

1	BUILDING CODE:	
1.1	(FLORIDA STATE BUILDING CODE (FBC 2023) BASED ON 2021 INTERNATIONAL BUILDING CODE (IBBC))	
2	DESIGN LOADS:	
2.1	ROOFS:	
	SUPERIMPOSED DEAD	3.25 PSF
	ROOF LIVE	20 PSF*
	SNOW: GROUND SNOWLOAD, P_g	0 PSF
2.2	WIND:	
	BASIC WIND SPEED, V	119 MPH ULTIMATE
	RISK CATEGORY	II
	IMPORTANCE FACTOR, I	1.0
	EXPOSURE, C	C
	INTERNAL PRESSURE COEFFICIENT, GC_p	+X
	COMPONENT DESIGN PRESSURE	SEE TABLE
2.3	SEISMIC DATA:	
	SITE CLASS	D
	RISK CATEGORY	II
	OCCUPANCY CATEGORY	II
	IMPORTANCE FACTOR, I_s	1.0
	MAPPED SPECTRAL RESPONSE COEFFICIENT, S_s	0.130
	MAPPED SPECTRAL RESPONSE COEFFICIENT, S_1	0.059
	SEISMIC DESIGN CATEGORY	B
2.4	PRE-ENGINEERED METAL BUILDINGS:	
	COLLATERAL LOAD:	
	ROOF	5 PSF (GRIDS 1 – 6)
		10 PSF (GRIDS 6 – 12)

* ROOF LIVE LOADS ARE REDUCED IN ACCORDANCE WITH SECTION 1607.12 1607.11 OF THE IBC.

[illegible]

4.1 NO PROVISIONS FOR FUTURE EXPANSION HAVE BEEN INCLUDED IN DESIGN.

5.1	THE STRUCTURE IS DESIGNED FOR THE FOLLOWING ASSUMED SOIL PROPERTIES:	
	ASSUMED MAX ALLOWABLE SOIL BEARING CAPACITY (AFTER CORRECTION)	4,500 PSF AT TANK FARM
	ASSUMED MAX ALLOWABLE SOIL BEARING CAPACITY (AFTER CORRECTION)	2,000 PSF AT BUILDING
	COEFFICIENT OF FRICTION	0.45
	MODULUS OF SUBGRADE REACTION	250 PCI

5.2 FOOTINGS SHALL BEAR ON GROUND IMPROVED COMPACTED ENGINEERED FILL. ALL SUBGRADE SHALL BE PREPARED AND COMPACTED
ACCORDING TO THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT.

5.3 ALL TOPSOIL, FILL AND OTHER UNDESIRABLE MATERIALS EXPOSED SHALL BE REMOVED. A GEOTECHNICAL ENGINEER SHALL INSPECT THE
EXCAVATED AREA TO ENSURE ALL MATERIAL REQUIRING REMOVAL HAVE BEEN REMOVED AND TO VERIFY THE SOIL BEARING
CAPACITY USED FOR DESIGN PRIOR TO CEMENT PLACEMENT.

5.4 BOTTOM OF FOOTING ELEVATION SHALL BE LOWERED AS REQUIRED TO MEET THIS MINIMUM.

5.5 SHALL BE BRACED AGAINST BOTH SIDES OF THE COMPACTED FILL. BRACING SHALL BE INSTALLED SIMULTANEOUSLY. CONTRACTOR SHALL
PROVIDE ADEQUATE BRACING TO SUPPORT AND STABILIZE WALLS UNTIL THE SUPPORTING MEMBERS ARE INSTALLED AND HAVE
REACHED SUFFICIENT STRENGTH.

5.6 ALL MAJOR EQUIPMENT SHALL MAINTAIN A CLEAR SAFE DISTANCE FROM BASEMENT AND RETAINING WALLS.

5.7 PRIOR TO COMMENCING ANY FOUNDATION WORK, COORDINATE WITH ALL UTILITIES. FOUNDATIONS SHALL BE LOWERED WHERE
REQUIRED TO AVOID UTILITIES.

5.8 MUD SLABS, FOOTINGS OR SLABS SHALL NOT BE PLACED ONTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST OR ICE.
CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR
SUBGRADE. SUBGRADE SHALL BE PROTECTED BY A CURE AND PROTECTIVE CURE CURTAIN. SUCH SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT
BUILDING STRUCTURE OR PROPER DEPTH OF BURY.

DESIGN CODE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318), LATEST ADOPTION.
CONCRETE MIXES SHALL BE DESIGNED PER ACI 301 USING THE FOLLOWING:
PORTLAND CEMENT CONFORMING TO ASTM C150 OR C595
FLY ASH CONFORMING TO ASTM C618.
SLAG CEMENT CONFORMING TO ASTM C899.
SILICA FUME CONFORMING TO ASTM C1240.
AGGREGATE CONFORMING TO ASTM C33.
AD MIXTURES CONFORMING TO ASTM C494, C1017, AND C260. DO NOT USE CALCIUM CHLORIDE OR AD MIXTURES CONTAINING CALCIUM CHLORIDE.
CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C94.

DESCRIPTION	COMPRESSIVE STRENGTH (f'c) AT 28 DAYS	MAX AGGREGATE SIZE	SUMP ²	MAX WATER TO CEMENT RATIO (w/c) ³
FOOTINGS	3000 PSI	1 1/2"	4" ± 1"	0.57
FOUNDATION WALLS & PIERS	4000 PSI	3/4"	4" ± 1"	0.45
INTERIOR SLABS ON GRADE & TANK SUPPORTS	5000 PSI	3/4"	3" ± 1"	0.4

¹ TOLERANCE ON AIR CONTENT AS DELIVERED SHALL BE $\pm 1.5\%$

² PRIOR TO ADDITION OF PLASTICIZER OR HIGH-RANGE WATER-REDUCER

³ THESE W/C RATIOS MAY BE LOWER THAN NECESSARY TO PROVIDE THE SPECIFIED STRENGTHS

6.3.2	REINFORCING STEEL:	
	WELDABLE BARS	ASTM A706, GR. 60
	ALL OTHER BARS, STIRRUPS AND TIES	ASTM A618, GR. 60
	WELDED WIRE FABRIC	ASTM A1064
6.4	PLACEMENT OF CONCRETE AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI AND CRSI STANDARDS, (UNLESS OTHERWISE SPECIFIED BY ACI 313.)	
6.5	CLEAN REINFORCEMENT OF LOOSE RUST, MILL SCALE, EARTH, ICE, AND OTHER FOREIGN MATERIALS THAT REDUCE BOND TO CONCRETE.	
6.6	PROVIDE 3/4" CHAMFER AT ALL EXPOSED CORNERS.	
6.7	FURNISH THE FOLLOWING CONCRETE COVER ON REINFORCING BARS UNLESS SHOWN OTHERWISE ON DRAWINGS:	
	SLABS ON GRADE	CENTER MESH OR BARS IN SLAB
	PIERS	1 1/2" COVER ON TIES
	FOOTINGS	2" COVER ON BOTTOM AND SIDES
	WALLS	2" COVER WHERE EXPOSED TO SOIL OR WEATHER AND

6.9 ALL WELDED WIRE FABRIC SHALL BE TRANSPORTED AND DELIVERED IN FLAT SHEETS.
6.10 WELDING (INCLUDING TACKING) OF BARS OTHER THAN ASTM A706 SHALL NOT BE ALLOWED. WELDING OF ASTM A706 BARS SHALL
CONFORM TO AWS D1.4.
6.11 REINFORCING MATERIAL SHALL BE SYNTHETIC FIBER SHOWN HAVING LONG-TERM RESISTANCE TO DETERIORATION WHEN EXPOSED TO
MOISTURE AND ALKALIS.
6.12 MAINTAIN CONCRETE IN A CONTINUOUSLY DAMP AND WET CONDITION FOR NOT LESS THAN 7 DAYS AFTER PLACING. PROTECT FROM
MOISTURE LOSS WITH SHEETING OR SPRAY-ON MEMBRANE MEETING ASTM C309 AND COMPATIBLE WITH FLOOR COVERINGS.
6.13 FINISHES (REQUIREMENTS ARE AS FOLLOWS):
SMOOTH RUBBED FINISH ON EXPOSED FORM SURFACES.
WOOD FLOAT FINISH ON SLABS TO RECEIVE TOPPING.
STEEL TROWEL FINISH ON INTERIOR SLABS AND SLABS TO RECEIVE FINISH FLOORING.
BROOM FINISH ON WALKS, STAIRS AND EXTERIOR CONCRETE PEDESTAL PAVING.
NONSLIP FINISH SHALL BE APPLIED WITH ALUMINUM OXIDE TYPE SURFACE TREATMENT.
6.14 DO NOT FIELD BEND BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE UNLESS SPECIFICALLY INDICATED OR ACCEPTED BY THE
ENGINEER.
6.15 PROVIDE CORNER BARS EQUAL IN SIZE AND SPACING TO WALL HORIZONTAL REINFORCEMENT UNLESS OTHERWISE DETAILED.
6.16 IN SLABS PROVIDE (2) #4x4" DIAGONAL BARS AT 45 DEGREES AT ALL CORNERS OF OPENINGS AND RE-ENTRANT CORNERS.
6.17 AT WALL OPENINGS, PROVIDE (2) #4 BARS ON ALL SIDES EXTENDING 2'-0" BEYOND THE OPENING AND (2) #4x4" DIAGONAL BARS AT 45
DEGREES AT ALL CORNERS.
6.18 COLD WEATHER CONCRETING SHALL FOLLOW PROCEDURES IN ACI 306.
6.19 HOT WEATHER CONCRETING SHALL FOLLOW PROCEDURES IN ACI 305.
6.20 PROVIDE CLASS 'B' LAP LENGTHS FOR WALL FOOTINGS UNLESS NOTED OTHERWISE. PROVIDE CLASS 'B' LAP SPLICES IN ACCORDANCE
WITH ACI 318.
6.21 BARS AND HANGING BARS SHALL BE PROVIDED FOR ALL REINFORCING STEEL TO ENSURE COMPLIANCE WITH MINIMUM
CONCRETE COVER. BAR SUPPORTS SHALL BE PLASTIC, PLASTIC TIE, EPOXY COATED OR STAINLESS STEEL FOR UNCOATED STEEL.
BAR SUPPORTS FOR COATED STEEL SHALL BE PLASTIC, PLASTIC COATED OR EPOXY COATED.
6.22 PLACE CONCRETE SLABS IN ALTERNATING STRIPS PER ACI 302.1. REFER TO CONSTRUCTION JOINT DETAILS IN DRAWINGS.
6.23 CONCRETE SHALL BE PLACED IN PLACES UNTIL IT REACHES A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI, UNLESS
OTHERWISE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE ALL SHORING.
6.24 THE CONTRACTOR SHALL ALLOW IN THE BID AN ADDITIONAL ONE TON OF #6x6" 0' x6'-0" BENT BAR REINFORCING STEEL (INSTALLED
PRICE) TO BE PLACED IN THE FIELD AT THE DIRECTION OF THE ENGINEER. ANY UNUSED PORTION OF THIS ALLOWANCE SHALL BE
CREDITED TO THE OWNER.
6.24.1 SPECIAL ADDITIONAL REQUIREMENTS FOR SLABS ON GRADE:
6.24.2 DESIGN STANDARD: GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION (ACI 302.1)
6.24.3 REFER TO GEOTECHNICAL REPORT FOR VAPOR BARRIER, ENGINEERED FILL AND SUBGRADE COMPACTION REQUIREMENTS.
6.24.4 PLACING WELDED WIRE FABRIC AT 14" ON CENTER FOR ALL FULL MESHES.
6.24.5 SEE DRAWINGS FOR LOCATIONS OF SLAB CONTROL JOINTS. UNLESS OTHERWISE INDICATED, JOINTS SHALL BE PROVIDED AT 14'-0" OC
MAX. FOR 4" SLABS, 20'-0" OC MAX. FOR 6" SLABS, AND 24'-0" OC MAX. FOR 8" SLABS, BUT SHALL IN ALL CASES BE PLACED AT EQUAL
INTERVALS BETWEEN BUILDING DRILLS. SAWN CONTROL JOINTS SHALL BE MADE WITHIN 12 HOURS AND AS SOON AS POSSIBLE
WITHOUT CAUSING DAMAGE TO OTHER DAMAGE.
6.24.6 SLAB JOINTS SHALL BE FILLED WITH AN ANCHORING MATERIAL AS LATE AS POSSIBLE, PREFERABLY AT LEAST 4 TO 6 WEEKS AFTER THE
SLAB HAS BEEN CAST. PRIOR TO FILLING, REMOVE ALL DEBRIS FROM THE SLAB JOINTS. FILL IN ACCORDANCE WITH THE
MANUFACTURER'S RECOMMENDATIONS AS FOLLOWS: PRODUCTION AREAS - FILL WITH EPOXY RESIN. OTHER SLABS - FILL WITH FIELD
MOLDED OR ELASTOMERIC SEALANT.
6.24.7 SEE THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DEPRESSED SLAB AREAS AND DRAINS. SLOPE SLAB TO DRAINS
WHERE SHOWN.
6.24.8 CONFIRM REQUIRED RACK STORAGE POST LOADINGS, POST SPACINGS AND BASE PLATES WITH ENGINEER PRIOR TO SLAB SUBGRADE
EXCAVATION AND COMPACTION. INFORMATION NOT PROVIDED OR DEVIATIONS FROM INFORMATION PROVIDED MAY LEAD TO
INCREASED SETBACKS AND/OR CRACKS.
6.24.9 FINISH TOLERANCE OF ALL SLABS SHALL BE IN ACCORDANCE WITH ACI 302.1 R.

7.1 DESIGN, FABRICATION AND ERECTION OF PRE-ENGINEERED METAL BUILDINGS SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC), LATEST ADOPTION, LOW RISE BUILDING SYSTEMS MANUAL (MBMA), LATEST EDITION, AND SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISII). THE BUILDING SHALL BE DESIGNED BY THE MANUFACTURER AS A COMPLETE SYSTEM. ALL COMPONENTS OF THE SYSTEM SHALL BE SUPPLIED OR SPECIFIED BY THE SAME MANUFACTURER.

7.2 ALL WELDING SHALL COMPLY WITH THE PROVISIONS OF AWS D1.1 AND AWS D1.3.

7.3 ALL BOLTED CONNECTIONS SHALL BE DESIGNED AND DETAILED UTILIZING HIGH STRENGTH BOLTS PER ASTM F3125 A325 OR A490.

7.4 MAXIMUM ALLOWABLE DEFLECTION WITH IMPOSED LOADS FOR EXTERIOR WALL AND ROOF SYSTEM:

	VERTICAL DEFLECTION	L/180
	LATERAL SWAY	H/100
	RACKING	H/500
	END WALL RACKING	H/500
	GIRT HORIZONTAL DEFLECTION	L/96
		L/240 OR 1 1/2' WHERE SUPPORTING MASONRY
	PURLIN VERTICAL DEFLECTION	L/180
	ELEMENTS SUPPORTING DRYWALL PARTITIONS	
	LATERAL MOVEMENT	PARTITION HEIGHT/500
	NOTE: L IS THE ELEMENT SUPPORTS, H IS THE BUILDING HEIGHT	
7.5	PROVIDE LATERAL LOAD RESISTING SYSTEMS AS REQUIRED TO RESIST THE INDICATED WIND AND SEISMIC LOADS IN ROOF AND SIDE WALLS WHERE INDICATED ON THE DRAWINGS.	
7.6	PROVIDE THE FOLLOWING WHEN ANCHORING TO CONCRETE:	
	MINIMUM SPACING	
	UNTORQUED CAST-IN ANCHORAGE	4 d _s
	TORQUED CAST-IN AND POST-INSTALLED	6 d _s
	MINIMUM EDGE DISTANCE	
	UNTORQUED CAST IN ANCHORAGE	REFER TO MINIMUM COVER SPECIFIED IN THE CONCRETE SECTION
	TORQUED CAST-IN HEADED ANCHORS	6 d _s
	POST-INSTALLED	NOT LESS THAN TWICE THE AGGREGATE SIZE
	UNDERCUT	6 d _s
	TORQUE-CONTROLLED	8 d _s
	DISPLACEMENT CONTROLLED	10 d _s

NOTE: d_a IS THE ANCHOR DIAMETER

7.7 FOUNDATION DESIGNS ARE BASED ON METAL BUILDING REACTIONS PROVIDED BY NUCOR BUILDING SYSTEMS, PROJECT NUMBER S24W0262A DATED 10/2/2024. IF THE REACTIONS CHANGE THESE DESIGN LOADS, THE FOUNDATIONS SHALL BE REDESIGNED AND CERTIFIED BY A REGISTERED STRUCTURAL ENGINEER UNDER CONTRACT TO THE CONTRACTOR. A RECORD COPY OF THE REVISED FOUNDATION DESIGN SHALL BE PROVIDED TO ENGINEER. ENGINEER IS NOT RESPONSIBLE TO APPROVE THE REVISED FOUNDATION DESIGN OR FOR ADDITIONAL PROJECT COSTS AND/OR CONSTRUCTION DELAYS INCURRED AS A RESULT OF REVISED FOUNDATION LOADS.

8.1 GENERAL SUBMITTAL REQUIREMENTS

8.1.1 CONTRACTOR SHALL REVIEW, STAMP, SIGN AND DATE ALL SUBMITTALS PRIOR TO FORWARDING TO ARCHITECT/ENGINEER. THE ENGINEER'S REVIEW IS FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE RELEVANT CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK AND COORDINATE THE SUBMITTALS. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS IN THE SUBMITTALS.

8.1.2 SHOP DRAWINGS SHALL BE IN THE FORM OF BLACK-LINE PRINTS OR PORTABLE DOCUMENT FORMAT (PDF) FOR REVIEW. DRAWINGS LISTED BELOW AS "CERTIFIED" SHALL BEAR THE SIGNED AND DATED SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. IN NO CASE SHALL REPRODUCTIONS OF THE CONTRACT DRAWINGS BE USED AS SHOP DRAWINGS. DRAWINGS SHALL SHOW EXACTITY OF SIZES, DIMENSIONS, BRACING AND BRIDGING REQUIREMENTS, DETAILS, SUPPORTED MECHANICAL EQUIPMENT AND PIPING. SUBMITTALS ARE REQUIRED.

8.1.3 CALCULATIONS FOR SPECIALTY STRUCTURAL AND/OR MANUFACTURED ITEMS SHALL BEAR THE SIGNED AND DATED SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. CALCULATIONS SHALL INCLUDE DESIGN CRITERIA, REACTION FORCES, LOAD CAPACITIES, LAYOUTS SHOWING SPAN AND PITCH, AND CONNECTIONS.

8.1.4 SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED PRIOR TO FABRICATION

8.2 CONCRETE

8.2.1 CONCRETE MIX DESIGN(S) SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. A SIGNED CERTIFICATION STATING COMPLIANCE WITH ACI 318, CHAPTER 5 SHALL BE SUBMITTED WITH EACH MIX DESIGN.

8.2.2 REINFORCING STEEL SHOP DRAWINGS.

8.2.3 PRE-ENGINEERED METAL BUILDING.

8.3.1 CERTIFIED SHOP DRAWINGS AND CALCULATIONS.

8.3.1.1 SUBMIT ANCHOR ROD PLACEMENT PLAN AND FINAL COLUMN REACTIONS AT LEAST 30 DAYS PRIOR TO FOUNDATION DESIGN SUBMITTAL.

ABBREVIATIONS			
AA	THE ALUMINUM ASSOCIATION	CRSI	CONCRETE REINFORCING STEEL INSTITUTE
ACI	AMERICAN CONCRETE INSTITUTE	MBMA	METAL BUILDING MANUFACTURERS ASSOCIATION
AF&PA	AMERICAN FOREST & PAPER ASSOCIATION	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	PCI	PRESTRESSED CONCRETE INSTITUTE
AISI	AMERICAN IRON AND STEEL INSTITUTE	SDI	STEEL DECK INSTITUTE
APA	ENGINEERED WOOD ASSOCIATION	SJI	STEEL JOIST INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	SSMA	STEEL STUD MANUFACTURER ASSOCIATION
AWPA	AMERICAN WOOD PROTECTION ASSOCIATION	TPI	TRUSS PLATE INSTITUTE
AWS	AMERICAN WELDING SOCIETY	WTCA	WOOD TRUSS COUNCIL OF AMERICA
CMAA	CRANE MANUFACTURERS ASSOCIATION OF AMERICA		

VAA, LLC 763.559.9100
2300 Berkshire Lane N, Suite 200 www.vaaeng.com
Plymouth, MN 55441
FL Firm Registration No. 31385

CLIENT:

GREYSTONE CONSTRUCTION



PROJECT:

AGROLIQUID CHEMICAL
WAREHOUSE
LAKE CITY, FL

[illegible]

This item has been digitally signed and sealed by Mark D. Mielke. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Digitally signed
by Mark Mielke
Date: 2024.11.01
11:33:17 -05'00'

MARK D. MIELKE, PE
Registration No. 68730

MARK D. MIELKE, P.E.

69730

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DATE: 11/01/24		DRAWN: DJH	
DESIGNED: AMR	CHECKED: AMR	APPROVED: MDM	

DRAWING TITLE

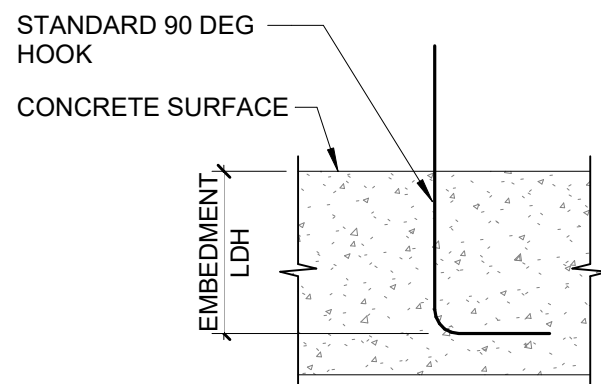
STRUCTURAL NOTES

PROJECT NO: 230828	DRAWING NO: S001
SCALE: AS NOTED	

EMBEDMENT OF STD HOOKS	
BAR SIZE	LDH (INCHES)
3	9"
4	11"
5	1'-2"
6	1'-5"
7	1'-8"
8	1'-10"
9	2'-1"

NOTES:

- THIS TABLE ASSUMES:
 $f_c = 3,000 \text{ psi}$
 $F_y = 60,000 \text{ psi}$



CLASS 'A' LAPS			
BAR SIZE	FC (PSI)		
	3000	4000	5000
3	1'-5"	1'-3"	1'-1"
4	1'-10"	1'-7"	1'-5"
5	2'-4"	2'-0"	1'-10"
6	2'-9"	2'-5"	2'-2"
7	4'-0"	3'-6"	3'-2"
8	4'-7"	4'-0"	3'-7"
9	6'-2"	4'-6"	4'-0"

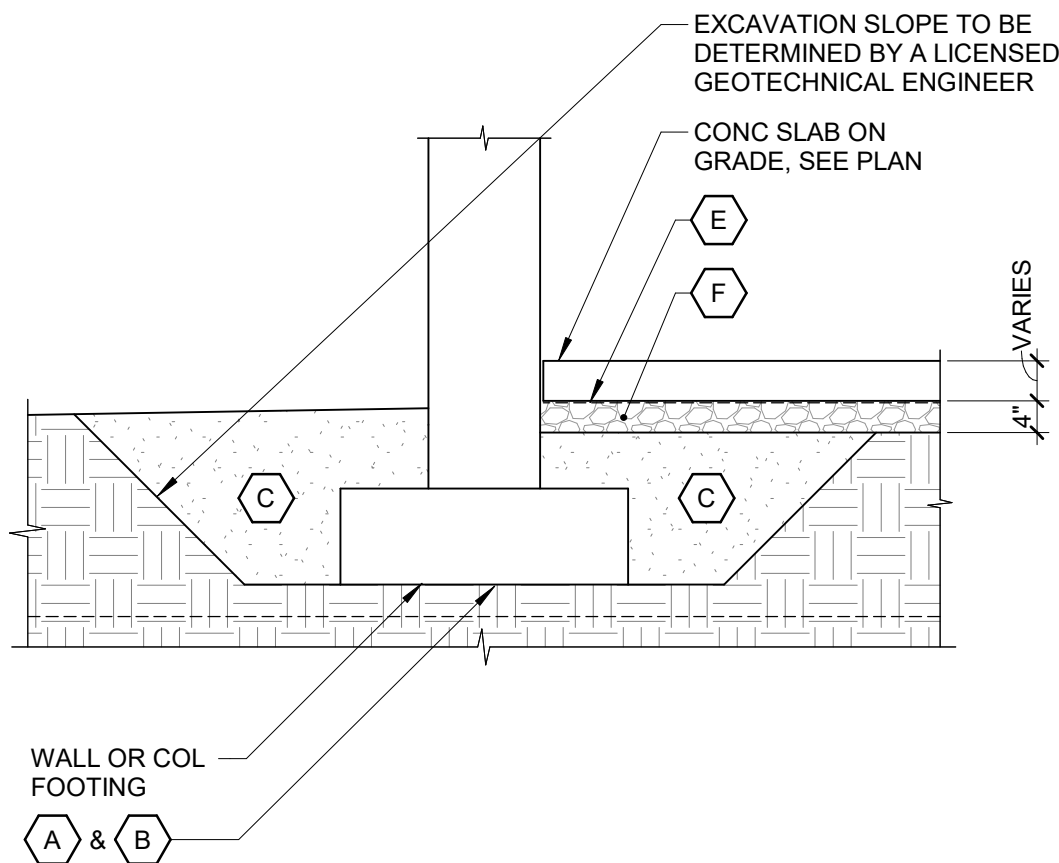
CLASS 'B' LAPS			
BAR SIZE	FC (PSI)		
	3000	4000	5000
3	1'-10"	1'-7"	1'-5"
4	2'-4"	2'-1"	1'-11"
5	3'-0"	2'-7"	2'-4"
6	3'-7"	3'-1"	2'-10"
7	5'-3"	4'-6"	4'-1"
8	6'-0"	5'-2"	4'-8"
9	6'-9"	5'-10"	5'-3"

NOTES:

1. THESE TABLES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
 - A. CLEAR SPACING OF BARS GREATER OR EQUAL TO D_b .
 - B. CLEAR COVER GREATER OR EQUAL TO D_b .
 - C. STIRRUPS OR TIES PROVIDED THROUGHOUT DEVELOPMENT LENGTH GREATER THAN CODE MIN.

OR

 - D. CLEAR SPACING OF BARS GREATER OR EQUAL TO $2D_b$.
 - E. CLEAR COVER GREATER THAN D_b .
2. FOR OTHER CASES, MULTIPLY LENGTHS SHOWN BY 1.5.
3. FOR TOP BAR SPLICES, MULTIPLY LENGTHS SHOWN BY 1.3. TOP BARS ARE SUCH THAT 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE SPLICE OR DEVELOPMENT LENGTH.
4. LIGHTWEIGHT CONCRETE, MULTIPLY LENGTHS SHOWN BY 1.3.
5. FOR HIGHER GRADE STEEL MULTIPLY LENGTHS SHOWN BY A RATIO OF HIGHER $F_y(KSI)$ OVER 60(KSI). ALL OTHER FACTORS LISTED STILL APPLY.
6. FOR COMPRESSION LAP SPLICE USE (0.0009F_y-24) D .



1. REFER TO CIVIL DRAWINGS FOR EXISTING AND FINAL GRADES.
2. COMPACT TO THE PERCENTAGE OF ASTM D-1557-MODIFIED PROCTOR, MAXIMUM DRY DENSITY.
3. COMPACT ACCEPTABLE FILL AT LEAST FOUR PERCENTAGE POINTS OVER THE OPTIMUM MOISTURE CONTENT.
4. ACCEPTABLE FILL IS DEFINED AS A NON-PLASTIC, INORGANIC, GRANULAR SOIL WITH NO MORE THAN 12% FINES OR 4% ORGANICS.

- | | |
|----------|---|
| A | SUBGRADE: ALL OPEN FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY A LICENSED GEOTECHNICAL ENGINEER (PRIOR TO POURING CONCRETE) TO ENSURE ALL MATERIALS REQUIRING REMOVE HAVE BEEN REMOVED AND TO VERIFY THE SOIL BEARING CAPACITY USED FOR DESIGN. |
| B | NATIVE SOIL: FOUNDATIONS SHALL BEAR ON STABLE, COMPACTED IN-SITU SOILS OR STRUCTURAL FILL, REFER TO GENERAL STRUCTURAL NOTES SECTION 6 FOR ADDITIONAL INFORMATION. |
| C | BACKFILL: STRUCTURAL FILL MATERIAL: COMPACT TO AT LEAST 95% AT FOOTINGS AND SLABS, SEE GENERAL NOTES (1), (2), AND (3) ABOVE. COMPACTION SHALL BE AS DESCRIBED IN GENERAL STRUCTURAL NOTES SECTION 6. |
| D | FINAL GRADE: SLOPE AWAY FROM BUILDING; MINIMUM 5% GRADE; MAXIMUM 33% GRADE. |
| E | VAPOR BARRIER: 15 MIL POLYETHYLENE, REFER TO SPECIFICATIONS. |
| F | CAPILLARY WATER BARRIER: 6" OF FREE DRAINING, CLEAN, POORLY GRADED CRUSHED ROCK PLACED BENEATH THE BUILDING SLAB AND VAPOR BARRIER. FOR CAPILLARY WATER BARRIER MATERIALS AND PLACEMENT, REFER TO SPECIFICATION SECTION 31.10.00.00.06. |

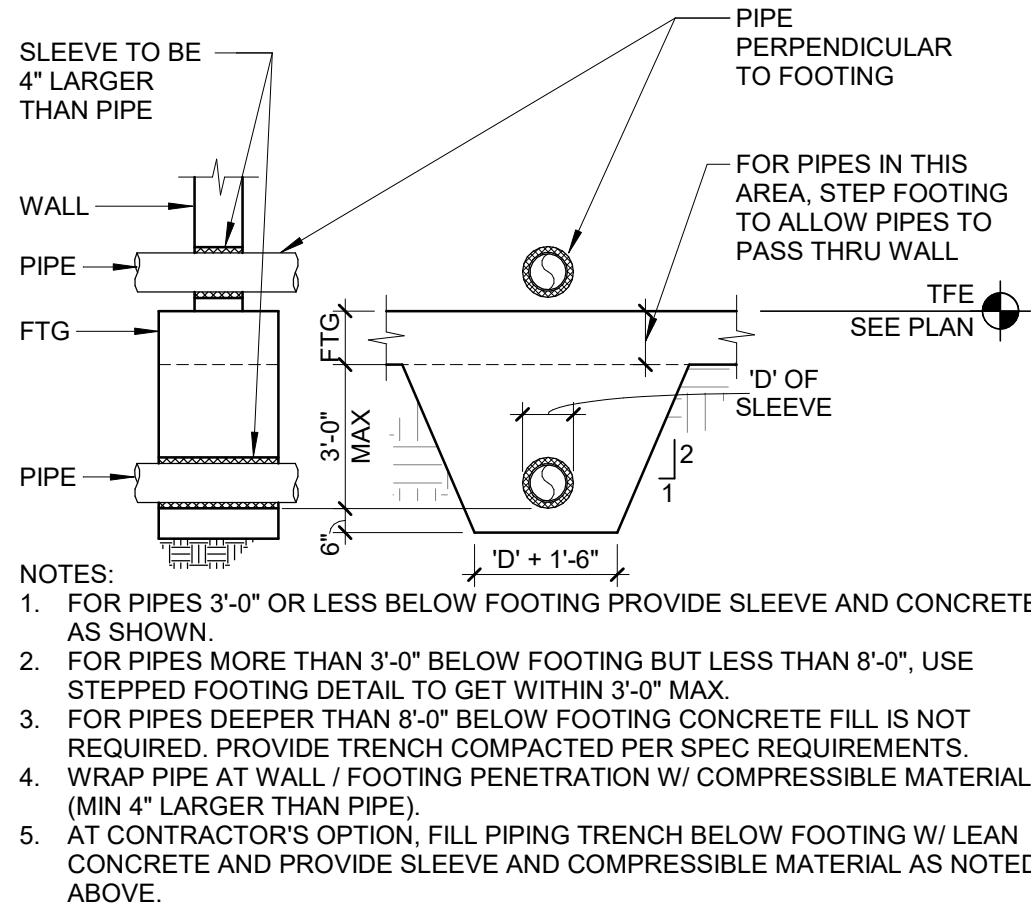
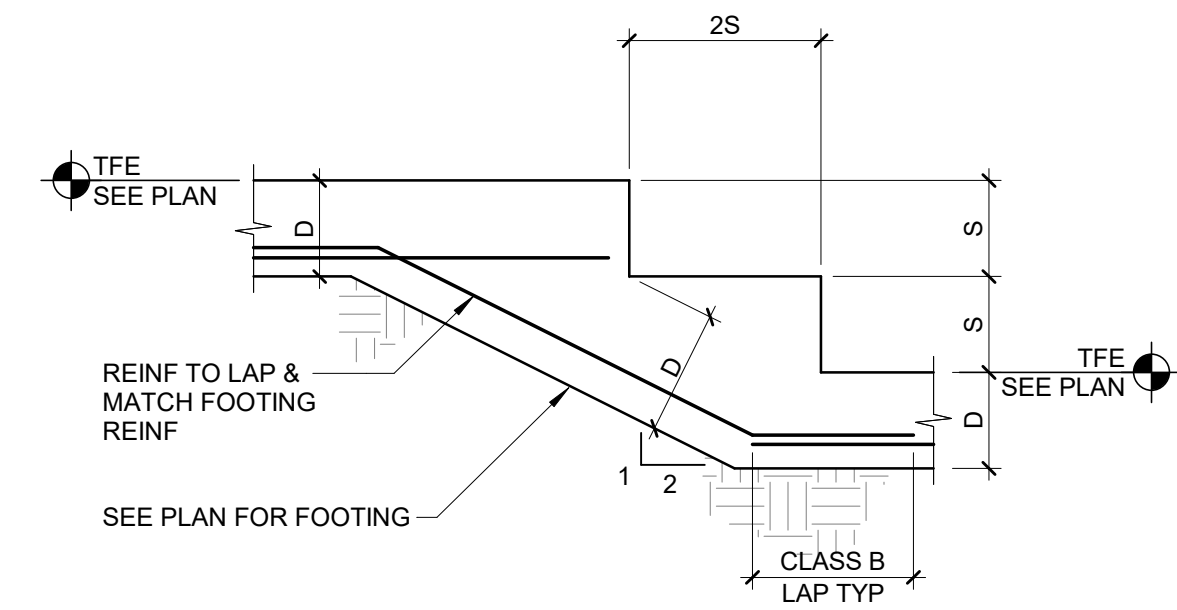
NOTES:

1. d = BAR DIAMETER
2. FOR STANDARD HOOKS AND BENDS:
 $D = 6d$ FOR #3 THRU #8
 $D = 8d$ FOR #9 THRU #11
3. FOR TIES AND STIRRUPS:
 $D = 4d$ FOR #3 THRU #5
4. REFER TO GENERAL STRUCTURAL NOTES FOR VERTICAL REINF SPLICE REQUIREMENTS

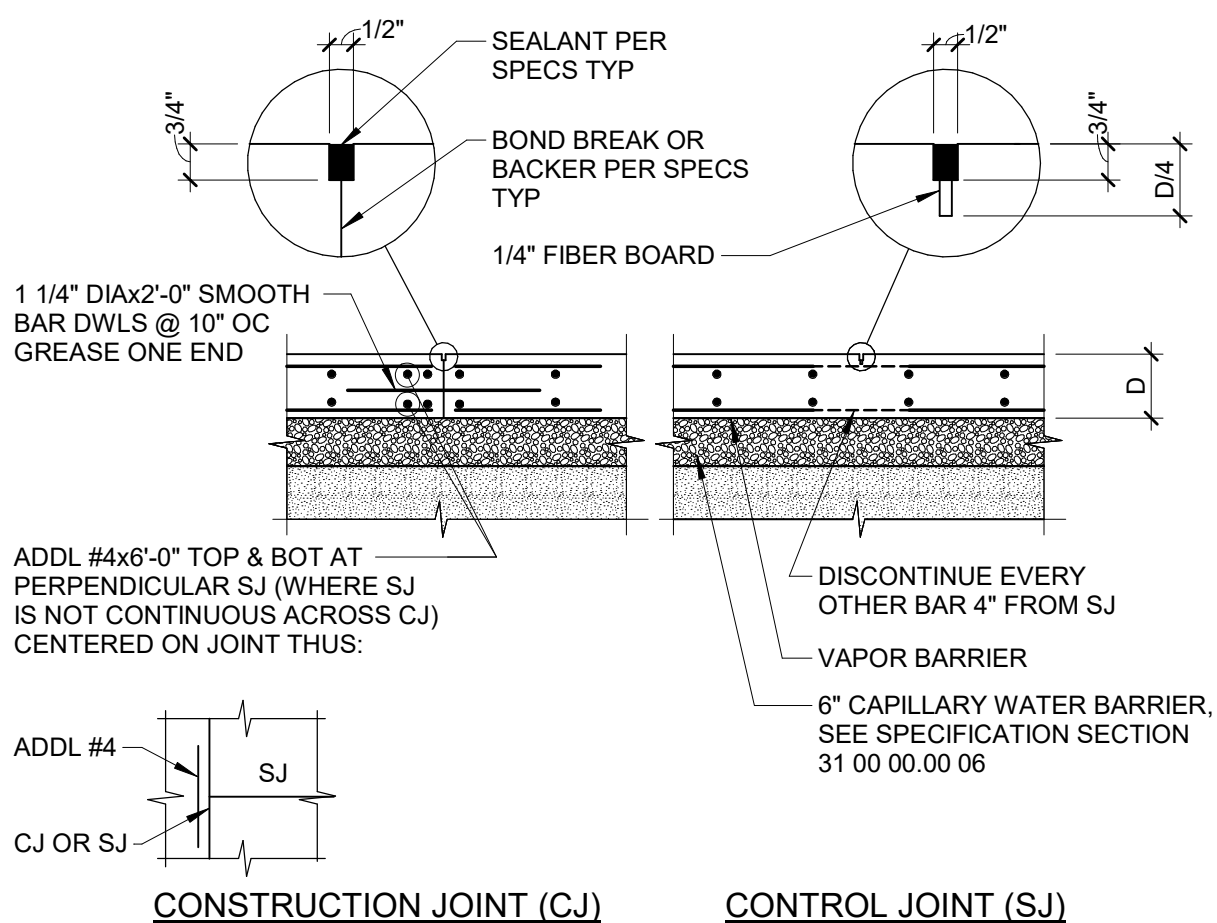
LAP SPLICE

(S501) NO SCALE

S501 $1/2" = 1'-0"$

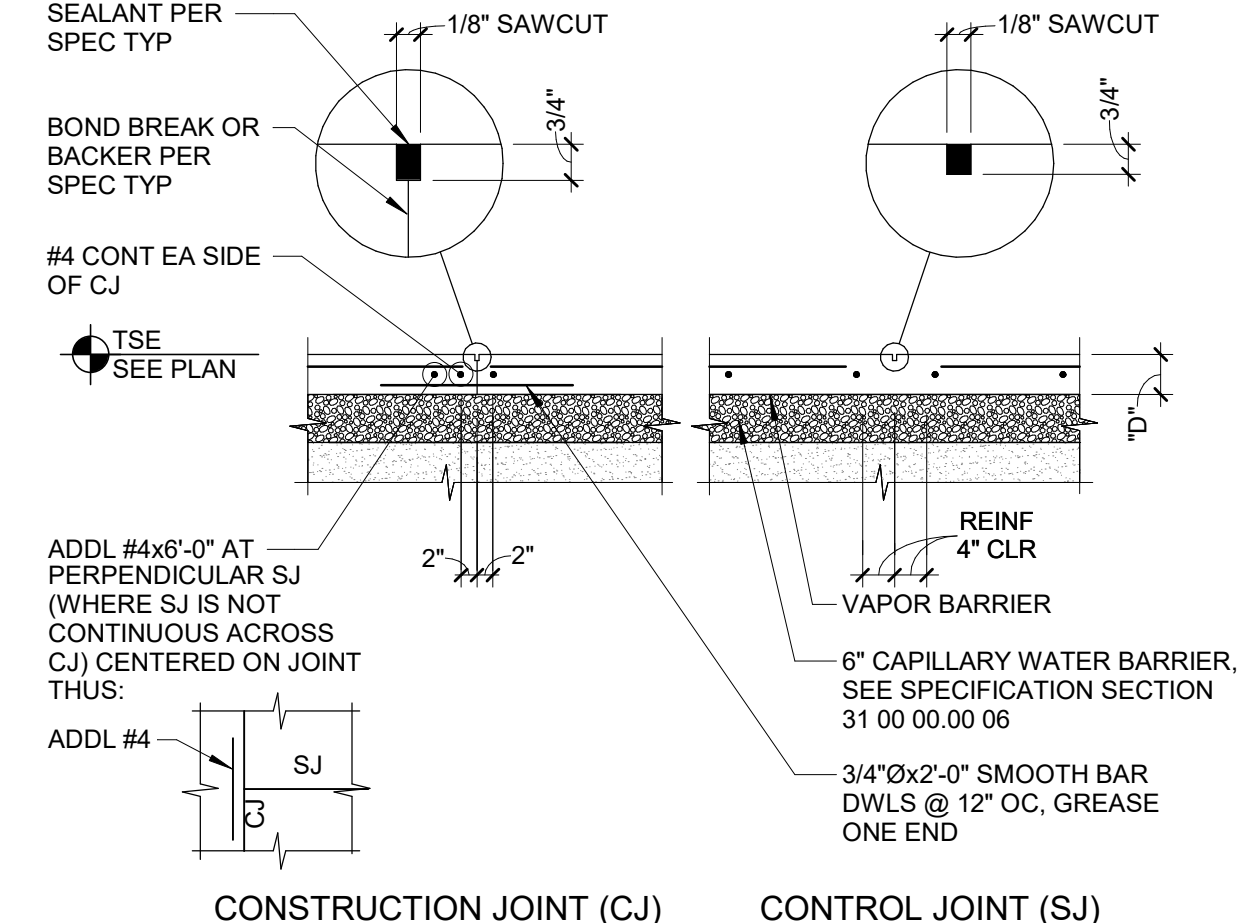


S501 $1/4" = 1'-0"$



NOTES:
1. SAWCUT CONTROL JOINTS WITHIN 12 HOURS OF THE SLAB POUR OR AS EARLY AS POSSIBLE WITHOUT CAUSING RAVELING. CONTROL AND/OR CONSTRUCTION JOINTS TO BE SPACED AS INDICATED ON PLAN.

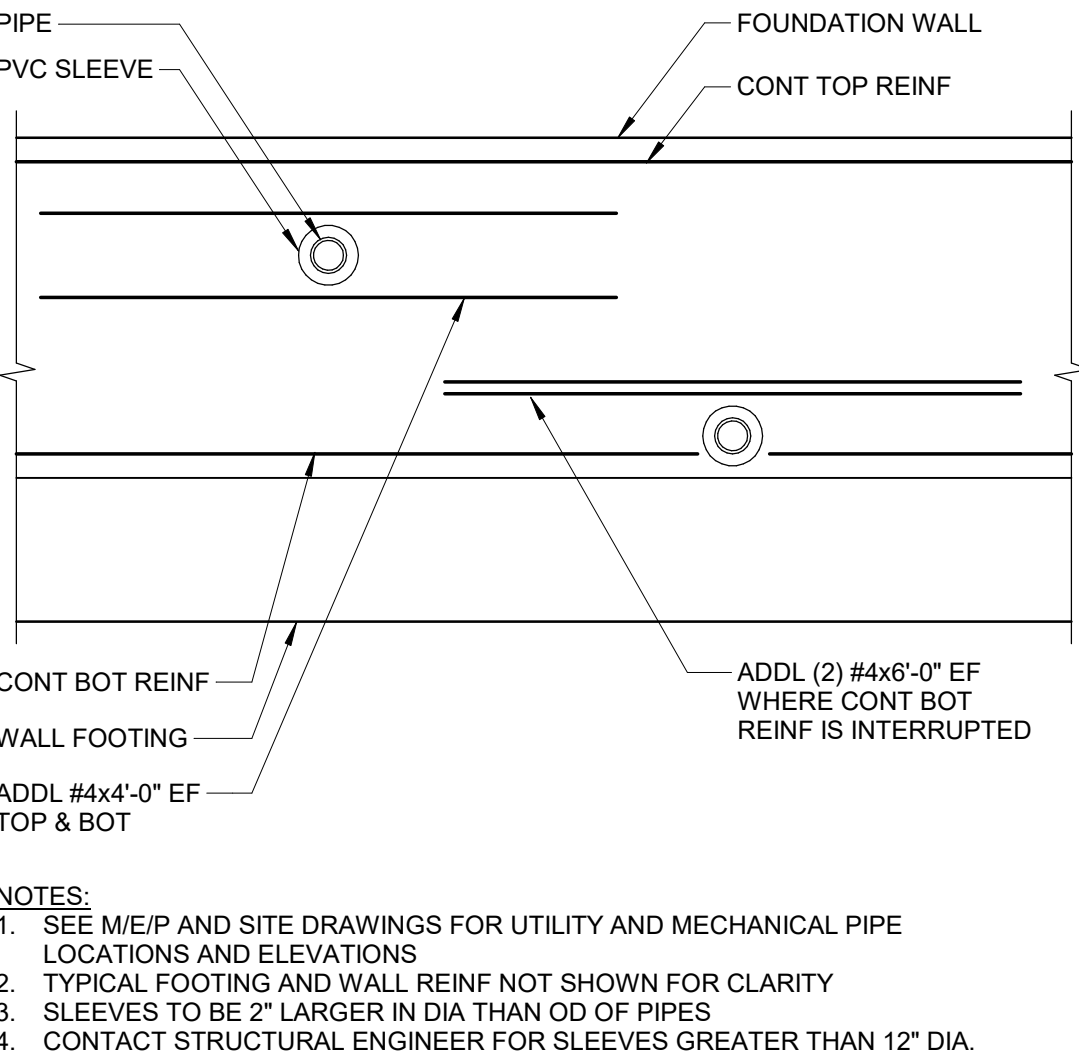
S501 $1/2" = 1'-0"$



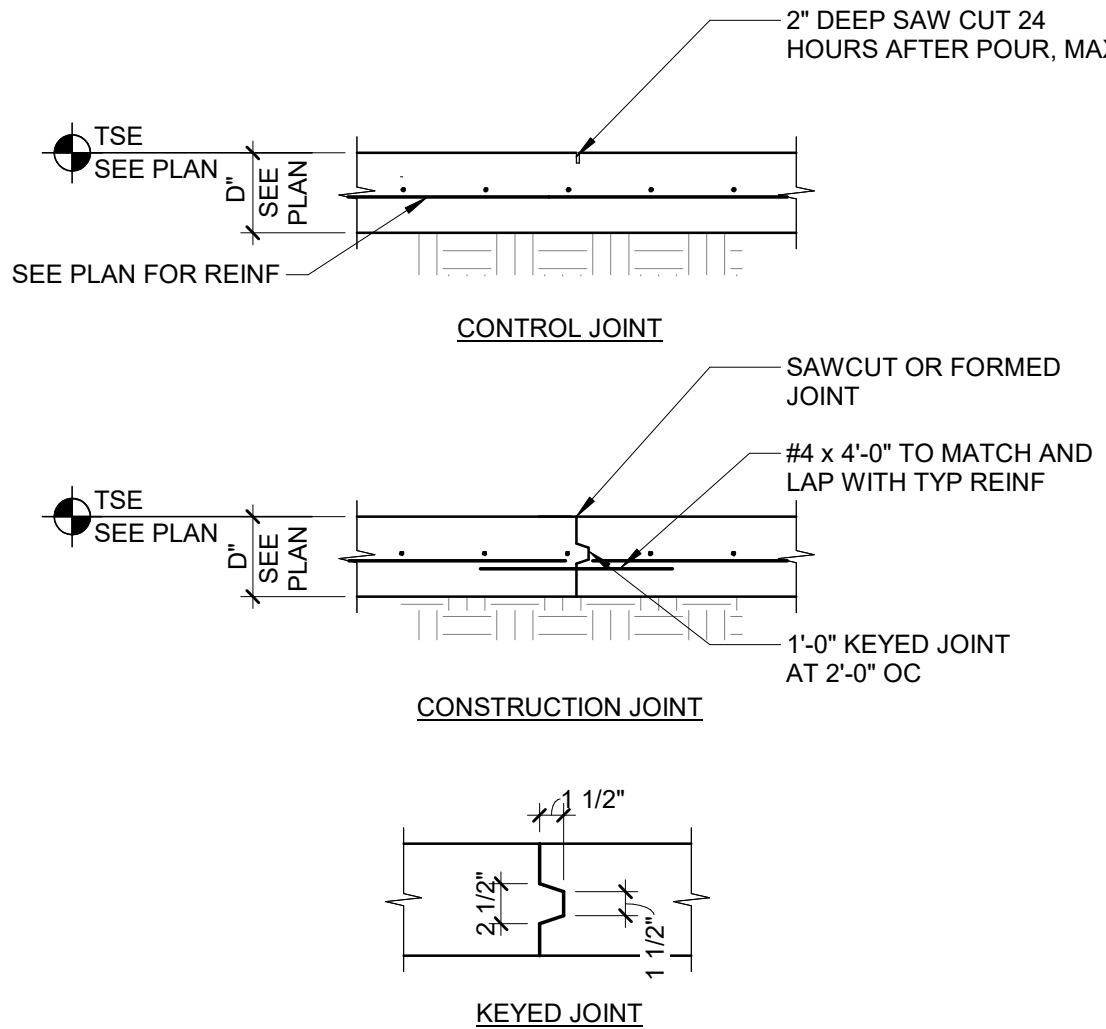
NOTES:
1. SAWCUT CONTROL JOINTS WITHIN 12 HOURS OF THE SLAB POUR OR AS EARLY AS POSSIBLE WITHOUT CAUSING RAVELING. CONTROL AND/OR CONSTRUCTION JOINTS TO BE SPACED AS INDICATED ON PLAN.

S501 $1/2'' = 1'-0''$

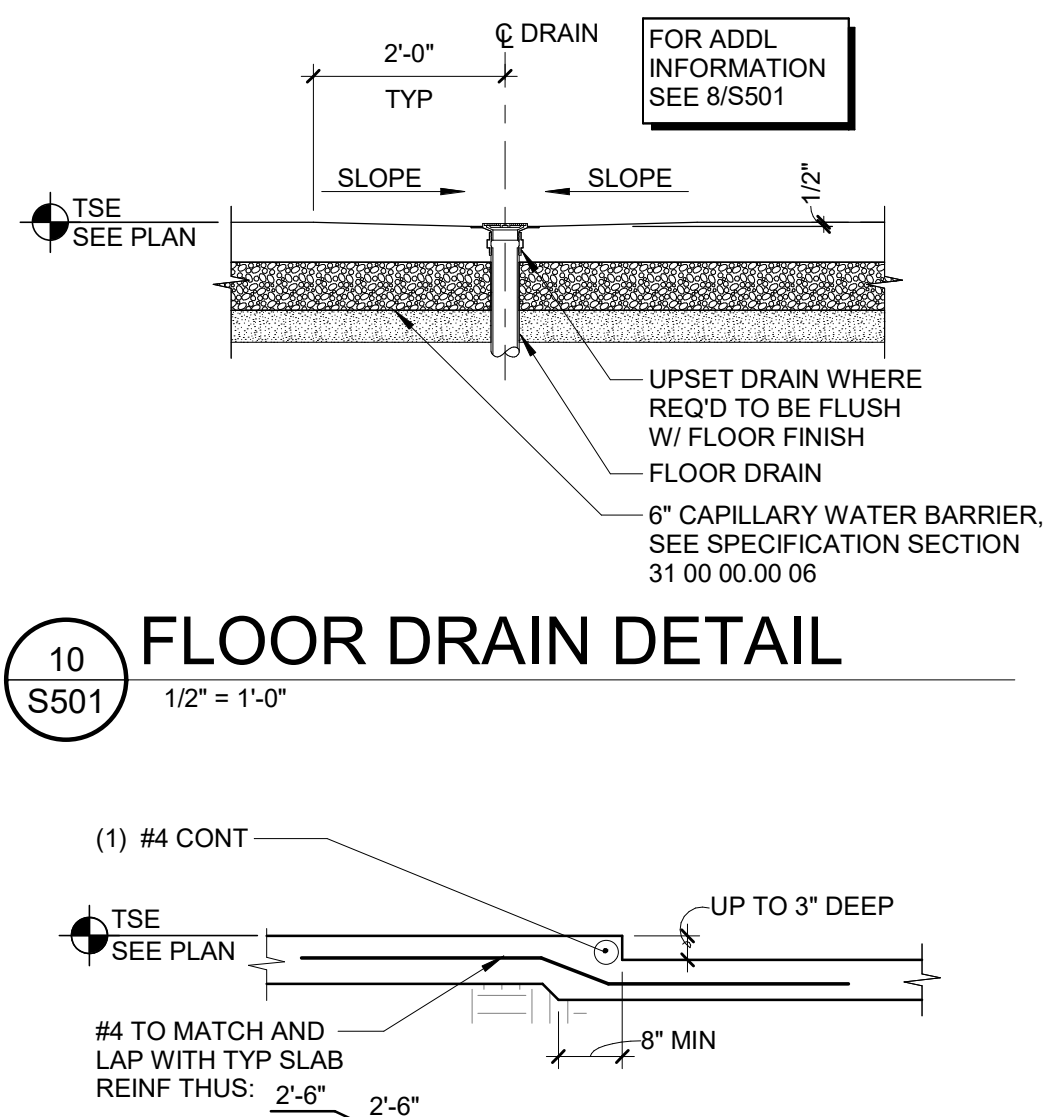
(S501) NO SCALE



(S501) $1/2'' = 1'-0''$



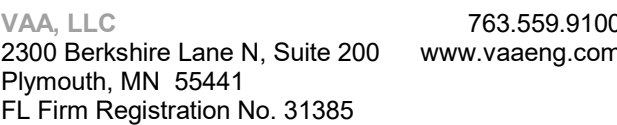
(S501) $1/2'' = 1'-0''$



SLAB STEP UP TO 3" DEEP

(S501) $3/4" = 1'-0"$

(S501) $1/2'' = 1'-0''$



CLIENT:

GREYSTONE CONSTRUCTION



PROJECT:

AGROLIQUID CHEMICAL
WAREHOUSE
LAKE CITY, FL

[illegible]

This item has been digitally signed and sealed by Mark D. Mielke. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MARK D. MIELKE, PE
Registration No. 68730

MARK D. MIELKE, P.E.

68730

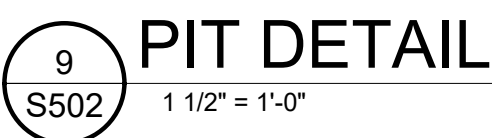
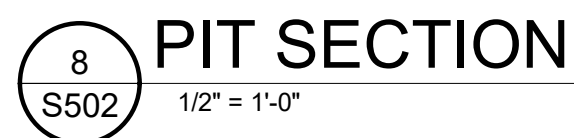
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DATE: 11/01/24		DRAWN: DJH	
DESIGNED: AMR	CHECKED: AMR		APPROVED: MDM

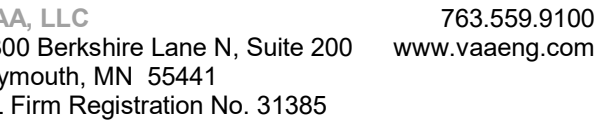
DRAWING TITLE:

FOUNDATION DETAILS

PROJECT NO: 230828	DRAWING NO: S501
SCALE: AS NOTED	



PROJECT NO: 230828	DRAWING NO: S502
SCALE: AS NOTED	



GREYSTONE
CONSTRUCTION

NO.	DATE	ISSUE/REVISION	BY
1	11/01/24	ISSUED FOR CONSTRUCTION	DJH

[illegible]

MARK D. MIELKE, PE
Registration No. 68730

3730

DATE: 11/01/24	DRAWN: DJH
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DESIGNED: AMR	CHECKED: AMR	APPROVED: MDM
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FOUNDATION DETAILS

PROJECT NO: 230828	DRAWING NO: S503
SCALE: AS NOTED	

