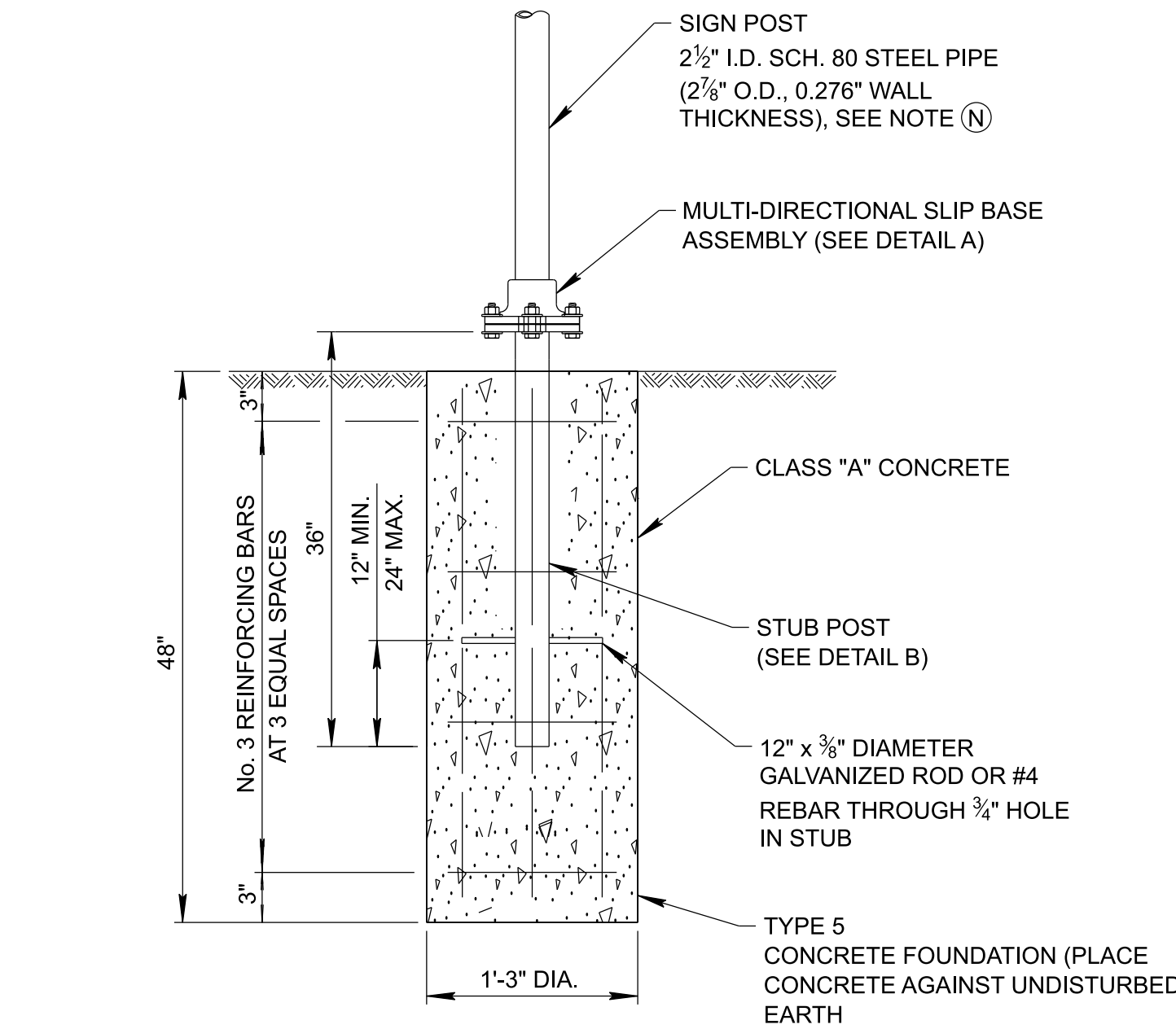
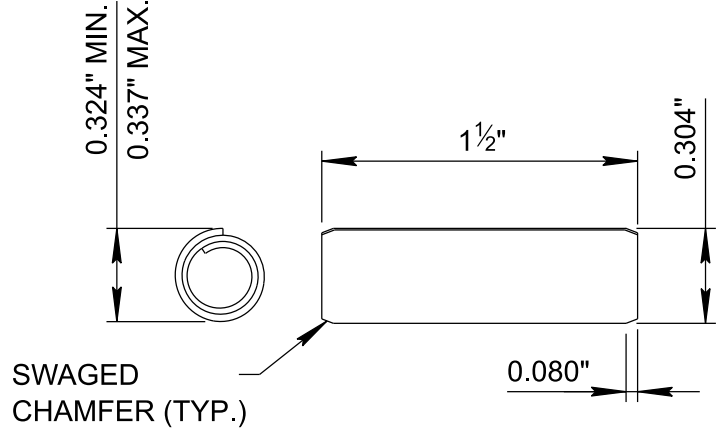


NOT TO SCALE

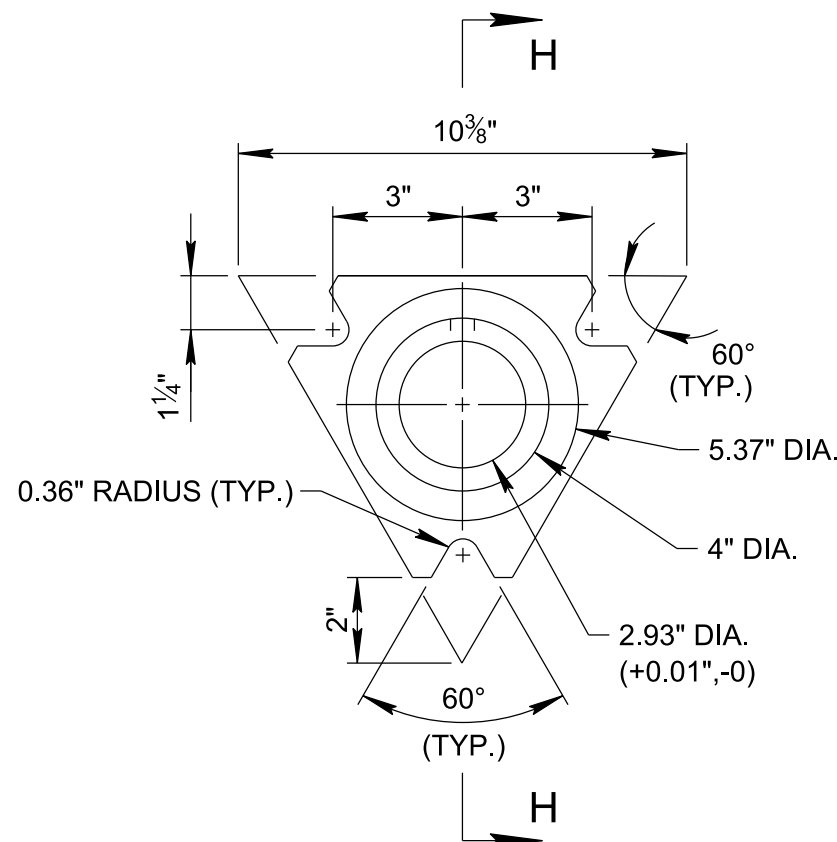


TRIANGULAR SLIP BASE PIPE SIGN SUPPORT
FOR ALTERNATE INSTALLATION INTO EXISTING
CONCRETE SURFACE, SEE DETAIL G

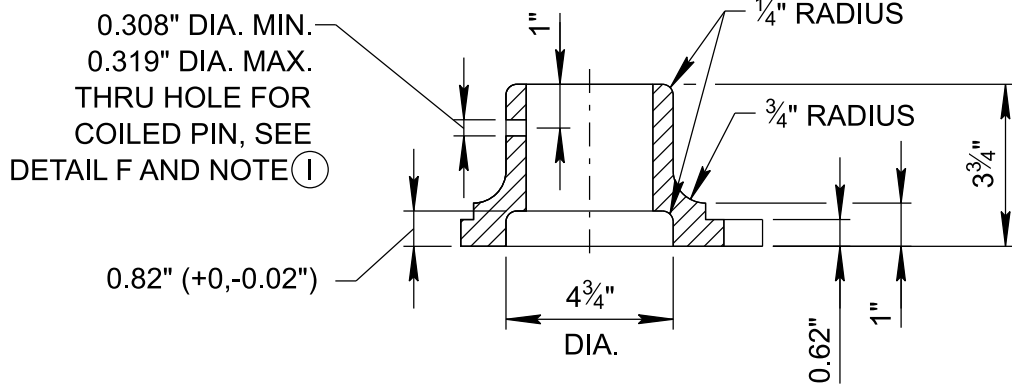
ALL BOLTS, NUTS, AND WASHERS
SHALL BE PER ASTM A325 OR
A449 AND GALVANIZED TO ASTM
A454.



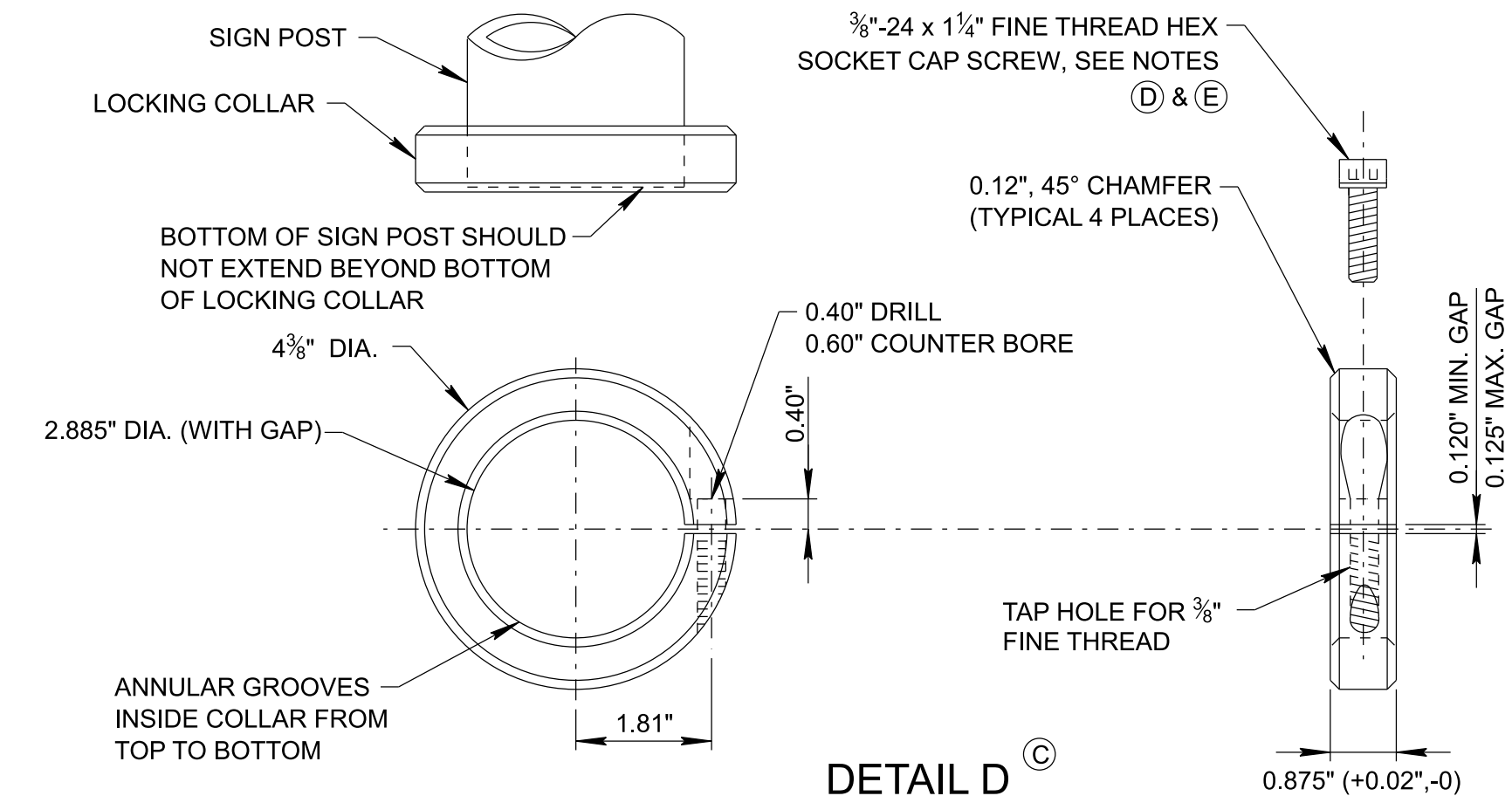
DETAIL F
COILED PIN



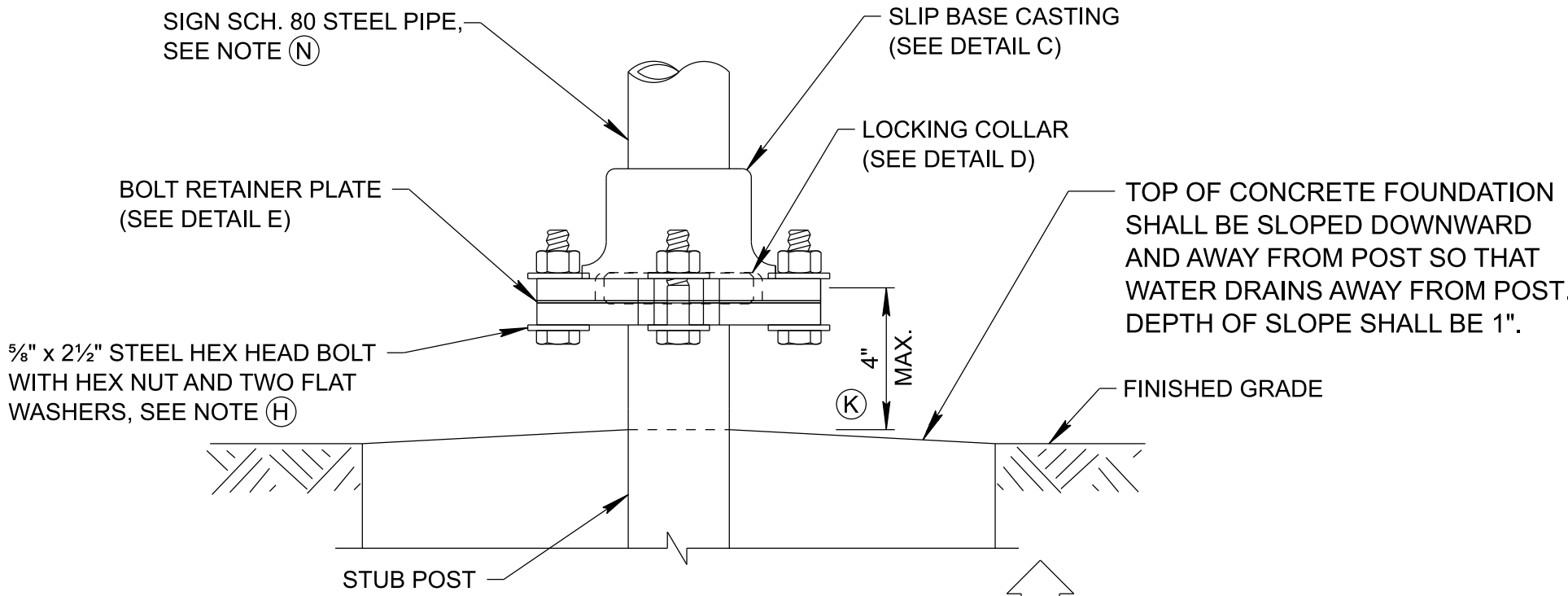
DETAIL C
SLIP BASE CASTING



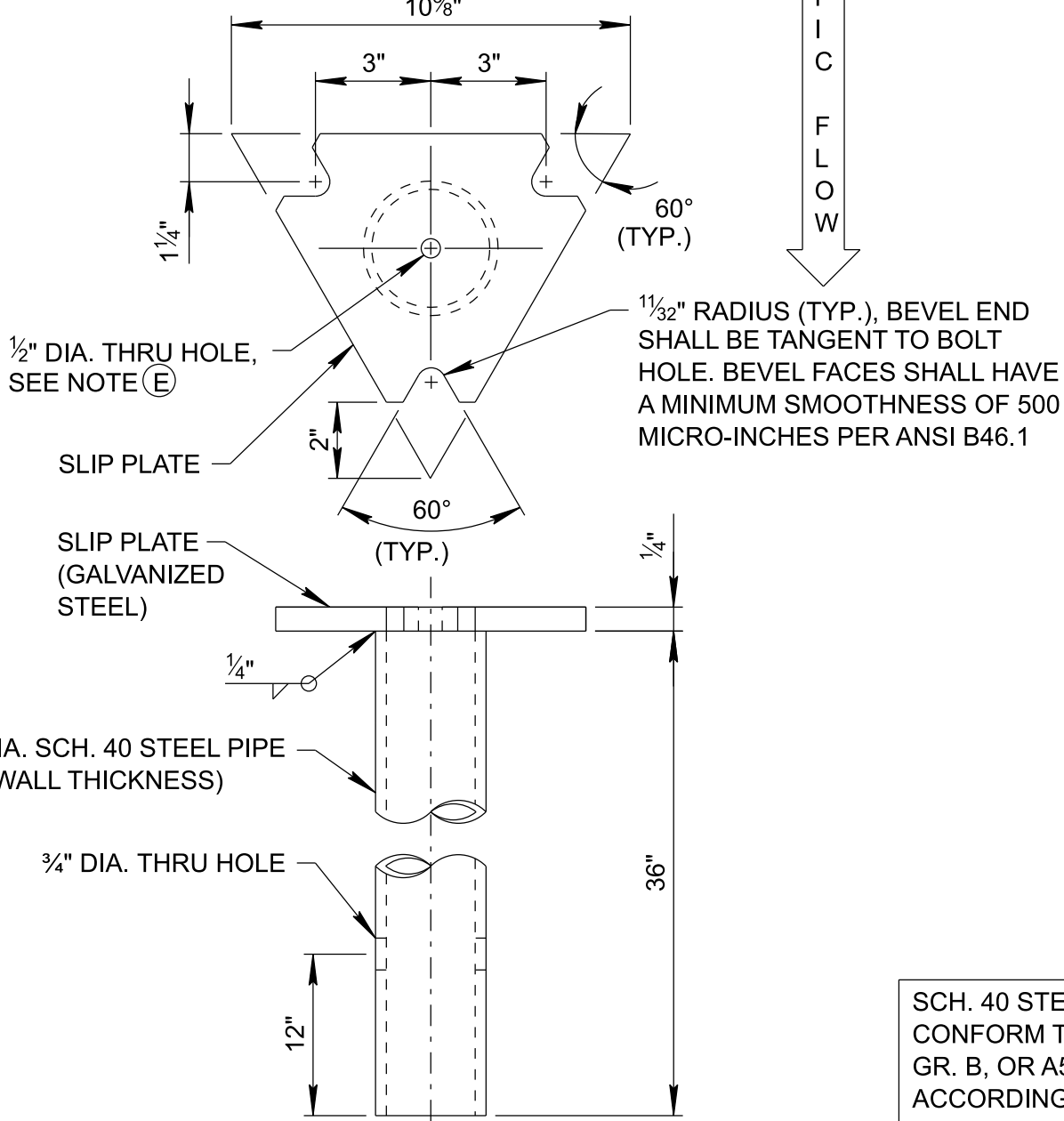
SECTION H-H



DETAIL D
LOCKING COLLAR

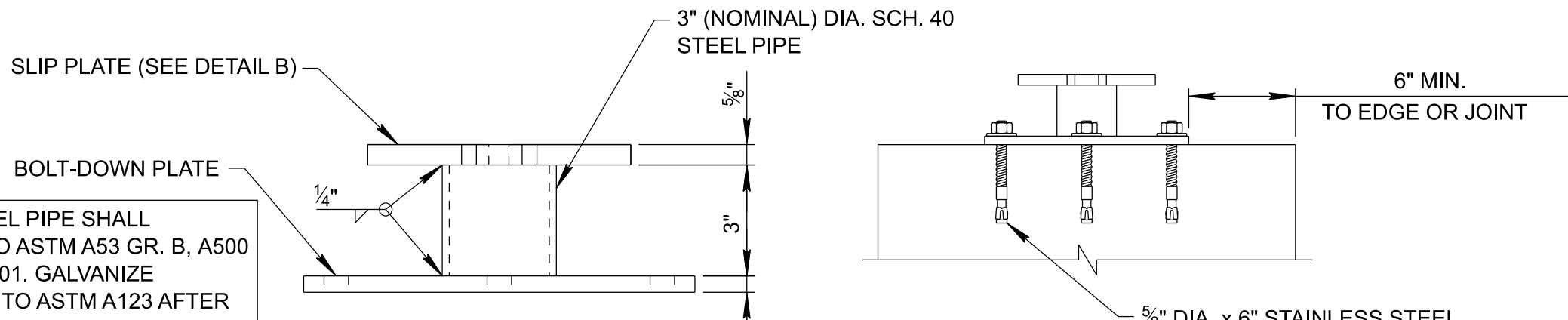


DETAIL A
TRIANGULAR SLIP BASE

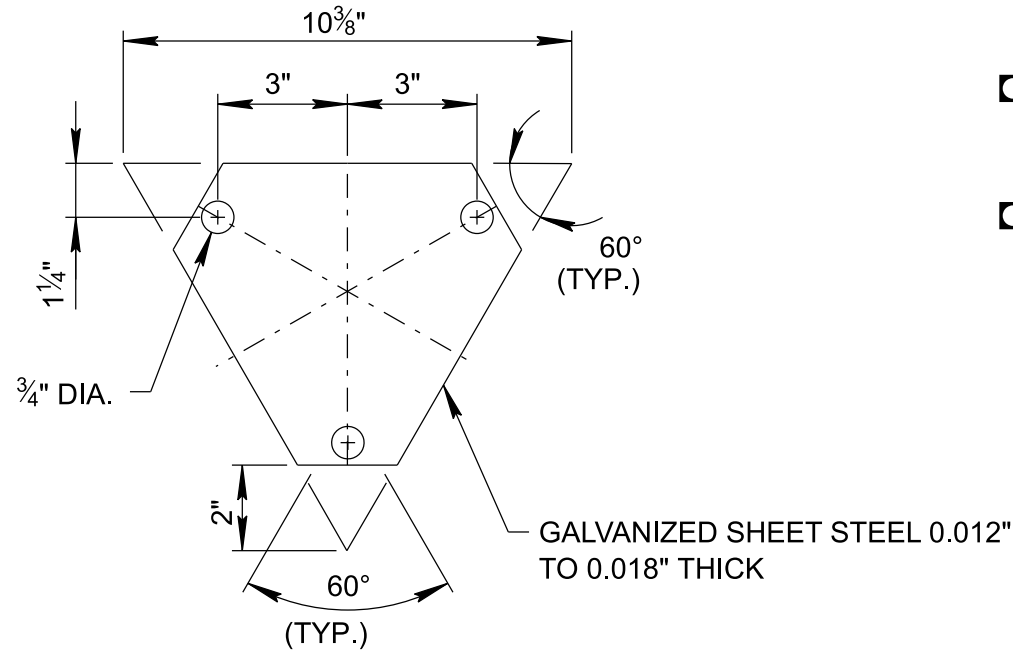


DETAIL B
STUB POST

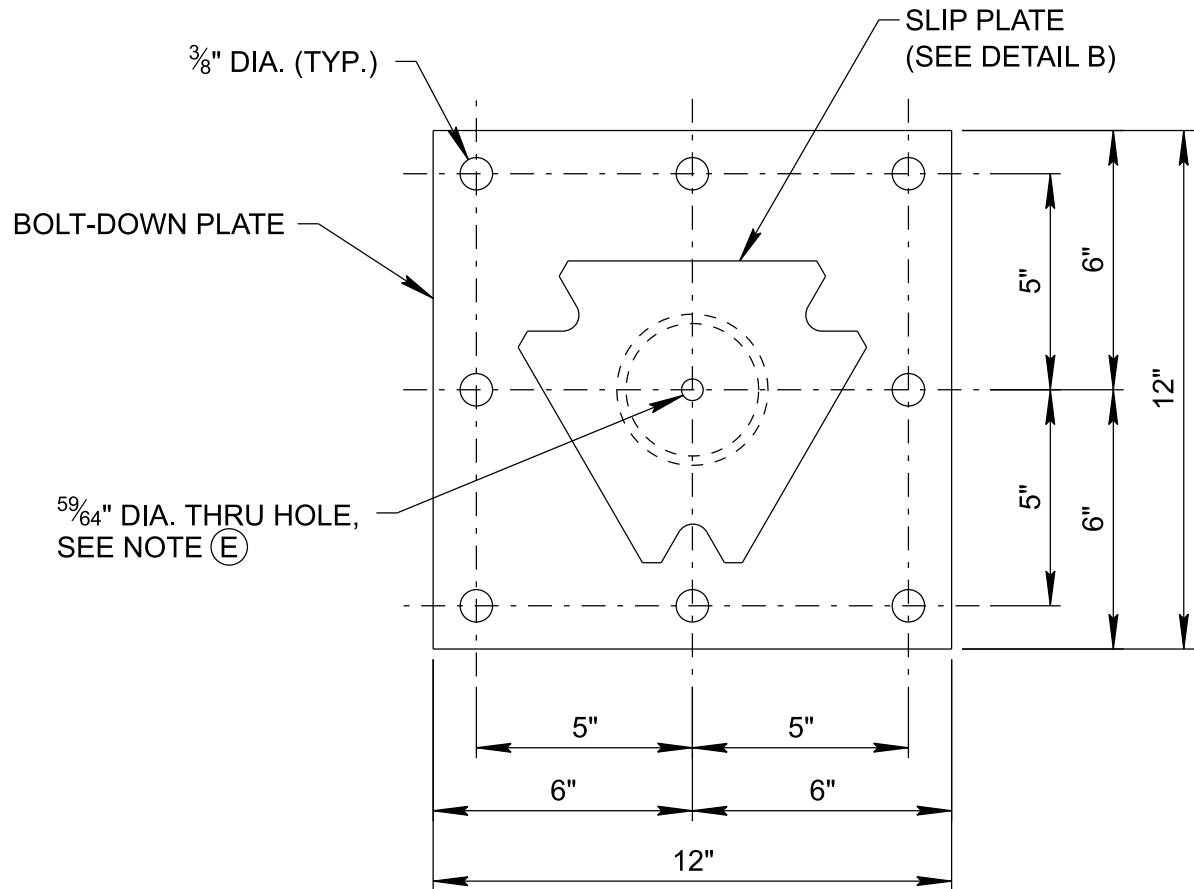
SCH. 40 STEEL PIPE SHALL
CONFORM TO ASTM A53 GR. B, A500
GR. B, OR A501. GALVANIZE
ACCORDING TO ASTM A123 AFTER
FABRICATION.



DETAIL G
BOLT-DOWN ANCHOR INTO EXISTING CONCRETE



DETAIL E
BOLT RETAINER PLATE



GENERAL NOTES	
(A) MULTI DIRECTIONAL SLIP BASE BREAKAWAY ROUND SIGN SUPPORTS SHALL BE USED ON ALL INTERSECTIONS LOCATED WITHIN THE CLEAR ZONE OF A ROADWAY AND NOT PROTECTED BY AN APPROVED BARRIER SYSTEM.	(K) POST STUB HEIGHT SHALL BE 4 INCHES OR LESS ABOVE FINISHED GROUND SURFACE.
(B) FURNISH SLIP BASE CASTING FABRICATED FROM DUCTILE IRON CONFORMING TO ASTM A 536 GRADE 65-45-12 AND GALVANIZED ACCORDING TO ASTM A 153, CLASS A. IF FABRICATION CONSISTS OF STEEL, IT SHALL CONFORM TO ASTM A36 OR A572.	(L) ALL FINISHED COMPONENTS OF THE SLIP BASE SYSTEM SHALL BE PERMANENTLY MARKED TO INDICATE THE MANUFACTURER, METHOD, DESIGN, AND LOCATION OF MARKING SHALL BE AS APPROVED BY THE ENGINEER.
(C) FURNISH LOCKING COLLAR MACHINED FROM STEEL BAR CONFORMING TO ASTM A 108 GRADE 12L14, STEEL BAR CONFORMING TO ASTM A 576 GRADE 12L14 OR 1026, OR STEEL TUBING CONFORMING TO ASTM A 519 GRADE 12L14 OR 1026, AND ELECTRODEPOSITED ZINC COATED AND SUPPLEMENTAL CHROMATE CONVERSION COATED TO ASTM B 633 CLASS FE/ZN 12 TYPE II.	(M) ANCHORS MAY BE EXPANSION TYPE AS SHOWN OR ADHESIVE TYPE LISTED ON THE QPL MEETING THE STRENGTH REQUIREMENTS. EXPANSION ANCHORS SHALL CONSIST OF 5/8 INCH DIAMETER STUD BOLT WITH UNC-SERIES BOLT THREADS ON THE UPPER END WITH HEAVY HEX NUT PER ASTM A563, AND HARDENED WASHER PER ASTM F436. THE STUD BOLT SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI AND ULTIMATE TENSILE STRENGTH OF 75 KSI.
(D) FURNISH HEX SOCKET CAP SCREW MANUFACTURED ACCORDING TO ASTM A 574 WITH ELECTRODEPOSITED ZINC COATING AND SUPPLEMENTAL CHROMATE CONVERSION COATING TO ASTM B 633 CLASS FE/ZN 12 TYPE II.	(N) ONLY SYSTEMS LISTED ON THE TDOT QPL SHALL BE USED.
(E) CENTER HOLES IN THE SLIP BASE AND BOLT-DOWN ANCHOR ARE FOR GALVANIZING VENTING AND DRAINAGE. EXACT HOLE PLACEMENT MAY VARY AS NEEDED.	(O) SEE T-S-19 FOR ROUND-POST DETAILS.
(F) USE BOLT-DOWN ANCHOR FOR INSTALLATIONS ON EXISTING CONCRETE SURFACES.	(P) TO PAID FOR UNDER ITEM NO 713-11.23 ROUND POST SLIP BASE PER EACH (INCLUDES COST OF SLIP BASE AND STUB).
(G) TIGHTEN HEX SOCKET CAP SCREW TO 60 FOOT-POUNDS. DO NOT OVERTIGHTEN.	(R) CLASS "A" CONCRETE CONSTRUCTION AND MATERIALS SHALL MEET THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION, SECTION 604."
(H) TIGHTEN SLIP BASE BOLTS TO BETWEEN 40 AND 80 FOOT-POUNDS. TIGHTEN ALL BOLTS EVENLY BY WORKING AROUND THE SUPPORT IN APPROXIMATELY 10 FOOT-POUND INCREMENTS TO ASSURE BALANCED TENSION IN THE BOLTS. TIGHTEN ALL THREE BOLTS TO THE SAME TORQUE. DO NOT OVERTIGHTEN.	(S) CLASS "A" CONCRETE AND REINFORCING STEEL USED IN CONJUNCTION WITH INSTALLATION OF THE SIGN SUPPORT POSTS IS TO BE PAID FOR UNDER ITEM No. 713-01.01, CLASS "A" CONCRETE (FOUNDATION FOR SIGN SUPPORTS) PER CUBIC YARD, AND 713-01.02, STEEL BAR REINFORCEMENT (FOUNDATION FOR SIGN SUPPORTS) PER POUND.
(I) AFTER TIGHTENING SLIP BASE BOLTS, DRILL A 1/4" INCH DIAMETER HOLE IN THE PIPE THROUGH THE HOLE IN THE SLIP BASE CASTING, AND DRIVE IN THE COILED PIN TO PREVENT PIPE TWISTING IN THE SLIP BASE. DRIVE THE COILED PIN IN, SUCH THAT APPROXIMATELY 1/4" TO 3/4" INCHES OF THE PIN REMAINS PROTRUDING BEYOND THE OUTSIDE DIAMETER OF THE SLIP BASE CASTING. THE COILED PIN SHALL BE STANDARD DUTY, STAINLESS STEEL.	(T) CLASS "A" CONCRETE FOOTING SHALL BE PLACED ONLY ON UNDISTURBED MATERIAL OR IN FILL MATERIAL PLACED BY CONTROLLED COMPACTION AT DEPTHS UNAFFECTED BY FROST.
(J) MULTI-DIRECTIONAL SLIP BASE BREAKAWAY STRUCTURAL PIPE SIGN SUPPORT STANDARD SHALL BE USED FOR ALL STRUCTURAL PIPE SIGN POSTS LOCATED WITHIN THE CLEAR ZONE AND NOT PROTECTED BY AN APPROVED BARRIER SYSTEM.	(U) MATERIALS SURROUNDING FOOTING SHALL BE CAPABLE OF CARRYING A MINIMUM BEARING OF 2500 POUNDS PER SQUARE FOOT. WHERE SOLID ROCK IS ENCOUNTERED, FOOTING SHALL BE FOUR FEET AS SHOWN IN DETAILS OR EXTEND A MINIMUM OF TWO FEET INTO THE ROCK.

REV. 7-19-13: ADDED NOTE (O).

REV. 8-25-14: REVISED
NOTE (M).

REV. 7-2-15: REVISED GENERAL
NOTES AND FOUNDATION
DETAIL.

REV. 7-30-2025: CHANGED TEXT
STYLE AND REPRINTED

MINOR REVISION -- FHWA
APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
STANDARD
DRAWING
DEPARTMENT OF TRANSPORTATION
MULTI-DIRECTIONAL
SLIP BASE BREAKAWAY
ROUND POST
SIGN SUPPORT

09-01-12

T-S-23B