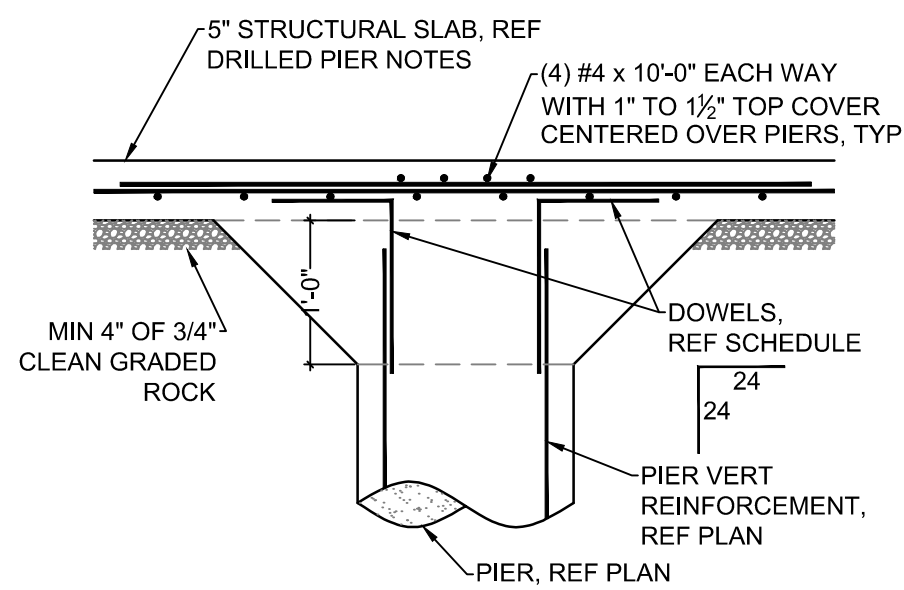


4 PIER/ PAD DETAIL  
S2.0 SCALE: N.T.S

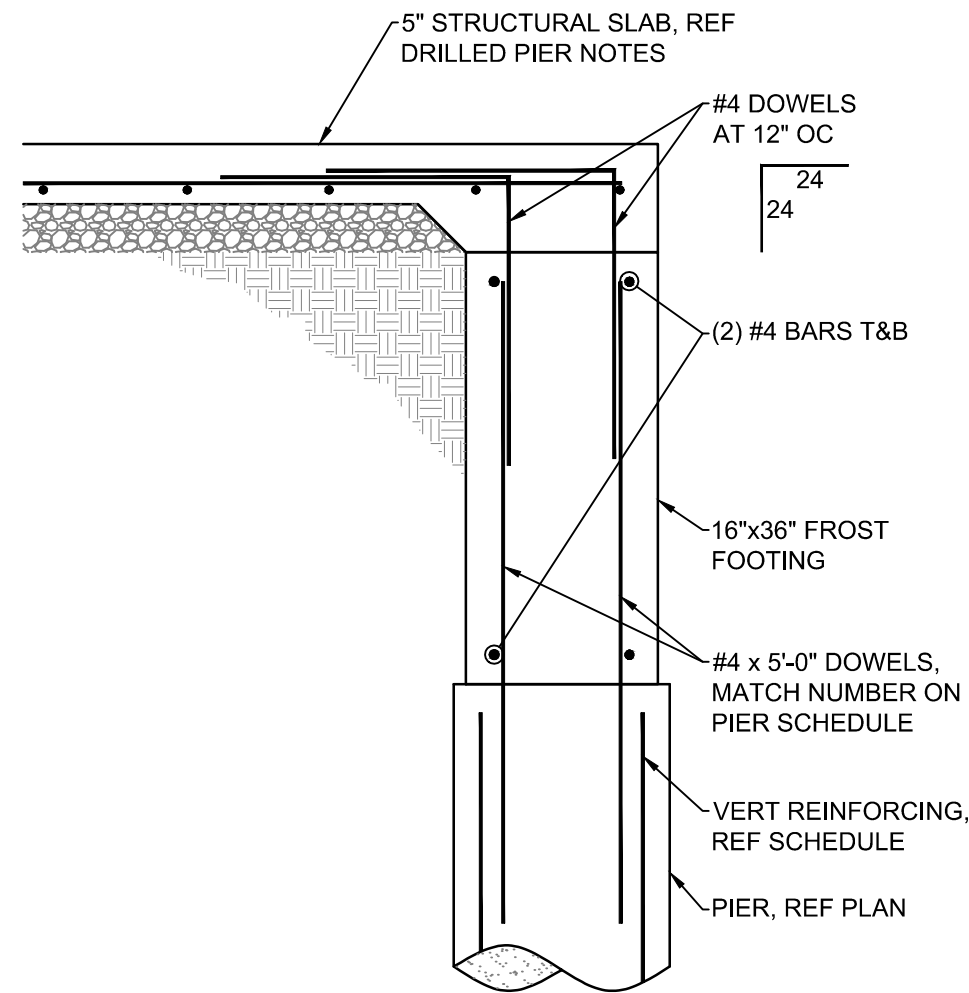


6 PIER/ FOOTING DETAIL  
S2.0 SCALE: N.T.S

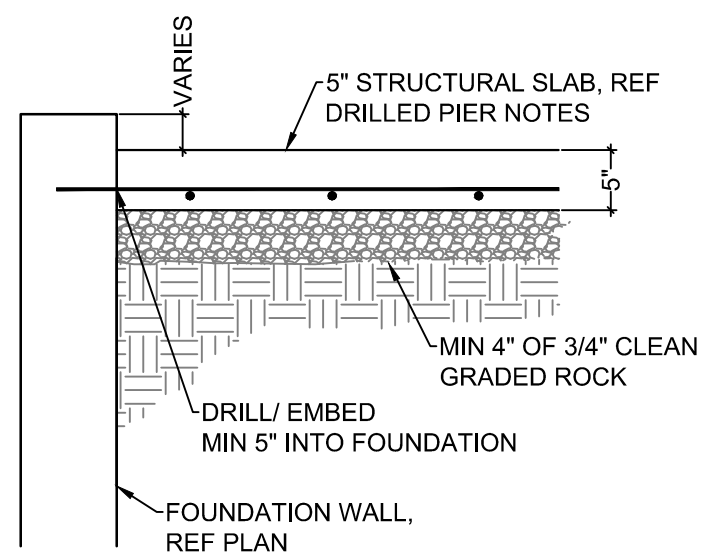
NOTE: TIES IN PIERS NOT SHOWN FOR CLARITY. REF SCHEDULE AND TYP DRILLED PIER DETAIL



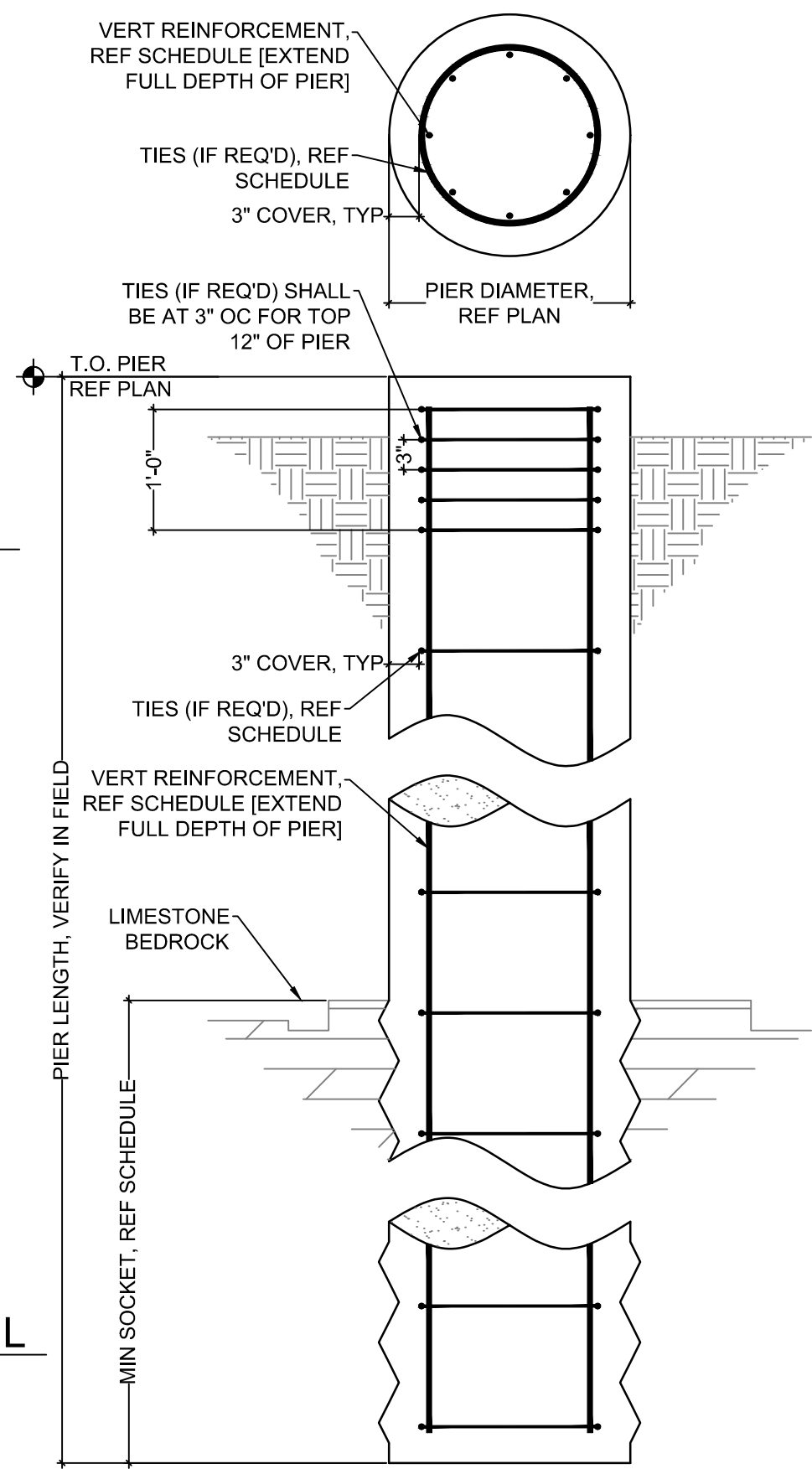
3 SLAB SUPPORT PIER DETAIL  
S2.0 SCALE: N.T.S



5 PIER/ FROST FOOTING DETAIL  
S2.0 SCALE: N.T.S



2 STRUCTURAL SLAB/ WALL SECTION  
S2.0 SCALE: N.T.S



1 TYPICAL DRILLED PIER  
S2.0 SCALE: N.T.S.

DRILLED PIER SCHEDULE				
DIAMETER	MIN. SOCKET	TIES	VERT REINFORCING	DOWELS

1. TIES SHALL BE FULL DEPTH ACCORDING TO SCHEDULE SIZE AND SPACING. TIES SHALL BE 3" OC FOR TOP 12" OF PIER.
2. MIN 3000 PSI CONCRETE FOR PIERS.
3. #4 AND SMALLER BARS, MIN GRADE 40. #5 AND LARGER BARS, MIN GRADE 60. MIN 24" LAP SPLICES.

DRILLED PIER NOTES:

1. REFERENCE THE DRILLED PIER PLAN FOR THE DIAMETER AND LOCATION OF ALL PIERS REQUIRED.
2. PIERS SHALL BE DRILLED TO END BEARING ON LIMESTONE, SANDSTONE OR SHALE BEDROCK WITH A MIN 15KSF ALLOWABLE BEARING CAPACITY.
3. ALL PIER HOLES SHALL BE INSPECTED TO BE CLEAR OF SPOILS, DEBRIS AND EXCESS WATER FOR ENTIRE DEPTH.
4. UNLESS NOTED ON PLAN OR SCHEDULE, ALL PIERS SHALL BE REINFORCED WITH A MINIMUM OF THE FOLLOWING: (2) #4 LONGITUDINAL BARS FOR THE ENTIRE DEPTH. BEND AND DOWEL (4) #4 X 4'-0" BARS FROM TOP OF EACH PIER TO TIE INTO THE FOUNDATION. PROPER LAP SPLICE LENGTHS SHALL BE USED. REFERENCE DEEP FOUNDATION DETAILS.
5. ALL PIERS SHALL BE INSPECTED BY THE ENGINEER OF RECORD (APEX ENGINEERS) OR GEOTECHNICAL ENGINEER OF RECORD PRIOR TO PLACEMENT OF CONCRETE. UPON COMPLETION AND APPROVAL OF THE PIERS AND FOOTINGS THE FOUNDATION WALLS MAY BE PLACED PER PERMIT APPROVED DRAWINGS, UNLESS OTHERWISE DICTATED BY SUPPLEMENTAL STRUCTURAL RECOMMENDATIONS.
6. ALL SLABS SHALL BE STRUCTURAL. FOR THE BASEMENT THE FOLLOWING DESIGN SHALL BE USED.
  - a. PLACE 5" THICK CONCRETE SLAB WITH #4 BARS AT 12" OC EACH WAY ON 1 1/2" CHAIRS.
  - b. ADD (4) 10'-0" LONG #4 BARS EACH WAY OVER THE COLUMN PADS AND SLAB SUPPORT PIERS. PLACE WITH 1" TO 1 1/2" SLAB TOP COVER (3" CHAIRS).
  - c. THE PERIMETER OF THE SLAB SHALL BEAR ON THE FOUNDATION AS FOLLOWS:  
IF A MINIMUM OF 3" OF BEARING IS PROVIDED ON A KEYWAY OR FOOTING, THEN THE SLAB DOES NOT NEED TO BE PINNED TO THE WALL. OTHERWISE, DRILL 5" DEEP AND PIN THE SLAB TO THE FOUNDATION WALL WITH #4 BARS AT 12" OC.
  - d. DO NOT SAW CUT STRUCTURAL SLABS UNLESS SPECIFICALLY INDICATED TO DO SO ON THE STRUCTURAL SLAB PLAN.
  - e. PROVIDE (2) #4 X 4'-0" DIAGONAL BARS AT MID-DEPTH OF SLAB AT ALL RE-ENTRANT CORNERS.
8. MIN 3000 PSI CONCRETE FOR PIERS. MIN 4000 PSI CONCRETE FOR STRUCTURAL SLAB.
9. #4 AND SMALLER BARS, MIN GRADE 40. #5 AND LARGER BARS, MIN GRADE 60. MIN 24" LAP SPLICES.
10. REFERENCE PIER FOUNDATION DETAILS FOR MORE INFORMATION.
11. CONTRACTOR TO FIELD VERIFY ALL FOUNDATION ELEVATIONS AND STEP LOCATIONS PER SITE CONDITIONS.



**APEX  
ENGINEERS**

1625 LOCUST ST  
KANSAS CITY, MO 64108  
816.421.3222  
www.apex-engineers.com

STRUCTURAL DESIGN REVIEW  
KANSAS ENGINEERING LICENSE:  
E-992  
MISSOURI ENGINEERING LICENSE:  
2003004673

PROJECT:

CLIENT:

PROJECT #

DRAWING NAME

COMMENTS:

DATE:

DRAWN BY: APEX  
CHECKED BY:

SHEET #