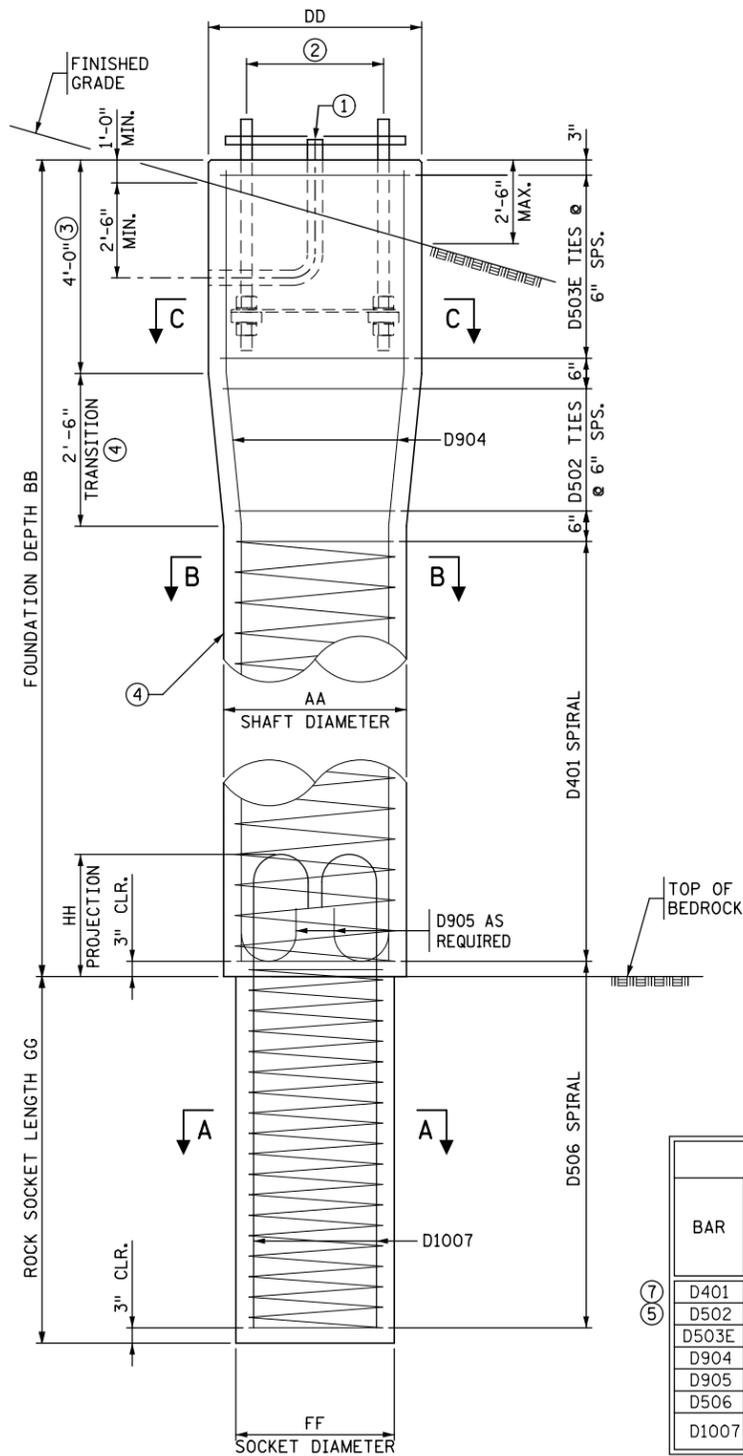
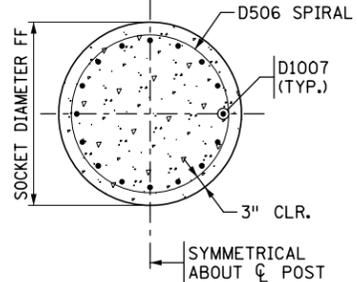


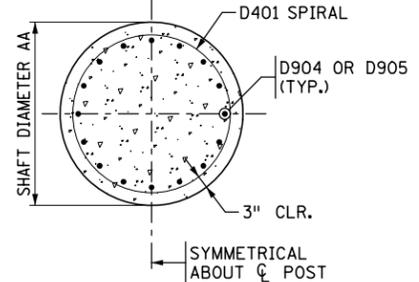
PLOT NAME: Design\_D\_RockSocketFoundation-DETAIL VERSION  
 PATH & FILENAME: OTST\Signing\Typicals\Standard Plans\Design\_D\_RockSocketFoundation-DETAIL VERSION.dgn  
 PLOTTED/REVISED: 2-MAR-2020



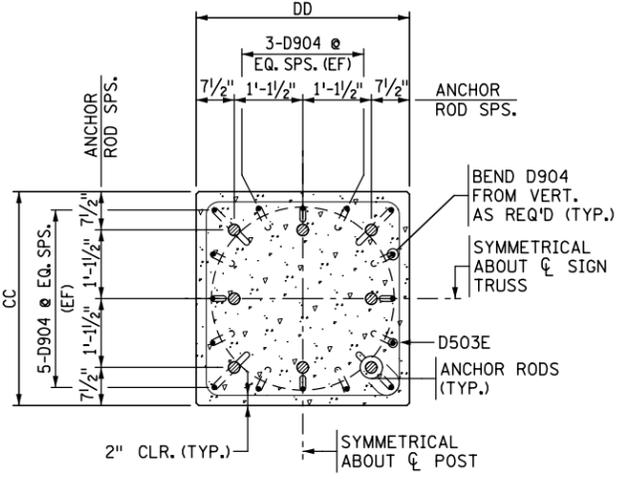
**DRILLED SHAFT ELEVATION**



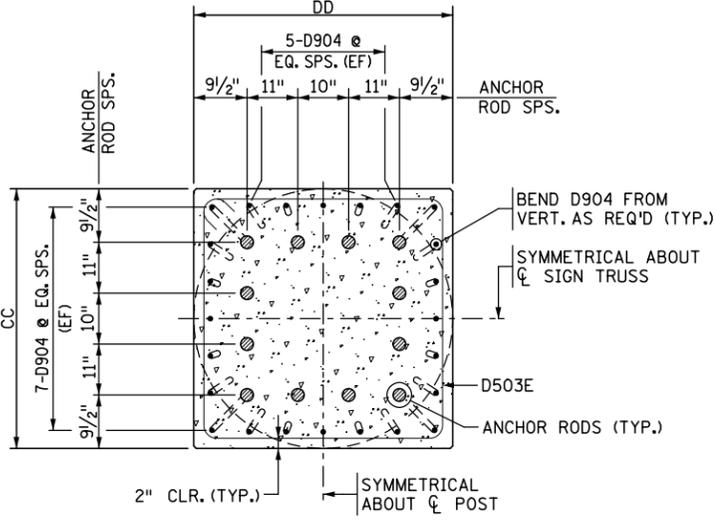
**ROCK SOCKET SECTION A-A**  
 (SECTION FOR POST TYPE 1-4 SHOWN)  
 (SECTION FOR POST TYPE 5-6 SIMILAR)



**DRILLED SHAFT SECTION B-B**  
 (SECTION FOR POST TYPE 1-4 SHOWN)  
 (SECTION FOR POST TYPE 5-6 SIMILAR)



**POST TYPE 1 THRU 4**



**POST TYPE 5 THRU 6**

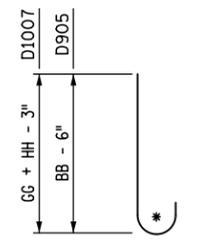
**DRILLED SHAFT SECTION C-C**

BAR	POST TYPE				SHAPE	LOCATION
	POST TYPE 1-4		POST TYPE 5-6			
	QTY.	LENGTH	QTY.	LENGTH		
D401	1	BB - 7'	1	BB - 7'	SPIRAL	DRILLED SHAFT SPIRAL
D502	5	14'-1"	5	17'-1"	—	TRANSITION TIES
D503E	8	13'-7"	8	16'-7"	□	PEDESTAL TIES
D904	16	BB - 6"	24	BB - 6"	—	USE FOR BB > 7'-0"
D905	16	BB + 9"	24	BB + 9"	—	USE FOR BB = 7'-0" OR LESS
D506	1	GG	1	GG	SPIRAL	ROCK SOCKET SPIRAL
D1007	16	GG + HH + 1'-2"	24	GG + HH + 1'-2"	—	ROCK SOCKET VERTICALS

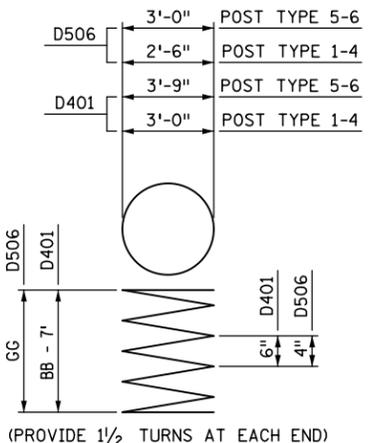
**BAR BENDING DIAGRAMS ⑥**

BENT BAR DIMENSIONS GIVEN ARE OUT-TO-OUT. DETERMINE ACTUAL BAR LENGTHS BASED ON THE DETAIL DIMENSIONS SHOWN IN THE BAR BENDING DIAGRAMS.

\* DENOTES STANDARD STIRRUP HOOK.



**D905 & D1007**



**D401 & D506**

POST TYPE	FOUNDATION DATA AND QUANTITIES									
	DRILLED SHAFT DIMENSIONS				ROCK SOCKET DIMENSIONS			STRUCTURAL CONCRETE (3G52)	REINFORCEMENT BARS	ANCHORAGE ASSEMBLY
	AA	BB	CC	DD	FF	GG	HH	CU YD	POUND	POUND
1-4	3'-6"	5'-7'	3'-6"	3'-6"	3'-0"	6'-0"	2'-0"	1.57 + 0.45BB	875 + 82BB	799
		7'-10"				3'-11"	1.98 + 0.36BB	890 + 75BB		
		10'-15'				3'-11"	1.71 + 0.36BB	795 + 77BB		
		15'-20'				3'-11"	1.19 + 0.36BB	610 + 78BB		
		20'-25'				3'-11"	0.93 + 0.36BB	515 + 80BB		
5-6	4'-3"	5'-7'	4'-3"	4'-3"	3'-6"	7'-0"	2'-0"	2.49 + 0.67BB	1390 + 115BB	1392
		7'-10"				3'-11"	3.11 + 0.53BB	1420 + 107BB		
		10'-15'				3'-11"	2.93 + 0.53BB	1355 + 110BB		
		15'-20'				3'-11"	2.04 + 0.53BB	1020 + 112BB		
		20'-25'				3'-11"	1.50 + 0.53BB	820 + 115BB		

**GEOTECHNICAL PARAMETERS:**

A SUBSURFACE INVESTIGATION SHOULD BE PERFORMED WITHIN 30 FT. HORIZONTALLY FROM EACH POST FOUNDATION. THE SOIL BORING OR CONE SOUNDING SHOULD PENETRATE A MINIMUM DEPTH OF 35 FT. THE WATER TABLE SHALL BE 1.5 FT. BELOW FINISHED GRADE OR LOWER. THE FOUNDATION DIMENSIONS SHOWN ON THIS SHEET HAVE BEEN DESIGNED WITH THE FOLLOWING ASSUMED GEOTECHNICAL PROPERTIES:

- DRILLED SHAFTS:**
- COHESIVE SOILS:**
    - MIN. SHEAR STRENGTH: C = 1.0 ksf
    - UNIT WEIGHT OF SOIL:  $\gamma = 125 \pm 10$  pcf
  - GRANULAR SOILS:**
    - MIN. ANGLE OF FRICTION:  $\phi = 30^\circ$
    - UNIT WEIGHT OF SOIL:  $\gamma = 125$  pcf
    - MAX. COEFFICIENT OF FRICTION:  $\mu = 0.70$
  - ROCK SOCKETS:**
    - MIN. UNIAXIAL COMPRESSIVE STRENGTH: 100ksf
    - MIN. ROCK QUALITY DESIGNATION (RQD): 50%
    - MIN. JOINT CONDITION RATING (JCOND<sub>90</sub>): 20

A SPECIAL FOUNDATION DESIGN IS REQUIRED IN CASES WHERE THE REQUIRED VALUES AND/OR CONDITIONS LISTED ABOVE ARE NOT MET.

**NOTES:**

- SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION REGARDING DRILLED SHAFT FOUNDATIONS.
- PERMANENT CASINGS ARE NOT ALLOWED FOR DRILLED SHAFT FOUNDATIONS. USE PREFORMED JOINT FILLER BETWEEN THE FOUNDATION AND SIDEWALK OR OTHER CONCRETE AREAS.
- COLD CONCRETE CONSTRUCTION JOINTS ARE NOT PERMITTED. CURE CONCRETE A MINIMUM OF SEVEN DAYS PRIOR TO PLACING POST AND TRUSS.
- ALL CONCRETE SHALL CONFORM TO CONCRETE MIX 3G52 (SPEC. 2461). EPOXY COAT BARS MARKED WITH THE SUFFIX "E" IN ACCORDANCE WITH SPEC. 3301.
- (EF) DENOTES EACH FACE.
- 1/2" AND 3" SERVICE CONDUITS. HOWEVER, IF DMS IS MOUNTED ON THE SPAN, F&I CONDUIT PER PLAN.
- SEE STANDARD PLANS 5-297.763 FOR ANCHOR ROD ASSEMBLY DETAILS.
- FORM A MINIMUM OF 6" BELOW THE GROUND SURFACE. BACKFILL AND TAMP THE EXCAVATIONS REQUIRED FOR FORMING PER SPEC. 2105.3.F.2. BACKFILL MATERIAL AND COMPACTION TO BE EQUIVALENT TO THE SURROUNDING MATERIAL. PROVIDE 5'-0" LENGTH IF BEDROCK IS ENCOUNTERED WITHIN THIS REGION.
- EXCAVATE TO NEAT LINES AND PLACE CONCRETE AGAINST UNDISTURBED SOIL. ELIMINATE TRANSITION AND EXTEND SQUARE SECTION TO BOTTOM OF EXCAVATION IF BEDROCK IS ENCOUNTERED WITHIN THIS REGION.
- BEND AS REQUIRED TO FORM A CLOSED LOOP.
- SEE STANDARD PLANS 5-297.763 FOR REINFORCEMENT DETAILS NOT SHOWN.
- NOT USED IF BEDROCK ENCOUNTERED LESS THAN 6' BELOW FINISHED GRADE.