PLAT FILE NO.
C.R. DOC. NO.

TACOMA WEST INDUSTRIAL PARK 6TH ADDITION

KNOW ALL PERSONS BY THESE PRESENTS: That the City of Norwood Young America, a Minnesota municipal corporation, owners and proprietors of the following described property situated in the County of Carver, State of Minnesota, to wit:

Outlot B, TACOMA WEST INDUSTRIAL PARK 5TH ADDITION, Carver County, Minnesota.

Has caused the same to be surveyed and platted as TACOMA WEST INDUSTRIAL PARK 6TH ADDITION and does hereby dedicate to the public for public use the drainage and utility easements as created by this plat.

In witness whereof said City of Norwood Young America, a Minnesota municipal corporation, caused these presents to be signed by its proper officers this _____ day of _____, 20___.

SIGNED:

CITY OF NORWOOD YOUNG AMERICA, a Minnesota municipal corporation,

_____, its Mayor
Carol Lagergren

_____, its Clerk
Mitchell Thiesfeld

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by Carol Lagergren, the Mayor and Mitchell Thiesfeld, Clerk of the City of Norwood Young America, a Minnesota municipal corporation, on behalf of the corporation.

(Print) _____

_____
Notary Public, _____ County, _____
My Commission Expires _____

I, Leonard F. Carlson, do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____, 20___.

_____
Leonard F. Carlson, Land Surveyor
Minnesota License No. 44890

STATE OF MINNESOTA
COUNTY OF HENNEPIN

This instrument was acknowledged before me this _____ day of _____, 20___, by Leonard F. Carlson.

(Print) _____

_____
Notary Public, _____ County, Minnesota
My Commission Expires _____

CITY COUNCIL, CITY OF NORWOOD YOUNG AMERICA, MINNESOTA

The plat of TACOMA WEST INDUSTRIAL PARK 6TH ADDITION was approved and accepted by the City Council of Norwood Young America, Minnesota, at a regular meeting thereof held this _____ day of _____, 20___, and is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd. 2.

CITY COUNCIL OF NORWOOD YOUNG AMERICA, MINNESOTA

By: _____ Mayor
Carol Lagergren

By: _____ Clerk
Mitchell Thiesfeld

COUNTY SURVEYOR, Carver County, Minnesota

Pursuant to Chapter 395, Minnesota Laws of 1971, this plat has been approved this _____ day of _____, 20___

Brian E. Praske, County Surveyor

By: _____

COUNTY AUDITOR, Carver County, Minnesota

I hereby certify that taxes payable in _____ and prior years have been paid for land described on this plat. Dated this _____ day of _____, 20___.

Crystal Campos, County Auditor/Treasurer

By: _____

COUNTY RECORDER, Carver County, Minnesota

I hereby certify that this plat of TACOMA WEST INDUSTRIAL PARK 6TH ADDITION was filed this _____ day of _____, 20___, at _____ o'clock _____. M. as Document No. _____

Kaaren Lewis, County Recorder

By: _____

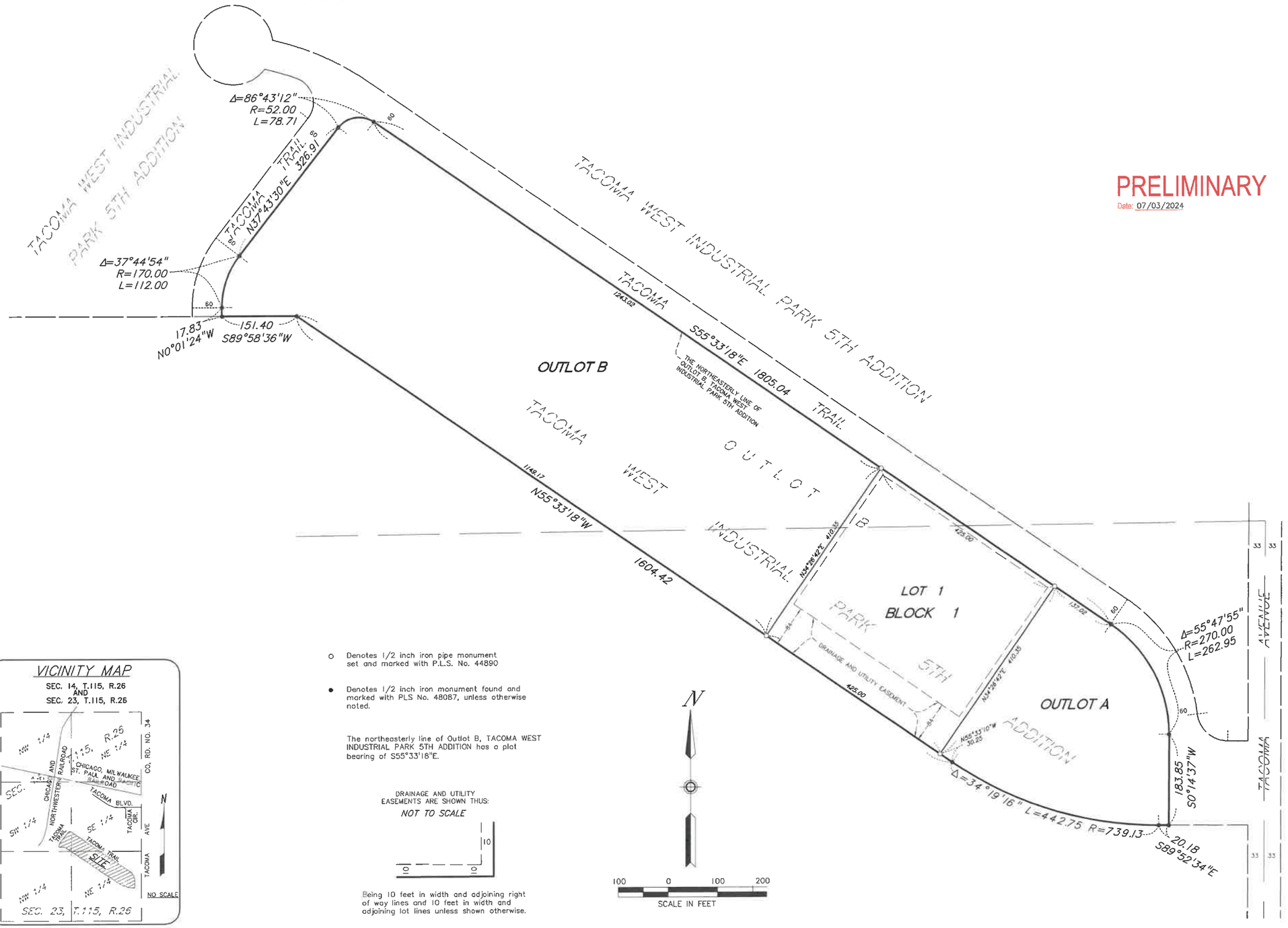
PRELIMINARY
Date: 07/03/2024

SUNDE LAND SURVEYING

TACOMA WEST INDUSTRIAL PARK 6TH ADDITION

PLAT FILE NO.
C.R. DOC. NO.

PRELIMINARY
Date: 07/03/2024



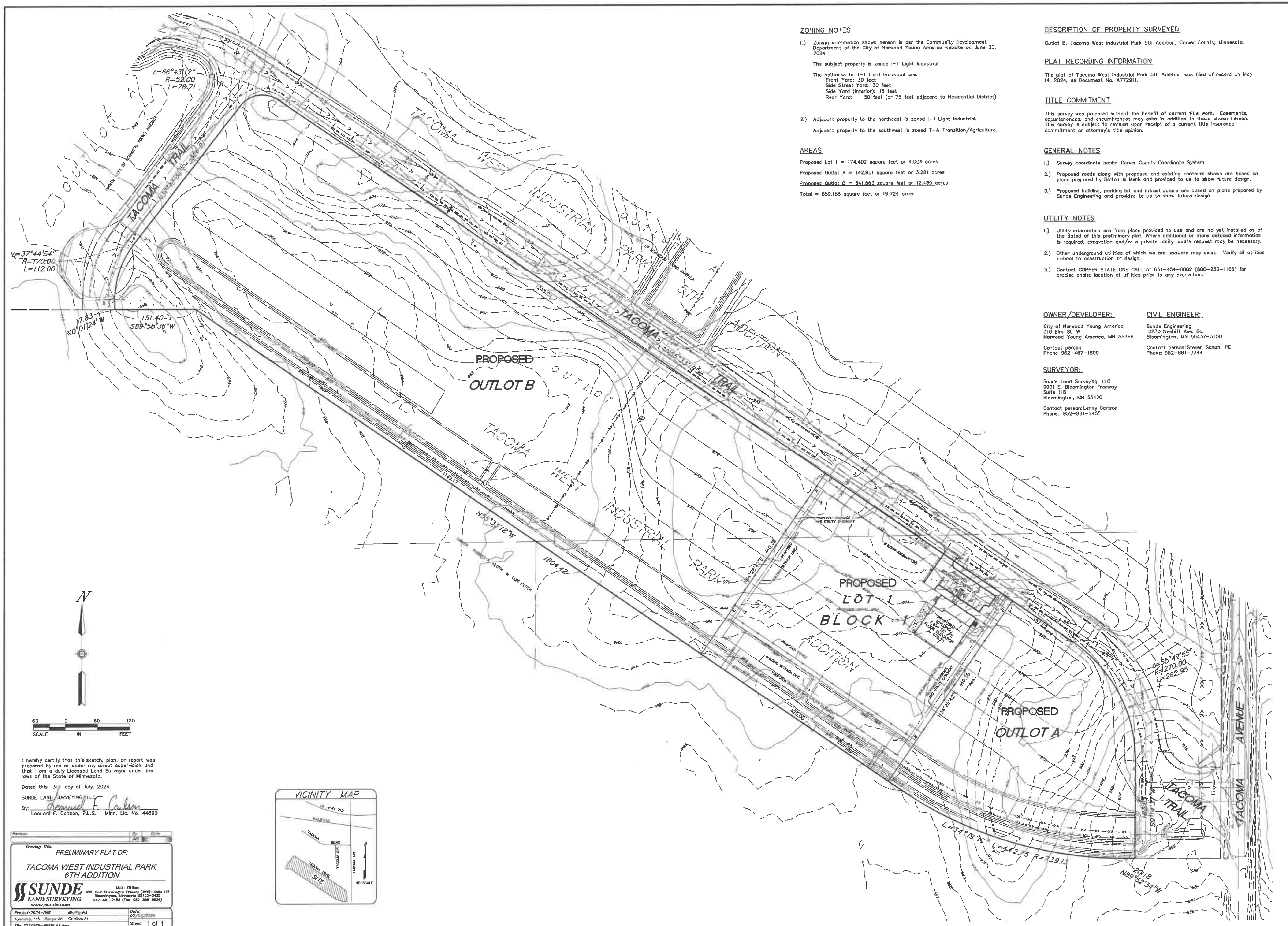
- o Denotes 1/2 inch iron pipe monument set and marked with P.L.S. No. 44890
- ● Denotes 1/2 inch iron monument found and marked with PLS No. 48087, unless otherwise noted.

The northeasterly line of Outlot B, TACOMA WEST INDUSTRIAL PARK 5TH ADDITION has a plat bearing of S55°33'18"E.

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:
NOT TO SCALE

Being 10 feet in width and adjoining right of way lines and 10 feet in width and adjoining lot lines unless shown otherwise.

SUNDE LAND SURVEYING



ZONING NOTES

1.) Zoning information shown hereon is per the Community Development Department of the City of Norwood Young America website on June 20, 2024.

The subject property is zoned I-1 Light Industrial

The setbacks for I-1 Light Industrial are:
Front Yard: 30 feet
Side Street Yard: 30 feet
Side Yard (interior): 15 feet
Rear Yard: 50 feet (or 75 feet adjacent to Residential District)

2.) Adjacent property to the northeast is zoned I-1 Light Industrial.

Adjacent property to the southwest is zoned T-A Transition/Agriculture.

AREAS

Proposed Lot 1 = 174,402 square feet or 4.004 acres

Proposed Outlot A = 142,901 square feet or 3.281 acres

Proposed Outlot B = 541,863 square feet or 12.439 acres

Total = 859,166 square feet or 19.724 acres

DESCRIPTION OF PROPERTY SURVEYED

Outlot B, Tacoma West Industrial Park 5th Addition, Carver County, Minnesota.

PLAT RECORDING INFORMATION

The plat of Tacoma West Industrial Park 5th Addition was filed of record on May 14, 2024, as Document No. A772911.

TITLE COMMITMENT

This survey was prepared without the benefit of current title work. Easements, appurtenances, and encumbrances may exist in addition to those shown hereon. This survey is subject to revision upon receipt of a current title insurance commitment or attorney's title opinion.

GENERAL NOTES

1.) Survey coordinate basis: Carver County Coordinate System

2.) Proposed roads along with proposed and existing contours shown are based on plans prepared by Bolton & Menk and provided to us to show future design.

3.) Proposed building, parking lot and infrastructure are based on plans prepared by Sunde Engineering and provided to us to show future design.

UTILITY NOTES

1.) Utility information are from plans provided to use and are no yet installed as of the dated of this preliminary plat. Where additional or more detailed information is required, excavation and/or a private utility locate request may be necessary.

2.) Other underground utilities of which we are unaware may exist. Verify all utilities critical to construction or design.

3.) Contact GOPHER STATE ONE CALL at 651-454-0002 (800-252-1166) for precise onsite location of utilities prior to any excavation.

OWNER/DEVELOPER:

City of Norwood Young America
310 Elm St. W
Norwood Young America, MN 55368

Contact person:
Phone 952-467-1800

CIVIL ENGINEER:

Sunde Engineering
10830 Nesbitt Ave. So.
Bloomington, MN 55437-3100

Contact person: Steven Schuh, PE
Phone: 952-881-3344

SURVEYOR:

Sunde Land Surveying, LLC
9001 E. Bloomington Freeway
Suite 118
Bloomington, MN 55420

Contact person: Lenny Carlson
Phone: 952-881-2455

I hereby certify that this sketch, plan, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Dated this 3rd day of July, 2024

SUNDE LAND SURVEYING, LLC

By: Leonard F. Carlson
Leonard F. Carlson, P.L.S. Minn. Lic. No. 44890

Revision	By	Date
	JAD	

Drawing Title:

PRELIMINARY PLAT OF:

TACOMA WEST INDUSTRIAL PARK 6TH ADDITION

SUNDE LAND SURVEYING
www.sunde.com

Main Office:
9001 East Bloomington Freeway (35W) - Suite 118
Bloomington, Minnesota 55420-3435
952-881-2455 (Fax: 952-888-9526)

Project: 2024-086	Bk/Pg: NA	Date: 07/03/2024
Township: 115 Range: 26	Section: 14	
File: 2024086-PREPLAT.dwg		Sheet: 1 of 1

COVERAGE BREAKDOWN

TOTAL AREA = 174,399 sq.ft.
GREENSPACE AREA = 54,786 sq.ft.
PAVEMENT/BUILDING AREA = 14,738 sq.ft.
GRAVEL AREA = 105,345 sq.ft.

GREENSPACE COVERAGE = 31.4%
PAVEMENT/BUILDING COVERAGE = 8.4%
GRAVEL COVERAGE = 60.2%

KEYNOTES

KEYNOTES ARE DENOTED BY:

① – HANDICAPPED ACCESSIBLE PARKING SIGN AND STANDARD (TYP.)

② – UNIVERSAL ACCESSIBILITY SYMBOL, PAINTED, 4 FT. HIGH (TYP.)

③ – 2% MAXIMUM SLOPE IN ALL DIRECTIONS AT HANDICAPPED PARKING AREA

④ – ACCESS AISLE PAINTED WITH WORDS "NO PARKING" AND 4" WIDE PAINT STRIPES @ 18" O.C. AND AT 45° ANGLES TO THE STALLS.

⑤ – ACCESSIBLE CURB RAMP

GOPHER STATE ONE CALL

CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES

GREYSTONE

NORDIC WASTE MANAGEMENT

TACOMA WEST INDUSTRIAL PARK

NORWOOD YOUNG AMERICA, MN

DATE	REVISION

DESCRIPTION

SITE PLAN

SHEET NO.

C1

SITE NOTES:

1. 2% maximum slope in all directions in handicapped accessible parking areas. 2% maximum cross slope and 5% maximum longitudinal slope on all sidewalks.
2. All dimensions are to face of curb (where applicable), edge of pavement, or exterior face of building, unless otherwise indicated.
3. All curb radii shall be three (3) feet minimum unless otherwise noted.
4. Install and make operational all irrigation before commencing with landscaping.
5. All new curb and gutter shall be type B612 installed in accordance with MNDOT Standard Spec. 2531 and MNDOT Standard Plate 7100M. Match gutter slopes to pavement cross-slopes. Review the pavement grades and construct the curb and gutter in order to "tip out" where water drains away from from the curb. Construct all other areas as "tip in." Coordinate with the grading contractor.
6. Portland cement concrete for curb and gutter, sidewalk, and concrete pavement shall be 4500 psi minimum 28 days compressive strength with 5 to 7 percent air entraining. Concrete aggregates shall be free of organic impurities, chert, shale, or other deleterious substances. Use a water/cement ratio of 0.45 or less for concrete exposed to deicers.
7. Construct all concrete sidewalks in accordance with MNDOT Specification 2521. All concrete sidewalks shall be as indicated on the plans, but not less than 4" thick with 6 inch x 6 inch - #10/#10 wire size woven wire mesh reinforcing.
8. Form coating material in order to prevent bonding between a form, dowl, or other object and concrete shall meet the requirements of MNDOT Specification 3902.
9. Preformed expansion joints using 0.5" thickness shall be placed at each end of curb radius, at intersections, and approximately every 200 feet.
10. Contraction joints shall be spaced at 10 foot intervals in the curb and gutter.
11. For exterior concrete slabs, unless otherwise indicated, provide expansion joints at 30 foot intervals and at locations where the concrete surrounds or adjoins any existing fixed objects such as walks, walls, posts, curbing, steps, driveways, building foundations and other rigid structures. Divide exterior slabs into square panels of uniform size generally containing not more than 36 square feet of area.
12. Seal all joints, including expansion joints, with joint sealant.
13. Construct 2' taper at the free end of all concrete curb and gutter sections.

COVERAGE BREAKDOWN

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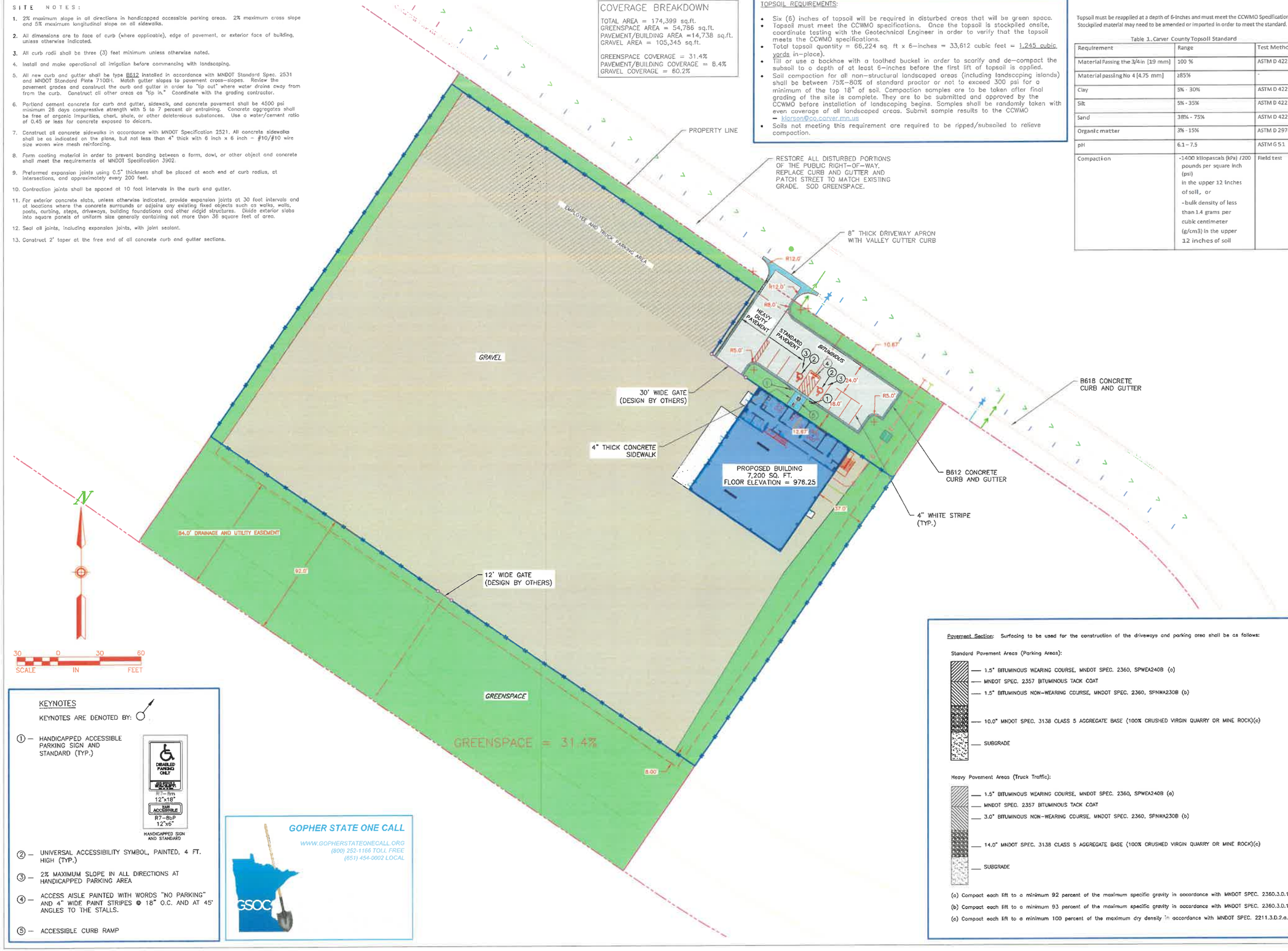
TOPSOIL REQUIREMENTS:

- Six (6) inches of topsoil will be required in disturbed areas that will be green space.
- Topsoil must meet the CCWMO specifications. Once the topsoil is stockpiled onsite, coordinate testing with the Geotechnical Engineer in order to verify that the topsoil meets the CCWMO specifications.
- Total topsoil quantity = 66,224 sq. ft x 6-inches = 33,612 cubic feet = 1,245 cubic yards in-place).
- Till or use a backhoe with a toothed bucket in order to scarify and de-compact the subsoil to a depth of at least 6-inches before the first lift of topsoil is applied.
- Soil compaction for all non-structural landscaped areas (including landscaping islands) shall be between 75%-80% of standard proctor or not to exceed 300 psi for a minimum of the top 18" of soil. Compaction samples are to be taken after final grading of the site is complete. They are to be submitted and approved by the CCWMO before installation of landscaping begins. Samples shall be randomly taken with even coverage of all landscaped areas. Submit sample results to the CCWMO - klarson@co.carver.mn.us
- Soils not meeting this requirement are required to be ripped/subsoiled to relieve compaction.

Topsoil must be reapplied at a depth of 6-inches and must meet the CCWMO Specifications Stockpiled material may need to be amended or imported in order to meet the standard.

Table 1. Carver County Topsoil Standard

Requirement	Range	Test Method
Material Passing the 3/4in (19 mm)	100 %	ASTM D 422
Material passing No 4 (4.75 mm)	≥85%	-
Clay	5% - 30%	ASTM D 422
Silt	5% - 35%	ASTM D 422
Sand	35% - 75%	ASTM D 422
Organic matter	3% - 15%	ASTM D 2974
pH	6.1 - 7.5	ASTM G 51
Compaction	-1400 kilopascals (kPa) /200 pounds per square inch (psi) in the upper 12 inches of soil, or -bulk density of less than 1.4 grams per cubic centimeter (g/cm3) in the upper 12 inches of soil	Field test



KEYNOTES

KEYNOTES ARE DENOTED BY: ⬡

① — HANDICAPPED ACCESSIBLE PARKING SIGN AND STANDARD (TYP.)

HANDICAPPED SIGN AND STANDARD

② — UNIVERSAL ACCESSIBILITY SYMBOL, PAINTED, 4 FT. HIGH (TYP.)

③ — 2% MAXIMUM SLOPE IN ALL DIRECTIONS AT HANDICAPPED PARKING AREA

④ — ACCESS AISLE PAINTED WITH WORDS "NO PARKING" AND 4" WIDE PAINT STRIPES @ 18" O.C. AND AT 45° ANGLES TO THE STALLS.

⑤ — ACCESSIBLE CURB RAMP

GOPHER STATE ONE CALL
WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

Pavement Section: Surfacing to be used for the construction of the driveways and parking area shall be as follows:

Standard Pavement Areas (Parking Areas):

- 1.5" BITUMINOUS WEARING COURSE, MNDOT SPEC. 2360, SPWEA240B (a)
- MNDOT SPEC. 2357 BITUMINOUS TACK COAT
- 1.5" BITUMINOUS NON-WEARING COURSE, MNDOT SPEC. 2360, SPNWA230B (b)
- 10.0" MNDOT SPEC. 3138 CLASS 5 AGGREGATE BASE (100% CRUSHED VIRGIN QUARRY OR MINE ROCK)(c)
- SUBGRADE

Heavy Pavement Areas (Truck Traffic):

- 1.5" BITUMINOUS WEARING COURSE, MNDOT SPEC. 2360, SPWEA240B (a)
- MNDOT SPEC. 2357 BITUMINOUS TACK COAT
- 3.0" BITUMINOUS NON-WEARING COURSE, MNDOT SPEC. 2360, SPNWA230B (b)
- 14.0" MNDOT SPEC. 3138 CLASS 5 AGGREGATE BASE (100% CRUSHED VIRGIN QUARRY OR MINE ROCK)(c)
- SUBGRADE

(a) Compact each lift to a minimum 92 percent of the maximum specific gravity in accordance with MNDOT SPEC. 2360.3.D.1.
(b) Compact each lift to a minimum 93 percent of the maximum specific gravity in accordance with MNDOT SPEC. 2360.3.D.1.
(c) Compact each lift to a minimum 100 percent of the maximum dry density in accordance with MNDOT SPEC. 2211.3.D.2.a.

Sunde Engineering, PLLC.
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10832 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com

GREYSTONE CONSTRUCTION
2995 Winners Circle Drive, Suite 200
Shakopee, MN 55379
633-742-6837
GreystoneConstruction.com

NORDIC WASTE MANAGEMENT

TACOMA WEST INDUSTRIAL PARK
NORWOOD YOUNG AMERICA, MN

DATE	REVISION

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 PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Brian H. Mundstock
DATE: 07-09-2024 REG. NO.: 23468

INFORMATION:

PROJECT NO.: #24-525
DRAWN BY: jm
CHECKED BY: ss
APPROVED BY: bhm
SCALE: graphic
DATE: 07-09-2024

DESCRIPTION:

SITE PLAN

SHEET NO.

C1

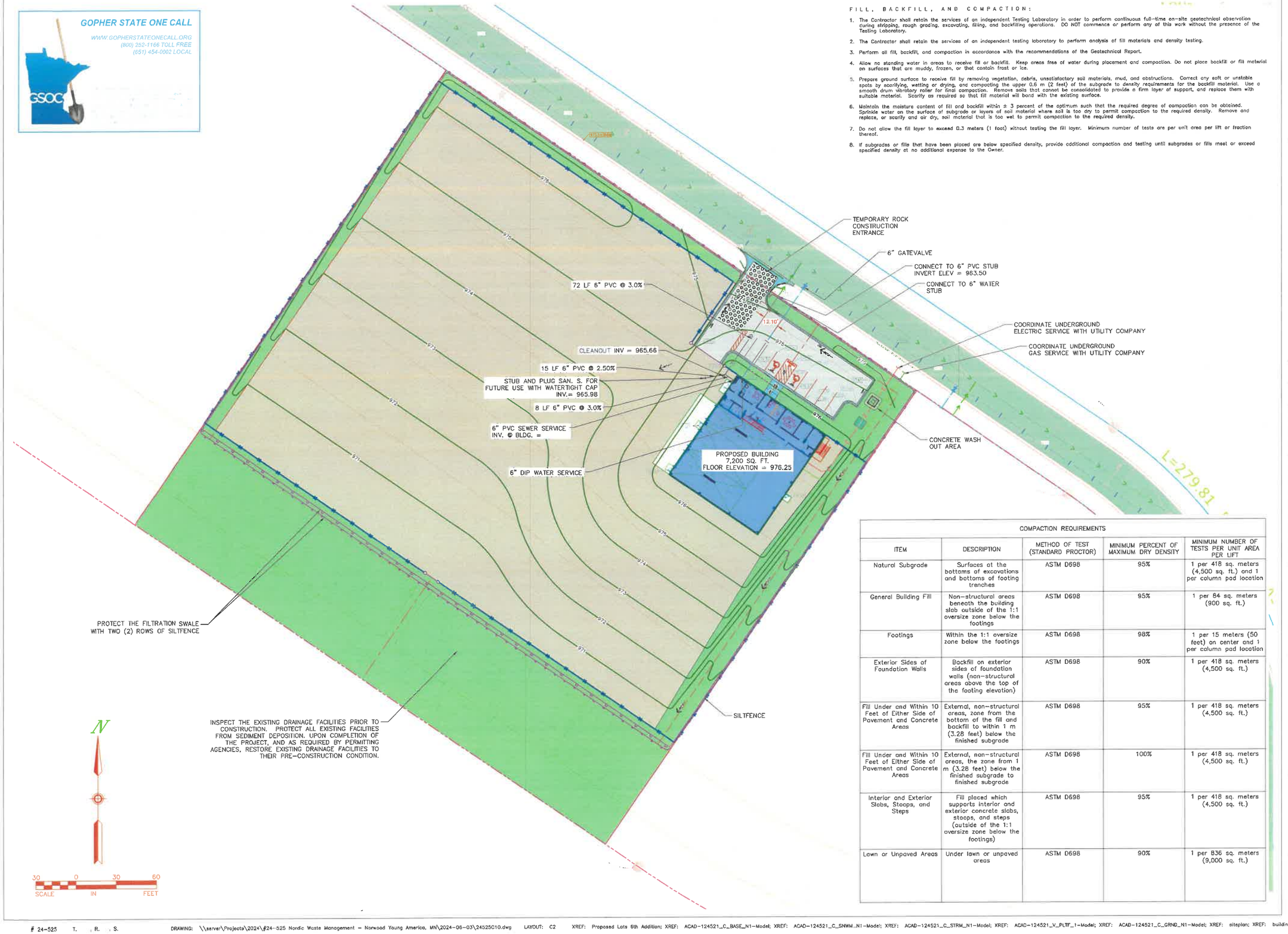
24-525 T. . R. . S. DRAWING: \\server\Projects\2024\#24-525 Nordic Waste Management - Norwood Young America, MN\2024-06-03\siteplan.dwg LAYOUT: C1 Siteplan XREF: building; XREF: titleblock24x36

GOPHER STATE ONE CALL

WWW.GOPHERSTATEONECALL.ORG
(800) 252-1166 TOLL FREE
(651) 454-0002 LOCAL

FILL, BACKFILL, AND COMPACTION:

1. The Contractor shall retain the services of an independent Testing Laboratory in order to perform continuous full-time on-site geotechnical observation during stripping, rough grading, excavating, filling, and backfilling operations. DO NOT commence or perform any of this work without the presence of the Testing Laboratory.
2. The Contractor shall retain the services of an independent testing laboratory to perform analysis of fill materials and density testing.
3. Perform all fill, backfill, and compaction in accordance with the recommendations of the Geotechnical Report.
4. Allow no standing water in areas to receive fill or backfill. Keep areas free of water during placement and compaction. Do not place backfill or fill material on surfaces that are muddy, frozen, or that contain frost or ice.
5. Prepare ground surface to receive fill by removing vegetation, debris, unsatisfactory soil materials, mud, and obstructions. Correct any soft or unstable spots by scarifying, wetting or drying, and compacting the upper 0.6 m (2 feet) of the subgrade to density requirements for the backfill material. Use a smooth drum vibratory roller for final compaction. Remove soils that cannot be consolidated to provide a firm layer of support, and replace them with suitable material. Scarify as required so that fill material will bond with the existing surface.
6. Maintain the moisture content of fill and backfill within ± 3 percent of the optimum such that the required degree of compaction can be obtained. Sprinkle water on the surface of subgrade or layers of soil material where soil is too dry to permit compaction to the required density. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to the required density.
7. Do not allow the fill layer to exceed 0.3 meters (1 foot) without testing the fill layer. Minimum number of tests are per unit area per lift or fraction thereof.
8. If subgrades or fills that have been placed are below specified density, provide additional compaction and testing until subgrades or fills meet or exceed specified density at no additional expense to the Owner.



COMPACTION REQUIREMENTS

ITEM	DESCRIPTION	METHOD OF TEST (STANDARD PROCTOR)	MINIMUM PERCENT OF MAXIMUM DRY DENSITY	MINIMUM NUMBER OF TESTS PER UNIT AREA PER LIFT
Natural Subgrade	Surfaces at the bottoms of excavations and bottoms of footing trenches	ASTM D698	95%	1 per 418 sq. meters (4,500 sq. ft.) and 1 per column pad location
General Building Fill	Non-structural areas beneath the building slab outside of the 1:1 oversize zone below the footings	ASTM D698	95%	1 per 84 sq. meters (900 sq. ft.)
Footings	Within the 1:1 oversize zone below the footings	ASTM D698	98%	1 per 15 meters (50 feet) on center and 1 per column pad location
Exterior Sides of Foundation Walls	Backfill on exterior sides of foundation walls (non-structural areas above the top of the footing elevation)	ASTM D698	90%	1 per 418 sq. meters (4,500 sq. ft.)
Fill Under and Within 10 Feet of Either Side of Pavement and Concrete Areas	External, non-structural areas, zone from the bottom of the fill and backfill to within 1 m (3.28 feet) below the finished subgrade	ASTM D698	95%	1 per 418 sq. meters (4,500 sq. ft.)
Fill Under and Within 10 Feet of Either Side of Pavement and Concrete Areas	External, non-structural areas, the zone from 1 m (3.28 feet) below the finished subgrade to finished subgrade	ASTM D698	100%	1 per 418 sq. meters (4,500 sq. ft.)
Interior and Exterior Slabs, Stoops, and Steps	Fill placed which supports interior and exterior concrete slabs, stoops, and steps (outside of the 1:1 oversize zone below the footings)	ASTM D698	95%	1 per 418 sq. meters (4,500 sq. ft.)
Lawn or Unpaved Areas	Under lawn or unpaved areas	ASTM D698	90%	1 per 836 sq. meters (9,000 sq. ft.)

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TACOMA WEST INDUSTRIAL PARK

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Brian H. Mundstock

Brian H. Mundstock
DATE: 07-09-2024 REG. NO.: 23468

INFORMATION:

PROJECT NO.: #24-525
DRAWN BY: jm
CHECKED BY: ss
APPROVED BY: bhm
SCALE: graphic
DATE: 07-09-2024

DESCRIPTION:

GRADING, DRAINAGE AND UTILITY PLAN

SHEET NO:

C2

24-525 T. R. S.
DRAWING: \\server\Projects\2024\#24-525 Nordic Waste Management - Norwood Young America, MN\2024-06-03\24525C10.dwg LAYOUT: C2 XREF: Proposed Lots 6th Addition; XREF: ACAD-124521_C_BASE_N1-Model; XREF: ACAD-124521_C_SNWM_N1-Model; XREF: ACAD-124521_C_STRM_N1-Model; XREF: ACAD-124521_V_PLTF_1-Model; XREF: ACAD-124521_C_GRND_N1-Model; XREF: siteplan; XREF: building; XREF: titleblock24x36

GENERAL:

1. Existing boundary, location, topographic, and utility information shown on this plan is from a field survey/plans by Bolton & Menk dated 2/20/24. The Engineer is not responsible for inaccuracies related to the survey information.

2. Perform all construction work in accordance with State and Local requirements.

3. Perform all construction activity in accordance with the Minnesota Pollution Control Agency GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY issued August 1, 2023 and all subsequent amendments thereto.

4. Comply with all applicable local, state, and federal safety regulations. Comply with the work safety practices specified by the Occupational Safety and Health Administration (OSHA). OSHA prohibits entry into "confined spaces," such as manholes and inlets (see 29 CFR Section 1910.146), without undertaking certain specific practices and procedures. Perform excavations in accordance with the requirements of O.S.H.A. 29 CFR, Part 1926, Subpart P, Excavations. Trenching standards require protective systems on trenches deeper than 5 feet. Bench or slope sidewalls in order to provide safe working conditions and stability for the placement of engineered fill. Do not expose workers to the dangers of being struck by material and equipment. Keep soil and other materials at least 2 feet from the edge of any trenches. Trenches must be inspected by a competent individual, be free of standing water and atmospheric hazards, and have a safe means of entering and exiting before allowing a worker to enter. The Contractor is responsible for naming the "Competent Individual" in accordance with CFR 1926.6. Sloping or benching for excavations greater than 20 feet deep must be approved by a registered professional engineer (www.osha.gov).

5. Safety is solely the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the Work.

6. The Engineer shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work. The Engineer's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures.

7. Examine all local conditions at the site, and assume responsibility as to the grades, contours, and the character of the earth, existing conditions, and other items that may be encountered during excavation work above or below the existing grades. Review the drawings, specifications, and geotechnical report covering this work and become familiar with the anticipated site conditions.

8. Refer to the architectural plans for building and stoop dimensions, site layout and dimensions, pavement sections and details, striping, and other site features.

9. A licensed surveyor shall perform construction staking. The Contractor shall provide and be responsible for the staking. Verify all plan and detail dimensions prior to construction staking. Stake the limits of walkways and curbing prior to valvebox, maintenance hole, and catchbasin installation. Adjust valvebox and maintenance hole locations in order to avoid conflicts with curb and gutter. Adjust catchbasin locations in order to align properly with curb and gutter.

10. Provide temporary fences, barricades, coverings, and other protections in order to preserve existing items to remain, and to prevent injury or damage to person or property.

11. Provide all traffic control required in order to construct the proposed improvements. Traffic control design and associated government approvals are the responsibility of the Contractor. Comply with local authorities and the latest version of the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD), including the Field Manual for Temporary Traffic Control Zone Layouts. If the temporary traffic control zone affects the movement of pedestrians, provide adequate temporary pedestrian access and walkways. If the temporary traffic control zone affects an accessible and detectable pedestrian facility, maintain accessibility and detectability along the alternate pedestrian route in accordance with the provisions for pedestrian and worker safety contained in Part 6 of the MMUTCD.

12. Testing and Inspections: All plumbing installations, including water and sewer services, must be tested and inspected in accordance with the requirements of the Minnesota Plumbing Code (Minnesota Rules Chapter 4714). Coordinate testing and inspection with the State Health Department and the City Public Works Department. No drainage or plumbing work may be covered prior to completing the required tests and inspections.

13. Separation of Water and Sewer: Construct sewer and water services in accordance with Minnesota Rules part 4714.720 and 4714.721. Provide a minimum horizontal separation of 10 feet between all water and sewer lines, including manholes, catch basins, storm sewer, sanitary sewer, drainitie, or other potential sources for contamination in accordance with Minnesota Rules part 4714.609.6. Measure the separation distance from the outer edge of the pipe to the outer edge of the contamination source (outer edge of structures, piping, etc.) At water and sewer crossings, the bottom of the water pipe located within ten feet of the point of crossing must be at least 12-inches above the top of the sewer. When this is not feasible, the sewer pipe material must be approved for use inside of or within a building in accordance with the requirements of Minnesota Rules part 4714.701. Only ASTM D1785, D2665, F891, or F1488 Schedule 40 PVC may cross above or less than 12 inches below potable water lines (see Minnesota Rules part 4714.720.1). No joints or connections are allowed on the water line within 10-feet of the crossing.

14. Coordinate building utility connection locations at 2 ft. out from the proposed building with the interior Plumbing Contractor prior to construction. Verify water and sewer service locations, sizes, and elevations with the Mechanical Engineer prior to construction. Coordinate construction and connections with the Mechanical Contractor.

15. The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" by the FHA

16. The locations of existing utilities shown on this plan are from record information. The Engineer does not guarantee that all existing utilities are shown or, if shown, exist in the locations indicated on the plan. It is the Contractor's responsibility to ascertain the final vertical and horizontal location of all existing utilities (including water and sewer lines and appurtenances). Notify the Engineer of any discrepancies.

17. The Contractor is solely responsible for all utility locates. Contact utility companies for locations of all public and private utilities within the work area prior to beginning construction. Contact GOPHER STATE ONE CALL at (651) 454-0002 in the Minneapolis/St. Paul metro area, or 1-800-252-1166 elsewhere in Minnesota for exact locations of existing utilities at least 48 working hours (not including weekends and holidays) before beginning any construction in accordance with Minnesota Statute 216D. Obtain ticket number and meet with representatives of the various utilities at the site. Provide the Owner with the ticket number information. Gopher State One Call is a free service that locates municipal and utility company lines, but does not locate private utility lines. Use an independent locator service or other means in order to obtain locations of private utility lines including, but not limited to, underground electric cables, telephone, TV, and lawn sprinkler lines.

18. Pothole to verify the positions of existing underground facilities at a sufficient number of locations in order to assure that no conflict with the proposed work exists and that sufficient clearance is available.

19. Where existing gas, electric, cable, or telephone utilities conflict with the Work, coordinate the abandonment, relocation, offset, or support of the existing utilities with the appropriate local utility companies. Coordinate new gas meter and gas line installation, electric meter and electric service installation, cable service, and telephone service installation with the local utility companies.

20. When working near existing telephone or electric poles, brace the poles for support. When working around existing underground utilities that become exposed, provide sufficient support in order to prevent excessive stress on the existing piping. The location and preservation of existing underground utilities is solely the responsibility of the Contractor.

21. Temporary support systems are the responsibility of the Contractor, who is also solely responsible for the construction means, methods, techniques, sequences or procedures, and for safety precautions and programs in connection with the temporary support systems. Temporary support systems include, but are not limited to, shoring, sheeting, bracing, anchorages, excavation support walls, directional boring, auger jacking, soil stabilization, and other methods of protecting existing improvements.

22. Arrange for and secure suitable disposal areas off-site. Dispose of all excess soil, waste material, debris, and all materials not designated for salvage. Waste material and debris includes trees, stumps, pipe, concrete, asphaltic concrete, cans, or other waste material from the construction operations. Obtain the rights to any waste area for disposal of unsuitable or surplus material either shown or not shown on the plans. All work in disposing of such material shall be considered incidental to the work. All disposal must conform to applicable solid waste disposal permit regulations. Obtain all necessary permits at no cost to the Owner.

23. Store and protect existing site features that need to be removed and replaced in connection with the Work. Replace damaged or stolen site features at no additional cost to the Owner.

24. Straight line saw-cut existing bituminous or concrete surfacing at the perimeter of pavement removal areas. Use saws that provide water to the blade. Do not allow the slurry produced by this process to be tracked outside of the immediate work area or discharged into the sewer system. Tack and match all connections to existing bituminous pavement.

25. Relocate overhead power, telephone, and cable lines as required. Seal and report any existing unused on-site wells and septic systems in accordance with Minnesota Department of Health (MDH) requirements. Provide the MDH with a Well and Boring Sealing Record, or certify in writing that there are no unused wells on the property.

26. All materials required for this work shall be new material conforming to the requirements for class, kind, grade, size, quality, and other details specified herein or as shown on the Plans. Do not use recycled or salvaged aggregate, asphaltic pavement, crushed concrete, or scrap shingles. Unless otherwise indicated, the Contractor shall furnish all required materials and labor in order to perform the construction in accordance with the construction documents, specifications, and regulatory agencies.

27. Reconstruct driveways and patch street to match existing pavement section and grade. Sod right-of-way. Restore the public right-of-way at temporary construction entrance locations. Replace any concrete curb and gutter, bituminous pavement, sidewalk, or vegetative cover damaged by the construction activity. Restore damaged turf with sod within the public right-of-way. The work area shown is general and may need to be adjusted in the field.

28. Cut turf edges in order to allow for a uniform straight edge at locations where new sod meets existing turf. No jagged or uneven edges are allowed. Remove topsoil as required at joints between existing and new turf in order to allow the surface of the new sod to be flush with the existing.

29. Document existing conditions (photographs, video, field survey, etc.) in order to enable restoration to match existing conditions and in order to ensure that restored areas have positive drainage similar to existing conditions.

30. Provide positive drainage away from buildings at all times. Provide and maintain temporary drainage throughout construction until the permanent drainage system and structures are in place and operational. Install temporary ditches, piping, pumps, or other means as necessary in order to insure proper drainage at all times. Provide low points at building pads or roadways with positive outfalls. Do not block drainage from or direct excess drainage to adjacent property.

31. Protect all structures and landscaping not labeled for demolition from damage during construction. Provide protective coverings and enclosures as necessary to prevent damage to existing work that is to remain. Existing work to remain may include items such as trees, shrubs, lawns, sidewalks, drives, curbs, utilities, buildings and/or other structures on or adjacent to the site. Provide temporary fences and barricades as required for the safe and proper execution of the work and the protection of persons and property. Provide building surveys and seismic monitoring in locations where demolition, excavation, underpinning, pile driving, compacting, or similar work is to be performed adjacent to or in the vicinity of existing structures. Return any on-site or off-site areas disturbed directly or indirectly due to construction to a condition equal to or better than the existing condition.

32. Protect sub grades from damage by surface water runoff.

33. Full design strength is not available in bituminous pavement areas until the final lift of asphalt is compacted into place. Protect pavement areas from overloading by delivery trucks, construction equipment, and other vehicles.

34. When sawing or drilling concrete or masonry, use saws that provide water to the blade. Do not allow the slurry produced by this process to be tracked outside of the immediate work area or discharged into the sewer system.

35. Adjust all public and private structures including curb stops, valve boxes, maintenance hole castings, catchbasin castings, cleanout covers, and similar items to finished grade. Comply with the requirements of each structure's owner. Structures being reset in paved areas must meet the owner's requirements for traffic loading.

36. Grading for all sidewalks and accessible routes, including driveway crossings, shall conform to current State and Federal Americans with Disabilities Act (ADA) requirements. In accordance with ADA Section 403.3, slopes shall not exceed exceed 2% cross slope or 5% in the direction of travel. Sidewalk access to external building doors shall be ADA compliant. Accessible parking stalls shall not exceed 2% slope in any direction.

37. Curb ramps on accessible routes shall comply with sections 405 and 406 of the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

38. Accessible parking spaces shall be provided in accordance with Minnesota Rules 1341.0502 A117.1 Section 502.

39. Accessible parking spaces shall include the International Symbol of Accessibility complying with ADA Section 703.7.2.1 painted in the center of the parking space, 4-ft. high. Hatch handicapped access aisles with white 4-inch wide painted stripes 18-inches on center and at 45 degree angles to the stalls.

40. Install all pipe with the ASTM identification numbers on the top for inspection. Commence pipe laying at the lowest point in the proposed sewer line. Field verify that there is positive drainage at the outfall location. Lay the pipe with the bell end or receiving groove end of the pipe pointing upgrade. When connecting to an existing pipe, uncover the existing pipe in order to allow any adjustments in the proposed line and grade before laying any pipe. Do not lay pipes in water or when the trench conditions are unsuitable for such work.

41. Obtain and pay for all permits, tests, inspections, etc. required by agencies that have jurisdiction over the project including the NPDES permit from the State. The Contractor is responsible for all bonds, letters of credit, or cash sureties related to the work. Execute and inspect work in accordance with all local and state codes, rules, ordinances, or regulations pertaining to the particular type of work involved.

42. Measure pipe lengths from center-of-structure to center-of-structure, or to the end of aprons.

43. Obtain permits from the City for work in the public right-of-way.

44. Refer to the geotechnical report by the Soils Engineer for dewatering requirements.

45. Construct sanitary sewer, watermain, and storm sewer utilities in accordance with the City Engineer's Association of Minnesota Standard Specifications sections 2600, 2511, and 2621 dated 2018, or the latest revised edition.

46. These plans, prepared by Sunde Engineering, PLLC., do not extend to or include systems pertaining to the safety of the construction contractor or its employees, agents, or representatives in the performance of the work. The seal of Sunde Engineering's registered professional engineer hereon does not extend to any such safety systems that may nor or hereafter be incorporated into these plans. The construction contractor shall prepare or obtain the appropriate safety systems which may be required by U.S. Occupational Safety and Health Administration (OSHA) and/or local regulations.

47. Existing utilities shown on this plan are located as accurately as possible. However, the Engineer does not guarantee that all utilities are shown, or if shown are in the exact locations indicated on the plan. It is the Contractor's responsibility to ascertain the final vertical and horizontal location of all existing utilities (including municipal water and sewer lines and appurtenances) and to notify the owners of the utilities a minimum of 48 working hours before starting construction in a given area, requesting location in the field, as exact as possible, of all utilities which may be affected by the construction.

48. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.

49. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.

50. Perform all grading, base construction, pavement construction, and miscellaneous construction in accordance with the Standard Specifications for Construction and the Materials Lab Supplemental Specifications for Construction of the Minnesota Department of Transportation, 2020 Edition, and all subsequent amendments thereto; provided, that the provisions for measurement and payment do not apply to the work of this Contract.

51. Concrete Pavement Tolerances: When the concrete has hardened sufficiently, check it with straightedge. Surface smoothness deviations shall not exceed 1/4 inch (6 mm) from the straightedge placed in any direction, including placement along and spanning any pavement joint edge. Immediately grind down with an approved grinding machine areas in a slab showing high spots of more than 1/4 inch (6 mm) but not exceeding 1/2 inch (13 mm) to an elevation that will fall within the tolerance of 1/4 inch (6 mm) or less. Remove and replace pavement where the departure from the specified cross-section exceeds 1/2 inch (13 mm).

52. Bituminous Pavement Tolerances: Check bituminous pavement surfaces with a 10-foot (3-meter) straightedge. Remove and replace any part of the bituminous pavement where the deviation of surface flatness in excess of 1/4 inch (6 mm). After compaction, the thickness of each bituminous course shall be within plus or minus 1/2 inch (13 mm) of the thickness shown on the Plans. Remove and replace any part of the bituminous pavement that is constructed with less than the minimum required thickness.

53. Pavement Alignment Tolerances: Lateral deviation from established alignment of the pavement edge shall not exceed plus or minus 0.10 foot (30 mm). Vertical deviation from established grade of the pavement shall not exceed plus or minus 0.04 foot (13 mm) at any point.

54. Topsoil Tolerances: Topsoil shall be graded to plus or minus 1/2 inch of the specified thickness.

55. See architectural for building waterproofing and foundation drainage.

56. Provide as-builts in accordance with City and CCWMD requirements. Record as-built information as construction progresses or at appropriate construction intervals. Secure and deliver to the Owner as-built information showing locations, top, and invert elevations of maintenance holes, catchbasins, cleanouts, inlet and outlet pipes, valves, hydrants, and related structures. Location ties shall be to permanent landmarks or buildings.

57. Test reports required for project close-out include, but are not limited to: density test reports, bacteriological tests on the water system, pressure tests on the water system, and leak tests on the sewer system.

58. Property Corners: Take care during construction and excavation in order to protect survey markers, monuments, and/or property irons.

ACCESSIBILITY REQUIREMENTS:

1. Grading for all sidewalks and accessible routes, including driveway crossings, shall conform to current State and Federal Americans with Disabilities Act (ADA) requirements. In accordance with ADA Section 403.3, slopes shall not exceed exceed 2% cross slope or 5% in the direction of travel. Sidewalk access to external building doors shall be ADA compliant. Accessible parking stalls shall not exceed 2% slope in any direction.

2. Curb ramps on accessible routes shall comply with sections 405 and 406 of the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Ramps shall have a running slope not steeper than 1:12 (8.33%).

3. Landings with a slope that is no steeper than 1:48 in all directions shall be provided at the tops of curb ramps in accordance with ADA section 406.4. The landing clear length shall be 36" minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

4. Accessible parking spaces shall be provided in accordance with Minnesota Rules 1341.0502 A117.1 Section 502.

5. Accessible parking spaces shall include the International Symbol of Accessibility complying with ADA Section 703.7.2.1 painted in the center of the parking space, 4-ft. high. Hatch handicapped access aisles with white 4-inch wide painted stripes 18-inches on center and at 45 degree angles to the stalls.

6. Minnesota Rules 1341.0502 A117.1 Section 502.2 Vehicle Space Size: Car and van parking spaces shall be 96 inches (2440 mm) minimum in width.

7. Minnesota Rules 1341.0502 A117.1 Section 502.4.2 Access Aisle Width: Access aisles serving car and van parking spaces shall be 96 inches (2440 mm) minimum in width.

8. Minnesota Rules 1341.0502 A117.1 Section 502.4.4 Access Aisle Marking: Access aisles shall be marked so as to discourage parking in them and be provided with the designation "no parking." The "no parking" designation shall be provided on a sign centered at the head end of the access aisle a maximum of 96 inches (2440 mm) from the head of the access aisle, and be mounted 60 inches (1525 mm) minimum and 66 inches (1676 mm) maximum above the floor of the access aisle, measured to the bottom of the sign. Where access aisles are marked with lines, the width measurements of access aisles and adjacent parking spaces shall be made from the centerline of the markings. Exception: A sign indicating no parking shall not be required where the sign would obstruct a curb ramp or pedestrian route. In this case, the no parking designation shall be provided on the surface of the access aisle.

9. Minnesota Rules 1341.0502 A117.1 Section 502.7 Accessible Parking Identification: Accessible parking spaces shall be identified by signs complying with Minnesota Statutes, section 169.346, and include the International Symbol of Accessibility complying with ADA Section 703.7.2.1. Where all accessible parking spaces do not provide a minimum vertical clearance of 98 inches (2490 mm), signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be centered at the head end of the parking space a maximum of 96 inches (2440 mm) from the head of the parking space, and be mounted 60 inches (1525 mm) minimum and 66 inches (1676 mm) maximum above the floor of the parking space, measured to the bottom of the sign.

10. Minnesota Statutes, Section 169.346, Subdivision 2, Disability Parking Space Signs: (a) Parking spaces reserved for physically disabled persons must be designated and identified by the posting of signs incorporating the international symbol of access in white on blue and indicating that violators are subject to a fine of up to $200. These parking spaces are reserved for disabled persons with motor vehicles displaying the required certificate, plates, permit valid for 30 days, or insignia. (b) For purposes of this subdivision, a parking space that is clearly identified as reserved for physically disabled persons by a permanently posted sign that does not meet all design standards, is considered designated and reserved for physically disabled persons. A sign posted for the purpose of this section must be visible from inside a motor vehicle parked in the space, be kept clear of snow or other obstructions which block its visibility, and be non-movable.

11. ADA Section 303 Changes in Level Vertical: The maximum vertical change in ground surface level is ¼ inch unless beveled.

12. ADA Section 303.2 Vertical: Changes in level of ¼ inch (6.4 mm) high maximum shall be permitted to be vertical.

13. ADA Code Advisory 303.3 Beveled: A change in level of ½ inch (13 mm) is permitted to be ¼ inch (6.4 mm) vertical plus ¼ inch (6.4 mm) beveled. However, in no case may the combined change in level exceed ½ inch (13 mm). Changes in level exceeding ½ inch (13 mm) must comply with ADA Section 405 (Ramps) or ADA Section 406 (Curb Ramps).

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NORDIC WASTE MANAGEMENT

TACOMA WEST INDUSTRIAL PARK

NORWOOD YOUNG AMERICA, MN

DATE	REVISION

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 PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Brian H. Mundstock

DATE: 07-09-2024 REG. NO.: 23468

INFORMATION:

PROJECT NO.: #24-525
DRAWN BY: jm
CHECKED BY: ss
APPROVED BY: bhm
SCALE graphic
DATE: 07-09-2024

DESCRIPTION:

GENERAL NOTES

SHEET NO:

C3

24-525 T. . R. . S. DRAWING: \\server\Projects\2024\#24-525 Nordic Waste Management - Norwood Young America, MN\2024-06-03\24525C10.dwg LAYOUT: C3 XREF: Proposed Lots 5th Addition; XREF: ACAD-124521_C_BASE_N1-Model; XREF: ACAD-124521_C_SNWN_N1-Model; XREF: ACAD-124521_C_STRM_N1-Model; XREF: ACAD-124521_V_PLTF_1-Model; XREF: ACAD-124521_C_GRND_N1-Model; XREF: siteplan; XREF: building; XREF: titleblock24x36

SANITARY SEWER:

1. All joints and connections in the sewer system shall be gastight or watertight. Inlet and outlet connections to sewer manholes must use flexible compression joints located between 12 and 36 inches from the manhole in accordance with Minnesota Rules part 4714.719.6. Where permitted by the administrative authority as an alternate installation method, approved resilient rubber joints or waterstop gaskets may be used in order to make watertight connections to manholes and other structures (see Minnesota Rules part 4714.301.2). Use Fernco "Concrete Manhole Adaptors" or "Large Diameter Waterstops", Press-Seal "Waterstop Grouting Rings", or approved equal. Cement mortar joints are permitted only for repairs or connections to existing lines having such joints.
2. The building sewer starts 2 feet outside of the building. See Minnesota Rules part 4714.715.1. Material installed within 2 feet of the building must be of materials approved for use inside of or within the building.
3. The exterior sanitary sewer piping must comply with the following requirements: (A) Double wyes may not be used for drainage fittings in the horizontal position (see Minnesota Rules, Chapter 4714, Section 310.5) because proper pipe slope cannot be maintained on both of the lateral branches. (B) Changes in direction in drainage piping must be made by appropriate use of wyes and bends (see Minnesota Rules, Chapter 4714, Section 706.0). When connecting any vertical drop to a horizontal run, use a wye and a 1/8 bend (45 deg), or a sanitary combo. A sanitary combo is a combination wye and a 1/8 bend combined in a single fitting. The reason is to form a long radius bend in order to insure that the waste is directed in the downstream direction as it enters the horizontal run. Tees are not allowed where the direction of flow changes from either vertical to horizontal or horizontal to horizontal.
4. Pipe: Use solid-core, Schedule 40 Polyvinyl Chloride (PVC) Plastic Pipe for all designated PVC sanitary sewer services outside of the building. The PVC pipe shall meet or exceed the industry standards and requirements as set forth by the American Society for Testing and Materials (ASTM) D1785 and D2665. Fittings must comply with ASTM D1866, D2665, or F794. Joints must be approved mechanical or push-on utilizing an elastomeric seal. Use of solvent cement joints is allowed for building services. Solvent cement joints in PVC pipe must use ASTM F656 purple primer and ASTM D2564 cement in accordance with Minnesota Rules part 4714.805.2.2. The installation must comply with ASTM D2321, which requires open-trench installation on a continuous granular bed.
5. Cleanouts: Install cleanouts on all sanitary sewer services in accordance with Minnesota Rules part 4714.719. Install cleanouts for pipes 4-inch and over in size at intervals not to exceed 100 feet in straight runs and for each aggregate horizontal change in direction exceeding 135 degrees. Cleanouts shall be of the same nominal size as the pipes they serve. Include frost sleeves and concrete frame and pipe support. Install a meter box frame and solid lid (Neenah R-1914-A, or approved equal) over all cleanouts.
6. Testing: Pressure test all sanitary sewer in accordance with the Minnesota Rules Sections 4714.712 and 4714.723. Concrete manholes and sewer lines shall be tested by negative pressure in accordance with ASTM C1214-19, ASTM C1244-17, or the Hydrostatic Test Method in section 1107.2.3(b). Test all flexible sanitary sewer lines for deflection after the sewer line has been installed and backfill has been in place for at least 30 days. No pipe shall exceed a deflection of 5%. If the test fails, make necessary repairs and retest.
7. Install a meter box and cover (Neenah R-1914-A, or approved equal) over all PVC cleanouts.
8. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.
9. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.
10. The minimum depth of cover for sanitary sewer without insulation is 6 feet. Insulate sanitary sewer services at locations where the depth of cover is less than 6 feet. Provide a minimum insulation thickness of 4 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards 6 inches above the tops of the pipes on mechanically compacted and leveled pipe bedding material. Use high density, closed cell, rigid board material equivalent to DOW Styrofoam Highload 40 Polystyrene Insulation. Individual insulation board dimensions typically measure 4' wide by 8' long by 2" thk.
11. Install all pipe with the ASTM identification numbers on the top for inspection. Commence pipe laying at the lowest point in the proposed sewer line. Field verify that there is positive drainage at the outfall location. Lay the pipe with the bell end or receiving groove end of the pipe pointing upgrade. When connecting to an existing pipe, uncover the existing pipe in order to allow any adjustments in the proposed line and grade before laying any pipe. Do not lay pipes in water or when the trench conditions are unsuitable for such work.
12. Terminate all new sewer stubs with a water-tight gasketed cap properly braced in order to withstand the infiltration-exfiltration test. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at the end of all stubs.
13. Televise all existing lines prior to connection.

WATER DISTRIBUTION SYSTEM:

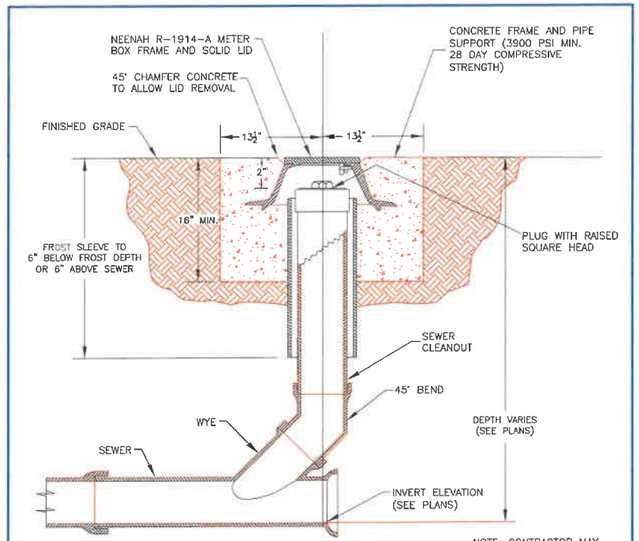
1. Separation of Water and Sewer: Construct sewer and water services in accordance with Minnesota Rules part 4714.720 and 4714.721. Provide a minimum horizontal separation of 10 feet between all water and sewer lines, including manholes, catch basins, storm sewer, sanitary sewer, draintile, or other potential sources for contamination in accordance with Minnesota Rules part 4714.609.6. Measure the separation distance from the outer edge of the pipe to the outer edge of the contamination source (outer edge of structures, piping, etc.) At water and sewer crossings, the bottom of the water pipe located within ten feet of the point of crossing must be at least 12-inches above the top of the sewer. When this is not feasible, the sewer pipe material must be approved for use inside of or within a building in accordance with the requirements of Minnesota Rules part 4714.701. Only ASTM D1785, D2665, F891, or F1488 Schedule 40 PVC may cross above or less than 12 inches below potable water lines (see Minnesota Rules part 4714.720.1). No joints or connections are allowed on the water line within 10-feet of the crossing.
2. Watermain Depth: Maintain 8-feet of cover over the top of the water lines to the finished grade. Verify elevation of proposed and existing water lines at all utility crossings. Install the water lines at greater depths in order to clear storm sewers, sanitary sewers, or other utilities as required. Include costs to lower water lines in the base bid.
3. Disinfection: Disinfect all completed watermains in accordance with AWWA Standard C651. If the tablet or continuous feed methods are used, disinfect the completed watermain with water that contains at least 50 ppm of available chlorine in accordance with Minnesota Rules part 4714.609.9. Do not use the tablet method on solvent-welded plastic or on screwed-joint steel pipe because of the danger of fire or explosion from the reaction of the joint compounds with the calcium hypochlorite. Retain the treated water in the pipeline for at least 24 hours. Measure the chlorine residual at the end of the 24 hour period. The free chlorine residual must be at least 10 mg/l measured at any point in the line. Measurement of the chlorine concentration at regular intervals shall be in accordance with Standard Methods, AWWA M-12, or using appropriate chlorine test kits.
4. Testing: Pressure test and perform bacteriological tests on all water lines under the supervision of the City Public Works Department. Notify the City at least 24 working hours prior to any testing. Pressure test the water system in accordance with Minnesota Rules part 4714.609.4. Pressurize lines valved to a water pressure of 1034-kPa (150-psi) gauge pressure (measured at the point of lowest elevation) by means of a pump connected to the pipe in a satisfactory manner. Do not add water to the watermain in order to maintain the required pressure during the water main pressure testing. Minnesota Department of Labor and Industry: The test section of pipe shall withstand the test without leaking for a period of not less than 15 minutes. Minnesota Department of Health: The watermain shall be pressure tested at 150-psi for at least two hours with not more than a 2-psi pressure drop during the last hour of the test.
5. All water supply piping connected to municipal water main must have a 150 psi minimum pressure rating.
6. Ductile Iron pipe (DIP) water services must comply with AWWA C151/ANSI A21.51 or AWWA C115/ANSI A21.15 (See Minnesota Rules part 4714.604). Use Thickness Class 52 DIP with push-on joints. Use petroleum resistant gaskets, Nitrile (NBR), or approved equal. Use only ANSI 316 stainless steel bolts and nuts on all watermain fittings, valves, and hydrants. The exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc per ISO 8179.
7. Polyethylene Sheet Or Tubes For Corrosion Protection Of Buried Ductile Iron: Polyethylene encasement is required on all buried ductile iron pipe, fittings, valves, and other appurtenances. Polyethylene encasement must comply with AWWA C105/ANSI A21.5. Use V-Bio Enhanced Polyethylene Encasement (www.mcwaneductile.com) or approved equal.
8. Use mechanical joint restraint devices for joint restraint on all watermain bends having a vertical or horizontal deflection of 22-1/2 degrees or greater, all valves, stubs, extensions, building services, tees, crosses, plugs, all hydrant valves, and all hydrants in accordance with City requirements. Use "Series 1100 Megalug" manufactured by EBAA Iron Inc., Eastland, Texas, or approved equal, installed in accordance with manufacturer's recommendations for restraint on Ductile Iron Pipe. Restraining devices are to have epoxy coating or approved equivalent. Restraining device hardware shall be ANSI 316 stainless steel, or approved equivalent.
9. Watermain Valves: At all valve locations which require a 12" or smaller valve, install gate valves which are of the compression resilient seated (CRS) type. Use American Flow Control's Series 2500 Ductile Iron Resilient Wedge Gate Valve, or approved equal. Gate valves shall conform to AWWA C509. Install cast iron valve boxes conforming to ASTM A48 at each valve location. Valve boxes shall be the three-piece type with 5-1/4" shafts. Use Tyler 6860-G with No. 6 base, or equivalent. Valve boxes shall have at least 6" of adjustment above and below finished grade. Drop covers on valve boxes shall be round and bear the word "WATER" cast on the top. Use Tyler 6860-G "Stayput" covers with extended skirt, or equivalent. All valve hardware shall be ANSI 316 stainless steel, or approved equivalent.
10. Trace Wire: Install locating wires on all conductive and non-conductive storm sewer, sanitary sewer, and water lines in accordance with the Minnesota Rural Water Association (MRWA) Trace Wire Specification Guide and Details (www.mrwa.com/PDF/TracerWireSpecGuideFinalweb9.pdf). Use #12 HDPE-insulated copper-clad steel wire rated for underground service. The color of the insulating jacket shall be as follows: ground=red, storm sewer=green, sanitary sewer=green, and water lines=blue. Install the wire on the bottom side of the pipe below the spring line. Fasten the wire to the pipe with tape or plastic ties at 5' intervals. Do not wrap the trace wire around the corresponding utility. Do not connect the trace wire to existing conductive utilities. Use Copperhead Dryconn 3-Way or Locking Snake Bite connectors rated for underground direct bury applications or approved equal at all crossings or service connections. Twist on connectors are not allowed. Trace wire must be properly grounded at all dead ends and services. Install grade-level/in-ground trace wire access boxes and drive-in magnesium grounding anodes at all dead ends, services, and fire hydrants. Trace wire access boxes shall be color coded as follows: storm sewer=green, sanitary sewer=green, and water lines=blue.
11. Detectable Warning Tape: Install detectable underground warning tape directly above all underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Underground warning tape shall be 3-inches wide with a minimum 5.0 mil overall thickness. Tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core, and then laminated to a 3.75 mil clear virgin polyethylene film. The aluminum backing makes underground assets easy to find using a non-ferrous locator. Tape shall be printed using a diagonally striped design for maximum visibility and meet the APWA Color-Code standard for identification of buried utilities. Use Pro-Line Safety Products (www.prolinesafety.com) detectable marking tape or approved equal.
12. Threaded hose connections including hose bibbs and hydrants must include a back flow prevention device in accordance with Minnesota Rules, part 4714.0603 and UPC part 603.0. Wall hydrants must meet ASSE Standard 1019 (see Table 603.2). Where permitted by the administrative authority, wall hydrants may utilize non-removable ASSE 1052 backflow preventers or non-removable ASSE 1011 vacuum breakers and provision is made to protect from freezing (see Minnesota Rules, Chapter 4714, Sections 603.5.7, 312.6, and 301.1.2).
13. Lead Content: All newly installed or replacement pipes, pipe fittings, plumbing fittings and fixtures, including backflow preventers, that are installed on potable water systems or systems that are designed to distribute water for potable use, are required to meet the Reduction of Lead in Drinking Water Act, which establishes a maximum lead content of 0.25 percent by weighted average of the wetted surfaces. See Minnesota Rules part 4714.604.2. Solder and flux for potable water systems shall contain less than 0.2 percent lead. Joints must include non-corrosive non-toxic paste-type flux complying with ASTM B813 (see Minnesota Rules, Chapter 4714, Section 605.1.4).
14. Bring all site utilities to 2' outside of the building line with the exception of the water service. Extend water service into the building and up through the floor to the flange for the water meter. Do not install PVC water service pipe under or within any building, structure, or part thereof.
15. Do not exceed the manufacturer's specifications for curvature of pipe and deflection at pipe joints. Securely close all open ends of pipe and fittings with watertight plugs when work is not in progress. Keep the interior of all pipes clean and remove any dirt or debris from joint surfaces after the pipes have been lowered into the trench. Install all valves plumb and located according to the plans.

STRIPING AND SIGNAGE NOTES:

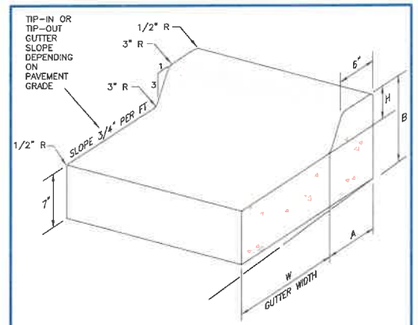
1. Provide traffic control devices and signage in accordance with the latest version of the Minnesota Manual on Uniform Traffic Control Devices (MNUTCD), including the Field Manual for Temporary Traffic Control Zone Layouts, the Minnesota Standard Signs Manual, Parts I, II, and III and the appropriate Material Specifications, and MNDOT Standard Specification Section 1710. All signs must be reflectorized.
2. Provide Advance and Construction Zone Signing including, but not limited to, signs for lane closures, low shoulder, uneven lanes, and fresh oil (other items as applicable). The number and location of these signs will be determined by the Contractor's operations.
3. White surface markings (letters and symbols) shall be in conformance with the Standard Alphabets for Highway Signs and Pavement Markings, FHA (M10-20).
4. Designate all approved parking stalls with white 4 inch wide surface markings. Paint all directional traffic arrows as shown in white. Apply two coats of paint.
5. Provide handicapped symbols at all handicapped parking stalls in accordance with ADA requirements. Paint the international symbol of accessibility in the center of each designated accessible parking stall in white, 4-ft. high. Hatch handicapped access aisles with white 4-inch wide painted stripes 18-inches on center and at 45 degree angles to the stalls. Mark the pavement at the access aisles with "NO PARKING" in white letters minimum 12" high. Apply two coats of paint.
6. Accessible parking spaces shall be identified by signs complying with Minnesota Statutes, section 169.346, and include the International Symbol of Accessibility complying with Section 703.7.2.1.
7. Access aisles shall be marked so as to discourage parking in them and be provided with the designation "no parking." The "no parking" designation shall be provided on a sign centered at the head end of the access aisle a maximum of 96 inches (2440 mm) from the head of the access aisle, and be mounted 60 inches (1525 mm) minimum and 66 inches (1676 mm) maximum above the floor of the access aisle, measured to the bottom of the sign. Where access aisles are marked with lines, the width measurements of access aisles and adjacent parking spaces shall be made from the centerline of the markings. In cases where the "no parking" sign would obstruct a curb ramp or pedestrian route, the no parking designation shall be painted on the surface of the access aisle.
8. Typical full size 90° parking stalls are 9' x 18' (non-handicapped) unless otherwise indicated.
9. All signs shall include post, concrete footing, and bollard where required. Install concrete-filled steel bollard at locations where the sign post is not protected by a concrete curb.
10. Unless otherwise indicated, install signage 18 inches behind the back of curb or back of walkway.
11. Provide temporary street signs and addresses during construction.

CONCRETE SLAB NOTES:

1. All materials required for this work shall be new material conforming to the requirements for class, kind, grade, size, quality, and other details specified herein or as shown on the Plans. Do not use recycled or salvaged aggregate, asphaltic pavement, crushed concrete, or scrap shingles. Unless otherwise indicated, the Contractor shall furnish all required materials.
2. Compact 8" thick aggregate base in accordance with MNDOT SPEC. 2211.3.D.2.a.
3. Concrete for Exterior Slabs and Pavements: Portland cement concrete for exterior slabs shall have a 31 MPa (4,500 psi) minimum 28-day compressive strength with an air content of 5.5% [±1.5%] of the measured volume of the freshly mixed concrete and a slump range of 2"-5". All concrete shall be in accordance with MNDOT Standard Specification 2461, mix 3F52. Refer to the MNDOT Specifications for complete mix requirements. Use a water/cement ratio of 0.45 or less for concrete exposed to deicers. Concrete aggregates shall be free of organic impurities, chert, shale, or other deleterious substances.
4. Concrete Sealer: Apply TK-TRI-KOTE 25 UV Chlorinated Rubber Epoxy Concrete Treatment, or approved equal, to all exterior portland cement concrete pavement. TK-TRI-KOTE 26 UV is a special formula of chlorinated rubber and epoxy manufactured by TK Products Construction Coatings (www.tkproducts.com). It is formulated to cure, seal, and harden concrete.
5. All concrete slabs shall be as indicated on the plans, but not less than 6" thick with 6 inch x 6 inch – #10/#10 wire size welded wire mesh reinforcing.
6. Contraction Joints in Pavement: The contraction joint pattern should divide the pavement into panels that are approximately square with a maximum joint spacing of 12 feet. The length of the panel may be 25% greater than the width. Construct contraction joints approximately 4 mm (1/8 inch) in width and cut to a depth of at least 1/3 the concrete thickness, but not less than 51 mm (2 inches) from the exposed surface. Construct joints perpendicular to the subgrade and align with similar joints in adjoining work when practicable. Place transverse joints at right angles to the longitudinal axis of the work. Round all joint edges with an edging tool having a radius of 5 mm (3/16 inch) before finishing.
7. Isolation Joints in Pavement: Provide preformed isolation joints using 0.5" thickness at locations where the concrete surrounds or adjoins any existing fixed objects such as fire hydrants, maintenance holes, light poles, sidewalks, walls, posts, curbing, steps, driveways, building foundations, and other rigid structures.
8. Concrete reinforcement shall consist of galvanized steel wire, rods, and bars. These corrosion resistant concrete reinforcing products shall be produced by batch hot dip galvanizing or by continuous hot dip galvanizing. In either case, zinc coatings provide long lasting corrosion protection. Zinc coated reinforcing steel shall meet the requirements of ASTM A767 Zinc-coated (galvanized) steel bars for concrete reinforcement and ASTM A1094 Specification for continuous hot-dip galvanized steel bars for concrete reinforcement.



SEWER CLEANOUT



DIMENSIONS			W = 12"		
			DESIGN NUMBER	CONCRETE	
H	A	B		CU. YDS. / LIN. FT.	LIN. FT. / CU. YD.
6"	8"	13 1/2"	B612	0.0474	21.1

NOT TO SCALE

B612 CONCRETE CURB AND GUTTER

Sunde Engineering, PLLC.
CIVIL AND ENVIRONMENTAL ENGINEERING SERVICES
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GreystoneConstruction.com

NORDIC WASTE MANAGEMENT

TACOMA WEST INDUSTRIAL PARK
NORWOOD YOUNG AMERICA, MN

DATE	REVISION

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 PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Brian H. Mundstock
DATE 07-09-2024 REG. NO.: 23468

INFORMATION:

PROJECT NO.: #24-525
DRAWN BY: jm
CHECKED BY: ss
APPROVED BY: bhm
SCALE: graphic
DATE: 07-09-2024

DESCRIPTION:

NOTES AND DETAILS

SHEET NO:

C4

24-525 T. R. S. DRAWING: \\server\Projects\2024\#24-525 Nordic Waste Management – Norwood Young America, MN\2024-06-03\24525C10.dwg LAYOUT: C4 XREF: Proposed Lots 6th Addition; XREF: ACAD-124521_C_BASE_N1-Model; XREF: ACAD-124521_C_SNWM_N1-Model; XREF: ACAD-124521_C_STRM_N1-Model; XREF: ACAD-124521_V_PLTF_1-Model; XREF: ACAD-124521_C_GRND_N1-Model; XREF: siteplan; XREF: building; XREF: Titleblock24x36

SWPPP CONTACT INFORMATION

AGENCY / POSITION	CONTACT PERSON	PHONE NUMBERS
NORDIC WASTE 1201 6th St. S. Hopkins, MN 55343*	Chris Pass	(612) 816-8500 office (952) 270-6380 cell
GREYSTONE CONSTRUCTION 2995 Winners Circle, Suite 200 Shakopee, MN 55379 SWPPP Manager/Site Inspector**	Tyler Hartman	(952) 278-1172 office (612) 916-5160 cell
SUNDE ENGINEERING, PLLC. 10830 Nesbitt Avenue South Bloomington, MN 55437 SWPPP Designer	Brian Mundstock	(952) 881-3344 office (952) 881-1913 fax
Watershed District Contact		
City Erosion Control Inspector Contact		

* Party responsible for long term operation and maintenance of the permanent stormwater management system.

** Party responsible for overseeing the implementation of the SWPPP.

ESTIMATED PRELIMINARY EROSION AND SEDIMENT CONTROL BMP QUANTITIES*

ITEM	QUANTITY
Temporary Rock Construction Entrance	1
Silt Sack Inlet Protection	1
Erosion Control Blanket	
Stone Riprap	
Silfence	1,891 linear feet
Bio Logs	May be used in lieu of silfence.
Temporary Seed Mixture	
Fertilizer for Temporary Seeding	
Permanent Seed Mixture	
Fertilizer for Permanent Seeding	
Permanent Pond Skimmer Structures	
Temporary Sedimentation Basin Outlet Surface Skimmer	
Concrete Washout	1

* Note: BMP quantities are for informational purposes only and are subject to change. The Contractor shall not rely on these quantities for their bid. The Civil Engineer is not responsible for cost estimates or actual construction costs. The Contractor shall determine for themselves the exact quantities for bidding and construction. The Contractor shall provide additional temporary BMPs as necessary based on actual site conditions.

RECEIVING WATERS

SURFACE WATER, WETLAND, OR STORMWATER POND WITHIN 1 MILE OF SITE THAT RECEIVES STORMWATER RUNOFF FROM SITE	SPECIAL OR IMPAIRED WATER	IMPAIRMENT	APPROVED TMDL
Unnamed Ditch	YES	E.Coli	Yes

AREA TABULATIONS

DISTURBED AREA	4.00 AC
PRE-CONSTRUCTION IMPERVIOUS AREA	0.0 AC
POST-CONSTRUCTION IMPERVIOUS AREA	2.74 AC
NET CHANGE IN IMPERVIOUS AREA	2.74 AC

SOIL DATA

MAP UNIT SYMBOL	MAP UNIT NAME	PORTION OF SITE
CW	Cordova-Webster complex	71.8%
LA	Le Sueur-Lester Complex, 1 to 6 percent slopes	28.2%

No groundwater encountered to a depth of ___ feet.

RAINFALL DATA COLLECTION SYSTEM :

Rainfall data must be collected by a properly maintained rain gauge installed onsite, a weather station within 1 mile of the site, or a weather reporting system that provides site specific rainfall data from radar summaries.

The rainfall collection system used onsite shall be:_____

PROJECT NARRATIVE:

1. The existing site is open field that is currently being mass graded for industrial Zoned use. The address of the site is yet to be determined, but the street name will be Tacoma Trail in Norwood Young America. The site currently drains toward an unnamed ditch.
2. The proposed modifications to the site include the construction of a parking lot, building, and a gravel storage yard. The stormwater from the site will drain to regional filtration facilities. One facility is along the south border of the property the other is to the north and receives runoff from the street sewers.

GENERAL REQUIREMENTS:

1. Apply for and obtain the GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY from the Minnesota Pollution Control Agency.
2. Perform all construction activity in accordance with the Minnesota Pollution Control Agency GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY issued August 1, 2023 and all subsequent amendments thereto.
3. Prior to any work, visit the site and document existing conditions as necessary (photos, notes, etc.) in order to describe the existing drainage patterns on and off site related to the project. These documents shall be part of the SWPPP. Examine all local conditions at the site, and assume responsibility as to the grades, contours, and the character of the earth, existing conditions, and other items that may be encountered during excavation work above or below the existing grades. Review the drawings, specifications, and geotechnical report covering this work and become familiar with the anticipated site conditions.
4. Stormwater Pollution Prevention Plan (SWPPP): The SWPPP includes this narrative, the Grading, Utility, and Erosion Control Plans, Notes and Detail sheets, and Stormwater Management Calculations. During the construction process the SWPPP will have to be amended for all changes performed by the Contractor. The Owner shall be made aware of the amendments prior to changes made to the SWPPP. All notes, photographs, recorded dates, sketches, references, and diagrams will have to be recorded and made available as part of the SWPPP.
5. Keep a copy of the SWPPP, all changes to it, and inspections and maintenance records at the site during the construction. The SWPPP must be available for review. The SWPPP can be kept in the field office or on on-site vehicle. If there will not be a trailer or a project manager on site, then place the SWPPP in an accessible on-site container.
6. The Contractor must designate a person knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before and during construction.
7. The person who will oversee implementation of the SWPPP must have daily access to the SWPPP documentation.
8. Individuals preparing the SWPPP for the project, overseeing implementation of the SWPPP, revising and amending the SWPPP, and at least one individual on the project performing installation, inspection, maintenance, and repairs of BMP's must be trained. The training must be done by a local, state, federal agencies; professional organization; or other entities with expertise in erosion prevention, sediment control, or permanent storm water management. Training documentation must be in or with the SWPPP or be available within 72 hours upon request.
9. The Owner must keep all records in regards to the SWPPP, any stormwater permits required, all records of inspections and maintenance, and the Stormwater Management Calculations for 3 years after the submittal of the Notice of Termination (NOT).

EROSION PREVENTION PRACTICES:

1. Delineate the location of areas not to be disturbed (e.g. with flags, stakes, signs, silt fence, etc.) on the development site before work begins.
2. Avoid removal of trees and surface vegetation wherever possible. Schedule construction in order to expose the smallest practical area of soil at any given time. Implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion.
3. All coats for temporary stabilization during construction will be considered to be incidental and no direct payment will be made therefor.
4. Following initial soil disturbance or redisturbance, complete permanent or temporary stabilization against erosion due to rain, wind, and running water as soon as possible, but in no case later than 7 calendar days, on all disturbed or graded areas including stormwater management pond sideslopes. This requirement does not apply to those areas that are currently being used for material storage or for those areas on which grading, site building, or other construction activities are actively underway.
5. Provide temporary grass seed cover on all topsoil stockpiles and other areas of stockpiled excavated material in order to prevent soil erosion and rapid runoff during the construction period. Prolonged periods of open, bare earth without grass cover will not be permitted.
6. Stabilize all disturbed greenspace areas immediately after final subgrade completion. Seed and mulch, or sod and stake these areas within 48 hours after completion of final grading work (weather permitting).
7. Stabilize all disturbed areas to be paved using early application of gravel base.
8. Stabilize the normal wetted perimeter of any temporary or permanent drainage ditch or swale that conveys water from any portion of the construction site, or diverts water around the site, within 200 lineal feet from the property edge, or within 200 feet from the point of discharge to any surface water. Stabilization of this 200 feet must be completed within 24 hours of connecting to a surface water.
9. Stabilize the remaining portions of any temporary or permanent drainage ditches or swales within 7 calendar days after connecting to a surface water and construction in that portion of the ditch has temporarily or permanently ceased.
10. Provide pipe outlets with temporary or permanent energy dissipation within 24 hours of connection to a surface water. Place a 450 mm (18 inch) thick layer of MNDOT 3601 Class III riprap onto a 225 mm (9 inch) thick layer of MNDOT 3601.2.B granular filter material at locations indicated on the plan in accordance with MNDOT 2511. Install two layers of MNDOT 3733 Type IV Geotextile fabric beneath the granular filter material. At pipe outfalls configure the installation as shown on MNDOT Standard Plate No. 3133C for the size of pipe indicated and extend the geotextile fabric under the culvert apron a minimum of 3 feet. For pipe sizes smaller than 300 mm (12 inch) diameter, the minimum quantity of riprap and filter blanket shall be no less than that required for 300 mm (12 inch) diameter pipes.
11. Apply necessary moisture to the construction area and haul roads in order to prevent the spread of dust.
12. Use certified weed-free erosion control products.

SEDIMENT CONTROL PRACTICES:

1. Implement sediment control practices in order to minimize sediment from entering surface waters, including curb and gutter systems and storm drain inlets.
2. Install all temporary or permanent sediment control measures including silt fence at perimeter of construction, rock construction entrances, sediment filters, silt sacks, and sedimentation basins prior to beginning site clearing, grading, or other land-disturbing activity.
3. Establish sediment control practices on all down gradient perimeters before any up gradient land disturbing activities begin. These practices must remain in place until final stabilization has been established.
4. Redundant Sediment Controls: Permittees are required to provide redundant rows of down gradient sediment BMPs when preservation of 50 feet of an existing buffer to a surface water is infeasible, earth disturbance occurs within 50 feet of the surface water, and stormwater flows to the surface water (excluding road ditches, judicial ditches, county ditches, stormwater conveyance channels, storm drain inlets, and sediment basins). Permittees must install the redundant sediment controls at least 5 feet apart unless limited by lack of available space.
5. Provide temporary on-site sediment basins that conform to the criteria for on-site detention basins whenever other erosion and sediment control practices are inadequate.
6. The timing of the installation of sediment control practices may be adjusted in order to accommodate short-term activities, but sediment control practices must be installed before the next precipitation event even if the short-term activity is not complete.
7. If the down gradient treatment system becomes overloaded, install additional up gradient sediment control practices or redundant BMPs in order to eliminate the overloading.
8. Install check dams, diversion swales, or other grade control practices in order to ensure sheet flow and prevent rills (for slope lengths greater than 75 feet with a grade of 3:1 or steeper).
9. Prior to beginning site clearing and grading, protect all storm sewer inlets that receive runoff from disturbed areas. In order to prevent sediment from entering the storm sewer system, seal all storm sewer inlets that are not needed for site drainage during construction. Protect all other storm sewer inlets by installing sediment control devices, silt socks, or staked silt fence. Straw bales or fabric under the grates are not acceptable forms of inlet protection. Protect new storm sewer inlets as they are completed. Maintain storm sewer inlet protection in place until all sources with potential for discharging to the inlets are stabilized.
10. Before beginning construction, install a TEMPORARY ROCK CONSTRUCTION ENTRANCE at each point where vehicles exit the construction site. Use 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2, CA-3, or equal Coarse Aggregate. Place the aggregate in a layer at least 152 mm (6 inches) thick across the entire width of the entrance. Extend the rock entrance at least 15 m (50 feet) into the construction zone. Use a MNDOT Standard Specification 3733 Type V permeable geotextile fabric material beneath the aggregate in order to prevent migration of soil into the rock from below. Maintain the entrance in a condition that will prevent tracking or flowing of sediment onto paved roadways. Provide periodic top dressing with additional stone as required. Alternatively, install manufactured units such as FODS Trackout Control Mat System (Manufacturer FODS, 844-200-3637, http://getfods.com) or approved equal. Close entrances not protected by temporary rock construction entrances to all construction traffic.
11. If necessary, clean the wheels of construction vehicles in order to remove soils before the vehicles leave the construction site. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device.
12. Remove all soils and sediments tracked or otherwise deposited onto adjacent property, pavement areas, sidewalks, streets, and alleys. Removal shall be done immediately after tracking occurs and throughout the duration of the construction. Removal may need to be done frequently during the work day if tracking is a problem. Clean paved roadways by shoveling, wet-sweeping, or dry-sweeping. If necessary, scrape paved surfaces in order to loosen compacted sediment material prior to sweeping. Haul sediment material to a suitable disposal area. Street washing is allowed only after sediment has been removed by shoveling or sweeping. Perform all sweeping in a manner that prevents dust being blown to adjacent properties.
13. Temporary Sedimentation Basins: Where 10 or more acres (5 or more acres for impaired waters) of disturbed soil drain to a common location, install temporary (or permanent) sedimentation basins prior to the runoff leaving the construction site or entering surface waters. Sedimentation basins must provide live storage for a calculated volume of runoff resulting from the 2-year, 24-hour rainfall event from each acre drained to the basin, except that in no case shall the basin provide less than 1,800 cubic feet/acre of live storage. Where no calculation has been performed, each basin must provide at least 3,600 cubic feet/acre of live storage. Sediment basins must include a stabilized emergency overflow in order to prevent basin integrity failure. Discharge from temporary sedimentation basins must be designed to withdraw water from the surface in order to minimize the discharge of pollutants.
14. Soil Stockpiles: Install silfence or other effective sediment controls around all temporary soil stockpiles. Locate soil or dirt stockpiles such that the downslope drainage length is no less than 8 m (25 feet) from the toe of the pile to a surface water, including stormwater conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the stormwater. If remaining for more than 7 days, stabilize the stockpiles by mulching, vegetative cover, tarps, or other means. During street repair, cover construction soil or dirt stockpiles located closer than 8 m (25 feet) to a roadway or drainage channel with tarps, and protect storm sewer inlets with silt socks or staked silfence.
15. Silt Fence: Install silt fence along the contour (on a level horizontal plane) with the ends turned up (J-hooks) in order to help pond water behind the fence. Install the silt fence on the uphill side of the support posts. Provide a post spacing of 1.2 m (4 feet) or less. Drive posts at least 0.6 m (2 feet) into the ground. Anchor the silt fence fabric in a trench at least 152 mm (6 inches) deep and 152 mm (6 inches) wide dug on the upslope side of the support posts. Lay the fabric in the trench and then backfill and compact with a vibratory plate compactor. Make any splices in the fabric at a fence post. All splices, overlap the fabric at least 152 mm (6 inches), fold it over, and securely fasten it to the fence post. Silt fence supporting posts shall be 51 mm (2 inch) square or larger hardwood, pine, or standard T- or U-section steel posts. T- or U-section steel posts shall weigh not less than 1.860Z kg per meter (1.25 lb per lineal foot). Posts shall have a minimum length of 1524 mm (5 feet). Posts shall have projections to facilitate fastening the fabric and prevent slippage. Geotextile fabric shall meet the requirements of MNDOT Standard Specification 3886 for preassembled silt fence, furnished in a continuous roll in order to avoid splices. Geotextile fabric shall be uniform in texture and appearance and have no defects, flaws, or tears. The fabric shall contain sufficient ultraviolet (UV) ray inhibitor and stabilizers to provide a minimum two-year service life outdoors. Fabric color shall be International orange.
16. Install and maintain a silfence backed by snow fence, wire mesh, or stiff plastic mesh reinforcement directly downstream of all storm sewer outfalls.
17. Reinforce erosion control facilities in areas where concentrated flows occur (such as swales, ditches, and areas in front of culverts and catchbasins) by backing them with snow fence, wire mesh, or stiff plastic mesh reinforcement until paving and turf establishment operations have been completed. Posts for the reinforcing fence shall be 100 mm (4 inch) diameter wood posts, or standard steel fence posts weighing not less than 0.59 kg (1.3 lbs) per lineal foot, with a minimum length of 762 mm (30 inches) plus burial depth. Space posts for the reinforcing fence at intervals of 3 m (10 feet) or less. Drive posts for the reinforcing fence at least 0.6 m (2 feet) into the ground.
18. The best management practices (BMPs) shown on the plans are the minimum required. As the work proceeds, provide additional temporary BMPs as necessary in order to prevent erosion and sediment transport based on the actual site conditions.
19. Coordinate a meeting between a representative of the grading contractor, the Owner of the project, and the Watershed District staff in order to review the erosion control plan and the requirements of the Watershed District prior to any work on the site. Notify the Watershed District staff immediately after the erosion control measures are installed. Do not begin grading work until the Watershed District staff approves the installed erosion control measures.
20. Maintain all temporary erosion and sediment control devices in place until the contributing drainage area has been stabilized (hard-surfaced areas paved and vegetation established in greenspace). Repair any rilling, gully formation, or washouts. After final establishment of permanent stabilization, remove all temporary synthetic, structural, and nonbiodegradable erosion and sediment control devices and any accumulated sediments. Dispose-of off site. Restore permanent sedimentation basins to their design condition immediately following stabilization of the site.

TOPSOIL:

1. Preserve existing topsoil. Strip, salvage, and re-spread topsoil on site. In areas to be seeded or sodded, spread topsoil to a depth sufficiently greater than 153 mm (6 inches) so that after light rolling and natural settlement the completed work will provide 153 mm (6 inches) of topsoil conforming to the lines, grades, and elevations shown.
2. Reduce soil compaction by limiting equipment access to specific construction paths, if applicable.
3. Till or use a backhoe with a toothed bucket in order to scarify and de-compact the subsoil to a depth of at least 6-inches before the first lift of topsoil is applied.
4. Compaction samples are to be taken after final grading of the site is complete. They are to be submitted and approved by the Engineer before installation of landscaping begins. Samples shall be randomly taken with even coverage of all landscaped areas. Submit sample results to the Engineer — bmundstock@sundecivil.com
5. Soil compaction for all non-structural landscaped areas (including landscaping islands) shall be between 75%-80% of standard proctor or not to exceed 300 psi for a minimum of the top 18" of soil. Soils not meeting this requirement are required to be ripped/subsoiled to relieve compaction.
6. In shrub beds, spread topsoil to a depth sufficiently greater than 457 mm (18 inches) so that after light rolling and natural settlement the completed work will provide 457 mm (18 inches) of topsoil conforming to the lines, grades, and elevations shown.
7. In flower beds, spread topsoil to a depth sufficiently greater than 305 mm (12 inches) so that after light rolling and natural settlement the completed work will provide 305 mm (12 inches) of topsoil conforming to the lines, grades, and elevations shown.
8. Refer to the landscape plans and specifications for any special topsoil or planting requirements. Refer to the landscape plan for shrub and perennial planting areas.

CONSTRUCTION SEQUENCE

1	Delineate the location of areas not to be disturbed (e.g. with flags, stakes, signs, silt fence, etc.) before work begins.
2	Establish sediment control practices on all down gradient perimeters before any up gradient land disturbing activities begin. These practices shall remain in place until final stabilization has been established.
3	Install temporary rock construction entrances.
4	Install all perimeter sediment control devices. The timing of the installation of sediment control practices may be adjusted in order to accommodate short-term activities, but sediment control practices must be installed before the next precipitation event even if the short-term activity is not complete.
5	Contact the City and/or Watershed District for approval of the sediment control devices.
6	Clear and grub the site.
7	Strip and stockpile topsoil.
8	Remove pavements and utilities.
9	Install temporary culverts.
12	Install erosion prevention and sediment controls in order to keep sediment away from infiltration areas.
13	Rough grade the site.
14	Install utilities.
15	Install building foundations.
16	Install curb and gutter.
17	Install pavements and sidewalks.
18	Perform finished grading.
19	Install lawn and landscape.
20	Restore all disturbed areas. Sod or seed with mulch or blanket.
21	Install bio-roll barriers in finished graded areas as required.
22	Remove accumulated sediment from basins. Clean all storm sewer and conveyance systems.
24	After all disturbed areas are stabilized, obtain approval from the City and/or Watershed District.
25	Remove all temporary sediment control devices.
26	Submit notice of termination (NOT) to the MPCA within 30 days after all activities required for final stabilization are complete.

EROSION AND SEDIMENT CONTROL DEVICE OPERATION SCHEDULE

ITEM	INSTALLATION	INSPECTION/MAINTENANCE	REMOVAL
Silfence	Install prior to any construction.	Inspect a minimum of once every 7 days or 24 hours after a rain event greater than 0.5-inches in a 24-hour period. Remove sediments as required. Repair, replace, or supplement non-functional silfence within 24 hours of discovery.	After disturbed areas have been stabilized.
Temporary Rock Construction Entrance	Install prior to any construction.	Inspect daily. Maintain as required. Inspect for evidence of off-site sediment tracking. Remove any tracked sediment on a daily basis.	When site paving operations begin.
Temporary or Permanent Stormwater Pond	Install prior to rough grading. Direct surface water runoff to the pond.	Inspect a minimum of once every 7 days or 24 hours after a rain event greater than 0.5-inches in a 24-hour period. Drain pond and remove sediment when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery.	N/A
Temporary or Permanent Soil Stabilization	Install within 7 calendar days of the initial soil disturbance for all unworked exposed soil areas.	Inspect a minimum of once every 7 days or 24 hours after a rain event greater than 0.5-inches in a 24-hour period. Make any necessary repairs within 24 hours of discovery.	N/A
Protection of Temporary Stockpiles	Immediately install silfence, or other effective sediment controls, around all temporary soil stockpiles.	Inspect a minimum of once every 7 days or 24 hours after a rain event greater than 0.5-inches in a 24-hour period. Remove sediments as required. Make any necessary repairs within 24 hours of discovery.	After stockpiles have been removed.
Temporary or Permanent Drainage Ditch Stabilization	Install within 24 hours: 200 lineal feet from the point of discharge. Install within 7 calendar days: beyond 200 lineal feet from the point of discharge.	Inspect a minimum of once every 7 days or 24 hours after a rain event greater than 0.5-inches in a 24-hour period. Make any necessary repairs within 24 hours of discovery.	N/A
Protection of Surface Waters (Including drainage ditches and conveyance systems)	N/A	Inspect a minimum of once every 7 days or 24 hours after a rain event greater than 0.5-inches in a 24-hour period. Remove all deltas and sediment deposited. Restabilize the areas where sediment removal results in exposed soil. Remove and stabilize within 7 days of discovery.	N/A
Protection of Infiltration Areas	N/A	Inspect a minimum of once every 7 days or 24 hours after a rain event greater than 0.5-inches in a 24-hour period. Ensure that no sediment from ongoing contruction activity is reaching the infiltration area and the area is protected from compaction due to construction traffic.	N/A

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NORDIC WASTE MANAGEMENT

TACOMA WEST INDUSTRIAL PARK

NORWOOD YOUNG AMERICA, MN

DATE	REVISION

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 PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Brian H. Mundstock

DATE: 07-09-2024 REG. NO.: 23468

INFORMATION:

PROJECT NO.: #24-525
DRAWN BY: jm
CHECKED BY: ss
APPROVED BY: bhm
SCALE: graphic
DATE: 07-09-2024

DESCRIPTION:

SWPPP

SHEET NO:

C5

5 of 7

SOIL STABILIZATION:

1. All seeded areas shall be either mulched and disc-anchored or covered by fibrous blankets to protect seeds and limit erosion.

2. Water and maintain seeded or sodded areas on a timely day-to-day basis. In the event of a seeding failure, reseed and remulch the areas where the original seed has failed to grow and perform additional watering as necessary at no additional cost to the Owner. Promptly replace all sod that dries out to the point where it is presumed dead and all sod that has been damaged, displaced, weakened, or heavily infested with weeds at no additional cost to the Owner.

3. In areas to be temporarily seeded, where native mixes will be used for permanent establishment, use MN state seed mixture 32-241. Apply seed mixture at a rate of 38 lbs per acre in accordance with MNDOT Standard Spec. 2575.3. Incorporate a Type 1 fertilizer consisting of 10-10-10 (%N-P-K) into the soil at an application rate of 200 lbs per acre by disking prior to seeding. Prepare the soil in accordance with MNDOT Standard Spec. 2574.3, except for stockpiles and berms where no soil preparation is needed.

2. In areas to be temporarily seeded, where non-native mixes will be used for permanent establishment, use MN state seed mixture 22-112. Apply seed mixture at a rate of 40 lbs per acre in accordance with MNDOT Standard Spec. 2575. Incorporate a Type 1 fertilizer consisting of 10-10-10 (%N-P-K) into the soil at an application rate of 200 lbs per acre by disking prior to seeding. Prepare the soil in accordance with MNDOT Standard Spec. 2574.3, except for stockpiles and berms where no soil preparation is needed.

3. In areas to be permanently seeded use native MN state seed mixture 35-241. Apply seed mixture at a rate of 36.5 lbs per acre in accordance with MNDOT Standard Spec. 2575. Incorporate a Type 3 fertilizer (slow release type with 10 week residual) consisting of 22-5-10 (%N-P-K) into the soil at an application rate of 200 lbs per acre by disking prior to seeding. Prepare the soil in accordance with MNDOT Standard Spec. 2574.3, except for stockpiles and berms where no soil preparation is needed.

4. Establish native seed mix in accordance with MNDOT Standard Spec. 2575.3. Seed native mixes with a native seed drill, a drop type seeder, or a hydro seeder at the adjusted bulk application rate of each mixture. Use a drill capable of accurately metering the types of seed planted and capable of maintaining a uniform mixture of seeds during drilling. Use a drill with disk furrow openers and a packer assembly to compact the soil directly over the drill row. Seed native mixes in rows spaced no greater than 8 inches apart. Place seeds to a final planting depth from ¼ inch to ⅜ inch. Perform drill seeding at a right angle to surface drainage. A drop type seeder equipped with a separate seed box for the fluffy seed and a soil packer assembly may be used in lieu of a drill with disc openers. Use a cyclone or spinner type seeder on areas no greater than 1 acre or on areas inaccessible to other equipment, as approved by the Engineer. Lightly harrow or rake the site following the seeding operation. Pack the site following harrowing in order to ensure a firm seed-bed.

5. Comply with the requirements of MNDOT Standard Spec. Table 2575-1 for season of planting native seed mixtures. The appropriate dates for spring seeding are from April 15 through July 20. Fall seeding dates are from September 20 to October 20. Dormant seeding dates are from October 20 to November 15. Dormant seeding will only be allowed if the maximum soil temperature at a depth of 1 inch does not exceed 40 degrees F in order to prevent germination. When the dates in the season of planting prohibit seeding of the permanent seed mixture, apply temporary seeding and mulch in order to comply with the requirements of the GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY and then apply permanent seeding at a later date.

6. Maintenance of Areas Planted With Native Seeds: To reduce weed establishment, mow 2 to 3 times (30 days apart) during the first year with the mower deck about 6" – 8" off the ground. Mow one time during the 2nd year before weeds set their seeds. Mow once every 3 to 5 years following the initial 2 years of maintenance in order to remove dead plant material and stimulate new seed.

7. In areas to be permanently stabilized, landscape with decorative rock, plantings, and sod. Refer to the approved Landscape Plan for design and details. The Project's Landscape Plan is part of the SWPPP for soil stabilization. Amendments to the Landscape Plan shall be approved by the Owner and documented as part of the SWPPP.

8. Reinforce the pond overflow swale with Landlok TRM 450 turf reinforcement mat, or approved equal. Install the mat in accordance with the manufacturer's recommendations.

9. In seeded areas with slopes equal to or flatter than 4:1, apply MNDOT Standard Spec. 3882 Type 3 certified weed-free mulch uniformly over the soil surface by hand or machine within 24 hours after seeding in accordance with MNDOT Standard Spec. 2575.3. Apply mulch at a rate of 2 tons per acre and not less than 80% coverage. Immediately after placement, anchor all mulch material into the soil by crimping (straight disking) in a direction perpendicular to that of the overland storm water flow. Punch the mulch into the soil to a depth of 2 to 3 inches with a disk spacing of 8" or less.

10. In seeded areas with slopes steeper than 4:1, install biodegradable erosion control blankets uniformly over the soil surface by hand within 24 hours after seeding in accordance with manufacturers recommendations. Use MNDOT Standard Spec. 3885 Straw 2S-natural netting, or Wood Fiber 2S-natural netting type blanket.

11. In seeded ditches, install biodegradable erosion control blankets uniformly over the soil surface by hand within 24 hours after seeding in accordance with manufacturers recommendations. Use MNDOT Standard Spec. 3885 Coconut 2S-natural netting, or Wood Fiber HV 2S-natural netting type blanket.

12. Use only products with biodegradable netting. Do not use products that require UV-light to biodegrade (also called "photodegradable") as they do not biodegrade properly when shaded by vegetation.

13. Plastic or polypropylene netting associated with erosion matting (also known as an erosion control blanket or erosion mesh netting) without independent movement of strands can easily entrap snakes and other wildlife moving through the area, and cause dehydration, desiccation, and eventually mortality. Biodegradable jute/twine netting with the "leno" or "gauze" weave (contains strands that are able to move independently) has the least impact on snakes. If erosion matting will be used for this project, use the following matting (or approved equal): American Excelsior "FibreNet" or "NetFree" products; East Coast Erosion biodegradable jute products; Erosion Tech biodegradable jute products; ErosionControlBlanket.com biodegradable leno weave products; North American Green S150BN, SC150BN or C125BN; or Western Excelsior "All Natural" products.

14. Erosion Control Blanket Installation: Lay the blanket parallel to the direction of water flow with the netting on the top. Spread the blankets evenly without stretching so that fibers are in direct contact with the soil. Overlap adjacent strip edges 2 – 4 inches. Overlap strip ends a minimum of 10 inches with the upgrade strip on top. Bury the upstream end of each blanket at least 6 inches in a vertical trench with the soil pressed firmly against the embedded mat. Install additional check trenches at 50 foot intervals. Staple strip ends and end overlaps with not more than 12 inches between staples. Staple all other joints and edges at 2 foot intervals. Place additional staples down the center of each blanket in a diamond pattern at a maximum of 2 foot intervals. Insert all staples flush with the ground surface. Staples shall be 11 gauge or heavier "U"-shaped with a 1 – 2 inch crown. Staple length shall be 10 inches.

15. Winter Mulching: Snow mulching consists of mulch material spread over the top of snow so that mulch materials melt through the snow and stick to the exposed soils. Frozen ground mulching consists of mulch materials spread over frozen ground. Mulch materials that do not require disc-anchoring into the soil may be placed without modification. Mulch materials that require disc-anchoring may be anchored with hydraulic soil stabilizers or may be frozen to the soil by applying water at a rate of 2000 gallons per acre over the mulch as a substitution for disc-anchoring.

16. Mulch, hydro-mulch, and tackifiers may not be used for stabilization in swales or drainage ditches.

17. In areas where irrigation is to be installed, the Contractor shall work to install the system in zones. Erosion and sedimentation control measures shall remain in place until soils have been stabilized with sod or seeded areas that exhibit a minimum of 70% lawn vegetative coverage. If silt fence has to be removed in order to install the irrigation system, it shall be reinstalled at the end of each work day or bio-rolls installed in order to provide protection during the installation process until lawn areas have sod and/or plant beds are mulched.

18. In areas to be sodded, silt fence can be removed on a short term basis, but all exposed soil areas must be sodded or erosion control measures shall be reinstalled at the end of each work day.

19. Rapid Stabilization: In order to prevent off site sedimentation and comply with the GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY, use rapid stabilization methods to rapidly stabilize small critical areas (up to 2 acres) within 200 ft of surface waters. The work may be performed numerous times during the Contract and may be conducted on several small areas that may or may not be accessible with normal equipment. This work shall be done in accordance with MNDOT 2575.3 and the applicable details and locations shown in the plan. The methods may be conducted independently or in combination. Rapid stabilization work is incidental to the erosion control bid item. The materials required shall be as follows:

   - Method 1 (Use on areas 0.5-2 acres with slopes equal to or flatter than 4:1): MNDOT Standard Spec. 3882 Type 1 Mulch @ 2 tons per acre with disc anchoring. Place mulch to obtain 90% ground coverage.
   - Method 2 (Use on areas 0.5-2 acres with slopes steeper than 4:1): MNDOT Standard Spec. 3882 Type 3 Mulch @ 1.5 tons per acre with MNDOT 3884 Stabilized Fiber Matrix @ 750 pounds per acre. Place mulch to obtain 75% ground coverage.
   - Method 3 (Use on areas 0.5-1.5 acres with slopes steeper than 4:1): MNDOT Standard Spec. 3884 Stabilized Fiber Matrix @ 330 pounds per 1000 gallons of slurry mix. MN state seed mixture 22-111 @ 10 pounds per 1000 gallons of slurry mix. Type 3 slow release fertilizer 10-10-10 @ 50 pounds per 1000 gallons of slurry mix. Water @ 875 gallons per 1000 gallons of slurry mix. Note: 1000 gallons of slurry mix will cover 1/6 acre. Apply material to obtain 100% ground coverage.
   - Method 4 (Use on areas up to 800 square yards with slopes between 2:1 and 4:1 or ditches with grades steeper than 4%): MNDOT Standard Spec. 3885 Category 3 Erosion Control Blanket. MN state seed mixture 22-111 @ 2 pounds per 100 square yards. Fertilizer 10-10-10 @ 8 pounds per 100 square yards.
   - Method 5: Rip Rap Class II with Geotextile Type III.

POLLUTION PREVENTION MANAGEMENT MEASURES:

1. Solid Waste: Dispose of collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris, and other wastes properly off-site in compliance with Minnesota Pollution Control Agency requirements.

2. Hazardous Materials: Properly store oil, gasoline, paint and any hazardous substances in order to prevent spills, leaks or other discharge, and contact with stormwater runoff. Include secondary containment. Restrict access to storage areas in order to prevent vandalism. Storage and disposal of hazardous materials must be in compliance with MPCA regulations.

3. Other Materials: Dispose of unused building materials, garbage, trash, cleaning wastes, toxic materials, and wastewater properly off-site and in compliance with Minnesota Pollution Control Agency disposal requirements.

4. Furnish suitable covered watertight trash containers and regularly remove the accumulated trash from the premises. Do not place dumpsters near drainage inlets or receiving waters.

5. Do not allow solid waste, hazardous materials, materials with the potential to leach pollutants to be carried by runoff into a receiving water or storm sewer system. Store all materials in a manor to prevent and minimize contact with stormwater runoff.

6. Store all fertilizers in a covered shelter. Transfer partially used bags to a sealable bin in order to reduce the chance of spillage.

7. Limit external washing of trucks and other construction vehicles to a defined area of the site. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device. Contain runoff and properly dispose of waste. Engine degreasing is prohibited.

8. Concrete Washout Operations: Contain all liquid and solid wastes generated by concrete washout operations in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. Place all washout areas a minimum of 50 feet from drainage ways, bodies of water, and inlets. Self-contained concrete washouts on concrete delivery trucks are an acceptable alternative to on-site containment. Do not allow the liquid and solid wastes to contact the ground. Prevent runoff from the concrete washout operations or areas. Maintain the washout area. Pay close attention to the level of concrete in the washout area before each use. Remove materials beyond 75% capacity. Dispose of liquid and solid wastes properly in compliance with Minnesota Pollution Control Agency regulations. Install a sign adjacent to each washout facility in order to inform concrete equipment operators to utilize the proper facilities. Remove the washout after construction work has been completed.

9. Mixing Stations: Prevent the wind-spread of powdery cement mix. If necessary, construct a windbreak at concrete and mortar mixing stations.

10. Sanitary and Septic Waste: Furnish and install detached portable toilet facilities at the construction site. The portable toilets shall be conveniently located for the use of all workers on the project. Maintain the facilities in a clean, dry, sanitary condition in accordance with Minnesota Department of Health requirements. Keep portable toilets at least 20 feet away from any water body and 10 feet from curb and gutter or storm sewer inlet. Position facilities and/or stake them down so that they may not be tipped or knocked over. Owner identification and contact information shall be displayed in a prominent location on each unit. Secondary containment for portable restrooms is required. Install secondary containment pans, or approved equal, under each portable restroom to serve as a drip tray in order to contain water and cleaning solutions during servicing. The pans are to be pumped out by the restroom service technician every time they service the restrooms.

11. Fueling and Vehicle Maintenance Areas: Conduct vehicle fueling and maintenance in ways to prevent spilling or leaking. Use drip pans, absorbents, designated concrete areas with secondary containment, etc. as necessary to prevent discharge of fuel and chemicals.

12. Emergency Spill Station: Provide an emergency spill station with necessary containment and cleanup devices for all workers to access. Provide signage in order to make the Emergency Spill Station visible in the field and note the location on the SWPPP.

13. Process water such as power washing water and concrete cutting effluent, among others, must be collected for treatment and disposal. Do not allow process water to be flushed into the site storm sewer system or to be discharged off site.

14. Machinery and mechanized equipment that leaks waste shall have a protective barrier or containment under the device adequate to contain the waste. Properly dispose of the waste.

15. Sedimentation Treatment Chemicals: If the contractor intends to use polymers, flocculants, or other sedimentation treatment chemicals on the project site, the contractor must comply with the following minimum requirements:

   a. The contractor must use conventional erosion and sediment controls prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated storm water is directed to a sediment control system that allows for filtration or settlement of the floc prior to discharge.

   b. Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction, and to the expected turbidity, pH, and flow rate of storm water flowing into the chemical treatment system or area.

   c. Chemicals must be used in accordance with accepted engineering practices, and with dosing specifications and sediment removal design specifications provided by the manufacturer or provider/supplier of the applicable chemicals.

INFILTRATION AREA CONSTRUCTION:

1. Protect the infiltration area from compaction and disturbance of existing soils.

2. Report any signs of high water table or compaction of the in place soils to the Engineer.

3. Schedule the construction so that excavation of the infiltration system to final grade occurs after the contributing drainage areas have been constructed and fully stabilized. Excavate the infiltration areas to within one foot of final grade initially. Delay final excavation of the basin floor until all disturbed areas tributary to the basin are stabilized. Utilize tracked excavation equipment that has relatively light bearing pressures. No heavy equipment is allowed on the infiltration areas before or after construction.

4. Delineate the location of infiltration areas (e.g. with flags, stakes, signs, silt fence, etc.) before work begins so that heavy construction equipment will not compact the soil in the proposed infiltration system.

5. Excavation of infiltration areas shall be completed using a backhoe with a toothed bucket.

6. The bottom excavations surface of infiltration areas shall be level without dips or swales.

7. Native soils in infiltration areas shall be de-compacted to a minimum depth of 18 inches prior to placing planting media or rock.

8. Planting media and rock shall remain uncontaminated (not mixed with other soil) before and during installation.

9. During construction, stormwater must be routed around infiltration areas until all construction activity has ceased and tributary surface are cleaned of sediment.

10. Installation of infiltration practices shall be done during periods of dry weather and completed before the rainfall event. Placement of planting media or rock shall be on dry native soil only.

11. Use rigorous erosion prevention and sediment controls (e.g. diversion berms) during the construction of the infiltration system in order to keep sediment and runoff completely away from the infiltration area.

12. Inspect all infiltration areas in order to ensure that no sediment from ongoing construction activity is reaching the infiltration areas and that these areas are protected from compaction due to construction equipment driving across the infiltration areas.

13. Prior to construction, provide dual-ring infiltrometer testing (ASTM D-3385) at the infiltration site in order to to verify infiltration rates used for the basin design. The tests shall be performed at the bottom elevation of the infiltration basin and shall be performed by a qualified geotechnical professional. Do not begin construction until soil type and infiltration rate verification has been made. Perform a minimum of 2 tests at each infiltration site (0.5-acre bottom area or less). Perform 2 additional tests for every additional 0.5-acre of bottom area. Verify the number of tests with the geotechnical professional and the governing authorities.

14. After final grading, till the floor of the infiltration area to a depth of at least 18 inches in order to provide a well aerated, porous surface texture. Till in 6 inches of compost material if the soils become compacted.

15. Place all excavated materials downstream and away from the infiltration area during and after excavation.

16. Stabilize the bottom and sideslopes of the infiltration area immediately following construction of the basin.

17. Use native MN state seed mixture 33-261. Apply seed mixture at a rate of 35 lbs per acre in accordance with MNDOT Standard Spec. 2575. Incorporate a Type 3 fertilizer (slow release type with 10 week residual) consisting of 22-5-10 (%N-P-K) into the soil at an application rate of 200 lbs per acre by disking prior to seeding. Prepare the soil in accordance with MNDOT Standard Spec. 2574.3

18. Establish native seed mix in accordance with MNDOT Standard Spec. 2575.3. Seed native mixes with a native seed drill, a drop type seeder, or a hydro seeder at the adjusted bulk application rate of each mixture. Use a drill capable of accurately metering the types of seed planted and capable of maintaining a uniform mixture of seeds during drilling. Use a drill with disk furrow openers and a packer assembly to compact the soil directly over the drill row. Seed native mixes in rows spaced no greater than 8 inches apart. Place seeds to a final planting depth from ¼ inch to ⅜ inch. Perform drill seeding at a right angle to surface drainage. A drop type seeder equipped with a separate seed box for the fluffy seed and a soil packer assembly may be used in lieu of a drill with disc openers. Use a cyclone or spinner type seeder on areas no greater than 1 acre or on areas inaccessible to other equipment, as approved by the Engineer. Lightly harrow or rake the site following the seeding operation. Pack the site following harrowing in order to ensure a firm seed-bed.

19. Comply with the requirements of MNDOT Standard Spec. Table 2575-1 for season of planting native seed mixtures. The appropriate dates for spring seeding are from April 15 through July 20. Fall seeding dates are from September 20 to October 20. Dormant seeding dates are from October 20 to November 15. Dormant seeding will only be allowed if the maximum soil temperature at a depth of 1 inch does not exceed 40 degrees F in order to prevent germination. When the dates in the season of planting prohibit seeding of the permanent seed mixture, apply temporary seeding and mulch in order to comply with the requirements of the GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY and then apply permanent seeding at a later date.

20. Water and maintain seeded areas on a timely day-to-day basis. In the event of a seeding failure, reseed and remulch the areas where the original seed has failed to grow and perform additional watering as necessary at no additional cost to the Owner.

21. Maintenance of Areas Planted With Native Seeds: To reduce weed establishment, mow 2 to 3 times (30 days apart) during the first year with the mower deck about 6" – 8" off the ground. Mow one time during the 2nd year before weeds set their seeds. Mow once every 3 to 5 years following the initial 2 years of maintenance in order to remove dead plant material and stimulate new seed.

22. Engineered Soil: 2.5' of engineered soil is to be used as the surface layer of the infiltration basin. It shall consist of Minnesota Stormwater Manual 4.1.1 Mix A: Water Quality Blend (a well-blended, homogenous mixture of 55-65% ASTM C-33 construction sand (MnDOT 3126), 10-20% topsoil, and 25-35% organic leaf compost. The material supplier shall provide documentation that the compost has been sampled and tested as required by the seal of testing assurance (STA) program of the United States Composting Council (USCC) and a gradation sieve analysis for the construction sand.

23. Sand: Provide clean construction sand, free of deleterious materials, AASHTO M-6 or ASTM C-33 (MnDOT 3126) with grain size of 0.02"-0.04".

24. Topsoil: Sandy loam, loamy sand, or loam texture per USDA textural triangle with less than 5% clay content. Topsoil shall be reasonably free of subsoil, heavy clay, coarse sand, stones, and other objects over 51 mm (2 inches) in diameter; and without plants, roots, sticks, and other objectionable material.

25. Organic Leaf Compost: MnDOT 3890 Grade 2 leaf litter compost.

26. Gravel Filter Specifications: Under-drain gravel blanket shall be double-washed, open-graded (no fines) stone, ASTM Number 57 (1-1/2" in size). Pea gravel shall be washed, river-run, round diameter, ¼ – ½ in size. Do not use crushed carbonate quarry rock, limestone, crushed concrete, or salvaged bituminous.

INFILTRATION AREA PERFORMANCE TESTING:

1. After construction, provide dual-ring infiltrometer testing (ASTM D-3385) at the infiltration site in order to verify the performance of the as-built infiltration system. The tests shall be performed at the bottom elevation of the infiltration basin and shall be performed by a qualified geotechnical professional.

2. Perform a minimum of 2 tests at each infiltration site (0.5-acre bottom area or less). Perform 2 additional tests for every additional 0.5-acre of bottom area. Verify the number of tests with the geotechnical professional and the governing authorities.

3. The average of the measured infiltration rates must meet or exceed the infiltration rate used for the basin design. If the measured infiltration rate does not meet or exceed the required rate, the Contractor shall perform the necessary soil corrective and/or soil replacement work within the infiltration area at the Contractor's expense until the measured infiltration rate meets or exceeds the required rate. All re-testing shall be at the Contractor's expense.

4. The maximum allowable infiltration rate is 8.3 inches/hour. If the infiltration rate exceeds the maximum allowable rate, the Contractor shall amend the soils in the system in order to reduce the infiltration rate to meet the MPCA requirements.

INSPECTIONS AND MAINTENANCE REQUIREMENTS:

1. Inspect the entire construction site at least once every 7 days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in a 24-hour period. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within 7 days after that rainfall event. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, a weather station within 1 mile of the site, or a weather reporting system that provides site specific rainfall data from radar summaries.

2. Inspect all erosion prevention and sediment control BMPs, inlet protection, infiltration areas, and stabilized areas.

3. Inspect surrounding properties for evidence of off site sediment accumulation.

4. Inspect portable toilets for damage, leaks, and spills as part of the weekly storm water site inspection.

5. Record all inspections and maintenance conducted during construction in writing and keep these records with the SWPPP. The inspections and maintenance records must include date and time of inspections, date and amount of all rainfall events greater than 0.5 inches in a 24-hour period, name of persons(s) conducting inspections, findings of inspections, recommendations for corrective actions, any corrective actions taken, and any changes made to the SWPPP.

6. Record, describe, and photograph all points of discharge observed during inspection.

7. Inspect all erosion prevention and sediment control BMPs in order to ensure integrity and effectiveness. Repair, replace, or supplement any nonfunctional BMPs with functional BMPs within 24 hours after discovery, or as soon as field conditions allow access unless another time frame is specified.

8. Maintenance is critical to the proper function of erosion and sediment control devices. Remove accumulated sediment deposits from behind erosion and sediment control devices as needed. Repair, replace, or supplement all perimeter control devices when they become nonfunctional or the sediment reaches 1/2 of the height of the device. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access. Repair, replace, or supplement deteriorated, damaged, rotted, or missing erosion control devices within 24 hours of discovery, or as soon as field conditions allow access.

9. Clean sedimentation basins, storm sewer catch basins, ditches, and other drainage facilities as required in order to maintain their effectiveness. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 of the storage volume. Drainage and removal must be completed within 72 hours, or as soon as field conditions allow access. Discharge from sedimentation basins must not adversely affect the receiving water or downstream properties. Visually inspect in order to ensure that adequate treatment has been obtained and that nuisance conditions will not result from the discharge. Record, describe, and photograph any discharge observed during inspections.

10. Inspect surface waters (including drainage ditches, gutters, and conveyance systems) for evidence of erosion and sediment deposition. Remove all deltas and sediment deposited. Stabilize areas where sediment removal results in exposed soil. Removal and stabilization must be completed within 7 days of discovery unless precluded by legal, regulatory, or physical access constraints. If precluded, removal and stabilization must take place within 7 days of obtaining access.

11. Inspect construction site vehicle exit locations for evidence of off-site sediment tracking onto paved surfaces. Remove all soils and sediments tracked or otherwise deposited onto adjacent property, pavement areas, sidewalks, streets, and alleys. Removal shall be on a daily basis throughout the duration of the construction. Clean paved roadways by shoveling or wet-sweeping. Do not dry sweep. If necessary, scrape paved surfaces in order to loosen compacted sediment material prior to sweeping. Haul sediment material to a suitable disposal area. Street washing is allowed only after sediment has been removed by shoveling or sweeping.

12. Inspect all infiltration areas in order to ensure that no sediment from ongoing construction activity is reaching the infiltration areas and that these areas are protected from compaction due to construction equipment driving across the infiltration areas.

13. Perform any corrective measures ordered by the City, Watershed District, or the Minnesota Pollution Control Agency within 24 hours of notification. Install any additional erosion protection or sediment control measures deemed necessary by the City, Watershed District, or the Minnesota Pollution Control Agency within 24 hours of notification.

14. Account for and document in the SWPPP all soil hauled from the site, its final destination, storage, and method of stabilization.

15. Where parts of the project site have permanent cover, but work remains on other parts of the site, inspections of the areas with permanent cover may be reduced to once per month.

16. If permanent cover is established on all exposed soil areas and no construction activity is occurring anywhere on the site, inspect the site during non-frozen ground conditions at least once per month for a period of twelve (12) months. Following the twelfth month of permanent cover and no construction activity, inspections may be terminated until construction activity resumes.

17. Winter Inspections: During winter, intermittent thawing and even rainfall can cause potential runoff events at construction sites. Runoff in winter months is exacerbated by to the inability of frozen ground to absorb any of the runoff. As long as construction activity is inactive during frozen conditions, inspections can be suspended. However, inspections must be conducted within 24 hours of runoff occurring, including during inactivity. If construction activity resumes at the site during winter months or at any time, weekly inspections must also resume. Failure to have the BMPs installed, including stabilizing soils prior to leaving the site idle during winter months, is a violation of the permit. When conducting winter inspections, ensure there is adequate temporary cover on exposed soils to prevent erosion during runoff events and that down-gradient sediment controls and inlet protection BMPs are installed and functioning properly. If not, repair or supplement the BMPs using methods appropriate for frozen conditions.

SWPPP AMENDMENTS:

1. Amend the SWPPP in order to include additional requirements such as additional or modified BMPs whenever there is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to surface waters or underground waters.

2. Amend the SWPPP whenever inspections indicate that the SWPPP is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or underground waters.

3. Amend the SWPPP whenever inspections indicate that discharges are exceeding water quality standards.

4. Amend the SWPPP if it is not achieving the general objectives of minimizing pollutants in stormwater discharges associated with construction activity, or the SWPPP is not consistent with the terms and conditions of the permit.

DEWATERING AND BASIN DRAINING:

1. If dewatering is required, all water must be discharged through an erosion control facility (temporary sedimentation basin, grit chamber, sand filter, upflow chamber, hydro-cyclone, swirl concentrator, dewatering bag or other appropriate facility) prior to leaving the construction site. Proper energy dissipation must be provided at the outlet of the pump system.

2. Discharge all water from dewatering or basin draining activities in a manner that does not cause nuisance conditions, erosion in receiving channels or on down gradient properties, or inundation in wetlands causing significant adverse impact to the wetlands.

3. If discharge water may be contaminated or come in contact with oil or grease an oil-water separator or suitable filtration device such as cartridge filters or absorbent pads must be used prior to discharging water.

4. A City approved dewatering/pumping plan is required prior to any pumping activity.

MATERIALS:

1. Storm Sewer Inlet Protection (areas with pedestrian or vehicle traffic): Emergency overflow is required. Take care to protect the catch basin curb-box from additional sediment escaping over the top of these devices while still allowing for emergency overflow.

   a. Road Drain Curb & Gutter: With replaceable filter sock. Manufactured by WIMCO, 799 Theis Drive, Shakopee, MN 55379, Phone (952) 233-3055, (www.roaddrain.com).

   b. Silt Sack: Type B, regular flow (50 gpm/ft2), with curb deflector as required. Rectangular siltsack on rectangular inlets. Round siltsack on round inlets. Manufactured by ACF ENVIRONMENTAL, 2831 Cardwell Road, Richmond, VA 23234, Phone (800) 448-3636, (www.acfenvironmental.com).

   c. Dandy Sack: With curb filter as required. Manufactured by DANDY PRODUCTS, 1095 Harcourt Road, Mount Vernon, OH 43050, Phone (800) 591-2284, (www.dandyproducts.com).

   d. Dandy Bag: With curb filter as required. Manufactured by DANDY PRODUCTS, 1095 Harcourt Road, Mount Vernon, OH 43050, Phone (800) 591-2284, (www.dandyproducts.com).

   e. Sediguard Filter: With Sediguard curbguard as required. Available from ERO-TEX, N94 W14330 Garwin Mace Drive, Menomonee Falls, WI 53051, Phone (866) 437-6839, (www.ero-tex.net).

2. Storm Sewer Inlet Protection (areas with no pedestrian or vehicle traffic): Emergency overflow is required. Take care to protect the catch basin curb-box from additional sediment escaping over the top of these devices while still allowing for emergency overflow.

   a. Road Drain Top Slab: Model RD 23 (fits rough opening for 2'x3' inlet), Model RD 27 (fits rough opening for 27" inlet), or Model CG 3067 (fits Neenah Casting with 35-1/4"x17-3/4" dimensions). Manufactured by WIMCO, 799 Theis Drive, Shakopee, MN, 55379, Phone (952) 233-3055, www.roaddrain.com. Do not use in public right-of-way.

   b. InfraSafe Sediment Control Barrier: Install geotextile sock on the outside of the barrier in order to trap additional fines. Standard frames are available to fit 24" to 30" diameter and 2'x3' openings. Distributed by ROYAL ENTERPRISES AMERICA, 30622 Forest Boulevard, Stacy, MN, 55079, Phone (651) 462-1766, (www.royalenterprises.com). Do not use in public right-of-way.

   c. Rock Snake/Rock Sock/Rock Log/Rock Tube: Use only for inlets after pavement is in place. Silt Sifter Tubes distributed by WESTERN FIBER COMPANY, PO Box 22665, Bakersfield, CA 93390, Phone (661) 854-5556, (www.westernfiber.com). Do not use in public right-of-way.

3. Topsoil: Sandy loam, loamy sand, or loam texture per USDA textural triangle with less than 5% clay content. Topsoil shall be reasonably free of subsoil, heavy clay, coarse sand, stones, and other objects over 51 mm (2 inches) in diameter; and without plants, roots, sticks, and other objectionable material.

4. Mulch: MNDOT Standard Specification 3882 Type 3 certified weed-free mulch material.

5. Draintile: Perforated under-drains shall be slotted single wall corrugated HDPE. Install draintile with high permittivity circular knit polymeric filament filter sock per ASTM D6707-01. MnDot 3733 Type I sewn seam non-woven fabric shall not be used.

6. Geotextile Fabric for Subgrade Stabilization (if required): MNDOT Standard Specification 3733 Type V permeable geotextile material.

7. Supporting Posts for Siltfence: 51 mm (2 inch) square or larger hardwood, pine, or standard T- or U-section steel posts. T- or U-section steel posts shall weigh not less than 1.8602 kg per meter (1.25 lb per lineal foot). Posts shall have a minimum length of 1524 mm (5 feet). Posts shall have projections to facilitate fastening the fabric and prevent slippage.

8. Siltfence Fabric: MNDOT Standard Specification 3886 self supporting silt fence. Furnish in a continuous roll in order to avoid splices. Geotextile fabric shall be uniform in texture and appearance and have no defects, flaws, or tears. The fabric shall contain sufficient ultraviolet (UV) ray inhibitor and stabilizers to provide a minimum two-year service life outdoors. Fabric color shall be international orange.

9. Aggregate for Temporary Rock Construction Entrance: 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2, or CA-3 Coarse Aggregate, or equal.

10. Geotextile Fabric for Temporary Rock Construction Entrance: MNDOT Standard Specification 3733 Type V permeable geotextile fabric material.

11. Aggregate for Block and Rock Sediment Filter: 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2, or CA-3 Coarse Aggregate, or equal.

12. Block and Rock Inlet Filters: Block and Rock Inlet Filters consist of open-core concrete masonry blocks, wire screen with 12 mm (0.5 inch) openings, and washed rock. Place open-core concrete masonry blocks lengthwise on their sides around the catchbasin inlet. Place wire screen around the perimeter to the top of the block barrier before the rock is placed. The screen acts to prevent the rocks from being washed through the blocks. Place rock against the wire mesh to the top of the blocks. Use 25 mm (1 inch) to 50 mm (2 inch) diameter rock, MNDOT Standard Specification 3137 CA-1, CA-2, CA-3, or equal Coarse Aggregate. Install two courses of 8" blocks in order to form a barrier height of 16".

13. Concrete Block for Block and Rock Inlet Filter: Standard units with nominal face dimensions of 16 x 8 inches. Minimum 8 inches nominal depth.

14. Wire Screen for Block and Rock Inlet Filter: 12 mm (0.5 inch) openings

15. Bales: Tightly bound bales of unrotted hay, straw, or other grass locally available from recent cuttings.

16. Bale Anchor Posts: 12.7 mm (0.5 inch) diameter steel reinforcing rods, or 51 mm (2 inch) square hardwood or pine wooden stakes. Posts shall have a minimum length of 762 mm (30 inches) plus burial depth. Two posts per bale.

17. Supporting Posts for Culvert, Flared End Section, and Ditch Protection: 100 mm (4 inch) diameter wood posts, or standard steel fence posts weighing not less than 0.59 kg (1.3 lbs.) per lineal foot. Posts shall have a minimum length of 762 mm (30 inches) plus burial depth.

18. Temporary Seed: MNDOT Standard Spec. 3876. MN state seed mixture 32-241 or 22-112.

19. Fertilizer: MNDOT Standard Spec. 3881 Type 1-Commercial Fertilizer or Type 3-Slow Release Fertilizer.

20. Biodegradable Erosion Control Blankets: In accordance with MNDOT Standard Specification 3885. Use only products with natural netting and natural stitching.

21. Erosion Control Matting: LandLok TRM 450 Turf Reinforcement Mat manufactured by Propex, Inc. (www.geotextile.com), or approved equal soil erosion control matting.

22. Staples: Staples used to anchor erosion control blankets shall be U-shaped, 3 mm diameter or heavier steel wire. The span width at the crown shall be a minimum of 25 mm (1 inch). Staples shall have a length of 250 mm (10 inches) or more from top to bottom after bending.

23. Bio-Logs: Curlex Sediment Log, as manufactured by American Excelsior Company (www.curlex.com), or approved equal. Excelsior fibers shall be weed seed free, TYPE III 9-inch (23-cm) diameter. Excelsior color shall be standard (natural). Netting at each end of the log shall be secured to assure fiber containment.

24. Inflatable Sewer Pipe Plugs: Manufactured by Petersen Products Company, 421 Wheeler Avenue, Fredonia, Wisconsin 53021, Phone (262) 692-2416, www.petersenproducts.com.

Sunde Engineering, PLLC.

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NORDIC WASTE MANAGEMENT

TACOMA WEST INDUSTRIAL PARK

NORWOOD YOUNG AMERICA, MN

DATE	REVISION

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 PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Brian H. Mundstock

DATE: 07-09-2024 REG. NO.: 23468

INFORMATION:

PROJECT NO.:	#24-525
DRAWN BY:	jm
CHECKED BY:	ss
APPROVED BY:	bhm
SCALE:	graphic
DATE:	07-09-2024

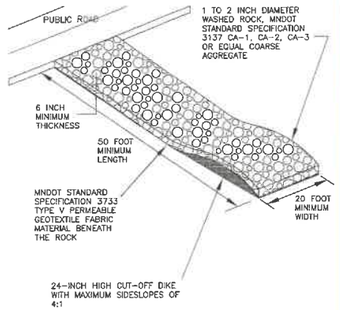
DESCRIPTION:

SWPPP NOTES

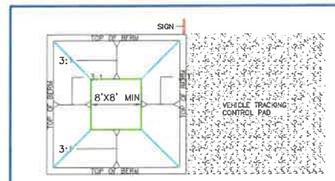
SHEET NO:

C6

24-525 T. , R. , S. DRAWING: \\server\Projects\2024\#24-525 Nordic Waste Management – Norwood Young America, MN\2024-06-03\24525C10.dwg LAYOUT: C6 XREF: Proposed Lots 6th Addition; XREF: ACAD-124521_C_BASE_N1-Model; XREF: ACAD-124521_C_SNWM_N1-Model; XREF: ACAD-124521_C_STRM_N1-Model; XREF: ACAD-124521_V_PLTF_1-Model; XREF: ACAD-124521_C_GRND_N1-Model; XREF: siteplan; XREF: building; XREF: titleblock24x36



TEMPORARY ROCK CONSTRUCTION ENTRANCE



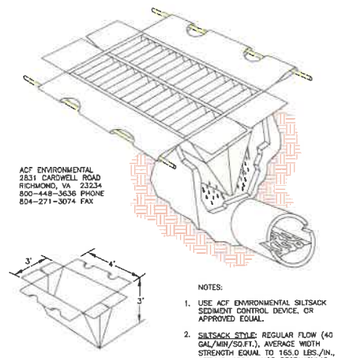
CONCRETE WASHOUT AREA INSTALLATION NOTES

1. SEE EROSION CONTROL PLAN FOR LOCATIONS OF CONCRETE WASHOUT AREA(S). PLACE WASHOUT AREAS A MINIMUM OF 50' FROM DRAINAGE WAYS, BODIES OF WATER, AND INLETS.
2. THE CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL PAD IS REQUIRED AT THE ACCESS POINT(S).
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA(S), AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREAS TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN THE PERIMETER BERM CONSTRUCTION.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

6. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE
7. AT THE END OF CONSTRUCTION, ALL CONCRETE WASTE SHALL BE REMOVED FROM SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
8. WHEN CONCRETE WASHOUT AREA(S) IS REMOVED, THE DISTURBED AREA SHALL BE STABILIZED PER SITE EROSION CONTROL MEASURES.
9. INSPECT WEEKLY AND DURING AND AFTER ALL STORM EVENTS. CLEAN-OUT OR COVER WASHOUT AREA PRIOR TO PREDICTED STORM EVENTS TO PREVENT OVER-FLOW.

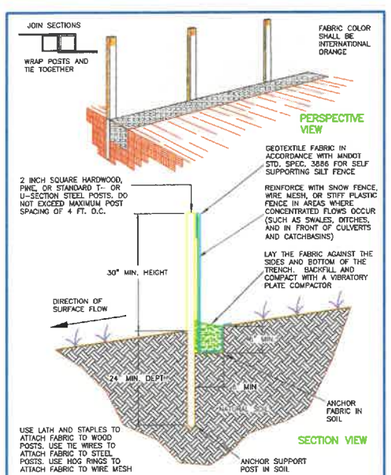
ON-SITE CONCRETE WASHOUT AREA



NOTES:

1. USE ACF ENVIRONMENTAL SILTSACK SEDIMENT CONTROL DEVICE, OR APPROVED EQUAL.
2. SILTSACK STYLE: REGULAR FLOW (40 GAL/MIN/SQ.FT.), AVERAGE WIDTH STRENGTH EQUAL TO 165.0 LBS./IN., ASTM D-4884. USE RECTANGULAR SILTSACK ON RECTANGULAR INLETS. USE ROUND SILTSACK ON ROUND INLETS.
3. INSTALL AND MAINTAIN SILTSACK IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

CATCHBASIN INLET PROTECTION



SILT FENCE INSTALLATION

EXISTING AND PROPOSED MECHANICAL AND NON-STORMWATER DISCHARGES:

1. Street Cleaning Wash Water
2. Condensation From Air Conditioning Units
3. Foundation Drains
4. Discharge From Potable Water Sources
5. Uncontaminated Dewatering Discharge
6. Landscape Irrigation
7. Water Line Flushing

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NORDIC WASTE MANAGEMENT

TACOMA WEST INDUSTRIAL PARK
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DATE	REVISION

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Brian H. Mundstock
DATE: 07-09-2024 REG. NO.: 23468

INFORMATION:

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DRAWN BY:	jm
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APPROVED BY:	bhm
SCALE	graphic
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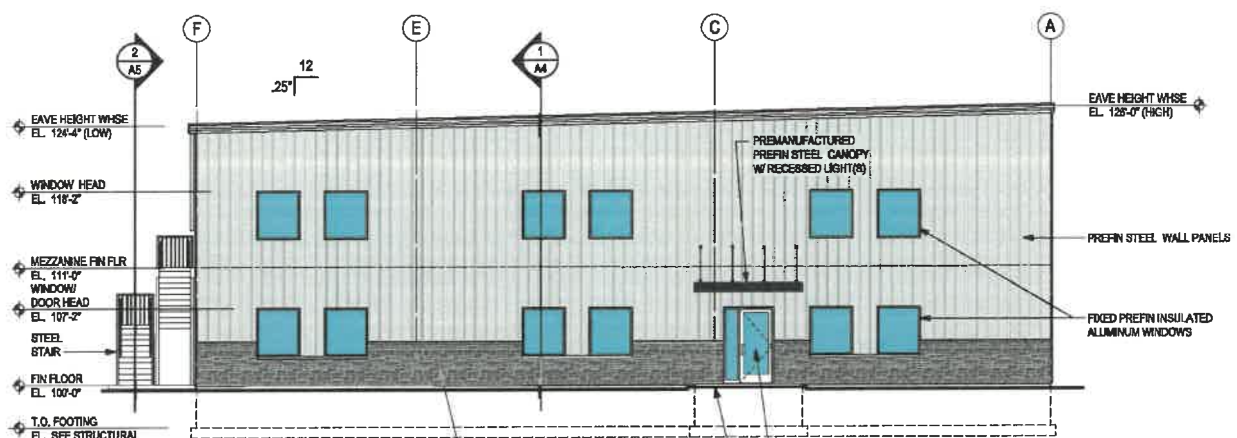
DESCRIPTION:

SWPPP DETAILS

SHEET NO:

C7

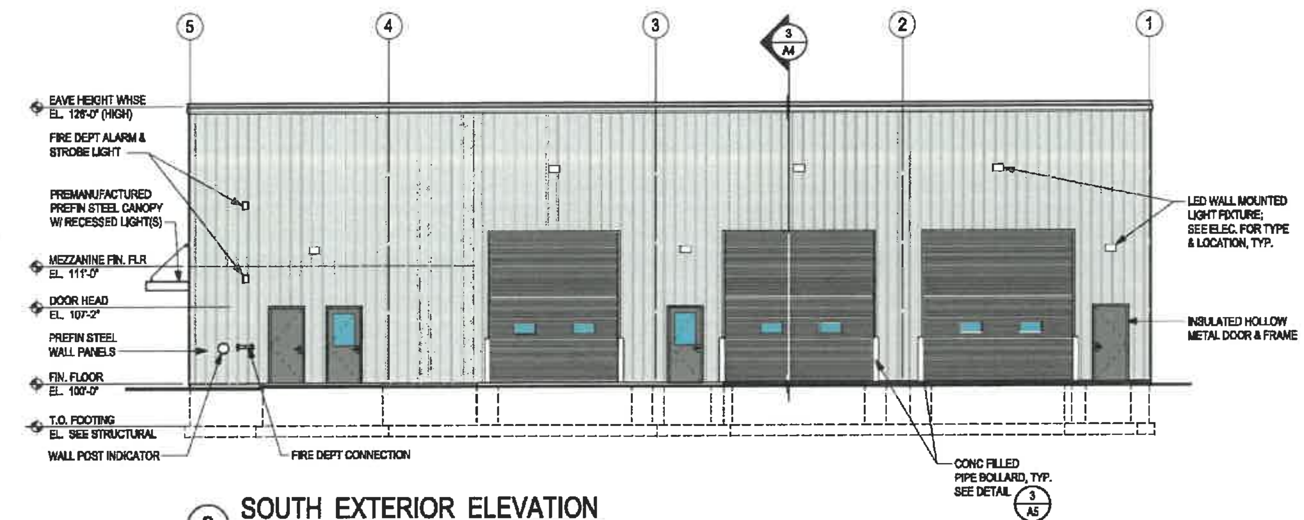
24-525 T. , R. , S. DRAWING: \\server\Projects\2024\#24-525 Nordic Waste Management — Norwood Young America, MN\2024-06-03\24525C10.dwg LAYOUT: C7 XREF: Proposed Lots 6th Addition; XREF: ACAD-124521_C_BASE_N1-Model; XREF: ACAD-124521_C_SNWM_N1-Model; XREF: ACAD-124521_C_STRM_N1-Model; XREF: ACAD-124521_V_PLTF_1-Model; XREF: ACAD-124521_C_GRND_N1-Model; XREF: siteplan; XREF: building; XREF: titleblock24x36



1 WEST (FRONT) EXTERIOR ELEVATION

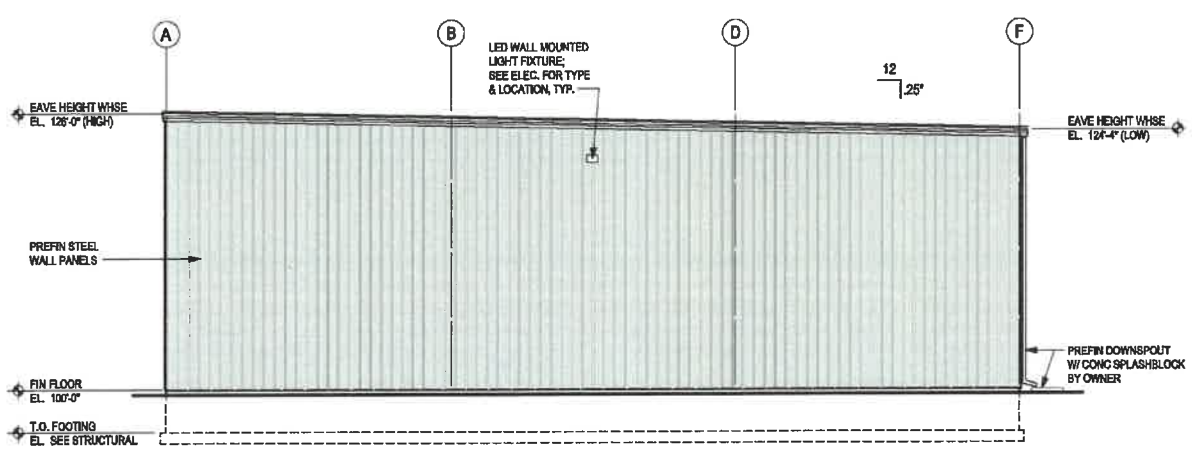
Scale: 1/8" = 1'-0"

2025 SF TOTAL X 25% = 506 SF ARCH MATERIALS REQUIRED
(12) WINDOWS 4'0" X 4'6" = 18 SF X 12 = 216 SF
STOREFRONT 4'6" X 7'2" = 33 SF
CANOPY 10'0" X 10" = 8 SF
STONE WAINSCOT = 271 SF
TOTAL ARCHITECTURAL MATERIALS = 528 SF (26%)



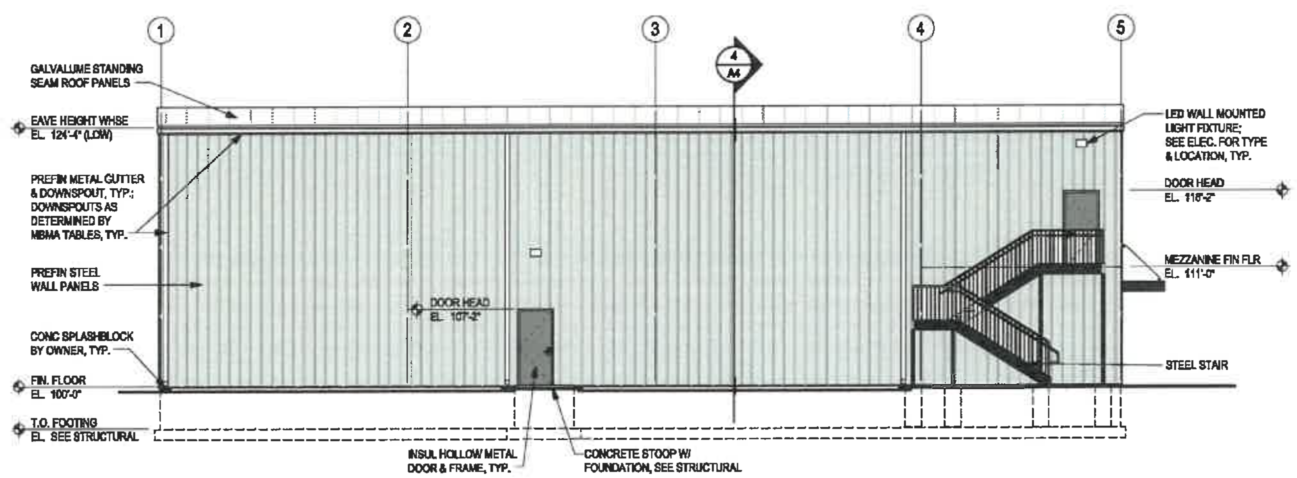
2 SOUTH EXTERIOR ELEVATION

Scale: 1/8" = 1'-0"



3 EAST EXTERIOR ELEVATION

Scale: 1/8" = 1'-0"



4 NORTH EXTERIOR ELEVATION

Scale: 1/8" = 1'-0"

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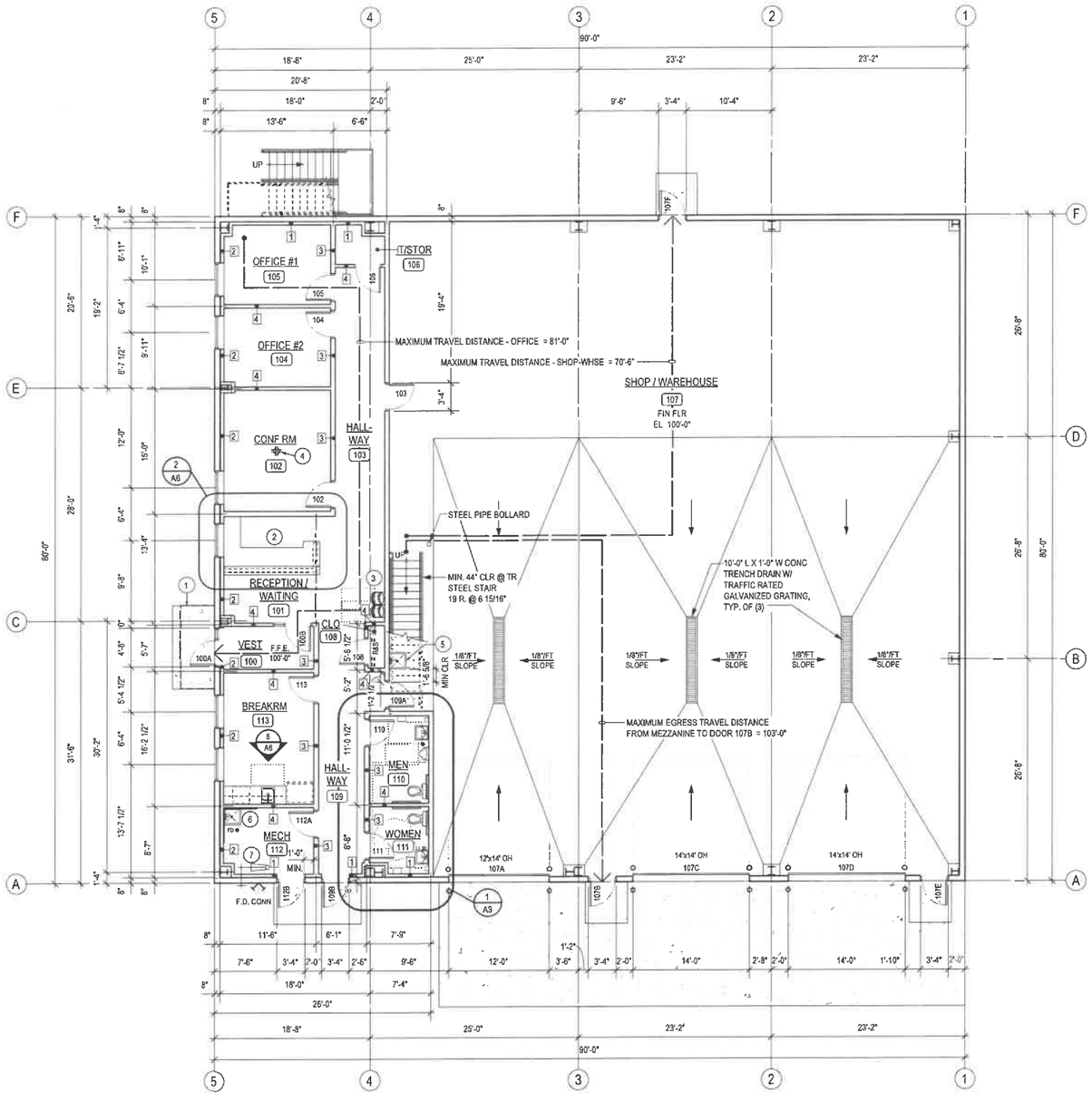
NORDIC Waste Management
NORWOOD, MINNESOTA

Revisions	
Drawn	C.A.W.
Checked	L.M.
Date	7-10-2024
Job Number	2417
Sheet	A2



1 MAIN LEVEL FLOOR PLAN
Scale: 1/8" = 1'-0"

CONSTRUCTION PLAN KEYNOTES

1. PREMANUFACTURED PREFIN STEEL CANOPY W/ RECESSED LIGHT(S)
2. INSTALL NEW PLASTIC LAMINATE COUNTERTOP/WORKSURFACE; SEE ENLARGED PLAN & ELEVATIONS, SHEET A6.
3. INSTALL ADA COMPLIANT HI-LOW ELECTRIC DRINKING FOUNTAINS.
4. INSTALL ELEC/DATA IN FLOOR, SEE ELECTRICAL.
5. UTILITY / HANDWASHING SINK
6. CONCRETE FLOOR SINK WITH MOP HOLDER; MINIMUM 4'-0" X 4'-0" FIBERGLASS REINFORCED PANEL (FRP) 2 WALLS.
7. SPRINKLER RISER W/ WALL POST INDICATOR AND FIRE DEPT CONNECTION
8. INSTALL NEW PLASTIC LAMINATE BASE & WALL CABINETRY; SEE ELEVATIONS, SHEET A6. APPLIANCES BY OWNER.

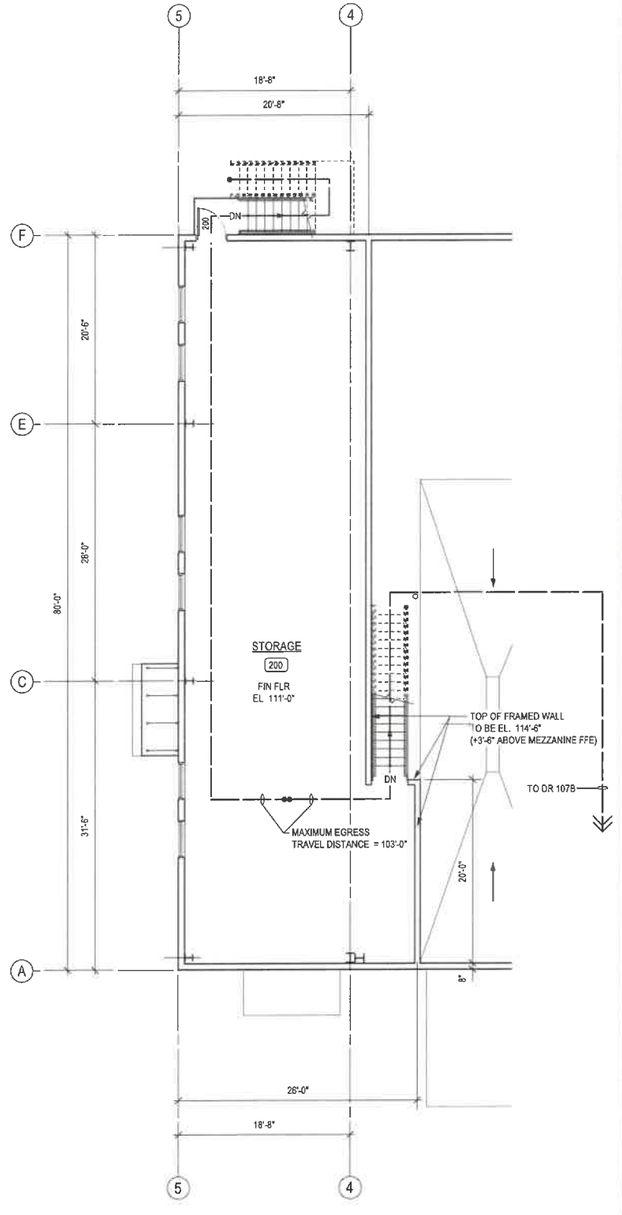
GENERAL NOTES

1. INTERIOR SIGNS IDENTIFYING ROOM NAMES & NUMBERS TO COMPLY WITH ICC A117.1, SECTION 703.
2. REFRIGERATORS IN BREAKROOMS #103 & #108 TO COMPLY WITH MAC SECTION MAC 804.5.6: REFRIGERATOR/FREEZERS: COMBINATION REFRIGERATORS AND FREEZERS SHALL HAVE AT LEAST 50 PERCENT OF THE FREEZER COMPARTMENT SHELVES, INCLUDING THE BOTTOM OF THE FREEZER, 54 INCHES MAXIMUM ABOVE THE FLOOR.

PARTITION TYPES

1. FURRED PEMB WALL TO BE 2X4 STUDS TO MEZZANINE FLOOR FRAMING ABOVE, SEE STRUCTURAL FOR SPACING. 5/8" GYP. BD. INSIDE FACE & SOUND ATTENUATION BATT INSULATION FULL HEIGHT; PAINT TO ABOVE CEILING.
2. BEARING WALL TO BE 2X4 STUDS TO MEZZANINE FLOOR FRAMING ABOVE, SEE STRUCTURAL FOR SPACING. 5/8" GYP. BD. BOTH SIDES & SOUND ATTENUATION BATT INSULATION FULL HEIGHT; PAINT TO ABOVE CEILING.
3. BEARING WALL TO BE 2X6 STUDS TO MEZZANINE FLOOR FRAMING ABOVE, SEE STRUCTURAL FOR SPACING. 5/8" GYP. BD. BOTH SIDES & SOUND ATTENUATION BATT INSULATION FULL HEIGHT; PAINT TO ABOVE CEILING.
4. PARTITION WALL TO BE 2X4 STUDS @ 16" O.C. TO MEZZANINE FRAMING ABOVE, W/ 5/8" GYP. BD. BOTH SIDES & SOUND ATTENUATION BATT INSULATION FULL HEIGHT; PAINT TO ABOVE CEILING.
5. BEARING WALL TO BE 2X6 STUDS TO MEZZANINE FLOOR FRAMING ABOVE, SEE STRUCTURAL FOR SPACING. BALLOON FRAME MEZZANINE FLOORING; 5/8" GYP. BD. BOTH SIDES & SOUND ATTENUATION BATT INSULATION FULL HEIGHT; PAINT TO ABOVE CEILING.

(VERIFY W/ STRUCTURAL)



2 MEZZANINE PLAN
Scale: 1/8" = 1'-0"

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CO-ORDINATION SET
NOT FOR CONSTRUCTION
6-11-24

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GREYSTONE CONSTRUCTION

NORDIC
Waste Management
NORWOOD, MINNESOTA

Revisions
Drawn
C.A.W.
Checked
L.M.
Date
6-11-2024
Job Number
2417
Sheet
A1

ROOM FINISH SCHEDULE

ACT	ACOUSTICAL CEILING TILE	EXP	EXPOSED-STRUCTURE	SLD	SEALED
CMU	CONCRETE MASONRY UNIT	FRP	FIBERGLASS REINFORCED PANEL	STC	STAINED CONCRETE
CNC	CONCRETE	GB	GYPSUM BOARD	VB	VINYL BASE, COVED
CPT	CARPET	LP	LINER PANEL	VBF	VAPOR BARRIER FABRIC
CT	CERAMIC TILE	LVP	LUXURY VINYL PLANK	VCT	VINYL COMPOSITION TILE
EPT	EPOXY PAINT	MWP	METAL WALL PANEL, PREFIN	VT	VINYL TREAD
EX	EXISTING	PT	PAINTED	WVR	WASHABLE VINYL ROCK CEILING TILE
		PW	PLYWOOD	WD	WOOD

ROOM#	ROOM NAME	FLR	FIN	BASE	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING		HGT.	REMARKS
					MATL.	FIN	MATL.	FIN	MATL.	FIN	MATL.	FIN	MATL.	FIN		
100	VESTIBULE	CNC	CT?	CT?	GB	PT	GB	PT	GB	PT	GB	PT	ACT	--		3
101	RECEPTION / WAITING	CNC	CPT	VB	GB	PT	--	--	GB	PT	GB	PT	ACT	--		
102	CONFERENCE ROOM	CNC	CPT	VB	GB	PT	GB	PT	GB	PT	GB	PT	ACT	--		
103	HALLWAY	CNC	CPT	VB	--	--	GB	PT	GB	PT	GB	PT	ACT	--		
104	OFFICE #2	CNC	CPT	VB	GB	PT	GB	PT	GB	PT	GB	PT	ACT	--		
105	OFFICE #1	CNC	CPT	VB	GB	PT	GB	PT	GB	PT	GB	PT	ACT	--		
106	IT / STORAGE	CNC	CPT	VB	GB	PT	GB	PT	GB	PT	GB	PT	ACT	--		
107	SHOP / WAREHOUSE	CNC	SLD	--	LP	--	LP	--	LP	--	LP	--	EXP	VBF		1, 2
108	CLOSET	CNC	CPT	VB	GB	PT	GB	PT	GB	PT	GB	PT	ACT	--		
109	HALLWAY	CNC	CPT	VB	GB	PT	GB	PT	--	--	GB	PT	ACT	--		
110	MEN'S RESTROOM	CNC	CT	CT	GB	PT / CT	GB	PT / CT	GB	PT / CT	GB	PT / CT	ACT	--		4
111	WOMEN'S RESTROOM	CNC	CT	CT	GB	PT / CT	GB	PT / CT	GB	PT / CT	GB	PT / CT	ACT	--		4
112	MECHANICAL ROOM	CNC	SLD	VB	GB	PT	GB	PT	GB	PT	GB	PT	ACT	--		
113	BREAKROOM	CNC	VCT or LVP?	VB	GB	PT	GB	PT	GB	PT	GB	PT	ACT	--		
200	STORAGE	PW	--	VB	VBF	--	GB OR PW?	--	VBF	--	VBF	--	EXP	VBF		

REMARKS

1. LINER PANELS TO +10'-0" AFF OVER TYPE 'X' GYPSUM BOARD AT THE SHOP / WAREHOUSE SIDE OF THE WALLS OF HALLWAYS #103 & #109, MEN'S RESTROOM #110, AND WOMEN'S RESTROOM #111.
2. FULL HEIGHT LINER PANELS AT NORTH, EAST & SOUTH WALLS OF THE SHOP / WAREHOUSE #107.
3. HOLD-DOWN CLIPS AT ACOUSTICAL CEILING TILES AND GRID AT VESTIBULE #100.
4. RESTROOMS #110 & #111 TO HAVE 12" X 24" FLOOR TILE WITH STANDARD SANDED DARK COLORED GROUT.

GENERAL FINISH NOTES:

1. SOLID SURFACE SILLS AT WINDOWS.
2. USE WATER RESISTANT GYPSUM BOARD ON ALL WET WALLS., AND TILE BACKER BOARD BEHIND ALL CERAMIC TILE WAINSCOT.
3. ACOUSTICAL CEILING TILE (ACT) TO BE 5/16" STANDARD WHITE GRID W/ 24"X24" ARMSTRONG REVEALED EDGE ACOUSTICAL LAY-IN TILE. SEE 1/A6 FOR REFLECTED CEILING PLAN.

DOOR AND FRAME SCHEDULE

DOOR#	PR	DOORS SIZE WIDTH	DOORS SIZE HEIGHT	DOORS CONSTRUCTION MATL.	DOORS CONSTRUCTION TYPE	DOORS CONSTRUCTION GLASS	FRAMES MATL.	FRAMES TYPE	HDW GROUP	LABEL	NOTES
100A		3' 0"	7' 0"	ALUM	A	YES	HM	1	1		FULL GLASS STOREFRONT
100B		3' 0"	7' 0"	ALUM	A	YES	HM	1	2		FULL GLASS STOREFRONT
102		3' 0"	7' 0"	WD	B	YES	HM	2	4		6"X36" TEMP GLASS
103		3' 0"	7' 0"	HM	C	YES	HM	2	8		6"X36" TEMP GLASS
104		3' 0"	7' 0"	WD	B	YES	HM	2	4		6"X36" TEMP GLASS
105		3' 0"	7' 0"	WD	B	YES	HM	2	4		6"X36" TEMP GLASS
106		3' 0"	7' 0"	WD	B	NO	HM	2	6		
107A		12' 0"	14' 0"	STL	B	YES	--	--	7		(2) 24" X 12" ACRYLIC INSUL GLASS
107B		3' 0"	7' 0"	HM	C	YES	HM	2	1		24"X30" (1/2 GLASS) TEMP GLASS
107C		14' 0"	14' 0"	STL	B	YES	--	--	7		(2) 24" X 12" ACRYLIC INSUL GLASS
107D		14' 0"	14' 0"	STL	B	YES	--	--	7		(2) 24" X 12" ACRYLIC INSUL GLASS
107E		3' 0"	7' 0"	HM	C	NO	HM	2	1		
107F		3' 0"	7' 0"	HM	C	NO	HM	2	1		
108		3' 0"	7' 0"	WD	B	NO	HM	2	9		
109A		3' 0"	7' 0"	HM	C	YES	HM	2	8		6"X36" TEMP GLASS
109B		3' 0"	7' 0"	HM	C	YES	HM	2	1		24"X30" (1/2 GLASS) TEMP GLASS
110		3' 0"	7' 0"	WD	B	NO	HM	2	3		
111		3' 0"	7' 0"	WD	B	NO	HM	2	3		
112A		3' 0"	7' 0"	WD	B	NO	HM	2	5		
112B		3' 0"	7' 0"	HM	C	NO	HM	2	1		
113		3' 0"	7' 0"	WD	B	YES	HM	2	4		6"X36" TEMP GLASS
200		3' 0"	7' 0"	HM	C	NO	HM	2	1		

HARDWARE GROUPS
LOCKSETS TO BE CYLINDRICAL,
ND SERIES, GRADE 1,
ATHENS LEVER, BY SCHLAGE OR EQUAL.
ALL HARDWARE TO BE STAINLESS STEEL.

GROUP 1
1 1/2 PAIR BUTTS
HEAVY DUTY CLOSER
STOP
WEATHERSTRIPPING
SWEEP
THRESHOLD
DRIP
ENTRANCE EXIT DEVICE
LATCH GUARD

GROUP 2
1 1/2 PAIR BUTTS
PUSH/PULL
CLOSER
STOP

GROUP 3
1 1/2 PAIR BUTTS
PRIVACY LOCKSET
CLOSER
STOP

GROUP 4
1 1/2 PAIR BUTTS
OFFICE LOCKSET
STOP

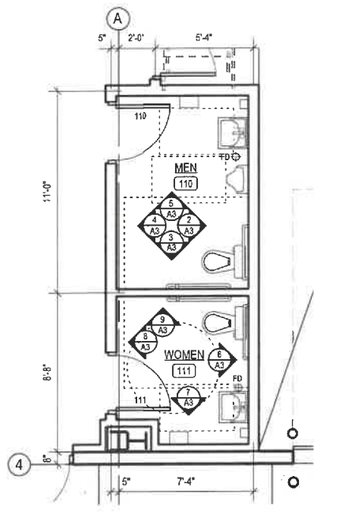
GROUP 5
1 1/2 PAIR BUTTS
STORAGE LOCKSET
CLOSER
STOP

GROUP 6
1 1/2 PAIR BUTTS
STORAGE LOCKSET
STOP

GROUP 7
ALL HARDWARE BY DOOR MFGR
3" HD GALVANIZED
TRACK & HARDWARE
ELECTRIC JACKSHAFT OPERATOR W/
WALL MOUNTED CONTROL
FLOOR MTD. PHOTO EYE CONTROLS

GROUP 8
1 1/2 PAIR BUTTS
OFFICE LOCKSET
CLOSER
STOP

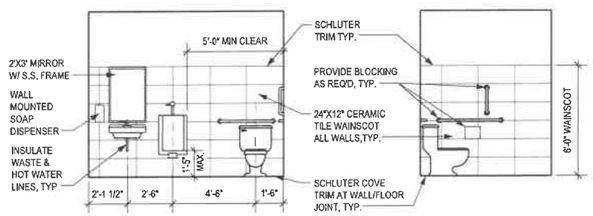
GROUP 9
1 1/2 PAIR BUTTS
PASSAGE LATCHSET
STOP



1 ENLARGED FLOOR PLAN RESTROOMS #110 & #111
Scale: 1/4" = 1'-0"

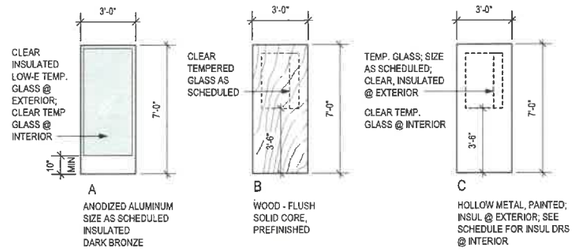
GENERAL RESTROOM CONSTRUCTION NOTES

1. SEE ACCESSIBILITY STANDARDS SHEET T1 FOR MOUNTING CLEARANCES, TYPICAL.
2. PROVIDE ADA COMPLIANT ACRYLIC DOOR SIGNS AT RESTROOMS #110 AND #111, AND MECHANICAL ROOM #112. SEE ITEM #10, ACCESSIBILITY STANDARDS SHEET T1.
3. WATER CLOSET TO BE STANDARD TANK TYPE.
4. PROVIDE WALL BLOCKING AT ALL GRAB BARS & ACCESSORIES INCLUDING WALL MOUNTED PAPER TOWEL DISPENSER/ HAND DRYER, TOILET PAPER HOLDER & SOAP DISPENSER; UTILITY SINKS, & HI-LO DRINKING FOUNTAINS, ETC.

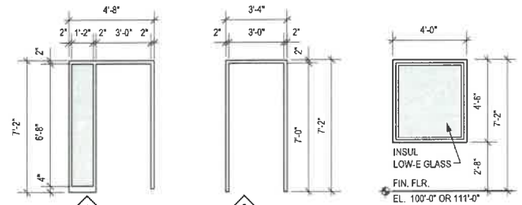


2 EAST ELEVATION MEN'S RESTROOM #110
Scale: 1/4" = 1'-0"

3 SOUTH ELEVATION MEN'S RESTROOM #110
Scale: 1/4" = 1'-0"

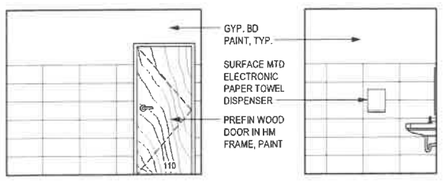


DOOR TYPES



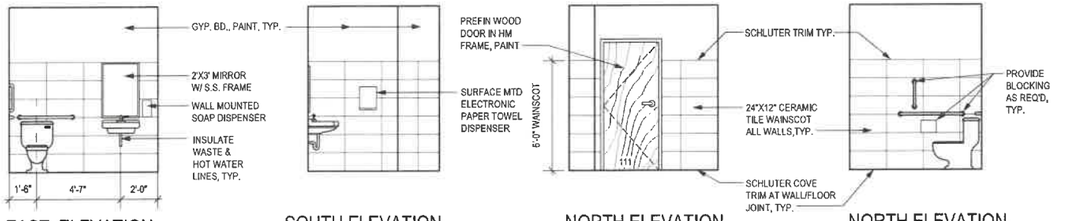
FRAME TYPES

WINDOW TYPES



4 WEST ELEVATION MEN'S RESTROOM #110
Scale: 1/4" = 1'-0"

5 NORTH ELEVATION MEN'S RESTROOM #110
Scale: 1/4" = 1'-0"



6 EAST ELEVATION WOMEN'S RESTROOM #111
Scale: 1/4" = 1'-0"

7 SOUTH ELEVATION WOMEN'S RESTROOM #111
Scale: 1/4" = 1'-0"

8 NORTH ELEVATION WOMEN'S RESTROOM #111
Scale: 1/4" = 1'-0"

9 NORTH ELEVATION WOMEN'S RESTROOM #111
Scale: 1/4" = 1'-0"

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Checked	L.M.
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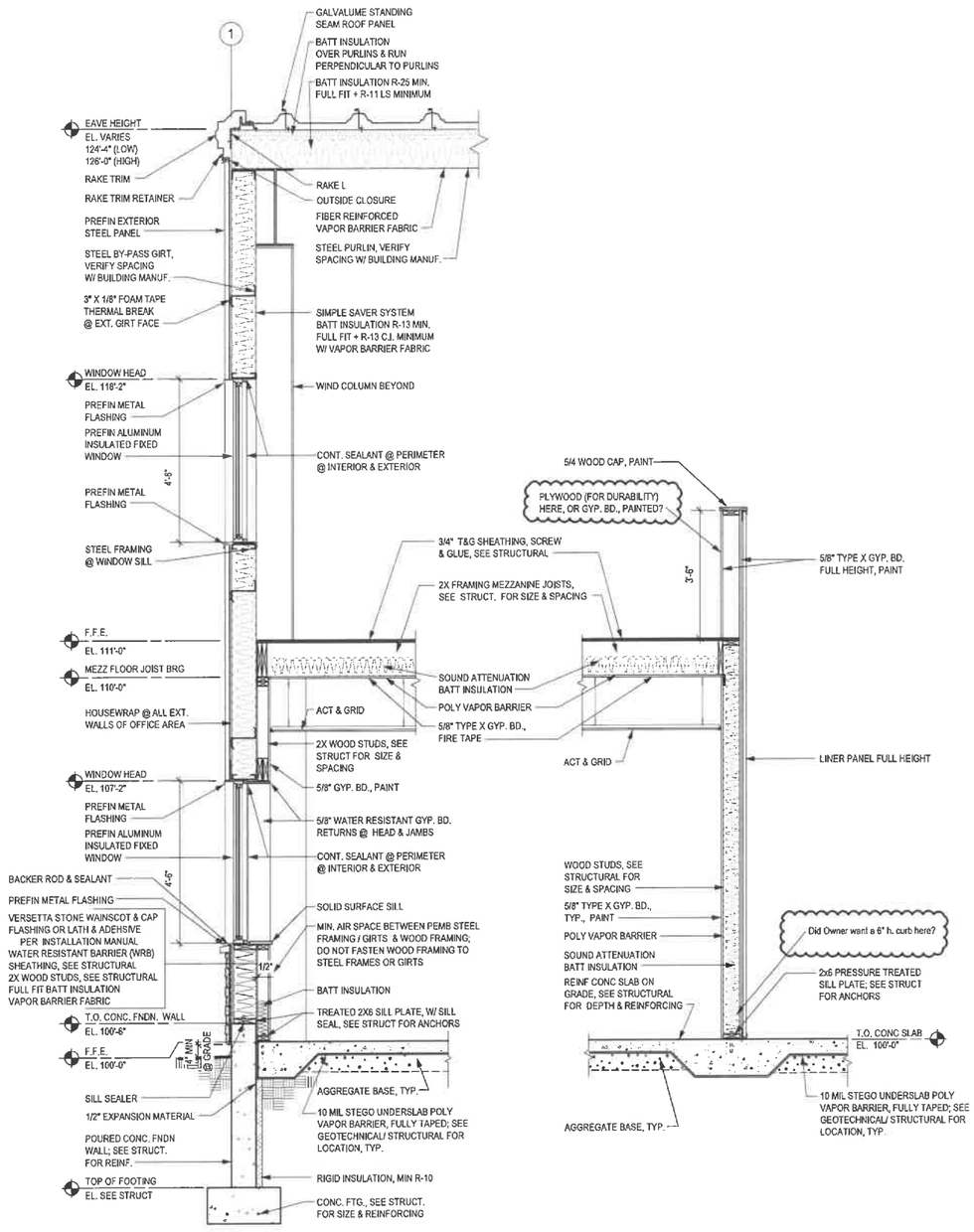
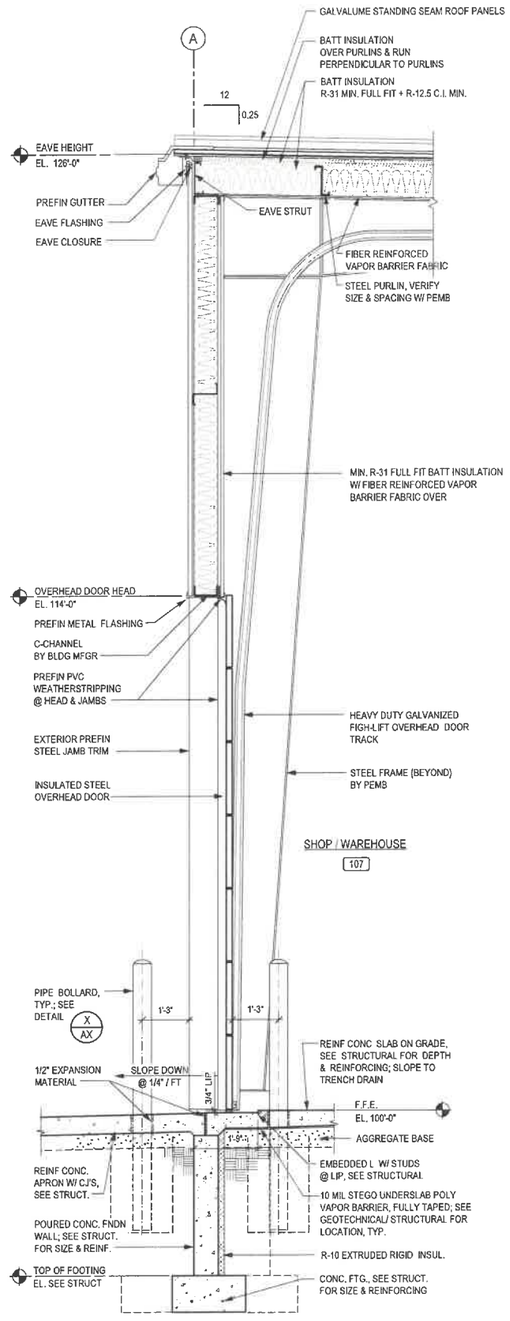
Sheet	A3

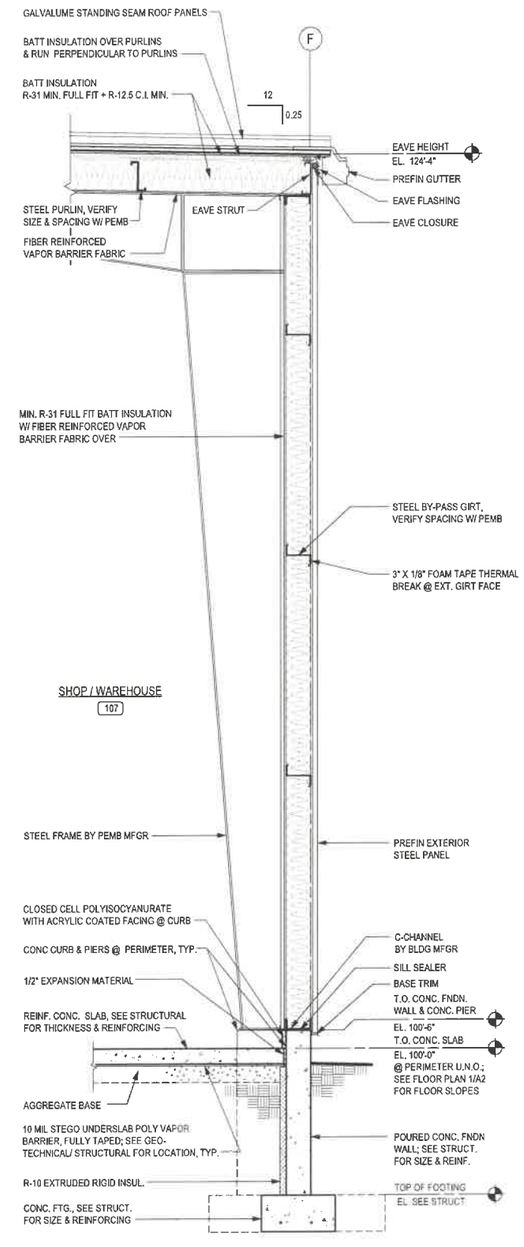


1 WALL SECTION @ OFFICE / MEZZANINE
Scale: 1/2" = 1'-0"

2 WALL SECTION @ OFFICE / MEZZANINE
Scale: 1/2" = 1'-0"



3 WALL SECTION THRU OVERHEAD DOOR
Scale: 1/2" = 1'-0"



4 WALL SECTION NORTH WALL SHOP / WAREHOUSE
Scale: 1/2" = 1'-0"

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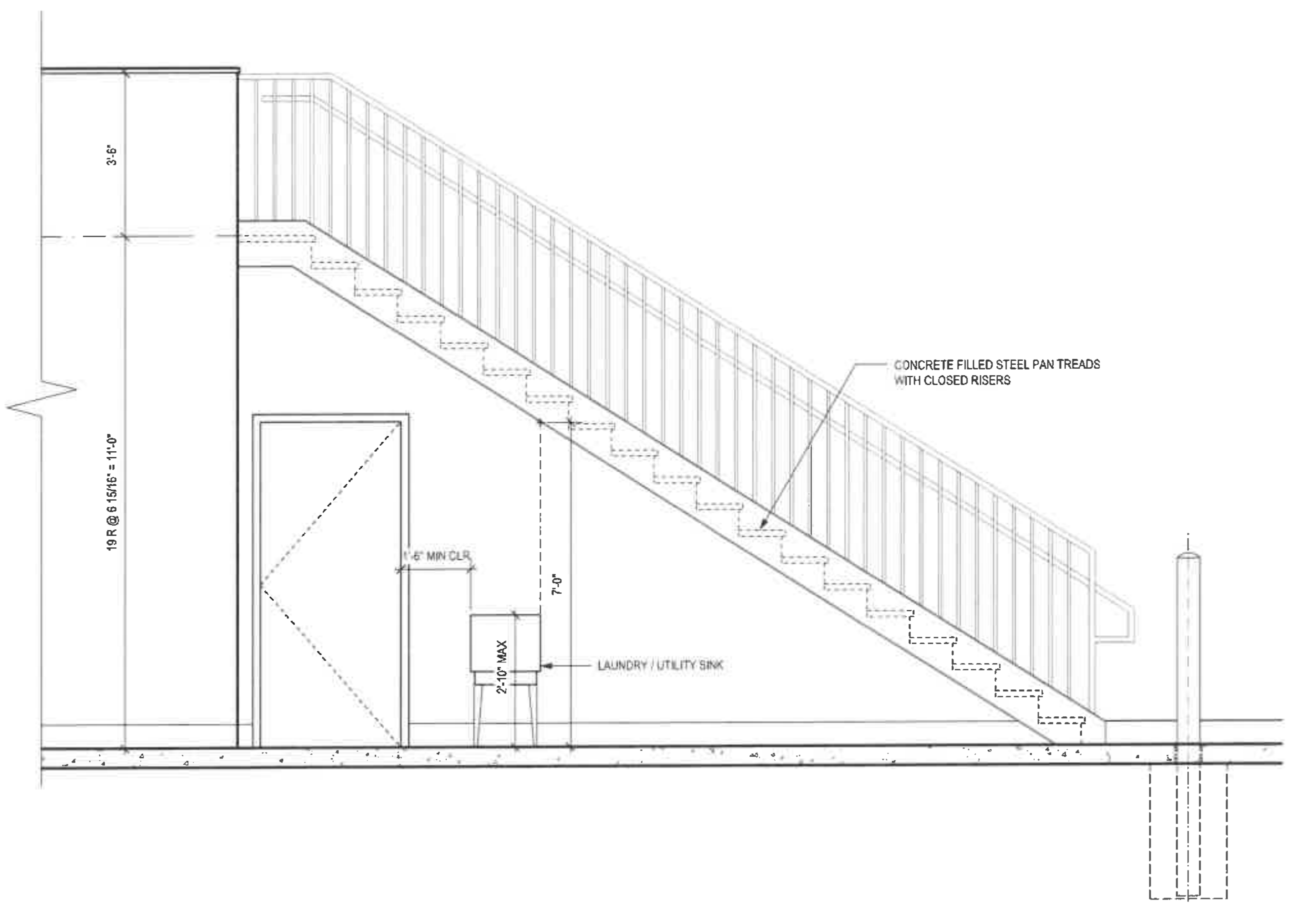

1 INTERIOR STAIR SECTION @ SHOP / WAREHOUSE
Scale: 1/2" = 1'-0"

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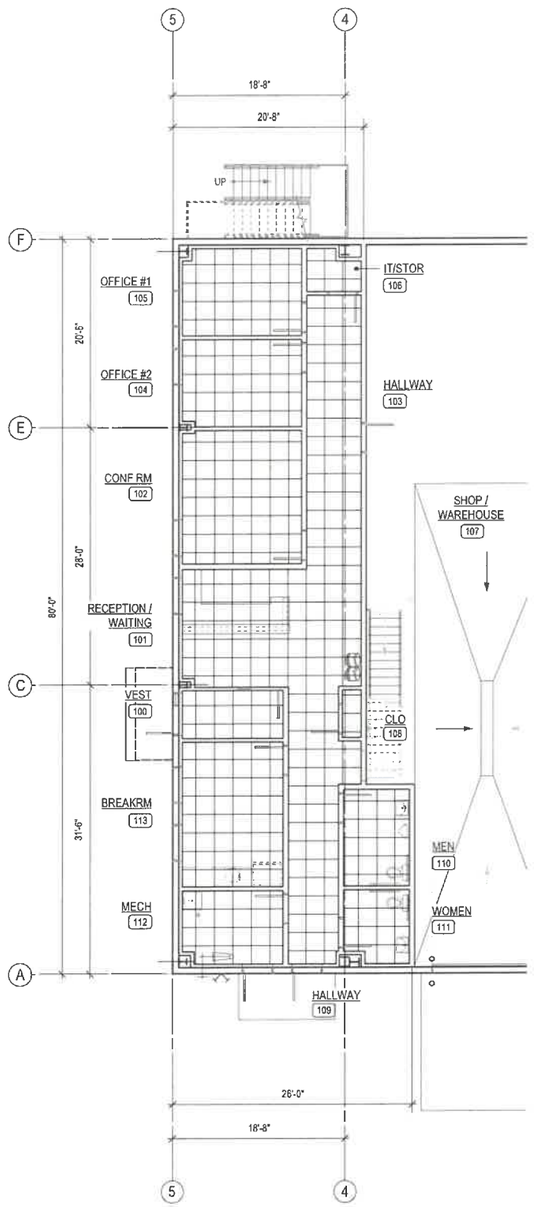
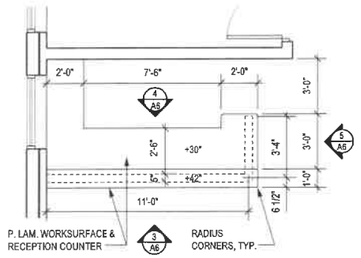


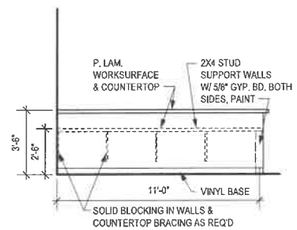
1 REFLECTED CEILING PLAN -- OFFICE AREA

Scale: 1/8" = 1'-0"



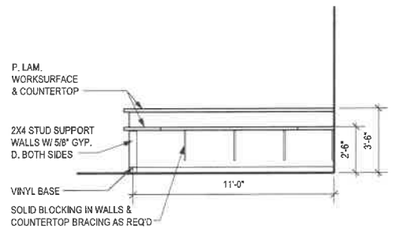
2 RECEPTION CASEWORK

Scale: 1/4" = 1'-0"



3 SOUTH ELEVATION RECEPTION #101 DESK

Scale: 1/4" = 1'-0"



4 FRONT ELEVATION RECEPTION #101 DESK

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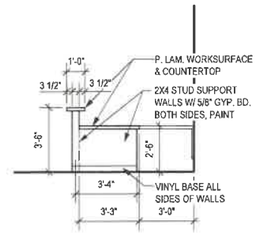
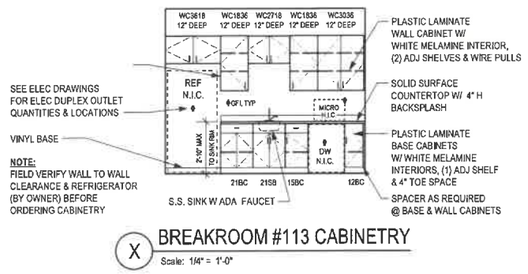


5 SIDE ELEVATION RECEPTION #101 DESK

Scale: 1/4" = 1'-0"



X BREAKROOM #113 CABINETRY

Scale: 1/4" = 1'-0"

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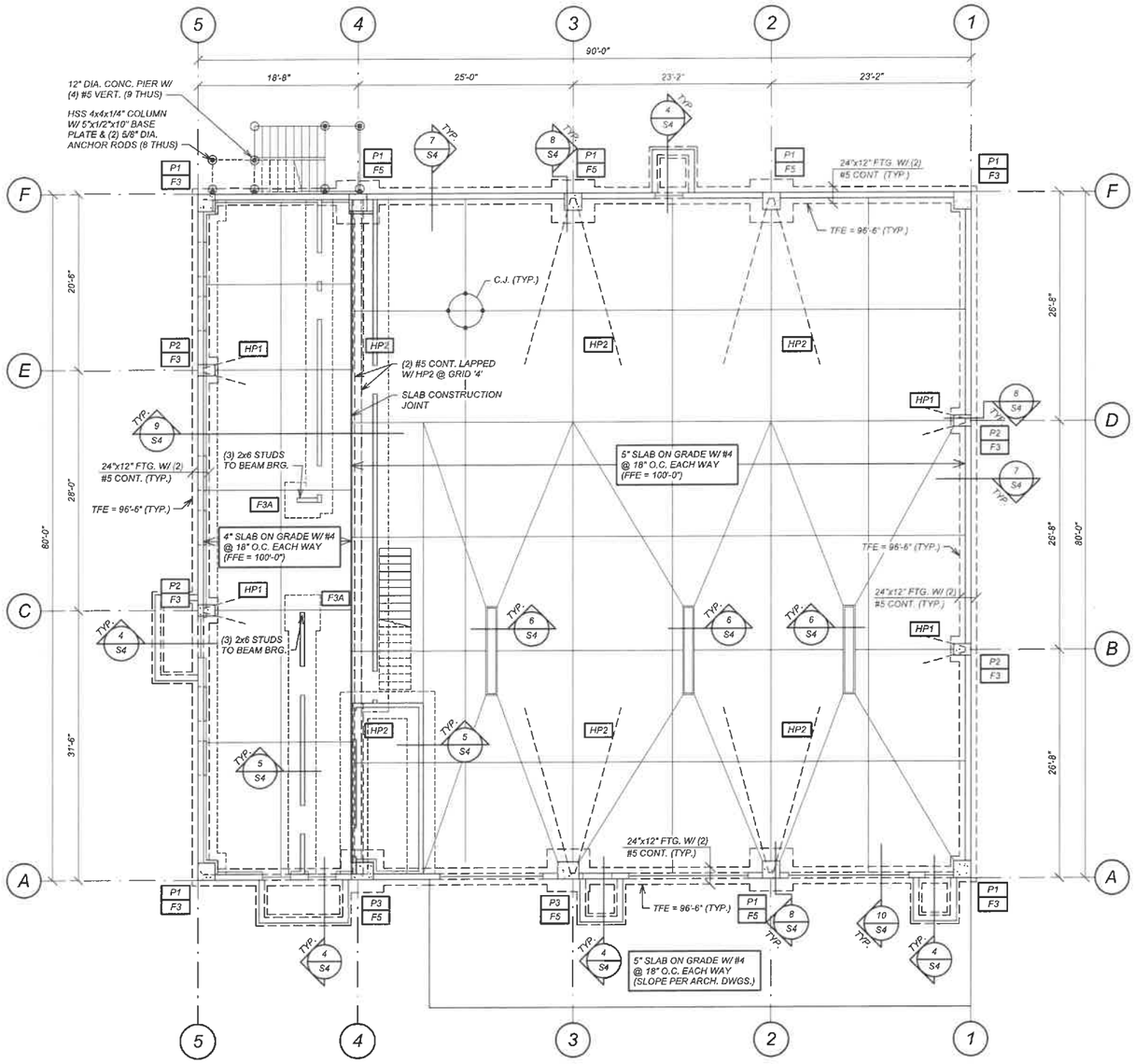
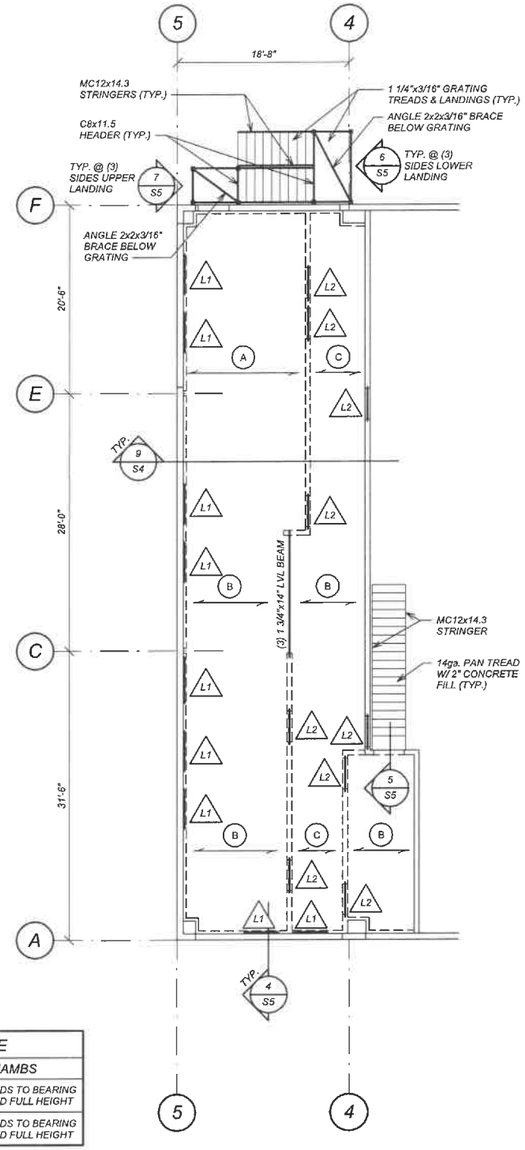




JOIST SCHEDULE

MARK	JOIST
A	1 3/4"x11 1/4" LVL's @ 2'-0" O.C.
B	2x12's @ 1'-4" O.C.
C	2x12's @ 2'-0" O.C.

LINTEL SCHEDULE

MARK	LINTEL	JAMBS
L1	(2) 2x10's	(2) 2x4 STUDS TO BEARING (1) 2x4 STUD FULL HEIGHT
L2	(2) 2x10's	(2) 2x6 STUDS TO BEARING (1) 2x6 STUD FULL HEIGHT

PIER SCHEDULE

MARK	PIER SIZE	REINFORCING
P1	24"x24" CIP CONC. PIER	(8) #5 VERT. W/ 12" HOOK INTO FTG. & #3 TIES @ 8" O.C. - ADD (3) TIE IN TOP 5" OF PIER (TPE = 100'-8")
P2	16"x24" CIP CONC. PIER	(6) #5 VERT. W/ 12" HOOK INTO FTG. & #3 TIES @ 8" O.C. - ADD (3) TIE IN TOP 5" OF PIER (TPE = 100'-8")
P3	24"x36" CIP CONC. PIER	(12) #5 VERT. W/ 12" HOOK INTO FTG. & #3 TIES & CROSS TIES @ 8" O.C. - ADD (3) TIE IN TOP 5" OF PIER (TPE = 100'-6")

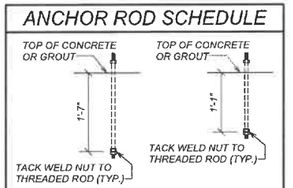
FOOTING SCHEDULE

MARK	FOOTING	REINFORCING
F3	3'-0"x3'-0"x12"	(4) #5 EACH WAY BOTTOM
F3A	3'-0"x3'-0"x12" THICKENED SLAB	(4) #5 EACH WAY BOTTOM
F5	5'-0"x5'-0"x16"	(5) #5 EACH WAY BOTTOM

HAIRPIN SCHEDULE

MARK	HAIRPIN
HP1	#4 HAIRPIN WITH 5'-0" LEGS
HP2	#6 HAIRPIN WITH 20'-0" LEGS

ANCHOR ROD SCHEDULE



1" DIA. A. ROD | 3/4" DIA. A. ROD

ASTM F1554 (Fy = 36ksi)

FOUNDATION PLAN

1/8" = 1'-0"

TYPICAL UNLESS NOTED OTHERWISE:

1. FINISH FLOOR ELEVATION (FFE) - SEE PLAN
2. FORM CONTRACTION JOINTS (CJ) OR SAWCUT WITHIN 12 HOURS OF CONC. PLACEMENT - SEE 3/S4
3. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS
4. VERIFY ALL SIZES & LOCATIONS OF OPENINGS WITH ARCHITECTURAL DRAWINGS
5. TOP OF FOOTING ELEVATION (TFE) - SEE PLAN
6. STEPPED FOOTING DETAIL - SEE 1/S4
7. CONTRACTOR OPTIONS AT MECHANICAL & ELECTRICAL LINES BENEATH FOOTINGS - SEE 2/S4

MEZZANINE FRAMING PLAN

1/8" = 1'-0"

TYPICAL UNLESS NOTED OTHERWISE:

1. 3/4" APA RATED T&G PLYWOOD FLOOR SHEATHING GLUED & SCREWED W/ #8 SCREWS @ 12" O.C. ALL SUPPORTS

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ISSUED DATE: 6-26-24

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STRUCTURAL NOTES

GENERAL

1. NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER THESE STANDARD STRUCTURAL NOTES.

2. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES, SPECIFICATIONS, AND DESIGN MANUAL (LATEST EDITION UNLESS NOTED):
   a. 2020 MINNESOTA BUILDING CODE
   b. AMERICAN CONCRETE INSTITUTE (ACI)
   c. CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE (FOR PLACING & DETAILING OF ALL REINFORCING)
   d. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
   e. AMERICAN WELDING SOCIETY (AWS) STANDARDS FOR WELDING AS MODIFIED BY A.I.S.C. SPEC.
   f. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC)
   g. NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION
   h. STATE AND FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE STARTING WORK; AND THE ENGINEER/ARCHITECT SHALL BE IMMEDIATELY NOTIFIED, IN WRITING, OF ANY DISCREPANCIES.

4. IN NO CASE SHALL DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THE STRUCTURAL DRAWINGS.

5. TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE.

6. ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF, AND RESOLVED WITH THE ENGINEER/ARCHITECT BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.

7. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF UTILITY SERVICES IN THE AREA TO BE EXCAVATED BEFORE BEGINNING EXCAVATION.

8. NO PIPES, DUCTS, SLEEVES, CHASES, ETC., SHALL BE PLACED IN SLABS OR WALLS, NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC.

9. RECESSES, DEPRESSIONS, DIMENSIONS, ELEVATIONS, OPENINGS, EQUIPMENT SUPPORTS, AND DETAILS SHALL BE VERIFIED BY REFERENCE TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. OPENINGS, REQUIRED BUT NOT SHOWN, MUST BE PLACED BETWEEN STRUCTURAL MEMBERS.

10. TEMPORARY BRACING:
    a. PROVIDE TEMPORARY LATERAL SUPPORT FOR ALL WALLS WHERE GRADE VARIES ON THE TWO SIDES UNTIL PERMANENT STRUCTURAL SUPPORT SYSTEM IS IN PLACE.

DESIGN DATA

1. DESIGN RISK CATEGORY II

2. FLOOR LIVE LOADS
   TYPICAL FLOORS ..... 125 PSF
   STAIRS & CORRIDORS ..... 100 PSF

3. ASSUMED COLUMN REACTIONS (KIPS):

GRID LOCATIONS	VERTICAL UPWARD	VERTICAL DOWNWARD	HORIZONTAL OUTWARD	HORIZONTAL INWARD	SIDE/SIDE
(1, 5) - (A, F)	5.4k	9.0k	4.0k	4.0k	2.0k
(1, 5) - (B, C, D, E)	12.0k	16.0k	5.0k	5.0k	–
(2, 3, 4) - (A, F)	20.0k	50.0k	26.0k	12.0k	4.0k

FOOTINGS AND FOUNDATIONS

1. NET ALLOWABLE SOIL BEARING PRESSURE:
   a. Fp = 2500 psf

2. FOOTINGS, FOUNDATIONS AND OTHER ITEMS RELATED TO THE SOILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE SOILS REPORT.

3. THE NET ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY SOILS ENGINEER PRIOR TO PLACING FOOTINGS.

4. ALL SITE SOIL WORK SHALL BE DONE UNDER THE DIRECT OBSERVATION OF A SOILS ENGINEER.

5. WATER LEVELS INDICATED ON BORING LOGS ARE SUBJECT TO SEASONAL AND/OR ANNUAL VARIATIONS. IF NECESSARY A DEWATERING SYSTEM OF SUFFICIENT CAPACITY SHALL BE INSTALLED AND OPERATED TO MAINTAIN THE CONSTRUCTION AREA FREE OF WATER AT ALL TIMES.

6. MINIMUM DEPTH FROM EXTERIOR GRADE TO BOTTOM OF FOOTING NOT ADJACENT TO HEATED SPACE SHALL BE 60 INCHES.

7. PROTECT FOUNDATION EXCAVATIONS FROM FROST; DO NOT PLACE CONCRETE ON FROZEN GROUND.

8. FOUNDATION EXCAVATIONS SHALL BE KEPT FREE OF LOOSE MATERIAL AND STANDING WATER AND SHALL BE CHECKED AND APPROVED BY THE SOILS ENGINEER BEFORE THE PLACEMENT OF ANY CONCRETE.

9. WALL FOOTINGS ARE CONTINUOUS POURED CONCRETE WITH CONTINUOUS REINFORCING PLACED 3" CLEAR OF BOTTOM AND SIDES.

10. PROVIDE 24 DIA. LAP AT SPLICES AND FULL CROSSING LAP AT CORNERS AND INTERSECTIONS OF STRIP FOOTINGS.

11. UNLESS OTHERWISE NOTED, WALL FOOTINGS ARE CENTERED UNDER WALLS AND COLUMN FOOTINGS UNDER COLUMNS.

12. FOOTINGS FOR WALLS NOT NOTED SHALL BE 12" THICK WITH A MINIMUM PROJECTION OF 4" EACH SIDE WITH 2-#5 CONTINUOUS.

13. BOTH SIDES OF FOUNDATION WALLS SHALL BE BACKFILLED SIMULTANEOUSLY SO AS TO PREVENT OVERTURNING OR LATERAL MOVEMENT OF WALLS.

REINFORCING STEEL

1. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301 (LATEST EDITION) "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", EXCEPT AS MODIFIED BY THESE NOTES.

2. BAR REINFORCEMENT SHALL BE: ASTM A615, GRADE 60.

3. WELDED WIRE FABRIC SHALL MEET ASTM A1064.

4. CONTRACTOR SHALL SUBMIT REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL BEFORE FABRICATION AND INSTALLATION.

5. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS SHALL BE SECURED IN POSITION WITH WIRE POSITIONERS BEFORE PLACING CONCRETE OR GROUT.

6. DOWELS BETWEEN FOOTINGS AND WALLS SHALL BE THE SAME GRADE, SIZE, AND SPACING AS VERTICAL WALL REINFORCING.

7. MINIMUM LAP SPLICES OF REINFORCING BARS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
   a. CONCRETE: CLASS B AS DEFINED IN ACI 318-14 OR CHART BELOW.

CONCRETE REINFORCING LAP SPLICE LENGTHS (2" CLR)	
BAR SIZE	LAP LENGTH (INCHES)
#3	17
#4	23
#5	28

8. REINFORCING STEEL SHALL BE PROVIDED WITH THE FOLLOWING AMOUNTS OF COVER FOR CAST-IN-PLACE CONCRETE:
   a. CONCRETE PLACED AGAINST EARTH ..... 3"
   b. CONCRETE SURFACE (FORMED) EXPOSED TO EARTH OR WEATHER:
      - #5 BAR AND SMALLER ..... 1-1/2"
      - STIRRUPS & TIEs ..... 1-1/2"

REINFORCED CONCRETE

1. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c), MAXIMUM WATER-CEMENT (W/C) RATIO AS FOLLOWS:

	F'c (P.S.I.) 28 DAYS	MAXIMUM W/C RATIO
TYP. CONCRETE U.N.O.	4,000	0.50
EXTERIOR CONCRETE EXPOSED TO FREEZING	4,500 (AIR ENTRAINED)	0.45

2. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR APPROVAL 14 DAYS PRIOR TO FABRICATION AND INSTALLATION. ALL CONCRETE MIXES SHALL BE DESIGNED AND CERTIFIED BY A MATERIALS TESTING LABORATORY.

3. ADMIXTURES MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER (CALCIUM CHLORIDE SHALL NOT BE USED).

4. ADMIXTURES SHALL COMPLY WITH ASTM C494 AND BE OF A TYPE THAT INCREASES THE WORKABILITY OF THE CONCRETE, BUT SHALL NOT BE CONSIDERED TO REDUCE THE SPECIFIED MINIMUM CEMENT CONTENT.

5. CEMENT SHALL CONFORM TO ASTM C150, TYPE I OR ASTM C595, TYPE IL.

6. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C94.

7. REFER TO DRAWINGS OF OTHER DISCIPLINES FOR MOLDS, GROOVES, CLIPS, ORNAMENTS, GROUNDS, ETC. REQUIRED TO BE CAST INTO CONCRETE.

8. PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC. SHALL BE FORMED WITH A 3/4" CHAMFER.

9. NO CONDUIT PLACED IN A CONCRETE SLAB SHALL HAVE AN OUTSIDE DIAMETER GREATER THAN 1/3 THE THICKNESS OF THE SLAB. NO CONDUIT SHALL BE EMBEDDED IN A SLAB THAT IS LESS THAN 3-1/2" THICK. EXCEPT FOR LOCAL OFFSETS, MINIMUM CLEAR DISTANCE BETWEEN CONDUITS SHALL BE 6".

10. UNLESS OTHERWISE NOTED, USE 4" CONCRETE SLABS ON GRADE REINFORCED W/ 6x6-W1.4xW1.4 W.W.F.

CAST-IN-PLACE CONCRETE WALLS

1. UNLESS OTHERWISE NOTED ON PLANS OR SECTIONS, REINFORCE CAST-IN-PLACE CONCRETE WALLS WITH #4 @ 12" O.C. HORIZONTALLY, AND #4 @ 12" O.C. VERTICALLY EACH FACE.

2. PROVIDE #4x4'-0" (2'-0" EACH LEG) CORNER BARS AT 12" O.C. HORIZONTAL REINFORCING AT OUTSIDE CORNER OF WALL AND EACH FACE AT INTERSECTIONS WITH (3) #4 VERTICAL SUPPORT BARS.

3. ALL OPENINGS IN WALLS LARGER THAN 12" SHALL HAVE (2) #4 AT ALL SIDES (1 EACH FACE) EXTENDED 2'-0" BEYOND EACH EDGE OF OPENING.

4. PROVIDE EXTRA REINFORCING ON EACH FACE AROUND ALL OPENINGS 24" OR LARGER IN ALL SLABS & WALLS EQUAL TO ONE HALF THE INTERRUPTED REINFORCING BARS ON EACH SIDE BUT NOT LESS THAN (2) #4 BARS WITH CLASS B LAP AND NOT LESS THAN 2 FEET BEYOND OF OPENINGS.

5. WALL REINFORCING IS CONTINUOUS THROUGH COLUMNS AND PIERS.

STRUCTURAL STEEL

1. STEEL PROPERTIES:

STRUCTURAL SHAPES & PLATES, ETC 36,000	A36
HIGH STRENGTH BOLTS, U.N.O 92,000	A325
ANCHOR RODS (TENSILE STRENGTH) 36,000	F1554
WELDING ELECTRODES E70XX	A233
HSS ROUND 46,000	A500 GRADE C
HSS RECTANGULAR/SQUARE 50,000	A500 GRADE C

EXPANSION BOLTS SHALL BE HILTI KWIK BOLT 3 OR PREAPPROVED EQUAL.

2. STRUCTURAL STEEL SUPPLIER SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.

3. STRUCTURAL STEEL DESIGN AND CONSTRUCTION SHALL CONFORM TO AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" LATEST EDITIONS.

4. PAINT ALL STEEL PER SSPC STANDARDS - LATEST EDITION.

5. BOLTED CONNECTIONS SHALL BE BEARING-TYPE JOINTS. BOLTS SHALL BE 3/4" DIA. ASTM F3125 GRADE A325 WITH THREADS INCLUDED IN THE SHEAR PLANE. BOLTS NEED TO BE TIGHTENED IN PROPERLY ALIGNED HOLES TO A SNUG TIGHT CONDITION AS DEFINED BY THE LATEST EDITION OF AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" U.N.O. ALL BEARING-TYPE CONNECTIONS SHALL HAVE STANDARD DIAMETER HOLES. THE USE OF SHORT OR LONG-SLOTTED HOLES IS NOT PERMITTED FOR BEARING-TYPE CONNECTIONS.

6. CONNECTIONS SHALL BE AS SHOWN ON THE DRAWINGS. WHERE REACTIONS ARE SHOWN, BUT CONNECTIONS ARE NOT DETAILED THE FABRICATOR SHALL SIZE AND DETAIL ON THE FIRST SUBMITTAL OF SHOP DRAWINGS.

7. WHERE CONNECTIONS OR REACTIONS ARE NOT SHOWN ON THE DRAWINGS THE FABRICATOR SHALL PROVIDE CONNECTION TO SUPPORT 1/2 OF THE TOTAL UNIFORM LOAD CAPACITY SHOWN IN THE TABLES IN PART 3 OF THE AISC STEEL CONSTRUCTION MANUAL, MAXIMUM FOR THE GIVEN BEAM, SPAN AND GRADE OF STEEL SPECIFIED.

8. SLOTTED HOLES INDICATED IN THE DRAWINGS ARE INTENDED TO ALLOW MOVEMENT AND SHOULD BE INSTALLED AS INDICATED. WHERE SLOTTED HOLES WERE NOT DETAILED, BUT CHOSEN BY THE FABRICATOR FOR ERECTION TOLERANCE OR OTHERWISE, SLIP-CRITICAL JOINTS, INCLUDING CLASS B FAYING SURFACE & PRETENSIONED ASTM F3125 GRADE A325 BOLTS AS REQUIRED IN ACCORDANCE WITH AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS".

9. ALL BEAMS SHALL BE MARKED AND ERECTED WITH NATURAL CAMBER UPWARD.

10. THE STEEL ERECTOR SHALL PROVIDE TEMPORARY SUPPORTS UNTIL FINAL STABILITY IS ESTABLISHED. AS A MINIMUM, TEMPORARY SUPPORTS SHALL BE PROVIDED AT EA. GRID IN BOTH DIRECTIONS.

DIMENSION LUMBER

1. ALL WOOD MEMBERS SHALL BE HEM FIR (HF) OR SPRUCE-PINE-FIR (SPF) GRADE #2 MARKED BY A RECOGNIZED GRADING AGENCY (WCLIB & WWPA).

2. ALL SILLS OR PLATES RESTING ON CONCRETE OR MASONRY, WHICH IS IN CONTACT WITH EARTH OR RESTING ON FOUNDATIONS, SHALL BE PRESSURE TREATED SOUTHERN PINE NO.2.

3. ALL METAL BOLTS, NUTS, FRAMING ANCHORS, ETC. IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL OR AN ENGINEER APPROVED EQUAL.

4. MOISTURE CONTENT OF WOOD AT TIME OF PLACING SHALL NOT EXCEED 19%.

5. ALL MEMBER SIZES GIVEN ON DRAWINGS ARE NOMINAL DIMENSIONS.

6. ALL SHEATHING SHALL BE APA RATED SHEATHING.

7. ALL FRAMING ANCHORS, POST CAPS, BASES, HANGERS, STRAPS, ETC., SHALL BE AS MANUFACTURED BY "SIMPSON COMPANY" OR ENGINEER APPROVED EQUAL.

8. ALL BEAMS AND JOISTS NOT BEARING ON SUPPORTING MEMBERS SHALL BE FRAMED WITH "SIMPSON HHUS" JOIST HANGERS OR EQUAL. USE TYPE AS REQUIRED FOR APPLICATION IN DRAWINGS.

9. ALL BOLT HEADS AND NUTS BEARING ON WOOD SHALL HAVE STANDARD CUT WASHERS. ALL BOLT HOLES IN WOOD SHALL BE DRILLED 1/32" DIAMETER LARGER THAN NOMINAL BOLT DIAMETERS.

10. BOLTS IN WOOD SHALL NOT BE LESS THAN 7 DIAMETERS FROM THE END AND 4 DIAMETERS FROM THE EDGE OF THE MEMBER.

11. ALL NAILING SHALL CONFORM TO NAILING SCHEDULE UNLESS NOTED OTHERWISE.

12. CUTTING, NOTCHING, OR DRILLING OF BEAMS OR JOISTS SHALL BE PERMITTED ONLY AS DETAILED OR APPROVED BY THE ENGINEER.

13. WOOD BEAMS MADE OF 2 OR MORE 2x'S SHALL BE NAILED TOGETHER WITH 3 ROWS OF 16d NAILS AT 12" O.C. FOR A THREE-PIECE MEMBER, INSTALL THE SPECIFIED NAILING EACH SIDE.

14. WOOD LINTELS AND HEADERS SHALL HAVE A FULL 3" LENGTH OF BEARING AT EACH END, UNLESS OTHERWISE NOTED.

15. WOOD JOISTS SHALL BEAR THE FULL WIDTH OF SUPPORTING MEMBERS (STUD WALLS, BEAMS, ETC.) UNLESS OTHERWISE NOTED.

16. SPACING OF BRIDGING FOR JOISTS SHALL NOT EXCEED 8'.

17. SILL PLATES TO BE BOLTED TO FOUNDATION WALL WITH 5/8" DIA. BOLTS AT 4'-0" O.C. MAXIMUM, BOLTS TO EXTEND 15" MIN. INTO GROUTED MASONRY. EACH SILL PLATE TO HAVE A MINIMUM OF 2 BOLTS WITH ONE BOLT LOCATED WITHIN 12" OF EACH END OF EACH PIECE.

18. UNLESS NOTED, 4" WIDE STUD WALLS TO HAVE 2x4 STUDS @ 16" O.C.

19. UNLESS NOTED, EXTERIOR WALLS TO HAVE 2x6 STUDS @ 16" O.C.

20. TOP PLATES OF ALL WOOD STUD WALLS TO BE (2) 2x (SAME WIDTH AS STUDS), LAP 48"(MINIMUM) WITH NOT LESS THAN (12) 16d NAILS AT EACH LAP AND NOT MORE THAN 16"BETWEEN NAILS. SPLICE AT STUDS ONLY.

CONNECTION	FASTENING (COMMON OR BOX NAILS PERMITTED)	LOCATION
JOIST TO SILL OR GIRDER	(3) 8d COMMON (3) 3"x0.131" NAIL	TOENAIL
BRIDGING TO JOIST	(2) 8d COMMON (3) 3"x0.131" NAIL	FACE NAIL
1"x6" SUB FLOOR OR LESS TO EACH JOIST	(2) 16d COMMON	FACE NAIL
SOLE PLATE TO JOIST OR BLOCKING	16d @ 16" O.C. 3"x0.131" NAILS @ 16" O.C.	TYP. FACE NAIL
SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANEL	(3) 16d @ 16" O.C. (4) 3"x0.131" NAILS @ 16" O.C.	BRACED WALL PANEL
TOP PLATE TO STUD	(2) 16d COMMON (3) 3"x0.131" NAILS	END NAIL
STUD TO SOLE PLATE	(4) 8d COMMON (3) 3"x0.131" NAILS (2) 16d COMMON (3) 3"x0.131" NAILS	TOENAIL END NAIL
DOUBLE STUDS	16d @ 16" O.C. 3"x0.131" NAILS @ 16" O.C.	TYP. FACE NAIL (LAP SPLICES)
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	(3) 8d COMMON (3) 3"x0.131" NAIL	TOENAIL
RIM JOIST TO TOP PLATE	8d @ 6" O.C. (152 mm) 3"x0.131" NAIL @ 6" O.C.	TOENAIL
TOP PLATES, LAPS AND INTERSECTIONS	(2) 16d COMMON (3) 3"x0.131" NAIL	FACE NAIL
CONTINUOUS HEADER, TWO PIECES	16d COMMON	16" O.C. ALONG EDGE
CEILING JOISTS TO PLATE	(3) 8d COMMON (5) 3"x0.131" NAIL	TOENAIL
CONTINUOUS HEADER TO STUD	(4) 8d COMMON	16" O.C. ALONG EDGE
CEILING JOISTS, LAPS OVER PARTITIONS (SEE SECTION 2308.10A.3, TABLE 2308.10.4.1)	(3) 16d COMMON MINIMUM , TABLE 2308.10.4.3 (4) 3"x0.131" NAIL	FACE NAIL
CEILING JOISTS TO PARALLEL RAFTERS (SEE SECTION 2308.10.1, TABLE 2308.10.1)	(3) 16d COMMON MINIMUM, TABLE 2308.10.4.1 (4) 3"x0.131" NAIL	FACE NAIL
RAFTER TO PLATE (SEE SECTION 2308.10.1, TABLE 2308.10.1)	(3) 8d COMMON (3) 3"x0.131" NAIL	TOENAIL
1" DIAGONAL BRACE TO EACH STUD AND PLATE	(2) 8d COMMON (2) 3"x0.131" NAIL	FACE NAIL
1"x6" SHEATHING TO EACH BEARING WALL	(2) 8d COMMON	FACE NAIL
WIDER THAN 1"x8" SHEATHING TO EACH BEARING	(3) 8d COMMON	FACE NAIL
BUILD-UP CORNER STUDS	16d COMMON 3"x0.131" NAIL	24" O.C. 16" O.C.
BUILT-UP GIRDER AND BEAMS	20d COMMON @ 32" O.C. (3) 3"x0.131" NAIL @ 24" O.C. (2) 20d COMMON (2) 3"x0.131" NAIL	FACE NAIL AT TOP AND BOT. STAGGERED ON OPP. SIDES FACE NAIL AT ENDS AND AT EACH SPLICE
2" PLANKS	16d COMMON	AT EACH BEARING
COLLAR TIE TO RAFTER	(3) 10d COMMON (4) 3"x0.131" NAIL	FACE NAIL
JACK RAFTER TO HIP	(3) 10d COMMON (4) 3"x0.131" NAIL (2) 16d COMMON (3) 3"x0.131" NAIL	TOENAIL FACE NAIL
ROOF RAFTER TO 3-BY RIDGE BEAM	(2) 10d COMMON (3) 3"x0.131" NAIL (2) 16d COMMON (3) 3"x0.131" NAIL	TOENAIL FACE NAIL
JOIST TO BAND JOIST	(3) 16d COMMON (5) 3"x0.131" NAIL	FACE NAIL
LEDGER STRIP	(3) 16d COMMON (4) 3"x0.131" NAIL	FACE NAIL
WOOD STRUCTURAL PANELS: SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING)	1/2" AND LESS: 8d COMMON 2 3/8"x0.131" NAIL 19/32" TO 3/4": 8d OR 10d COMMON 3"x0.131" NAIL 7/8" TO 1": 10d COMMON	FACE NAILS SPACED AT 6" O.C. EDGES, 12" O.C. INTER. SUPPORTS. FOR NAILING OF WOOD STRUCTURAL PANEL DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING.

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STRUCTURAL NOTES

GENERAL

1 THE SPECIAL INSPECTOR SHALL:

a. BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

b. REVIEW MATERIALS AND WORK FOR GENERAL COMPLIANCE WITH IBC REFERENCES AND REFERENCED STANDARDS.

c. KEEP RECORDS OF INSPECTIONS.

d. FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AT THE FREQUENCY INDICATED.

e. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS.

f. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

g. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF WORK.

h. SUBMIT A FINAL REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS.

2 ALL IBC REFERENCES ARE TO 2018 INTERNATIONAL BUILDING CODE.

3 THE CONTRACTOR SHALL PROVIDE TIMELY NOTICE TO THE SPECIAL INSPECTOR AND SUFFICIENT TIME FOR THE INSPECTOR TO PERFORM THEIR INSPECTION.

4 SPECIAL INSPECTIONS OF THE FOLLOWING ITEMS ARE NOT WITHIN THE SCOPE OF THE STRUCTURAL DRAWINGS. CONTACT THE ARCHITECT OR DESIGN PROFESSIONALS WITH THESE RESPONSIBILITES FOR SPECIAL INSPECTIONS REQUIRED FOR THE FOLLOWING ITEMS:

a. IBC 1705.13 – SPRAY FIRE-RESISTANT MATERIALS
b. IBC 1705.14 – MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS
c. IBC 1705.15 – EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)
d. IBC 1705.16 – FIRE-RESISTANT PENETRATIONS AND JOINTS
e. IBC 1705.17 – SMOKE CONTROL

CAST-IN-PLACE CONCRETE (IBC 1705.3)

	ITEM		CONTINUOUS	PERIODIC	N/A	ACI 318-14 REFERENCE
1	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.			X		ACI 318: CH 20, 25.2, 25.3, 26.6.1-26.6.3
2	REINFORCING BAR WELDING:	VERIFY WELDABILITY IF REINFORCING BARS OTHER THAN ASTM A706			X	AWS D1.4 ACI 318; 26.6.4
		INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"			X	
		INSPECT ALL OTHER WELDS			X	
3	INSPECT ANCHORS CAST IN CONCRETE.			X		ACI 318: 17.8.1
4	INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:	ADHESIVE ANCHORS	X			ACI 318: 17.8.2.4
		MECHANICAL ANCHORS		X		ACI 318: 17.8.2
5	VERIFY USE OF REQUIRED DESIGN MIX.			X		ACI 318: CH. 19, 26.4.3, 26.4.4
6	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.		X			ASTM C172 ASTM C31 ACI 318: 26.5, 26.12
7	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.				X	ACI 318: 26.5
8	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.				X	ACI 318: 26.5.3 - 26.5.5
9	INSPECT PRESTRESSED CONCRETE FOR:	APPLICATION OF PRESTRESSING FORCES			X	ACI 318: 26.10
		GROUTING OF BONDED PRESTRESSING TENDONS			X	
10	INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.				X	ACI 318: 26.9
11	VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.				X	ACI 318: 26.11.2
12	INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.				X	ACI 318: 26.11.1.2 (b)

WOOD (IBC 1705.5)

	ITEM		CONTINUOUS	PERIODIC	N/A
1	FABRICATOR CERTIFICATION	INSPECT SHOP FABRICATION AND QUALITY PROCEDURES OF PREFABRICATED WOOD STRUCTURAL ELEMENTS			X
2	DIAPHRAGMS	VERIFY GRADE AND THICKNESS OF WOOD STRUCTURAL PANEL SHEATHING COMPLY WITH CONSTRUCTION DOCUMENTS.		X	
		VERIFY NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES, NAIL/STAPLE DIAMETER AND LENGTH, NUMBER OF FASTENER LINES AND THAT THE SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS AGREES WITH CONSTRUCTION DOCUMENTS.		X	
3	WOOD TRUSS	FOR METAL-PLATE-CONNECTED WOOD TRUSSES VERIFY AS FOLLOWS: • PERMANENT RESTRAINT / BRACING FOR TRUSSES WITH AN OVERALL DEPTH OF 60" OR GREATER • TEMPORARY RESTRAINT / BRACING FOR TRUSSES WITH A CLEAR SPAN OF 60 FEET OR GREATER			X

SOILS (IBC 1705.6)

	ITEM	CONTINUOUS	PERIODIC	N/A
1	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X	
2	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X	
3	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIAL		X	
4	VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKENESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL		X	
5	PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X	

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PRICING SET NOT FOR CONSTRUCTION
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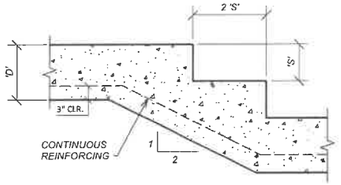
NORDIC Waste Management
NORWOOD, MINNESOTA

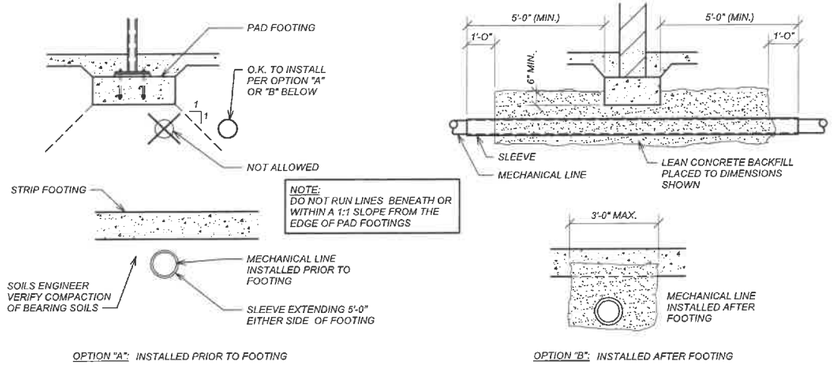
Revisions

Drawn
MLK
Checked
JRW
Date
6-26-24
Job Number
2417
Sheet
S3



1 S4 STEPPED FOOTING DETAIL

NO SCALE



2 S4 CONTRACTOR'S OPTIONS AT MECHANICAL LINES BENEATH FOOTING

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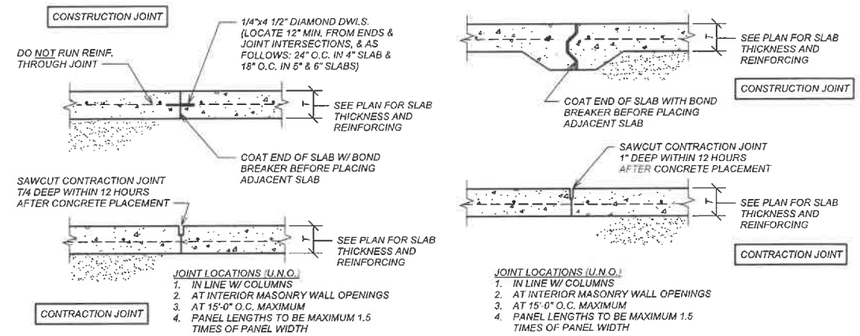

3 S4 CONSTR. / CONTRACTION JOINT DETAIL

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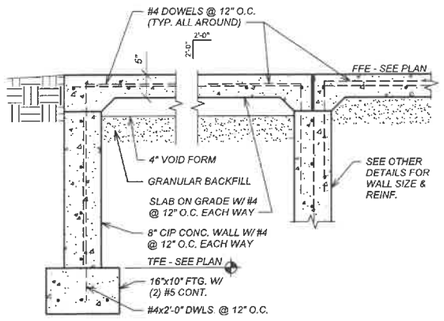
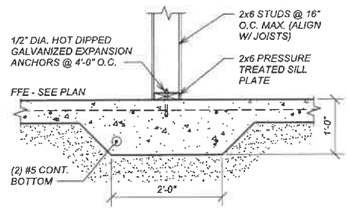


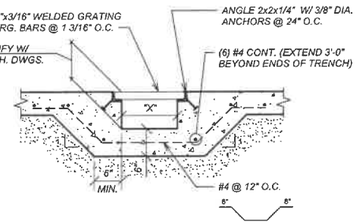
4 S4 TYPICAL STOOP DETAIL

3/4" = 1'-0"



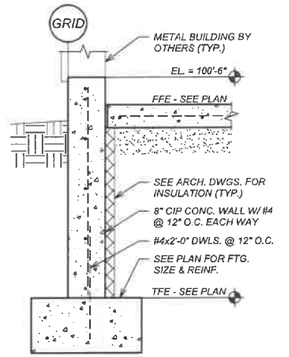
5 S4 SECTION

3/4" = 1'-0"



6 S4 SECTION

3/4" = 1'-0"



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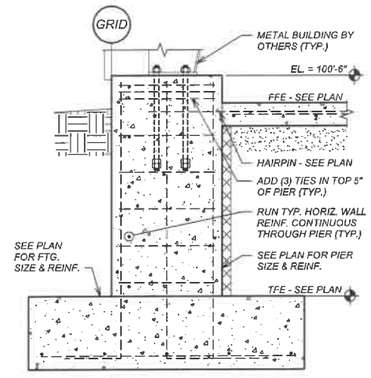
3/4" = 1'-0"



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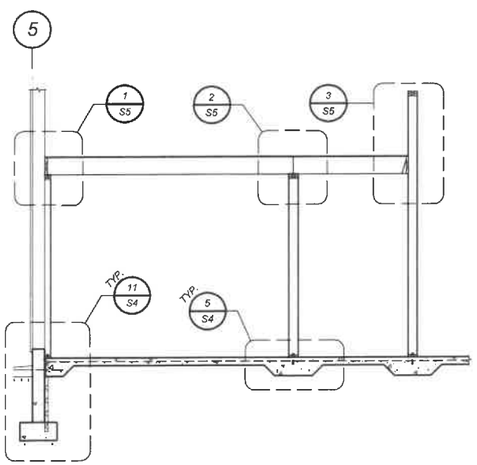
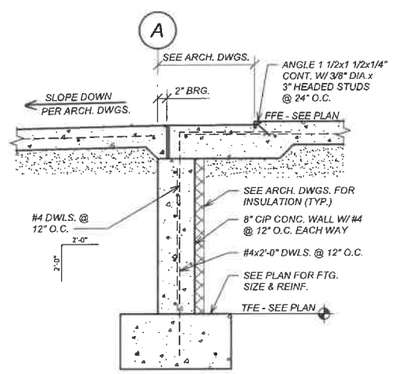


9 S4 SECTION

1/4" = 1'-0"



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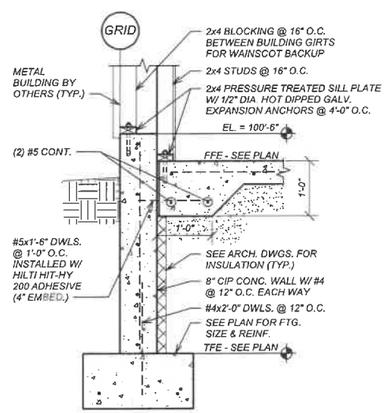
3/4" = 1'-0"



11 S4 SECTION

3/4" = 1'-0"

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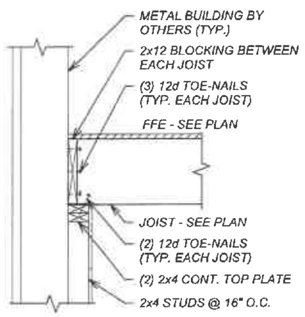
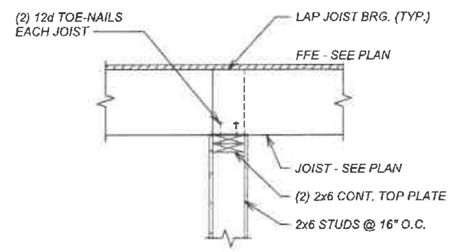
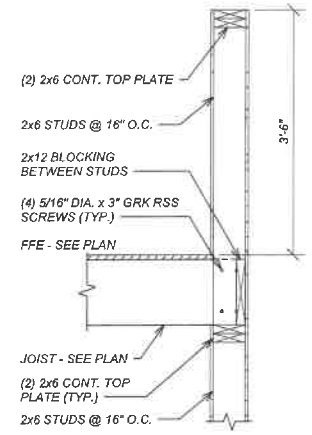


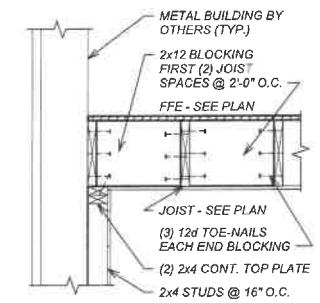
1 / S5 SECTION
3/4" = 1'-0"
0 1' 2' 3'



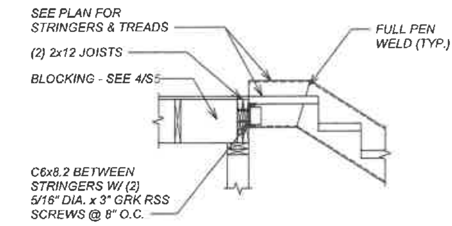
2 / S5 SECTION
3/4" = 1'-0"
0 1' 2' 3'



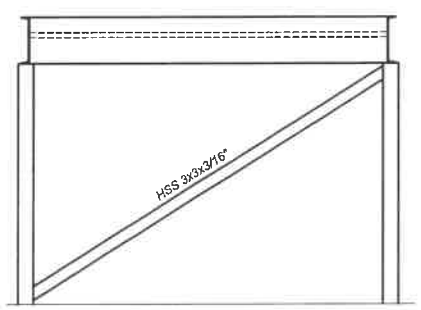
3 / S5 SECTION
3/4" = 1'-0"
0 1' 2' 3'



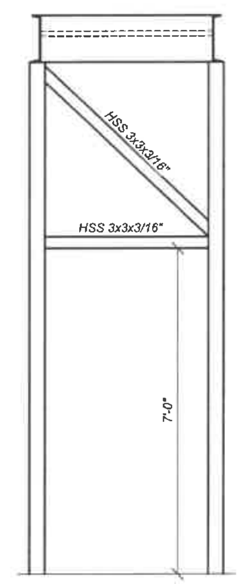
4 / S5 SECTION
3/4" = 1'-0"
0 1' 2' 3'



5 / S5 ELEVATION
1/2" = 1'-0"
0 1'-6" 3' 4'-6"



6 / S5 ELEVATION
1/2" = 1'-0"
0 1'-6" 3' 4'-6"



7 / S5 ELEVATION
1/2" = 1'-0"
0 1'-6" 3' 4'-6"

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S5

A NEW OFFICE, SHOP & WAREHOUSE FOR:

NORDIC Waste Management

NORWOOD YOUNG AMERICA, MINNESOTA

GENERAL CONSTRUCTION NOTES

1. WHERE NON BEARING WALLS EXTEND UP TO ROOF STRUCTURE ABOVE PROVIDE SLIP TRACK.
2. NOTES APPEAR ON VARIOUS DRAWINGS FOR DIFFERENT SYSTEMS AND MATERIALS. REVIEW ALL SHEETS AND APPLY NOTES TO RELATED BUILDING COMPONENTS.
3. DO NOT SCALE THE DRAWINGS.
4. WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.
5. EFFECTIVELY ISOLATE DISSIMILAR METALS TO AVOID MOLECULAR BREAKDOWN.
6. OPENINGS IN RATED WALL, FLOOR, CEILING AND ROOF ASSEMBLIES SHALL BE SEALED WITH PENETRATION SEALANT SYSTEMS MEETING OR EXCEEDING THE REQUIRED FIRE RESISTIVE RATINGS.
7. MAINTAIN THE FIRE RATING OF CONSTRUCTION AROUND CABINETS, PANELS, AND BOXES RECESSED IN FIRE RATED WALL, FLOOR, AND CEILING ASSEMBLIES.
8. FULLY LAY OUT WALL, AND OPENING PLACEMENT IN AN AREA PRIOR TO START OF PARTITION CONSTRUCTION. VERIFY THAT DIMENSIONS ARE CONSISTENT WITH REQUIREMENTS INDICATED IN THE DOCUMENTS.
9. PARTITIONS LOCATED BY DIMENSION STRING ARE DIMENSIONED TO THE FINISHED FACE OF THE WALL OR THE CENTERLINE OF THE PARTITION UNLESS NOTED OTHERWISE.
10. MAINTAIN DIMENSIONS NOTED AS "MINIMUM" OR "CLEAR".
11. AT ALL NEW DOOR OPENINGS, THE HINGE SIDE OF DOOR JAMBS SHALL BE SPACED 4" FROM THE ADJACENT WALL.
12. FIELD MEASURE AND GUARANTEE DIMENSIONS FOR OWNER-PROVIDED EQUIPMENT AND FURNISHINGS. CONFIRM EQUIPMENT DIMENSIONS WITH OWNER PRIOR TO FABRICATION/CONSTRUCTION.
13. PROVIDE STIFFENERS, BRACING, BACKING PLATES AND BLOCKING REQUIRED FOR SECURE INSTALLATION OF DOORS AND DOOR HARDWARE INCLUDING WALL-MOUNTED DOOR STOPS, HANDRAILS, WALL-MOUNTED SHELVES, OPERABLE PARTITIONS, MISCELLANEOUS EQUIPMENT, AND SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.
14. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE TOPPING UNLESS OTHERWISE NOTED.
15. CAULK WALL OUTLETS IN GYP. BOARD WALLS WITH AN ACOUSTIC SEALANT.
16. DO NOT INSTALL OUTLET OR J-BOXES BACK-TO-BACK ON OPPOSITE SIDES OF GYPSUM BOARD WALLS. BOXES MUST BE SEPARATED BY A STUD.
17. FLOORING TRANSITIONS TO OCCUR AT CENTERLINE OF DOORS IN CLOSED POSITION.
18. CONTRACTOR TO PATCH/REPAIR ALL ROOF PENETRATIONS TO EXTERIOR. PENETRATION DETAIL TO BE DESIGN/BUILD BY CONTRACTOR PER MANUFACTURERS RECOMMENDATIONS; COORDINATE WITH MECHANICAL.

CODE REVIEW

BASED ON: 2020 MINNESOTA STATE BUILDING CODE (2018 IBC)
2020 MINNESOTA ACCESSIBILITY CODE
2024 MINNESOTA ENERGY CODE WITH ANSI/ASHRAE/IES STANDARD 90.1-2019

OCCUPANCY TYPE: S-1 – SHOP
B – OFFICE

CONSTRUCTION TYPE: IIIB; THE EXTERIOR WALLS ARE NON-COMBUSTIBLE

SPRINKLED: YES

BUILDING AREA : 7,200 SF (FOOTPRINT)
505.2: MEZZANINE DOES NOT CONTRIBUTE TO THE BUILDING AREA OR NUMBER OF STORIES

TABULAR ALLOWABLE AREAS: B (S1): 76,000 S.F.
S-1 (S1): 70,000 S.F.

507.4 SPRINKLED S & B OCCUPANCY UNLIMITED
508.2 NO SEPARATION REQUIRED BETWEEN S-1 & B OCCUPANCY

GENERAL BUILDING HEIGHT: ALLOWABLE: 75'-0", 3 STORY
ACTUAL: 26'-0"; 1 STORY

OCCUPANT LOAD: (INTERIOR FLOOR AREAS FOR OCCUPANCY CALCULATIONS)

BUSINESS (B) OFFICE:	1,099 SF @ 150 SF/OCC =	7.3 OCCS
CONFERENCE ROOM (B):	186 SF @ 15 SF/OCC =	12.4 OCCS
BREAKROOM (B):	147 SF @ 15 SF/OCC =	9.8 OCCS
MECHANICAL ROOM (M):	85 SF @ 300 SF/OCC =	0.3 OCCS
SHOP (S1):	3,321 SF @ 200 SF/OCC =	16.6 OCCS
WAREHOUSE (S2):	1,908 SF @ 500 SF/OCC =	3.8 OCCS
STORAGE MEZZANINE (S2):	1,655 SF @ 300 SF/OCC =	5.5 OCCS
TOTAL OCCUPANCY:		55.7 OCCS = 56 OCCS

EXITING: 56 OCCS. @ .2" / OCC = 11.2" REQUIRED, 216" PROVIDED, O.K.
EXITS PROVIDED: 6

1017.2: MAXIMUM EXIT ACCESS TRAVEL DISTANCE PER: B: 300'
S-1: 250'

ACTUAL MAXIMUM TRAVEL DISTANCE: OFFICE: 61'-0"
SHOP/WHSE: 70'-6"
STORAGE MEZZANINE: 103'-0"

T1020.1 CORRIDOR PROTECTION NOT REQUIRED.

PLUMBING FIXTURE REQUIREMENTS:

OFFICE (B): 7.3 OCC + 12.4 OCC + 9.8 OCC + 0.3 = 29.8 OCCS / 2 = 14.9 MALE & FEMALE OCCS
WC: 1:25 FIRST 50 OCCS; 14.9 OCCS / 25 = 0.6 WC REQUIRED MALE & FEMALE
LAV: 1:40 FIRST 80 OCCS; 14.9 OCCS / 40 = 0.4 LAV REQUIRED MALE & FEMALE

SHOP/WHSE (S1 & S2): 16.6 OCCS + 3.8 OCCS + 5.5 OCCS = 25.9 OCCS / 2 = 13.0 OCCS MALE & FEMALE
WC: 1:100; 13.0 / 100 = 0.1 WC REQUIRED MALE & FEMALE
LAV: 1:100; 13.0 / 100 = 0.1 WC REQUIRED MALE & FEMALE

WC REQUIRED: 0.6 + 0.1 = 0.7 = 1 WC REQUIRED MALE & FEMALE
WC PROVIDED: 1 WC + 1 URINAL PROVIDED MALE -- OK
1 WC PROVIDED FEMALE -- OK

LAVS REQUIRED: 0.4 + 0.1 = 0.5 = 1 LAV REQUIRED MALE & FEMALE
LAVS PROVIDED: 1 LAV PROVIDED MALE -- OK
1 LAV PROVIDED FEMALE -- OK

(2) UTILITY SINKS PROVIDED
HI-LO DRINKING FOUNTAIN PROVIDED

PROJECT DIRECTORY

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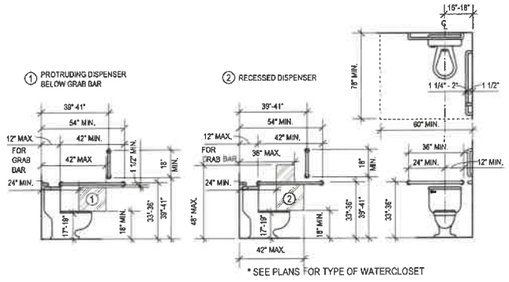
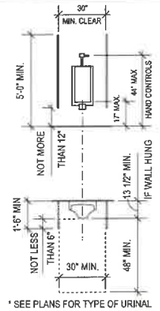
INDEX OF DRAWINGS

ACCESSIBLITY STANDARDS



WATER CLOSETS (1)



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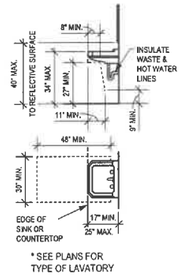

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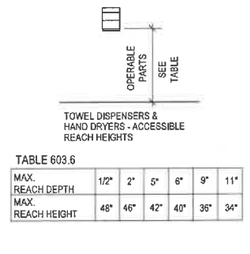
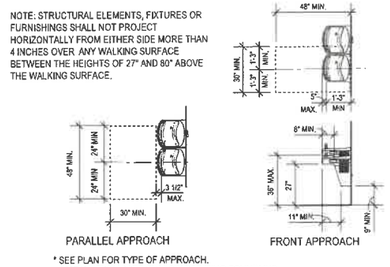


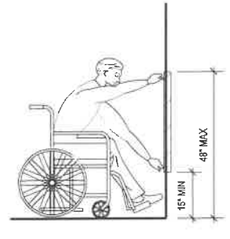
TABLE 603.6

MAX. REACH DEPTH	1/2"	2"	5"	6"	9"	11"
MAX. REACH HEIGHT	48"	46"	42"	40"	36"	34"

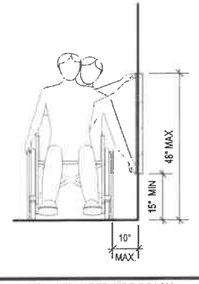
TOWEL DISPENSERS & HAND DRYERS (4)



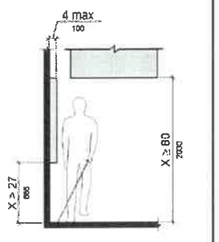
DRINKING FOUNTAIN (5)



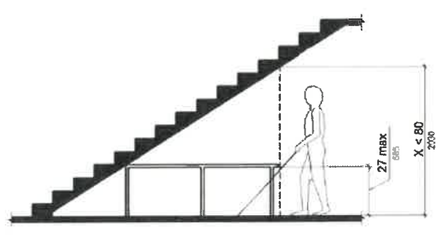
UNOBSTRUCTED FRONT REACH (6)



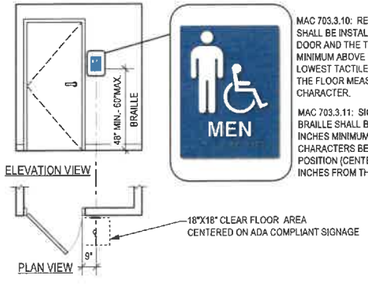
UNOBSTRUCTED SIDE REACH (7)



LIMITS OF PROTRUDING OBJECTS (307.2) (8)



VERTICAL CLEARANCE (307.4) (9)



MAC 703.3.10: RESTROOM AND OTHER IDENTIFICATION SIGNS SHALL BE INSTALLED ADJACENT TO THE LATCH SIDE OF THE DOOR AND THE TACTILE CHARACTERS SHALL BE 48 INCHES MINIMUM ABOVE THE FLOOR MEASURED FROM THE BASE OF THE LOWEST TACTILE CHARACTER AND 60 INCHES MAXIMUM ABOVE THE FLOOR MEASURED TO THE BASE OF THE HIGHEST TACTILE CHARACTER.

MAC 703.3.11: SIGNS CONTAINING RAISED CHARACTERS AND BRAILLE SHALL BE LOCATED SO THAT A CLEAR FLOOR AREA 18 INCHES MINIMUM BY 18 INCHES MINIMUM, CENTERED RAISED CHARACTERS BEYOND THE ARC OF THE DOOR IN THE CLOSED POSITION (CENTER OF RAISED CHARACTERS ON SIGN SHALL BE 9 INCHES FROM THE INTERIOR DOOR FRAME

TYPICAL SIGNAGE @ RESTROOMS (10)

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6-11-24

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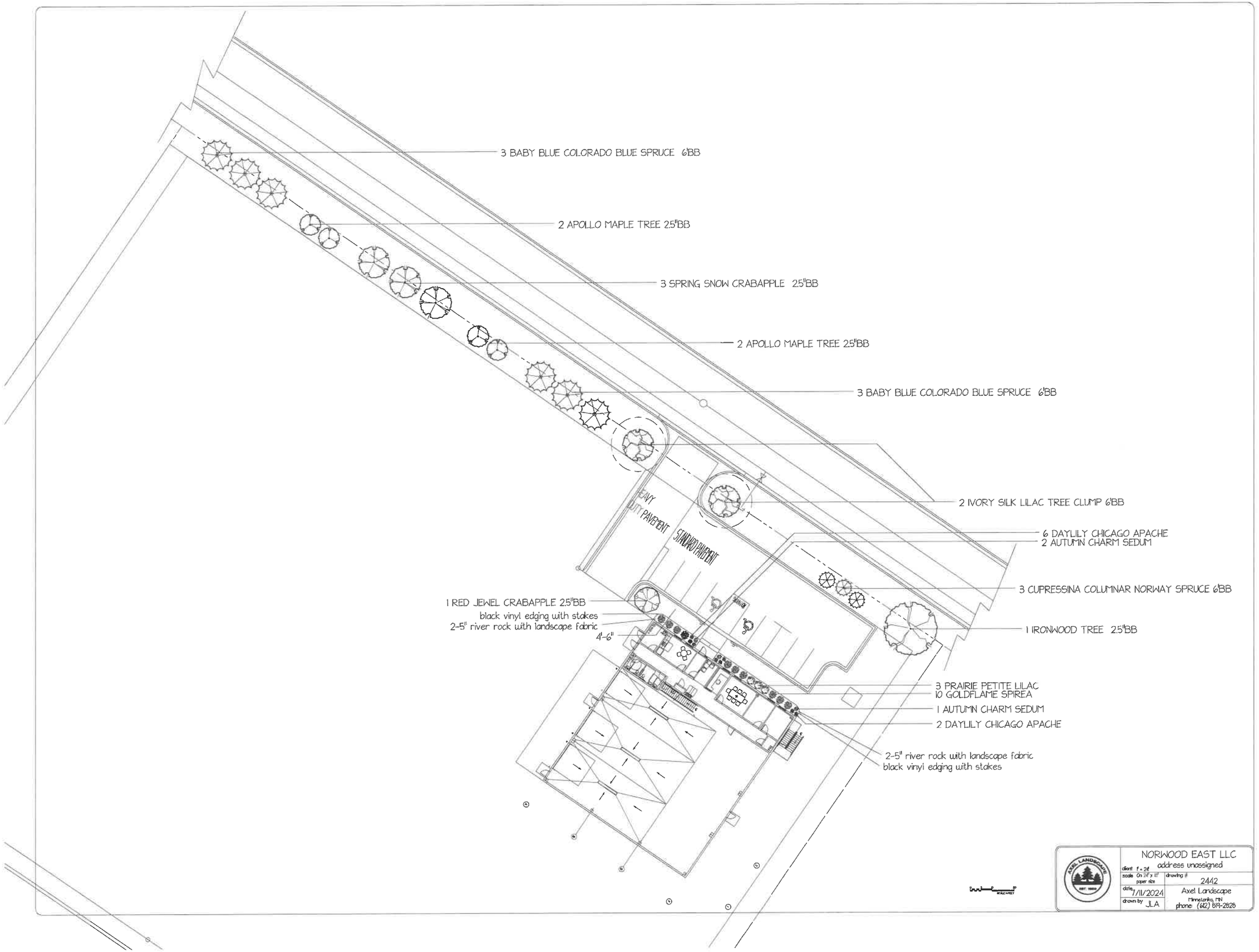
Revisions
Drawn: C.A.W.
Checked: L.M.
Date: 6-11-2024
Job Number: 2417
Sheet: T1



NORWOOD EAST LLC
address unassigned

client	
scale 1" = 24' on 24" x 18" paper size	drawing # 2442
date 7/11/2024	Axel Landscape
drawn by JLA	Minnetonka, MN phone (612) 814-2828


1 RED JEWEL CRABAPPLE 2.5" BB
6 DAYLILY CHICAGO APACHE
2 AUTUMN CHARM SEDUM
NO PARKING
3 CUPRESSINA COLUMNAR NORWAY SPRUCE
3 PRAIRIE PETITE LILAC
10 GOLDFLAME SPIREA
2-5" river rock with landscape fabric
black vinyl edging with stakes
2 DAYLILY CHICAGO APACHE
1 AUTUMN CHARM SEDUM
2-5" river rock with landscape fabric
black vinyl edging with stakes
0 5 10 20
SCALE IN FEET
AXEL LANDSCAPE EST. 1988
NORWOOD EAST LLC
address unassigned
client
scale 1" = 8'
drawing # 2442 - A3
date 7/11/2024
drawn by JLA
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Minnetonka, MN
phone: (612) 819-2828