AJ'S BAR

GLENWOOD, MINNESOTA

CIVIL CONSTRUCTION DRAWINGS



VICINITY MAP

NTS

LEGEND

EXISTING LINE WORK

- INDICATES EXISTING MAJOR CONTOURS
- INDICATES EXISTING MINOR CONTOURS
- ST — INDICATES STORM SEWER LINE
- SN — INDICATES SANITARY SEWER LINE
- I — INDICATES UNDERGROUND WATER
- G — INDICATES UNDERGROUND GAS
- E — INDICATES UNDERGROUND ELECTRIC
- T — INDICATES UNDERGROUND TELEPHONE
- C — INDICATES UNDERGROUND CABLE
- X — INDICATES FENCE LINE
- INDICATES STORM MANHOLE
- INDICATES SANITARY MANHOLE
- INDICATES CATCH BASIN
- INDICATES WATER VALVE
- INDICATES HYDRANT
- INDICATES ELECTRIC PEDESTAL
- INDICATES TELEPHONE PEDESTAL
- INDICATES CABLE PEDESTAL
- INDICATES SIGN
- INDICATES POST/TILE INTAKE
- INDICATES ELECTRIC BOX
- INDICATES ELECTRIC BOX
- INDICATES LIGHT/POWER POLE
- INDICATES SEPTIC CLEANOUT
- INDICATES SEPTIC MANHOLE

PROPOSED LINE WORK

- 1000 — INDICATES PROPOSED CONTOUR LINE
- INDICATES SANITARY SERVICE LINE
- INDICATES SANITARY SEWER LINE
- INDICATES DRAINTILE LINE
- INDICATES STORM SEWER LINE
- INDICATES WATER MAIN LINE
- INDICATES WATER SERVICE LINE
- INDICATES SILT FENCE LINE
- ELEV — INDICATES SPOT ELEVATION
- INDICATES STORM CATCH BASIN
- INDICATES STORM SEWER CATCH BASIN
- INDICATES FLARED END SECTION
- INDICATES SANITARY/STORM CLEANOUT
- INDICATES SANITARY/STORM MANHOLE
- INDICATES NYLOPLAST CATCH BASIN
- INDICATES NYLOPLAST CLEANOUT
- INDICATES NYLOPLAST MANHOLE
- INDICATES OUTLET STRUCTURE
- INDICATES RAIN GUARDIAN STRUCTURE
- INDICATES CURB STOP & BOX
- INDICATES GATE VALVE
- INDICATES HYDRANT
- INDICATES FLOW ARROW
- INDICATES SCOUR STOP PAD
- INDICATES FILTER LOG

PROPOSED HATCHING

- INDICATES PROPOSED CONCRETE PAVEMENT, APRONS, VALLEY GUTTER, & SIDEWALK
- INDICATES PROPOSED BITUMINOUS PAVEMENT
- INDICATES PROPOSED GRAVEL SURFACING
- INDICATES TEMPORARY ROCK CONSTRUCTION ENTRANCE
- INDICATES RIP RAP OVERLAYING TYPE 4 GEOTEXTILE FABRIC
- INDICATES EROSION CONTROL BLANKET

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AJ'S BAR
GLENWOOD, MN

COVER SHEET

CIVIL SHEET INDEX

C1 - COVER SHEET
C2 - CIVIL SITE PLAN
C3 - STANDARD NOTES & SPECIFICATIONS
C4 - STANDARD DETAILS
C5 - DEMOLITION & REMOVALS PLAN
C6 - GRADING PLAN
C7 - SWPPP - STANDARD NOTES & DETAILS
C8 - SWPPP - PLAN VIEW
C9 - UTILITY PLAN

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ISSUE FOR:	ISSUE DATE:
FOUNDATION PERMIT	09-02-26

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

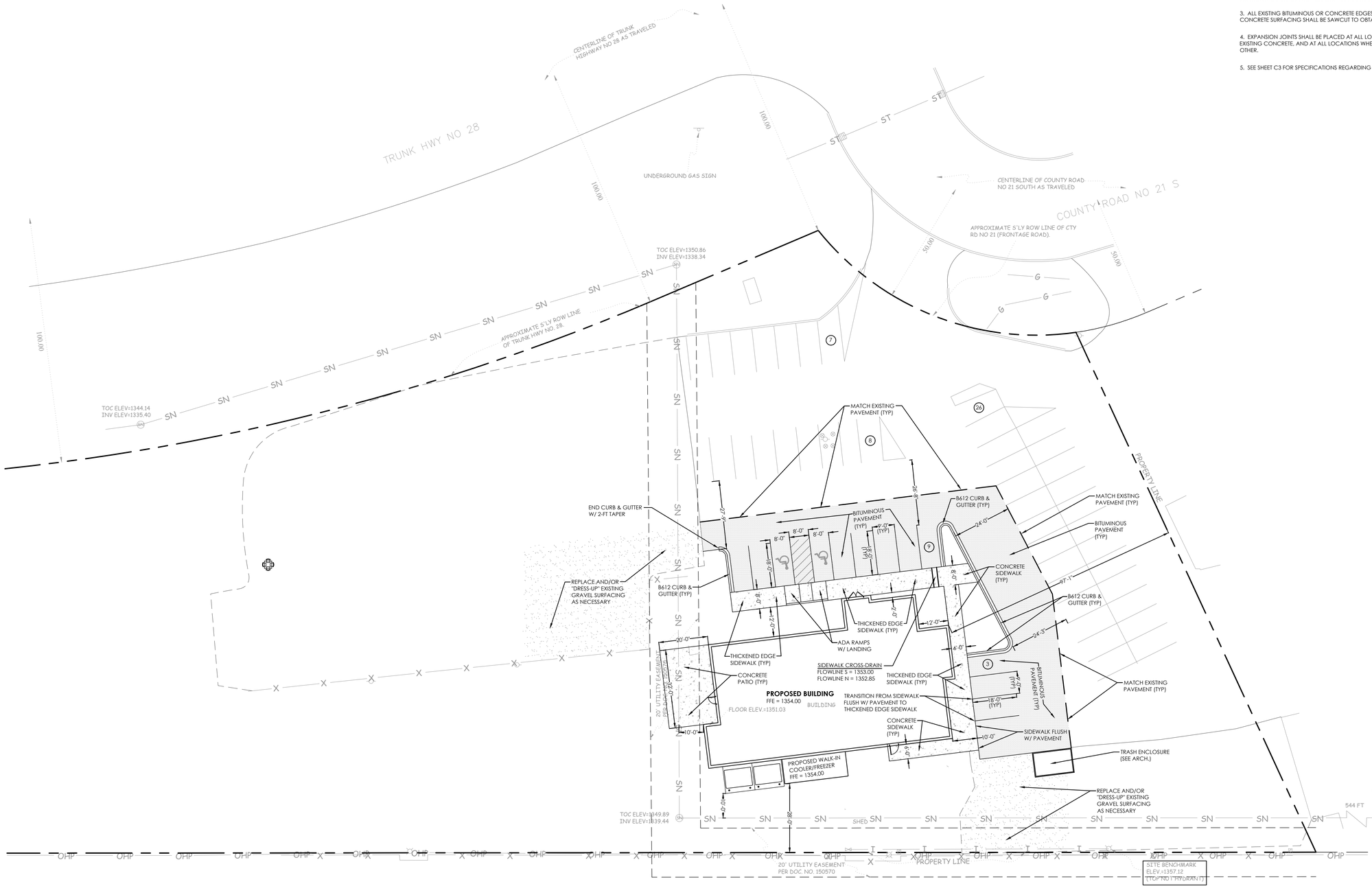
09/02/26 DATE — 43129 REG. NO.

RINGDAHL ARCHITECTS COMMISSION NO.:	2634
SCHULTZ ENGINEERING PROJECT NO.:	26038
DRAWN BY:	BJS
CHECKED BY:	BJS
DATE:	09/02/26

DRAWING NO.

C1

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PAVING & HARDSCAPE NOTES:

1. SUBGRADES SHALL BE SCARIFIED AND COMPACTED AS NECESSARY TO ATTAIN THE REQUIRED COMPACTION INDICATED IN THE GENERAL NOTES (SHEET C3). TEST ROLLING OF THE SUBGRADE SHALL BE OBSERVED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN. LOCATIONS EXHIBITING EXCESSIVE RUTTING (PER MNDOT SPEC. 2111) SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER PRIOR TO THE PLACEMENT OF AGGREGATE BASE. COMPACTION TESTING IN UTILITY TRENCHES SHALL BE PERFORMED BY AN INDEPENDENT TESTING FIRM.

2. AGGREGATE BASE AND SURFACE COURSES SHALL BE ROLLED AND COMPACTED. TEST ROLLING OF THE AGGREGATE BASE AND/OR SURFACING SHALL BE OBSERVED BY A SOILS ENGINEER TO VERIFY STABILITY. MAXIMUM ALLOWED DEFLECTION DURING TEST ROLLING OF AGGREGATE BASE OR SURFACE COURSES SHALL BE 1/2".

3. ALL EXISTING BITUMINOUS OR CONCRETE EDGES, WHICH WILL ABUT NEW BITUMINOUS OR CONCRETE SURFACING SHALL BE SAWCUT TO OBTAIN A VERTICAL EDGE.

4. EXPANSION JOINTS SHALL BE PLACED AT ALL LOCATIONS WHERE NEW CONCRETE ABUTS EXISTING CONCRETE, AND AT ALL LOCATIONS WHERE SEPARATE CONCRETE POURS ABUT EACH OTHER.

5. SEE SHEET C3 FOR SPECIFICATIONS REGARDING THE CONSTRUCTION OF HARDSCAPES

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AJ'S BAR
GLENWOOD, MN

CIVIL SITE PLAN

SCALE: 1" = 20'
0 20 40

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CHECKED BY:	BJS
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DRAWING NO.

C2

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STANDARDS AND REFERENCES

Materials and construction methods specified in the plans reference the Minnesota Department of Transportation (MNDOT) Standard Specifications for Construction. The Contractor shall review current specification sections, applicable to this plan set, from the MNDOT Standard Specifications for Construction, which can be found on MNDOT's website or via an obtained hard copy of the specifications:

MNDOT: https://www.dot.state.mn.us/pre-letting/spec/

Materials and construction methods specified in the plans, and related to site utilities, also reference the Minnesota Plumbing Code (within private sites) and the City Engineers Association of Minnesota (CEAM) Standard Specifications (within public right-of-way). The Contractor shall review current specification sections, applicable to this plan set, from the MN Plumbing Code and the CEAM Standard Specifications, which can be found on the associated websites or via obtained hard copies of the specifications:

MN Plumbing Code: https://www.dli.mn.gov/business/plumbing-contractors/2020-minnesota-plumbing-code

CEAM: https://www.ceam.org/?SEC=CEFF15C3-795B-4D3E-B660-F129069993D1

It is mandatory that the Contractor be knowledgable of the applicable standard specification sections indicated above during construction. No additional compensation will be paid to the Contractor for additional work due to unfamiliarity with the applicable specification sections.

Contractor shall refer to the geotechnical report, if any, for additional requirements and recommendations.

EARTHWORK NOTES

PROTECTION

1. The Contractor shall maintain all benchmarks, monuments, and other reference points. If any are disturbed or destroyed, they shall be replaced at the Contractor's expense.
2. The Contractor shall contact the Engineer immediately if any unknown functioning underground utilities are discovered during the course of the project, which may interfere with construction. The Contractor shall wait for instructions before proceeding.
3. The Contractor shall be responsible for any damage to functioning underground or overhead utility lines. Damaged utilities shall be repaired immediately and service restored at no additional cost to the Owner.
4. The Contractor shall provide barricades, shoring and other safety measures, as required by OSHA.
5. The Contractor shall protect all adjacent existing facilities from damage, including but not limited to, settlement due to excavations, erosion, etc. The Contractor shall be responsible for the repair of such damages.

PROJECT CONDITIONS

1. The Contractor shall become familiar with the project site, and compare actual conditions in the field with those shown on the project drawings. The Contractor shall contact the Engineer immediately if any inconsistencies are found between the existing conditions and the project drawings.
2. The Contractor shall field verify locations and elevations of existing underground utilities at proposed utility connections, proposed utility crossings, and at locations where these existing underground utilities will be affected by construction. The Contractor shall complete the field verification of these existing underground utility locations and elevations as early in the project schedule as practical.
3. No additional compensation will be allowed due to unusual conditions which could have reasonably been determined or anticipated by examination of the project site and project drawings.

PLAN GRADES

1. Elevations shown on the project drawings are finished grade elevations, unless noted otherwise. Elevations not specifically indicated shall be determined by interpolation of uniform slope between spot elevations and/or contours, or between such points and existing elevations. Adequate slope shall be constructed to provide positive drainage away from structures.
2. If inconsistencies exist on the plans between contours and spot elevations, the spot elevations shall govern.

TOPSOIL

1. Adequate imported and/or stockpiled salvageable topsoil shall be utilized for this project, such that the topsoil thicknesses specified in the plan specifications and details are provided.
2. Topsoil shall be free of clay lumps, roots, brush, large stones, and debris, and shall have a minimum organic content of 5 percent.
3. Remove topsoil to its entire depth from areas, which are to be disturbed by new construction work. Existing vegetated areas, which are not in the proposed construction area(s) shall remain in place. The Contractor shall field verify topsoil depths between any soil borings, and remove to greater depths than indicated in the soils report if such conditions are encountered. Salvaged topsoil shall be maintained in stockpiles with adequate erosion & sediment control provided.
4. Stockpiled topsoil shall only be used for finish grading of new vegetated areas. Excess topsoil shall be removed from the site by the Contractor.
5. Protect all existing vegetated areas, plantings, and other landscaping to remain in place. Any damaged areas shall be replaced at the Contractor's expense.

UNFORESEEN OBSTACLES

1. The Engineer shall be contacted immediately if any unforeseen major obstacles are encountered during excavation, such as abandoned wells, abandoned or functioning utilities, subsurface streams or rock, etc., which would add significant expense to the Contractor.
2. The Contractor shall still be responsible for completing all work required for this project where encountered conditions may be reasonably determined from a soils/geotechnical report and review of the project site and contract documents.

DEWATERING

1. Surface drainage shall be provided during construction in a manner so as not to create a nuisance to adjacent areas.
2. All excavations shall be free of water during construction within the excavations. Dewatering shall be accomplished by pumping or trenching, and shall be conducted regardless of the cause, source, or nature of the water.
3. Berms, cofferdams, piling, etc. shall be provided as necessary to protect excavations.
4. Excavations shall be sloped to drain, and necessary pumps, hoses and other equipment shall be provided to keep excavation free of water.
5. All dewatering operations shall be provided with erosion & sediment control as per the project SWPPP.
6. All temporary equipment used for dewatering shall be removed from the site when no longer necessary.

FILLING AND GRADING

1. Rough grading of all areas within the construction limits, including adjacent transition areas shall be reasonably smooth and compacted. The rough graded subgrade surface generally shall not be more than 6 inches above or below the established subgrade elevations. All ditches, swales, and gutters shall be graded to drain adequately. The subgrade shall be evenly sloped to provide drainage away from building walls in all directions at a minimum slope of 1%. The Contractor shall provide rounded transitions at top and bottom of banks and other breaks in grade.
2. Fill and backfill materials shall be inorganic soils, free of roots, rocks, boulders, and debris.
3. Bedding material or granular backfill larger than 2" in its largest dimension shall not be allowed within 2 feet of new underground pipes. Material larger than 3" in its largest dimension shall not be allowed within 1 foot of subgrade elevation.
4. Imported compacted fill material shall have a maximum of 12 percent passing the #200 sieve, by weight. The proposed imported fill material shall be tested by an independent testing lab for suitability as compacted fill for this project. The Contractor shall pay for the testing services and provide a copy of the test results to the Engineer.
5. The Contractor shall fill and grade as necessary to bring surfaces to required elevations, and provide all materials necessary, whether obtained on or off the project site.
6. The Contractor shall place compacted material in uniform horizontal lifts not exceeding 8" in depth for clay soils, and 12" in depth for sandy soils, and compact as required to achieve specified density.
7. Compaction shall be obtained with the use of vibratory rollers or rammers. During compaction, fill material shall contain moisture content, as necessary, for the required compaction as indicated by an independent testing laboratory. The moisture shall be uniform throughout each lift. If the material is too dry, water shall be added with approved equipment and methods, which will not wash out fine material. If the material is too wet, it shall be dried by harrowing, disking, blading, or other approved methods recommended by the independent testing laboratory.
8. Areas designated for pavement in excavated (cut) areas shall be scarified to a depth of 1 foot. The Contractor shall bring the subgrade material to optimum moisture content as indicated by the independent testing laboratory, and compact the subgrade to the specified density listed below for soils underneath pavements.
9. The Contractor shall not place fill material when either the fill material, or the material on which it is to be placed, is frozen. Any soft or yielding areas appearing in the fill resulting from frost, rain, or any other reason whatsoever shall be scarified, removed, recompacted and/or otherwise rectified to the satisfaction of the Engineer before any new fill is placed.

COMPACTION TESTS

1. Utility Trench Backfill: The Contractor's independent soils technician and approved testing laboratory shall perform in-place density and moisture tests at random depths in trench backfill at 100 foot intervals, or fraction thereof. Compaction of trench backfill shall be a minimum of 95% of the maximum dry density (as determined by the independent testing laboratory) in vegetated areas, and at depths greater than 3 feet below areas designated for pavement. Compaction of trench backfill at depths within 3 feet of paved surfaces shall be a minimum of 100% of the maximum dry density.
2. Compacted Fill Under Pavements: Compaction tests shall not be required beneath new pavements. Adequate compaction of materials under pavements shall be determined by test rolling the subgrade, and checking for excessive rutting. Test rolling shall be performed as per MNDOT Spec. 2111.
3. Areas exhibiting a failed compaction test or excessive rutting from test rolling shall be re-compacted and re-tested to the satisfaction of the Engineer.
4. Copies of all compaction testing and test roll observation reports shall be provided to the Engineer.
5. Optimum moisture-density relationship will be determined by testing laboratory in accordance with ASTM D698 and maximum density determination made by Method D of ASTM D698 unless otherwise noted in these specifications.

SUBGRADE PREPARATION

1. Finished subgrade elevations shall be as follows:
   a. Bituminous pavement: 9" below finished grade.
   b. Concrete pavement/apron: 12" below finished grade.
   c. Concrete sidewalk: 8" below finished grade (plus thickened edge).
   d. Pervious pavers: 12" below finished grade.
   e. Lawn areas: 4" below finished grade.
   f. Planting areas: See Landscaping Plans/Details
2. The tolerance for areas to be paved shall not exceed 0.15 feet above or below plan subgrade.
3. The Contractor shall protect newly graded areas from erosion. Settlement or washing that occurs prior to acceptance of the Work shall be repaired and grades re-established.

DISPOSAL OF EXCESS WASTE MATERIALS

1. The Contractor shall remove excess excavated material, debris, and waste materials from the Owner's property and legally dispose of it in accordance with all federal, state, and local governing codes.

SPREADING TOPSOIL AND FINISH GRADING

1. Scarify subgrade to a depth of 3" prior to placing topsoil. Spread topsoil evenly over complete subgrade as follows:
   a. Vegetated Areas on Private Property: Spread 4-inch lightly compacted layer of topsoil.
   b. Vegetated Areas within Public Right-of-Way: Per requirements of governing authority.
   c. Planting Areas: See Landscape Plan/Details
2. Finish grade accurately within 0.15 feet of the finished grades shown on the project drawings, less the thickness of any sod where it is to be installed. Slope all grades away from buildings to provide positive drainage.
3. Prepare topsoil suitable to receive seed and/or sod. Grading of areas designated for topsoil shall be reasonably smooth and even, and in accordance with MNDOT Spec. 2574.3A3. All debris and stones exceeding 3" in diameter shall be removed from the soil surface of these areas prior to seeding. Areas compacted by vehicles or storage of materials shall be plowed, disked and harrowed to match texture of other finish graded areas.
4. Grass seed shall be in accordance with MnDOT Spec. 3876, seed mix No. 25-131, applied at the rate of 220 pounds per acre or as indicated on the landscape plans. At a minimum for the purposes of erosion control, mulch shall be applied and disanchored to all seeded areas and shall meet the requirements of MnDOT Spec. 3882, Type 3 or as otherwise indicated by the Engineer.

UTILITY NOTES

STANDARD SPECIFICATIONS

1. The following standard specifications shall apply to this project:
   a. Minnesota Plumbing Code (MPC) - MN Rules Chapter 4714 (MN Dept. of Labor and Industry-MNDoLI)
   b. City Engineers Association of Minnesota (CEAM) Standard Specifications
   c. American Society for Testing Materials (ASTM)
   d. American National Standards Institute (ANSI)
   e. American Water Works Association (AWWA)
   f. Minnesota Department of Transportation "Standard Specifications for Construction" (MNDOT)
2. The Contractor shall comply with all local and State ordinances and codes
3. Certifications of all utility materials, as well as shop drawings, shall be submitted to the Engineer for review

POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS - SANITARY

1. If located more than 10-ft from buildings and more than 10-ft from a water utility crossing, polyvinyl chloride pipe and fittings shall consist of SDR 26 or SDR 35 pipe, unless noted otherwise, and meet the requirements of:
   a. Within Private Sites: ASTM D3034 as well as Table 701.2 and Section 715.1 of the MPC
   b. Within Public Right-of-Way or Public Easements: ASTM D3034 and Section 2621.2A5 of the CEAM Standard Specifications
2. All pipe and fittings shall be SDR 35 for depths of up to 20 feet, and SDR 26 for depths exceeding 20'.
2. PVC sanitary sewer pipe and fittings within 10-ft of a building, or within 10-ft of a water pipe crossing and crossing above the water pipe or below the water pipe with a separation of 12-inches or less, or when specified on the plans, shall consist of Schedule 40 PVC, and meet the requirements of ASTM D1785 and ASTM D2665, and Section 2621.2A5 of the CEAM Standard Specifications
4. Pipe joints shall meet the requirements of:
   a. Within Private Sites: Sections 705 and 715.2 of the MPC
   b. Within Public Right-of-Way or Public Easements: Section 2621.3A3 of the CEAM Standard Specifications.

DUCTILE IRON (DIP) PIPE AND FITTINGS - WATER

1. Ductile iron pipe and fittings shall meet the requirements of:
   a. Within Private Sites: AWWA C151 as well as Table 604.1 of the MPC
   b. Within Public Right-of-Way: AWWA C151 and Section 2611.2A1 of the CEAM Standard Specifications
2. Pipe joints shall meet the requirements of:
   a. Within Private Sites: Section 605.4 of the MPC. Stainless steel fasteners shall be prohibited.
   b. Within Public Right-of-Way: Section 2611.3B of the CEAM Standard Specifications. Stainless steel fasteners shall be prohibited.
3. 6" pipe shall be Class 52. 8" and larger pipe shall be Class 50.

POLYVINYL CHLORIDE (C900 PVC) PIPE AND FITTINGS - WATER

1. Polyvinyl chloride pressure pipe and fittings shall meet the requirements of:
   a. Within Private Sites: AWWA C900 as well as Table 604.1 of the MPC
   b. Within Public Right-of-Way: AWWA C900 and Section 2611.2A3 of the CEAM Standard Specifications
2. Pipe joints shall meet the requirements of:
   a. Within Private Sites: Section 605.12 of the MPC
   b. Within Public Right-of-Way: Section 2611.3B of the CEAM Standard Specifications.

GATE VALVES - WATER

1. Gate valves shall meet the requirements of:
   a. Within Private Sites: Section 606 of the MPC
   b. Within Public Right-of-Way: Sections 2611.2C and 2611.3D of the CEAM Standard Specifications

HYDRANTS - WATER

1. Hydrants shall meet the requirements of Sections 2611.2B and 2611.3D of the CEAM Standard Specifications
2. Hydrants shall be Waterous WB67, or approved equal

BLOCKING AND ANCHORING - WATER

1. Water main and/or service blocking and anchoring shall meet the requirements of Section 2611.3A4 of the CEAM Standard Specifications
2. Contractor shall provide thrust reaction blocking consisting of concrete with a minimum 28 day compressive strength of 2000 psi.
3. Place between undisturbed ground and the fitting to be anchored. Place thrust blocking so that the pipe and fitting joints are accessible for repair.
4. Mega-Lug joint restraint may be used in lieu of thrust block if allowed by local utility.

WATER SERVICE PIPE AND CURB STOPS

1. Copper tubing for water services shall meet the requirements of:
   a. Within Private Sites: ASTM B88 as well as Table 604.1 of the MPC
   b. Within Public Right-of-Way: ASTM B88 and Section 2611.2D of the CEAM Standard Specifications
2. HDPE pressure pipe for water services shall meet the requirements of:
   a. Within Private Sites: Table 604.1 of the MPC
   b. Within Public Right-of-Way: Section 2611.2D of the CEAM Standard Specifications
3. Joints and connections shall meet the requirements of:
   a. Within Private Sites: Section 605 of the MPC
   b. Within Public Right-of-Way: Section 2611.2D of the CEAM Standard Specifications.
4. Curb stops for water services shall meet the requirements of Section 2611.2D of the CEAM Standard Specifications

MANHOLES AND CATCH BASINS - SANITARY AND STORM

1. Unless otherwise noted, manhole and catch basin structures shall consist of precast concrete, and meet the requirements of:
   a. Within Private Sites: Section 719.6 of the MPC. *Per MN Plumbing Code requirements, Contractor or Owner shall obtain approval from the local administrative authority as an alternate material prior to installation, as allowed by Section 301.3 of the MCP.*
   b. Within Public Right-of-Way: Sections 2621.2C and 2621.3D of the CEAM Standard Specifications
2. Catch basins shall be provided with the following castings:
   a. Along curbline:
      i. 27" Structure: Neenah R-3075-L
      ii. 48" (or larger) Structure: Neenah R-3067-L
   b. Isolated (in paved area): Neenah R-2553
   c. Isolated (in vegetated area): Neenah R-2560-EA w/ type "C" grate
3. Manholes shall be provided with the following castings:
   a. Sanitary: Neenah R-1733 w/ concealed pick hole
   b. Storm: Neenah R-1733 lettered "STORM", center pick hole

INSTALLATION

1. Unless otherwise noted, installation of all water and sewer pipe, fittings, and appurtenances shall be as per:
   a. Within Private Sites: Minnesota Plumbing Code
   b. Within Public Right-of-Way: CEAM Standard Specifications.

TESTING REQUIREMENTS

1. Water and sewer pipe, fittings, and appurtenances shall be inspected and tested as per:
   a. Within Private Sites: Minnesota Plumbing Code
   b. Within Public Right-of-Way: CEAM Standard Specifications.

BITUMINOUS PAVEMENT NOTES

STANDARDS

1. Minnesota Standard Specifications for Highway Construction, most recent edition.

GRANULAR BASE AND SURFACE COURSES

1. Compacted thickness of finished base course: 6"
2. Process material for aggregate base shall meet the requirements of MNDOT Spec. 3138, Class 5.
3. The subgrade shall be tested and observed to the satisfaction of the Engineer prior to placement of aggregate base material. Install base material as required to accommodate new plan grades.
4. Wet base material to approximate optimum moisture content either prior to delivery to job site or as soon as practical after being placed on subgrade.
5. Place in layers not exceeding 4" thickness (loose).
6. Compact with pneumatic or vibrating steel drum rollers.
7. After base course has been graded and compacted, thoroughly wet and slush roll with roller until all aggregates are thoroughly embedded.
8. Allow base course to cure for a minimum of 72 hours prior to bituminous course application.

BITUMINOUS BASE AND SURFACE COURSES

1. Mix Designation Numbers for the bituminous mixtures on this project are per MNDOT Spec. 2360.1B
2. Pavement smoothness requirements will be waived for this project.
3. Density for the bituminous mixture on this project will be the ordinary compaction method (MNDOT 2360.3D2).
4. Bituminous Base course shall conform to MnDOT 2360, Mixture Designation SPNWB330B and shall be 1½ inches thick after compaction. Bituminous Surface course shall conform to MnDOT 2360, Mixture Designation SPWEA340B and shall be 1½ inches thick after compaction.
5. Place no asphaltic mixture when the atmospheric temperature is below 45 degrees and falling, nor should pavement be placed under wet conditions.
6. Mixing
   a. Paving mixture: Uniform mixture of course aggregate, fine aggregate, mineral filler and asphaltic material.
   b. Grading and mixing: Conform to applicable sections of the Minnesota Standard Specifications for Highway Construction, Section 2360.

CONSTRUCTION METHODS

1. Properly clean base course and deliver hot mix asphaltic concrete in clean tight vehicles with covers if necessary
2. Lay to a smooth surface without segregation of material and attain compaction as early as possible. Commence rolling while the material is hot, (minimum spread temperature 250 degrees F.) as soon as it will support the roller without undue displacement or hairline cracking and continue until a minimum of 96% of maximum has been attained, no further compression can be attained and all roller marks are eliminated.
3. The completed surface: Smooth, free of pockets that will retain water and shall not vary more than 1/16" per foot nor more than 1/4" under a 16' straight edge. Entire surface must drain. No flat areas are permitted.
4. Perform all Work in accordance with the applicable requirements of the Minnesota Standard Specifications for Highway Construction.

FIELD QUALITY CONTROL

1. Aggregate Material Testing:
   a. Granular base and/or surface courses shall be test rolled and observed by the Contractor's independent soils technician as per MNDOT 2211.3D2b (Quality Compaction Method). Once the base course has been tested to the satisfaction of the Engineer, pavement may be placed.
   b. One mechanical gradation analysis (ASTM D-422) per 500 cubic yards of base or fraction thereof.
2. Bituminous Testing:
   a. Test temperature of first truck.
   b. Ordinary compaction (MNDOT 2360.3D2)

CONCRETE PAVEMENT, CURB & GUTTER, AND SIDEWALK

STANDARDS

1. ACI 318, ACI 315, CRSI, ACI 301, latest adoptions.
2. Minnesota Standard Specifications for Construction, most recent edition

GRANULAR BASE COURSE MATERIAL

1. Compacted thickness of finished base: 6" - Concrete Pavement/Aprons
   4" - Concrete Sidewalk
2. Base material shall consist of MNDOT 3149.2B Select Granular Material.

AGGREGATES

1. Coarse: MnDOT Spec. 3137.
2. Fine: MnDOT Spec. 3126.

AIR ENTRAINING ADMIXTURES

1. ASTM C260.
2. Provide entrainment of 4 - 7 percent by volume.

OTHER ADMIXTURES

1. MnDOT Spec. 3113.
2. Calcium Chloride or materials containing chlorides or nitrates shall not be allowed.

WATER

1. Clean, fresh and potable, MnDOT Spec. 3906.

PORTLAND CEMENT

1. ASTM C150, Type I plus an approved air entraining agent, or Type IA air-entraining Portland cement.
2. MnDOT Spec. 3101.

PROPORTIONING AND DESIGN OF CONCRETE MIXES

1. Concrete Classifications & Mix Designs
   a. Curb and gutter, slip-formed concrete: MNDOT Spec. 2461, Mix Design 3F32
   b. Sidewalk, aprons, incidental concrete, manual curb & gutter: MNDOT Spec. 2461, Mix Design 3F52
   c. Concrete pavements: MNDOT Spec. 2461, Mix Design 3F52
   d. Repair concrete, fast strength concrete: MNDOT Spec. 2461, Mix Design 3HE52
2. Concrete Specifications:
   a. Mix Design 3F32: Slump = 4" to 5", 28-Day Compressive Strength = 4500 psi, % Air Entrainment = 5-8%
   b. Mix Design 3F52: Slump = 2" to 5", 28-Day Compressive Strength = 4500 psi, % Air Entrainment = 5-8%
   c. Mix Design 3HE52: Slump = 2" to 5", 28-Day Compressive Strength = 4500 psi, % Air Entrainment = 5-8%
   d. Temperatures of all concrete during placement shall be 50-deg F to 90-deg F

CONCRETE PLACEMENT

1. Place concrete as soon as possible after mixing. Place before initial set has occurred, and in no event after it has contained its water content for more than one hour.
2. Avoid overworking concrete or allowing concrete to fall unrestricted for excessive vertical distances, and other situations which can cause segregation of the aggregates.
3. Concrete pavements shall be placed in accordance with applicable portions of MnDOT 2301.
4. Sidewalks shall be placed in accordance with MnDOT 2521.
5. Curb and gutter shall be placed in accordance with MnDOT 2531.

PROTECTION

1. Provide adequate protection against rain, sleet and snow before and during placement and finishing of concrete.
2. Protect concrete from premature drying. Provide temporary covering as required. Keep concrete continuously moist for 7 days.
3. Treat concrete with membrane curing compound in accordance with MnDOT 2531.3G.

COLD WEATHER CONCRETE

1. Do not place concrete when the atmospheric temperature is below 40 degrees F., or when the concrete is likely to be subjected to freezing temperatures within 24 hours after it has been deposited, unless adequate temporary heating is provided.
2. Maintain concrete temperature of 40 to 90 degrees F. for 3 days. Protect from freezing for the following 5 days.
3. No frozen materials may be used in the concrete. Chemicals may not be used to prevent freezing unless approved by the Engineer.
4. Perform all cold weather Concrete placement in accordance with ACI 306.

HOT WEATHER CONCRETE

1. Do not place concrete when the atmospheric temperature is above 100 degrees F.
2. Maintain concrete temperature of 40 to 90 degrees F. for 3 days. Protect from temperatures over 90 degrees for the following 5 days.
3. Thoroughly wet dry porous surfaces before placing concrete.
4. Water reducing admixtures with retarding properties are required for all concrete placed when the temperature exceeds 80 degrees F.
5. Perform all hot weather concrete placement in accordance with ACI 305.

FINISHING

1) Provide a broomed finish on exterior sidewalks and ramps unless noted otherwise.

QUALITY CONTROL

1. The Contractor shall hire an independent testing firm to provide the following tests:
   a. The independent testing technician shall perform random field testing of the fresh concrete including slump, air content, and temperature. (ASTM C143, C173, C231 and C138). One series of the aforementioned tests shall be performed on the first load of concrete. Random testing of slump, air content, and temperature shall be completed on several of the remaining concrete loads to ensure that the associated range requirements are being met for the overall concrete placement.
   b. The independent testing technician shall cast a set of four compression test cylinders for the first load of concrete as well as 1 set for every 100 cubic yards, or fraction thereof, of concrete thereafter. Compression tests shall be performed on one test cylinder at 7 days and two test cylinders at 28 days. The fourth test cylinder shall be retained in the event of failing compression tests on the 28-day test cylinders.

PAINTED LINES

1. Special marking paint compound especially for striping bituminous and/or concrete paving in one coat.
2. Manufacturers: Pratt & Lambert, Inc.; Sherwin Williams Co. or DuPont Co.
3. Colors: Use white paint for concrete and bituminous pavements.
4. All surfaces to be painted must be thoroughly clean and dry.
5. Lay out painted lines with chalk on pavement in accordance with Project Drawings.
6. Accurately apply paint to the chalk marks, using striping machines - 4" wide stripes.
7. Apply paint in strict accordance with the manufacturer's directions.
8. Protect all paint from damage by traffic until dry.
9. Apply handicap logo at handicap stall.

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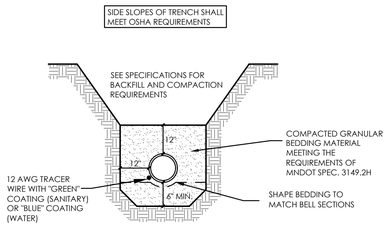
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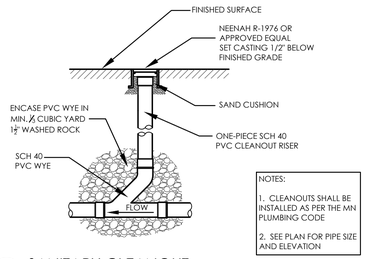
C3

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1 PIPE BEDDING DETAIL

NTS

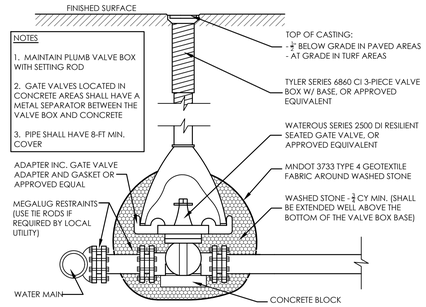


NOTES:

1. CLEANOUTS SHALL BE INSTALLED AS PER THE MN PLUMBING CODE
2. SEE PLAN FOR PIPE SIZE AND ELEVATION

2 SANITARY CLEANOUT

NTS

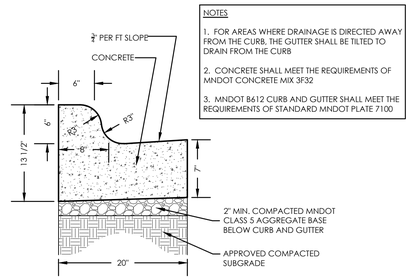


NOTES

1. MAINTAIN PLUMB VALVE BOX WITH SETTING ROD
2. GATE VALVES LOCATED IN CONCRETE AREAS SHALL HAVE A METAL SEPARATOR BETWEEN THE VALVE BOX AND CONCRETE
3. PIPE SHALL HAVE 8-FT MIN. COVER

3 GATE VALVE & BOX

NTS

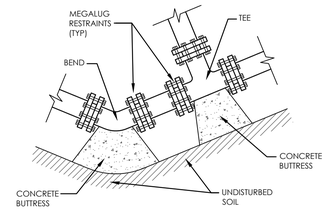


NOTES

1. FOR AREAS WHERE DRAINAGE IS DIRECTED AWAY FROM THE CURB, THE GUTTER SHALL BE TILTED TO DRAIN FROM THE CURB
2. CONCRETE SHALL MEET THE REQUIREMENTS OF MNDOT CONCRETE MIX 3F32
3. MNDOT B612 CURB AND GUTTER SHALL MEET THE REQUIREMENTS OF STANDARD MNDOT PLATE 7100

4 CURB & GUTTER (MNDOT B612)

NTS



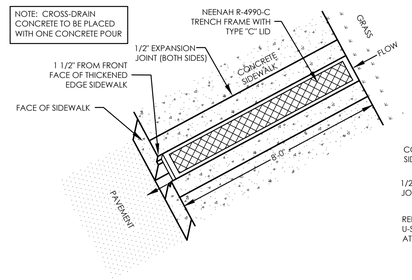
MINIMUM CONCRETE BUTTRESS SURFACE AREA (SF)				
PIPE SIZE	TEE OR PLUG	90° BEND	45° BEND	22½° BEND
6"	2.9	3.1	1.6	0.8
8"	3.7	5.3	2.9	1.4
10"	5.7	8.1	4.4	2.2
12"	8.1	13.4	6.6	3.2
16"	15.1	21.4	11.6	5.9
20"	23.2	30.2	18.1	9.3
24"	33.6	48.5	26.1	13.3

NOTES

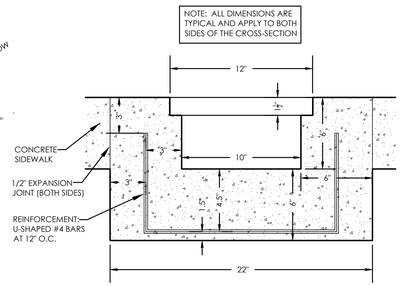
1. PLACE A PLASTIC COVERING OVER FITTINGS PRIOR TO POURING CONCRETE BUTTRESSES
2. CONCRETE BUTTRESSES SHALL BE POURED AGAINST FIRM, UNDISTURBED SOILS, AND SHALL BE FORMED SO THAT JOINTS WILL BE KEPT FREE OF CONCRETE AND REMAIN ACCESSIBLE FOR REPAIRS
3. ALL FITTINGS (EXCEPT CROSSES) SHALL BE PROVIDED WITH CONCRETE BUTTRESS THRUST BLOCKING
4. CONCRETE MIX SHALL MEET THE REQUIREMENTS OF MNDOT CONCRETE MIX 3Y43
5. USE TIE RODS IN LIEU OF MEGALUGS, IF REQUIRED BY LOCAL UTILITY.
6. MEGALUG RESTRAINTS SHALL BE PROVIDED AT ALL JOINTS WITHIN 20 FT OF ALL FITTINGS (EXCEPT CROSSES)

5 THRUST BLOCKING

NTS



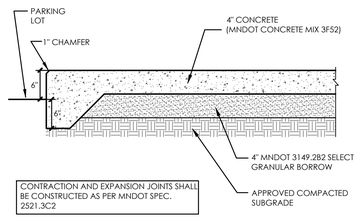
PLAN VIEW



PROFILE VIEW

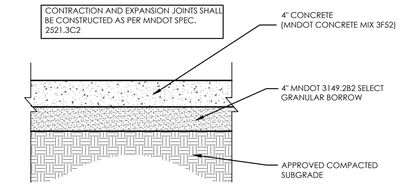
6 SIDEWALK CROSS-DRAIN

NTS



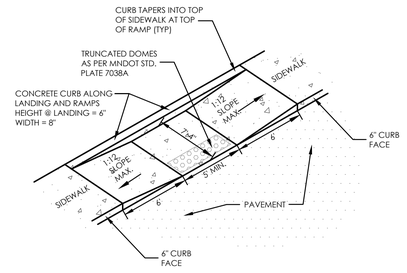
7 THICKENED EDGE SIDEWALK SECTION

NTS



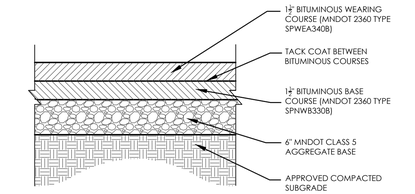
8 CONCRETE SIDEWALK/PATIO SECTION

NTS



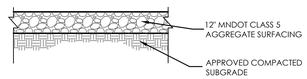
9 PEDESTRIAN ADA RAMPS W/ LANDING

NTS



10 BITUMINOUS PAVEMENT SECTION

NTS



11 GRAVEL SURFACING

NTS

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DEMOLITION AND REMOVAL NOTES:

1. DURING ALL DEMOLITION OPERATIONS THE CONTRACTOR SHALL BE CAREFUL SO AS TO NOT DAMAGE EXISTING BUILDINGS, PAVEMENT/HARDSCAPES, OR UTILITIES (IE: MANHOLES, GATE VALVE, ETC.) DESIGNATED TO REMAIN. THE CONTRACTOR SHALL COORDINATE DEMOLITION AND REMOVAL OPERATIONS WITH THE OWNER, AND SHALL CONTACT GOPHER STATE ONE CALL (800) 252-1166 FOR A UTILITY LOCATE. ANY BUILDINGS, PAVEMENT/ HARDSCAPE, OR UTILITIES, DESIGNATED TO REMAIN, THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

2. ALL BITUMINOUS AND CONCRETE MATERIAL DESIGNATED FOR DEMOLITION SHALL BE REMOVED AND DISPOSED OF OFF-SITE PER FEDERAL, STATE AND LOCAL REQUIREMENTS.

3. EXISTING PAVEMENT AND/OR SIDEWALK AT DEMOLITION LIMITS SHALL BE SAWCUT WITH AN APPROPRIATE SAW TO OBTAIN A STRAIGHT VERTICAL EDGE.

4. EXISTING VEGETATED AREAS, NOT DESIGNATED FOR DISTURBANCE, WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RE-GRADED, SEEDED, AND MULCHED. THE MULCH SHALL BE DISANCHORED.

5. TREES LOCATED IN THE PROPOSED CONSTRUCTION AREA SHALL BE REMOVED. VERIFY EXTENT OF TREE REMOVAL WITH OWNER.

6. COORDINATE ALL NECESSARY RELOCATION AND/OR ADJUSTMENTS OF EXISTING NON-SEWER AND NON-WATER UTILITIES (GAS, ELECTRIC, COMMUNICATIONS, ETC.) WITH LOCAL UTILITY.

EXISTING PAVEMENT TO BE REMOVED

EXISTING CONCRETE TO BE REMOVED

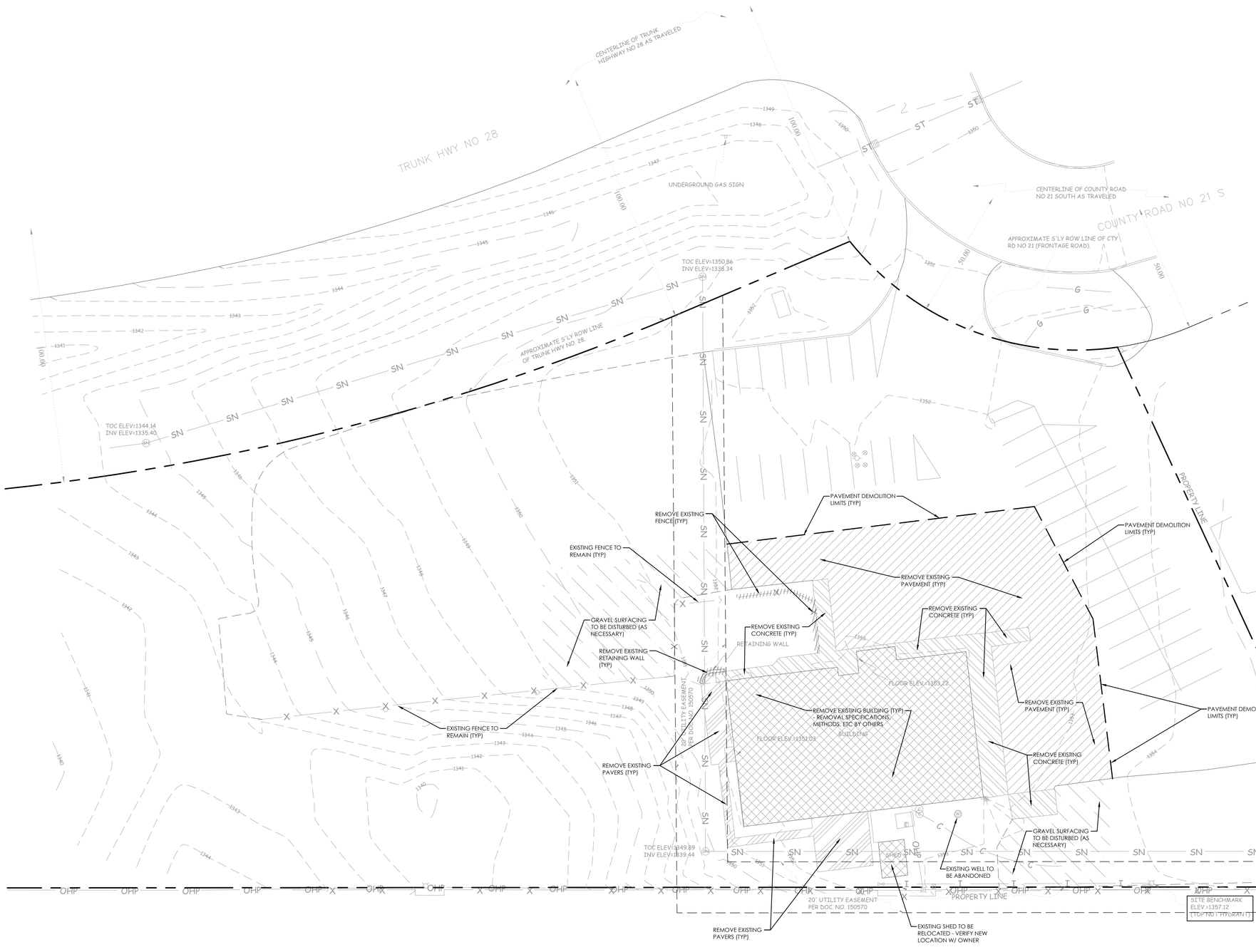
EXISTING GRAVEL SURFACING TO BE DISTURBED (AS NECESSARY)

EXISTING PAVERS TO BE REMOVED

EXISTING FENCE OR RETAINING WALL TO BE REMOVED

EXISTING BUILDING TO BE REMOVED - REMOVAL SPECIFICATIONS, METHODS, ETC BY OTHERS, OR

EXISTING SHED TO BE RELOCATED



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DEMOLITION & REMOVALS PLAN

SCALE: 1" = 20'

0 20 40

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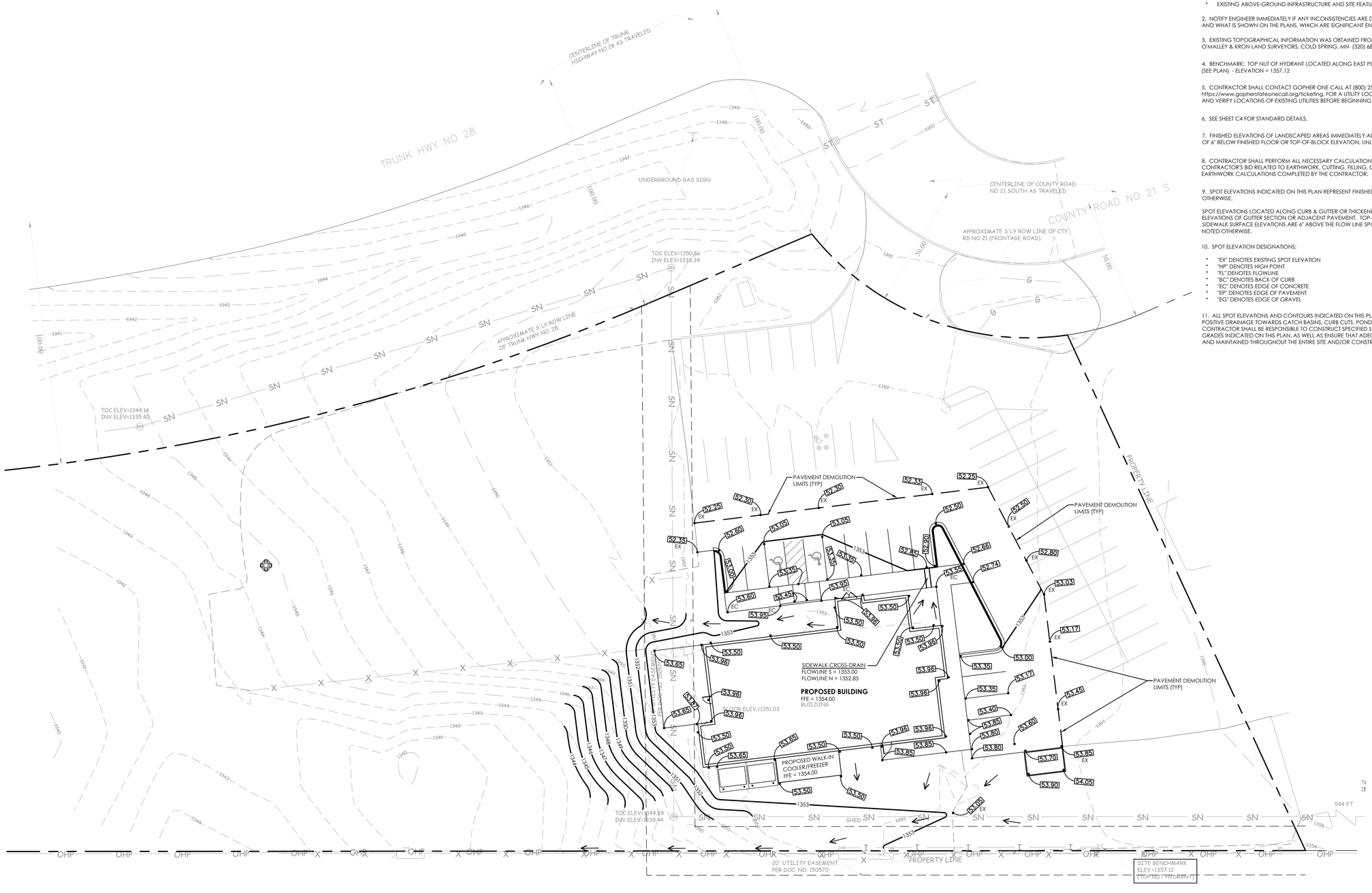
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GRADING NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
   - LOCATIONS, DEPTHS, SIZES, AND MATERIAL TYPES OF EXISTING SANITARY, WATER, AND STORM SEWER UTILITIES, INCLUDING EXISTING STUBS
   - RIM AND INVERT ELEVATIONS OF EXISTING SANITARY AND STORM SEWER UTILITIES, INCLUDING EXISTING STUBS
   - LOCATIONS AND DEPTHS OF EXISTING NON-SEWER AND NON-WATER UTILITIES (IE: GAS, ELECTRIC, COMMUNICATIONS, ETC.)
   - EXISTING ABOVE-GROUND INFRASTRUCTURE AND SITE FEATURES
2. NOTIFY ENGINEER IMMEDIATELY IF ANY INCONSISTENCIES ARE DISCOVERED BETWEEN ACTUAL SITE CONDITIONS AND WHAT IS SHOWN ON THE PLANS, WHICH ARE SIGNIFICANT ENOUGH TO ALTER THE INTENT OF THE DRAWINGS.
3. EXISTING TOPOGRAPHICAL INFORMATION WAS OBTAINED FROM A TOPOGRAPHICAL SURVEY COMPLETED BY O'MALLEY & KRON LAND SURVEYORS, COLD SPRING, MN (320) 685-5905
4. BENCHMARK: TOP NUT OF HYDRANT LOCATED ALONG EAST PORTION OF SOUTH PROPERTY LINE (SEE PLAN) - ELEVATION = 1357.12
5. CONTRACTOR SHALL CONTACT GOPHER ONE CALL AT (800) 252-1166, OR https://www.gopherstateonecall.org/ticketing, FOR A UTILITY LOCATE PRIOR TO THE START OF CONSTRUCTION AND VERIFY LOCATIONS OF EXISTING UTILITIES BEFORE BEGINNING WORK.
6. SEE SHEET C4 FOR STANDARD DETAILS.
7. FINISHED ELEVATIONS OF LANDSCAPED AREAS IMMEDIATELY ADJACENT TO BUILDINGS SHALL BE A MINIMUM OF 6" BELOW FINISHED FLOOR OR TOP-OF-BLOCK ELEVATION, UNLESS NOTED OTHERWISE ON THE PLAN.
8. CONTRACTOR SHALL PERFORM ALL NECESSARY CALCULATIONS TO VERIFY EARTHWORK QUANTITIES. CONTRACTOR'S BID RELATED TO EARTHWORK, CUTTING, FILLING, GRADING , ETC. SHALL BE BASED ON EARTHWORK CALCULATIONS COMPLETED BY THE CONTRACTOR.
9. SPOT ELEVATIONS INDICATED ON THIS PLAN REPRESENT FINISHED SURFACE ELEVATIONS, UNLESS NOTED OTHERWISE.

   SPOT ELEVATIONS LOCATED ALONG CURB & GUTTER OR THICKENED EDGE SIDEWALK REPRESENT FLOWLINE ELEVATIONS OF GUTTER SECTION OR ADJACENT PAVEMENT. TOP-OF-CURB OR TOP-OF-THICKENED EDGE SIDEWALK SURFACE ELEVATIONS ARE 6" ABOVE THE FLOW LINE SPOT ELEVATION SHOWN ON THE PLANS, UNLESS NOTED OTHERWISE.
10. SPOT ELEVATION DESIGNATIONS:
    - "EX" DENOTES EXISTING SPOT ELEVATION
    - "HP" DENOTES HIGH POINT
    - "FL" DENOTES FLOWLINE
    - "BC" DENOTES BACK OF CURB
    - "EC" DENOTES EDGE OF CONCRETE
    - "EP" DENOTES EDGE OF PAVEMENT
    - "EG" DENOTES EDGE OF GRAVEL
11. ALL SPOT ELEVATIONS AND CONTOURS INDICATED ON THIS PLAN ARE INTENDED TO PROVIDE ADEQUATE POSITIVE DRAINAGE TOWARDS CATCH BASINS, CURB CUTS, PONDS, BASINS AND/OR OTHER OUTLETS. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT SPECIFIED SURFACE INFRASTRUCTURE TO ELEVATIONS AND GRADES INDICATED ON THIS PLAN, AS WELL AS ENSURE THAT ADEQUATE POSITIVE DRAINAGE IS CONSTRUCTED AND MAINTAINED THROUGHOUT THE ENTIRE SITE AND/OR CONSTRUCTION AREA.

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GRADING PLAN

SCALE: 1" = 20'

0 20 40

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C6

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PROJECT INFORMATION

Project Description

This project will consist of the reconstruction of an existing restaurant building, which had incurred damage related to a fire. The proposed square footage of the new building will be approximately 5,450-SF. Parking lot and sidewalk areas necessary for tying the newly constructed building into surrounding grades will be included as well.

Disturbed Area & Impervious Surface Tabulation
(within proposed construction area)

Anticipated Disturbed Area	0.7 acres
Existing Impervious Area	0.46 acres
Proposed Impervious Area	0.43 acres
Net Impervious Area Decrease	-0.03 acres

Permanent Site Drainage

Site drainage will be routed off site in a manner consistent with existing drainage patterns.

SEDIMENT AND OTHER POLLUTANTS

This SWPPP has been designed mainly to provide erosion and sediment control of naturally occurring soils at this site (ie: sands, loams, and clays). Although this SWPPP does address pollution prevention of other man-made materials, it is assumed that these materials will consist of debris from existing structures and pavements to be demolished, or debris and chemicals (ie: fuels, new paints, etc.) resulting from new construction.

There are no known solid wastes or hazardous materials buried below grade at this site. If such wastes or hazard materials are discovered during construction, the SWPPP Coordinator (described below) will be responsible for notifying the Engineer. This SWPPP will then be revised to address the presence and disposal of these additional pollutants

EROSION PREVENTION AND SEDIMENT CONTROL BMPS

Standards and References

Materials and construction methods of all BMPs included in this SWPPP shall be as per the Minnesota Department of Transportation (MNDOT) Standard Specifications for Construction, latest edition. The Contractor and SWPPP Coordinator shall obtain a current copy of MNDOT's Standard Specifications for Construction and familiarize themselves with the specification sections applicable to this SWPPP, as there are several BMPs that specifically reference these sections.

The Contractor and SWPPP Coordinator shall be expected to be familiar with the applicable MNDOT specification sections during construction. No additional compensation will be paid to the Contractor for additional work due to unfamiliarity with these specification sections.

Undisturbed Areas

If shown on the plan, the Contractor shall delineate areas that are not to be disturbed on the site. This may be done with flags, stakes, signs, silt fence, etc., and shall be completed prior to the start of any grading operations. Regardless of the delineation method the Contractor chooses to use, the Contractor must communicate to his/her personnel and subcontractors that these areas are not to be disturbed and construction equipment (including trucks and personal vehicles) shall not be allowed in these areas.

The Contractor shall minimize compaction and preserve topsoil as much as possible at the site. In pervious ("green") areas that are not essential to the construction of the project, the Contractor shall avoid construction traffic and maintain the existing condition of these areas.

Temporary and Permanent Stabilization

All exposed soil areas (including stockpiles) shall be provided with temporary or permanent cover within 14 days of construction activity temporarily or permanently ceasing in that portion of the site. Temporary or permanent drainage ditches or swales, which drain off-site or to a surface water, and are within 200 lineal feet of the property line or surface water shall be provided with temporary or permanent cover within 24 hours of construction. Placement of temporary or permanent cover shall be initiated immediately upon suspension or completion of excavation operations.

Temporary Cover:

If the Contractor chooses to halt grading operations in a portion of the site (or the whole site) for a period exceeding 14 days, and grading operations (rough or finish grading) in the affected areas has not yet been completed, temporary cover shall be placed. Affected areas consisting of drainage ditches or swales connected to, and within, 200 lineal feet of a property line or surface water shall be provided with temporary cover within 24 hours of connection. Depending on the Contractor's schedule, the temporary cover shall consist of one of the following BMPs:

1). Discanchored Mulch

a). Discanchored mulch may be used in an area of the site (or the whole site) if the Contractor is halting grading operations for a period that is relatively short, but exceeds 14 days.

b). The mulch shall be Type 3 per MNDOT Spec. 3882

c). An adequate quantity of mulch shall be evenly distributed to achieve 90% coverage of the exposed soils.

d). Mulch shall be placed as per MNDOT 2575.3F.

e). All mulch shall be disc anchored as per MNDOT 2575.3G. Prior to the placement and discanchoring of the mulch, the soils shall be loosened and the area smooth-rough graded per MNDOT 2575.3B1.

f). Any areas that are exposed as a result of wind action after the initial mulch placement shall be covered with additional mulch to maintain 90% coverage.

2). Temporary Seeding with Mulch

a). Temporary seeding with mulch may be used in areas of the site (or the whole site) if the Contractor is halting grading operations for a period that is relatively long. Although mulch still needs to be applied as described above, once the temporary seeding/turf is established, the mulch will no longer need to be maintained. The temporary seeding/turf will require very little maintenance.

b). Prior to the sowing of temporary seed, the soils shall be loosened and the area smooth-rough graded per MNDOT 2575.3B1.

c). Contractor shall utilize Seed Mixes 100, 110, or 130 per MNDOT Spec. 3876 for temporary seeding.

d). Temporary seeding shall be sown per MNDOT Spec. 2575.3D.

e). Once temporary seeding has been sown, mulch shall be placed over the area as described above.

Permanent Cover:

Upon completion of finish grading and/or placement of topsoil, initiation of the placement of permanent cover shall begin immediately over all exposed areas. This includes areas designated for impervious surfacing (ie: buildings, pavements/gravel bases, sidewalks, etc.). Where the construction schedule will not allow for the placement of the permanent impervious surfacing within 14 days of the completion of finish grading, temporary cover shall be provided in these areas, as described above, until the permanent impervious surfacing can be constructed. Affected areas consisting of drainage ditches or swales connected to, and within, 200 lineal feet of a property line or surface water, shall be provided with permanent cover within 24 hours of connection.

Areas designated for permanent turf establishment shall be provided with one or more of the following BMPs (see plan):

1). Permanent Seeding with Mulch

a). Unless otherwise noted on the plans, all areas designated for turf establishment shall be provided with permanent seeding.

b). In addition to the plan included as part of this SWPPP, the Contractor shall verify if a Landscaping Plan has been included in the plans by the Architect. If a Landscape Architect has specified higher quality permanent cover (ie: sod, hydroseeding, etc.), the Contractor shall provide this permanent cover in lieu of the permanent seeding specified in this SWPPP.

c). Prior to the sowing of permanent seed, the soils shall be loosened and the area smooth-rough graded per MNDOT 2575.3B1.

d). Contractor shall utilize Seed Mix 260 per MNDOT Spec. 3876 for permanent seeding.

e). Permanent seeding shall be sown per MNDOT Spec. 2575.3D.

f). Once permanent seeding has been sown, mulch shall be placed over the area as described above (under Temporary Cover), unless noted otherwise.

2). Erosion Control Blanket

a). Erosion control blanket shall be placed in areas as shown on the plan included in this SWPPP. These areas shall still be provided with permanent seeding, as described above, beneath the erosion control blanket.

b). Erosion control blanket shall meet the requirements indicated in MNDOT Spec. 3885. See plan for category(s) of erosion control blanket.

c). Erosion control blanket shall be installed as per MNDOT Spec. 2575.3J2.

d). Erosion control blanket specified in drainage ditches and swales connected to, and within 200 lineal feet, of a property line or surface water shall be installed within 24 hours of the completion of finish grading (including permanent seeding).

3). Riprap

a). Riprap shall be placed in areas as shown on the plan included in this SWPPP.

b). All riprap shall be underlain with Type 4 geotextile fabric. The fabric shall meet the requirements of MNDOT Spec. 3733 and shall be installed as per MNDOT Spec. 2511.3B2.

c). Riprap materials shall meet the requirements of MNDOT Spec. 3601, and shall be Class 3, unless noted otherwise on the plans.

d). Riprap shall be considered "Random Riprap" and shall be placed as per MNDOT Spec. 2511.

e). Although it is permitted for the riprap to be placed with machinery, it will be necessary for the Contractor to hand place some of the riprap in order to provide a dense, well-keyed layer of stones with the least practical quantity of void space.

f). The minimum thickness of the riprap shall be 18 inches, unless otherwise noted on the plans.

g). Riprap designated at the end of pipe outlets shall be placed within 24 hours of installation of the pipe outlet end section.

h). Riprap specified in drainage ditches and swales connected to, and within 200 lineal feet, of a property line or surface water shall be installed within 24 hours of the completion of finish grading.

Sediment Control

The following sediment control BMPs shall be implemented as part of this project:

1. Silt Fence

a. Silt fence shall be installed at the locations shown on the plan included in this SWPPP.

b. Silt fence shall be machine sliced and materials shall meet the requirements of MNDOT Spec. 3886.

c. Silt fence shall be installed as per MNDOT Spec. 2573.3B2.

d. Silt fence shall be installed prior to any upgradient grading operations, and shall remain in place and maintained adequately until up-gradient areas achieve Final Stabilization (see below).

e. Silt fence shall be repaired or replaced if damaged during, or after, rain events, or if accumulated sediment on the upstream side of the fence reaches 1/2 the height of the fence. Repair or replacement of silt fence shall be completed within 24 hours of discovery.

f. Portions of silt fence may be removed to accommodate short-term activities, such as vehicle passage. Short-term activities shall be completed as quickly as possible, and new silt fence installed immediately after completion of the short-term activity. If rainfall is imminent or forecasted in the near future, new silt fence shall be installed regardless of if the short term activity has been completed or not. The Contractor is advised to schedule short term activities during dry weather as much as practicable. No additional compensation will be paid due to additional silt fence associated with short-term activities.

Temporary soil stockpiles shall be placed on the site in areas up-gradient from silt fence. Where the Contractor chooses to place temporary soil stockpiles outside designated silt fenced areas, the stockpiles shall be surrounded by additional silt fence. The Contractor shall locate stockpiles outside of natural buffers or surface waters, including stormwater conveyances such as curb and gutter systems unless there is a bypass in place for the stormwater. Under no circumstances shall temporary soil stockpiles be placed over surface waters, curb and gutter, catch basins, culvert inlets or outlets, or ditches.

2. Catch Basin Protection

a. WIMCO Road Drain protection devices, as manufactured by WIMCO, shall be used for catch basin protection on this project. WIMCO can be contacted at (952)-233-3055, and their web page is www.roaddrain.com.

b. "Road Drain Top Slab" devices shall be installed at all catch basin locations immediately after placement of the catch basin structures. "Road Drain Top Slab" devices shall remain in place and be adequately maintained until permanent surfacing is constructed (ie: curb and gutter, pavements, and/or gravel surfacing). In areas designated for turf establishment, "Road Drain Top Slab" devices shall remain in place until Final Stabilization of all upgradient areas is established.

c. Upon construction of the permanent surfacing, the "Road Drain Top Slab" devices shall be replaced with the WIMCO product specified on the plans. The WIMCO devices shall remain in place until Final Stabilization of all upgradient areas has been established.

d. The Contractor shall install and maintain the catch basin protection devices as per the manufacturer's instructions and specifications.

e. The Contractor may remove catch basin protection for a particular inlet if a specific safety concern (e. g. street flooding/freezing) is identified by the Contractor or the jurisdictional authority.

3. Culvert Inlet Protection

a. Culvert inlet protection shall be provided at all culvert inlet locations immediately after construction of the culvert. See plan included in this SWPPP for culvert inlet locations.

b. Culvert inlet protection shall consist of the SedJacket, as manufactured by SedCatch Environmental Products. SedCatch Environmental Products can be contacted at (937)-435-5075, and their web page is https://sedcatch.com/collections/sedjacket.

c. The culvert inlet protection shall remain in place and adequately maintained until Final Stabilization of all up-gradient areas has been established.

d. Culvert inlet protection shall be repaired or replaced if damaged during, or after, rain events, or if accumulated sediment reaches 1/2 of the height of the SedJacket device fabric. Repair or replacement of culvert inlet protection shall be completed within 24 hours of discovery.

e. The Contractor may remove culvert inlet protection for a particular inlet if a specific safety concern (e. g. street flooding/freezing) is identified by the Contractor or the jurisdictional authority.

4. Temporary Rock Construction Entrance

a. Temporary rock construction entrances shall be installed at the locations shown on the plan included in this SWPPP. See detail for temporary rock entrance design.

b. If the Contractor chooses to access the site from locations other than where temporary rock entrances are specified on the plans, additional temporary rock entrances shall be placed at these locations, as well.

c. Temporary rock entrance shall be constructed prior to the start of grading operations, and shall remain in place and be adequately maintained until Final Stabilization has been established.

d. Temporary rock entrances shall be maintained in such a manner that the entrances prevent sediment tracking onto adjacent streets. If a temporary rock entrance is found to be ineffective, it shall be replaced or improved within 24 hours of discovery.

e. The Contractor has the option to place Type 4 geotextile fabric beneath the temporary rock entrance. The fabric may extend the life of the entrance as it will reduce rock "sinking" into the underlying soils. If the Contractor chooses to use fabric, it should meet the requirements of MNDOT Spec. 3733 and shall be installed as per MNDOT Spec. 2511.3B2.

f. If sediment tracking from the site is discovered on adjacent streets, the sediment shall be removed with a street sweeper or other approved method within 24 hours of discovery. This shall be done throughout construction of the project. This sediment may be returned and graded over exposed areas of the site, or disposed of off site per MPCA requirements.

The City may order street sweeping to be performed at the Contractor's or Owner's expense if City staff find that construction activities are resulting in sediment or debris being tracked onto City streets.

5. Filter Logs

a. Filter logs shall be installed at the locations shown on the plan included in this SWPPP.

b. Filter logs shall consist of Type Wood Fiber biorolls and meet the requirements of MNDOT Spec. 3897.

c. Filter logs shall be installed as per MNDOT Spec. 2573.3F.

d. Filter logs shall be installed immediately after placement of erosion control blanket.

e. Filter logs shall remain in place for the life of the project, and shall be allowed to degrade naturally.

Dewatering

If dewatering of sandy subsoils is required for this project, the pump discharge shall be treated prior to discharge off-site or into a surface water. Treatment of discharge shall be achieved with the use of a "Dandy Dewatering Bag" (or approved equivalent), as manufactured by Dandy Products,Inc. Dandy Products, Inc. can be contacted at (877) 307-0141, and their web page is www.dandyproducts.com. The "Dandy Dewatering Bag" shall be installed, utilized, and maintained per the manufacturer's instructions and specifications.

Once dewatering water has been treated, it may be discharged off-site or to a surface water. The discharge shall be visually checked to ensure that it is relatively clean and not visibly different from any receiving waters. If discharge is noticeably "dirty", the Engineer shall be contacted as additional treatment methods may be necessary.

Adequate erosion control shall be provided at the point of discharge if it is located in an area with exposed soils or established turf. This erosion control may consist of temporarily placed rip rap, or other approved energy dissipation measures. The type of erosion control measure shall be at the Contractor's discretion, depending on the location of the dewatering discharge and the unique site characteristics. The erosion control measures shall be effective and shall be maintained adequately such that no erosion occurs at the point of discharge.

POLLUTION PREVENTION MANAGEMENT

Solid waste accumulated during construction, including collected sediment, construction materials, floating debris, construction debris, paper, plastics, and other solid wastes shall be disposed of in accordance with MPCA disposal requirements:

1). Building products that have the potential to leach pollutants shall be maintained under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by a similarly effective means designed to minimize contact with storm water.

2). Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials shall be maintained under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to minimize contact with stormwater.

3). Hazardous materials, toxic waste, (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) shall be property stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas shall be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials shall be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.

4). Solid waste shall be stored, collected and disposed of properly in compliance with Minn. R. ch. 7035.

5). Portable toilets shall be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.

The Contractor shall take steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless infeasible. The Contractor shall conduct fueling in a contained area unless infeasible. The Contractor shall ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials. The Contractor shall report and clean up spills immediately as required by Minn. Stat. § 115.061, using dry clean up measures where possible.

If the Contractor washes the exterior of vehicles or equipment on the project site, washing shall be limited to a defined area of the site. Runoff from the washing area shall be contained in a sediment basin or other similarly effective controls and waste from the washing activity shall be properly disposed of. The Contractor shall properly use and store soaps, detergents, or solvents. No engine degreasing shall be allowed on site.

The Contractor shall provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the construction activity. The liquid and solid washout wastes shall not contact the ground, and the containment shall be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid washout wastes shall be disposed of properly and in compliance with MPCA rules. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

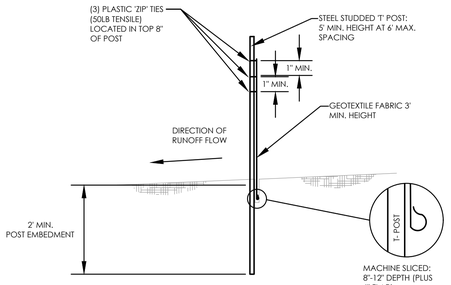
FINAL STABILIZATION

Final Stabilization shall be considered established once the following requirements have been achieved:

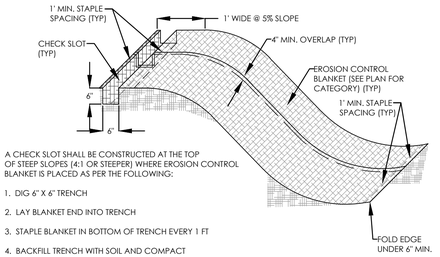
1). All soil disturbing activities at the site have been completed and all soils are stabilized by a uniform perennial vegetative cover with a density of 70 percent of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.

2). The permanent storm water management system is constructed, and is operating as designed. Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems and ditches are stabilized with permanent cover.

3). All temporary synthetic and structural erosion prevention and sediment control BMPs have been removed from the project site. BMPs designed to decompose on site may be left in place.



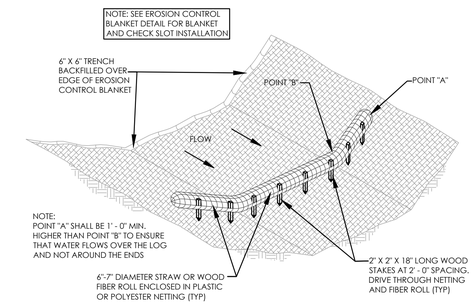
1 SILT FENCE - MACHINE SLICED
NTS



A CHECK SLOT SHALL BE CONSTRUCTED AT THE TOP OF STEEP SLOPES (4:1 OR STEEPER) WHERE EROSION CONTROL BLANKET IS PLACED AS PER THE FOLLOWING:

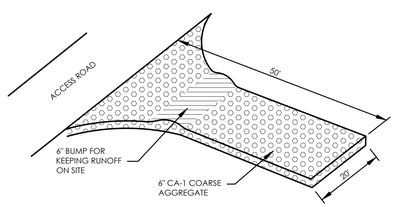
1. DIG 6" X 6" TRENCH
2. LAY BLANKET END INTO TRENCH
3. STAPLE BLANKET IN BOTTOM OF TRENCH EVERY 1 FT
4. BACKFILL TRENCH WITH SOIL AND COMPACT
5. IF SLOPE LENGTH IS GREATER THAN 100 FT DIG A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE AND STAPLE THE BLANKET IN AS IN THE TOP TRENCH.
6. PROVIDE STAPLES IN STRICT CONFORMANCE W. BLANKET MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS.

2 EROSION CONTROL BLANKET
NTS



NOTE:
POINT "A" SHALL BE 1' - 0" MIN. HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE LOG AND NOT AROUND THE ENDS

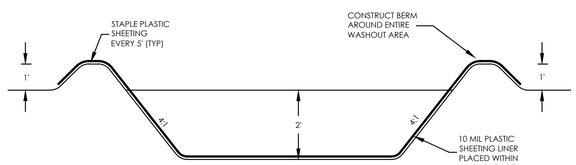
3 FILTER LOG
NTS



NOTE: PLACING FILTER FABRIC UNDER THE ROCK ENTRANCE MAY REDUCE THE AMOUNT OF MAINTENANCE IT WOULD REQUIRE.

1. THE ROCK ENTRANCE SHALL BE CONSTRUCTED PRIOR TO THE START OF GRADING OPERATIONS.
2. THE ENTRANCE SHALL BE GRADED SUCH THAT POSITIVE DRAINAGE DURING CONSTRUCTION IS PROVIDED.
3. THE ENTRANCE SHALL BE MAINTAINED IN SUCH A CONDITION SUCH THAT IT PREVENTS MUD TRACKING OFF SITE. ADDITIONAL ROCK OR REPLACEMENT OF THE ENTRANCE MAY BE REQUIRED PERIODICALLY IF MUD STARTS TO TRACK OFF SITE.
4. THE ROCK ENTRANCE MAY BE REMOVED JUST PRIOR TO THE PLACEMENT OF AGGREGATE BASE.

4 TEMPORARY ROCK CONSTRUCTION ENTRANCE
NTS



1. BOTTOM OF CONCRETE WASHOUT AREA SHALL BE 10'X10'
2. CONTRACTOR SHALL REMOVE WASH LIQUID FROM CONCRETE WASHOUT AREA AND DISPOSE OF PER MPCA REQUIREMENTS WHEN WASHOUT AREA BECOMES HALF FULL.
3. CONTRACTOR SHALL SELECT THE MOST OPTIMAL LOCATION FOR THE CONCRETE WASHOUT

5 CONCRETE WASHOUT
NTS

RINGDAHL ARCHITECTS, INC.
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Alexandria, MN 56308
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fax (320) 762-9063

AJ'S BAR
GLENWOOD, MN

SWPPP - STANDARD NOTES & DETAILS

CIVIL SHEET INDEX

C1 - COVER SHEET
C2 - CIVIL SITE PLAN
C3 - STANDARD NOTES & SPECIFICATIONS
C4 - STANDARD DETAILS
C5 - DEMOLITION & REMOVALS PLAN
C6 - GRADING PLAN
C7 - SWPPP - STANDARD NOTES & DETAILS
C8 - SWPPP - PLAN VIEW
C9 - UTILITY PLAN

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schultzeng@live.com
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ISSUE FOR:	ISSUE DATE:
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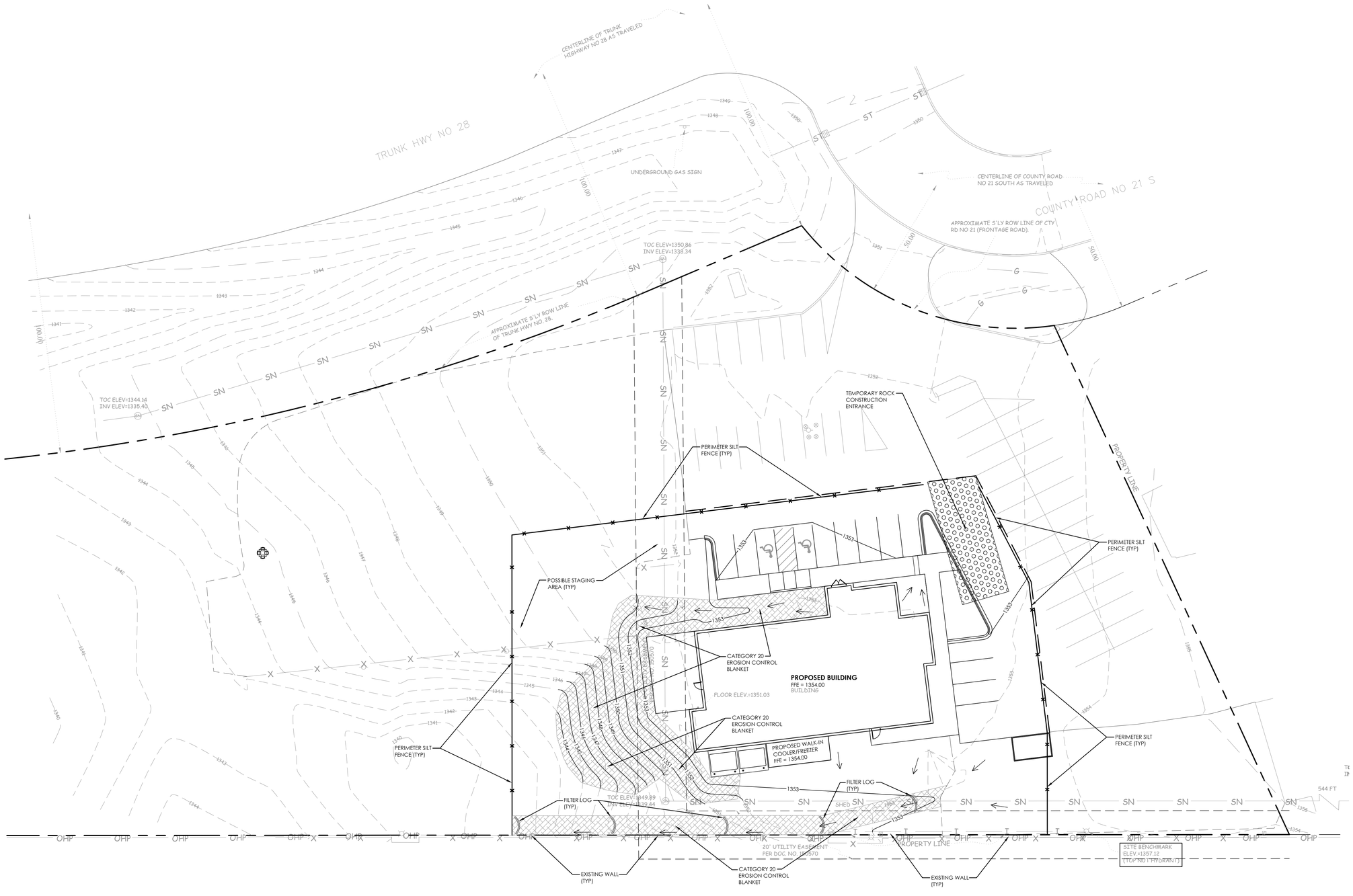
09/02/26	43129
DATE	REG. NO.

RINGDAHL ARCHITECTS COMMISSION NO.:	2634
SCHULTZ ENGINEERING PROJECT NO.:	26038
DRAWN BY:	BJS
CHECKED BY:	BJS
DATE:	09/02/26

DRAWING NO.

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GLENWOOD, MN

SWPPP - PLAN VIEW

N

SCALE: 1" = 20'

0 20 40

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UTILITY NOTES:

1. WATER MAIN AND ANY WATER SERVICE LINES SHALL BE PLACED AT A MINIMUM DEPTH OF 8 FEET BELOW FINISHED GRADE.

2. IF CONFLICTS ARE DISCOVERED WHERE WATER MAIN AND/OR WATER SERVICES CROSS EXISTING OR PROPOSED SANITARY SEWER, SERVICE LINES, OR STORM SEWER, THE WATER MAIN AND/OR WATER SERVICES SHALL BE RAISED OR LOWERED APPROPRIATELY WHILE STILL MAINTAINING A MINIMUM DEPTH OF 8 FEET BELOW FINISHED GRADE.

3. INSULATION SHALL BE PLACED AT ALL LOCATIONS WHERE STORM SEWER CROSSES SANITARY SEWER, WATER MAIN, OR ASSOCIATED SERVICES. INSULATION SHALL CONSIST OF AN 8-FT X 8-FT SQUARE OF 3"-THICK RIGID INSULATION. INSULATION SHALL BE PLACED BETWEEN THE STORM SEWER AND PIPE CROSSING WITH THE EDGES OF THE INSULATION PARALLEL TO THE PIPING AS MUCH AS POSSIBLE.

4. INSTALL SANITARY SEWER SERVICE LINE CLEANOUTS AS REQUIRED BY THE MINNESOTA PLUMBING CODE.

4. INSTALL TRACER WIRE ALONG PROPOSED UNDERGROUND UTILITY PIPE AS PER MINNESOTA RURAL WATER ASSOCIATION STANDARDS AND SPECIFICATIONS.

https://www.mnwa.com/wp-content/uploads/2022/06/TracerWireSpecGuideFinalweb11.pdf

5. CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION.

6. PRIOR TO CONSTRUCTION OF SANITARY SEWER, AND ORDERING ASSOCIATED MATERIALS, THE CONTRACTOR'S PLUMBING DESIGNER SHALL PROVIDE THE ENGINEER WITH THE TOTAL DRAINAGE FIXTURE UNITS (DFUs) FOR THE INTERIOR PLUMBING TO VERIFY THE CORRECT SIZING AND SLOPE OF THE SANITARY SEWER SERVICE

OWNER AND/OR CONTRACTOR SHALL SUBMIT FOR STATE PLUMBING REVIEW, AND OBTAIN AN APPROVED PLUMBING REVIEW REPORT FROM MNDLI, PRIOR TO THE INSTALLATION OF ANY SANITARY SEWER OR WATER UTILITIES.

CONSTRUCTION OF SANITARY SEWER OR WATER UTILITIES SHALL NOT COMMENCE UNTIL AFTER THE APPROVED PLUMBING REVIEW REPORT HAS BEEN OBTAINED, AND ANY AND ALL PERTINENT COMMENTS HAVE BEEN ADDRESSED ON THE PLANS AND IN THE PROJECT SPECIFICATIONS.
CONTRACTOR IS ADVISED TO ORDER UTILITY MATERIALS AFTER APPROVED PLUMBING REVIEW REPORT HAS BEEN OBTAINED FROM MNDLI

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AJ'S BAR
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UTILITY PLAN

SCALE: 1" = 20'

0 20 40

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C9

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STRUCTURAL DRAWING INDEX

SHEET NUMBER	SHEET NAME
S000	TITLE SHEET
S100	GENERAL NOTES
S110	SCHEDULES AND NOTES
S200	SLAB ON GRADE/FOUNDATION PLAN
S210	ROOF FRAMING PLAN
S301	FRAMING DETAILS - WOOD
S302	FRAMING DETAILS - WOOD
S303	SHEAR WALL AND SHEATHING DETAILS

DRAWINGS SYMBOLS

- EXISTING
- CONCRETE
- FACE BRICK
- CONCRETE BLOCK
- DIMENSIONAL LUMBER
- WOOD BLOCKING
- EARTH
- COMPACT FILL
- LAMINATED VENEER LUMBER (LVL)
- STEEL
- WELDED WIRE FABRIC
- FOOTING STEP
- JOIST BOT CHORD EXTENSION
- JOIST BOLTED CONNECTION PER OSHA REQUIREMENTS
- BEAM OR COL SPLICE LOCATION
- BEAM MOMENT CONNECTION
- ELEVATION OR WORK POINT
- SNOW DRIFT SURCHARGE LOAD
- TOP OF SLAB ELEVATION CHANGE (SLOPED)
- TOP OR BOTTOM OF SLAB ELEVATION CHANGE (STEPPED)
- BEAM CONTINOUS OVER SUPPORT

- CCx — CONCRETE COLUMN SEE SCHEDULE
- CLx — CONCRETE LINTEL SEE SCHEDULE
- CFx — CONTINOUS CONCRETE FOOTING SEE SCHEDULE
- CPx — CONCRETE PIER SEE SCHEDULE
- CWx — CIP CONCRETE WALL SEE SCHEDULE
- Fx — CIP PAD FOOTING SEE SCHEDULE
- MCx — CMU COLUMN SEE SCHEDULE
- LCx — LIGHT-GAGE COLUMN SEE SCHEDULE
- MJx — CMU JAMB SEE SCHEDULE
- MLx — CMU LINTEL SEE SCHEDULE
- MPx — CMU PIER SEE SCHEDULE
- MWx — CMU WALL SEE SCHEDULE
- RFx — ROUND CONCRETE FOOTING SEE SCHEDULE
- LBx / Bx — LIGHT-GAGE OR WOOD BEAM SEE SCHEDULE
- LHx / Hx — LIGHT-GAGE OR WOOD HEADER SEE SCHEDULE
- LWx / WWx — LIGHT-GAGE OR WOOD WALL SEE SCHEDULE
- WCx — WOOD COLUMN SEE SCHEDULE
- 1 — KEYNOTE SEE SCHEDULE
- LATERAL SHEAR LOAD
- SHEAR WALL HOLD DOWNS
- CENTERLINE
- ARCH/ELEC/MECH PENETRATION
- LOW END OF BRACE
- LOCATION OF BRACED FRAME
- HIGH END OF BRACE

ABBREVIATIONS

A
AB	ANCHOR BOLT
ADD'L	ADDITIONAL
ALT	ALTERNATE
ANCH	ANCHOR
ARCH	ARCHITECT(URAL)

B
BB	BOND BEAM
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BRKT	BRACKET
BTWN	BETWEEN

C
CANT	CANTILEVER
CFS	COLD-FORMED STEEL
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPOSITE
CONC	CONCRETE
COND	CONDITION
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CTR	CENTER
CTR'D	CENTERED

D
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEFL	DEFLECTION
DF	DOUGLAS-FIR
DIA	DIAMETER
DIAG	DIAGNOL
DIM	DIMENSION
DL	DEAD LOAD
DTL	DETAIL
DWG(S)	DRAWING(S)
DWL(S)	DOWELS

E
E	EAST
(E)	EXISTING
EA	EACH
EF	EACH FACE
EL	EARTHQUAKE LOAD
EW	EACH WAY
EJ	EXPANSION JOINT
ELEC	ELECTRIC
EL OR ELEV	ELEVATION
EMBED	EMBEDMENT
EOR	ENGINEER OF RECORD
EQ	EQUAL
EXP	EXPANSION
EXT	EXTEND OR EXTERIOR

F
FAB	FABRICATE(OR)
FD	FLOOR DRAIN
FLG	FLANGE
FLR	FLOOR
FNDN	FOUNDATION
FT	FEET
FTG	FOOTING
FV	FIELD VERIFY

G
GA	GAGE OR GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GL	GLUE LAMINATED WOOD

H
HORIZ	HORIZONTAL
HF	HEM-FIR
HK	HOOK
HL	HYDROSTATIC LOAD
HS	HEADED STUD(S)
HSS	HOLLOW STRUCTURAL SHAPE

I
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR

J
JBE	JOIST BEARING ELEVATION
JST	JOIST
JT	JOINT

K
K OR KIP(S)	KIP = 1,000 LB
KO	KNOCK-OUT
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH

L
LG	LIGHT GUAGE STEEL
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSL	LAMINATED STRAND LUMBER
LSV	LONG SIDE VERTICAL
LVL	LAMINATED VENEER LUMBER
LW	LIGHT-WEIGHT

M
M	MOMENT
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECH, ELECT & PLUMBING
MEZZ	MEZZANINE
MFG	MANUFACTURE(R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING

N
N	NORTH
NF	NEAR FACE
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE

O
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE

P
PC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PEMB	PRE-ENGINEERED METAL BUILDING
PERIM	PERIMETER
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PROJ	PROJECT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	POST-TENSION
PW	PRECAST WALL

Q
QTY	QUANTITY

R
RAD	RADIUS
RD	ROOF DRAIN
REINF	REINFORCE(D), (ING)
REQ'D	REQUIRED
REV	REVERSE
RL	RAIN LOAD
RLL	ROOF LIVE LOAD

S
S	SOUTH
SCHED	SCHEDULE
SD	SEE DETAIL
SEC	SECTION
SHT	SHEET
SIM	SIMILAR
SIPs	STRUCTURAL INSULATED PANELS
SL	SNOW LOAD
SOG	SLAB-ON-GRADE
SPA	SPACE(S)
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STAGG	STAGGER
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUPPORT	SUPPORT
SP	SOUTHERN PINE
SPF	SPRUCE PINE-FIR

T
T/	TOP OF ELEMENT
T&B	TOP AND BOTTOM
TBE	TOP OF BEAM ELEVATION
TDE	TOP OF DECK ELEVATION
TEMP	TEMPORARY
TFE	TOP OF FOOTING ELEVATION
THRU	THROUGH
TOS	TOP OF STEEL
TPC	TOP OF PILE CAP ELEVATION
TPE	TOP OF PIER ELEVATION
TSE	TOP OF SLAB ELEVATION
TWE	TOP OF WALL ELEVATION
TYP	TYPICAL

U
UN	UNLESS NOTED
UNO	UNLESS NOTED OTHERWISE

V
V	SHEAR
VER	VERIFY
VERT	VERTICAL
VIF	VERIFY IN FIELD

W
W	WEST
W/	WITH
W/O	WITHOUT
WL	WIND LOAD
WP	WORK POINT
WWF	WELDED WIRE FABRIC
WWR	WELDED WIRE REINFORCEMENT

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PROJECT NO.:	00526011

NO.	DATE	DESCRIPTION

TITLE SHEET

DRAWING NO.

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GENERAL NOTES

I. DESIGN DATA

A. BUILDING CODE

1. INTERNATIONAL BUILDING CODE (IBC) 2018 - AS AMENDED BY THE STATE OF MINNESOTA.

B. DESIGN LOADS/DESIGN CRITERIA

1. DEFLECTION CRITERIA SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   A. DEFLECTION LIMITS INDICATED IN TABLE 1604.3 OF THE IBC.
2. WIND LOAD:
   A. BASIC WIND SPEED (3-SECOND GUST)
      a. V_{ULT} = 110 MPH. RISK CATEGORY II
      b. EXPOSURE C
      c. INTERNAL PRESSURE COEFFICIENT, GC_{PI} = +/-0.18
3. ROOF LOADS:
   A. LIVE LOAD (RLL): 20 PSF*
   B. MECHANICAL ROOF LIVE LOAD: 25 PSF
   C. DESIGN DEAD LOAD: 15 PSF (SHINGLED)
4. ROOF SNOW LOADS:
   A. GROUND SNOW LOAD, P_g: 50 PSF
   B. FLAT ROOF SNOW LOAD, P_f: 38.5 PSF**
   C. SNOW EXPOSURE FACTOR, C_e: 1.0
   D. SNOW LOAD IMPORTANCE FACTOR, I_s: 1.0
   E. THERMAL FACTOR, C_t: 1.1

   * REDUCED PER IBC SECTION 1607.11

   ** PLUS SNOW ACCUMULATION AS REQUIRED BY IBC CHAPTER 16, SECTION 1608.

A. GENERAL CONSTRUCTION NOTES:

1. IN ALL CASES WHERE A CONFLICT MAY OCCUR, SUCH AS BETWEEN REQUIREMENTS IN THE SPECIFICATION AND REQUIREMENTS ON THE DRAWINGS, THE STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED IMMEDIATELY IN WRITING AND THE STRUCTURAL ENGINEER OF RECORD SHALL INTERPRET THE INTENT OF THE CONTRACT DRAWING.
2. IN NO CASE, SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THE STRUCTURAL DRAWINGS.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOBSITE AND TO CROSS CHECK ALL DETAILS AND DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS WITH RELATED REQUIREMENTS ON THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND CIVIL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER OF RECORD ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
4. VERIFY SIZE AND LOCATIONS OF ALL OPENINGS WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. STRUCTURAL DRAWINGS DO NOT NECESSARILY SHOW ALL OPENINGS. PLACE OPENINGS IN FLOOR AND ROOF NOT SHOWN ON STRUCTURAL DRAWINGS BETWEEN STRUCTURAL MEMBERS. NOTIFY ENGINEER OF RECORD OPENINGS LARGER THAT 12" IN ANY DIMENSION ARE ADDED.

B. TEMPORARY BRACING:

1. THIS STRUCTURE IS A NON-SELF SUPPORTING STEEL FRAME THAT REQUIRES INTERACTION WITH SLAB, STEEL DECK AND MASONRY OR CONCRETE WALLS TO PROVIDE THE REQUIRED LATERAL STABILITY. PROVIDE REQUIRED TEMPORARY BRACING FOR STRUCTURAL STEEL UNTIL PERMANENT BRACING, SLABS, STEEL DECK AND WALLS ARE IN PLACE.
2. THE DESIGN OF STUD WALL FRAMING IS FOR COMPLETED, SHEATHED CONDITION. INCLUDING PROPER FASTENING, THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF TEMPORARY BRACING. IF THE CONTRACTOR ELECTS TO PLACE WALL SHEATHING OR FLOOR TOPPING ON ANY LEVELS ABOVE STUD FRAMING THAT DO NOT YET HAVE SHEATHING, ONE OF THE FOLLOWING ARE REQUIRED PRIOR TO SUCH PLACEMENT:
   A. PROVIDE BLOCKING THAT MATCHES THE SIZE AND SPECIES OF STUDS AT MID-HEIGHT OF ALL LOAD-BEARING STUD WALLS AT THE BOTTOM THREE LEVELS IN FIVE LEVEL WOOD STRUCTURES AND AT THE BOTTOM TWO LEVELES IN FOUR LEVEL WOOD STRUCTURES, EXCEPT THAT WALLS WITH DOUBLED OR TRIPPLED STUDS FASTENED WITH 10d NAILS AT 8" OC STAGGERED EACH FACE DO NOT REQUIRE BLOCKING. BLOCKING REQUIRED BY THE SHEAR WALL SCHEDULE IS NOT ELIMINATED BY THE ABOVE NAILING OPTION.
   B. RETAIN A SPECIALTY STRUCTURAL ENGINEER TO EVALUATE THE ADEQUACY OF TEMPORARY UNBRACED STUD WALL CONDITIONS, DESIGN RELATED BRACING FOR THE CONDITIONS, AND SUBMIT CERTIFIED DRAWINGS FOR RECORD ONLY.
3. PROVIDE TEMPORARY BRACING FOR ALL WALLS (CONCRETE, MASONRY, COLD FORMED STEEL OR WOOD) UNTIL THEY ARE OF ADEQUATE DESIGN STRENGTH AND ARE PROPERLY ANCHORED IN FINAL FORM.

C. REFERENCE STANDARDS – REFER TO IBC CHAPTER 35 FOR ALL REFERENCE STANDARDS.

II. SITE WORK

A. ASSUMED GEOTECHNICAL PROPERTIES

1. FOUNDATIONS ARE DESIGNED BASED ON THE ASSUMED DESIGN INFORMATION OUTLINED IN THIS SECTION. THE CONTRACTOR/OWNER SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER, LICENSED IN THE STATE OF THE PROJECT, TO VISIT THE SITE AND CERTIFY IN WRITING THAT THE FOLLOWING ASSUMED INFORMATION IS CORRECT.
2. ASSUMED DESIGN NET SOIL BEARING CAPACITY IS AS FOLLOWS:
   A. SPREAD FOOTINGS: 1,500 PSF
   B. STRIP FOOTINGS: 1,500 PSF
3. MINIMUM DEPTH FROM EXTERIOR GRADE TO BOTTOM OF BUILDING PERIMETER FOOTINGS SHALL BE 42".
4. FOUNDATIONS SHALL NOT BE CAST ON FROZEN SOILS. IF IT IS ANTICIPATED THAT THE SOILS BELOW THE FOUNDATIONS MAY FREEZE, CONTRACTOR SHALL SUBMIT A FROST PROTECTION PLAN IN WRITING TO ENGINEER OF RECORD.
5. THE GEOTECHNICAL ENGINEER SHALL VERIFY THAT THE FOOTING ELEVATIONS SHOWN THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF LOCATIONS THAT DO NOT SATISFY THOSE REQUIREMENTS. IN THOSE CASES, THE GRADE MAY BE ELEVATED WITH COMPACTED MATERIAL APPROVED BY GEOTECHNICAL ENGINEER OR THE FOOTING DEPTH MAY BE INCREASED WITH PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

B. **BACKFILLING**

1. BACKFILL AND MATERIALS BEHIND FOUNDATION AND RETAINING WALLS SHALL BE AS OUTLINED IN THE GEOTECHNICAL REPORT.
2. DO NOT BACKFILL OR COMPACT EARTH AGAINST WALLS RETAINING EARTH UNTIL SUPPORTING SLABS HAVE REACHED 75% OF THEIR DESIGN STRENGTH OR ADEQUATE BRACING IS IN PLACE. PROVIDE BRACING DRAWINGS DESIGNED AND CERTIFIED BY AN ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED FOR RECORD ONLY.
3. BACKFILL EVENLY ON BOTH SIDES OF FOUNDATION WALLS TO PREVENT OVERTURNING OR LATERAL WALL MOVEMENT.

III. CONCRETE

A. CONCRETE MATERIAL PROPERTIES

1. CONCRETE PROPERTIES:

	STRENGTH (f'c @ 28 DAYS)		MAX W/C RATIO
FOOTINGS	3,000	PSI	
PIERS, GRADE BEAMS & FOUNDATION WALLS	4,000	PSI	
INTERIOR SLAB ON GRADE	4,000	PSI	
EXTERIOR CONCRETE (SLAB ON GRADE, PIERS, SITE WALLS, AND RETAINING WALLS)	5,000	PSI	.40

2. CYLINDER TESTING SHALL BE COMPLETED PER ACI-318, SECTION 26.12. TESTING REPORTS SHALL BE PROVIDED TO THE OWNER AND ENGINEER OF RECORD AT A MINIMUM. PREFERRED DELIVERY METHOD IS VIA E-MAIL.
3. ALL EXTERIOR CONCRETE, PERMANENTLY EXPOSED TO WEATHER (DOES NOT APPLY TO BURIED FOUNDATIONS), SHALL BE AIR ENTRAINED TO GIVE THE CONCRETE AN AIR CONTENT OF 6% +/- 1.5% BY VOLUME. NATURALLY OCCURRING AIR CONTENT SHALL NOT EXCEED 3% FOR NON-AIR ENTRAINED MIXES.
4. CONCRETE MIX DESIGNS & SUPPORTIVE DATA MUST BE SUBMITTED FOR APPROVAL PER ACI 318 SECTION 26.4.3.1(B), AND ACI-301, SECTION 1.5.

B. REINFORCING MATERIAL PROPERTIES

1. REINFORCING PROPERTIES:

	f_y (KSI)	ASTM
ALL BARS, UNO	60	A615
TIES & STIRRUPS	60	A615
WELDED WIRE FABRIC (SMOOTH)	65	A185
WELDABLE REBAR	60	A706/AWSD1.4.

2. DETAIL, FABRICATE, AND PLACE REINFORCING IN ACCORDANCE WITH CRSI "MANUAL OF STANDARD PRACTICE", LATEST ADDITION AND ACI 117.
3. EPOXY COATED REINFORCING REQUIRED WHERE REINFORCED CONCRETE IS EXPOSED TO MOISTURE AND CHLORIDES, SUCH AS DE-ICING SALTS. WHERE EPOXY COATED REINFORCING IS REQUIRED, ALL CHAIRS, SLAB BOLSTERS, SUPPORT BARS, AND SPACERS SHALL BE PLASTIC OR EPOXY COATED.
4. EPOXY COATING FOR REINFORCING SHALL CONFORM TO ASTM A775 AND ACI 301 SECTION 3.2. REPAIR COATING DAMAGE IN ACCORDANCE WITH ASTM D3963 AND PATCHING MATERIAL MANUFACTURER'S RECOMMENDATIONS.

C. CAST IN PLACE CONCRETE

1. ALL CONCRETE SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH IBC CHAPTER 19 AND ACI 318. PERFORM
2. ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE "CRSI - MANUAL OF STANDARD PRACTICE" AND ACI 117. SUBMIT SHOP DRAWINGS FOLLOWING THE RECOMMENDED PRACTICES OF ACI 315 INDICATING REINFORCING SIZE, LENGTH, LOCATION, SHAPE AND SPACING OF BARS.
3. PROVIDE STANDARD HOOKS WHERE HOOK LENGTHS ARE NOT SPECIFIED.
4. PER ACI 26.6.2.2(A) and 26.10.2(B), ALL REINFORCEMENT SHALL BE PLACED AND SUPPORTED PRIOR TO PLACING CONCRETE. "WET STICKING" OF REBAR, INCLUDING DOWELS IS PROHIBITED.
5. SLEEVES EMBEDDED IN SLABS AND WALLS SHALL BE LOCATED CLEAR BETWEEN REINFORCING BARS AND SHALL MAINTAIN CLEAR SPACING EQUAL TO THE DIAMETER OF THE LARGEST SLEEVE IN ANY DIRECTION. SLEEVE GROUPS THAT DO NOT COMPLY WITH THE ABOVE REQUIREMENTS SHALL BE CONSIDERED AS AN OPENING AND REINFORCED PER NOTE #5 BELOW.
6. UNLESS NOTED OTHERWISE ON THE DRAWINGS: PROVIDE EXTRA REINFORCING ON ALL SIDES OF ALL MISCELLANEOUS WALL AND SLAB OPENINGS EQUAL TO ONE HALF THE INTERRUPTED REINFORCING BARS EACH SIDE BUT NOT LESS THAN 2 - #5 FOR EACH LAYER OF REINFORCEMENT. EXTEND BARS CLASS 'B' LAP LENGTH BUT NOT LESS THAN 2 FEET BEYOND EDGE OF OPENINGS. PROVIDE 2 - #4x4'-0" DIAGONAL BARS AT EACH CORNER FOR EACH LAYER OF REINFORCEMENT.
7. PROVIDE A ¾" CHAMFER ON ALL EXPOSED CORNERS OF CONCRETE.
8. PROVIDE ISOLATION JOINTS AROUND COLUMNS AT SLAB ON GRADE AREAS.
9. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR CONCRETE FINISH REQUIREMENTS.
10. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

	CONCRETE COVER (IN)
CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	3
CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 THRU #18 BARS	2
#5 & SMALLER BARS	1 ½
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS & WALLS:	
#14 & #18 BARS	1 ½
#11 AND SMALLER BARS	¾
BEAMS & COLUMNS:	
PRIMARY REINFORCEMENT, STIRRUPS, & TIES	1 ½

VII. WOOD / TIMBER CONSTRUCTION

A. ROUGH CARPENTRY

1. STRUCTURAL LUMBER SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH IBC CHAPTER 23 & THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.
2. THIS STRUCTURE IS A NON-SELF-SUPPORTING WOOD FRAME REQUIRING INTERACTION WITH OTHER ELEMENTS TO PROVIDE THE REQUIRED STABILITY. THE FRAMER SHALL PROVIDE TEMPORARY BRACING UNTIL FINAL STABILITY IS PROVIDED.
3. ALL DIMENSION LUMBER SHALL BE GRADE STAMPED.
4. ALL MEMBER SIZES SHOWN ON THE DRAWINGS ARE NOMINAL DIMENSIONS. DRESSED SIZES PUBLISHED IN AMERICAN SOFTWOOD LUMBER STANDARDS PS 20 SHALL BE ACCEPTED AS MINIMUM NET SIZES CONFORMING TO SUCH NOMINAL SIZES.
5. ALL BEAMS & JOISTS NOT BEARING ON SUPPORTING MEMBERS SHALL BE FRAMED WITH PREFABRICATED METAL JOIST HANGERS OF REQUIRED CAPACITY. ALL PREFABRICATED METAL HARDWARE IS BY SIMPSON STRONG-TIE COMPANY OR APPROVED EQUAL. AND SHALL BE DESIGNED AND PROVIDED BY THE WOOD MATERIAL SUPPLIER.
6. WOOD JOISTS SHALL BEAR ON THE FULL WIDTH OF SUPPORTING MEMBERS UNO.
7. LAG SCREWS ARE TO BE INSTALLED IN PRE-DRILLED HOLES.
8. BOLTED CONNECTIONS ARE TO BE INSTALLED THRU PRE-DRILLED HOLES NO LARGER THAN 1/16" LARGER THAN THE BOLT DIAMETER. BOLTS ARE TO BE STANDARD HEX FULL DIAMETER BOLTS COMPLYING WITH THE SAE J429 WITH A FASTENER YIELD STRENGTH OF 45,000 PSI. STANDARD WASHERS ARE TO BE USED UNDER ALL NUTS AND BOLT HEADS.
9. FASTENERS AND CONNECTIONS USED IN PRESERVATIVE TREATED AND FIRE-RETARDANT WOOD SHALL BE HOT DIPPED GALVANIZED (ASTM A153 CLASS D).
10. NAILING SHALL BE IN ACCORDANCE WITH WOOD FASTENING SCHEDULE ON SHEET S110 OR AS SHOWN ON THE DRAWINGS. SPACE NAILS TO AVOID SPLITTING. ALL NAILS ARE COMMON UNO.
11. ALL HEADERS AND BEAMS SHALL HAVE KING AND JACK STUDS AT BEARING SUPPORTS AS SHOWN ON THE DRAWINGS.
12. ENGINEERED UPLIFT CONNECTIONS SHALL BE PROVIDED AT ALL ROOF MEMBER CONNECTIONS TO WALL TOP PLATES.
13. SLEEPERS AND SILLS BEARING ON CONCRETE OR MASONRY AND PERMANENT COLUMNS SUPPORTED BY FOOTINGS IN CONTACT WITH EARTH SHALL BE PRESERVATIVE TREATED.
14. WHERE PENNY WEIGHTS ARE INDICATED ON THE DRAWINGS, THE NAILS SHALL COMPLY WITH THE MINIMUM DIAMETERS INDICATED BELOW:

PENNY WEIGHT	MIN. SHANK DIAMETER (IN)	MIN. LENGTH (IN)
8D	0.131	2 1/2
10D	0.148	3
16D	0.162	3 1/2

15. NAILS AND STAPLES USED FOR FRAMING AND SHEATHING CONNECTIONS SHALL CONFORM TO ASTM F 1667 AND SHALL HAVE THE FOLLOWING MINIMUM BENDING YIELD STRENGTHS:

SHANK DIAMETER (IN)	BENDING YIELD STRENGTH
0.178" – 0.254"	80 KSI
0.143" – 0.177"	90 KSI
0.099" – 0.142" (16D & SMALLER)	100 KSI

16. LUMBER USED SHALL BE KILN DRIED TO A MOISTURE CONTENT NOT EXCEEDING 19% COMPLYING WITH THE FOLLOWING MINIMUM DESIGN PARAMETERS UNLESS NOTED OTHERWISE (ALTERNATIVE MATERIAL WITH BETTER DESIGN VALUES MAY BE USED WITH PRIOR APPROVAL).
17. PROVIDE ALLOWANCE IN STUDS AND SHEATHING AS REQUIRED FOR PLUMBING PIPES, ETC. DUE TO OVERALL WOOD SHRINKAGE ABOVE EACH LEVEL AS FOLLOWS:
    1ST LEVEL ABOVE PLANK/SLAB: UP TO 1/8"
    2ND LEVEL ABOVE PLANK/SLAB: UP TO ½"
    3RD LEVEL ABOVE PLANK/SLAB: UP TO 7/8"
    4TH LEVEL ABOVE PLANK/SLAB: UP TO 1 ¼"
    5TH LEVEL ABOVE PLANK/SLAB: UP TO 1 5/8"

DIMENSIONAL LUMBER			MINIMUM DESIGN PROPERTIES				
COMPONENT	WOOD SPECIES	GRADE	E	F_b	F_v	$F_{C-\|\|}$	F_{C-PERP}
BEARING WALL STUDS	SPRUCE-PINE-FIR (SPF)	NO. 1 / NO. 2	1,400,000 PSI	875 PSI	135 PSI	1,150 PSI	425 PSI
TOP PLATES & SOLE PLATE ON WOOD BASE	SPRUCE-PINE-FIR (SPF)	NO. 1 / NO. 2	1,400,000 PSI	875 PSI	135 PSI	1,150 PSI	425 PSI
BEAMS / HEADERS	HEM-FIR (HF)	NO. 2	1,300,000 PSI	850 PSI	170 PSI	1,300 PSI	405 PSI
POSTS (5x5 AND LARGER)	SOUTHERN PINE (SP/SYP)	NO. 1	PER SPIB GRADING RULES AND AWC NDS				
SOLE PLATE IN CONTACT WITH CONCRETE, MASONRY, STEEL, & SOIL	SOUTHERN PINE (SP/SYP)	NO. 2	PER SPIB GRADING RULES AND AWC NDS				

B. ENGINEERED WOOD PRODUCTS

1. ENGINEERED WOOD SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE W/ IBC CHAPTER 23 & THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.
2. ENGINEERED WOOD SUPPLIER SHALL PROVIDE ALL HANGERS, HARDWARE AND ACCESSORIES REQUIRED FOR INSTALLATION.

ENGINEERED LUMBER		MINIMUM DESIGN PROPERTIES				
COMPONENT	WOOD SPECIES	E	F_b	F_v	$F_{C-\|\|}$	F_{C-PERP}
BEAMS / HEADERS	LVL	2,000,000 PSI	2,600 PSI	285 PSI	2,510 PSI	750 PSI
RIM BOARD	LSL (LVL ALTERNATE)	1,300,000 PSI	1,700 PSI	425 PSI	1,835 PSI	710 PSI
POSTS / COLUMNS	PSL	1,800,000 PSI	2,400 PSI	190 PSI	2,500 PSI	425 PSI
TALL WALL STUDS	LSL	1,500,000 PSI	2,250 PSI	505 PSI	2,105 PSI	860 PSI

B. OPEN WEB WOOD TRUSSES

1. THE DESIGN AND FABRICATION OF ALL TRUSSES SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATIONS FOR STRESS GRADE LUMBER AND ITS FASTENINGS BY NATIONAL FOREST PRODUCTS ASSOCIATION AND NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION BY THE TRUSS PLATE INSTITUTE.
2. WOOD TRUSS SUPPLIER SHALL DESIGN AND SUPPLY ALL MATERIAL, CONNECTORS, AND ACCESSORIES REQUIRED FOR INSTALLATION INCLUDING, BUT NOT LIMITED TO HANGERS, WALL CONNECTIONS, BLOCKING, WEB STIFFENERS, AND RIM BOARDS TO PROVIDE A COMPLETE INSTALLATION.
3. WOOD TRUSS SUPPLIER SHALL PRODUCE A TRUSS SUBMITTAL PACKAGE INCLUDING THE INFORMATION REQUIRED BY IBC SECTION 2303.4.
4. TRUSS SUBMITTAL PACKAGE SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF THE PROJECT.
5. PROVIDE STANDARD CAMBER FOR DEAD LOAD AT ALL ROOF AND FLOOR TRUSSES.
6. NOTCHES SHALL NOT BE CUT IN WOOD JOISTS.
7. WOOD TRUSS SUPPLIER SHALL ACCOUNT FOR THE DEAD LOADS ASSOCIATED WITH FIXED ROOFTOP EQUIPMENT. PLACEMENT OF MECHANICAL UNITS & HANGERS SUPPORTED BY ROOF TRUSSES IS SUBJECT TO THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.

C. WOOD STRUCTURAL SHEATHING

1. GENERAL
   A. PLYWOOD SHEATHING SHALL CONFORM TO IBC SECTION 2303.1.4 AND SHALL BE GRADE STAMPED BY APA. PROVIDED THE THICKNESS AND GRADE SHOWN ON THE DRAWINGS.
   B. NAIL SIZE AND PATTERN SHALL BE AS INDICATED ON THE DRAWINGS.
   C. PLYWOOD SHALL HAVE A MINIMUM OF 4 PLIES.
   D. ORIENTED STRAND BOARD (OSB) IS AN ACCEPTABLE ALTERNATE WITH PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
2. FLOOR AND ROOF SHEATHING – HORIZONTAL USE
   A. PANEL FLOOR SHEATHING SHALL BE APA EXPOSURE 1, TONGUE AND GROOVE PLYWOOD AND AS INDICATED IN THE FRAMING PLAN NOTES.
   B. PANEL ROOF SHEATHING SHALL BE APA EXPOSURE 1, FLAT PLYWOOD AND AS INDICATED IN THE FRAMING PLAN NOTES.
   C. SHEATHING SHALL BE ORIENTED WITH THE STRONG AXIS PERPENDICULAR TO SUPPORTS.
   D. ALL WOOD PANELS SHALL BE CONTINUOUS OVER A MINIMUM OF TWO SPANS WITH A MINIMUM PANEL WIDTH NOT LESS THAN 2'-0" UNLESS ALL PANEL EDGES ARE BLOCKED.
   E. FASTENERS SHALL NOT BE LOCATED CLOSER THAN 3/8" FROM PANEL EDGES.
3. WALL SHEATHING/SHEAR WALL PANELS – VERTICAL USE
   A. SEE THE DRAWINGS FOR SHEAR WALL SHEATHING THICKNESS, TYPE AND GRADE.
   B. REFER TO ARCHITECTURAL DRAWINGS FOR NON-SHEAR WALL SHEATHING TYPE.
   C. SEE THE DRAWINGS FOR SPECIFIC SHEAR WALL FASTENING REQUIREMENTS.
   D. SHEATHING NAILING SHALL BE IN ACCORDANCE WITH WOOD FASTENING SCHEDULE ON SHEET ___. SEE WOOD SHEAR WALL SCHEDULE ON SHEET ____ FOR ADDITIONAL INFORMATION. SPACE NAILS TO AVOID SPLITTING. ALL NAILS ARE COMMON UNO.
   E. WALL SHEATHING MAY BE ORIENTED EITHER HORIZONTALLY OR VERTICALLY. SEE SHEAR WALL SCHEDULE FOR MIN BLOCKING REQUIREMENTS.

D. GYPSUM WALLBOARD SHEATHING

1. TYPICAL GYPSUM WALL BOARD SHALL BE A MINIMUM OF 5/8" THICK UNO ON DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR TYPE.
2. STUD FRAME BACKUP FOR GYP BOARD SHEATHING SHALL BE A MAXIMUM OF 16" OC
3. SEE IBC SECTION 2306.4.5.1 FOR MINIMUM REQUIREMENTS ON APPLICATION OF GYPSUM WALL BOARD TO WOOD FRAMING.
4. UNO ON DRAWINGS, PROVIDE A MINIMUM OF No. 6 TYPE S OR W DRYWALL SCREWS, CONFORMING TO ASTM C1002, 1 ¼" LONG WITH THE HEAD FLUSH WITH THE SURFACE OF THE SHEATHING. FASTENING SHEATHING TO SUPPORTS USING SCREWS AT 12" OC IN THE FIELD AND AT 8" OC AT THE EDGES.
5. GYPSUM WALL BOARD SHALL NOT BE USED FOR SHEAR WALL SHEATHING IN SEISMIC DESIGN CATEGORIES E OR F.

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PRINTED NAME: JOE A NICHOLSON

DATE: 09/04/2026 LICENSE #: 44104

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GENERAL NOTES

DRAWING NO.

S100

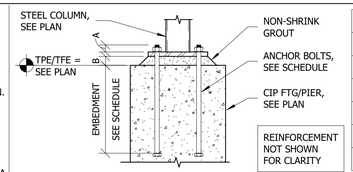
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STEEL COLUMN SCHEDULE

MARK	COLUMN	BASE PLATE	BASE PLATE TYPE	ANCHOR RODS	EMBEDMENT	COMMENTS
SC4	4"Ø STD PIPE	3/4" x 10" x 0' - 10"	'A'	(4) 3/4"Ø	9"	

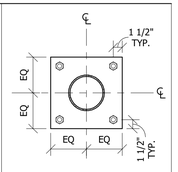
STEEL COLUMN SCHEDULE NOTES:

1. SEE GENERAL NOTES ON SHEET S100 FOR ADDITIONAL MATERIAL REQUIREMENTS.
2. ANCHOR ROD EMBEDMENT DOES NOT INCLUDE PROJECTION.
3. PROVIDE HEAVY HEX NUTS INTO AT BASE OF ANCHORS RODS IN CONCRETE, TACK WELD NUT TO ROD.
4. UPSET THREADS AFTER COLUMN IS LEVELED AND IN FINAL POSITION.
5. PROVIDE FLAT WASHER BETWEEN ANCHOR ROD AND BASE PLATE.
6. PROVIDE 5/16" OVERSIZED HOLE IN BASE PLATE FOR ANCHOR ROD PLACEMENT.
7. PROVIDE PROTECTIVE ASPHALTIC COATING OR EQUAL AROUND STRUCTURAL STEEL BELOW GRADE.
8. GROUTING UNDER COLUMN BASE PLATES SHALL BE ACCOMPLISHED WITH NONMETALLIC, SHRINK RESISTING GROUT, ASTM C1103 WITH A MINIMUM COMPRESSIVE STRENGTH OF 7,000 PSI IN ACCORDANCE WITH ACI 351.1.



ANCHOR BOLT EMBEDMENT

A. ROD	A	B
1/2"Ø	1 1/2"	1 1/2"
5/8"Ø	2"	1 1/2"
3/4"Ø	2 1/4"	1 1/2"
1"Ø	3"	2"
1 1/4"Ø	3 3/4"	2 1/2"
1 1/2"Ø	4 1/2"	3"



TYPE 'A'

WOOD FASTENING SCHEDULE

	CONNECTION DESCRIPTION	LOCATION	FASTENING
FLOOR AND ROOF FRAMING	BLOCKING BETWEEN JOISTS OR RAFTER TO TOP PLATE OR OTHER FRAMING BELOW	TOE NAIL EACH END	(3) 0.131"Ø x 2 1/2" NAILS (3) 0.131"Ø x 3" NAILS (3) 0.128"Ø x 3" NAILS
	BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT WALL TOP PLATE, TO RAFTER OR TRUSS	TOE NAIL EACH END; OR	(2) 0.131"Ø x 2 1/2" NAILS (2) 0.131"Ø x 3" NAILS
		END NAIL	(2) 0.162"Ø x 3 1/2" NAILS (3) 0.131"Ø x 3" NAILS
	ROOF RAFTER TO 2x RIDGE BEAM OR JACK RAFTER TO HIP	TOE NAIL EACH END; OR	(3) 0.148"Ø x 3" NAILS (4) 0.135"Ø x 3 1/2" NAILS (4) 0.131"Ø x 3" NAILS (4) 0.128"Ø x 3" NAILS
		END NAIL	(2) 0.162"Ø x 3 1/2" NAILS (3) 0.131"Ø x 3" NAILS (3) 0.128"Ø x 3" NAILS
	JOIST TO SILL, TOP PLATE OR GIRDER	TOE NAIL THROUGH EACH SIDE	(3) 0.131"Ø x 2 1/2" NAILS (3) 0.131"Ø x 3" NAILS (3) 0.128"Ø x 3" NAILS
	RIM JOIST, BAND JOIST OR BLOCKING TO TOP PLATE SILL OR OTHER FRAMING BELOW	TOE NAIL	0.131"Ø x 2 1/2" NAILS @6" OC 0.131"Ø x 3" NAILS @6" OC 0.128"Ø x 3" NAILS @6" OC
	JOIST TO BAND JOIST OR RIM JOIST	END NAIL	(3) 0.162"Ø x 3 1/2" NAILS (4) 0.131"Ø x 3" NAILS (4) 0.128"Ø x 3" NAILS
	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	FACE NAIL EACH JOIST OR RAFTER	(3) 0.162"Ø x 3 1/2" NAILS (4) 0.131"Ø x 3" NAILS (4) 0.128"Ø x 3" NAILS
	BRIDGING OR BLOCKING TO JOIST RAFTER OR TRUSS	TOE NAIL EACH END	(2) 0.131"Ø x 2 1/2" NAILS (2) 0.131"Ø x 3" NAILS (2) 0.128"Ø x 3" NAILS

	CONNECTION DESCRIPTION		LOCATION	FASTENING
WALL FRAMING	MULTI-PLY STUDS (POSTS, JAMBS AND WALL STUDS)		FACE NAIL EACH PLY	0.162"Ø x 3 1/2" NAILS @24" OC 0.131"Ø x 3" NAILS @16" OC 0.128"Ø x 3" NAILS @16" OC
	ABUTTING STUDS AT CORNERS AND INTERSECTING WALLS		FACE NAIL	0.162"Ø x 3 1/2" NAILS @24" OC 0.131"Ø x 3" NAILS @16" OC 0.128"Ø x 3" NAILS @16" OC
	CONTINUOUS HEADER TO STUD		TOE NAIL	(4) 0.131"Ø x 2 1/2" NAILS (4) 0.128"Ø x 3" NAILS
	TOP PLATE TO TOP PLATE (DOUBLE TOP PLATE)		FACE NAIL	0.162"Ø x 3" NAILS @16" OC 0.131"Ø x 3" NAILS @12" OC 0.128"Ø x 3" NAILS @12" OC
	TOP PLATE TO TOP PLATE AT END JOINT (LAP SPLICE)		FACE NAIL EA SPLICE END, 24" MIN LAP	(8) 0.162"Ø x 3 1/2" NAILS (12) 0.131"Ø x 3" NAILS (12) 0.128"Ø x 3" NAILS
	TOP PLATE OVERLAP AT CORNERS AND INTERSECTIONS		FACE NAIL	(2) 0.162"Ø x 3 1/2" NAILS (3) 0.131"Ø x 3" NAILS (3) 0.128"Ø x 3" NAILS
	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING		FACE NAIL	0.162"Ø x 3 1/2" NAILS @16" OC 0.131"Ø x 3" NAILS @12" OC 0.135"Ø x 3 1/2" NAILS @12" OC
	TOP OR BOTTOM PLATE TO STUD		END NAIL; OR	(2) 0.162"Ø x 3 1/2" NAILS (3) 0.131"Ø x 3" NAILS (3) 0.128"Ø x 3" NAILS
			TOE NAIL	(4) 0.131"Ø x 2 1/2" NAILS (4) 0.131"Ø x 3" NAILS (4) 0.128"Ø x 3" NAILS
	DOUBLE TOP PLATE TO WALL STUD AT WALLS DIRECTLY SUPPORTING ROOF FRAMING		TOE NAIL OR SCREW STUD TO PLATES	(4) 0.131"Ø x 2 1/2" NAILS (4) 0.131"Ø x 3" NAILS (4) 0.128"Ø x 3" NAILS (1) 0.152"Ø x 6" SDWC SCREW
WALL SHEATHING	WOOD STRUCTURAL PANEL WALL SHEATHING TO FRAMING	1/2" AND LESS	6" OC AT EDGE AND 12" OC AT FIELD	0.113"Ø x 2" NAILS 0.113"Ø x 2 3/8" NAILS
		19/32"-3/4"		0.113"Ø x 2" NAILS 0.131"Ø x 2 1/2" NAILS 0.113"Ø x 2 3/8" NAILS
	GYPSUM WALL SHEATHING TO STRUCTURAL FRAMING		8" OC AT EDGE AND 12" OC AT FIELD	NO 6 x 1 1/4" TYPE S OR W/ DRYWALL SCREWS

UNLESS NOTED OTHERWISE:
1. SCHEDULE BASED ON IBC TABLE 2304.10.1 REQUIREMENTS FOR STRUCTURAL FRAMING CONNECTIONS.
2. SCHEDULE PROVIDES MINIMUM REQUIREMENTS. SEE NOTES AND DETAILS FOR ADDITIONAL STRUCTURAL REQUIREMENTS.
3. STRUCTURAL WALLS REQUIRE SHEATHING ON ONE FACE, MINIMUM. SEE STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION.
4. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL WALL TYPES AND SHEATHING AND FASTENING REQUIREMENTS NOT LISTED ON STRUCTURAL DRAWINGS.
5. ALL FASTENING OPTIONS ARE LISTED. CONTRACTOR MAY SELECT WHICH OPTIONS TO USE ON THIS PROJECT.

LAP SPLICE SCHEDULE (UNCOATED GRADE 60 BARS IN CONCRETE)

CLASS 'A' TENSION LAP SPLICE

BAR SIZE	CONCRETE COMPRESSIVE STRENGTH, f'_c (PSI)							
	3,000	3,500	4,000	5,000	6,000	7,000	8,000	10,000
#3	1'-5"	1'-4"	1'-3"	1'-1"	1'-0"	0'-11"	0'-11"	0'-9"
#4	1'-10"	1'-9"	1'-7"	1'-5"	1'-4"	1'-3"	1'-2"	1'-0"
#5	2'-4"	2'-2"	2'-0"	1'-10"	1'-8"	1'-7"	1'-5"	1'-3"
#6	2'-9"	2'-7"	2'-5"	2'-2"	2'-0"	1'-10"	1'-9"	1'-6"
#7	4'-1"	3'-9"	3'-6"	3'-2"	2'-11"	2'-8"	2'-6"	2'-3"
#8	4'-7"	4'-3"	4'-0"	3'-7"	3'-3"	3'-0"	2'-10"	2'-6"
#9	5'-2"	4'-10"	4'-6"	4'-1"	3'-8"	3'-5"	3'-3"	2'-10"
#10	5'-9"	5'-4"	5'-0"	4'-6"	4'-1"	3'-9"	3'-7"	3'-2"
#11	6'-4"	5'-11"	5'-6"	5'-0"	4'-6"	4'-2"	3'-11"	3'-6"

CLASS 'B' TENSION LAP SPLICE

BAR SIZE	CONCRETE COMPRESSIVE STRENGTH, f'_c (PSI)							
	3,000	3,500	4,000	5,000	6,000	7,000	8,000	10,000
#3	1'-10"	1'-8"	1'-7"	1'-5"	1'-4"	1'-3"	1'-2"	1'-0"
#4	2'-5"	2'-3"	2'-1"	1'-11"	1'-9"	1'-7"	1'-6"	1'-4"
#5	3'-0"	2'-10"	2'-7"	2'-4"	2'-2"	2'-0"	1'-10"	1'-8"
#6	3'-7"	3'-4"	3'-1"	2'-10"	2'-7"	2'-5"	2'-3"	2'-0"
#7	5'-3"	4'-10"	4'-7"	4'-1"	3'-9"	3'-5"	3'-3"	2'-11"
#8	6'-0"	5'-7"	5'-3"	4'-8"	4'-3"	3'-11"	3'-9"	3'-3"
#9	6'-9"	6'-3"	5'-11"	5'-3"	4'-10"	4'-5"	4'-2"	3'-8"
#10	7'-6"	6'-11"	6'-6"	5'-10"	5'-4"	4'-11"	4'-8"	4'-1"
#11	8'-3"	7'-8"	7'-2"	6'-5"	5'-10"	5'-5"	5'-1"	4'-6"

CIP CONCRETE LAP SPLICE SCHEDULE NOTES:

1. THESE TABLES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
   A. UNCOATED GRADE 60 REBAR IN GROUTED CONCRETE
   B. CLEAR SPACING OF BARS ≥ d_b
   C. CLEAR COVER ≥ d_b
   D. STIRRUPS OR TIES PROVIDED THROUGHOUT DEVELOPMENT LENGTH MINIMUM ≥ OR
      a. CLEAR SPACE OF BARS ≥ 2*d_b
      b. CLEAR COVER ≥ d_b
2. FOR OTHER CASES, MULTIPLY LENGTHS SHOWN BY 1.5
3. TOP BAR SPLICES:
   A. TOP BARS ARE SUCH THAT 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE SPLICE OR DEVELOPMENT LENGTH
   B. MULTIPLY LENGTHS SHOWN BY 1.3
4. FOR LIGHTWEIGHT CONCRETE, MULTIPLY LENGTHS SHOWN BY 1.3
5. FOR HIGHER GRADE STEEL, MULTIPLY LENGTHS SHOWN BY A RATIO OF HIGHER F_Y (KSI) OVER 1,160 (KSI). ALL OTHER FACTORS LISTED STILL APPLY.
6. FOR COMPRESSION LAP SPLICE, USE GREATER OF:
   A. (0.0009*F_Y - 24)*d_b
   B. 0.0005*F_Y*d_b
7. ABBREVIATED TERMS:
   A. d_b = BAR DIAMETER
   B. F_Y = YIELD STRENGTH OF REBAR
8. ALL REBAR LAP SPLICES SHALL BE 'CLASS B' UNLESS NOTED OTHERWISE ON PLAN.

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DATE: 09/04/2026 LICENSE #: 44104

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PROJECT NO.:	00526011

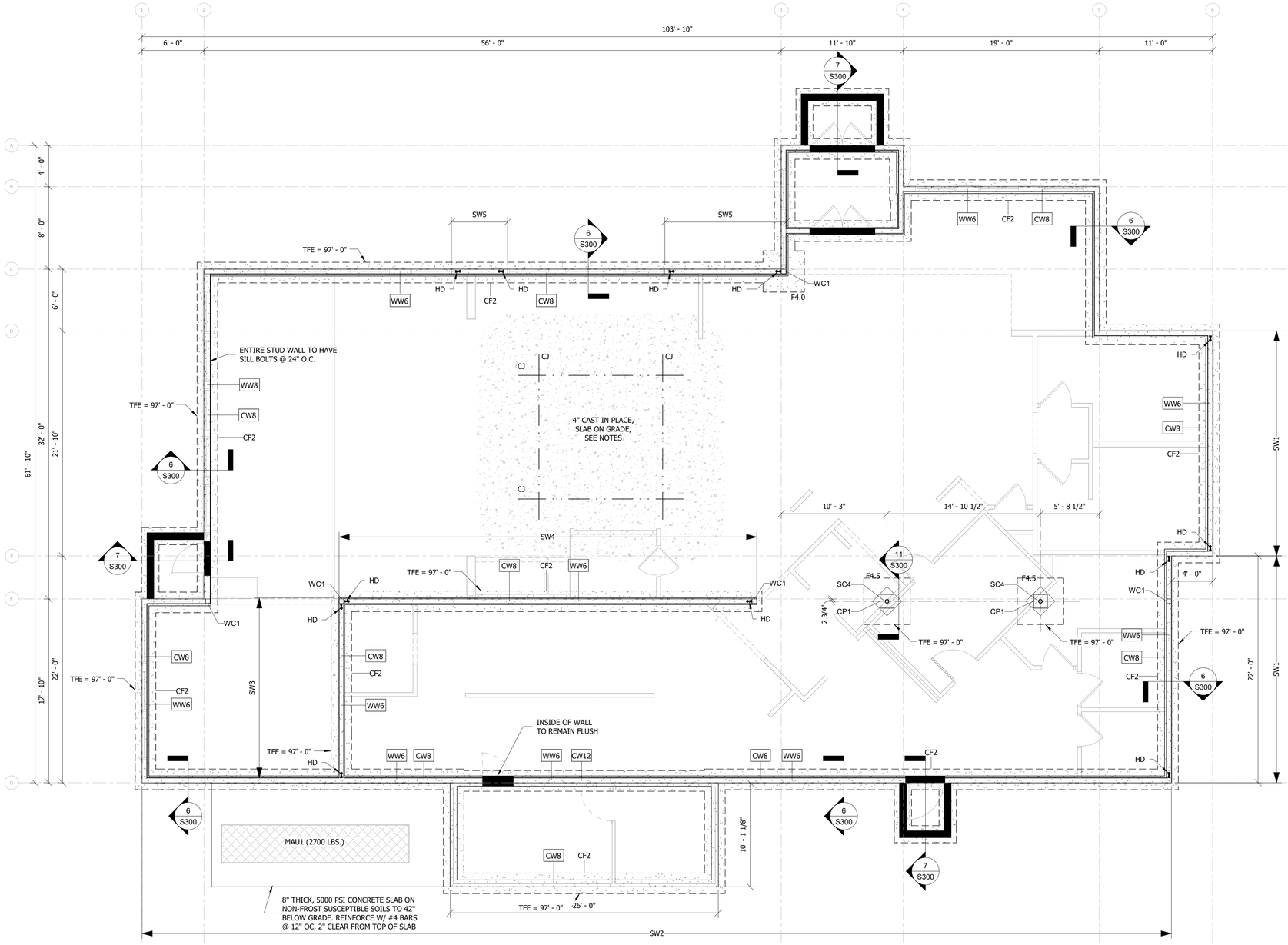
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SCHEDULES AND NOTES

DRAWING NO.

S110

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2 FOUNDATION / SLAB ON GRADE PLAN
3/16" = 1'-0"

FOUNDATION PLAN NOTES:
UNLESS NOTED OTHERWISE:
1. SEE SHEET S000 FOR ABBREVIATIONS AND SYMBOLS.
2. SEE SHEET S100 FOR GENERAL NOTES.
3. SEE PLAN FOR TOP OF FOOTING ELEVATIONS.
4. TOP OF FOOTING ELEVATIONS UNO:
   A. EXTERIOR FOOTINGS: 97'-0"
   B. INTERIOR FOOTINGS: 99'-0"
5. 'F#' ON PLAN DENOTES SPREAD FOOTING TYPE. SEE SCHEDULE ON SHEETS200 FOR ADDITIONAL INFORMATION. SPREAD FOOTINGS SHALL BE CENTERED ON COLUMNS AND WALL INTERSECTIONS UNLESS NOTED OTHERWISE ON PLAN.
6. 'CF#' ON PLAN DENOTES CONTINUOUS STRIP FOOTING. SEE SCHEDULE ON SHEETS200 FOR ADDITIONAL INFORMATION. STRIP FOOTINGS SHALL BE CENTERED ON FOUNDATION WALLS UNLESS NOTED OTHERWISE ON PLAN.
7. 'CP#' ON PLAN DENOTES CONCRETE PIER. SEE SCHEDULE ON SHEET S200 FOR ADDITIONAL INFORMATION.
8. 'CW#' ON PLAN DENOTES CAST-IN-PLACE (CIP) WALL TYPE. SEE SCHEDULE ON SHEET S200 FOR ADDITIONAL INFORMATION.
9. 'SC#' ON PLAN DENOTES STEEL COLUMN. SEE SCHEDULE ON SHEET S110 FOR ADDITIONAL INFORMATION.
10. S---------S ON PLAN DENOTES FOOTING STEP. SEE 5/S300 FOR ADDITIONAL INFORMATION.
11. FOOTINGS FOR WALLS NOT NOTED SHALL BE 12" THICK WITH A MINIMUM PROJECTION OF 4" EACH SIDE. REINFORCE WITH (2) #5 CONTINUOUS. ADD (1) #5 CONT FOR EACH 6" WIDTH OVER 24".
12. SEE ARCHITECTURAL PLANS FOR ALL OPENING LOCATIONS, DIMENSIONS, STOOPS, AND INTERIOR PARTITIONS.
13. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATINGS OF STRUCTURAL AND NON-STRUCTURAL ASSEMBLIES.
14. SEE DETAIL 3/S300 FOR TYPICAL CONCRETE COVER OVER UTILITY PIPE. COORDINATE PIPE LOCATIONS AND ELEVATIONS WITH CIVIL AND MECHANICAL DRAWINGS.
15. SEE DETAIL 4/S300 FOR OPENINGS IN CIP CONCRETE WALLS WITH A MAXIMUM CLEAR SPAN OF 4'-0". COORDINATE OPENING LOCATIONS AND ELEVATIONS WITH ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS.
16. ▬▬ ON PLAN DENOTES TOP OF FOUNDATION WALL RECESS. COORDINATE SIZE AND LOCATION WITH ARCHITECTURAL DRAWINGS.
17. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONS.

SLAB ON GRADE PLAN NOTES:
UNLESS NOTED OTHERWISE:
1. TOP OF INTERIOR SLAB ELEVATION = 100' - 0" (CIVIL ELEVATION 1354.00). SEE ARCHITECTURAL DRAWINGS FOR SLAB SLOPES, STEPS, RAMPS, AND ELEVATIONS.
2. INTERIOR SLAB-ON-GRADE SHALL BE 4" THICK W/ SYNTHETIC MICRO FIBER REINFORCING (MIN 1.5 LB/CY) ON A MINIMUM 10-MIL VAPOR BARRIER COMPLYING W/ ASTM E1745, CLASS A (MAXIMUM 0.04 PERM).
   SEE GEOTECHNICAL REPORT FOR ADDTIONAL INFORMATION.
3. SLAB CONTROL JOINTS:
   A. MAXIMUM SPACING = 10' - 0"
   B. MAXIMUM PANEL ASPECT RATIO = 1.5 (LONG SIDE / SHORT SIDE)
   C. VERIFY JOINT LOCATIONS WITH ARCH
   D. SEE DETAIL 1/S300 FOR ADDTIONAL INFORMATION.
4. SEE ARCHITECTURAL PLANS FOR ALL OPENING LOCATIONS, DIMENSIONS, STOOPS, AND INTERIOR PARTITIONS.
5. SEE DETAILS 10/S300 FOR TYPICAL COLUMN ISOLATION JOINT.
6. ▬ ON PLAN DENOTES SHEAR WALL HOLD DOWNS. SEE SCHEDULE ON SHEET S303 FOR ADDITIONAL INFORMATION.
7. ◄—SWx—► ON PLAN DENOTES SHEAR WALL LOCATIONS, SEE SCHEDULE ON SHEET S303 FOR ADDITIONAL INFORMATION.

CIP STRIP FOOTING SCHEDULE

MARK	FOOTING SIZE	CONTINUOUS REINFORCEMENT	TRANSVERSE REINFORCEMENT	COMMENTS
CF1	1' - 8" x 12"	(2) - #4	--	
CF2	2' - 0" x 12"	(2) - #5	--	

CONTINUOUS FOOTING SCHEDULE NOTES UNO ON PLAN:
1. SEE GENERAL NOTES ON SHEET S100FOR ADDITIONAL REQUIREMENTS.
2. CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS.
3. SEE SCHEDULE ON SHEET S110 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR.
4. ALL REINFORCING IN BOTTOM OF FOOTING.

CIP PAD FOOTING SCHEDULE

MARK	FOOTING SIZE	BOTTOM REINFORCEMENT	TOP REINFORCEMENT	COMMENTS
F3.5	3'-6" x 3'-6" x 1'-0"	(5) - #4 EACH WAY	N/A	
F4.0	4'-0" x 4'-0" x 1'-0"	(6) - #4 EACH WAY	N/A	

SPREAD FOOTING SCHEDULE NOTES UNO ON PLAN:
1. SEE GENERAL NOTES ON SHEET S100FOR ADDITIONAL REQUIREMENTS.
2. SPREAD FOOTINGS SHALL BE CENTERED UNDER COLUMNS.
3. SEE SCHEDULE ON SHEET S110 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR.

CIP CONCRETE WALL SCHEDULE

MARK	WALL THICKNESS	VERTICAL REINFORCEMENT	HORIZONTAL REINFORCEMENT	REINFORCEMENT LOCATION	COMMENTS
CW8	8"	#4 BARS @ 18" OC	#4 BARS @ 12" OC	CENTER	
CW12	12"	#4 BARS @ 18" OC	#4 BARS @ 16" OC	EA FACE	

CIP CONCRETE WALL SCHEDULE NOTES UNO ON PLAN:
1. SEE GENERAL NOTES ON SHEET S100 FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE MARK CW8 WHERE CIP CONCRETE WALL MARK IS NOT SHOWN. CONFIRM WITH ENGINEER PRIOR TO PLACEMENT.
3. EXTEND VERTICAL REINFORCING FROM FOOTINGS TO 2" CLEAR TOP OF WALL OR TO BEAM BEARING.
4. WALL REINFORCING IS CONTINUOUS THROUGH COLUMNS, PIERS, AND LINTELS.
5. SEE DETAIL 2/S300 FOR CONTROL JOINT REQUIREMENTS IN CIP WALLS.
6. SEE FOUNDATION AND WALL DETAILS IN 9/S300 FOR DETAILING AT JOINTS, CORNERS, AND INTERSECTIONS.
7. VERTICAL REINFORCING IS PRIMARY. WHEN INDICATED AS INSIDE FACE ABOVE, PLACE VERTICAL REINFORCING CLOSEST TO INSIDE (INTERIOR FACE OF WALL AND HORIZONTAL REINFORCING BEHIND THAT). WHERE CENTERED IS INDICATED ABOVE, CENTER THE VERTICAL REINFORCING AND PLACE HORIZONTAL REINFORCING ON EITHER SIDE OF THE VERTICAL BARS.
8. SEE SCHEDULES ON SHEET S110 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR.
9. REFER TO ARCHITECTURAL DRAWINGS FOR VENEER SHELF ELEVATIONS AT FOUNDATION WALL.
10. PROVIDE STANDARD 90-DEGREE HOOK DOWELS BETWEEN FOUNDATIONS AND WALLS EQUAL TO THE SIZE AND SPACING OF THE VERTICAL REINFORCING. PLACE HOOKED END OF DOWEL 3" FROM BOTTOM OF FOOTING AND PROJECT CLASS 'A' LAP ABOVE TOP OF FOOTING.
11. SLEEVES EMBEDDED IN WALLS SHALL BE LOCATED CLEAR BETWEEN REINFORCING BARS AND SHALL MAINTAIN CLEAR SPACING EQUAL TO THE DIAMETER OF THE LARGEST SLEEVE IN ANY DIRECTION. SLEEVE GROUPS THAT DO NOT COMPLY WITH THE ABOVE REQUIREMENTS SHALL BE CONSIDERED AS AN OPENING AND REINFORCED PER NOTE #12 BELOW.
12. PROVIDE EXTRA REINFORCING ON ALL SIDES OF ALL MISCELLANEOUS WALL OPENINGS EQUAL TO ONE HALF THE INTERRUPTED REINFORCING BARS EACH SIDE BUT NOT LESS THAN (2) #5 FOR EACH LAYER OF REINFORCEMENT. EXTEND BARS CLASS 'B' LAP LENGTH BUT NOT LESS THAN 2 FEET BEYOND EDGE OF OPENINGS. PROVIDE (2) #4 x 48" DIAGONAL BARS AT EACH CORNER FOR EACH LAYER OF REINFORCEMENT.

CIP CONCRETE PIER SCHEDULE

MARK	SIZE	VERTICAL REINFORCEMENT	TIE REINFORCEMENT	TOP OF PIER	TYPE	COMMENTS
CP1	16X16	(4)-#6	#3 @ 12"OC	99'-4"	'A'	

CIP CONCRETE PIER SCHEDULE NOTES UNO ON PLAN:
1. SEE GENERAL NOTES ON SHEET S100FOR ADDITIONAL REQUIREMENTS.
2. PIERS SHALL BE LOCATED AT COLUMN CENTERLINE ON PLAN AND DETAILS.
3. PROVIDE CP1 PIER WHERE CIP CONCRETE PIER MARK ARE NOT INDICATED ON PLAN. CONFIRM WITH SEOR PRIOR TO PLACEMENT.
4. POUR CIP CONCRETE PIERS INTEGRALLY WITH CIP CONCRETE WALLS.
5. PROVIDE STANDARD 90° HOOK DOWELS BETWEEN FOUNDATIONS AND CIP COLUMNS EQUAL TO THE SIZE AND SPACING OF THE VERTICAL REINFORCING. PLACE HOOKED END OF DOWEL 3" FROM BOTTOM OF FOOTING AND PROJECT CLASS 'A' LAP ABOVE TOP OF FOOTING.
6. EXTEND VERTICAL BARS TO 2" CLEAR TOP OF PIER.
7. SEE SCHEDULES ON SHEET S110 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR. PROVIDE CLASS 'B' TENSION LAP SPLICE.
8. ALL PIERS SHALL HAVE (3) ADDTIONAL TIES IN TOP 5" PORTION OF PIERS PER ACI 10.7.6.1.6.
9. PROVIDE CROSSTIES AS SHOWN WITH 90° HOOK ONE END AND 135° HOOK OTHER END. SIZE TO MATCH TIES. ALTERNATE TIE CONFIGURATIONS MEETING ACI 318 SECTION 25.7.2.3 ARE ACCEPTABLE.
10. PROVIDE FIRST TIE MAXIMUM OF 1/2 TIE SPACING ABOVE TOP OF FOOTING.
11. REFER TO DRAWINGS FOR TOP OF PIER ELEVATIONS.



TYPE 'A'

DESIGN TREE
engineering + land surveying
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PRINTED NAME: JOE A NICHOLSON

DATE: 09/04/2026 LICENSE #: 44104

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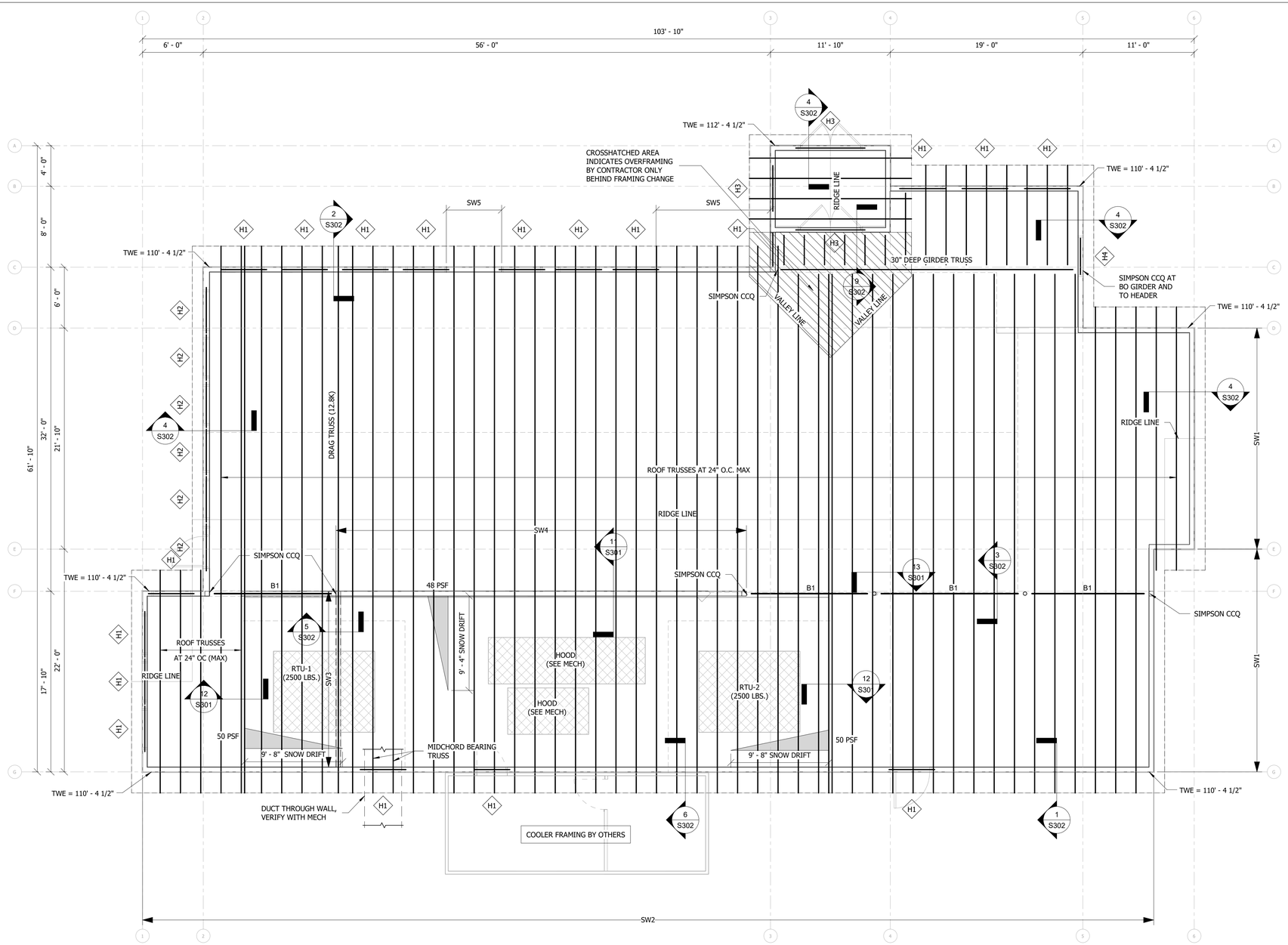
NO.	DATE	DESCRIPTION

SLAB ON GRADE/FOUNDATION PLAN

DRAWING NO.

S200

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1 ROOF FRAMING PLAN
3/16" = 1'-0"

ROOF PLAN NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR ROOF PITCHES AND ELEVATIONS.
2. REFER TO SHEET S301 FOR TYPICAL FRAMING DETAILS.
3. THE CONTRACTOR SHALL COORDINATE BETWEEN THE TRUSS MANUFACTURER AND MECHANICAL DRAWINGS/CONTRACTOR TO ENSURE THAT PROPRIETARY ELEMENTS ARE DESIGNED TO RESIST SUSPENDED LOADS FROM THEIR EQUIPMENT. THE WEIGHT OF SUSPENDED MECHANICAL LOADS HAS NOT BEEN ACCOUNTED FOR IN THE JOIST DESIGN INDICATED ON PLANS.
4. SEE ARCHITECTURAL DRAWINGS FOR ROOF TRUSS BEARING ELEVATION, DIMENSION, AND TRUSS PROFILE.
5. SEE ARCHITECTURAL DRAWINGS FOR ALL OPENING DIMENSIONS AND LOCATIONS.
6. TRUSS BRACING BY TRUSS SUPPLIER.
7. WOOD ROOF TRUSS NOTES:
   a. ROOF TRUSSES ARE PITCHED TOP CHORD OPEN WEB TRUSSES AT 24" OC MAX. SPACING MAY BE REDUCED BY TRUSS SUPPLIER.
   b. SEE ARCH FOR PITCHED BOTTOM CHORD LOCATIONS.
   c. SEE SHEET S100 FOR LOADS.
   d. ROOF TRUSSES SHALL BE DESIGNED FOR A MAXIMUM LL DEFLECTION = SPAN/360 AND A MAXIMUM TL DEFLECTION = SPAN/240.
8. TRUSS SUPPLIER SHALL PROVIDE HURRICANE TIES TO TOP PLATE AT ALL ROOF FRAMING MEMBERS.
9. ROOF SHEATHING:
   A. AT ROOF TRUSS FRAMING: 19/32" PLYWOOD SHEATHING. SEE DETAIL 4/S303 OR 5/S303 FOR FLOOR SHEATHING FASTENING.
10. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONS.

WOOD COLUMN SCHEDULE

MARK	SIZE	POST BASE	POST CAP	COMMENTS
WC1	6X6	ABU66	CCQ	

WOOD COLUMN SCHEDULE NOTES UNO ON PLAN:

1. SEE GENERAL NOTES ON SHEET S100 FOR ADDITIONAL INFORMATION.
2. SEE 3/S301 FOR BUILT-UP COLUMN NAILING SCHEDULE.

WOOD BEAM SCHEDULE

MARK	BEAM SIZE	CONNECTION	COMMENTS
B1	(3) 1.75X16 LVL		

WOOD BEAM SCHEDULE NOTES UNO ON PLAN:

1. 'B1' IN SCHEDULE DENOTES BEAMS.
2. SEE SCHEDULE ON SHEET 301 FOR BUILT-UP BEAM FASTENING SCHEDULE.
3. SEE 3/S301 FOR BUILT-UP COLUMN NAILING SCHEDULE.
4. SEE 3/S302 FOR STRAPPING REQUIREMENTS AT WOOD BEAMS SUPPORTING ROOF FRAMING.
5. SEE WOOD FRAMING SPECIES AND GRADE SCHEDULE ON SHEET S100 FOR ADDITIONAL INFORMATION.
6. SIZES AND QUANTITIES PROVIDED ARE MINIMUM ALLOWED. STRONGER MEMBERS MAY BE SUBSTITUTED PROVIDED THE PERFORMANCE OF THE ALTERNATE MEMBER EXCEEDS THE MEMBER SHOWN HERE. ALTERNATE DESIGNS MUST BE SUBMITTED TO AND APPOROVED IN WRITING BY THE ENGINEER PRIOR TO CONSTRUCTION.
7. DIMENSIONAL LUMBER IS NOT ALLOWED BETWEEN SCL BEAMS AND SCL POSTS CONNECTIONS.

WOOD HEADER SCHEDULE

MARK	HEADER SIZE	JACK STUDS	KING STUDS	COMMENTS
H1	(2) 2 x 10	(1) 2x	(1) 2x6	
H2	(2) 2 x 10	(1) 2x	(1) 2x8	
H3	(2) 2 x 10	(1) 2x	(2) 2x6	
H4	(3) 1.75X14 LVL	(3) 2x	(2) 2x6	

WOOD HEADER SCHEDULE NOTES UNO ON PLAN:

1. 'H1' IN SCHEDULE DENOTES DROPPED HEADERS INSTALLED OVER WINDOWS, DOORS, AND MECH OPENINGS.
2. SEE SCHEDULE ON SHEET S100 FOR BUILT-UP HEADER FASTENING SCHEDULE.
3. SEE 3/S301 FOR BUILT-UP COLUMN NAILING SCHEDULE.
4. 2x JACK / POST & KING STUDS SHALL MATCH WALL THICKNESS.
5. SEE WOOD FRAMING SPECIES AND GRADE SCHEDULE ON SHEET S100 FOR ADDITIONAL INFORMATION.
6. SIZES AND QUANTITIES PROVIDED ARE MINIMUM ALLOWED. STRONGER MEMBERS MAY BE SUBSTITUTED PROVIDED THE PERFORMANCE OF THE ALTERNATE MEMBER EXCEEDS THE MEMBER SHOWN HERE. ALTERNATE DESIGNS MUST BE SUBMITTED TO AND APPOROVED IN WRITING BY THE ENGINEER PRIOR TO CONSTRUCTION.
7. IF PLANS INDICATED THE PRESENCE OF A SCL COLUMN, COLUMN TAKES PRECEDENCE OF OVER JACK STUDS.
8. DIMENSIONAL LUMBER IS NOT ALLOWED BETWEEN SCL HEADERS AND SCL POSTS CONNECTIONS.
9. SEE DETAIL 8/S301 FOR HEADER IN TYPICAL WOOD FRAMED WALL.

WOOD WALL SCHEDULE

MARK	STUD SIZE	STUD SPACING	BOTTOM PLATE	TOP PLATE	COMMENTS
WW6	2 x 6	16" OC	(1) 2 x 6 PT	(2) 2 x 6	
WW8	2 x 8	16" OC	(1) 2 x 8 PT	(2) 2 x 8	

WOOD WALL SCHEDULE NOTES UNO ON PLAN:

1. SEE ARCH DRAWINGS FOR INTERIOR AND EXTERIOR SHEATHING UNLESS SPECIFIED IN SHEAR WALL SCHEDULE ON SHEET S303 .
2. SEE WOOD FRAMING SPECIES AND GRADE SCHEDULE ON SHEET S100FOR ADDTIONAL INFORMATION.
3. SEE DETAIL 2/S301 FOR TYPICAL WALL INTERSECTION DETAILS.
4. SEE DETAIL 3/S301 FOR BUILT-UP COLUMN NAILING.
5. SEE DETAIL 1/S301 FOR TYPICAL SOLE PLATE ANCHORAGE ON PLANS, SCHEDULES AND DETAILS.
6. SEE WOOD SHEAR WALL SCHEDULE FOR WALLS THAT REQUIRE BLOCKING.
7. WHERE WALL STUDS ARE SPACED AT 24" OC, FLOOR AND ROOF TRUSSES MUST BEAR DIRECTLY ABOVE STUDS BELOW TOP PLATE. ADD ADDITIONAL STUDS IF REQUIREMENT IS NOT MET.
8. SEE ARCH DRAWINGS FOR ALL NON-BEARING AND PARTITION WALL FRAMING NOT SHOWN ON STRUCTURAL DRAWINGS.
9. SEE DETAIL 8/S301 FOR TYPICAL WOOD WALL FRAMING.

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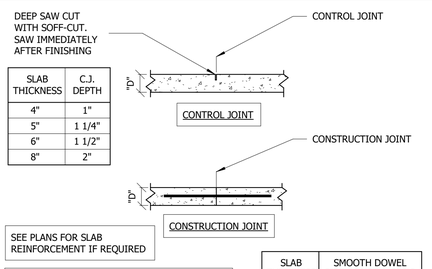
NO.	DATE	DESCRIPTION

ROOF FRAMING PLAN

DRAWING NO.

S210

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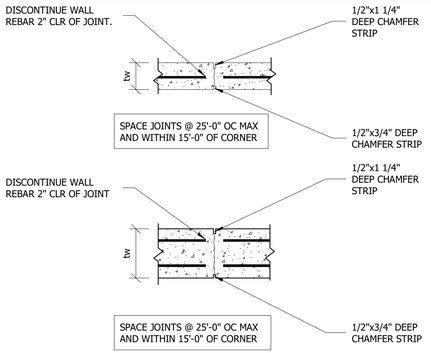
SLAB THICKNESS	C.J. DEPTH
4"	1"
5"	1 1/4"
6"	1 1/2"
8"	2"

SEE PLANS FOR SLAB REINFORCEMENT IF REQUIRED

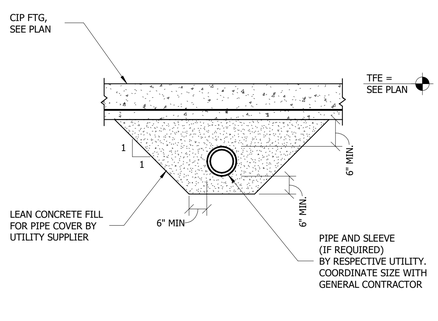
SMOOTH DOWELS NOTES:
1. CENTER DOWELS IN SLAB THICKNESS
2. SEE SMOOTH DOWEL TABLE FOR SIZE, LENGTH AND SPACING REQUIREMENTS
3. ALL DOWELS SHALL BE SAW CUT NOT SHEARED AND CENTERED IN SLAB THICKNESS

SLAB THICKNESS	SMOOTH DOWEL SIZE	LENGTH	SPC'G
4"	1/2"Ø	2'-0"	16" OC
5"	3/4"Ø	2'-0"	12" OC
6"	3/4"Ø	2'-0"	12" OC
8"	1"Ø	2'-0"	12" OC

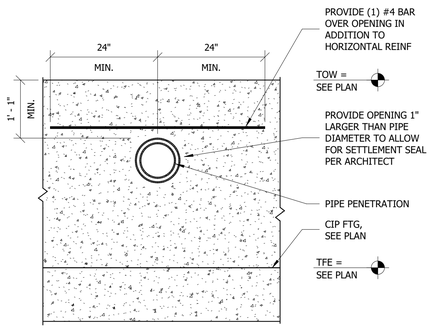
1 CONTROL JOINT/CONSTRUCTION JOINT
NO SCALE



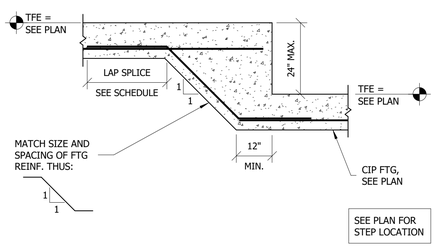
2 CIP WALL CONTROL JOINT
NO SCALE



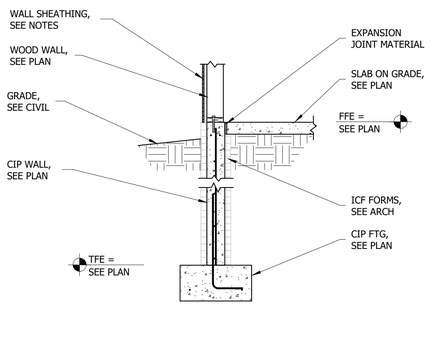
3 CONCRETE COVER FOR UTILITY PIPE
NO SCALE



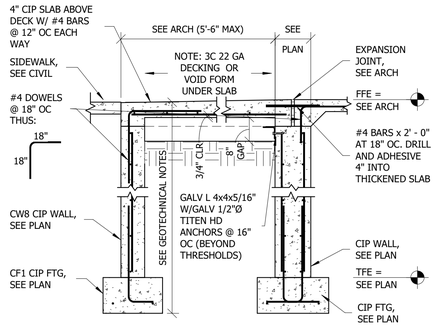
4 SECTION @ PIPE PENETRATION
NO SCALE



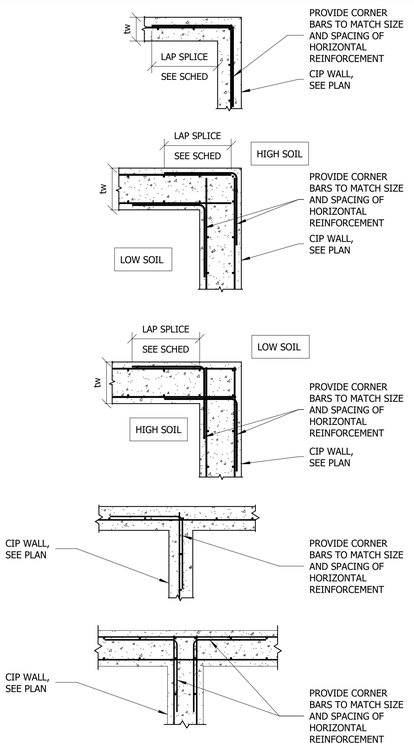
5 TYPICAL STEPPED FTG
NO SCALE



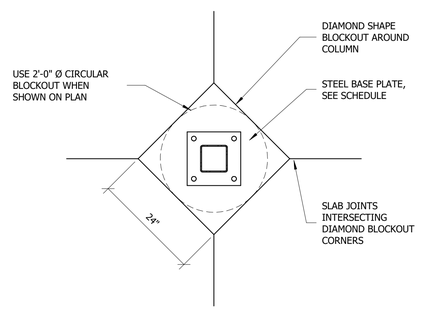
6 CIP FOUNDATION WOOD WALL (ZIP)
1/2" = 1'-0"



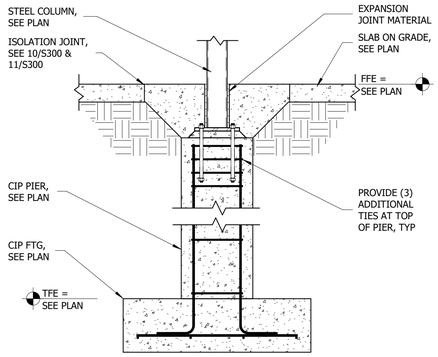
7 CIP STOOP DETAIL
NO SCALE



9 CIP WALL CORNER REINFORCEMENT
NO SCALE



10 ISOLATION JOINT INTERIOR
3/4" = 1'-0"



11 CIP PIER W/ STEEL COLUMN
3/4" = 1'-0"

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FOUNDATION DETAILS - CIP

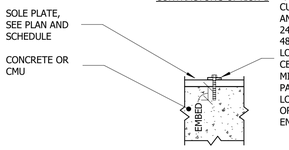
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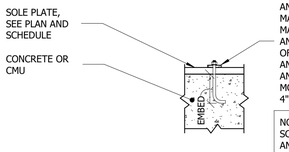
CONTRACTOR'S OPTION 1

1/2"Ø SCREW ANCHOR W/ STD CUT WASHERS (MIN 3 GAx3"x3") AND 6" EMBEDMENT. SPACE @ 24" OC MAX AT EXT WALLS AND 48" OC MAX AT INT WALLS. LOCATE ANCHOR WITHIN CENTER THIRD OF SOLE PLATE. MIN (2) ANCHORS PER WALL PANEL AND AN ANCHOR LOCATED NOT MORE THAN 12" OR LESS THAN 4" FROM EACH END OF PANEL.



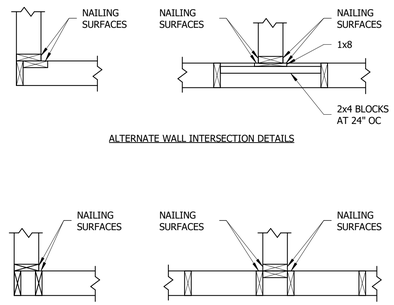
CONTRACTOR'S OPTION 2

1/2"Ø 'J' BOLT ANCHOR W/ STD CUT WASHERS (MIN 3 GAx3"x3") AND 7" EMBED. SPACE AT 32" OC MAX AT EXT WALLS AND 48" OC MAX AT INT WALLS. LOCATE ANCHOR WITHIN CENTER THIRD OF SOLE PLATE. MIN (2) ANCHORS PER WALL PANEL AND AN ANCHOR LOCATED NOT MORE THAN 12" OR LESS THAN 4" FROM EACH END OF PANEL.



NOTE: SEE SHEAR WALL SCHEDULE FOR SOLE PLATE ANCHORAGE AT SHEAR WALL LOCATIONS

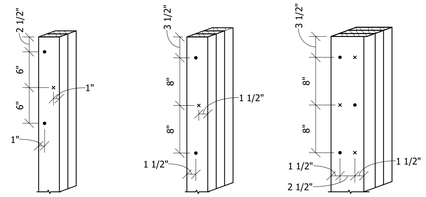
1 TYPICAL SOLE PLATE ANCHORAGE
NO SCALE



ALTERNATE WALL INTERSECTION DETAILS

PRIMARY WALL INTERSECTION DETAILS

2 TYPICAL WALL INTERSECTIONS
NO SCALE



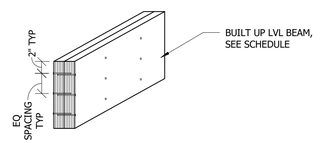
TWO 2x4 LAMINATIONS:
ONE ROW OF STAGGERED 10d COMMON WIRE NAILS (0.148"Ø x 3" LONG)

THREE 2x4 LAMINATIONS:
ONE ROW OF STAGGERED 30d COMMON WIRE NAILS (0.207"Ø x 4 1/2" LONG)

THREE 2x6 LAMINATIONS:
TWO ROW OF 30d COMMON WIRE NAILS (0.207"Ø x 4 1/2" LONG)

'X' = NAILED FROM BACKSIDE OF COLUMN

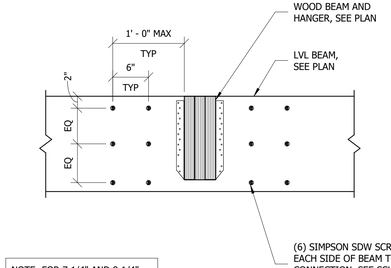
3 BUILT-UP COLUMN NAILING
NO SCALE



PLY WIDTH	NUMBER OF PLIES	FASTENER				
		TYPE[1]	MIN LENGTH	# OF ROWS	SPACING	LOCATION
1 3/4"	2	10d[2]	3"	4	12" OC	BOTH SIDES
		16d[2]	3 1/2"	3	12" OC	BOTH SIDES
		SCREWS[3]	3 3/8"	2	16" OC	BOTH SIDES
	3	10d[2]	3"	4	6" OC	BOTH SIDES
		16d[2]	3 1/2"	5	12" OC	BOTH SIDES
		SCREWS[3]	5"	3	16" OC	BOTH SIDES
	4	SCREWS[3]	6 3/4"	3	16" OC	BOTH SIDES

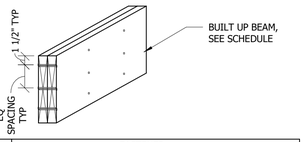
NOTES:
1. WHERE FRAMING IS HANGERED TO BEAM, USE SCREW FASTENER OPTION ONLY. CONTRACTOR'S OPTION ON FASTENER AT ALL OTHER CONDITIONS.
2. NAIL DIAMETER IS TO MATCH COMMON NAIL OF SIZE NOTED IN TABLE.
3. SCREWS ARE TO BE SIMPSON SDW SCREWS OR APPROVED EQUAL.

4 BUILT UP LVL BEAM FASTENING SCHEDULE
NO SCALE



NOTE: FOR 7 1/4" AND 9 1/4" DEEP BEAMS, PROVIDE SCREWS IN STAGGERED ROWS EACH DIRECTION, SEE 6/S301

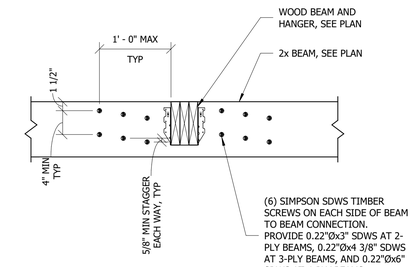
5 BUILT UP LVL BEAM TO BEAM
NO SCALE



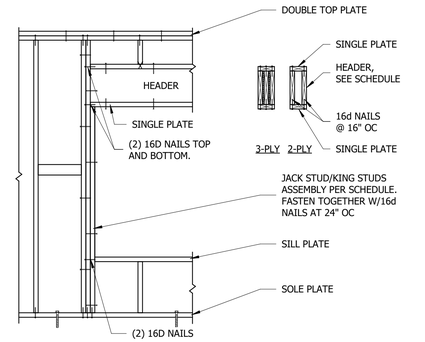
PLY WIDTH	NUMBER OF PLIES	FASTENER				
		TYPE[1]	MIN LENGTH	# OF ROWS	SPACING	LOCATION
1 1/2"	2	10d[2]	3"	4	12" OC	BOTH SIDES
		16d[2]	3"	3	8" OC	BOTH SIDES
		SCREWS[3]	3"	2	16" OC	BOTH SIDES
	3	10d[2]	3"	4	6" OC	BOTH SIDES
		16d[2]	3 1/2"	5	8" OC	BOTH SIDES
		SCREWS[3]	4 3/8"	3	16" OC	BOTH SIDES
	4	SCREWS[3]	6"	2	16" OC	BOTH SIDES

NOTES:
1. CONTRACTOR'S OPTION ON FASTENER.
2. NAIL DIAMETER IS TO MATCH COMMON NAIL OF SIZE NOTED IN TABLE.
3. SCREWS ARE TO BE SIMPSON SDW SCREWS OR APPROVED EQUAL.

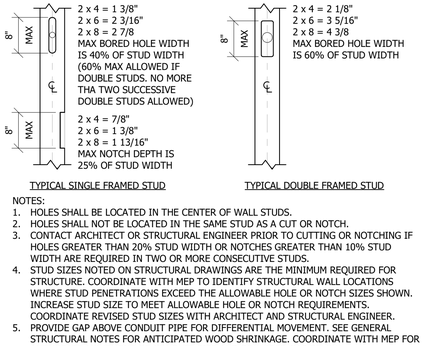
6 BUILT UP WOOD BEAM FASTENING
NO SCALE



7 BUILT UP WOOD BEAM TO BEAM
NO SCALE

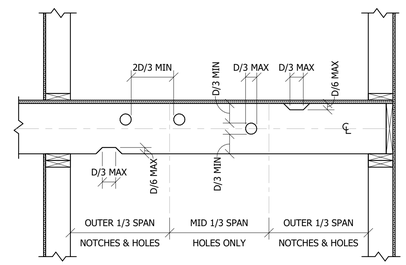


8 TYPICAL SINGLE STORY WOOD FRAMED WALL
NO SCALE



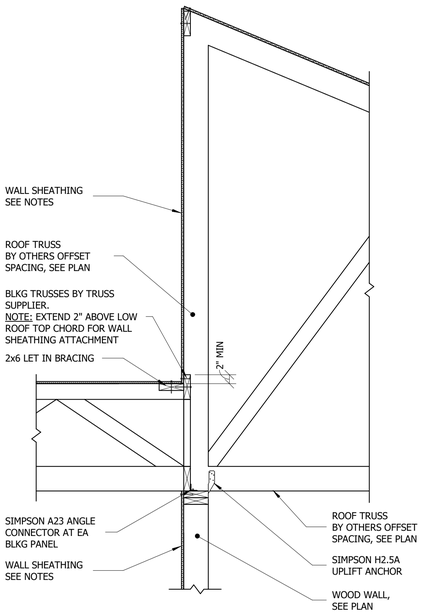
NOTES:
1. HOLES SHALL BE LOCATED IN THE CENTER OF WALL STUDS.
2. HOLES SHALL NOT BE LOCATED IN THE SAME STUD AS A CUT OR NOTCH.
3. CONTACT ARCHITECT OR STRUCTURAL ENGINEER PRIOR TO CUTTING OR NOTCHING IF HOLES GREATER THAN 20% STUD WIDTH OR NOTCHES GREATER THAN 10% STUD WIDTH ARE REQUIRED IN TWO OR MORE CONSECUTIVE STUDS.
4. STUD SIZES NOTED ON STRUCTURAL DRAWINGS ARE THE MINIMUM REQUIRED FOR STRUCTURE. COORDINATE WITH MEP TO IDENTIFY STRUCTURAL WALL LOCATIONS WHERE STUD PENETRATIONS EXCEED THE ALLOWABLE HOLE OR NOTCH SIZES SHOWN. INCREASE STUD SIZE TO MEET ALLOWABLE HOLE OR NOTCH REQUIREMENTS. COORDINATE REVISED STUD SIZES WITH ARCHITECT AND STRUCTURAL ENGINEER.
5. PROVIDE GAP ABOVE CONDUIT PIPE FOR DIFFERENTIAL MOVEMENT. SEE GENERAL STRUCTURAL NOTES FOR ANTICIPATED WOOD SHRINKAGE. COORDINATE WITH MEP FOR ANTICIPATE MOVEMENT OF CONDUIT/PIPE AND REQUIRED GAP BELOW.

9 HOLES AND NOTCHES IN WOOD STUDS
NO SCALE

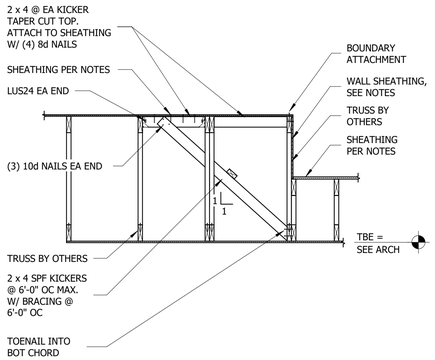


NOTES:
1. HOLES CAN BE LOCATED IN ALL SPANS OF JOIST.
2. NOTCHES SHALL NOT BE LOCATED IN MID 1/3 SPAN OF JOIST.
3. NOTCHES SHALL HAVE ANGLED CUTS, NO SQUARE CORNERS.
4. DEPTH OF JOISTS MAY VARY, SEE FRAMING PLAN.
5. CONTACT ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO CUTTING OR NOTCHING JOISTS TO VERIFY SIZE AND LOCATION.

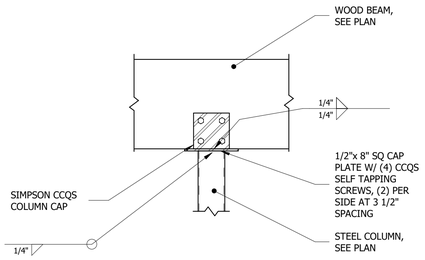
10 HOLES AND NOTCHES IN WOOD JOISTS
NO SCALE



11 ROOF FLAT TRUSS BEARING AT GABLE
NO SCALE



12 FLAT TRUSS LAP AT WOOD WALL
NO SCALE



13 WOOD BEAM BRG AT STEEL COLUMN
NO SCALE

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DATE: 09/04/2026 LICENSE #: 44104

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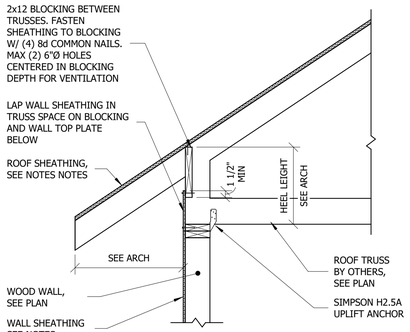
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FRAMING DETAILS - WOOD

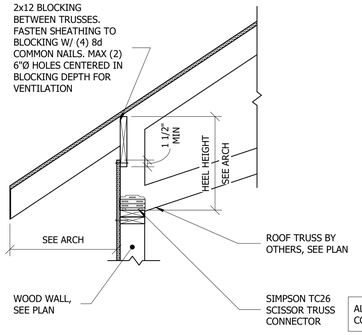
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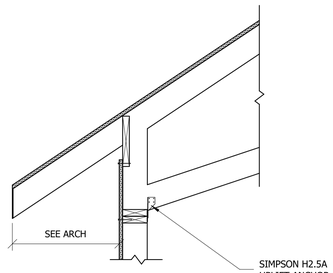
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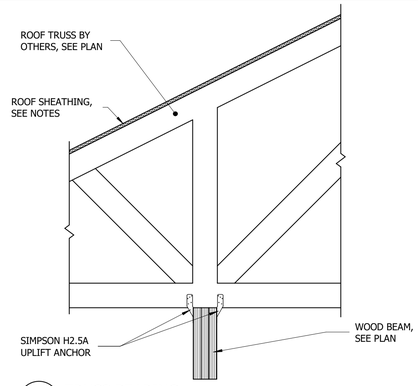


1 TRUSS BEARING WITH BLOCKING
3/4" = 1'-0"

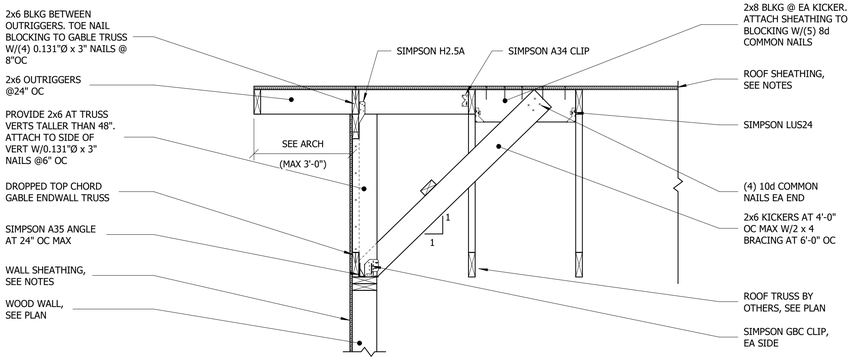


2 SCISSOR TRUSS BEARING ENERGY HEEL
3/4" = 1'-0"

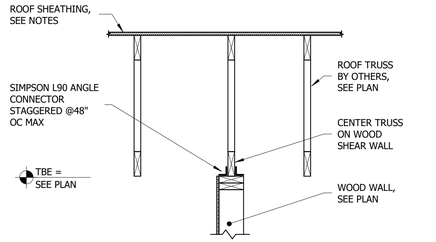




3 TRUSS BEARING
3/4" = 1'-0"

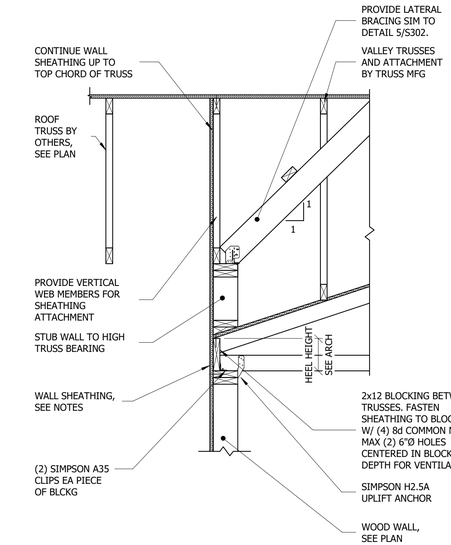


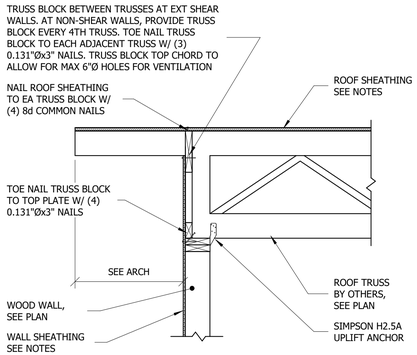
4 DETAIL AT OUTRIGGERS (GBC)
3/4" = 1'-0"



TRUSS SUPPLIER TO DESIGN TRUSSES ABOVE SHEAR WALLS FOR 8K SERVICE LEVEL WIND AXIAL LOAD TO BE TRANSFERRED UNIFORMLY FROM TOP CHORD TO BOTTOM CHORD THROUGH TRUSS WEBS. SEE DETAILS FOR ADDITIONAL INFORMATION. PROVIDE BRIDGING AS REQUIRED TO MEET THIS CRITERIA.

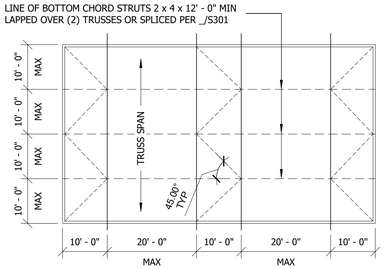
5 ROOF TRUSS PARALLEL TO SHEAR WALL
3/4" = 1'-0"





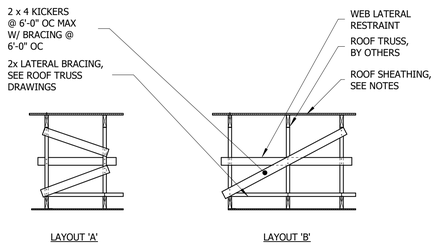
6 FLAT TRUSS BEARING WITH BLOCKING
3/4" = 1'-0"

GENERAL TRUSS BRACING NOTES:
ALL BRACING TO BE MINIMUM 2 x 4 AND NAILED TO EACH TRUSS IT CROSSES WITH A MINIMUM OF (2) 0.131"Ø x 3" NAILS.



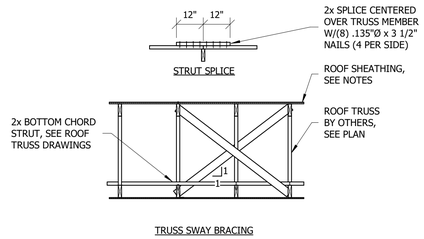
1. WHERE TRUSS FRAMING CHANGES DIRECTION, EXTEND STRUTS TO BOTTOM CHORD OF PERPENDICULAR TRUSSES. THESE TRUSSES ARE CONSIDERED A BRACING LOCATION.
2. BOTTOM CHORD BRACING MAY BE OMITTED FROM PERMANENT TRUSS BRACING WHERE CEILING IS ATTACHED DIRECTLY TO BOTTOM CHORD OF TRUSSES.

7 BTM CHORD CLB
NO SCALE



1. DIAGONALS REQUIRED AT WEB MEMBER LATERAL RESISTRAINT. LOCATIONS BY TRUSS SUPPLIER, SEE TRUSS DESIGN DRAWINGS.
2. LOCATE DIAGONAL WEB MEMBER PLANE BRACING AT ENDS OF BUILDING AND AT 20' - 0" CLEAR SPACING MAX.
3. INSTALL DIAGONAL WEB MEMBER PLANE BRACING AT AN ANGLE LESS THAN OR EQUAL TO 45° AND POSITION SO THAT IT CROSSES THE WEB IN CLOSE PROXIMITY TO THE WEB MEMBER LATERAL RESTRAINT. EITHER LAYOUT 'A' OR 'B' IS ACCEPTABLE.
4. FASTEN DIAGONALS AS CLOSE AS POSSIBLE TO TOP AND BOTTOM CORDS AND EACH WEB IT CROSSES.

8 CLB ROOF TRUSS SECTION
NO SCALE



1. SWAY BRACING AT TRUSS MID-SPAN, LOCATE AT ENDS OF BUILDING AND AT 40' - 0" OC MAX ALONG RIDGE. PROVIDE 2x MATERIAL AT SPLICE LOCATION AS NOTED IN DETAIL ABOVE.
2. SWAY BRACING TO BE PLACED AT APPROXIMATE 45° ANGLES.
3. PROVIDE MID-SPAN VERTICAL BRACE FOR 2 x 4 SWAY BRACE EXCEEDING 10' - 0"
4. SWAY BRACING MAY BE OMITTED IF WEB MEMBER PLANE BRACING IS PROVIDED AT RIDGE OR BOTH SIDES OF RIDGE

9 TRUSS BEARING
3/4" = 1'-0"

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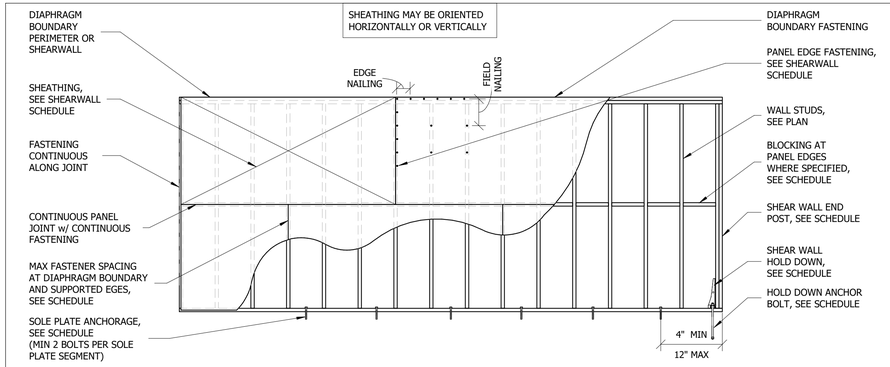
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FRAMING DETAILS - WOOD

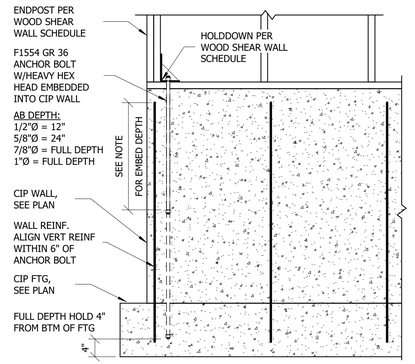
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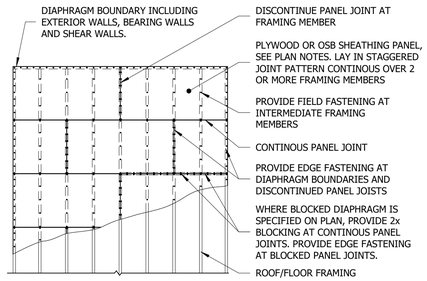
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1 SEGMENTED SHEAR WALL
NO SCALE

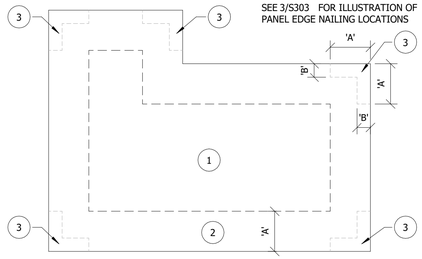


2 END OF WALL HOLDDOWN ANCHOR
NO SCALE



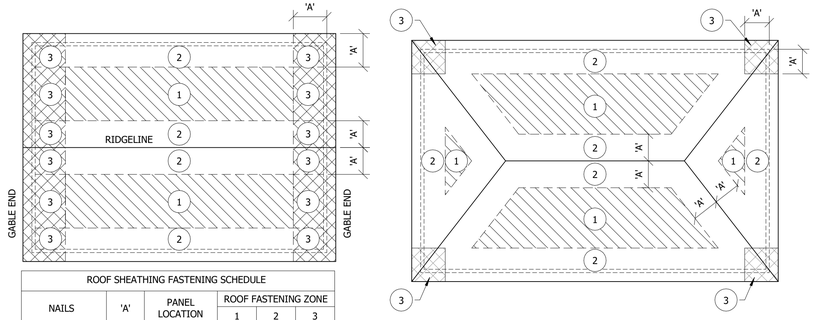
FLOOR/ROOF SHEATHING FASTENING SCHEDULE		
PANEL LOCATION	TYPICAL FLOOR	TYPICAL ROOF
EDGE	0.131"x2 1/2" NAILS @ 6"OC	SEE 4/S303
FIELD	0.131"x2 1/2" NAILS @ 12"OC	

3 FLOOR/ROOF SHEATHING FASTENING DIAGRAM
NO SCALE



ROOF SHEATHING FASTENING SCHEDULE						
NAILS	'A'	'B'	PANEL LOCATION	ROOF FASTENING ZONE		
				1	2	3
8d COMMON (0.131"Øx2 1/2")	10'-6"	3'-6"	PANEL EDGES	6"OC	6"OC	4"OC
			PANEL FIELD	12"OC	6"OC	6"OC

4 FLAT ROOF SHEATHING FASTENING
NO SCALE



ROOF SHEATHING FASTENING SCHEDULE					
NAILS	'A'	PANEL LOCATION	ROOF FASTENING ZONE		
			1	2	3
8d COMMON (0.131"Øx2 1/2")	6'-4"	PANEL EDGES	6"OC	6"OC	4"OC
		PANEL FIELD	12"OC	6"OC	6"OC

5 PITCHED ROOF SHEATHING FASTENING
NO SCALE

WOOD SHEAR WALL SCHEDULE

MARK	LEVEL	ANCHOR POSTS & ANCHORAGE					SHEATHING				COMMENTS
		END POST SIZE	HOLD DOWN OR STRAP	FASTENERS			TYPE	FASTENING		IS WALL BLOCKED?	
				ANCHOR BOLT	STRAP NAILING (END ZONE/TOTAL)	SOLE PLATE ANCHORAGE		EDGE	FIELD		
SW1	1	3 1/2" x 3 1/2" PSL	HDUE3-SDS3.5 HD	5/8"	N /A	1/2" AT 48" OC	'Z1'	0.131Ø NAILS @ 4" OC	0.131Ø NAILS @ 12" OC	YES	
SW2	1	3 1/2" x 3 1/2" PSL	NONE		N /A	1/2" AT 48" OC	'Z1'	0.131Ø NAILS @ 4" OC	0.131Ø NAILS @ 12" OC	YES	
SW3	1	(3) 2X	HDUE9-SDS3.5 HD	7/8"	N /A	1/2 AT 24" OC	'S4'	8d NAILS @ 4" OC	8d NAILS @ 12" OC	YES	
SW4	1	(2) 2X	HDUE3-SDS3.5 HD	5/8"	N /A	1/2 AT 24" OC	'S3'	8d NAILS @ 8" OC	8d NAILS @ 12" OC	YES	
SW5	1	(2) 2X	HDUE3-SDS3.5 HD	5/8"	N /A	1/2" AT 48" OC	'Z1'	0.131Ø NAILS @ 3" OC	0.131Ø NAILS @ 12" OC	YES	

WOOD SHEAR WALL SCHEDULE NOTES:

1. 'SW' IN SCHEDULE DENOTES SEGMENTED SHEAR WALL.
2. 'PSW' IN SCHEDULE DENOTES PERFORATED SHEAR WALL.
3. SHEAR WALL ANCHOR BOLTS SHALL BE F1554-Gr36 THREADED ROD IF REQUIRED, UNO.
4. WALL SHEATHING FASTENING SHALL MEET THE FOLLOWING REQUIREMENTS:
   - A. SINGLE LAYER GYPSUM BOARD SHEATHING:
     - a. NO. 6 TYPE S OR W DRYWALL SCREWS, 1 1/4" LONG MIN.
   - B. TWO LAYER GYPSUM BOARD SHEATHING:
     - a. BASE PLY:
       - 6d COOLER NAILS (0.092" DIA. x 1 7/8" LONG, 1/4" HEAD)
       - WALLBOARD NAIL (0.0915" DIA. x 1 7/8" LONG, 19/64" HEAD)
       - 0.120" NAIL x 1 3/4" LONG WITH MIN. 3/8" HEAD
     - b. FACE PLY:
       - 8d COOLER NAILS (0.113" DIA. x 2 3/8" LONG, 0.281" HEAD)
       - WALLBOARD NAIL (0.113" DIA. x 2 3/8" LONG, 3/8" HEAD)
       - 0.120" NAIL x 2 3/8" LONG WITH MIN. 3/8" HEAD
   - C. PLYWOOD/OSB SHEATHING AS SPECIFIED IN TABLE ABOVE.
5. IF BLOCKING IS REQUIRED, PROVIDE 2x BLOCKING AT ALL PANEL EDGES.
6. HOLD DOWNS OR STRAPS (IF REQUIRED) ARE LOCATED AT THE ANCHOR POST LOCATIONS AT EACH END OF SHEAR WALL.
7. IN CASE OF DOUBLE WALL FRAMING, SOLE PLATE AND HOLD ANCHORAGE REQUIREMENTS ARE PER WALL.
8. AT VENT OPENINGS WITHIN SHEAR WALLS LESS THAN 8" IN DIAMETER, PROVIDE SOLID BLOCKING AROUND ALL SIDES OF VENT. FASTEN SHEATHING TO BLOCKING USING EDGE NAILING PATTERN SHOWN IN SHEAR WALL SCHEDULE. FOR OPENINGS GREATER THAN 8" IN DIAMETER, NOTIFY ENGINEER OF CONDITION IN WRITING FOR FUTHER INSTRUCTION PRIOR TO PROCEEDING WITH WORK.
9. SHEAR WALL SHEATHING ASSEMBLY TYPE NOTES:
   - A. NOT ALL CONDITIONS PRESENTED BELOW WILL BE USED. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC TYPES REQUIRED.
   - B. SHEAR WALL SHEATHING AND FASTENING TO TAKE PRECEDENCE OVER ARCHITECTURAL REQUIREMENTS.
   - C. CONDITIONS PRESENTED ARE NOT INTENDED TO CAPTURE ALL POSSIBLE VARIATIONS OF FINISH MATERIALS AND LAYERS OF EXCESS GYP. BOARD USED FOR FIRE RATING. LAYERS IN EXCESS OF THAT SHOWN IN SCHEDULE ARE NOT TO BE USED FOR SHEAR WALL STRENGTH AND CAN USE NOMINAL FASTENING.

SHEAR WALL SHEATHING ASSEMBLY TYPES

DESIGNATED SHEAR WALL SHEATHING:
(1) LAYERS OF 5/8" GYP. BOARD ONE SIDE, FASTEN PER SCHEDULE



NOTES:
1. SEE ARCH FOR WALL ASSEMBLY AND ATTACH PER GENERAL NOTES

S3 TYPE 'S3'

DESIGNATED SHEAR WALL SHEATHING:
(1) LAYER OF 15/32" OSB ONE SIDE, FASTEN PER SCHEDULE



NOTES:
1. SEE ARCH FOR WALL ASSEMBLY AND ATTACH PER GENERAL NOTES

S4 TYPE 'S4'

WOOD SHEAR WALL SCHEDULE NOTES:

1. ZIP SHEATHING SHEAR WALL NOTES, SEE ARCH FOR WALL TYPES.
2. WALL SHEATHING FASTENING SHALL MEET THE FOLLOWING REQUIREMENTS:
   - A. SINGLE LAYER R3 ZIP SHEATHING:
     - a. 0.131"Ø SHANK NAILS, MIN 1 1/2" PENETRATION INTO WALL FRAMING.
3. HOLD DOWNS OR STRAPS (IF REQUIRED) ARE LOCATED AT THE ANCHOR POST LOCATIONS AT EACH END OF SHEAR WALL.
4. AT VENT OPENINGS WITHIN SHEAR WALLS LESS THAN 8" IN DIAMETER, PROVIDE SOLID BLOCKING AROUND ALL SIDES OF VENT. FASTEN SHEATHING TO BLOCKING USING EDGE NAILING PATTERN SHOWN IN SHEAR WALL SCHEDULE. FOR OPENINGS GREATER THAN 8" IN DIAMETER, NOTIFY ENGINEER OF CONDITION IN WRITING FOR FUTHER INSTRUCTION PRIOR TO PROCEEDING WITH WORK.
5. SHEAR WALL SHEATHING ASSEMBLY TYPE NOTES:
   - A. NOT ALL CONDITIONS PRESENTED BELOW WILL BE USED. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC TYPES REQUIRED.
   - B. SHEAR WALL SHEATHING AND FASTENING TO TAKE PRECEDENCE OVER ARCHITECTURAL REQUIREMENTS.
   - C. CONDITIONS PRESENTED ARE NOT INTENDED TO CAPTURE ALL POSSIBLE VARIATIONS OF FINISH MATERIALS AND LAYERS OF EXCESS GYP. BOARD USED FOR FIRE RATING. LAYERS IN EXCESS OF THAT SHOWN IN SCHEDULE ARE NOT TO BE USED FOR SHEAR WALL STRENGTH AND CAN USE NOMINAL FASTENING.

SHEAR WALL ZIP SHEATHING ASSEMBLY

DESIGNATED SHEAR WALL SHEATHING:
(1) LAYER OF R3 ZIP SHEATHING ONE SIDE, FASTEN PER SCHEDULE



NOTES:
1. SEE ARCH FOR WALL ASSEMBLY AND ATTACH PER GENERAL NOTES

Z1 TYPE 'Z1'

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SHEAR WALL AND SHEATHING DETAILS

DRAWING NO.

S303

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