

NOTE:
POTENTIAL SOILS MOVEMENTS WILL INCREASE IF BUILDING PAD(S) ARE ALLOWED TO DRY OUT PRIOR TO CONSTRUCTION. THIS OFFICE RECOMMENDS PROCEDURES BE USED TO MAINTAIN AT LEAST A "NORMAL" OR "AVERAGE" SOIL MOISTURE CONTENT.

NOTE:
GRADING PLAN SHALL ENSURE THAT POSITIVE DRAINAGE IS MAINTAINED AWAY FROM THE FOUNDATION. THIS OFFICE RECOMMENDS A 5 PERCENT SLOPE FOR THE FIRST 10 FEET FROM THE BUILDING PAD. FAILURE TO MAINTAIN DRAINAGE MAY ALLOW WATER TO POND OR COLLECT AROUND THE FOUNDATION, CAUSING POTENTIAL HEAVE FAR IN EXCESS OF THAT PREDICTED IN THE GEOTECHNICAL REPORT.

NOTE:
IT IS UNDERSTOOD THAT COMPACTION TESTING WAS PERFORMED DURING GRADING OPERATIONS. A 79G COMPACTION CERTIFICATION LETTER SHOULD BE ISSUED BY THE ENGINEERING AND TESTING LABORATORY OF RECORD CERTIFYING THAT FILL SOILS WITHIN THE BUILDING PADS WERE PLACED IN COMPACTED LIFTS PER SPECIFICATION REQUIREMENTS. THIS DESIGN ASSUMES THAT ADEQUATE COMPACTION WAS ACHIEVED FOR ALL FILL PLACED IN BUILDING PADS. IF ADEQUATE COMPACTION WAS NOT ACHIEVED THIS OFFICE SHOULD BE CONTACTED TO DETERMINE IF A REDESIGN IS REQUIRED.

ELONGATION CHART - SLAB STRANDS			
STRAND	SLAB LENGTH (FT)	NUMBER	ELONGATION (INCHES)
S-1	32	4	2.50
S-2	35	1	2.75
S-3	50	5	3.75
S-4	34	2	2.50
S-5	36	1	2.75
S-6	43	3	3.25
S-7	49	4	3.75
S-8	47	2	3.50
S-9	86	2	6.50
S-10	76	4	5.75
S-11	86	5	6.50
S-12	69	1	5.25
S-13	63	4	4.75
S-13A	27	8	2.00
S-14	18	1	1.25
S-15	25	1	2.00
S-16	76	8	5.75
S-17	52	4	4.00
S-18	114	6	8.75
S-19	99	3	7.50
S-20	87	2	6.50
S-21	68	1	5.25
S-22	15	5	1.25
S-23	36	2	2.75
S-23A	27	1	2.00
S-23B	15	1	1.25
S-24	17	1	1.25
S-25	30	5	2.25

ELONGATION CHART - BEAM STRANDS			
STRAND	SLAB LENGTH (FT)	NUMBER	ELONGATION (INCHES)
(2)BS-1	32	2	2.50
(2)BS-2	35	2	2.75
(2)BS-3	50	2	3.75
(2)BS-4	52	2	4.00
(2)BS-5	49	2	3.75
(2)BS-6	86	2	6.50
(2)BS-7	88	2	6.75
(2)BS-8	86	2	6.50
(2)BS-9	40	2	3.00
(2)BS-10	27	2	2.00
(2)BS-11	27	2	2.00
(2)BS-13	25	2	2.00
(2)BS-14	19	2	1.50
(2)BS-15	76	2	5.75
(2)BS-16	76	2	5.75
(2)BS-17	17	2	1.25
(2)BS-18	116	2	8.75
(2)BS-19	114	2	8.75
(2)BS-20	99	2	7.50
(2)BS-21	68	2	5.25

*NOTE: LENGTHS SHOWN IN THIS TABLE ARE FROM EDGE OF SLAB TO EDGE OF SLAB. CABLE SUPPLIER SHALL ADD THE NECESSARY LENGTH TO ACCOMMODATE FIELD STRESSING OF THE POST TENSION STRANDS.

GENERAL NOTES: SLAB-ON-GRADE

THE DESIGN OF THIS FOUNDATION HAS BEEN BASED UPON:
 1. PREVAILING AND LOCAL GOOD STANDARD PRACTICE.
 2. DESIGN AND CONSTRUCTION OF POST TENSIONED SLABS-ON-GROUND, POST TENSIONING INSTITUTE, 1996 OR 2004 AS APPLICABLE.
 3. 2015 INTERNATIONAL RESIDENTIAL AND INTERNATIONAL BUILDING CODE.
 4. AMERICAN CONCRETE INSTITUTE (ACI) 318, MOST CURRENT.

MATERIALS:

- ALL POST TENSIONED TENDONS AND ANCHORAGES SHALL CONFORM TO REPORT NO. ACI 423.3R (CURRENT). TENDONS SHALL BE FABRICATED FROM 1/2" DIAM. 270 KSI LR STRAND MEETING ASTM A-416 (CURRENT). THE FABRICATING PLANT SHALL HAVE A CURRENT PTI APPROVAL.
- REBAR SHALL BE SIZED AS NOTED ON PLANS ALTERNATE BAR DIAMETERS MAY BE USED AS LONG AS THE GRADE AND STEEL CROSS-SECTIONAL AREA OF THE SUBSTITUTED BARS IS NOT LESS THAN THE ORIGINAL SPECIFICATION. ALL REBAR SHALL CONFORM ASTM A-615, GRADE 60.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT TIME OF STRESSING. SEE "FOUNDATION NOTES" ON PLAN SHEET FOR 28 DAY COMPRESSIVE STRENGTH REQUIREMENTS. WATER CONTENT SHALL BE CONTROLLED AND MINIMIZED, OTHERWISE CRACKING DUE TO SHRINKAGE WILL BE EXCESSIVE. PLASTICIZING ADDITIVES ARE RECOMMENDED.

PAD PREPARATION:

- PREPARATION OF THE BUILDING PAD IS IMPORTANT. SLAB SHALL NOT BE PLACED ON UNCONSOLIDATED SOIL. FILLS OF ANY SIZE UNLESS THE FILL HAS BEEN CONSIDERED IN THE DESIGN OR THE SLAB IS SUPPORTED ON PIERS, UNLESS SPECIFIED OTHERWISE IN THE SOIL REPORT, ALL FILLS SHALL BE COMPACTED TO 95% PROCTOR DENSITY ACCORDING TO FHA DATA SHEET 79-G. DEEP FILLS MUST BE LAYERED 8" MAXIMUM THICKNESS WITH CONSOLIDATION OF EACH LAYER. WATER SHALL BE ADDED ACCORDING TO THE SOILS ENGINEERS' SPECIFICATIONS, AND SHALL BE MAINTAINED UNTIL THE SLAB IS CONSTRUCTED. IF ONLY A PORTION OF THE STRUCTURE IS ON DEEP FILL, THE ENGINEER SHALL BE NOTIFIED PRIOR TO CONSTRUCTION.
- TRENCHES FOR BURIED PLUMBING SHALL NOT RUN ALONG OR UNDER BEAMS EXCEPT TO CROSS AT ANGLES BETWEEN 45 AND 90 DEGREES. TRENCH BACKFILLS SHALL BE THOROUGHLY COMPACTED. IF SAND IS USED FOR BACKFILL, USE A CLAY MOISTURE PLUG IN UTILITY TRENCHES AT THE EDGE OF THE FOUNDATION.
- PIERS MAY BE USED ONLY IF THEY ARE SPECIFICALLY SHOWN IN THE DESIGN.
- BEAM TRENCHES SHALL BE CLEAN AND PER PLAN IN SIZE. LOOSE SOIL, CLODS AND TRASH SHALL BE REMOVED FROM TRENCHES BEFORE CONCRETE PLACEMENT. ONLY SURFACE SATURATION SHALL BE PERMITTED AT BOTTOM OF TRENCHES. IF THERE IS DEEP MUD, IT SHALL BE REMOVED PRIOR TO CONCRETING, AND REPLACED WITH FIRM SOIL.
- IF FIRM ROCK IS ENCOUNTERED DURING TRENCHING FOR BEAMS, BEAM DEPTH MAY BE REDUCED. PERIMETER BEAMS NEED TO PENETRATE ROCK ONLY ENOUGH TO ACHIEVE A MINIMUM DEPTH OF 12". WEATHERED SHALE IS NOT ROCK.
- BEAMS MORE THAN 30" DEEP NOT DETAILED IN THE DESIGN SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE CONCRETE PLACEMENT.
- THERE SHALL BE A LAYER OF SAND, GRAVEL, OR GRANULAR SOIL UNDER ALL SLABS.

CONCRETE CONSTRUCTION:

- THE SLAB SHALL BE UNDERLAIN BY A VAPOR BARRIER/RETARDER IN THE LIVING AREA (TYPICALLY POLYETHYLENE, UNLESS MORE STRINGENT PROTECTION REQUIRED BY THE ARCHITECT, ENGINEER, FLOOR COVERING MANUFACTURER, OR ACCEPTED PRACTICE), UNLESS OTHERWISE REQUIRED, BARRIER MAY BE OMITTED AT GARAGES, PORCHES AND PATIOS WITHOUT FLOOR COVERINGS. IT IS BEYOND THE SCOPE OF THESE PLANS TO DETERMINE THE APPLICABILITY OF THESE MORE STRINGENT REQUIREMENTS. BUILDER SHALL VERIFY PRIOR TO CONSTRUCTION.
- THE VAPOR BARRIER SHALL EXTEND INTO THE BEAMS, BUT MAY BE CUT BACK TO EXPOSE THE BOTTOM OF THE TRENCH UNLESS OTHERWISE REQUIRED. IF THE BARRIER EXTENDS IN THE BOTTOM OF THE BEAM, IT MAY NOT BE CONTINUOUS. INSTEAD, IT SHALL BE CUT AND LAPPED, TO FACILITATE INSPECTION OF THE CLEANLINESS AND DRYNESS OF THE BEAM TRENCH AND TO ENSURE THAT CONCRETE COMPLETELY FILLS THE TRENCH WITHOUT EXCESSIVE VOIDS. PRIOR TO PLACEMENT OF CONCRETE, THE BARRIER SHALL BE FASTENED TO THE BOTTOM AND SIDES OF THE TRENCH TO PREVENT DISPLACEMENT.
- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. ENGINEER DOES NOT TAKE RESPONSIBILITY FOR DIMENSIONS OR FOR ARCHITECTURAL FEATURES. ENGINEER'S BASIC RESPONSIBILITY IS FOR MEMBER SIZE AND STRENGTH. CONTRACTOR IS RESPONSIBLE FOR FIT & FINISH. WHERE THERE IS A DISCREPANCY BETWEEN DIMENSIONS SHOWN HEREON AND ON THE ARCHITECTURAL PLANS, THE ARCHITECTURAL'S SHALL CONTROL. SEE MECHANICAL DRAWINGS FOR OPENINGS. NOTIFY ARCHITECT AND BUILDER OF ANY DISCREPANCIES THAT CANNOT BE RESOLVED IN THE FIELD.
- CONSTRUCTION JOINTS ARE NOT PERMITTED UNLESS DETAILED OR SPECIFIED BY THE ENGINEER.
- STRANDS AND BARS SHALL BE TIED AT ALL INTERSECTIONS. S-HOOKS SHALL NOT BE USED TO SUPPORT TENDONS. TENDONS SHALL BE SUPPORTED ON CHAIRS AT NO MORE THAN 4 FEET O.C. REBAR SHALL BE ADEQUATELY SUPPORTED AND TIED IN PLACE EVEN IF SUPPORTS ARE NOT DETAILED ON PLANS. REASONABLE CARE SHALL BE USED DURING PLACEMENT OF CONCRETE SO THAT POSITIONING OF TENDONS AND SUPPORTS IS MAINTAINED.
- AT DEAD ENDS, STRAND SHEATHING MAY BE CUT BACK AS MUCH AS 18 INCHES FROM THE ANCHORAGE. AT STRESSING ENDS, SHEATHING MAY BE CUT BACK A MAXIMUM OF 1.0 INCH. FOR PATCHING OF SHEATHING, TAPING IS ACCEPTABLE.
- DEAD ENDS AND STRESSING ENDS MAY BE REVERSED IN THE FIELD AT THE CONTRACTOR'S OPTION.
- IF REBAR IS SHOWN AT AN INSIDE CORNER, IT SHALL EXTEND AT LEAST 2'-6" PAST THE CORNER INTO THE SLAB.
- CONCRETE SHALL BE WELL CONSOLIDATED IN THE VICINITY OF EACH ANCHORAGE.
- AFTER SLAB IS POURED, WATER SHALL NOT BE ALLOWED TO POND ADJACENT TO IT. PROPER DRAINAGE IS PERMANENTLY NECESSARY FOR SLAB TO MAINTAIN ITS INTEGRITY. BUILDER SHALL ADVISE OWNER OF THIS REQUIREMENT. GRADE SHALL FALL A MINIMUM OF 6 INCHES IN THE FIRST 10.0 FEET FROM THE FOUNDATION PERIMETER (5% SLOPE).
- STRANDS SHALL BE STRESSED WHEN THE CONCRETE REACHES MINIMUM 2000 PSI COMPRESSIVE STRENGTH. THIS IS TYPICALLY SEVEN DAYS AFTER PLACEMENT, BUT MAY BE SOONER IN HOT WEATHER. UNDUE DELAY IN STRESSING MAY RESULT IN EXCESSIVE SHRINKAGE CRACKING.
- STRAND 1/2" DIAMETER 270K SHALL BE ANCHORED AT 28.9 KIPS. ELONGATIONS SHALL BE APPROXIMATELY .078 INCHES PER FOOT OF STRESSED TENDON LENGTH. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THESE STRANDS MAY BE TEMPORALLY STRESSED TO 33.0 KIPS IN ORDER TO OVERCOME FRICTION AND COMPENSATE FOR SEATING LOSSES.
- STRAND ENDS SHALL BE CUT OFF WITH A SAW OR SHEAR, NOT WITH A TORCH.
- STRESSING POCKETS SHALL BE PATCHED WITH A STIFF GROUT MIX. A PLASTIC CAP OR EQUAL SHALL BE USED TO PROTECT THE STRAND FROM CORROSION.

POST CONSTRUCTION:

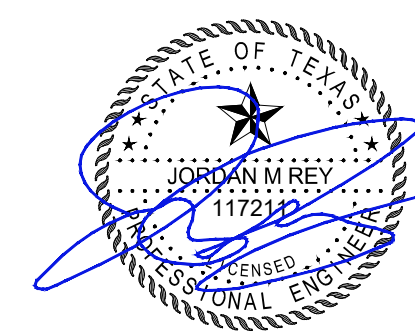
IF CONSTRUCTED ON ACTIVE SOILS, THE LONG TERM PERFORMANCE OF THE FOUNDATION IS DEPENDENT ON MAINTENANCE BY THE OWNER. THUS THE BUILDER SHALL ADVISE THE OWNER OF THE FOLLOWING:
 1. DRAINAGE MUST BE MAINTAINED. WATER SHALL NEVER BE ALLOWED TO POND NEAR THE FOUNDATION.
 2. THE SOIL AROUND THE FOUNDATION SHALL BE MAINTAINED IN A RELATIVELY DAMP CONDITION, SUCH AS THAT REQUIRED TO KEEP A LAWN GREEN. IF IT DRIES OUT IT WILL SHRINK. IF IT GETS WET, IT WILL HEAVE UPWARD.

PLAN AND SECTION NOTES:

- PLAN MAY BE REVERSED OPPOSITE HAND (LEFT TO RIGHT) IN FIELD.
- NOT ALL SECTIONS SHOWN APPLY TO EACH PROJECT.
- FOR "D" AND "W" DIMENSIONS, SEE PLAN SHEET.
- * ON PLAN DENOTES DIMENSION TO BE VERIFIED OR FURNISHED BY CONTRACTOR, BUILDER OR ARCHITECT.
- -DENOTES END OF STRAND TO BE STRESSED (LIVE END).
 - -DENOTES FACTORY SEATED ANCHOR (DEAD END).
 - ~ -DENOTES STRAND TO BE DRAPED TO BOTTOM OF BEAM.



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STRUCTURAL PLANS
 1190 HARPERS LANDING
 FAIRVIEW, TEXAS

PROJECT ISSUE DATES		
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ARTEC PROJECT NO.	CLIENT PROJECT NO.	FILE NO.
1190Q2019		

SHEET REVISIONS	MARK	DATE	DESCRIPTION

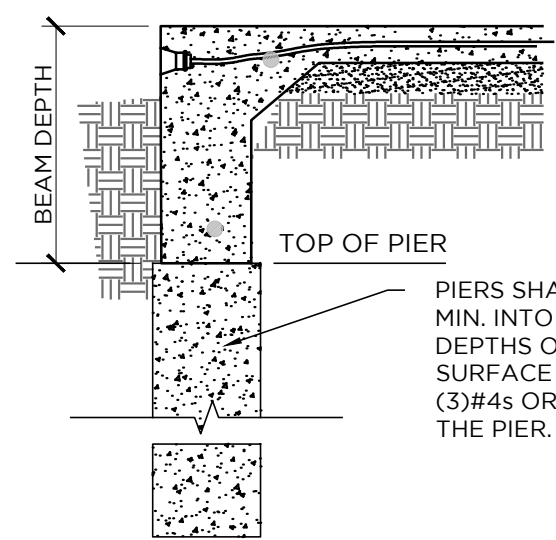


FOUNDATION GENERAL NOTES

DRAWN BY: JR CHECKED BY: JR MANAGER: JR

DATE: 1/18/2019

FD-1



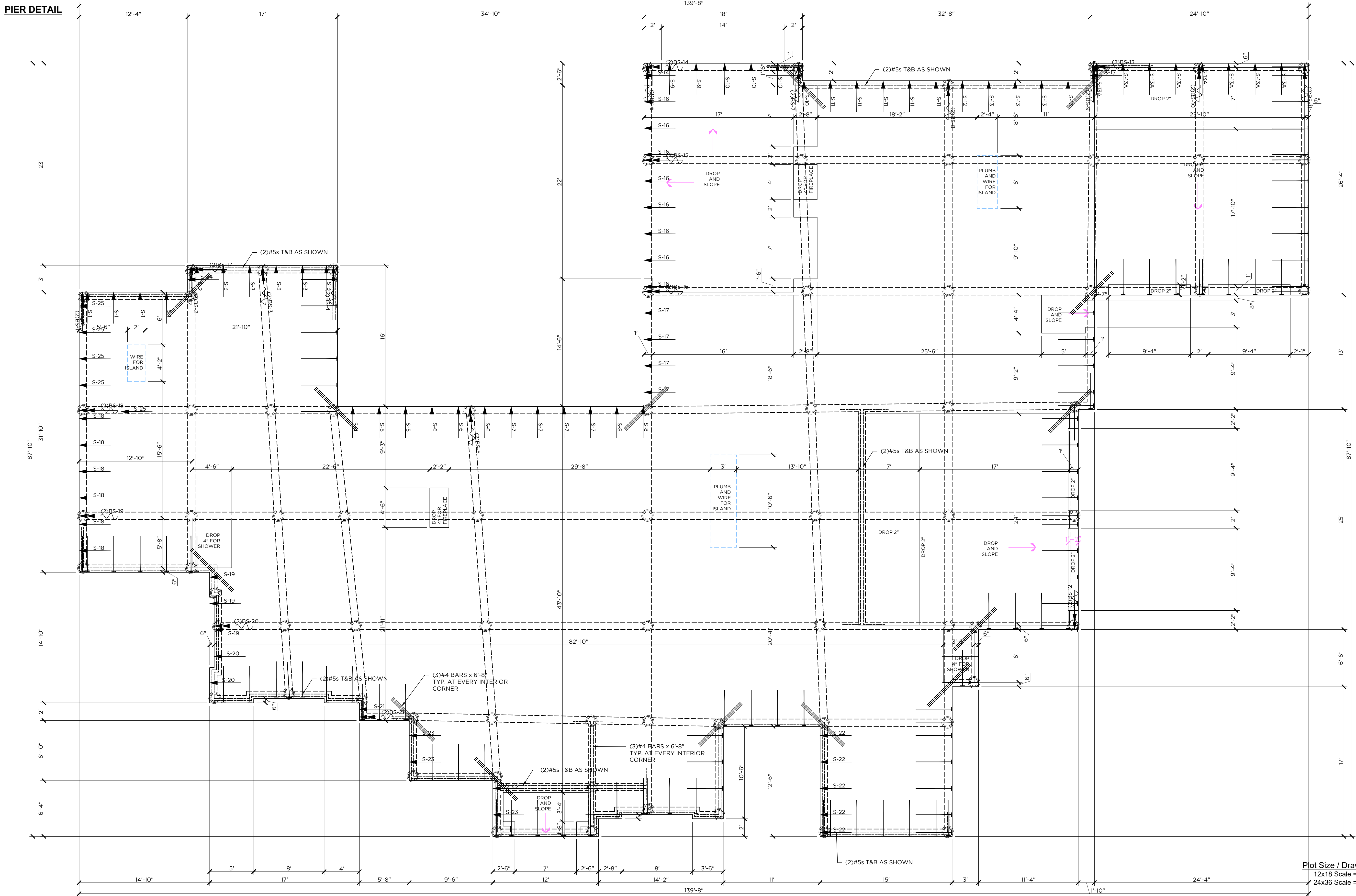
PIERS SHALL BE 12" DIAMETER STRAIGHT SHAFT PIERS, FOUNDED 2' MIN. INTO FIRM GREY LIMESTONE A MINIMUM OF 2 FEET, FOUND AT DEPTHS OF 4 FEET TO 18 FEET BELOW THE EXISTING GROUND SURFACE AT THE SITE. REBAR SHALL BE (3) #4S OR (2) #5S, BUNDLED AND EXTENDING THE ENTIRE DEPTH OF THE PIER.

FOUNDATION NOTES:

1. DRAINAGE SHALL BE MAINTAINED AROUND THE FOUNDATION AT ALL TIMES DURING AND AFTER THE CONSTRUCTION PERIOD. SURFACE WATER SHALL FLOW RAPIDLY AWAY FROM THE FOUNDATION. THE BUILDER SHALL ADVISE THE BUYER OF HIS RESPONSIBILITIES TO MAINTAIN DRAINAGE AND SOIL MOISTURE SO THAT FUTURE SOIL MOVEMENTS ARE MINIMIZED.
2. SLAB SHALL BE 4" THICK, U.N.O.
3. GRADE BEAMS SHALL BE 10" W x 36" D.
4. CONCRETE SHALL HAVE A MINIMUM 3,500 PSI 28 DAY COMPRESSIVE STRENGTH.
5. ALL STRANDS SHALL BE 1/2" - 270K (SEE GEN. NOTES).
6. BS & INDICATE BEAM STRAND TO BE DRAPED DOWN INTO BOTTOM OF BEAM. SEE BEAM STRAND DETAIL ON DETAIL SHEET. BEAM STRAND REQUIRED ONLY IF SHOWN ON FOUNDATION PLAN.
7. SEE GENERAL NOTES AND TYPICAL DETAIL SHEET.
8. (*) ASTERISKS INDICATE DIMS. TO BE VERIFIED OR FURNISHED BY BUILDER. SEE NOTES #3 UNDER CONCRETE CONSTRUCTION ON GEN. NOTES SHEET.
9. THIS ENGINEERING DESIGN IS BASED UPON GEOTECHNICAL INFORMATION FROM THE FOLLOWING SOIL REPORT:
 - 9.1. LAB: HOOPER GROUP, INC, REPORT NO. 18.441, DATED 01/14/2019.

NOTE: EXISTING FILL ON-SITE SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS IN THE GEOTECHNICAL REPORT. IF ADEQUATE COMPACTION IS NOT ACHIEVABLE AT THIS SITE, CONTACT OUR OFFICE FOR A REVIEW OF THE DESIGN.

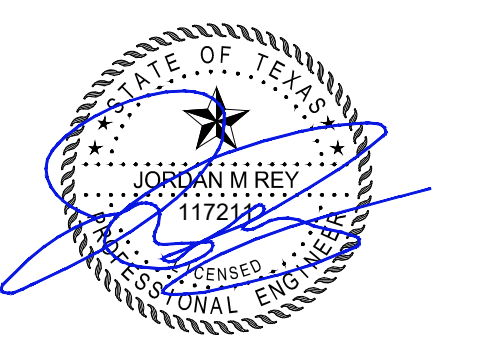
NOTE: THIS IS A SCHEMATIC PLAN FOR THE PURPOSE OF LOCATING AND IDENTIFYING FOUNDATION REINFORCING ELEMENTS ONLY. VERIFY ALL DIMENSIONS, DROPS, OFFSETS AND FEATURES WITH THE ARCHITECTURAL PLANS BEFORE FORMING THE FOUNDATION. ARTEC CANNOT BE HELD LIABLE FOR ANY CONTRACTOR OR OVERSIGHT IN THIS REGARD. DO NOT FORM FOUNDATION USING THESE PLANS. DIMENSIONAL CONTROL IS THE RESPONSIBILITY OF THE ARCHITECT. USE THESE PLANS FOR THE PLACEMENT OF THE GRADE BEAMS AND REINFORCEMENT.



Plot Size / Drawing Scale:
 12x18 Scale = 3/32" = 1'-0"
 24x36 Scale = 3/16" = 1'-0"



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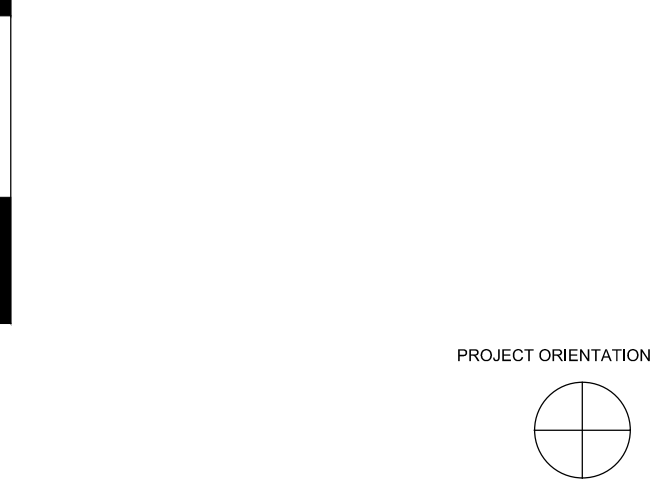


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FOUNDATION PLAN

DRAWN BY: JR CHECKED BY: JR MANAGER: JR

DATE: 1/18/2019

FD-2



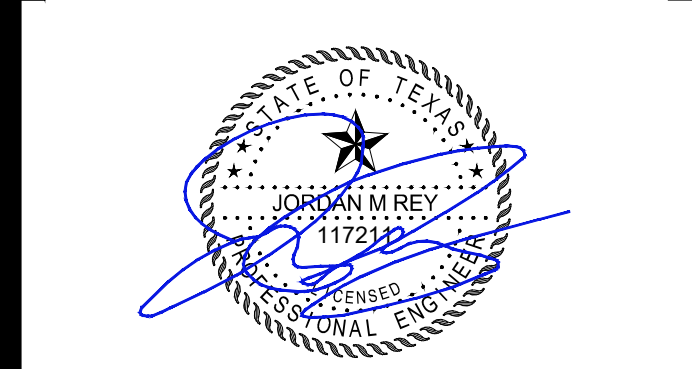
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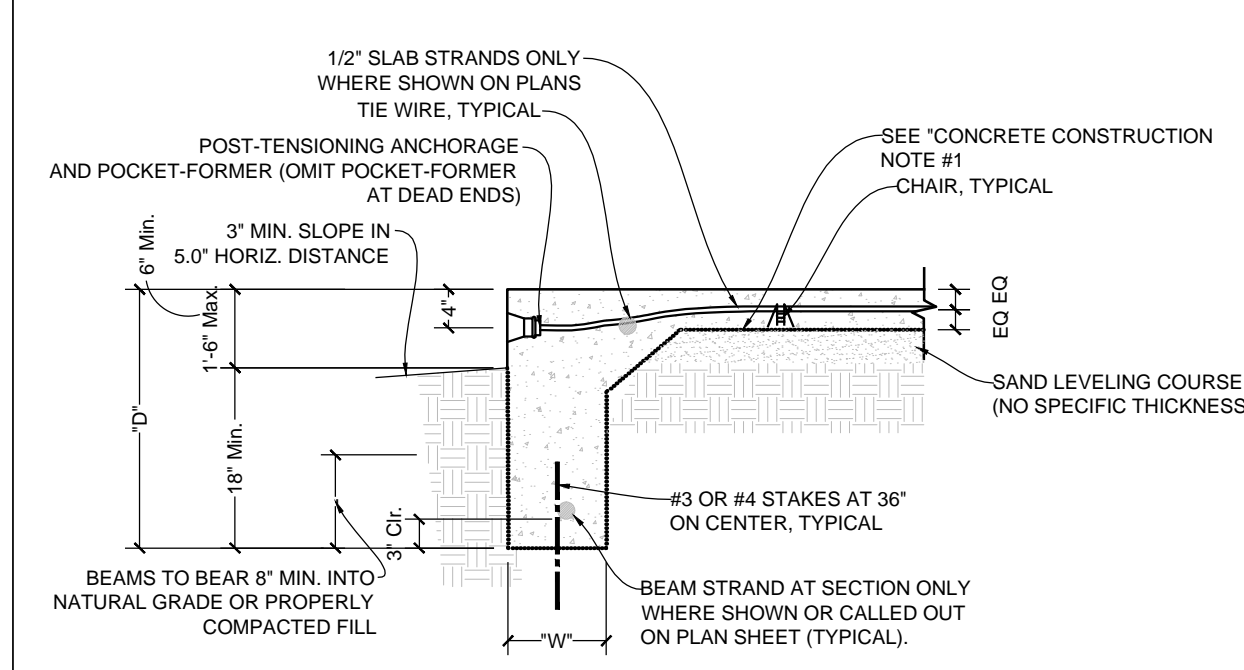


FOUNDATION DETAILS

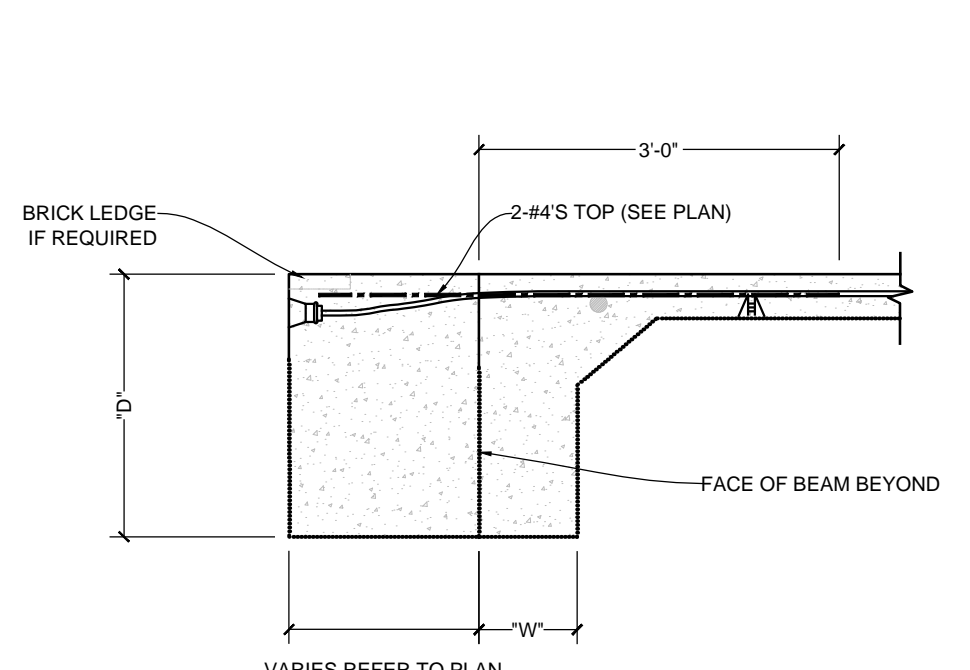
DRAWN BY: JR CHECKED BY: JR MANAGER: JR

DATE: 1/18/2019

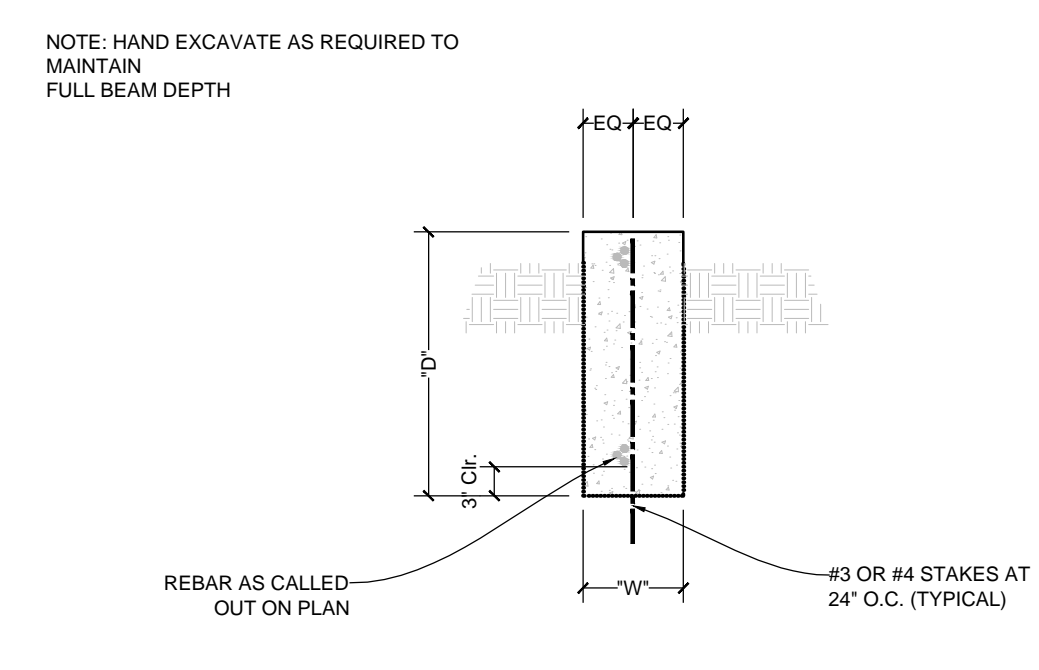
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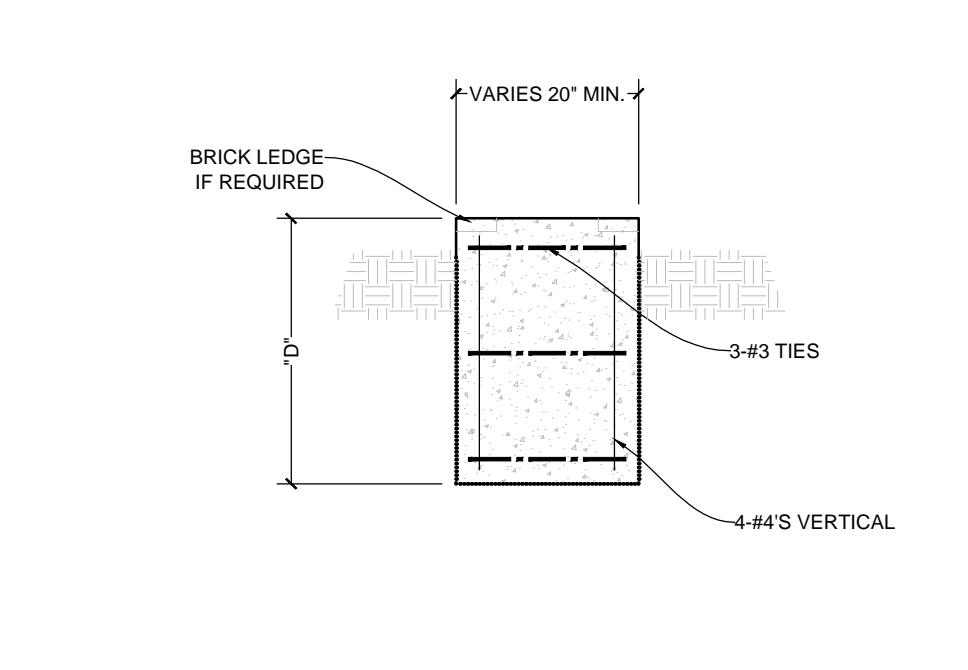
1 DETAIL
Note: Typical chair height 1-1/2\"/>



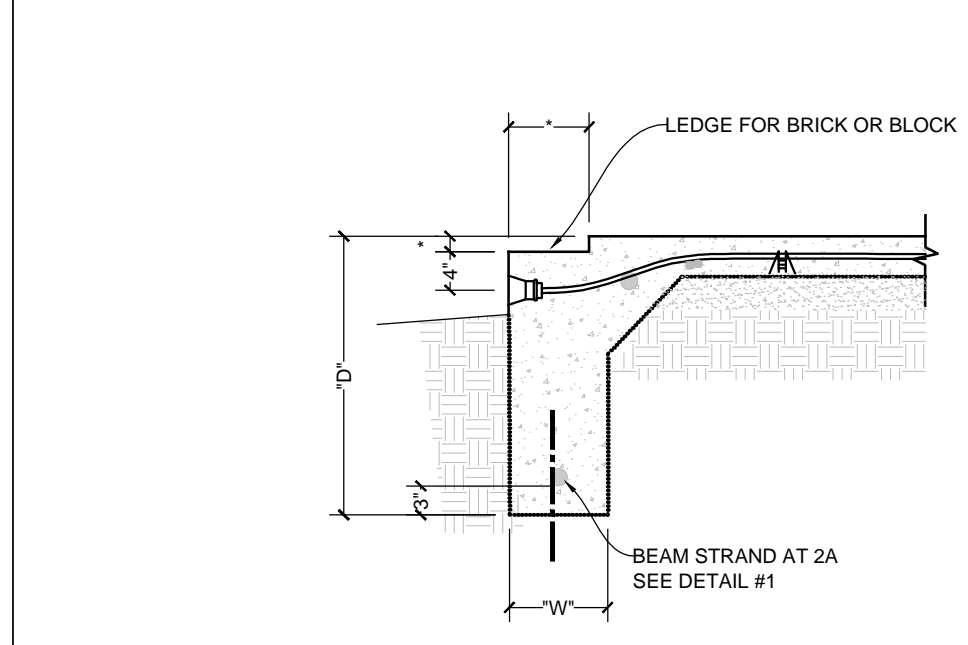
7 DETAIL



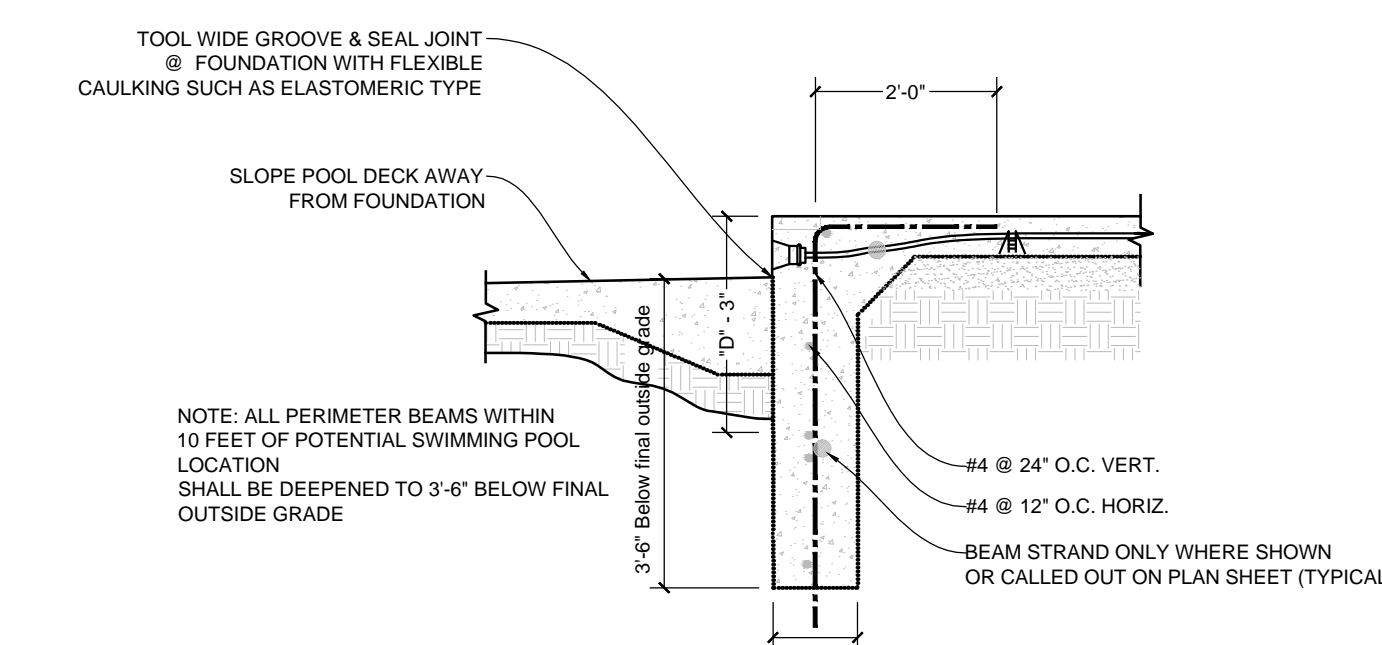
13 DETAIL



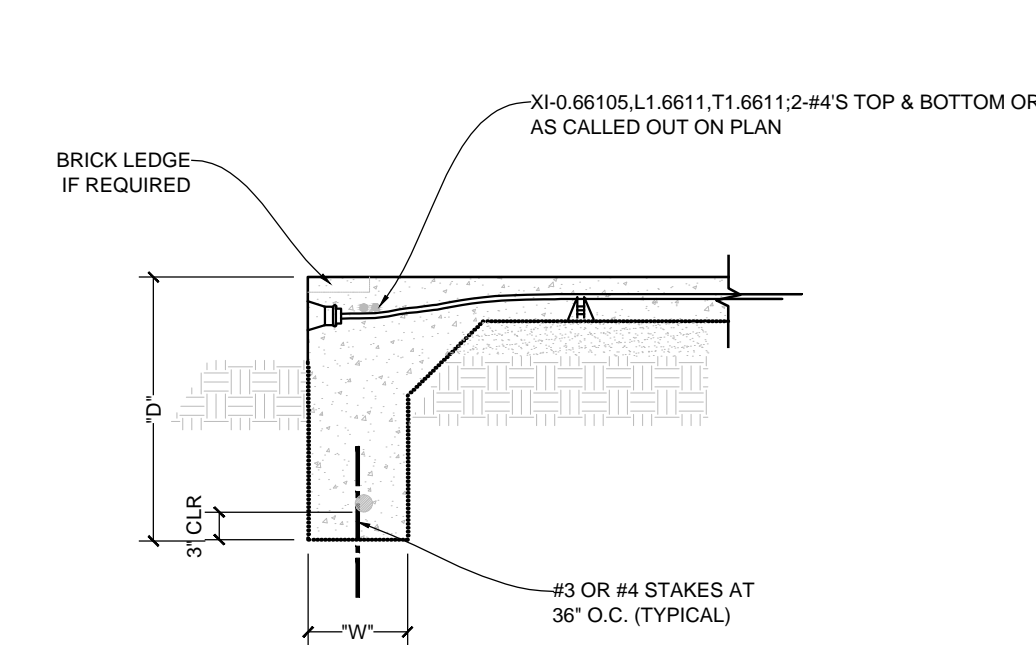
6 COLUMN FOOTING



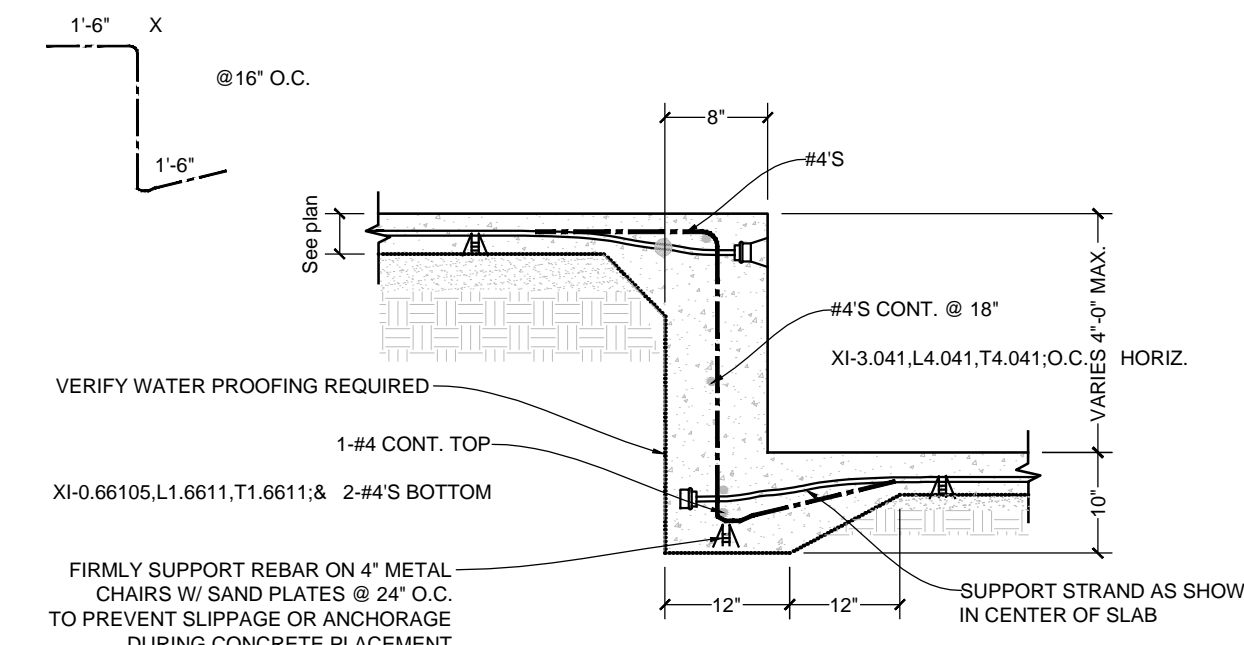
2A DETAIL



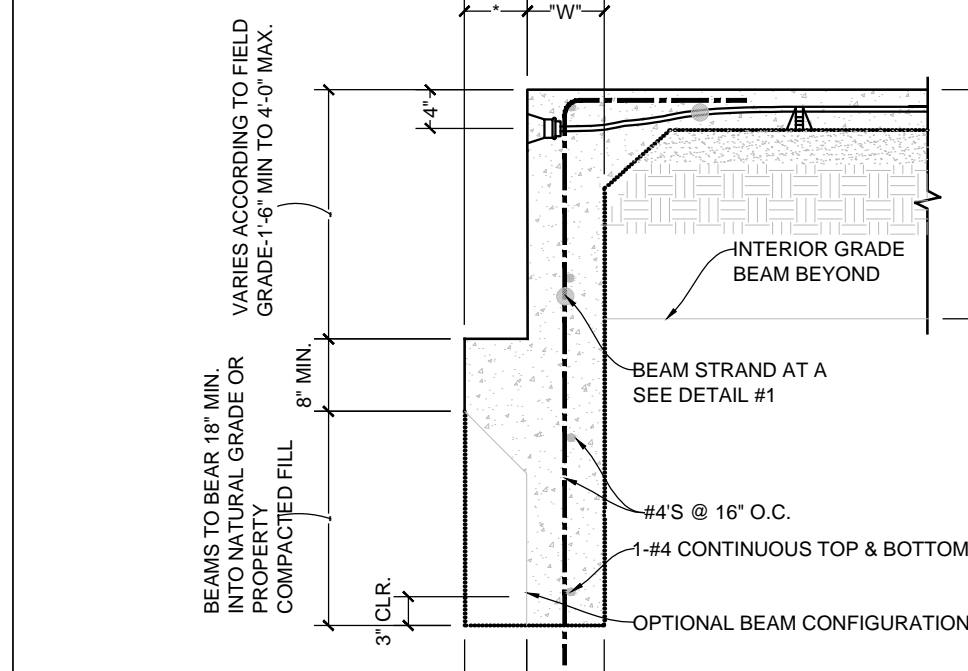
9 PERIMETER GRADE BEAM AT POOL



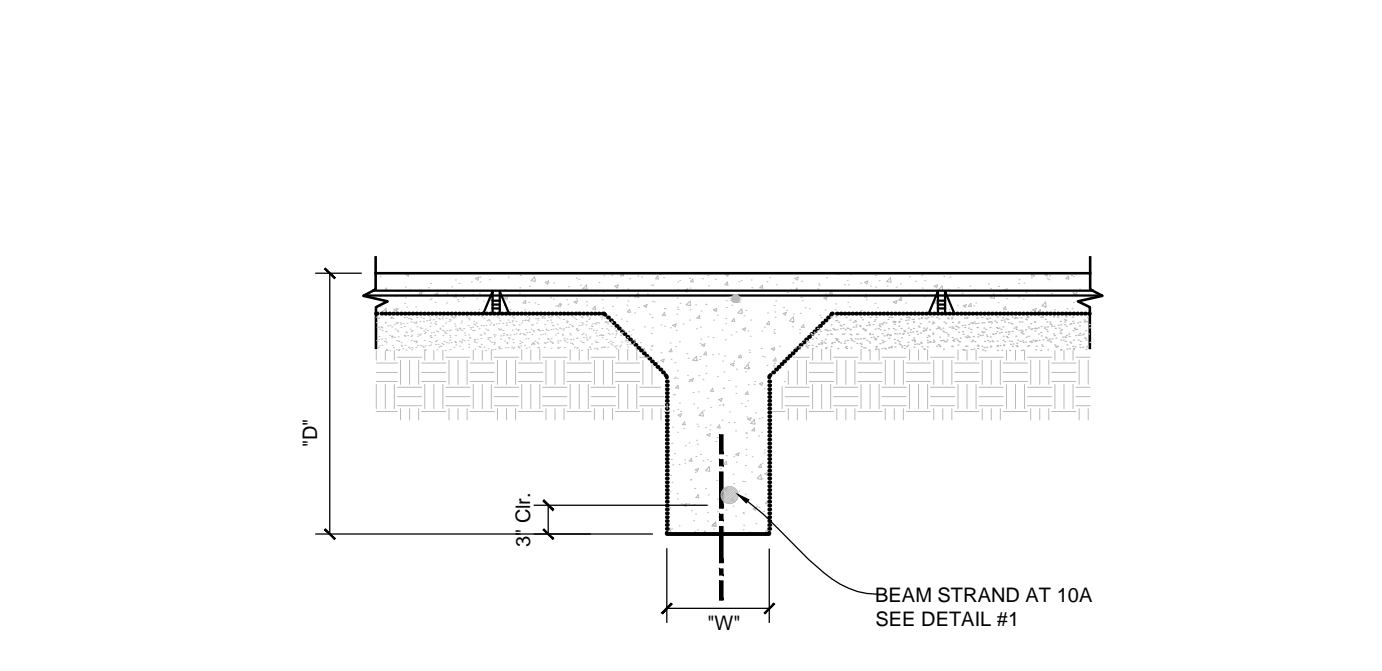
14 DETAIL



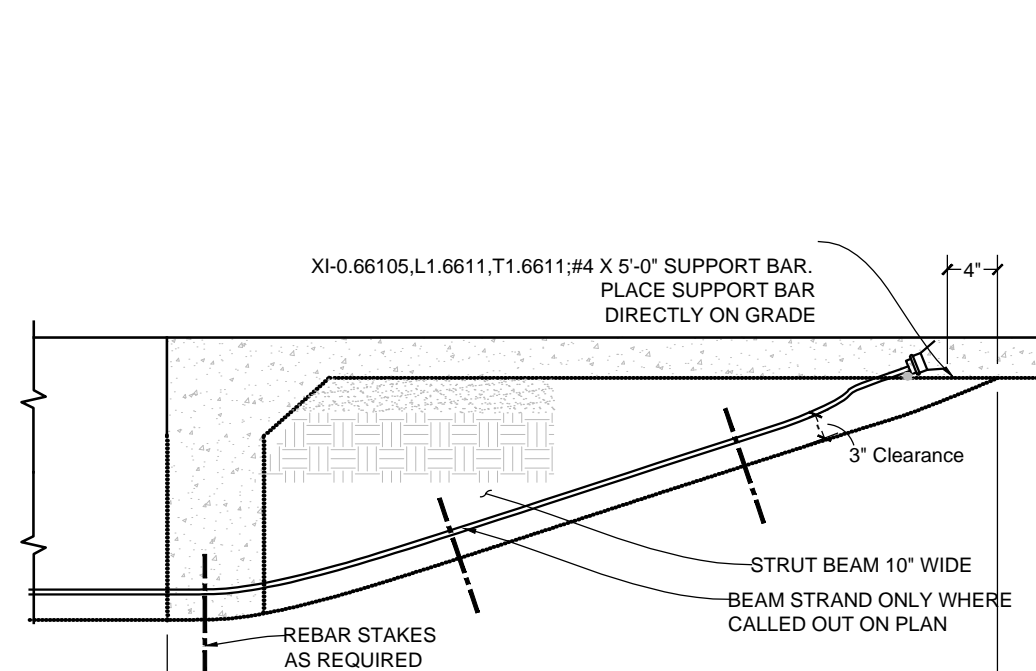
12 DETAIL



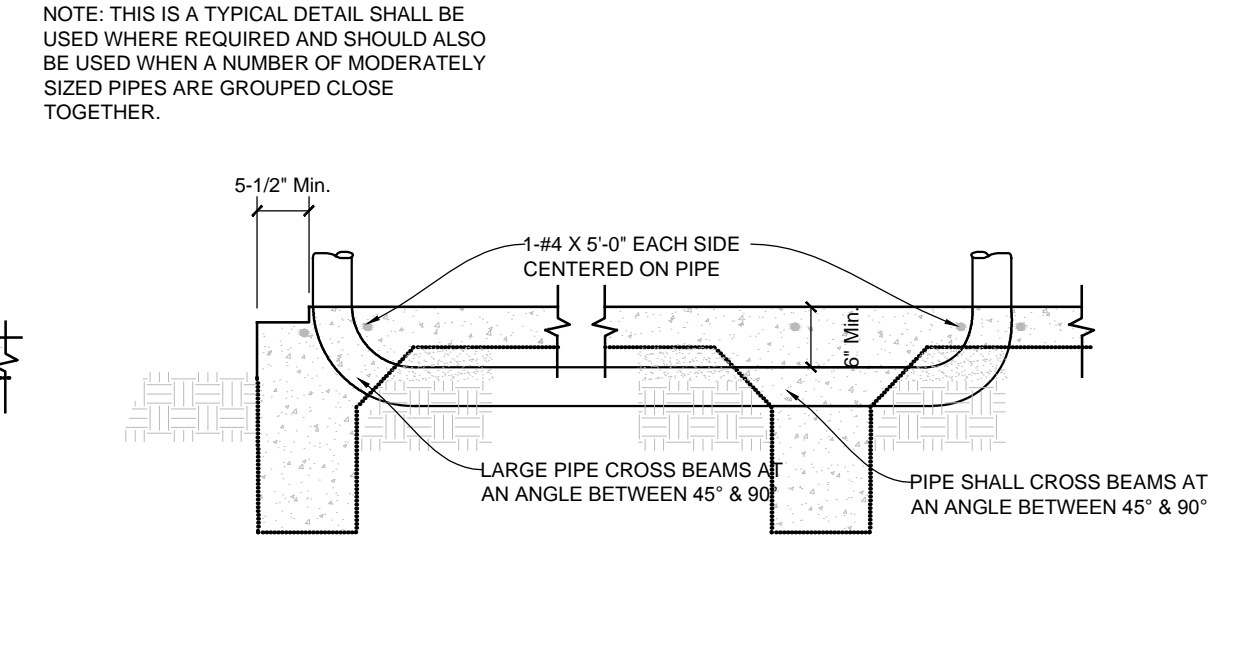
3 DETAIL



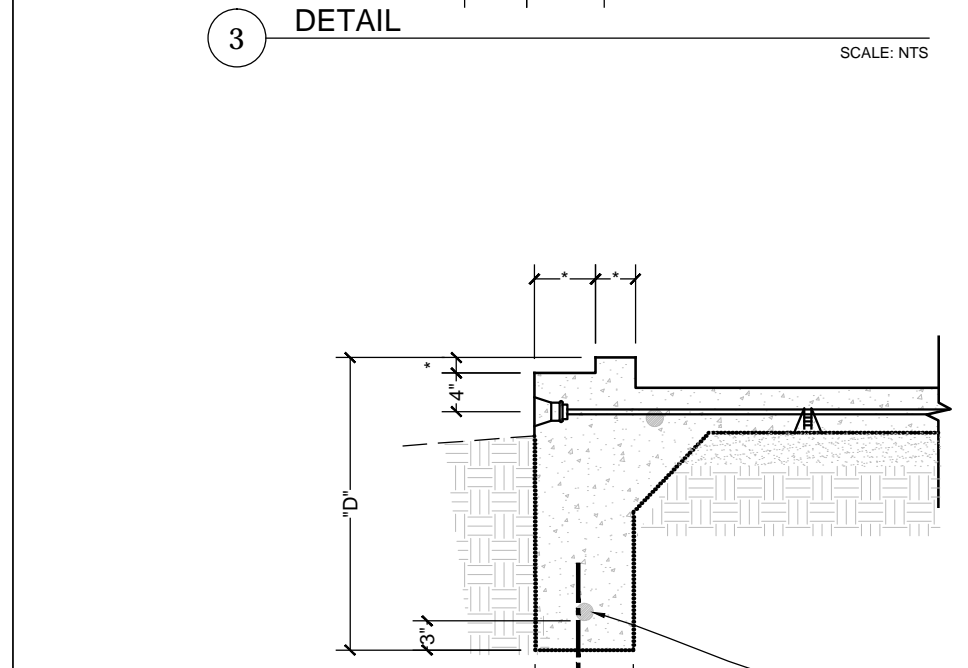
10A DETAIL



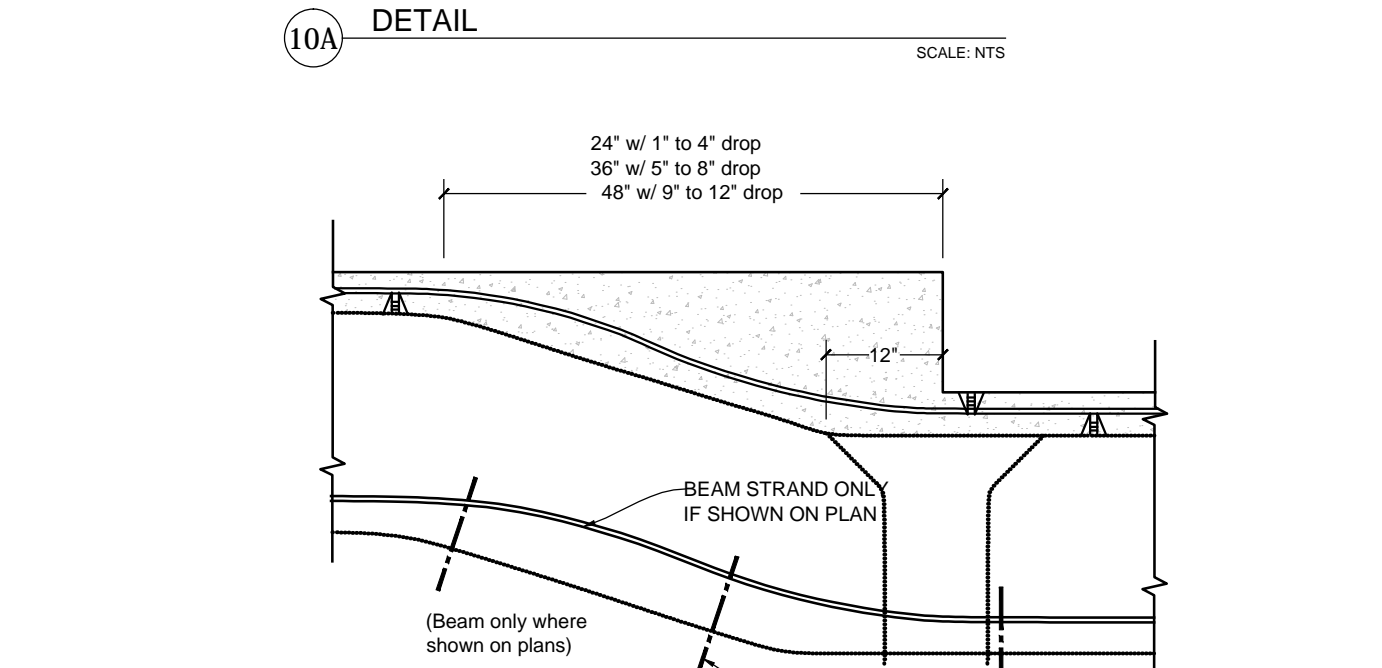
15 TYPICAL STRUT BEAM ELEVATION



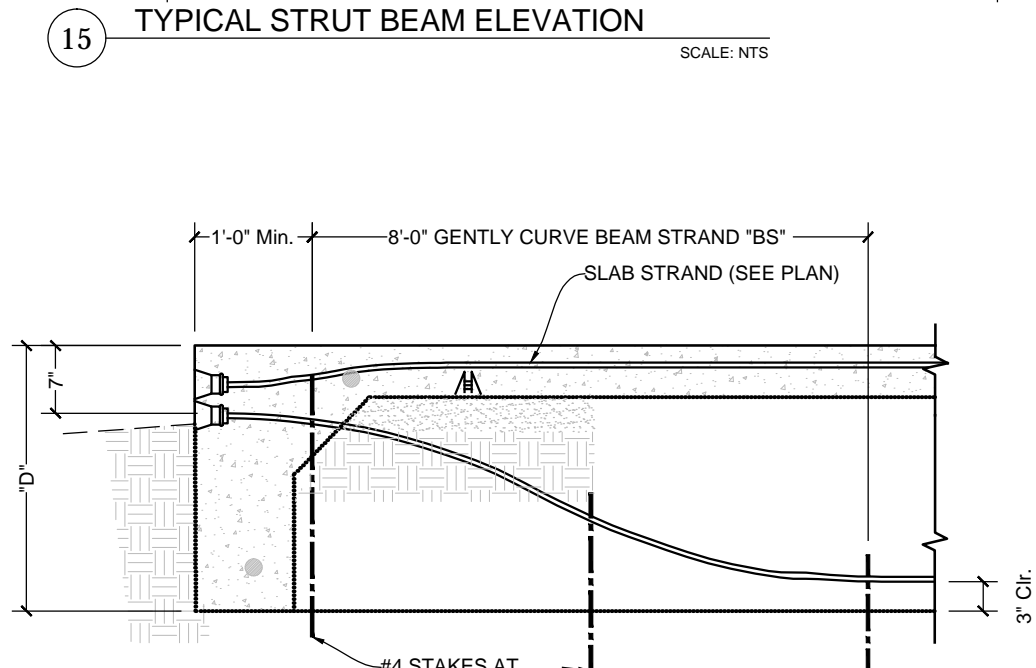
18 TYPICAL LARGE PIPE ELEVATION



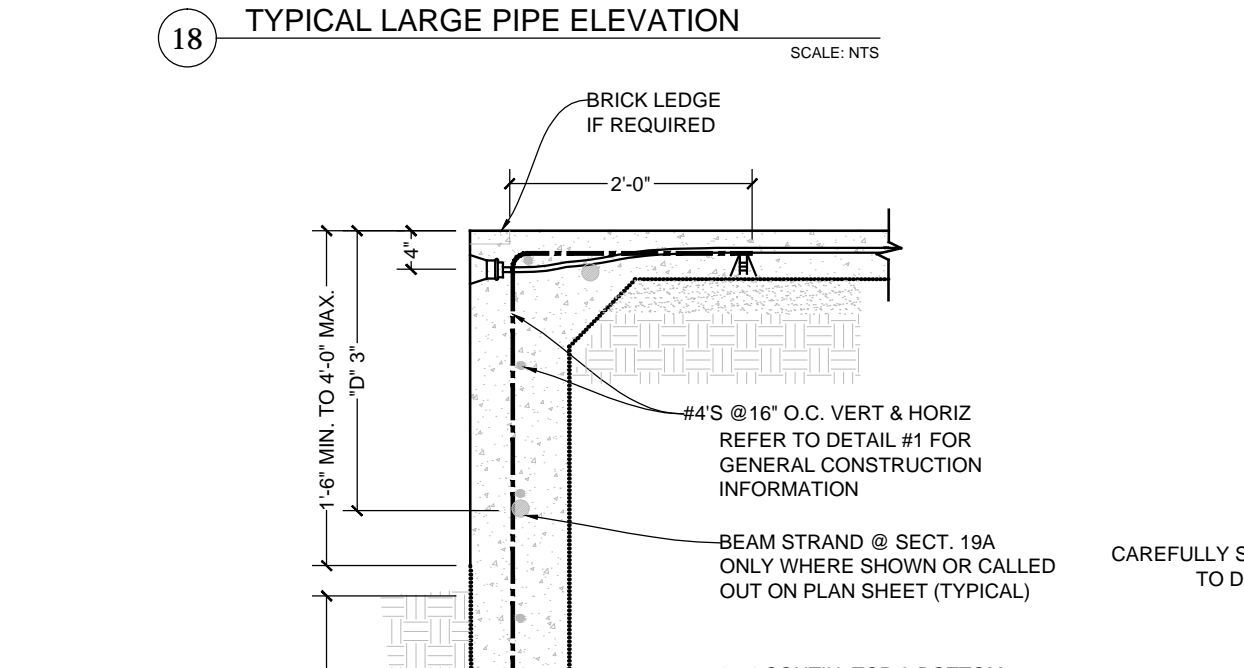
4A DETAIL



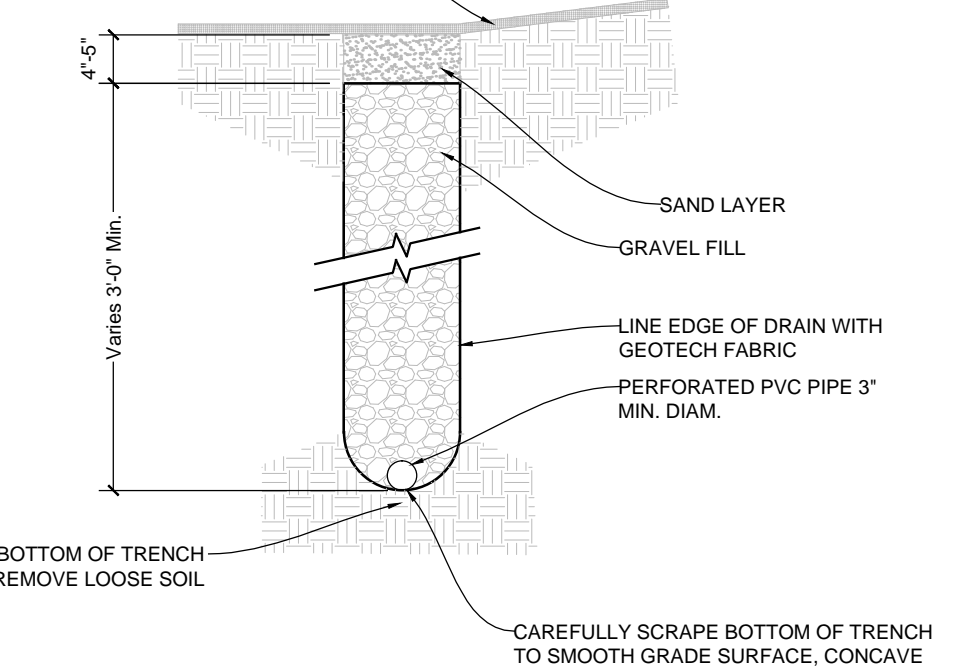
11 DETAIL



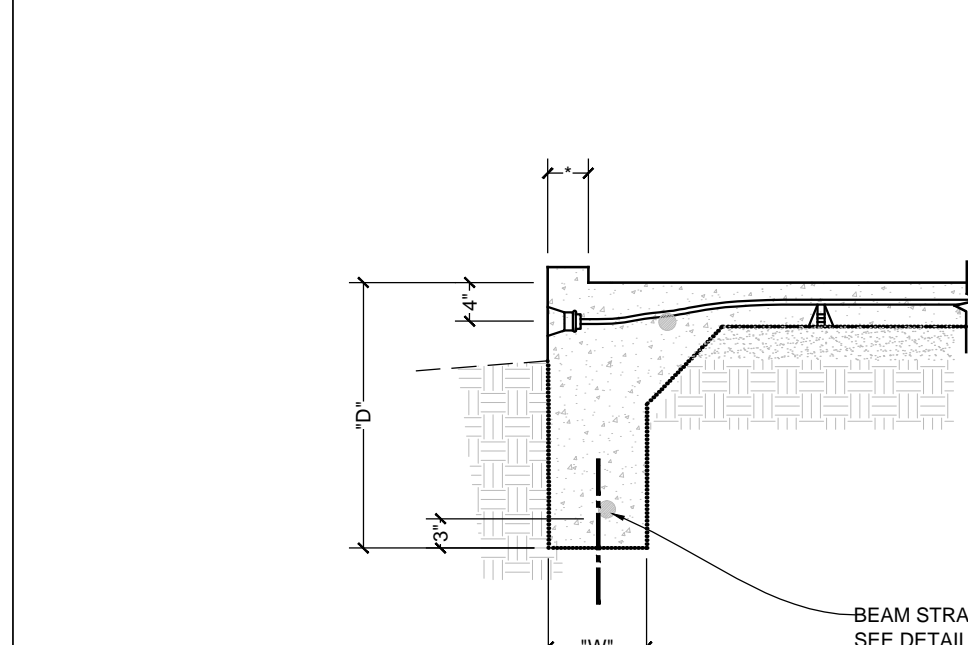
16 TYPICAL BEAM STRAND ELEVATION



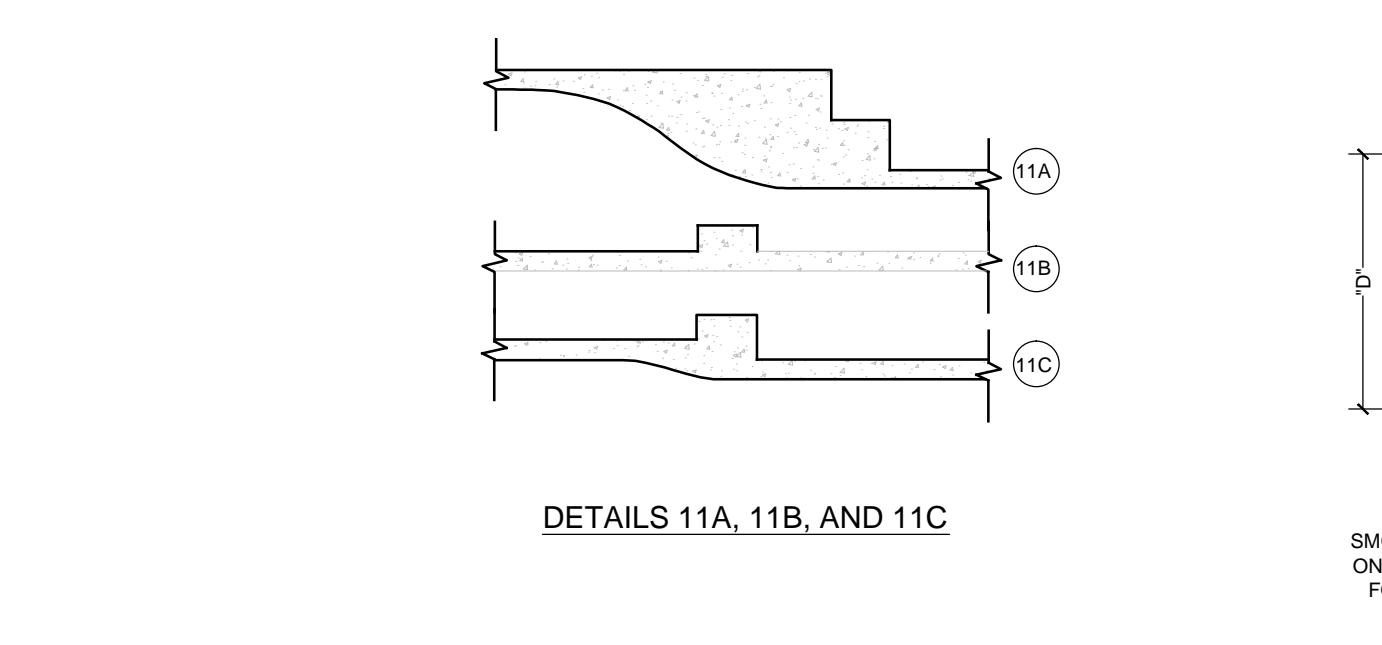
19 ALTERNATE PERIMETER GRADE BEAM



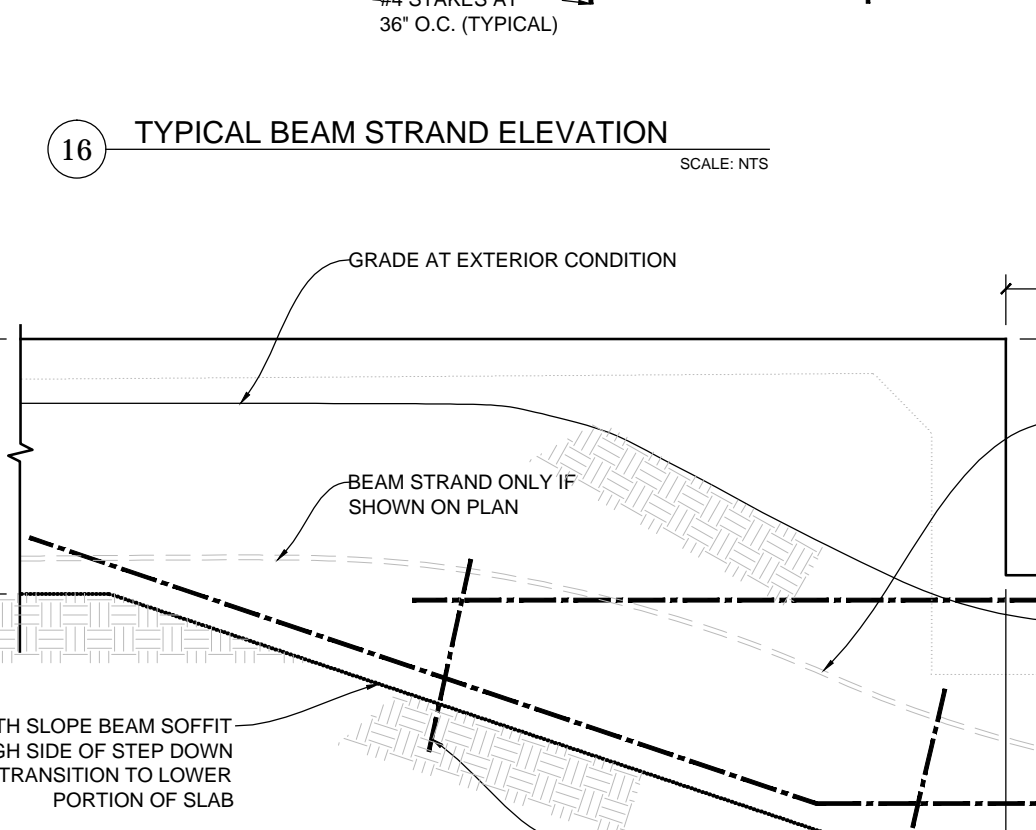
A UNDERGROUND DRAINAGE SYSTEM



5 DETAIL



DETAILS 11A, 11B, AND 11C



17 TYPICAL BEAM TRANSITION AT DROP