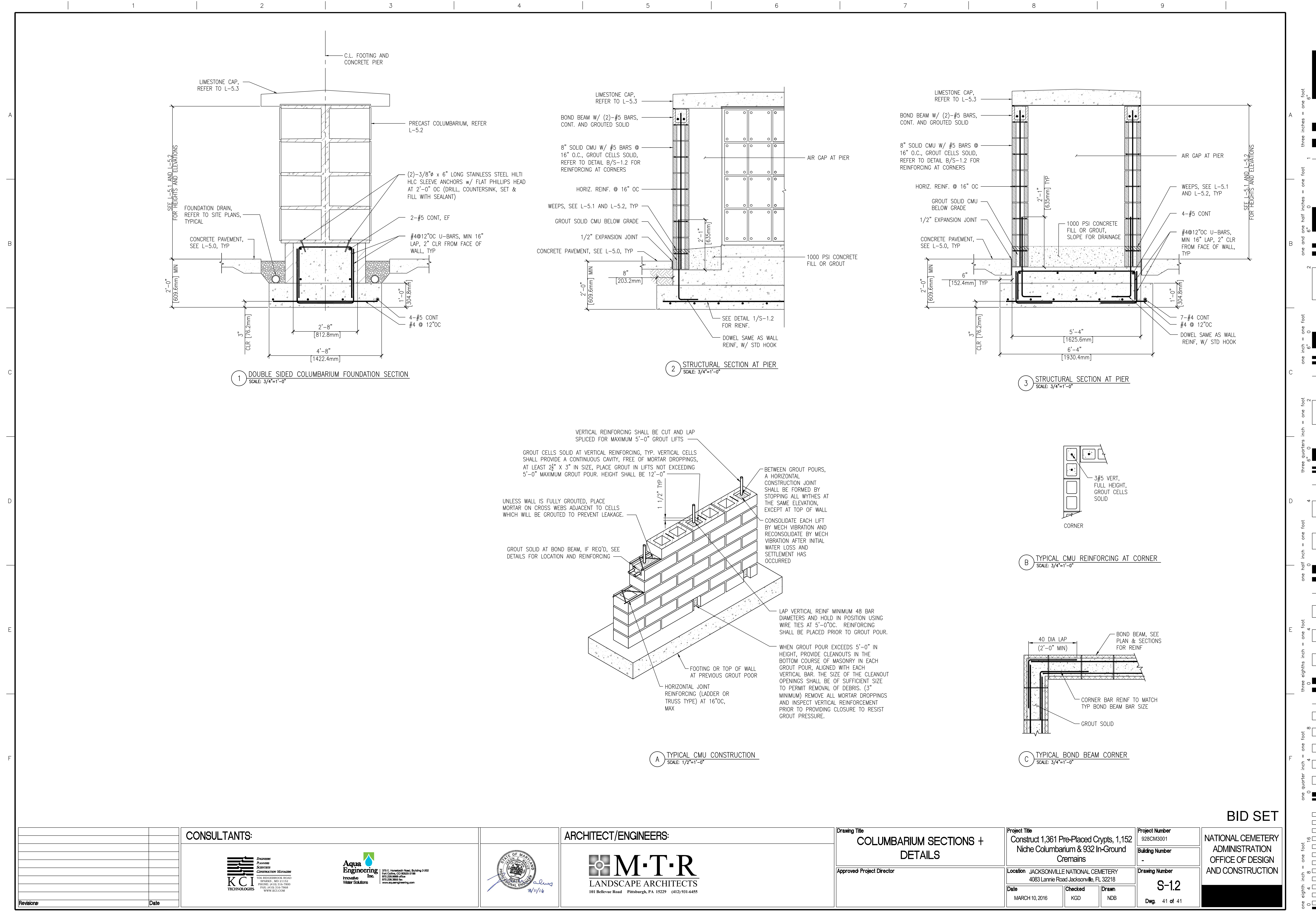
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BID SET

NATIONAL CEMETERY  
ADMINISTRATION  
OFFICE OF DESIGN  
AND CONSTRUCTION





BID SET

NATIONAL CEMETERY  
ADMINISTRATION  
OFFICE OF DESIGN  
AND CONSTRUCTION