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PLAN NOT VALID WITHOUT ORIGINAL WET STAMP

PROJECT NAME:

PROJECT NAME

PROJECT DESCRIPTION
STREET ADDRESS
CITY, STATE

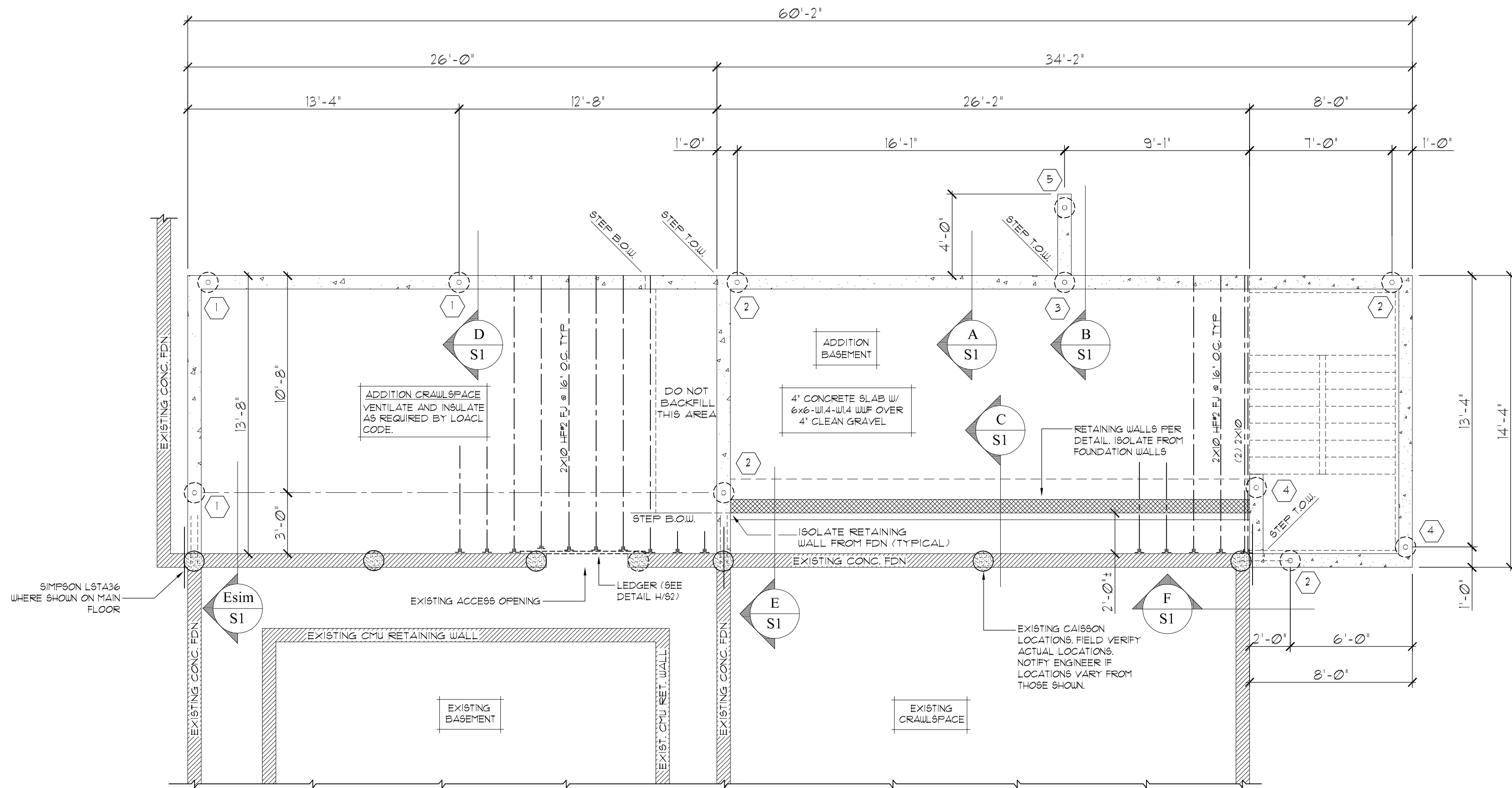
CLIENT:
YOUR COMPANY
NAME
STREET ADDRESS
CITY, STATE
Contact: Your Name
Your Number

HELICAL PILE LAYOUT & DETAILS

DESIGNED BY: MMB
DRAWN BY: MMB
CHECKED BY: HAP
PROJECT NO: RMGS

DATE: 5/2009
SCALE: AS SHOWN

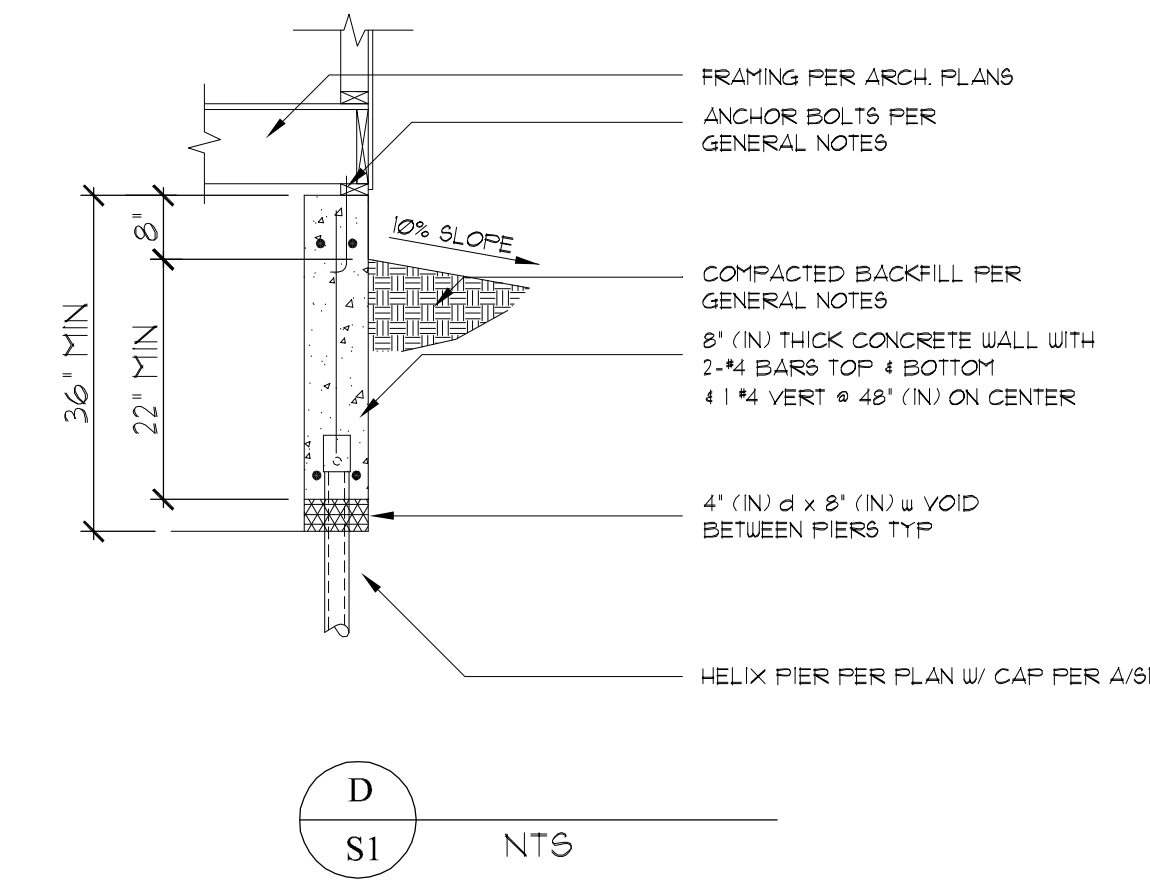
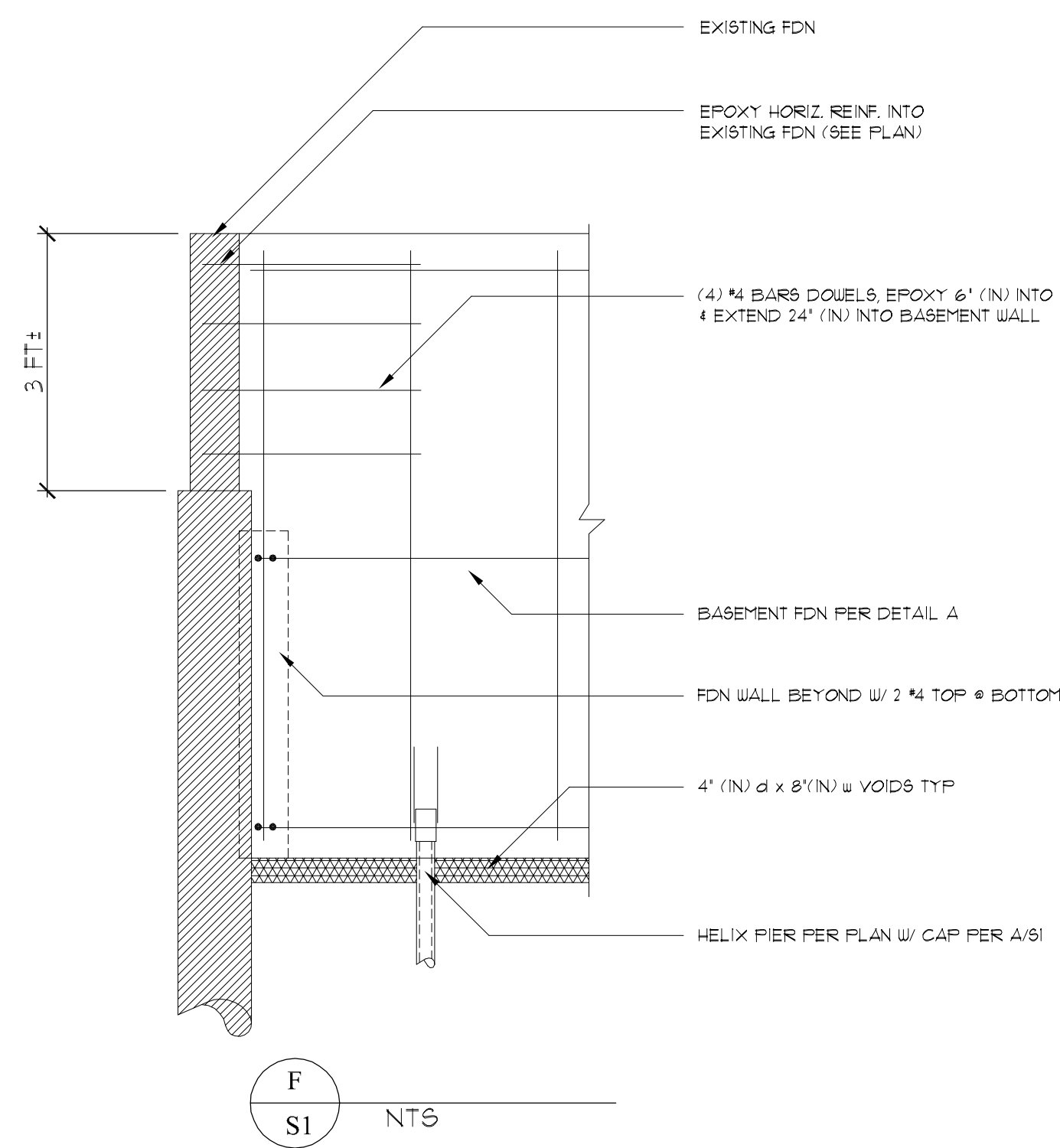
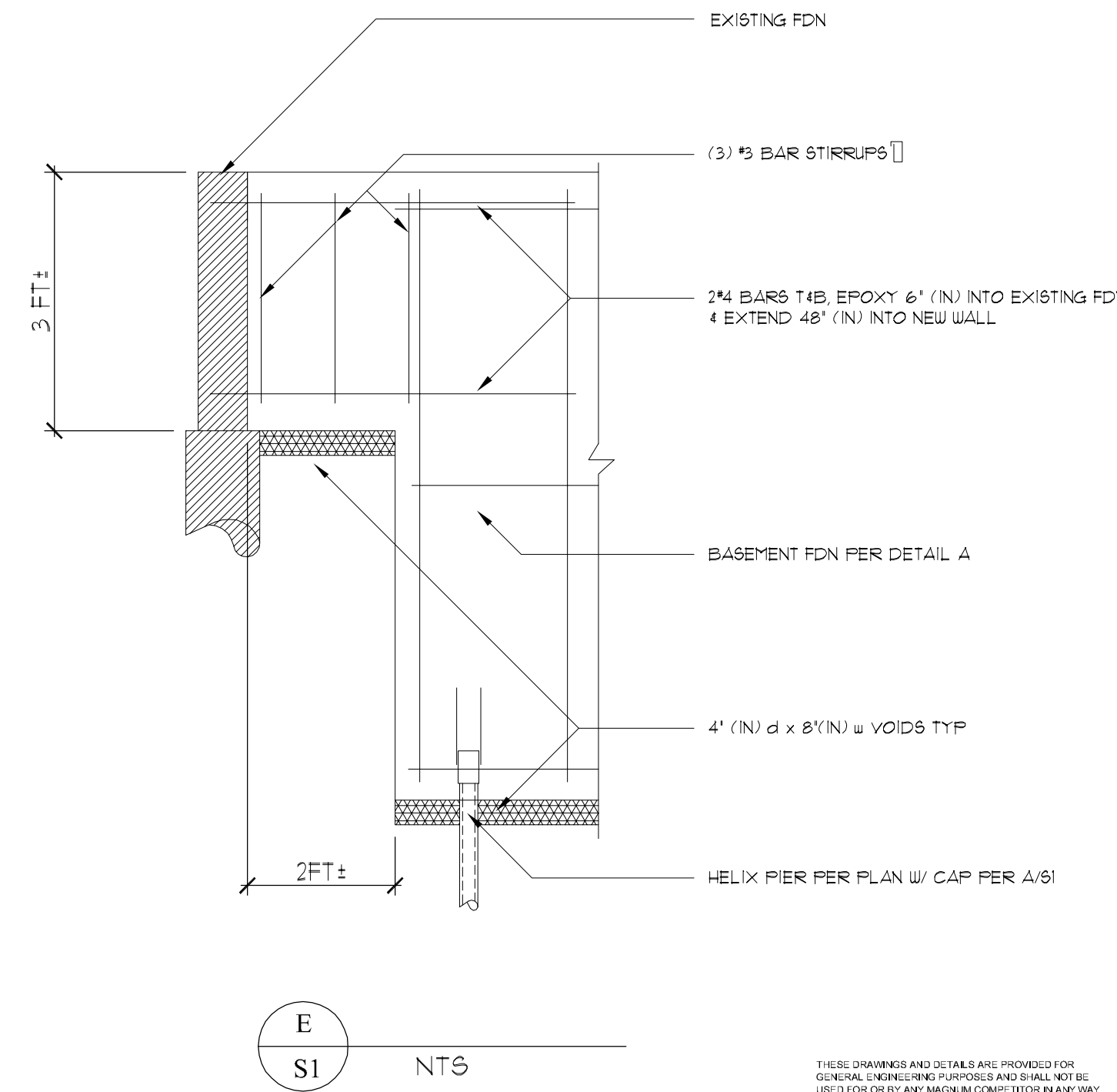
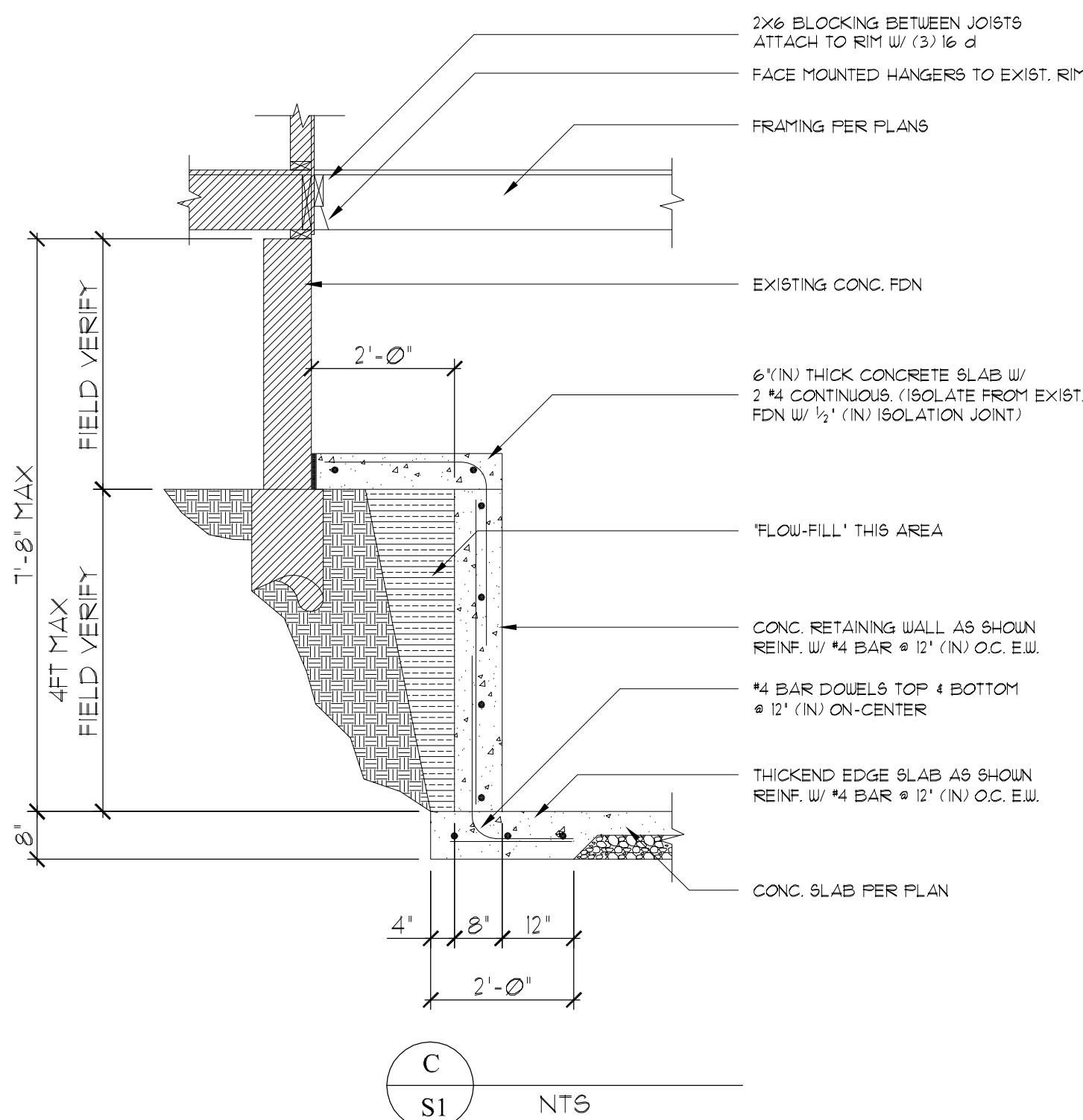
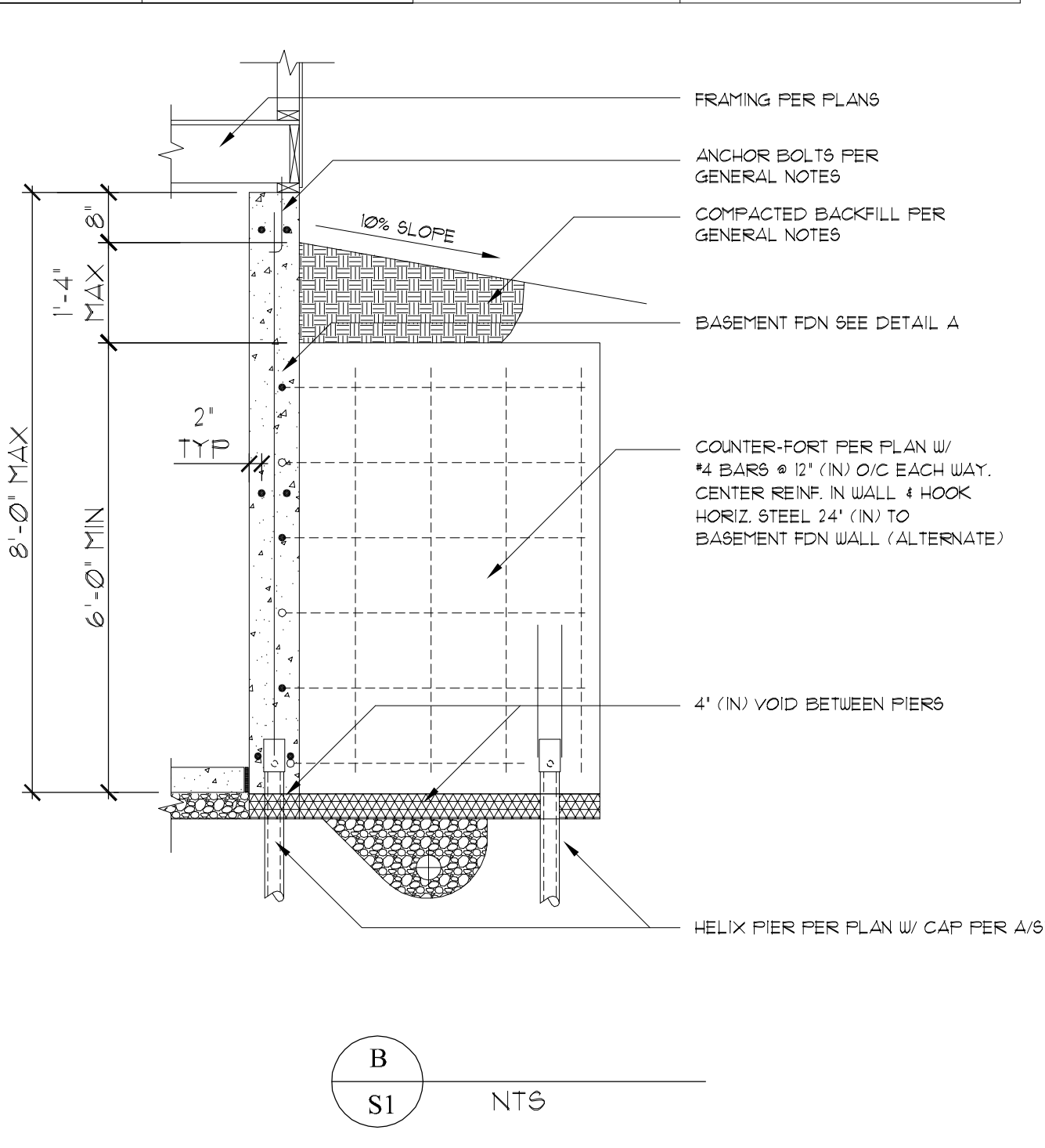
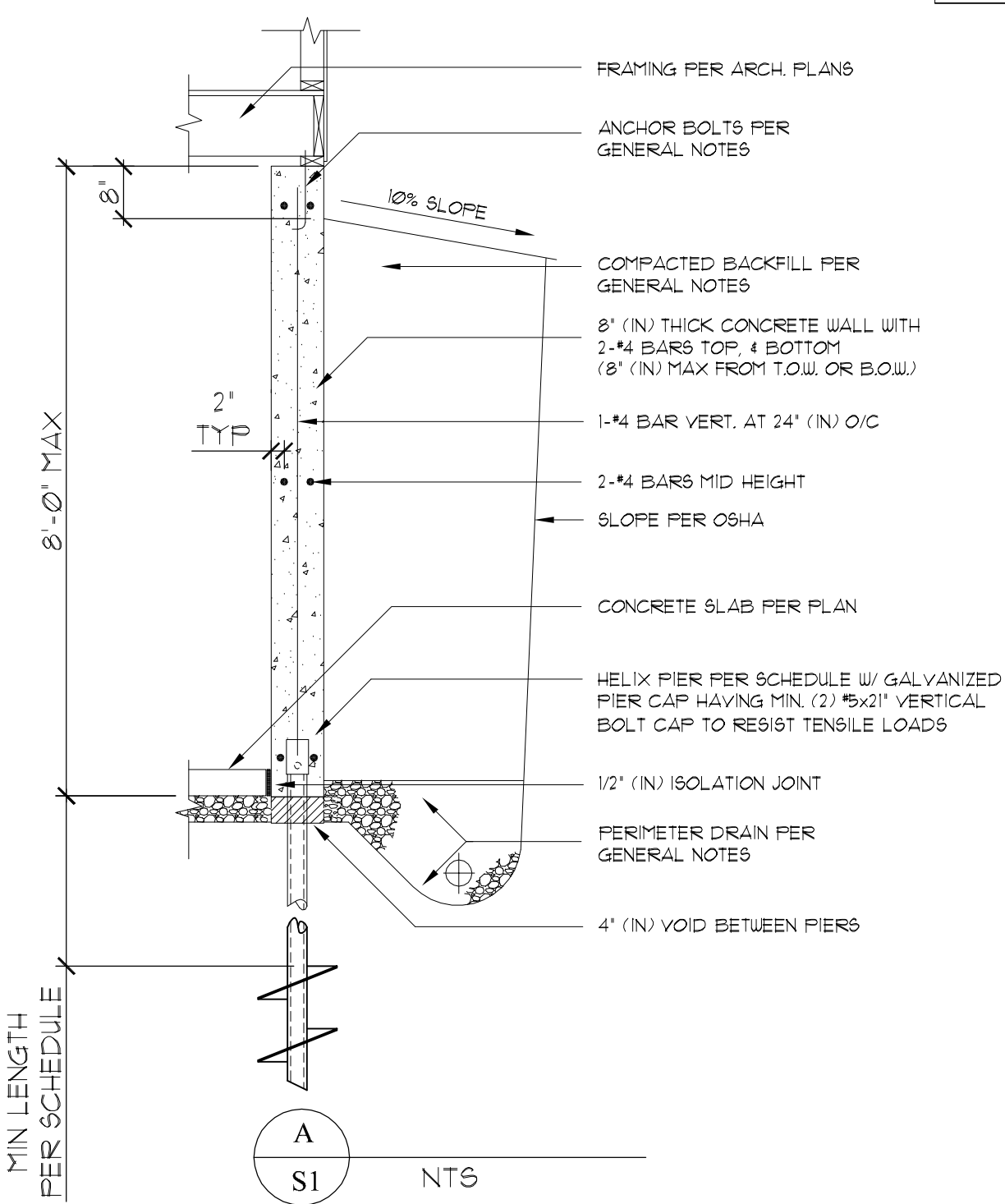
SHEET: S1



FOUNDATION PLAN

SCALE 1/4" = 1'-0"

HELIX FOUNDATION SCHEDULE				
SYMBOL	QUANTITY	CAPACITY	UPLIFT CAPACITY	MIN. LENGTH (SEE A/S1)
①	3	15 KIPS	22 KIPS	14 FT
②	4	30 KIPS	14 KIPS	9 FT
③	1	41 KIPS	14 KIPS	9 FT
④	2	15 KIPS	14 KIPS	9 FT
⑤	1	15 KIPS	22 KIPS	9 FT



General Notes:

1. Codes:

This plan was prepared based on the 2003 IRC and portions of the most recent versions of ACI 318, AISI Allowable Stress Design ninth edition, and the NDS for wood construction.

2. Loads:

This plan is based upon the following load parameters:

Roof: Live Load = 30 psf

Floor: Live Load = 40 psf

Wind: Speed = 110 mph Exposure B (3 sec)

Seismic: Zone B

Soils report by: Soils Engineering Firm

Recommended allowable bearing pressures:

Max. 15000 psf

Min. 5000 psf

3. Materials:

This plan is based upon the following material properties:

Concrete: Concrete shall contain Type II cement, 6% v/v air entrainment, and a minimum 28 day compressive strength of 3000 psi for walls and caissons, 3500 psi for slabs-on-grade, and 4000 psi for the interior structural floor.

Reinforcing: Reinforcing shall be deformed grade 60 steel unless noted otherwise (UNO) on the plan and shall conform to ASTM A615. Minimum concrete cover shall be 2" (in) UNO on the plan. Overlaps shall be 40 bar diameters but not less than 24" (in). Detail reinforcing bars in accordance to the ACI detailing manual and ACI code, latest edition. All foundation wall reinforcement should be wired in place. Slab and footing reinforcement shall utilize chairs or other acceptable methods to achieve the required cross section location.

Steel: Structural Steel beams and columns shall be A36 or better. Other misc. structural steel shape shall be A36 or better. Helical pier steel shall be per the manufacturer.

Anchor Bolts: Foundation anchor bolts shall conform to ASTM A307 and be 1/2" (in) diameter by 12" (in) long spaced at 4'-0" maximum and 12" (in) from corners and splices.

Wood: All dimensional lumber shall be Hem Fir #2 or better unless noted on the plan. All Laminated Veneer Lumber shall have an allowable Flexural Stress $F_b \geq 2600$ psi and Modulus of Elasticity of $E \geq 1.5 \times 10^6$ psi or better.

4. Soils:

SECURE recommends quality assurance observation of the installation of at least 25% of the helix piers. All other recommendations contained in the soils report pertaining to backfill, drainage, etc. should be incorporated into the design of this project. The need for and extent of foundation drains shall be determined at the open-hole inspection and shall be installed per the soils report or per the geo-technical engineers recommendations.

5. Slabs-on-grade:

A slab-on-grade if shown does not constitute a slab-on-grade recommendation for this project. Magnum does not recommend slabs-on-grade for habitable living spaces placed upon expansive soils. The type of floor construction and potential risks should be discussed between the contractor/owner and the appropriate geotechnical engineer.

Slabs-on-grade where utilized should be isolated from grade beams, columns, plumbing, or other support structures by use of 1/2" (in) minimum isolation joint material. Provide a 1/2" (in) minimum void space between all interior partitions and floor slabs. The partition void space should be monitored and maintained throughout the life of the structure. SECURE recommends any areas with slab-on-grade type construction placed upon expansive soils not be finished for a minimum of 3 years. Provide control joints at 10'-0" on center maximum. Exterior slabs such as patios, porches, driveways etc. should not be doweled to the foundation when placed over expansive soils.

6. Backfill:

SECURE recommends foundation walls not be backfilled for a minimum of eight days after placement of concrete. Prior to backfilling we recommend damp-proofing for all below grade habitable living areas as required by local code. All floor systems should be in place before backfilling against any foundation wall, or as an alternative adequately brace the foundation. Start backfilling of foundation walls at corners. Magnum recommends imported granular (non-expansive) structural fill be used for backfilling around all foundation walls and beneath all slab-on-grade areas for sites where expansive soils are prevalent. In lieu of imported granular fill the onsite soils could be used for backfill. If the material and compaction process is acceptable to the geo-technical engineer, Backfill should be adequately compacted and graded to provide adequate drainage away from the foundation. Backfill adjacent to the foundation may settle over time. The backfill must be monitored and maintained to provide adequate drainage away from the foundation.

7. Framing:

All framing shall be in accordance with the provisions of 2003 IRC. All connections or members not shown are per code or the general contractor/owner. All manufactured wood products shall be installed per the manufacturers specifications. Framing plans shown do not constitute complete gravity or lateral force restraining systems. Refer to the code for additional requirements.

Floors: Floor sheathing shall consist of 3/4" T & G glued and nailed w/ 8d nails @ 6" on-center edges, 12" on-center intermediate supports. Provide blocking at supports as required by code.

Single 2X10 FJ hangers to be Simpson U210 or equal. Double 2X10 FJ hangers to be Simpson U210-2 or equal.

Built up columns are 3-2xwall thickness HP2 or better unless noted otherwise on the plans.

Walls: All exterior wall framing shall be 12" Structural rated sheathing over 2x4 HP2 or better @ 16" on-center. Sheathing attachment shall be per the 2003 IRC.

Roof: Roof shall be 1/2" OSB, with 8d @ 6" on-center edges, 12" on-center field, over engineered trusses by others or rafters per the plan. For truss attachment and bracing refer to the truss manufacturers recommendations.

Misc: All wood in contact with concrete shall be pressure treated or redwood.

Provide solid blocking to transmit all point loads continuous to the foundation as necessary.

It is the contractors/owners responsibility to verify and coordinate all dimensions prior to construction. This plans are based on the architects plans and the above referenced specifications. Any discrepancies or changes should be brought to the attention of SECURE.

8. Drainage:

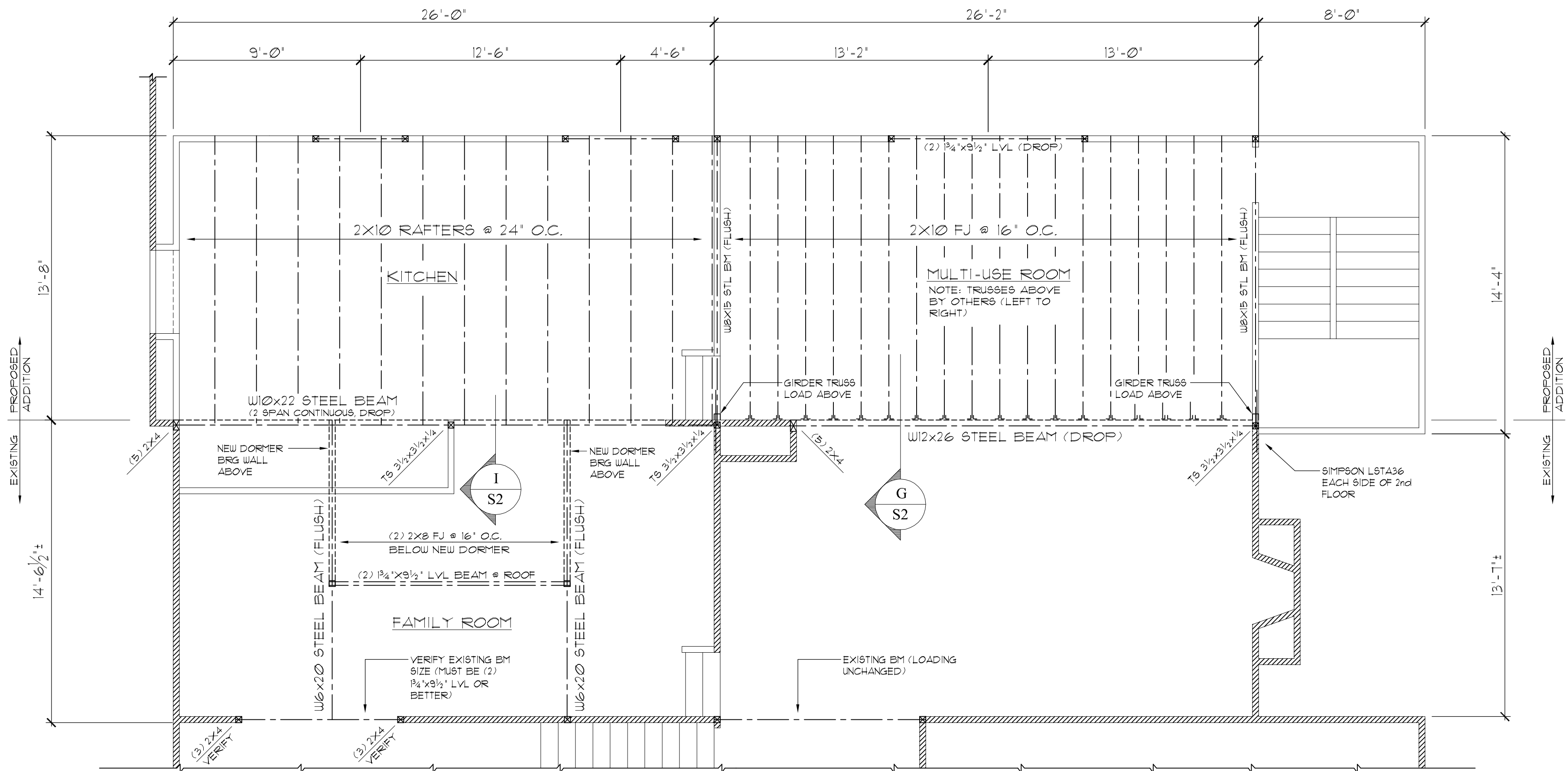
Adequate drainage shall be provided around the structure. This drainage should be monitored and maintained throughout the life of the structure. At a minimum Magnum recommends a minimum slope of 1" (in) in the first ten feet, and a minimum 2% slope from that point to the property line for landscaped areas. For all below grade habitable areas Magnum recommends a perimeter drain. The perimeter drain shall consist of a minimum of drainage fabric over 12" (in) of clean gravel over a 4" (in) perforated pipe sloped at 1/8" (in) ft minimum to daylight well beyond the foundation system or to a sump pit with pump.

9. Helix Piers

All Helix foundations piers shall be Heavy-Duty 3" O.D. with dual cutting edge blades as manufactured by Magnum Piering Inc. or equivalent. Avoid direct contact between foundation reinforcement and helix pier components. All pier components to be hot dip zinc galvanized per ASTM D3. The number and size of blades per shall be per the installation contractor so as to achieve appropriate installation torque and capacity. Installed piers and pier caps shall be capable of supporting the required bearing and uplift capacity shown on the plans. Helix pier capacity shall be verified through correlations with installation torque in the field. Helix piers are to extend a minimum of 8" into the concrete wall/grade beams above. Contractors equipment shall be capable of applying the maximum torque recommended by helix pier manufacturer for the piers specified and to provide sufficient downward pressure to maintain forward movement. Helix foundation installation should be observed by a representative from Secure Foundations and Structures, Inc. (510) 410-6255 or other geotechnical engineer to verify installation torques and minimum depth.

10. Limitations:

It is the contractors/owners responsibility to verify and coordinate all dimensions prior to construction. Brick ledges, foundation steps, insets, beam pockets, and basement windows, etc. may or may not be shown. This plan is based on the contractor/owner furnished plans and the above referenced specifications. Any discrepancies or changes should be brought to the attention of the structural engineer. We recommend a copy of "A Guide to Swelling Soils for Colorado Home Buyers and Home Owners, Colorado Geological Survey Special Publication 43 be provided to any new or future owners of this property.



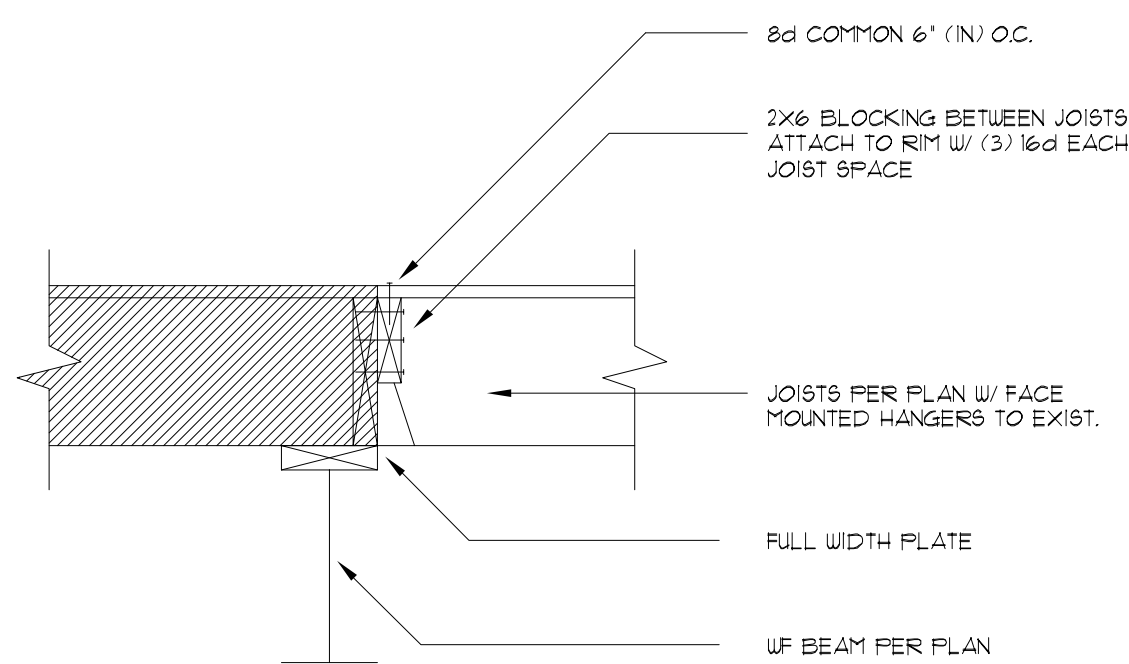
PARTIAL ROOF FRAMING & 2nd FLOOR FRAMING

SCALE 1/4" = 1'-0"

TYPICAL HEADER SCHEDULE

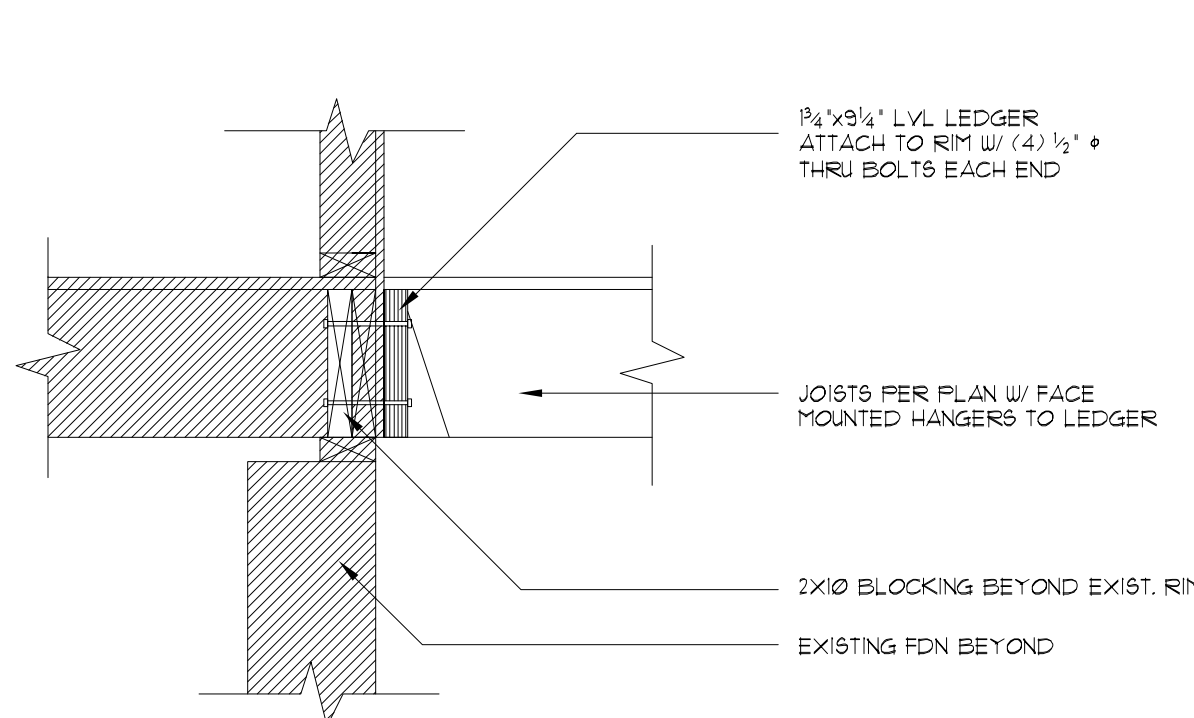
- DOOR/WINDOW OPENING: 2 FEET OR LESS
(2) - 2 x 8 w/ 1-2x TRIMMER & 1-2x SHOULDER STUD EACH SIDE.
- DOOR/WINDOW OPENING: 2 FEET TO 4 FEET
(2) - 2 x 10 w/ 1-2x TRIMMER & 1-2x SHOULDER STUD EACH SIDE.
- DOOR/WINDOW OPENING: 4 FEET TO 6 FEET
(2) - 2 x 12 w/ 2-2x TRIMMER & 1-2x SHOULDER STUD EACH SIDE.

NOTE: See the plan for larger openings. For all headers supporting Girder Truss or other point loads contact the engineer if specific size not shown on plan.



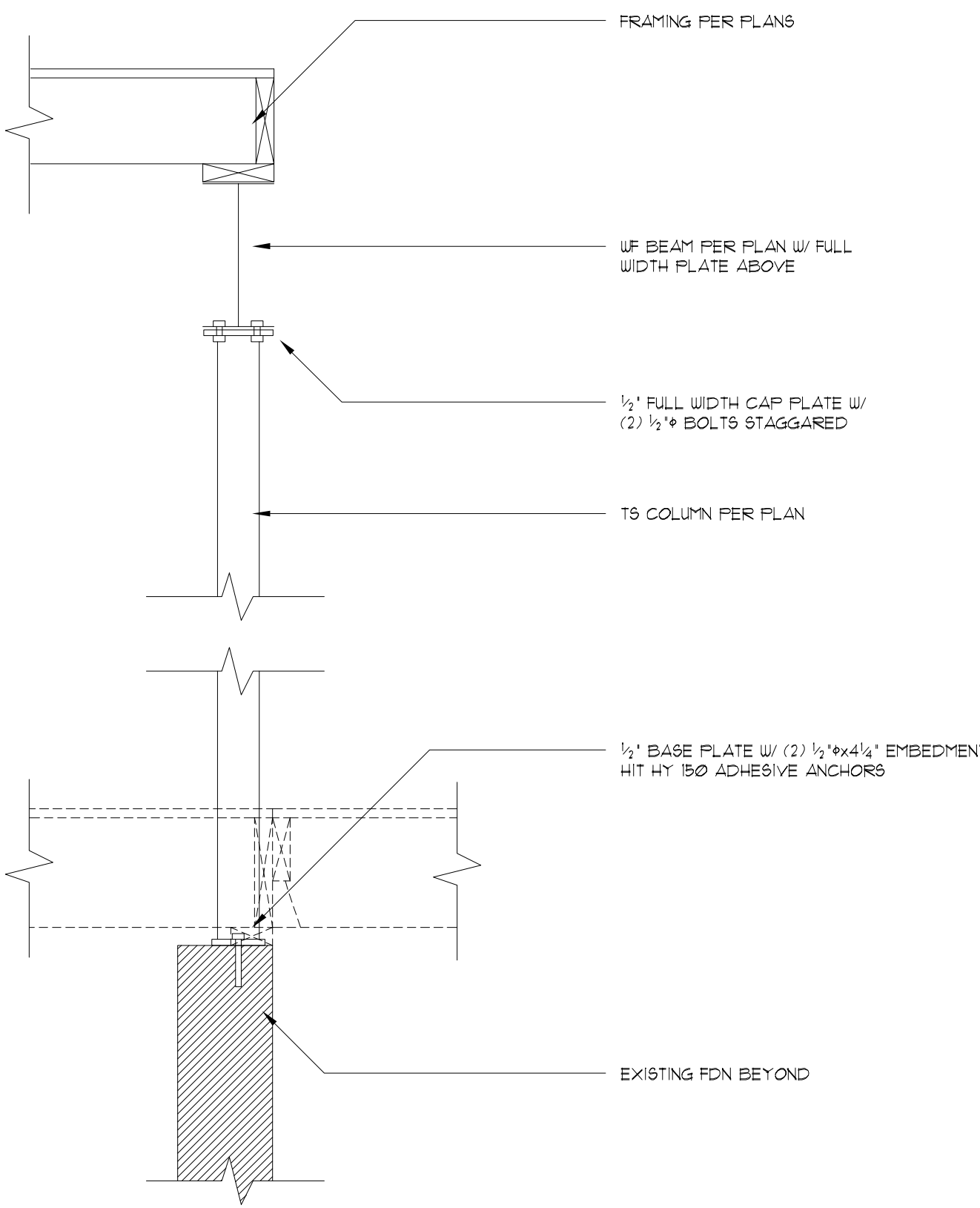
G
S2

NTS



H
S2

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I
S2

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