



PLAN

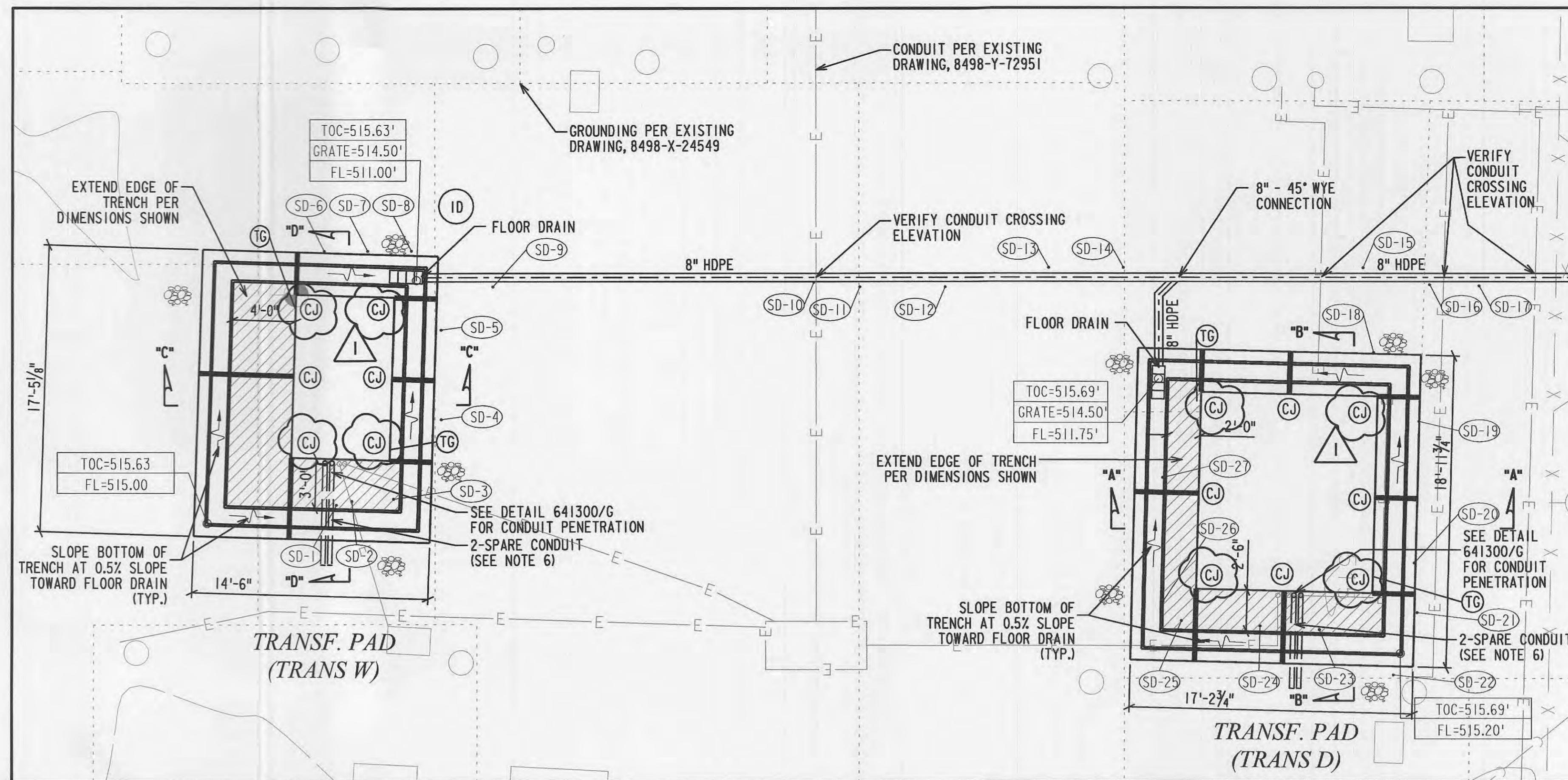


LEGEND:

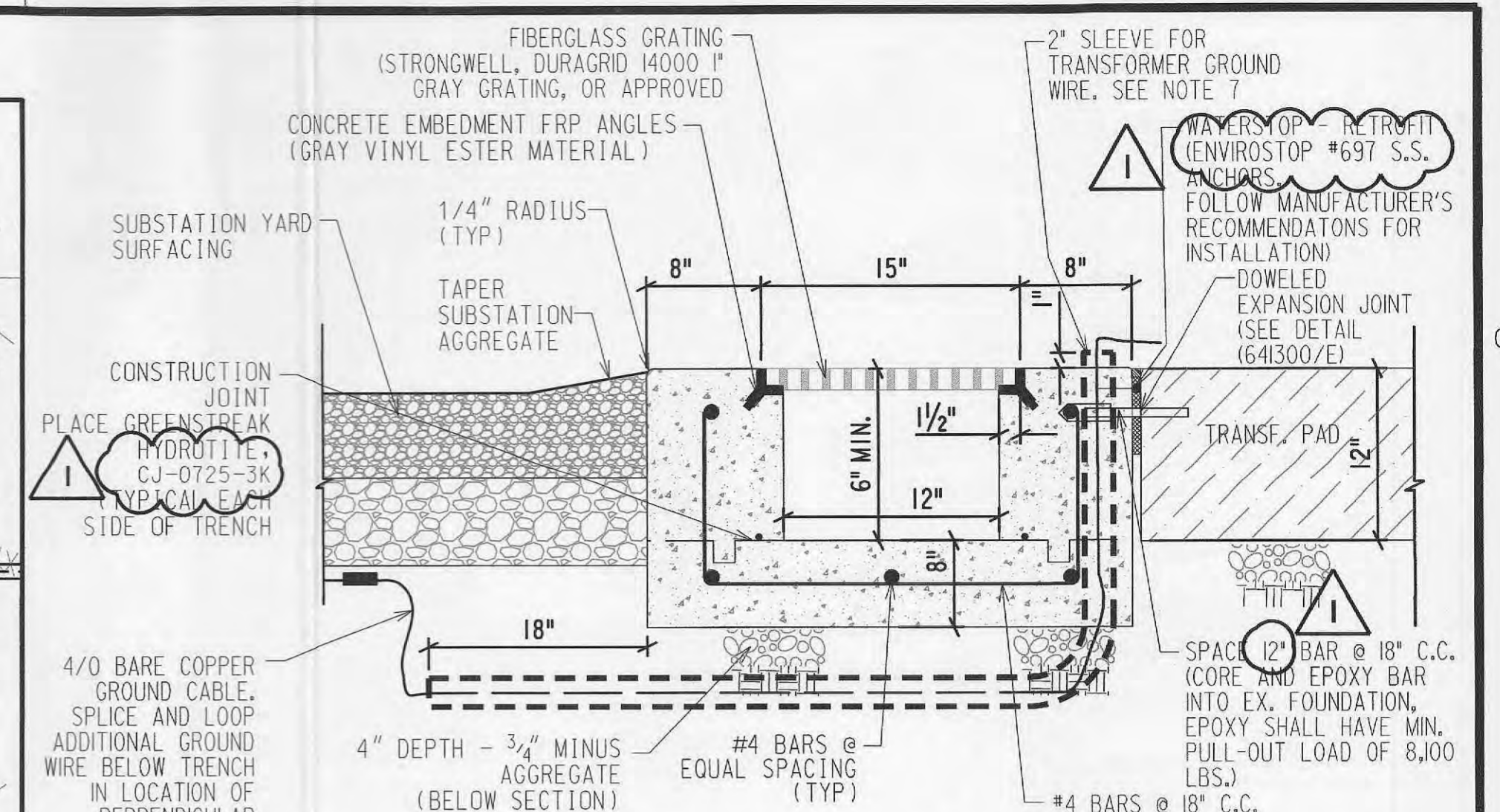
- (EJ) - EXPANSION JOINT (SEE DETAIL 641300/E)
- (CJ) - CONTRACTION JOINT (SEE DETAIL 641300/F)
- (TG) - EXISTING TRANSFORMER GROUND
- - - - - MAINTAIN MIN. 0.5% SLOPE IN BOTTOM OF TRENCH

SOFT DIG UTILITY LOCATES:

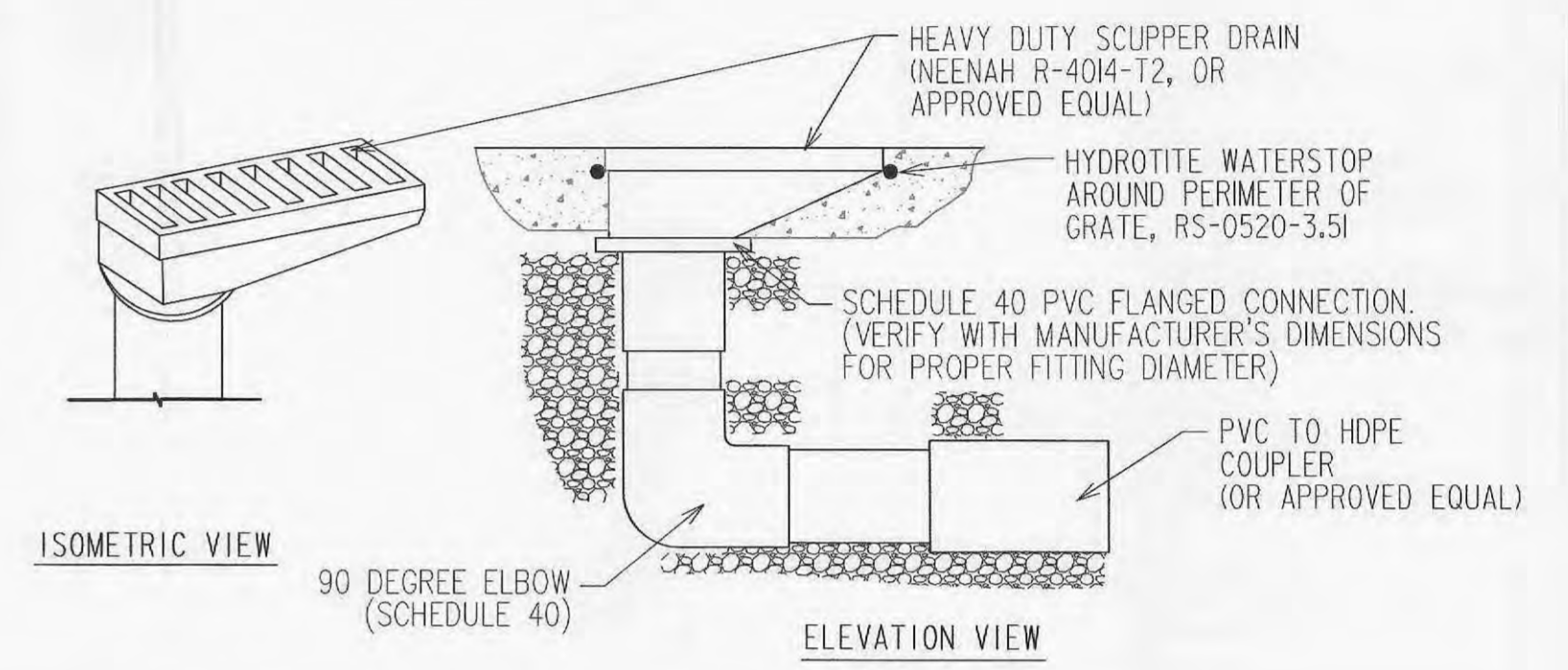
- (SD-1) - DIRECT BURIED CABLE (24" DEEP)
- (SD-2) - GROUND WIRE (27" DEEP)
- (SD-3) - 2" CONDUIT (15" DEEP)
- (SD-4) - DIRECT BURIED CABLE (24" DEEP)
- (SD-5) - DIRECT BURIED CABLE (18" DEEP)
- (SD-6) - DIRECT BURIED CABLE (23" DEEP)
- (SD-7) - GROUND WIRE (30" DEEP)
- (SD-8) - DIRECT BURIED CABLE (22" DEEP)
- (SD-9) - DIRECT BURIED CABLE (30" DEEP)
- (SD-10) - 4" CONDUIT (18" DEEP)
- (SD-11) - GROUND WIRE (32" DEEP)
- (SD-12) - 4" CONDUIT (22" DEEP)
- (SD-13) - GROUND WIRE (30" DEEP)
- (SD-14) - GROUND WIRE (36" DEEP)
- (SD-15) - DIRECT BURIED CABLE (24" DEEP)
- (SD-16) - 1-1/2" CONDUIT (22" DEEP)
- (SD-17) - GROUND WIRE/ELECTRICAL (24" DEEP)
- (SD-18) - DIRECT BURIED CABLE (20" DEEP)
- (SD-19) - GROUND WIRE (15" DEEP)
- (SD-20) - BROKEN CONCRETE (16" DEEP)
- (SD-21) - BROKEN CONCRETE (14" DEEP)
- (SD-22) - GROUND GRID (6" DEEP)
- (SD-23) - DIRECT BURIED CABLE (12" DEEP)
- (SD-24) - DIRECT BURIED CABLE (23" DEEP)
- (SD-25) - 2" CONDUIT (14" DEEP)
- (SD-26) - 2" CONDUIT (14" DEEP)
- (SD-27) - GROUND WIRE (20" DEEP)



### TRANSFORMER SPCC - PLAN VIEW

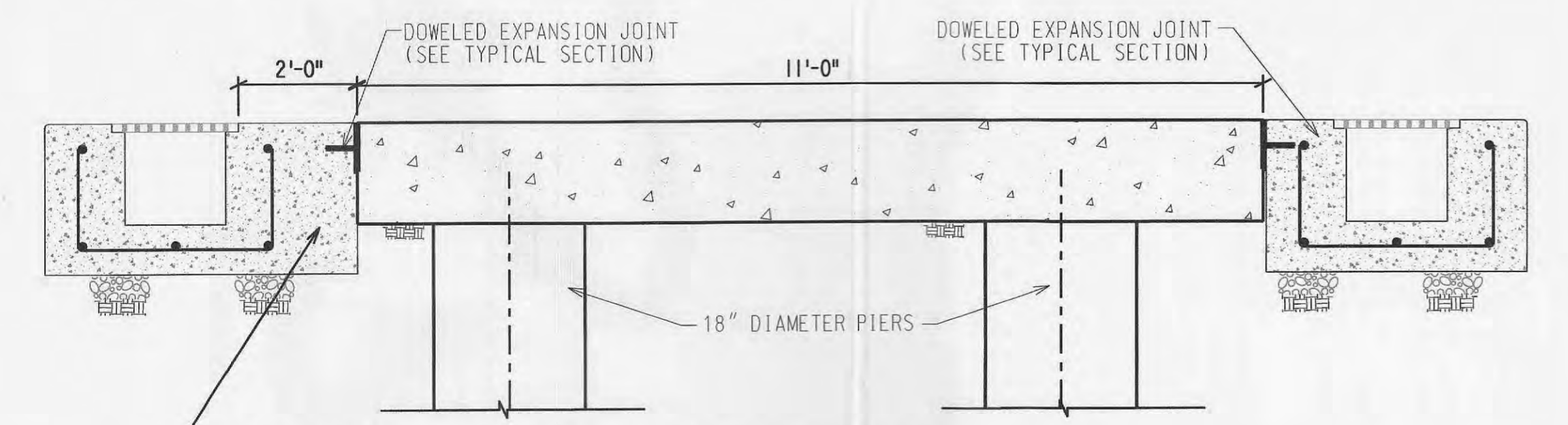


E TRENCH DRAIN TYPICAL SECTION NOT TO SCALE

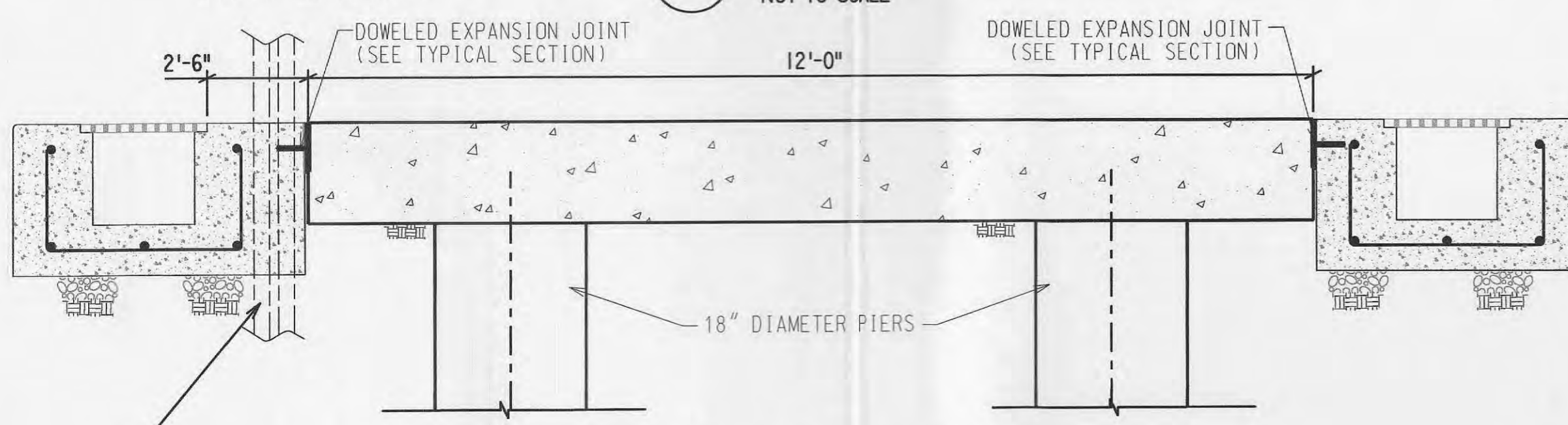


F TRENCH SYSTEM - FLOOR DRAIN NOT TO SCALE

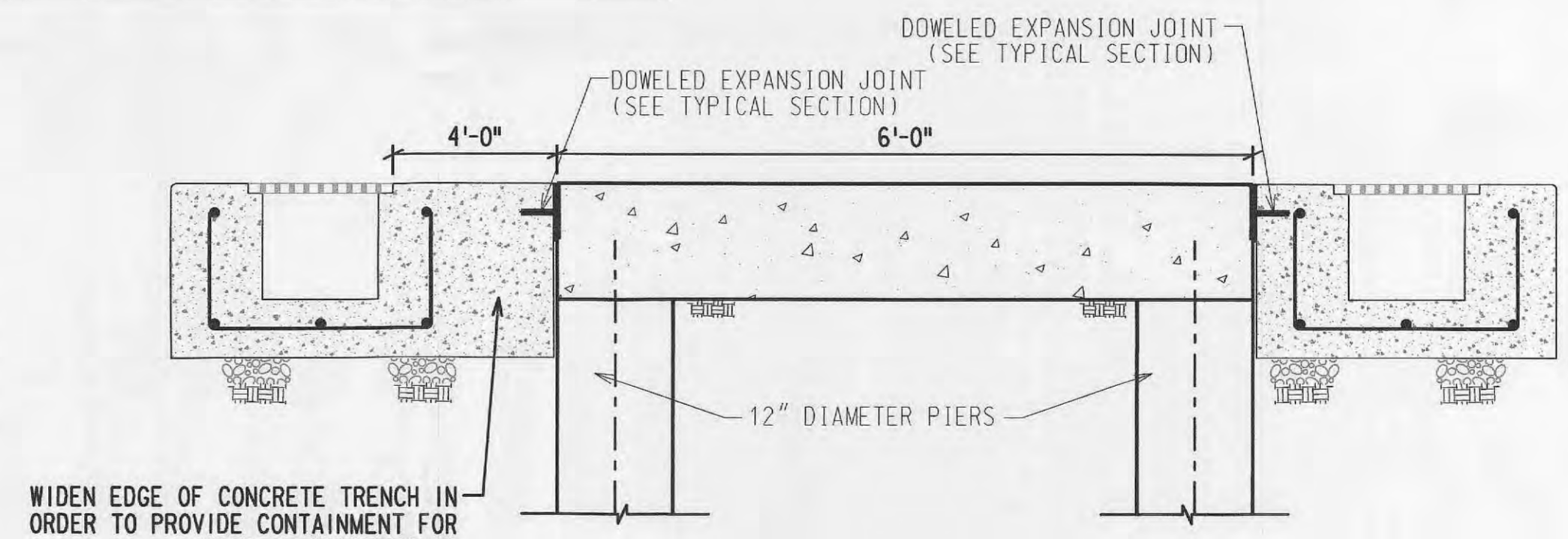
- NOTES:
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 P.S.I. AT 28 DAYS. REINFORCEMENT SHALL BE PER ASTM A615, GRADE 60 STEEL.
  - REINFORCED CONCRETE SHALL BE PER AMEREN STANDARD NO. 03001.
  - PROVIDE CONTRACTION JOINT IN CURBS PER LOCATIONS SHOWN ON PLANS. SEE DETAIL CONTRACTION JOINT DETAIL 641300/F
  - PROVIDE EXPANSION JOINT PER LOCATIONS SHOWN ON PLANS. SEE DOWELED EXPANSION JOINT DETAIL 641300/E
  - AGGREGATE SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY AS DETERMINED FROM THE MODIFIED PROCTOR COMPACTION TEST (ASTM D 1557).
  - INSTALL TWO SPARE CONDUITS FOR FUTURE USE AT EACH TRANSFORMER.
    - CONDUITS SHALL BE 2" PVC TYPE DB SCHEDULE 40
    - BENDS TO BE ON A 24" RADIUS
    - CONDUIT SHALL BE BURIED A MINIMUM OF 24" FROM FINISHED GRADE TO TOP OF CONDUIT.
    - CONDUIT SHALL TERMINATE 6" ABOVE GRADE. SEE DETAIL 641300/G.
    - CONDUIT SHALL TERMINATE BELOW GRADE APPROXIMATELY 18" OUTSIDE OF THE SPILL CONTAINMENT FOOTPRINT. CAP END OF CONDUIT AND MARK WITH A BURIED CABLE MARKER MADE BY HUBBELL/CHANCE, CATALOG#C554000L.
    - 2500 LB PULLING TAPE SHOULD BE INSTALLED IN THE CONDUIT AND FASTENED TO THE END CAPS WITH 10' OF SLACK.
  - GROUNDING (REFER TO AMEREN SUBSTATION DESIGN STANDARD I6C FOR GROUNDING INSTALLATION REQUIREMENTS):
    - WHERE THE GROUND GRID CROSSES PERPENDICULAR TO THE TRENCH, SPLICE AND LOOP ADDITIONAL GROUND WIRE BELOW THE TRENCH.
    - WHERE THE GROUND GRID RUNS PARALLEL OR DIRECTLY BELOW THE TRENCH, SPLICE THE GROUND WIRE AND OFFSET THE WIRE TO BE OUTSIDE OF THE SPILL CONTAINMENT BY 6'.
    - EQUIPMENT GROUNDS SPANNING UNDERNEATH THE OIL SPILL CONTAINMENT AREA MUST BE SLEEVED WITH A 2" CONDUIT SPANNING FROM THE EQUIPMENT TO 18" BEYOND THE SPILL CONTAINMENT FOOTPRINT. CONDUIT BENDS SHOULD BE ON A 24" RADIUS.
    - WHEN REMOVING AN EQUIPMENT GROUND A TEMPORARY GROUND MEASURE MUST BE FIRST INSTALLED TO ENSURE THE EQUIPMENT IS PROPERLY GROUNDED AT ALL TIMES.



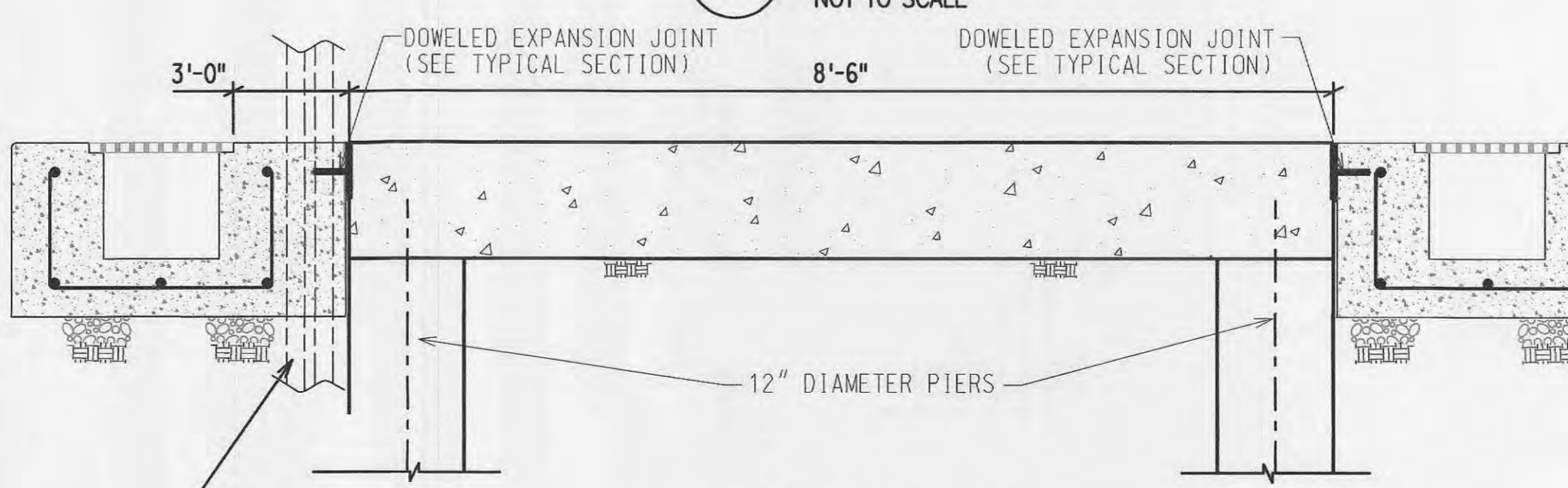
A SECTION A-A NOT TO SCALE



B SECTION B-B NOT TO SCALE



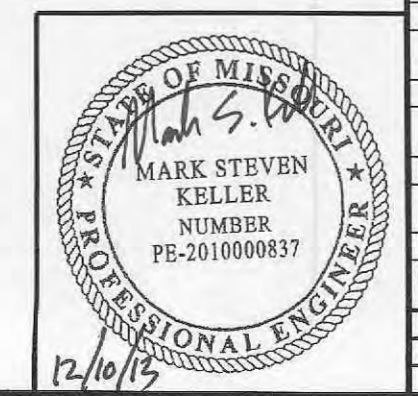
C SECTION C-C NOT TO SCALE



D SECTION D-D NOT TO SCALE

REFERENCES:

STRUCTURE - CONCRETE DETAILS FOUNDATIONS AND FOOTINGS, UNIT W	8498-X-24548	STRUCTURE - CONCRETE FOUNDATION DETAILS SHEET NO. 2	8455-X-47871
GROUNDING PLAN AND DETAILS TRANSFORMER W	8498-X-24549	TOPOGRAPHIC SURVEY	641295
YARD PLAN - GROUNDING, CONDUIT, FENCE AND FOUNDATION LOCATION, UNIT D	8498-Y-72951	BOUNDARY SURVEY	641296
STRUCTURE - CONCRETE DETAILS FOOTINGS - UNIT D	8498-Y-72952	PROPERTY - SITE AND UTILITY PLAN	641297
STRUCTURE - CONCRETE DETAILS TRANSFORMER FOUNDATION, UNIT D	8498-Z-72953	OIL STOP VALVE STRUCTURE DETAILS	641299



REV	PROJ ID	DATE	DRWN	RVW	APPD
1	JS44148	11/12/13	MSK	DML	MSK
2	JS44148	08/13/13	MSK	DML	MSK

TRANSFORMER SPCC DETAILS  
OIL SPILL CONTAINMENT AND  
WATER DISCHARGE SYSTEM

SONDEREN SUBSTATION

641298

REV 1

FILE: 641298-TRANSFORMER DETAILS.dgn  
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