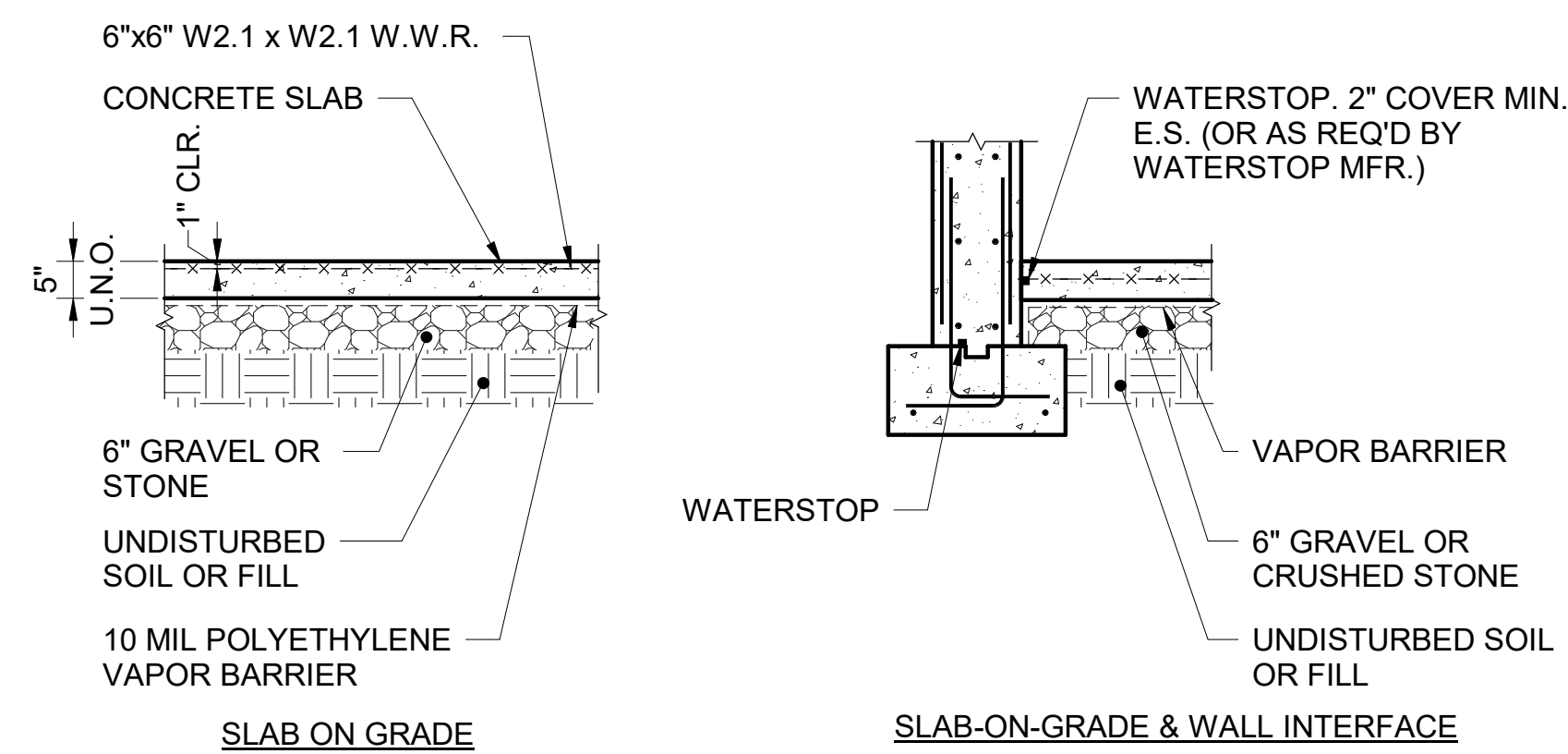
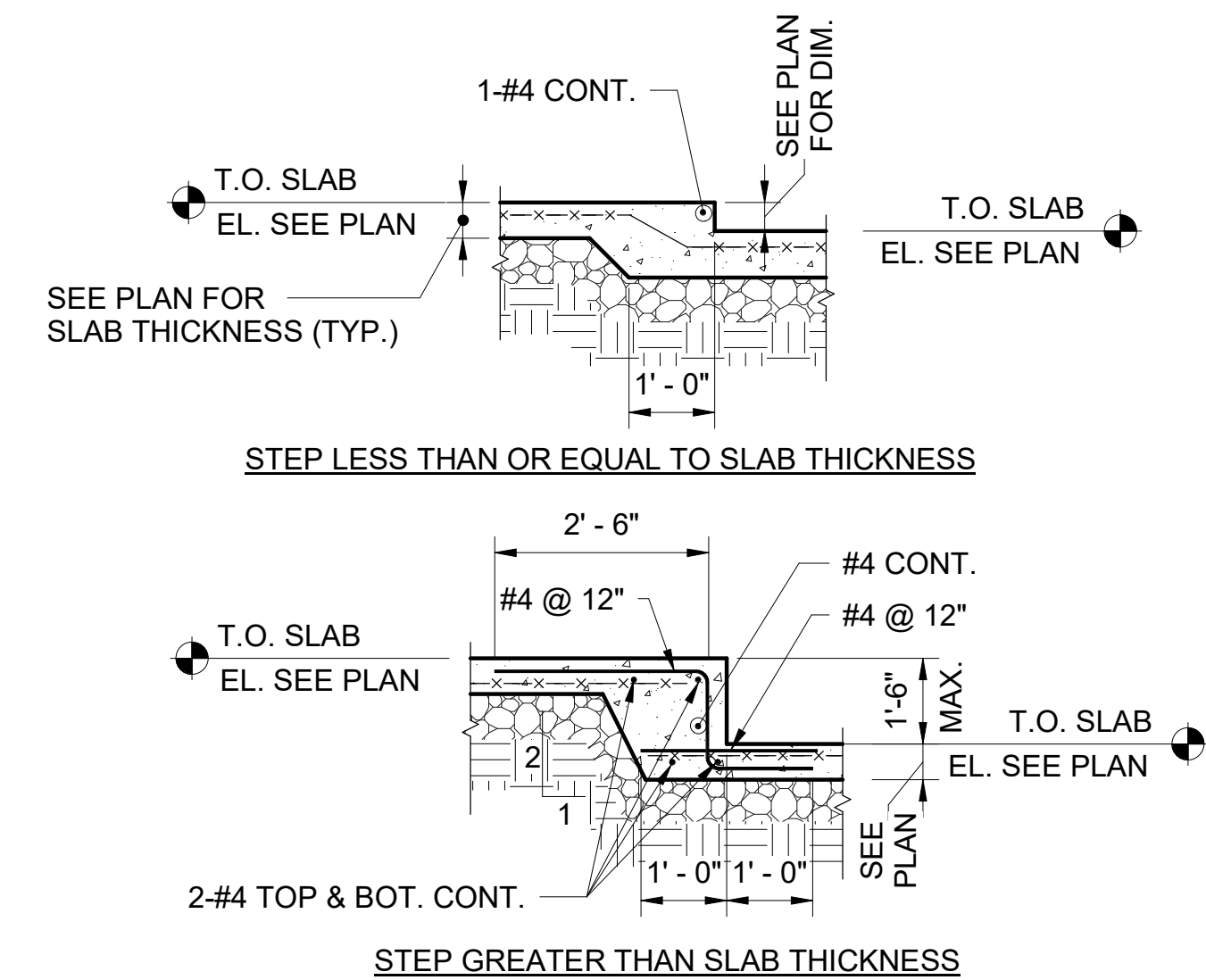


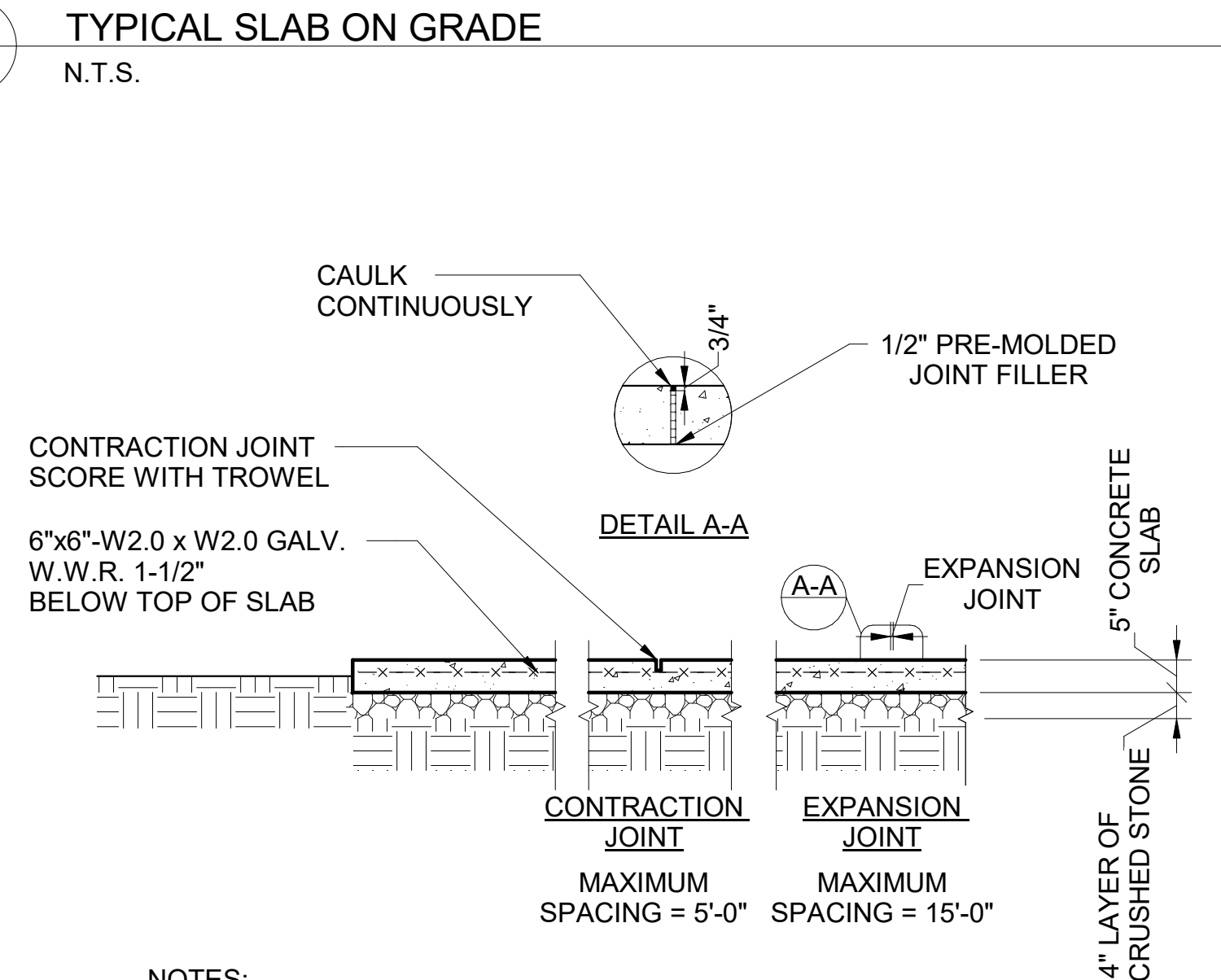
**1** TYPICAL SLAB ON GRADE  
 S5.4 N.T.S.



- NOTES:**
- SLAB ON GRADE SHALL BE PLACED IN ALTERNATING STRIPS WHERE EACH SINGLE STRIP DOES NOT EXCEED 36 TIMES SLAB THICKNESS WIDTH IN INCHES. ALTERNATIVELY, LARGE BLOCK PLACEMENTS WITH INTERIOR CONTRACTION JOINTS ARE ACCEPTABLE IF THE CONTRACTION JOINTS ARE MADE IN BOTH DIRECTIONS AT SPECIFIED INTERVALS IN A TIMELY MANNER.
  - SAWED CONTRACTION JOINTS SHALL BE LOCATED AT A MAXIMUM SPACING IN INCHES OF 36 TIMES THE SLAB THICKNESS. JOINTS SHALL BE SAWED NO LATER THAN 24 HOURS AFTER CONCRETE IS PLACED.
  - GRAVEL OR CRUSHED STONE BASE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.

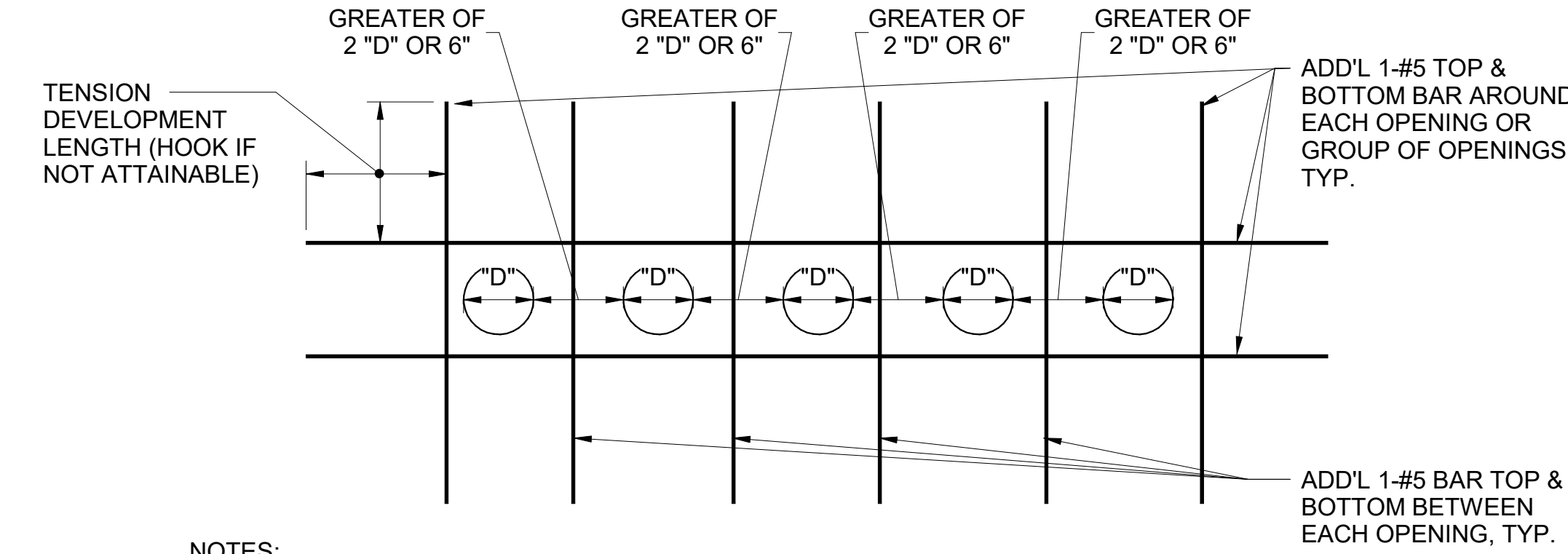


**2** TYPICAL STEP IN SLAB ON GRADE  
 S5.4 N.T.S.



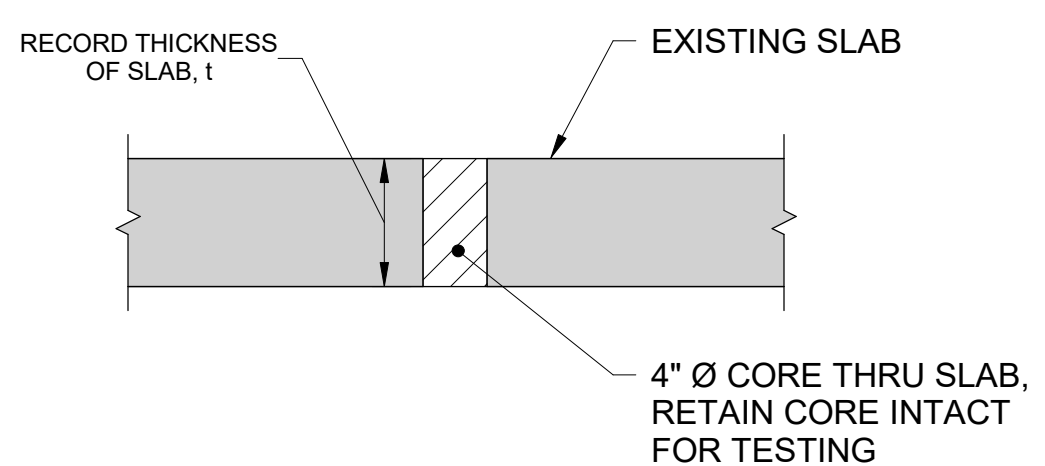
- NOTES:**
- UNDISTURBED SOIL OR FILL COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT REMOVE ORGANIC MATERIAL.
  - BROOM FINISH UNLESS NOTED OTHERWISE.

**3** TYPICAL EXTERIOR PAVING  
 S5.4 N.T.S.

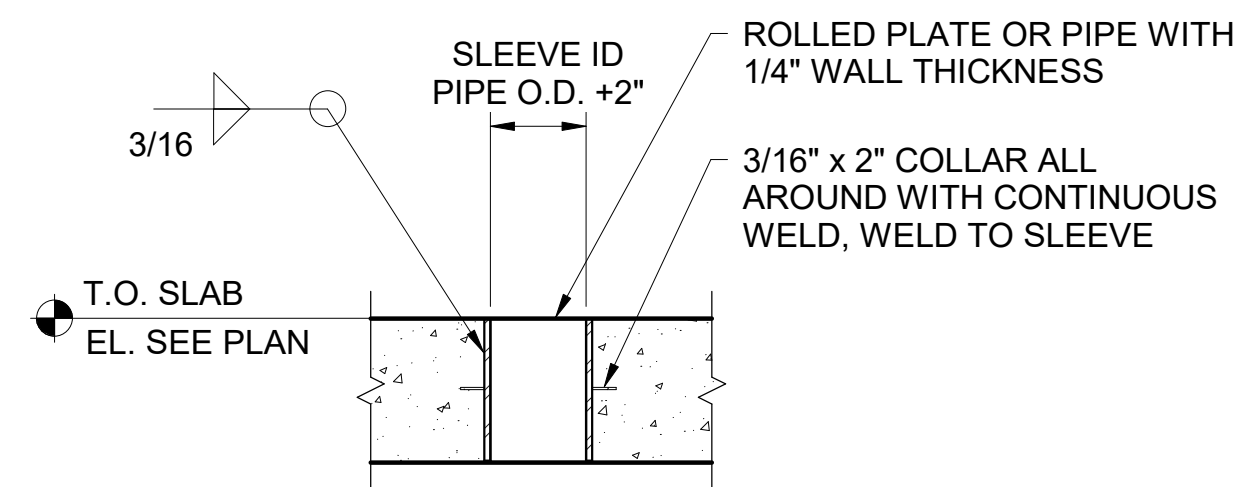


- NOTES:**
- LIMIT 5 PENETRATIONS IN A ROW IN ANY DIRECTION.
  - COORDINATE WITH TYPICAL DETAIL FOR FORMED CONCRETE SLAB PIPE SLEEVE.
  - SHOULD PENETRATIONS BE CUT AFTER CONCRETE IS POURED, CONTRACTOR TO SUBMIT PLAN SHOWING ALL PROPOSED CORE DRILLING LOCATIONS TO CONTRACTING OFFICER FOR APPROVAL. CONTRACTOR TO USE NDE METHODS TO LOCATE REBAR PRIOR TO CUTTING SLAB.
  - FOR ANY GROUPS OF PENETRATIONS THAT EXCEED THE SPACING OR QUANTITY LIMITS IN THIS DETAIL, GROUP OF PENETRATIONS SHALL BE TREATED AS A SLAB OPENING. SEE "TYPICAL ADDITIONAL REINFORCEMENT AT OPENING IN FRAMED SLAB DETAIL" IN S-500 SERIES.
  - GENERAL CONTRACTOR SHALL PROVIDE COORDINATED MEPS TRADE SUBMITTALS FOR CONTRACTING OFFICER REVIEW OF PENETRATIONS. ALL TRADES SHALL BE OVERLAYED INTO ONE SUBMITTAL TO CAPTURE AND EVALUATE ALL PENETRATIONS THROUGH SLABS TOGETHER.

**4** TYPICAL SLAB PENETRATION WITH SLEEVE DIAMETER LESS THAN 6"  
 S5.4 N.T.S.

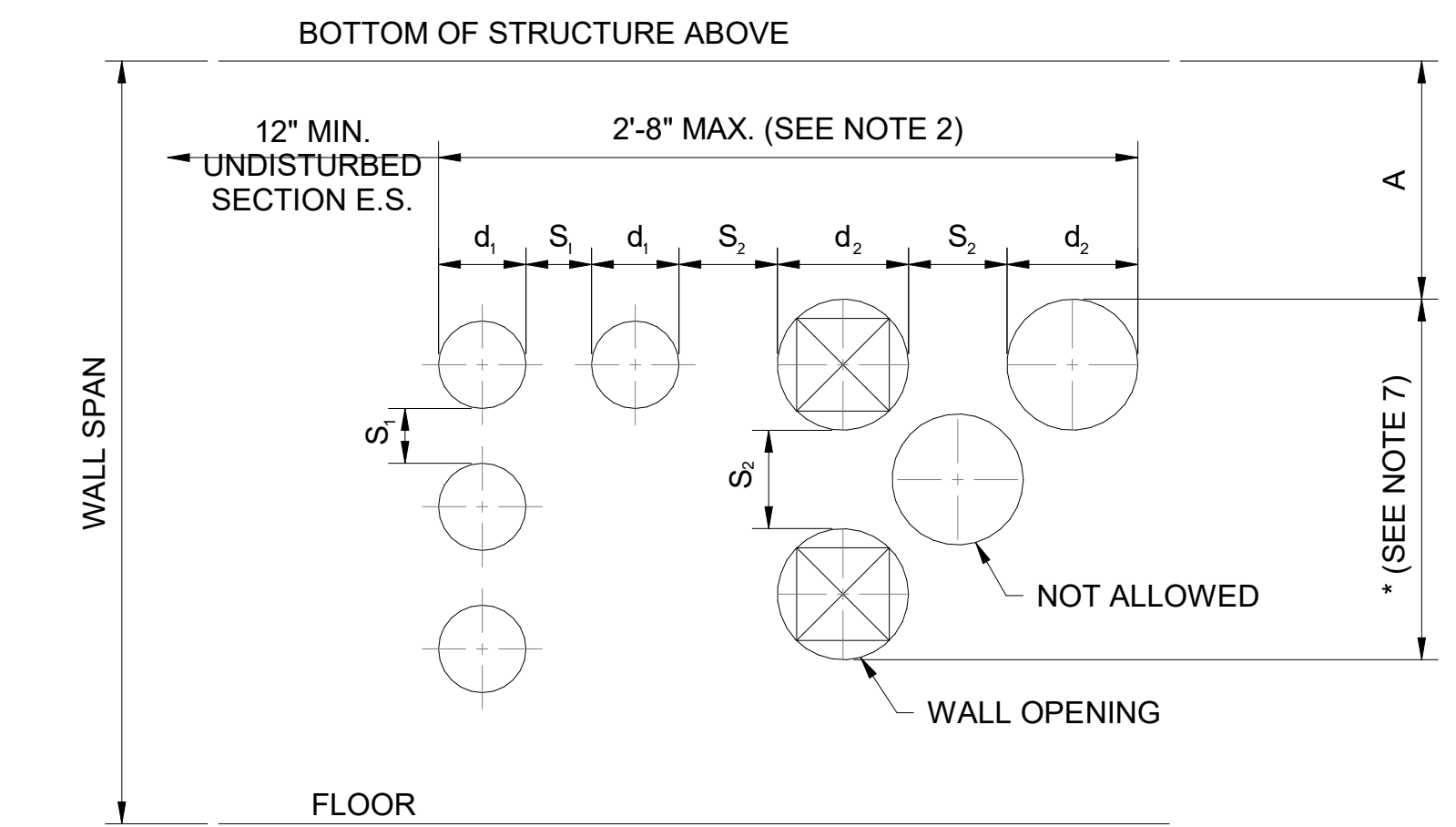


**5** TYPICAL CORE THROUGH EXISTING SLAB  
 S5.4 N.T.S.



**NOTE:** PROVIDE CLEAR SPACE BETWEEN PIPE AND/OR OPENINGS A MINIMUM 6" OR PIPE SLEEVE DIAMETER APART (WHICHEVER IS GREATER.)

**6** TYPICAL PIPE SLEEVE IN CONCRETE SLAB  
 S5.4 N.T.S.



- NOTES:**
- S=1.5d MIN., LARGER d GOVERNS.
  - NO BEAM BEARING ABOVE OPENINGS UNLESS DIMENSION A IS 4'-0" OR LARGER.
  - DIMENSION A IS NOT RESTRICTED FOR CONTINUOUS CONCRETE SLAB BEARING. A=0'-8" MIN. BELOW UNTOPPED DECK.
  - VERTICAL ALIGNMENTS OF STACKED OPENINGS IS REQUIRED. STACKING OPENINGS VERTICAL IN LIEU OF WIDE HORIZONTAL ROWS IS PREFERRED.
  - SEE / FOR LINTELS WHEN ABOVE LAYOUT CANNOT BE ACHIEVED.
  - MAX. CORE SIZE = 12"
  - \* DENOTES NO RESTRICTIONS IN NUMBER IF VERTICALLY ALIGNED
  - LOCATE AND COORDINATE WALL PENETRATIONS WITH EXISTING WALL REBAR USING GPR OR OTHER NON-DESTRUCTIVE TECHNIQUES

**7** TYPICAL CORING RESTRICTIONS IN EXISTING WALL  
 S5.4 N.T.S.



A/E FIRMS ARCH: QUINN EVANS 219 1/2 N. MAIN STREET ANN ARBOR, MI T: 734.663.5888 ENG: SIMAN 211 N. 4TH AVE. ANN ARBOR, MI T: 734.900.2460	DESIGNED: KH CADD: CM TECH. REVIEW: NH DATE: 10.27.2023	SUB SHEET NO. <b>02</b> <b>S5.4</b>	TITLE OF SHEET LIBBEY BATHHOUSE <b>TYPICAL DETAILS</b> REHABILITATE BATHHOUSES HOT SPRINGS NATIONAL PARK	DRAWING NO. <b>128</b> <b>182951</b> PMIS/PKG NO. 318915 224 OF 286
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