MINNEHAHA CREEK WATERSHED DISTRICT

QUALITY OF WATER QUALITY OF LIFE

Permit Report

To: MCWD Board of Managers

From: Will Roach, Permitting Assistant

Date: 3/23/2022

Re: MCWD Permit Application #21-684, 4901-4921 France Ave S, Minneapolis.

Recommendation:

Approval of the permit with the listed conditions to be fulfilled before permit issuance:

1) Reimbursement of District mailing and Engineering fees
2) Execution of maintenance declaration for proposed basin and, after District approval as to form, recording in Hennepin County property records.

Introduction:

JMS Enterprises DBA as France 50 LLC has applied for a Minnehaha Creek Watershed District (MCWD) permit for the construction of a mixed-use commercial/residential building at 4901-4921 France Ave South, Minneapolis.

The project triggers the MCWD's Erosion Control and Stormwater Management rules and proposes the installation of a dry basin as a storm water Best Management Practice (BMP).

The project meets the District's rules as listed above. This permit is before the Board of Managers at the request of residents who have cited the following concerns with the project.

1) The residents have expressed a concern about a reduction in green space. While loss of yards is an aspect of the proposed work the District rules do not impose hard cover limits. The applicants have supplied a landscaping plan that includes a mix of coniferous and deciduous trees and a variety of perennial flowers and shrubs. The proposed structure also incorporates a green roof that utilizes a sedum mix.
2) Height of the proposed building. Structural height is outside of the MCWD's authority and is regulated by the City of Minneapolis. City staff issued a CUP to allow for the proposed height and the design and purpose of the project aligned with 2040 plan policies.

3) Concerns that stormwater management practices that may be required under District's rules won't be followed through on. As noted to residents a properly designed stormwater management practice is required by the District's rule. As a standard condition of District approval, staff proposes that the permittee execute and file for recording a declaration for the owner's perpetual maintenance of the stormwater basin. District staff will conduct routine inspections to ensure the BMP is established and functional.
4) 4) Impacts to wetlands within proximity to work site caused by Stormwater runoff. Wetland is located off site, 1 block to the North of the work area. Drainage area around France Ave S has existing stormsewer infrastructure and under proposed conditions rates to this area would be reduced.

Background:

The Applicant is proposing to construct a new mixed-use building that will consist of commercial space on the street level, multi-family residential space on the floors above the commercial space and underground parking.

The Project area consists of residential parcels located along France Ave South, 4901-4921, in the City of Minneapolis. This area is adjacent to the France Ave S and West 50th street area of Edina. These several lots have a total area size of 0.72 acres with some additional disturbance due to re-construction of city sidewalks, the total area of disturbance is 0.98 acres. Under the proposed conditions the project would result in an increase of impervious surface across the parcels from 14,668 square feet to 26,581 square feet.

As this project represents an increase in impervious surface across a work area under 1 acre in size a stormwater Best Management Practice (BMP) is required to be installed on site, the proposed BMP for this site is a dry basin/filtration basin. The proposed basin will be located directly adjacent to the main structure and will be located along the edge of the site that faces 49th St W. A green roof is also proposed as part of the work to capture and direct runoff to the proposed basin via downspouts. As the green roof is not serving as the proposed BMP to meet District rules the green roof plan set was not reviewed and is not required for compliance with District requirements.

This area was previously zoned by the City of Minneapolis as R2B, two family district (low density), with the lots occupied by single family and two family (duplex) residential structures. Through the inclusion of the commercial space on the ground floor of the proposed structure the applicant petitioned the City to rezone the site as OR2, High Density Office Residence. As this site is located within the BFC4 corridor the general maximum allowed height of a structure is four stories or 56' whichever is less, however as this parcel is also located within the shoreland overlay district maximum would be restricted to two-and a half stories or 35', whichever is less. A conditional use permit (CUP) was also requested by the applicant to allow for the maximum height to be increased from the maximum allowed by the BFC4 overlay district to five stories and not exceeding 70'. The City of Minneapolis approved this rezoning and CUP due to amenities provided by the mixed-use building and the ecological amenities associated with the green roof and climate change resilient landscaping. The City approved the project based on the benefits of said proposed amenities, the proposed building use and zoning classification were consistent with general area along France Avenue South, and that the intended use was in accordance with the policies of the Minneapolis 2040 Plan.

The project was first submitted on December 6th, 2021, and an incomplete notice was sent on December 20th. After re-submittals were provided on January 10th and 27th the application was deemed complete by staff and the District engineer. The 14-day public notice began on February 9th, 2022 and ended on February 23rd, 2022, during this comment period several residents requested that this project be brought before the Board of Managers for consideration. During a conference call on March 1st, residents cited several concerns regarding this project, among them a general concern over the height of the proposed structure, reduction in green space, stormwater impacts to adjacent properties, and lastly concerns that the BMPs would not be installed. District staff outlined to the resident's that the scope of District authority is limited to which rules the project triggers, those being Erosion Control and Stormwater Management, and that zoning and structural height are outside the District's authority. During this call staff also went over the site inspection process and that the applicants would be required to have a maintenance declaration filed with Hennepin County for the proposed basin.

District Rule Analysis

Erosion Control

The District's Erosion Control Rule is applicable to projects proposing at least 5,000 square feet of land disturbance or 50 cubic yards of fill, grading, excavation, or stockpiling. The applicant is proposing 40,998 square feet of land disturbance and 17,800 cubic yards of excavation. As a result, this project is subject to review under the District's Erosion Control Rule.

The applicants have provided a Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control plan to meet District requirements. Silt fence and biologs will be established around all disturbed areas to prevent the transportation of sediment to adjacent sites and stormwater inlet protection is to be provided to prevent the discharge of sediment and other associated pollutants to the existing storm sewer infrastructure, and a rock construction entrance is provided to prevent sediment tracking on public roads. Sod and erosion control blankets will be used to stabilize portions of the property that are to be revegetated. The landscaping plan provided by the applicants also includes a variety of coniferous and deciduous trees, shrubs, and perennial flowers.

The Applicants have provided a SWPPP and erosion control plan that would prevent the transportation of sediment from the site and conforms to all BMP maintenance and inspection requirements. As a result, the proposed project meets the criteria of this rule.

Stormwater Management

The District's Stormwater Management Rule is applicable for any project that creates new or replaces existing impervious surface or alters the contours of a parcel of land in a way that affects the direction, peak rate, volume, or water quality of runoff.

As described in the introduction and background sections, the project proposes to construct a new mixed-use building along France Ave S in Minneapolis. Since this project area is under an acre in size and proposes an increase in impervious surfaces the applicants are required to provide a stormwater BMP. As the site is under an acre in size, neither rate control, nor a specific scope of volume control or phosphorus control treatment is required. However, design and installation of the BMP must be in

accordance with the generally accepted design practices and guidance contained within the Minnesota Pollution Control Agency's (MPCA) Stormwater Manual. This project proposes a dry basin/filtration that will receive stormwater runoff from the roof of the proposed building, which represents the largest area of impervious on the parcel, through roof drains and downspouts.

As the proposed BMP has been determined to meet the requirements of the MPCA stormwater manual and the 2' of freeboard requirement between the High-Water Level (HWL) of the BMP and the Low Floor Opening (LFO) of the proposed structure is provided, the project meets the criteria of the rule.

Summary & Recommendation

JMS Enterprises DBA as France 50 LLC is proposing a new mixed-use building consisting of both residential and commercial space. As the scope of work consists of redeveloping a parcel that is under one acre in size and would result in an increase in impervious surface the applicant is required to install a BMP that follows the MPCA's design standards. However, due to the size of the site, neither rate control, nor a specific scope of volume or phosphorus volume control are required. The applicants are proposing a dry basin/filtration basin to be installed that will receive stormwater runoff captured from the roof of the proposed structure. Staff and the District engineer have determined that the proposed BMP meets the MPCA design requirements, and also meets the District's freeboard requirement from the HWL of the basin and the LFO of the proposed building. Coupled with the proposed erosion control plan the applicants are meeting the requirements of both the Stormwater Management rule and the Erosion Control rule, and as such this project has been deemed complete by staff and the District engineer.

As the applicants have met the requirements of the District's Stormwater Management and Erosion Control rules, it is the recommendation by staff that the project be approved with the conditions of reimbursement of district fees, the execution of a maintenance declaration for the proposed filtration basin.

Attachments:

1) Plan Set

2) Stormwater Report

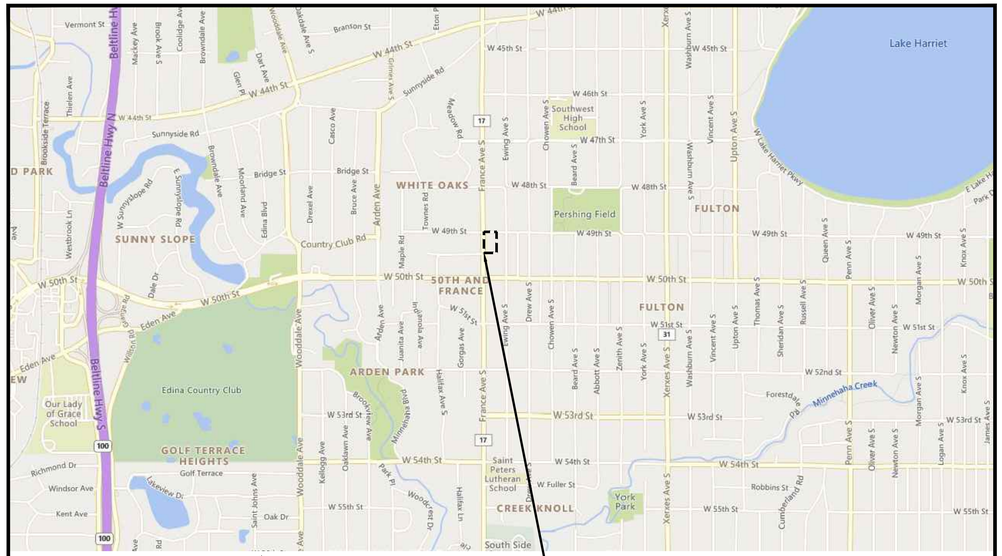
3) Stantec Memo

4) Requests for Board consideration

FRANCE 50

MINNEAPOLIS, MINNESOTA

ISSUED FOR: PDR RESUBMITTAL



ARCHITECT:

MOMENTUM DESIGN GROUP
755 PRIOR AVE N
ST PAUL, MN 55104
CONTACT: CRAIG HARTMAN
651-253-2981

DEVELOPER / PROPERTY OWNER:

FRANCE 50 LLC
6035 CULLIGAN WAY
MINNETONKA, MN 55345
CONTACT:
952-949-3630

ENGINEER / LANDSCAPE ARCHITECT:

CIVIL SITE GROUP
4931 W 35TH STREET
SUITE 200
ST LOUIS PARK, MN 55416
CONTACT: MATT PAVEK
612-615-0060

SURVEYOR:

CIVIL SITE GROUP
4931 W 35TH STREET
SUITE 200
ST LOUIS PARK, MN 55416
CONTACT: RORY SYNSTELIEN
612-615-0060

GEOTECHNICAL ENGINEER:

TBD

ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

811 Know what's **below.** **Call** before you dig.

SHEET INDEX

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT
FRANCE 50
4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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.

Matthew R. Pavek
DATE 03/21/22 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
08/20/2021	LUA/PDR SUBMITTAL
09/09/21	LUA RE-SUBMITTAL
10/22/21	LUA RE SUBMITTAL
12/03/2021	PDR RESUBMITTAL
01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

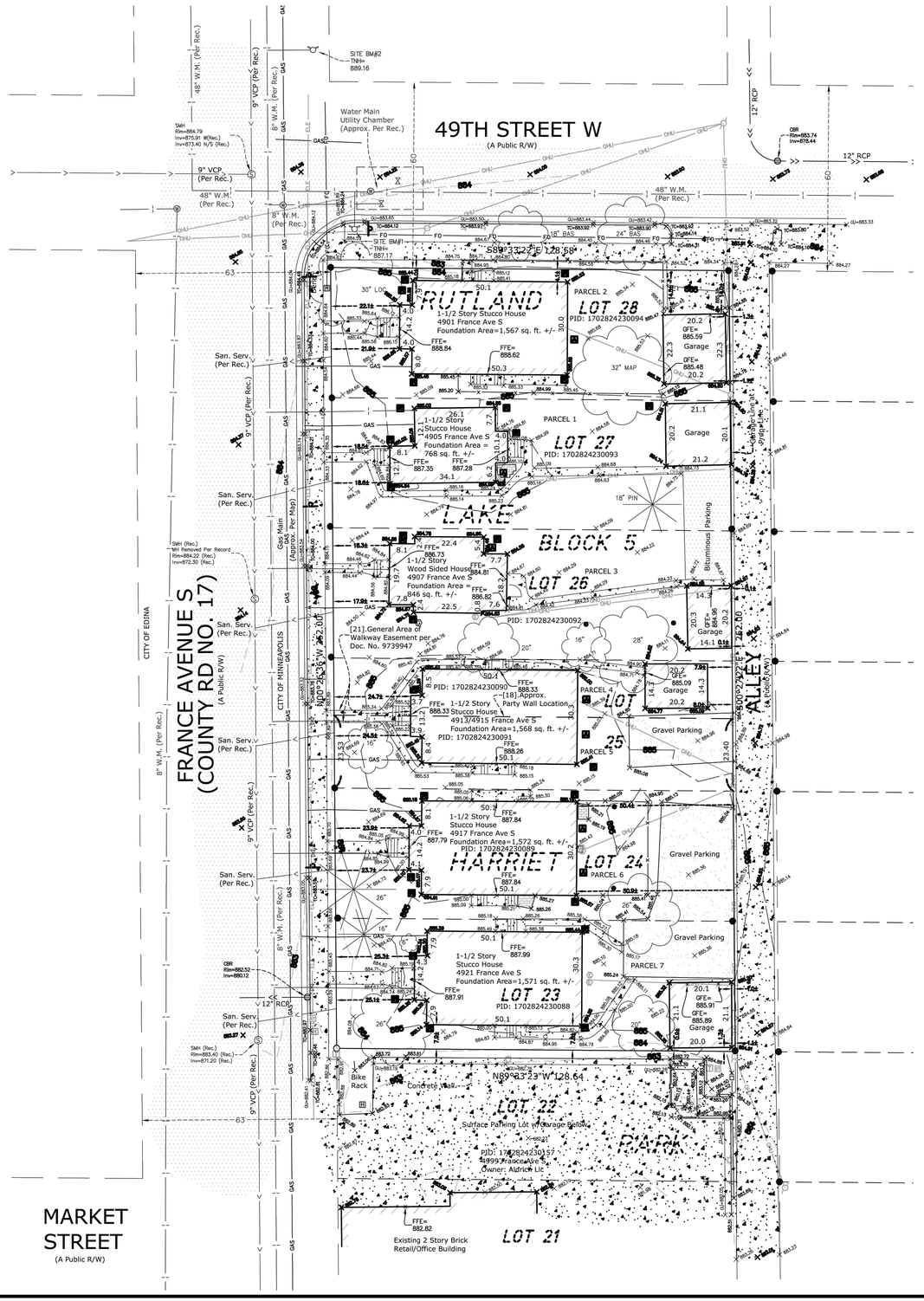
DRAWN BY:BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

TITLE SHEET

C0.0



DESCRIPTION OF PROPERTY SURVEYED

Title Commitment HB-43647

Parcel 1:

Lot Twenty-seven (27), Block Five (5), Rutland Lake Harriet Park, according to the recorded plat thereof, Hennepin County, Minnesota.

Abstract Property.

And the following 4 Collateral Parcels:

Parcel 2:

Lot 28, Block 5, "Rutland Lake Harriet Park", Hennepin County, Minnesota.

Torrens Property.

Torrens Certificate No. 1377761.

Parcel 3:

Lot 26, Block 5, Rutland Lake Harriet Park, Hennepin County, Minnesota.

Abstract Property.

Parcel 4:

That part of Lot 25, Block 5, Rutland Lake Harriet Park Addition, Hennepin County, Minnesota, lying northerly of a line drawn from a point on the west line of said Lot 25 distant 23.53 feet northerly from the southwest corner of said Lot 25 to a point on the east line of said Lot 25 distant 23.40 feet north of the southeast corner of said Lot 25 and said line there terminating.

Together with and subject to an easement for ingress and egress over and upon the walkway from the westerly boundary of said Lot 25 to the front or westerly edge of the double bungalow thereon and over and upon the common front entrance to said building.

Abstract Property.

Parcel 5:

That part of Lot 25, Block 5, Rutland Lake Harriet Park Addition lying southerly of a line drawn from a point on the west line of said Lot 25 distant 23.53 feet northerly from the southwest corner of said Lot 25 to a point on the east line of said Lot 25 distant 23.40 feet north of the southeast corner of said Lot 25 and said line there terminating, together with and subject to an easement for ingress and egress over and upon the walkway from the westerly boundary line of said Lot 25 to the front or westerly edge of the double bungalow thereon and over and upon the common front entrance to said building.

Abstract Property.

Title Commitment HB-44227

Parcel 6:

Lot 24, Block 5, "Rutland Lake Harriet Park", Hennepin County, Minnesota

Torrens Property

Torrens Certificate No. 1491917

Title Commitment HB-44228

Parcel 7:

Lot 23, Block 5, "Rutland Lake Harriet Park", Hennepin County, Minnesota

Torrens Property

Torrens Certificate No. 1507622

ALTA/NSPS Land Title Survey Notes

(numbered per Table A)

1. Bearings are based on the Hennepin County Coordinate System (1986 Adjustment).
2. Site Address: 4901, 4905, 4907, 4913, 4915, 4917, & 4921 France Avenue South, Minneapolis, Minnesota 55410.
3. This property is contained in Zone X (area determined to be outside the 0.2% annual chance floodplain) per Flood Insurance Rate Map, Community Panel No. 27053C0362F, effective date of November 4, 2016.
4. The Gross land area is 32,406 +/- square feet or 0.744 +/- acres.
5. Elevations are based on the NGVD 29 Datum. Site Benchmarks are as follows:
   BM#1- Top nut of fire hydrant located at the southeast quadrant of the intersection of France Avenue South and 49th Street West. Elevation = 887.17.
   BM#2- Top nut of fire hydrant located at the northeast quadrant of the intersection of France Avenue South and 49th Street West. Elevation = 889.16.
6. The current Zoning for the subject property was not provided.
   Please note that the general restrictions for the subject property may have been amended through a city process. We could be unaware of such amendments if they are not in a recorded document provided to us. We recommend that a zoning letter be obtained from the Zoning Administrator for the current restrictions for this site.
9. There were no parking stripes observed on subject property while conducting the fieldwork.

10(a). Approximate party wall location shown hereon in the middle of the house (4913/4915 France Avenue South) located on Lot 25, Block 5, Rutland Lake Harriet Park. See item b. 18. of Survey Report (Parcels 1-5) below.

11. We have shown the location of utilities to the best of our ability based on observed evidence together with evidence from the following sources: plans obtained from utility companies, plans provided by client, markings by utility companies and other appropriate sources. We have used this information to develop a view of the underground utilities for this site. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary. Also, please note that seasonal conditions may inhibit our ability to visibly observe all the utilities located on the subject property.

13. The names of the adjoining owners of the platted lands, as shown hereon, are based on information obtained from the Hennepin County GIS Property Map.

SURVEY REPORT (Parcels 1-5)

1. This map and report was prepared with the benefit of a Commitment for Title Insurance issued by Custom Home Builders Title, LLC as agent for Stewart Title Guaranty Company, File No. HB-43647, dated July 26, 2020. We note the following with regards to Schedule B of the herein referenced Title Commitment:
   a. Item no.'s 1-14, 17, and 19 are not survey related.

   b. The following are numbered per the referenced title Commitment:
   15. Terms and conditions of Resolution 2000R-098 of the City of Minneapolis Vacating part of the alley in the block bounded by West 49th and 50th Streets, and Ewing and France Avenues South filed February 25, 2003, as Document No. 7957928. (All Parcels). Said vacation shall not affect the existing easement right and authority of NSP, US West and Paragon Cablesystems, their successors and assigns, to enter upon that portion of the afore described alley which is described in regard to each of said corporation as follow to wit: As to NSP, US. West and Paragon Cable Systems, the West 10 feet and the North 20 feet of the South 60 feet of the alley, to operate, maintain, repair, and alter, inspect or remove its above-described utility facilities. *The portion of the alley vacated in said document lies approximately 260 south of the subject property. Not shown hereon.*
   16. Property inspection indicates there are overhead power lines on subject property, rights of the utility company are specifically excluded. (Parcel 1). *Overhead utility lines are depicted hereon.*
   [18]. Terms and conditions of Party Wall Agreement, filed January 28, 1985, as Document No. 4962768. (Parcels 4 and 5). Party wall location not specifically defined. Approximate party wall location shown hereon in the middle of the house (4913/4915 France Avenue South) located on Lot 25, Block 5, Rutland Lake Harriet Park
   20. Terms and conditions of Declaration of Easements, Covenants, Conditions and Restrictions, dated January 4, 2012, filed January 13, 2012, as Document No. 9739947. (Parcels 4 and 5). *Reciprocal easements between Parcels 4 and 5 for pedestrian access and utility maintenance and common components are not specifically defined and not shown hereon.*
   [21]. Subject to and together with an easement for ingress and egress over and upon the walkway from the westerly boundary of said Lot 25 to the front or westerly edge of the double bungalow thereon and over and upon the common front entrance to said building, as further defined in Declaration filed January 13, 2012, as Document No. 9739947. (Parcels 4 and 5). *General area of easement as shown hereon at the westerly walkway on Parcels 4 and 5..*

SURVEY REPORT (Parcel 6)

1. This map and report was prepared with the benefit of a Commitment for Title Insurance issued by Custom Home Builders Title, LLC as agent for Stewart Title Guaranty Company, File No. HB-44227, dated August 19, 2020. We note the following with regards to Schedule B of the herein referenced Title Commitment:
   a. Item no.'s 1-10, and 13 are not survey related.

   b. The following are numbered per the referenced title Commitment:
   11. Property inspection indicates there are overhead power lines on subject property, rights of the utility company are specifically excluded. *Overhead utility lines are depicted hereon.*

   12. Property inspection indicates there is a fence along one or more boundary lines of the insured property. This policy does not insure that the fence is on the boundary line(s). *Fencing is depicted hereon.*

SURVEY REPORT (Parcel 7)

1. This map and report was prepared with the benefit of a Commitment for Title Insurance issued by Custom Home Builders Title, LLC as agent for Stewart Title Guaranty Company, File No. HB-43648, dated August 19, 2020. We note the following with regards to Schedule B of the herein referenced Title Commitment:
   a. Item no.'s 1-9 and 11-12 are not survey related.

   b. The following are numbered per the referenced title Commitment:
   10. Property inspection indicates there are overhead power lines on subject property, rights of the utility company are specifically excluded. *Overhead utility lines are depicted hereon.*

ALTA CERTIFICATION

To: Lynn G. Truesdell, III, and U.S. Bank National Association, Trustees of Trust U/W of Mary Bran Truesdell (Parcel 1); France 50, LLC, a Minnesota limited liability company; 49 France Holdings, LLC, a Minnesota limited liability company (Parcels 6 and 7); North American Banking Company; :

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 6, 8, 9, 10(a), 11, and 13 of Table A thereof. The field work was completed on 11-3-2020.

Dated this 20th day of November, 2020.

Rory L. Syverson — Minnesota License No. 44565
rory@civilsitegroup.com

Linetype & Symbol Legend

- FO — FIBER OPTIC
- GAS — GASMAIN
- WATERMAIN
- SANITARY SEWER
- STORM SEWER
- OHU — OVERHEAD UTILITIES
- TEL — TELEPHONE LINE
- ELE — ELECTRIC LINE
- CTV — CABLE LINE
- CHAINLINK FENCELINE
- WOODEN FENCELINE
- GUARDRAIL
- CONCRETE SURFACE
- PAVER SURFACE
- BITUMINOUS SURFACE
- GRAVEL/LANDSCAPE SURFACE
- SIGN
- UTILITY MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE
- CATCH BASIN
- ROOF DRAIN
- TELEPHONE BOX
- TELEPHONE MANHOLE
- ELECTRIC TRANSFORMER
- TRAFFIC SIGNAL
- CABLE TV BOX
- ELECTRICAL METER
- GAS METER
- FOUND IRON MONUMENT
- SET IRON MONUMENT
- CAST IRON MONUMENT
- AIR CONDITIONER
- BOLLARD
- ELECTRIC MANHOLE
- FLAG POLE
- FLARED END SECTION
- GAS VALVE
- HANDICAP SYMBOL
- HYDRANT
- WATER MANHOLE
- WATER VALVE
- POWER POLE
- GUY WIRE
- CONIFEROUS TREE
- DECIDUOUS TREE

N

20 10 0 10 20 40

SCALE IN FEET

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
4931 W. 35th Street, Suite 200
St. Louis Park, MN 55416
civilsitegroup.com 612-615-0060

PROJECT
4901- 4921 France Avenue South
Minneapolis, Hennepin County, Minnesota 55410

CLIENT
France 50 LLC
6035 Culligan Way, Minnetonka, MN 55345

I HEREBY CERTIFY THAT THIS SURVEY, 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.

RORY L. SYVERSON
DATE 11-20-2020 LICENSE NO. 44565

QA/QC

FIELD CREW	DO/DT
DRAWN BY	CJ
REVIEWED BY	RS
UPDATED BY	

VICINITY MAP

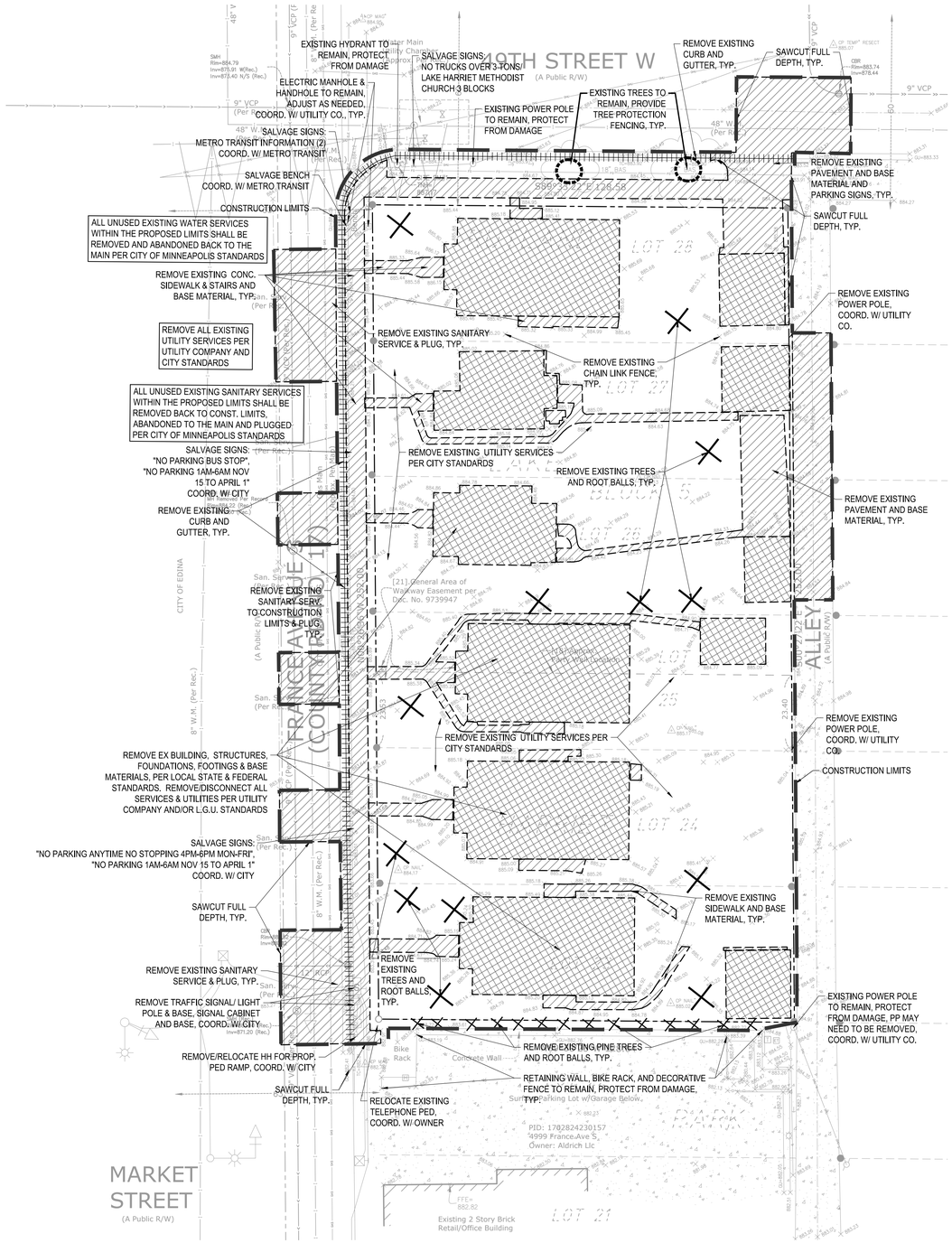
REVISION SUMMARY

DATE	DESCRIPTION

PROJECT NO.: 20339

ALTA/NSPS LAND TITLE SURVEY

V1.0



CITY OF MINNEAPOLIS REMOVAL NOTES:

1. FOR PUBLIC WATERMAIN INFRASTRUCTURE RECORDS CALL (612)673-2865, ANY EXISTING WATER SERVICE CONNECTIONS TO THE SITE THAT ARE NOTED ON THE PLANS FOR REMOVAL, SHALL BE REMOVED PER THE REQUIREMENTS OF THE UTILITY CONNECTIONS DEPARTMENT BEFORE ANY NEW SERVICES LINES CAN BE INSTALLED, CALL (612)673-2451 FOR MORE INFORMATION.
2. ANY EXISTING CONCRETE INFRASTRUCTURE IN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO PUBLIC SIDEWALKS, CURB AND GUTTER, AND ADA PEDESTRIAN RAMPS, THAT IS EITHER CURRENTLY DEFECTIVE OR THAT IS DAMAGED DURING THE TIME OF SITE RE-DEVELOPMENT, MUST BE REMOVED AND REPLACED AT THE TIME OF SITE RE-DEVELOPMENT.

OWNER INFORMATION

FRANCE 50 LLC
6035 CULLIGAN WAY
MINNETONKA, MN 55345
CONTACT:
952-949-3630

OWNER, DEVELOPER, CONTRACTOR SIGNED STATEMENT

ALL CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THE PLAN. SIGNED BY PARTIES BELOW:

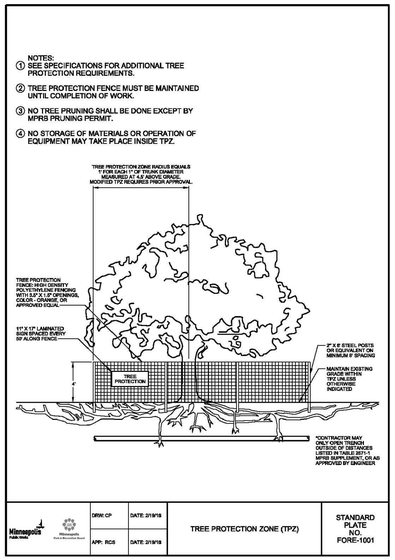
OWNER: _____

DEVELOPER: _____

CONTRACTOR: _____

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.0 - SW1.3



Minneapolis Park & Recreation Board	DRW: CP	DATE: 2/19/18	TREE PROTECTION ZONE (TPZ)	STANDARD PLATE NO.: FORE-1001
	APP: RCS	DATE: 2/19/18		

REMOVAL NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
2. SEE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLAN FOR CONSTRUCTION STORM WATER MANAGEMENT PLAN.
3. REMOVAL OF MATERIALS NOTED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH MNDOT, STATE AND LOCAL REGULATIONS.
4. REMOVAL OF PRIVATE UTILITIES SHALL BE COORDINATED WITH UTILITY OWNER PRIOR TO CONSTRUCTION ACTIVITIES.
5. EXISTING PAVEMENTS SHALL BE SAWCUT IN LOCATIONS AS SHOWN ON THE DRAWINGS OR THE NEAREST JOINT FOR PROPOSED PAVEMENT CONNECTIONS.
6. REMOVED MATERIALS SHALL BE DISPOSED OF TO A LEGAL OFF-SITE LOCATION AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
7. ABANDON, REMOVAL, CONNECTION, AND PROTECTION NOTES SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE WITH PROPOSED PLANS.
8. EXISTING ON-SITE FEATURES NOT NOTED FOR REMOVAL SHALL BE PROTECTED THROUGHOUT THE DURATION OF THE CONTRACT.
9. PROPERTY LINES SHALL BE CONSIDERED GENERAL CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED ON THE DRAWINGS. WORK WITHIN THE GENERAL CONSTRUCTION LIMITS SHALL INCLUDE STAGING, DEMOLITION AND CLEAN-UP OPERATIONS AS WELL AS CONSTRUCTION SHOWN ON THE DRAWINGS.
10. MINOR WORK OUTSIDE OF THE GENERAL CONSTRUCTION LIMITS SHALL BE ALLOWED AS SHOWN ON THE PLAN AND PER CITY REQUIREMENTS.
11. DAMAGE BEYOND THE PROPERTY LIMITS CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED IN A MANNER APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT OR IN ACCORDANCE WITH THE CITY.
12. PROPOSED WORK (BUILDING AND CIVIL) SHALL NOT DISTURB EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON THE DRAWINGS AND APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
13. SITE SECURITY MAY BE NECESSARY AND PROVIDED IN A MANNER TO PROHIBIT VANDALISM, AND THEFT, DURING AND AFTER NORMAL WORK HOURS, THROUGHOUT THE DURATION OF THE CONTRACT. SECURITY MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY.
14. VEHICULAR ACCESS TO THE SITE SHALL BE MAINTAINED FOR DELIVERY AND INSPECTION ACCESS DURING NORMAL OPERATING HOURS. AT NO POINT THROUGHOUT THE DURATION OF THE CONTRACT SHALL CIRCULATION OF ADJACENT STREETS BE BLOCKED WITHOUT APPROVAL BY THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
15. ALL TRAFFIC CONTROLS SHALL BE PROVIDED AND ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL REMAIN OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
16. SHORING FOR BUILDING EXCAVATION MAY BE USED AT THE DISCRETION OF THE CONTRACTOR AND AS APPROVED BY THE OWNERS REPRESENTATIVE AND THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
17. STAGING, DEMOLITION, AND CLEAN-UP AREAS SHALL BE WITHIN THE PROPERTY LIMITS AS SHOWN ON THE DRAWINGS AND MAINTAINED IN A MANNER AS REQUIRED BY THE CITY.
18. ALL EXISTING SITE TRAFFIC/REGULATORY SIGNAGE TO BE INVENTORIED AND IF REMOVED FOR CONSTRUCTION SHALL BE RETURNED TO LGU.
19. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

REMOVALS LEGEND:

- 1125 — EX. 1' CONTOUR ELEVATION INTERVAL
- REMOVAL OF PAVEMENT AND ALL BASE MATERIAL, INCLUDING BIT., CONC., AND GRAVEL PVMTS.
- REMOVAL OF STRUCTURE INCLUDING ALL FOOTINGS AND FOUNDATIONS.
- REMOVE CURB AND GUTTER. IF IN RIGHT-OF-WAY, COORDINATE WITH LOCAL GOVERNING UNIT.
- TREE PROTECTION
- TREE REMOVAL - INCLUDING ROOTS AND STUMPS

Know what's **below.** **Call** before you dig.

N

1" = 20'-0"
10'-0" 0 20'-0"

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT
FRANCE 50
4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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.

Matthew R. Pavek
DATE 03/21/22 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
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03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

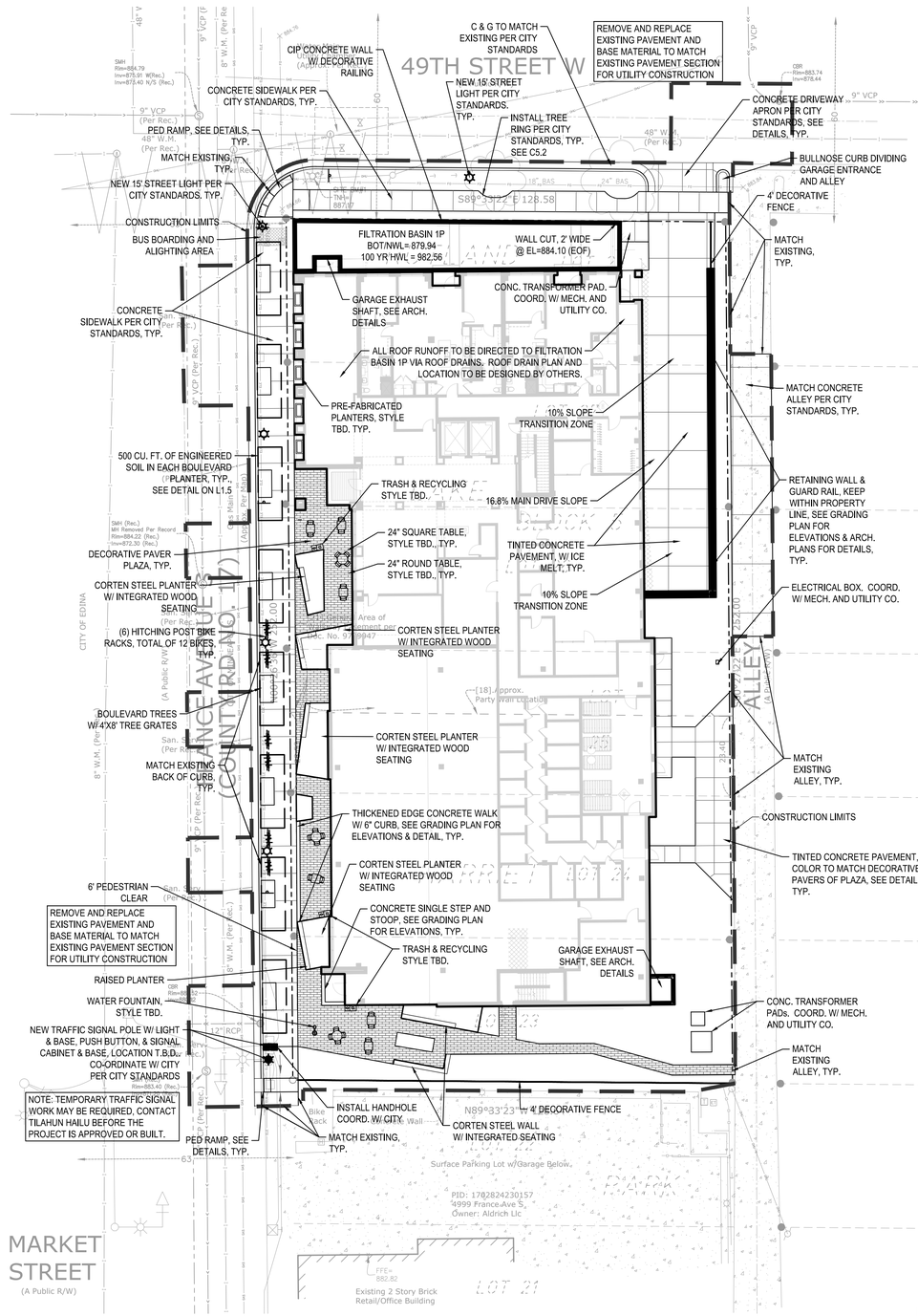
DRAWN BY: BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

REMOVALS PLAN

C1.0



CITY COORDINATION NOTES:

1. TRAFFIC & PARKING

1.1. COORDINATE WITH JOSEPH LAURIN, CITY OF MINNEAPOLIS, (612) 673-5987 FOR ALL WORK REGARDING STREET LIGHTING AND ELECTRICAL SYSTEMS. STREET LIGHTING INSTALLED AS PART OF THE PROJECT SHALL BE INSPECTED BY THE CITY. CONTACT RYAN ARMSTRONG (612) 221-5298. ANY LIGHTING INSTALLATIONS NOT MEETING CITY SPECIFICATIONS WILL BE REQUIRED TO BE REINSTALLED AT CONTRACTOR'S EXPENSE.

1.2. AN ENCROACHMENT PERMIT SHALL BE REQUIRED FOR ALL NON-STANDARD STREETSCAPE ELEMENTS IN THE PUBLIC RIGHT-OF-WAY SUCH AS: SHRUBS, PLANTERS, TREE GRATES AND OTHER LANDSCAPING ELEMENTS, SIDEWALK FURNITURE (INCLUDING BIKE RACKS AND BOLLARDS), AND SIDEWALK ELEMENTS OTHER THAN STANDARD CONCRETE WALKWAYS SUCH AS PAVERS, STAIRS, RAISED LANDINGS, RETAINING WALLS, ACCESS RAMPS, AND RAILINGS (NOTE: RAILINGS MAY NOT EXTEND INTO THE SIDEWALK PEDESTRIAN AREA). PLEASE CONTACT MATT HANAN AT (612) 673-3607 FOR FURTHER INFORMATION.

1.3. ANY ELEMENTS OF AN EARTH RETENTION SYSTEM AND RELATED OPERATIONS (SUCH AS CONSTRUCTION CRANE BOOM SWINGS) THAT FALL WITHIN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE AN ENCROACHMENT PERMIT APPLICATION. IF THERE ARE TO BE ANY EARTH RETENTION SYSTEMS WHICH WILL EXTEND OUTSIDE THE PROPERTY LINE OF THE DEVELOPMENT THEN A PLAN MUST BE SUBMITTED SHOWING DETAILS OF THE SYSTEM. ALL SUCH ELEMENTS SHALL BE REMOVED FROM THE PUBLIC RIGHT-OF-WAY FOLLOWING CONSTRUCTION WITH THE EXCEPTION OF TIE-BACKS WHICH MAY REMAIN BUT MUST BE UNCOUPLED AND DE-TENSIONED. PLEASE CONTACT MATT HANAN AT (612) 673- 3607 FOR FURTHER INFORMATION.

1.4. COORDINATE WITH SCOTT KRAMER, CITY OF MINNEAPOLIS, (612) 673-2383 REGARDING ANY WORK THAT IS PERFORMED IN THE RIGHT-OF-WAY. AN OBSTRUCTION PERMIT WILL BE REQUIRED FOR ALL WORK IN THE RIGHT-OF-WAY. CONTACT SCOTT KRAMER REGARDING DETAILS OF SIDEWALK AND LANE CLOSURES.

1.5. COORDINATE WITH CRAIG PINKALLA, CITY OF MINNEAPOLIS, (612) 499-9233 FOR ALL WORK REGARDING REMOVAL OR PROTECTION OF TREES DURING CONSTRUCTION IN THE CITY RIGHT-OF-WAY.

1.6. COORDINATE WITH PAUL CAO, CITY OF MINNEAPOLIS, (612) 673-2943 FOR ALL WORK REGARDING BIKE RACKS IN THE CITY RIGHT-OF-WAY.

1.7. COORDINATE WITH ALLAN KLUGMAN, CITY OF MINNEAPOLIS, (612) 673-5750 AND TILAHUN HAILU, CITY OF MINNEAPOLIS, (612) 976-5809 PRIOR TO CONSTRUCTION FOR THE TEMPORARY REMOVAL/RELOCATION OF ANY CITY OF MINNEAPOLIS SIGNAL SYSTEM. ALL COSTS FOR RELOCATION AND/OR REPAIR OF CITY TRAFFIC SHALL BE BORNE BY THE CONTRACTOR.

1.8. CONTACT SHANE MORTON AT (612) 673-5517 PRIOR TO CONSTRUCTION FOR THE REMOVAL OF ANY CITY OF MINNEAPOLIS RIGHT OF WAY SIGNS THAT MAY BE IN THE WAY OF CONSTRUCTION.

2. ENVIRONMENTAL HEALTH

2.1. COORDINATE WITH ENVIRONMENTAL SERVICES, CITY OF MINNEAPOLIS, (612) 673-3867 FOR PERMITS RELATING TO AFTER HOURS WORK, TEMPORARY STORAGE OF IMPACTED SOILS ON SITE PRIOR TO DISPOSAL OR REUSE, REMEDIATION OF CONTAMINATED SOIL AND GROUNDWATER, REUSE OF IMPACTED SOILS ON SITE, DEWATERING AND DISCHARGE OF ACCUMULATED STORM WATER OR GROUND WATER TO CITY SEWERS, FLAMMABLE WASTE TRAPS, UNDERGROUND OR ABOVEGROUND TANK INSTALLATION OR REMOVAL, WELL CONSTRUCTION OR SEALING, OR ON-SITE ROCK CRUSHING.

2.2. NO CONSTRUCTION, DEMOLITION OR COMMERCIAL POWER MAINTENANCE EQUIPMENT SHALL BE OPERATED WITHIN THE CITY BETWEEN THE HOURS OF 6:00 PM AND 7:00 AM ON WEEKDAYS OR DURING ANY HOURS ON SATURDAYS, SUNDAYS AND STATE AND FEDERAL HOLIDAYS, EXCEPT UNDER PERMIT.

2.3. IF CONTAMINATED SOIL IS ENCOUNTERED, IT MUST BE REPORTED TO THE MINNESOTA DUTY OFFICER AT (651) 649-5451. PREAPPROVAL FOR REMOVAL OR REUSE MUST OCCUR FROM THE MPCA AND THE CITY OF MINNEAPOLIS.

2.4. IF IMPACTED SOIL IS ENCOUNTERED DURING SITE ACTIVITIES WORK WILL NEED TO STOP AND NOTIFICATION PROVIDED TO THE MN STATE DUTY OFFICER AT (615) 649-5451.

2.5. THE HIGHEST GROUNDWATER LEVEL EXPECTED FOR THIS SITE SHOULD BE DETERMINED AND USED IN ESTABLISHING THE LOWEST LEVEL FOR SUBGRADE STRUCTURES. IF SOIL BORINGS DEEPER THAN 15 FEET MUST BE DONE A TEMPORARY ENVIRONMENTAL WELL PERMIT MUST BE OBTAINED BY ENVIRONMENTAL SERVICES. IF DEWATERING IS REQUIRED DURING SITE CONSTRUCTION SEE BELOW FOR CITY PERMIT REQUIREMENTS. SUBGRADE STRUCTURES SHOULD BE DESIGNED TO PREVENT INFILTRATION OF GROUNDWATER WITHOUT THE NEED FOR A PERMANENT DEWATERING SYSTEM BEING INSTALLED. IF A CONTINUOUSLY OPERATING PERMANENT DEWATERING SYSTEM IS NEEDED IT MUST BE APPROVED AS PART OF THE SANITARY SEWER AND STORM DRAIN SITE PLAN APPROVAL PRIOR TO CONSTRUCTION BEGINNING.

2.6. NO CONSTRUCTION, DEMOLITION OR COMMERCIAL POWER MAINTENANCE EQUIPMENT SHALL BE OPERATED WITHIN THE CITY BETWEEN THE HOURS OF 6:00 P.M. AND 7:00 A.M. ON WEEKDAYS OR DURING ANY HOURS ON SATURDAYS, SUNDAYS AND STATE AND FEDERAL HOLIDAYS, EXCEPT UNDER PERMIT. CONTACT ENVIRONMENTAL SERVICES AT 612-673-3516 FOR PERMIT INFORMATION.

2.7. PERMITS AND APPROVAL ARE REQUIRED FROM ENVIRONMENTAL SERVICES FOR THE FOLLOWING ACTIVITIES: TEMPORARY STORAGE OF IMPACTED SOILS ON SITE PRIOR TO DISPOSAL OR REUSE; REUSE OF IMPACTED SOILS ON SITE; DEWATERING AND DISCHARGE OF ACCUMULATED STORM WATER OR GROUND WATER, UNDERGROUND OR ABOVEGROUND TANK INSTALLATION OR REMOVAL, TEMPORARY ENVIRONMENTAL WELLS, WELL CONSTRUCTION OR SEALING. CONTACT TOM FRAME AT 612-673-5807 FOR PERMIT APPLICATIONS AND APPROVALS.

3. FORESTRY DEPARTMENT

3.1. TO PROTECT ROOT ZONES, NO CONSTRUCTION EQUIPMENT OR MATERIALS SHALL BE PLACED, PARKED, OR STORED ON ANY UNPAVED AREA WITHIN THE DRIP LINE OF ANY CITY OWNED TREE. NO CHEMICALS OR PETROLEUM PRODUCTS SHALL BE DEPOSITED ON ANY UNPAVED AREA IN THE CITY RIGHT-OF-WAY.

3.2. ANY TREE ROOTS ENCOUNTERED ARE TO BE CLEANLY CUT USING HAND TOOLS.

3.3. NO OPEN EXCAVATION OR BORE PITS ALLOWED WITHIN 8 FEET OF CITY STREET TREES.

3.4. CARE SHALL BE TAKEN NOT TO DAMAGE TREE TRUNKS OR BRANCHES. CONTRACTOR MUST CONTACT FORESTRY DEPARTMENT INSPECTIONS (CRAIG PINKALLA) AT (612) 499-9233 AT LEAST 3 DAYS PRIOR TO STARTING WORK TO DISCUSS PROBLEMS OF OVERHANGING BRANCHES THAT MAY BE DAMAGED.

CITY OF MINNEAPOLIS SITE SPECIFIC NOTES:

1. ANY EXISTING CONCRETE INFRASTRUCTURE IN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO PUBLIC SIDEWALKS, CURB AND GUTTER, AND ADA PEDESTRIAN RAMPS, THAT IS EITHER CURRENTLY DEFECTIVE OR THAT IS DAMAGED DURING THE TIME OF SITE RE-DEVELOPMENT, MUST BE REMOVED AND REPLACED AT THE TIME OF SITE RE-DEVELOPMENT.
2. NO CONSTRUCTION, DEMOLITION OR COMMERCIAL POWER MAINTENANCE EQUIPMENT SHALL BE OPERATED WITHIN THE CITY BETWEEN THE HOURS OF 6:00 P.M. AND 7:00 A.M. ON WEEKDAYS OR DURING ANY HOURS ON SATURDAYS, SUNDAYS AND STATE AND FEDERAL HOLIDAYS, EXCEPT UNDER PERMIT. CONTACT ENVIRONMENTAL SERVICES AT 612-673-3516 FOR PERMIT INFORMATION.
3. ALL PROPOSED WORK IN THE PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH THE CURRENT EDITION OF THE CITY OF MINNEAPOLIS STANDARD SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION AND MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION AND ITS ATTACHMENTS (REFER TO THE FOLLOWING: HTTP://WWW.MINNEAPOLISMN.GOV/PUBLICWORKS/PLATES/INDEX.HTM).
4. NO LOADING WILL OCCUR WITHIN THE ALLEY. TENANT/RESIDENT VEHICULAR CIRCULATION IS NOW RELEGATED TO 49TH STREET AND WILL NOT TOUCH THE ALLEY. TRASH REMOVAL WILL OCCUR WITHIN THE ALLEY. HEIGHT AT SOUTH END OF ALLEY IS GREATER THAN 14 FT.
5. A SIDEWALK CONSTRUCTION PERMIT MUST BE OBTAINED PRIOR TO THE START O ANY WORK IN THE PUBLIC RIGHT-OF-WAY. ANY CONCRETE CONSTRUCTION WORK WITHIN THE PUBLIC RIGHT-OF-WAY MUST BE PERFORMED BY A CONTRACTOR WHO HAS A CERTIFICATE OF LIABILITY INSURANCE (ACORD FORM) ON FILE WITH PUBLIC WORKS SIDEWALK INSPECTIONS PRIOR TO THE START OF ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY. FOR MORE INFORMATION CALL 612-673-2420. THE CONTRACTOR CAN APPLY FOR A SIDEWALK CONSTRUCTION PERMIT AT WWW.SIDEWALK.MPLS.MN.ROWAY.NET AND FOLLOW THE INSTRUCTIONS ON THE WEB SITE.

METRO TRANSIT SITE SPECIFIC NOTES:

1. IMMEDIATELY ADJACENT TO THE BUS STOP SIGN IS THE ACCESSIBLE BOARDING AREA. THE BOARDING AREA REQUIRES A FIRM, STABLE, AND SLIP RESISTANT SURFACE, AND SHALL BE CLEAR OF ALL OBSTRUCTIONS. AT MINIMUM IT MUST BE 5 FEET WIDE BY 8 FEET DEEP AND MEET THE STANDARDS IDENTIFIED BY THE AMERICANS WITH DISABILITIES ACT OF 1990.
   - THE ADA REQUIREMENTS FOR BUS BOARDING AND LIGHTING AREA ARE IN SECTION 810.2 OF THE DOT STANDARDS: https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/ada-standards/chapter-8-special-rooms,-spaces,-and-elements#810%20Transportation%20Facilities.
   - KEEP STOP AND SIDEWALK OPEN DURING CONSTRUCTION WHEN POSSIBLE. 4 WEEKS PRIOR TO CONSTRUCTION, COORDINATE TEMPORARY STOP CLOSURE, CONSTRUCTION TIMELINE, AND ANY TRAVEL LANE CLOSURES WITH METRO TRANSIT STREET OPERATIONS, ASSISTANT MANAGER, JAY RUSSELL (612-349-7310, Jay.Russell@metrotransit.org), OR DISTRICT STREETS SUPERVISOR, KEVIN MARTIN (kevin.martin@metrotransit.org, 612-418-2735).

OPERATIONAL NOTES:

SNOW REMOVAL	ALL SNOW SHALL BE STORED ON-SITE. WHEN FULL, REMOVAL CO. SHALL REMOVE EXCESS OF-SITE
TRASH REMOVAL:	TRASH SHALL BE PLACED IN EXTERIOR TRASH AREA AT ALLEY AND REMOVED BY COMMERCIAL CO. WEEKLY.
DELIVERIES:	DELIVERIES SHALL OCCUR AT THE FRONT DOOR VIA STANDARD COMMERCIAL DELIVERY VEHICLES (UPS, FED-EX, USPS).

OWNER INFORMATION

FRANCE 50 LLC
6035 CULLIGAN WAY
MINNETONKA, MN 55345
CONTACT:
952-949-3630

SITE LAYOUT NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
2. CONTRACTOR SHALL VERIFY LOCATIONS AND LAYOUT OF ALL SITE ELEMENTS PRIOR TO BEGINNING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, LOCATIONS OF EXISTING AND PROPOSED PROPERTY LINES, EASEMENTS, SETBACKS, UTILITIES, BUILDINGS AND PAVEMENTS. CONTRACTOR IS RESPONSIBLE FOR FINAL LOCATIONS OF ALL ELEMENTS FOR THE SITE. ANY REVISIONS REQUIRED AFTER COMMENCEMENT OF CONSTRUCTION, DUE TO LOCATIONAL ADJUSTMENTS SHALL BE CORRECTED AT NO ADDITIONAL COST TO OWNER. ADJUSTMENTS TO THE LAYOUT SHALL BE APPROVED BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF MATERIALS. STAKE LAYOUT FOR APPROVAL.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, INCLUDING A RIGHT-OF-WAY AND STREET OPENING PERMIT.
4. THE CONTRACTOR SHALL VERIFY RECOMMENDATIONS NOTED IN THE GEO TECHNICAL REPORT PRIOR TO INSTALLATION OF SITE IMPROVEMENT MATERIALS.
5. CONTRACTOR SHALL FIELD VERIFY COORDINATES AND LOCATION DIMENSIONS OF THE BUILDING AND STAKE FOR REVIEW AND APPROVAL BY THE OWNERS REPRESENTATIVE PRIOR TO INSTALLATION OF FOOTING MATERIALS.
6. LOCATIONS OF STRUCTURES, ROADWAY PAVEMENTS, CURBS AND GUTTERS, BOLLARDS, AND WALKS ARE APPROXIMATE AND SHALL BE STAKED IN THE FIELD, PRIOR TO INSTALLATION, FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT.
7. CURB DIMENSIONS SHOWN ARE TO FACE OF CURB. BUILDING DIMENSIONS ARE TO FACE OF CONCRETE FOUNDATION. LOCATION OF BUILDING IS TO BUILDING FOUNDATION AND SHALL BE AS SHOWN ON THE DRAWINGS.
8. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR SAMPLES AS SPECIFIED FOR REVIEW AND APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO FABRICATION FOR ALL PREFABRICATED SITE IMPROVEMENT MATERIALS SUCH AS, BUT NOT LIMITED TO THE FOLLOWING, FURNISHINGS, PAVEMENTS, WALLS, RAILINGS, BENCHES, FLAGPOLES, LANDING PADS FOR CURB RAMPS, AND LIGHT AND POLES. THE OWNER RESERVES THE RIGHT TO REJECT INSTALLED MATERIALS NOT PREVIOUSLY APPROVED.
9. PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED WITH TRUNCATED DOME LANDING AREAS IN ACCORDANCE WITH A.D.A. REQUIREMENTS-SEE DETAIL.
10. CROSSWALK STRIPING SHALL BE 24" WIDE WHITE PAINTED LINE, SPACED 48" ON CENTER PERPENDICULAR TO THE FLOW OF TRAFFIC. WIDTH OF CROSSWALK SHALL BE 5' WIDE. ALL OTHER PAVEMENT MARKINGS SHALL BE WHITE IN COLOR UNLESS OTHERWISE NOTED OR REQUIRED BY ADA OR LOCAL GOVERNING BODIES.
11. SEE SITE PLAN FOR CURB AND GUTTER TYPE. TAPER BETWEEN CURB TYPES-SEE DETAIL.
12. ALL CURB RADII ARE MINIMUM 3' UNLESS OTHERWISE NOTED.
13. CONTRACTOR SHALL REFER TO FINAL PLAT FOR LOT BOUNDARIES, NUMBERS, AREAS AND DIMENSIONS PRIOR TO SITE IMPROVEMENTS.
14. FIELD VERIFY ALL EXISTING SITE CONDITIONS, DIMENSIONS.
15. PARKING IS TO BE SET PARALLEL OR PERPENDICULAR TO EXISTING BUILDING UNLESS NOTED OTHERWISE.
16. ALL PARKING LOT PAINT STRIPPING TO BE WHITE, 4" WIDE TYP.
17. BITUMINOUS PAVING TO BE "LIGHT DUTY" UNLESS OTHERWISE NOTED. SEE DETAIL SHEETS FOR PAVEMENT SECTIONS.
18. ALL TREES THAT ARE TO REMAIN ARE TO BE PROTECTED FROM DAMAGE WITH A CONSTRUCTION FENCE AT THE DRIP LINE. SEE LANDSCAPE DOCUMENTS.
19. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

SITE DATA

EXISTING ZONING	N2
PROPOSED ZONING	N2
NUMBER OF UNITS	100
PARKING SPACE	9'X18'
DRIVE AISLE:	24'

SITE AREA TABLE:

SITE AREA CALCULATIONS	EXISTING		PROPOSED	
BUILDING COVERAGE	9,769 SF	30.1%	20,074 SF	61.9%
ALL PAVEMENTS	5,149 SF	15.9%	9,171 SF	28.3%
ALL NON-PAVEMENTS	17,487 SF	54.0%	3,160 SF	9.8%
TOTAL SITE AREA	32,405 SF	100.0%	32,405 SF	100.0%

IMPERVIOUS SURFACE		
EXISTING CONDITION	14,918 SF	46.0%
PROPOSED CONDITION	29,245 SF	90.2%
DIFFERENCE (EX. VS PROP.)	14,327 SF	44.2%
IMPERVIOUS TOTAL	29,245 SF	90.2%

SITE PLAN LEGEND:

BITUMINOUS PAVEMENT (IF APPLICABLE), SEE GEOTECHNICAL REPORT FOR AGGREGATE BASE & WEAR COURSE DEPTH, SEE DEATIL.

CONCRETE PAVEMENT (IF APPLICABLE) AS SPECIFIED (PAD OR WALK) SEE GEOTECHNICAL REPORT FOR AGGREGATE BASE & CONCRETE DEPTHS, SEE DETAIL.

PERVIOUS PAVEMENT (IF APPLICABLE) - CONCRETE PAVER PERVIOUS SYSTEM. INCLUDE ALL BASE MATERIAL AND APPURTENANCES AS SPECIFIED PER MANUFACTURER SPECIFICATIONS & INSTRUCTIONS. MAKE: TECHNO-BLOC, OR EQUIVILANT MODEL: INDUSTRIA GRANITEX 600 SERIES, OR EQUIVILANT COLOR: GREYED NICKLE AND ONYX BLACK - PROVIDE SAMPLES. SEE BLOW UP FOR PAVER LAYOUT. SHOP DRAWINGS & PRODUCT DATA REQUIRED PRIOR TO CONSTRUCTION.

PROPERTY LINE

CONSTRUCTION LIMITS

SIGN AND POST ASSEMBLY. SHOP DRAWINGS REQUIRED.
HC = ACCESSIBLE SIGN
NP = NO PARKING FIRE LANE
ST = STOP
CP = COMPACT CAR PARKING ONLY

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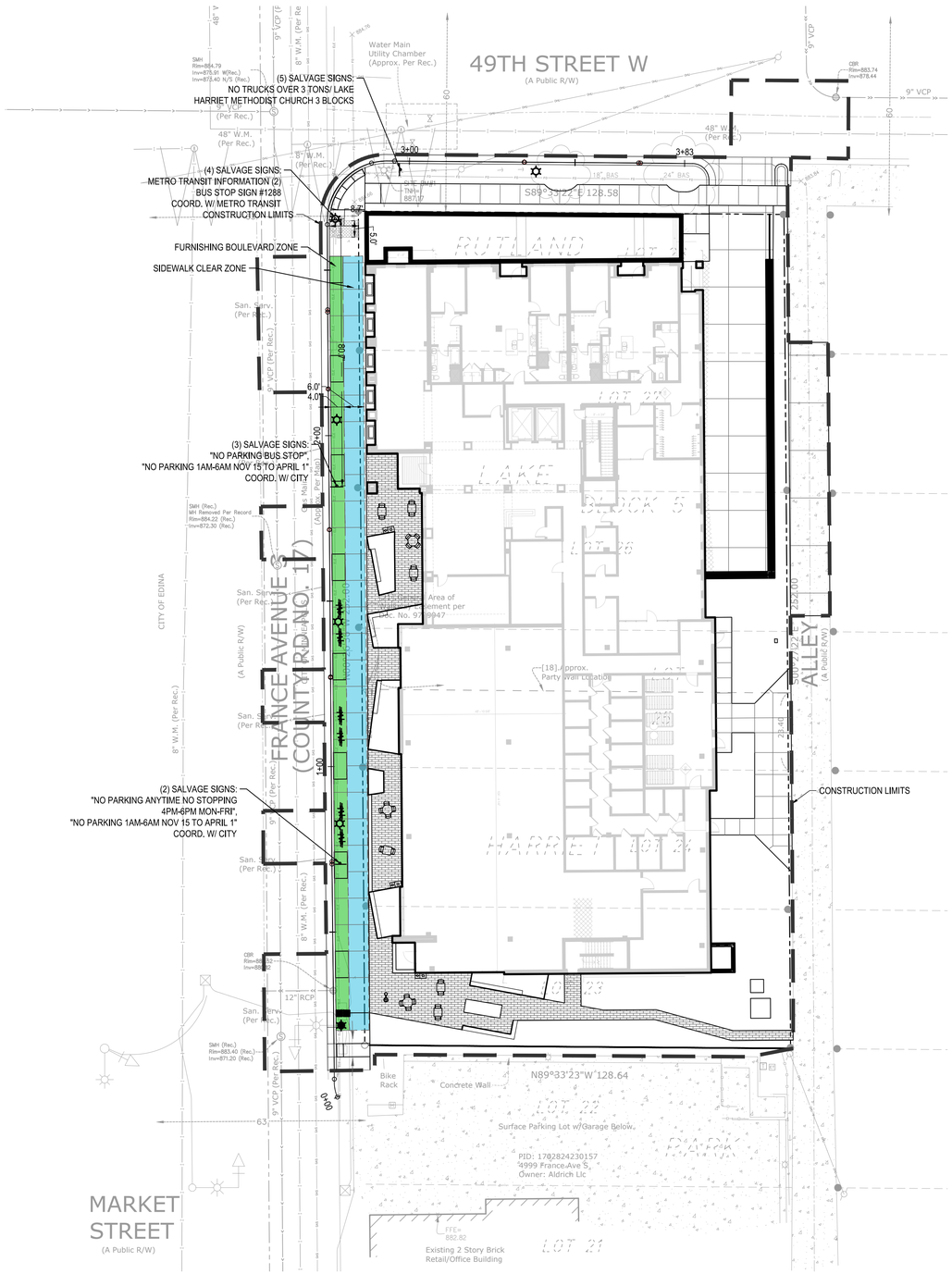
SITE PLAN

C2.0



MINNEAPOLIS SIGN QUANTITIES TABLE:

MINNEAPOLIS SIGN QUANTITIES TABLE

SIGN/METER POLE NUMBER	SIGN TYPE	POLE FOUNDATION
1	TRAFFIC SIGNAL POLE	SIGNAL POLE
2	NO STOPPING 4PM -6PM MON-FRI RIGHT ARROW/NO PARKING 1AM-6AM NOV 15- APRIL 1 LEFT ARROW	COLLAR
3	NO PARKING BUS STOP LEFT ARROW/NO PARKING 1Am-6AM NOV 15-APRIL 1 RIGHT ARROW	COLLAR
4	METRO TRANSIT BUS ROUTE 6 STOP 1288 w/ MAP	COLLAR
5	NO TRUCKS OVER 3 TONS/LAKE HARRIET METHODIST CHURCH LEFT ARROW 3 BLOCKS	PRECAST

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CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

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PROJECT

FRANCE 50

4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

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PROJECT NUMBER: 20339

REVISION SUMMARY

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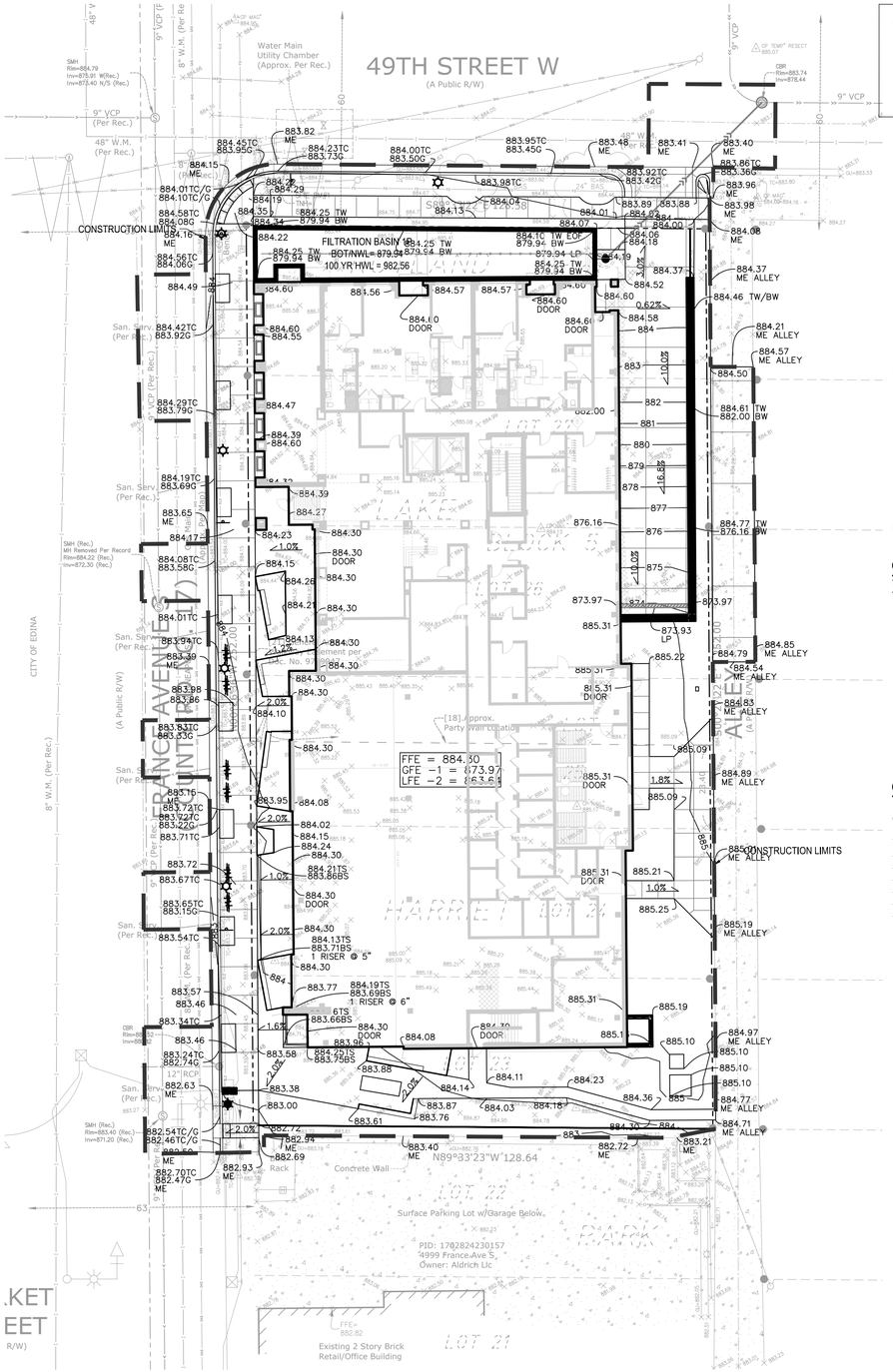
SITE PLAN - SIGNAGE

C2.1



CITY OF MINNEAPOLIS GRADING NOTES:

1. OWNERS AND OPERATORS ARE RESPONSIBLE FOR COMPLYING WITH REGULATIONS AND OBTAINING ANY NECESSARY COVERAGE UNDER THE MPCA'S GENERAL PERMIT TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. MN R100001).
2. THIS SITE REQUIRES 500 CU. FT. OF ENGINEERED SOILS IN THE BOULEVARD TREE PLANTERS. SEE NOTE AND BOXES ON SITE PLAN, C2.0.

OWNER, DEVELOPER, CONTRACTOR SIGNED STATEMENT

ALL CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THE PLAN, SIGNED BY PARTIES BELOW:

OWNER: _____

DEVELOPER: _____

CONTRACTOR: _____

EROSION CONTROL NOTES:

SEE SWPPP ON SHEETS SW1.0 - SW1.3

NON STORM WATER DISCHARGES:

THERE ARE NO KNOWN NON-STORM WATER DISCHARGES ON THE EXISTING SITE AND NONE ARE PROPOSED AS PART OF THIS DEVELOPMENT.

GROUNDWATER STATEMENT:

THIS PROJECT DOES NOT PROPOSE ANY PERMANENT GROUNDWATER DISCHARGE TO THE STORM WATER SYSTEM.

GROUNDWATER INFORMATION:

PER GEOTECHNICAL REPORT BY HAUGO GEOTECHNICAL SERVICES, INC., DATED 12-16-2020 GROUNDWATER WAS OBSERVED AT ELEVATIONS RANGING FROM 860.00 TO 860.90

THE BORINGS & GROUNDWATER ARE AS FOLLOWS:

SB-1	860.70
SB-2	860.00
SB-3	860.90
SB-4	860.50
SB-1 (2019)	N.A.
SB-2 (2019)	N.A.

GENERAL GRADING NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
2. SEE SITE PLAN FOR HORIZONTAL LAYOUT & GENERAL GRADING NOTES.
3. THE CONTRACTOR SHALL COMPLETE THE SITE GRADING CONSTRUCTION (INCLUDING BUT NOT LIMITED TO SITE PREPARATION, SOIL CORRECTION, EXCAVATION, EMBANKMENT, ETC.) IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER'S SOILS ENGINEER. ALL SOIL TESTING SHALL BE COMPLETED BY THE OWNER'S SOILS ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOIL TESTS AND INSPECTIONS WITH THE SOILS ENGINEER.
4. ANY ELEMENTS OF AN EARTH RETENTION SYSTEM AND RELATED EXCAVATIONS THAT FALL WITHIN THE PUBLIC RIGHT OF WAY WILL REQUIRE A "RIGHT OF WAY EXCAVATION PERMIT". CONTRACTOR IS RESPONSIBLE FOR AQUIRING THIS PERMIT PRIOR TO CONSTRUCTION IF APPLICABLE
5. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
3. GRADING AND EXCAVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS & PERMIT REQUIREMENTS OF THE CITY.
4. PROPOSED SPOT GRADES ARE FLOW-LINE FINISHED GRADE ELEVATIONS, UNLESS OTHERWISE NOTED.
5. GRADES OF WALKS SHALL BE INSTALLED WITH 5% MAX. LONGITUDINAL SLOPE AND 1% MIN. AND 2% MAX. CROSS SLOPE, UNLESS OTHERWISE NOTED.
6. PROPOSED SLOPES SHALL NOT EXCEED 3:1 UNLESS INDICATED OTHERWISE ON THE DRAWINGS. MAXIMUM SLOPES IN MAINTAINED AREAS IS 4:1
7. PROPOSED RETAINING WALLS, FREESTANDING WALLS, OR COMBINATION OF WALL TYPES GREATER THAN 4' IN HEIGHT SHALL BE DESIGNED AND ENGINEERED BY A REGISTERED RETAINING WALL ENGINEER. DESIGN DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF GRADE STAKES THROUGHOUT THE DURATION OF CONSTRUCTION TO ESTABLISH PROPER GRADES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR A FINAL FIELD CHECK OF FINISHED GRADES ACCEPTABLE TO THE ENGINEER/LANDSCAPE ARCHITECT PRIOR TO TOPSOIL AND SODDING ACTIVITIES.
9. IF EXCESS OR SHORTAGE OF SOIL MATERIAL EXISTS, THE CONTRACTOR SHALL TRANSPORT ALL EXCESS SOIL MATERIAL OFF THE SITE TO AN AREA SELECTED BY THE CONTRACTOR, OR IMPORT SUITABLE MATERIAL TO THE SITE.
10. EXCAVATE TOPSOIL FROM AREAS TO BE FURTHER EXCAVATED OR REGRADED AND STOCKPILE IN AREAS DESIGNATED ON THE SITE. THE CONTRACTOR SHALL SALVAGE ENOUGH TOPSOIL FOR RESPREADING ON THE SITE AS SPECIFIED. EXCESS TOPSOIL SHALL BE PLACED IN EMBANKMENT AREAS, OUTSIDE OF BUILDING PADS, ROADWAYS AND PARKING AREAS. THE CONTRACTOR SHALL SUBCUT CUT AREAS, WHERE TURF IS TO BE ESTABLISHED, TO A DEPTH OF 6 INCHES. RESPREAD TOPSOIL IN AREAS WHERE TURF IS TO BE ESTABLISHED TO A MINIMUM DEPTH OF 6 INCHES.
11. FINISHED GRADING SHALL BE COMPLETED. THE CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING, INCLUDING ADJACENT TRANSITION AREAS. PROVIDE A SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCES, WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. AREAS THAT HAVE BEEN FINISH GRADED SHALL BE PROTECTED FROM SUBSEQUENT CONSTRUCTION OPERATIONS, TRAFFIC AND EROSION. REPAIR ALL AREAS THAT HAVE BECOME RUTTED BY TRAFFIC OR ERODED BY WATER OR HAS SETTLED BELOW THE CORRECT GRADE. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITION OR TO THE REQUIREMENTS OF THE NEW WORK.
12. PRIOR TO PLACEMENT OF THE AGGREGATE BASE, A TEST ROLL WILL BE REQUIRED ON THE STREET AND/OR PARKING AREA SUBGRADE. THE CONTRACTOR SHALL PROVIDE A LOADED TANDEM AXLE TRUCK WITH A GROSS WEIGHT OF 25 TONS. THE TEST ROLLING SHALL BE AT THE DIRECTION OF THE SOILS ENGINEER AND SHALL BE COMPLETED IN AREAS AS DIRECTED BY THE SOILS ENGINEER. THE SOILS ENGINEER SHALL DETERMINE WHICH SECTIONS OF THE STREET OR PARKING AREA ARE UNSTABLE. CORRECTION OF THE SUBGRADE SOILS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOILS ENGINEER. NO TEST ROLL SHALL OCCUR WITHIN 10' OF ANY UNDERGROUND STORM RETENTION/DETENTION SYSTEMS.
13. TOLERANCES
    - 13.1. THE BUILDING SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.30 FOOT ABOVE, OR 0.30 FOOT BELOW, THE PRESCRIBED ELEVATION AT ANY POINT WHERE MEASUREMENT IS MADE.
    - 13.2. THE STREET OR PARKING AREA SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.05 FOOT ABOVE, OR 0.10 FOOT BELOW, THE PRESCRIBED ELEVATION OF ANY POINT WHERE MEASUREMENT IS MADE.
    - 13.3. AREAS WHICH ARE TO RECEIVE TOPSOIL SHALL BE GRADED TO WITHIN 0.30 FOOT ABOVE OR BELOW THE REQUIRED ELEVATION, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
    - 13.4. TOPSOIL SHALL BE GRADED TO PLUS OR MINUS 1/2 INCH OF THE SPECIFIED THICKNESS.
14. MAINTENANCE
    - 14.1. THE CONTRACTOR SHALL PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION, AND KEEP AREA FREE OF TRASH AND DEBRIS.
    - 14.2. CONTRACTOR SHALL REPAIR AND REESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO SPECIFIED TOLERANCES. DURING THE CONSTRUCTION, IF REQUIRED, AND DURING THE WARRANTY PERIOD, ERODED AREAS WHERE TURF IS TO BE ESTABLISHED SHALL BE RESEEDED AND MULCHED.
    - 14.3. WHERE COMPLETED COMPACTED AREAS ARE DISTURBED BY SUBSEQUENT CONSTRUCTION OPERATIONS OR ADVERSE WEATHER, CONTRACTOR SHALL SCARIFY, SURFACE, RESHAPE, AND COMPACT TO REQUIRED DENSITY PRIOR TO FURTHER CONSTRUCTION.

GRADING PLAN LEGEND:

1125	EX. 1' CONTOUR ELEVATION INTERVAL
1137	1.0' CONTOUR ELEVATION INTERVAL
41.26	SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)
891.00 G	SPOT GRADE ELEVATION GUTTER
891.00 TC	SPOT GRADE ELEVATION TOP OF CURB
891.00 BS/TS	SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS
891.00 ME	SPOT GRADE ELEVATION MATCH EXISTING
GB	GRADE BREAK - HIGH POINTS
TO	CURB AND GUTTER (T.O = TIP OUT)
EOF=1135.52	EMERGENCY OVERFLOW

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1" = 20'-0"

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PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT
FRANCE 50
4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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.

Matthew R. Pavek
DATE 03/21/22 LICENSE NO. 44263

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DATE	DESCRIPTION
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12/03/2021	PDR RESUBMITTAL
01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

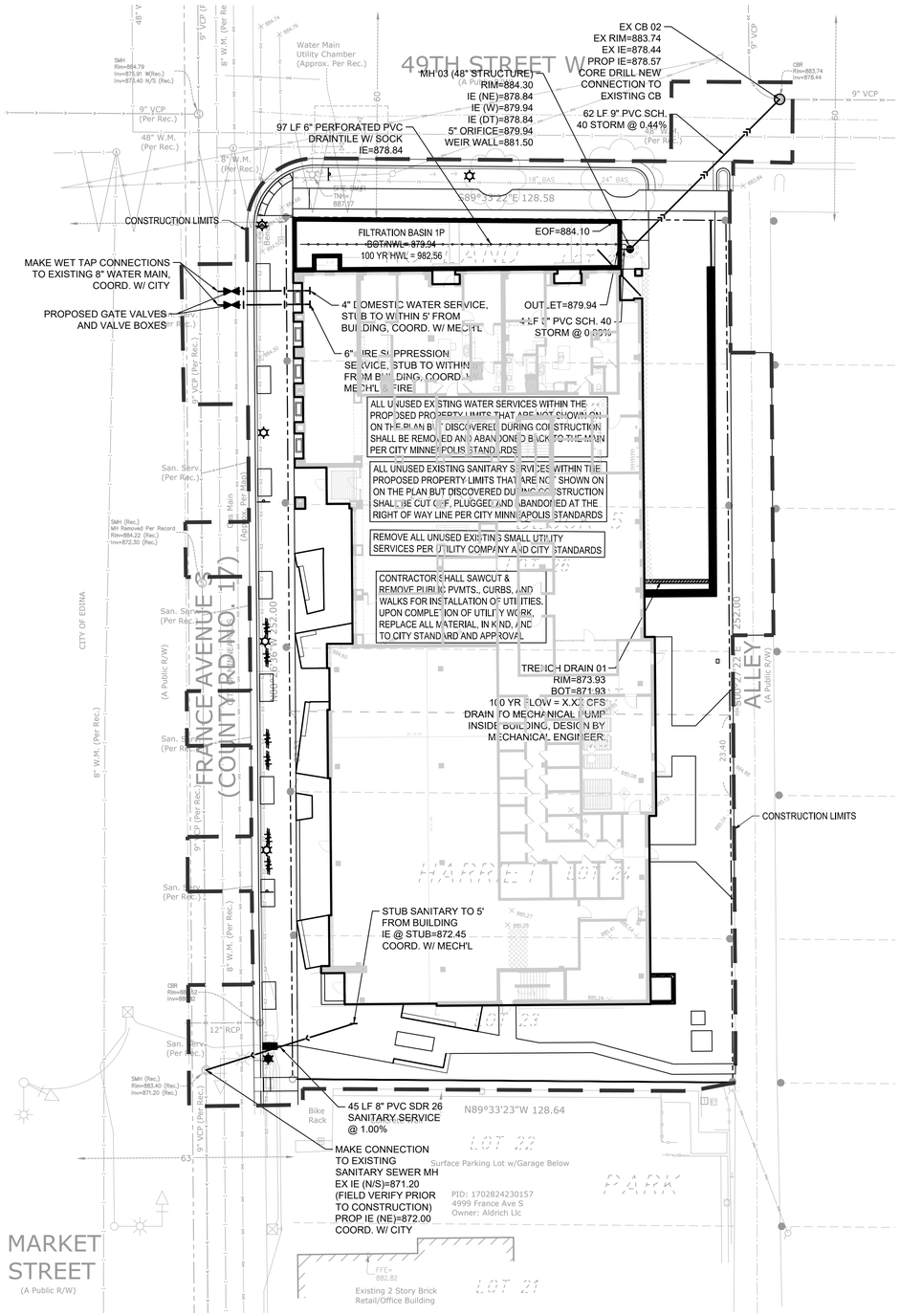
DRAWN BY:BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

GRADING PLAN

C3.0



GENERAL UTILITY NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
2. SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.
3. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS.
4. UTILITY INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
5. CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.
6. ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) AWWA C151, ASME B16.4, AWWA C110, AWWA C153 UNLESS OTHERWISE NOTED.
7. ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) ASTM D3034 & F679, OR SCH 40 ASTM D1785, 2665, ASTM F794, 1866) UNLESS OTHERWISE NOTED.
8. ALL STORM SEWER PIPE SHALL BE HDPE ASTM F714 & F2306 WITH ASTM D3212 SPEC FITTINGS UNLESS OTHERWISE NOTED.
9. PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.
10. UTILITIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.
11. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.
12. A MINIMUM OF 8 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL.
13. A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS OTHERWISE NOTED.
14. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
15. CONNECTIONS TO EXISTING STRUCTURES SHALL BE CORE-DRILLED.
16. COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
17. COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF.
18. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
19. ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
20. CONTRACTOR SHALL COORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.
21. CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.
22. CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON COMPLETION OF WORK.
23. ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCHBASINS, OR OTHER STRUCTURES.
24. ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED IN ACCORDANCE WITH MN RULES, CHAPTER 4714, SECTION 1109.0.

CITY OF MINNEAPOLIS UTILITY NOTES:

1. FOR COMMENTS OR QUESTIONS ON PUBLIC WORKS SURFACE WATER & SEWER DIVISION RELATED REQUIREMENTS PLEASE CONTACT JEREMY STREHLO, (PROFESSIONAL ENGINEER) AT (612) 673-3973, OR JEREMY.STREHLO@MINNEAPOLISMN.GOV.
2. THE CONTRACTOR, PROPERTY OWNER OR RESPONSIBLE PARTY SHALL CONTACT MINNEAPOLIS SURFACE WATERS AND SEWERS 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION RELATED TO OR IN THE LOCATION OF THE PROPOSED STORMWATER MANAGEMENT BMP (CONTACT PAUL CHELLSEN 612-673-2406).
3. UPON THE PROJECTS COMPLETION, THE GENERAL CONTRACTOR, PROPERTY OWNER, OR RESPONSIBLE PARTY SHALL PROVIDE TO THE DEPARTMENT OF PUBLIC WORKS A FINAL STORMWATER MANAGEMENT REPORT INCLUDING RECORD DRAWINGS. THIS REPORT WILL SERVE AS A MEANS OF VERIFICATION THAT THE INTENT OF THE APPROVED STORMWATER MANAGEMENT DESIGN HAS BEEN MET. THIS FINAL REPORT SHALL SUBSTANTIATE THAT ALL ASPECTS OF THE ORIGINAL DESIGN HAVE BEEN ADEQUATELY PROVIDED FOR BY THE CONSTRUCTION OF THE PROJECT.
4. A DOUBLE DETECTOR CHECK BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED ON THE PROPOSED FIRE SERVICE. THE WATER METER SHALL BE INSTALLED IN THE BUILDING AT THE POINT WHERE THE SERVICE PENETRATES THE WALL; THE DETECTOR SHALL BE INSTALLED AFTER THE METER. COORDINATE WITH MECHANICAL ENGINEER.

UTILITY LEGEND:

- MANHOLE
- CATCH BASIN
- GATE VALVE AND VALVE BOX
- PROPOSED FIRE HYDRANT
- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- FES AND RIP RAP

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1" = 20'-0"
10'-0" 0 20'-0"

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PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT

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03/21/22	REVISED PLANS

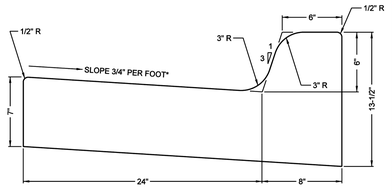
DRAWN BY: BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

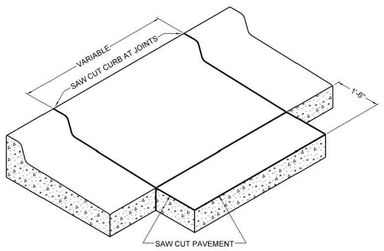
UTILITY PLAN

C4.0



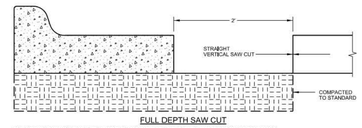
*SLOPE NOT TO EXCEED 1:20 AT CURB RAMPS

MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		B-624 CURB AND GUTTER	STANDARD PLATE NO. ROAD-1003
DRAWN: JFC	DATE: 9/10/07		
APPROVED: GAS	DATE: 5/19/08		



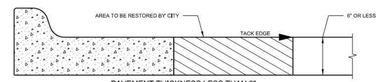
Minneapolis Public Works	DRWL:JFC	DATE: 9/10/17	SAW CUT AT CURB AND GUTTER REMOVAL	STANDARD PLATE NO. ROAD-1010
	APP: GAS	DATE: 5/19/08		

RESTORATION REQUIREMENTS FOR BITUMINOUS CURB MATCH



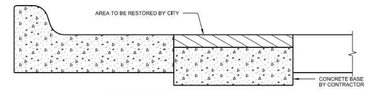
FULL DEPTH SAW CUT

FULL DEPTH SAW CUT SHALL BE STRAIGHT AND PARALLEL TO GUTTER AND REMOVAL OF PAVEMENT.
A. MINIMUM 2' FROUT GUTTER LIP.
B. IF CROSS SLOPE OF PAVEMENT IS AFFECTED BY NEW CURB ELEVATIONS MATCH WIDTH WILL BE DETERMINED BY STREET SUPERVISOR AND/OR PAVING STREET ENGINEER.
C. RESTORATION OF PAVEMENT DAMAGE ADJACENT TO CURB MATCH SHALL BE DETERMINED BY STREET SUPERVISOR AND/OR PAVING STREET ENGINEER.



PAVEMENT THICKNESS LESS THAN 6"

PAVEMENT THICKNESS LESS THAN 6" WILL MATCH EXISTING PAVEMENT PROFILE.



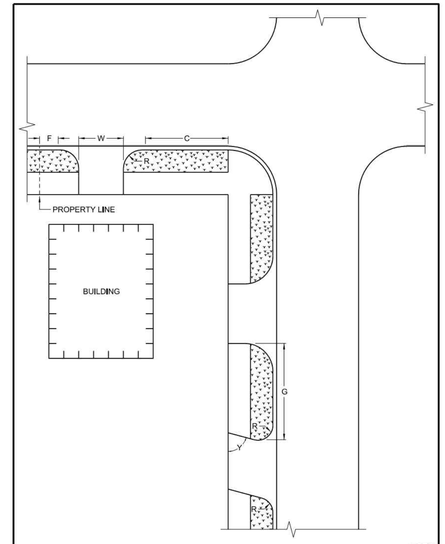
PAVEMENT THICKNESS GREATER THAN 6"

PAVEMENT THICKNESS GREATER THAN 6" WILL REQUIRE CONCRETE BASE TOPPED WITH 3" ASPHALT PAVEMENT.
A. THICKNESS WILL MATCH EXISTING, EXAMPLE: 9" PAVEMENT =7" CONCRETE BASE / 3" ASPHALT.
B. CONTRACTOR IS RESPONSIBLE TO POUR CONCRETE BASE WITH THE MIX DESIGN PROVIDED BY THE CITY OF MINNEAPOLIS PAVING LAB.

1. SUBGRADE AND ROAD BASE WILL CONFORM TO COMPACTION STANDARDS PROVIDED BY THE CITY OF MINNEAPOLIS PAVING LAB.
2. CONTRACTOR SHALL PROVIDE THE STREET SUPERVISOR NOTICE NOT LESS THAN 5 DAYS TO SCHEDULE.
   A. CONTRACTOR IS REQUIRED TO HAVE A MINIMUM OF ILE OR ONE LANE CLEAR WORK ZONE FOR THE LENGTH OF THE CURB MATCH.
   B. WORK ZONE MUST BE CLEAN AND FREE OF DIRT, DEBRIS, LUMBER, AND CONSTRUCTION MATERIALS.
   C. CONTRACTOR SHALL HAVE NO DELIVERIES, OBSTRUCTIONS, OR OTHER ACTIVITIES THAT MAY IMPEDE OR DAMAGE THE PAVEMENT DURING THE INSTALLATION PROCESS AND FOR A MINIMUM OF 12 HOURS AFTER INSTALLATION FOR A CURING AND COOLING PERIOD.
   D. IT IS PREFERRED FOR CURB MATCH TO BE INSTALLED AFTER LIGHTING, METERS, AND SIDEWALK WORK HAS BEEN COMPLETED UNLESS THE ABOVE MEASURES CAN BE MET.

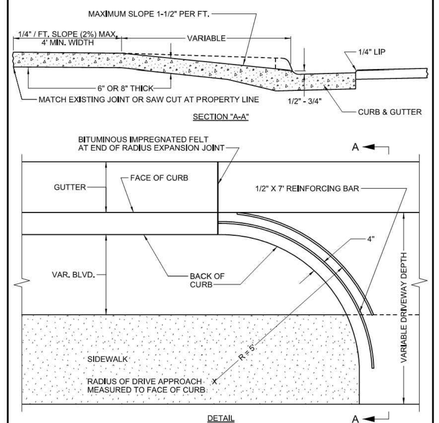
NOT TO SCALE

Minneapolis Public Works	DRWL:JFC	DATE: 1/4/21	RESTORATION REQUIREMENTS FOR BITUMINOUS CURB MATCH	STANDARD PLATE NO. ROAD-1011
	APP: SEC	DATE: 2/1/21		



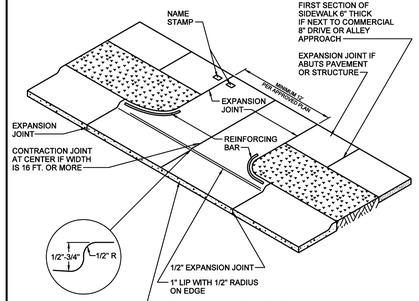
1 OF 2

MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		DRIVEWAY REFERENCE	STANDARD PLATE NO. ROAD-2000-R1
DRAWN:JFC	DATE: 7/29/14		
APPROVED: JSH	DATE: 7/29/14		

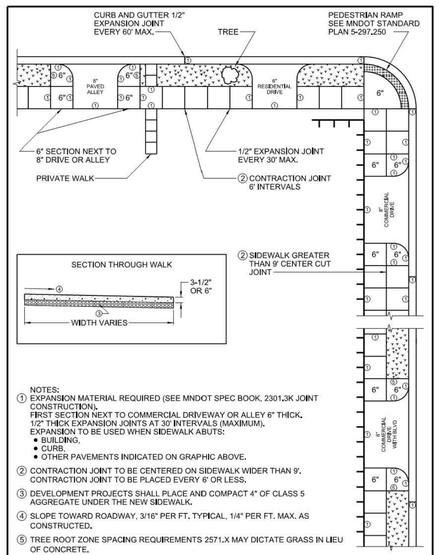


NOTES:
DRIVEWAY APRON AND GUTTER SHALL BE CONSTRUCTED AS A MONOLITHIC POUR.
ALLEY AND COMMERCIAL DRIVE 8" THICK.
RESIDENTIAL DRIVE 6" THICK.

Minneapolis Public Works	DRWL:JFC	DATE: 12/27/19	TYPICAL DRIVEWAY CONSTRUCTION	STANDARD PLATE NO. ROAD-2001-R2
	APP: JSH	DATE: 3/25/20		



MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		TYPICAL DRIVEWAY	STANDARD PLATE NO. ROAD-2002
DRAWN: JFC	DATE: 9/10/07		
APPROVED: GAS	DATE: 5/19/08		



NOTES:
① EXPANSION MATERIAL REQUIRED (SEE MNDOT SPEC BOOK, 2301.3K JOINT CONSTRUCTION).
FIRST SECTION NEXT TO COMMERCIAL DRIVEWAY OR ALLEY 6" THICK.
1/2" THICK EXPANSION JOINTS AT 30' INTERVALS (MAXIMUM).
EXPANSION TO BE USED WHEN SIDEWALK ABUTS:
- BUILDING,
- CURB,
- OTHER PAVEMENTS INDICATED ON GRAPHIC ABOVE.

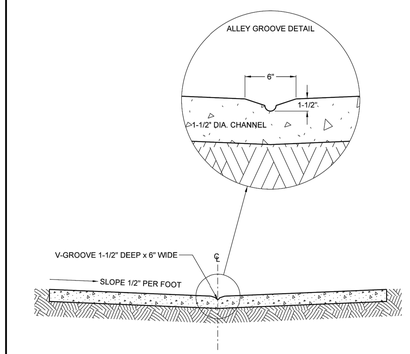
② CONTRACTION JOINT TO BE CENTERED ON SIDEWALK WIDER THAN 9'. CONTRACTION JOINT TO BE PLACED EVERY 6' OR LESS.

③ DEVELOPMENT PROJECTS SHALL PLACE AND COMPACT 4" OF CLASS 5 AGGREGATE UNDER THE NEW SIDEWALK.

④ SLOPE TOWARD ROADWAY, 3/16" PER FT. TYPICAL, 1/4" PER FT. MAX. AS CONSTRUCTED.

⑤ TREE ROOT ZONE SPACING REQUIREMENTS 2571.X MAY DICTATE GRASS IN LIEU OF CONCRETE.

Minneapolis Public Works	DRWL:JFC	DATE: 12/27/19	TYPICAL SIDEWALK AND DRIVEWAY CONSTRUCTION	STANDARD PLATE NO. ROAD-2003-R2
	APP: JSH	DATE: 3/25/20		



Minneapolis Public Works	DRW: JFC	DATE: 9/10/07	TYPICAL ALLEY SECTION	STANDARD PLATE NO. ROAD-3000
	APP: GAS	DATE: 5/19/08		

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09/09/21	LUA RE-SUBMITTAL
10/22/21	LUA RE SUBMITTAL
12/03/2021	PDR RESUBMITTAL
01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

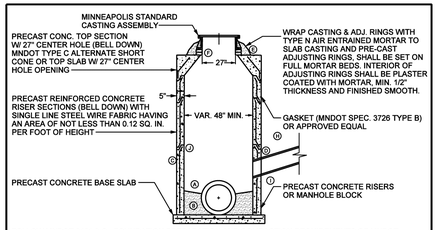
DRAWN BY:BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

CIVIL DETAILS

C5.0



FOLLOW MNDOT 2451.3-C - FOUNDATION PREPARATION AND COMPACTION REQUIREMENTS OF MNDOT 2105.3 F1 - SPECIFIED DENSITY METHOD (100% COMPACTION REQUIREMENTS OF STANDARD PROCTOR)

MNDOT DESIGN F, MODIFIED
CONTINUOUS INSIDE DIAMETER
USE MINNEAPOLIS SHORT CONE SECTION (MNDOT TYPE C ALTERNATE) OR TOP SLAB ONLY

(A) BOTTOM TO BE SHAPED 2/3 OF PIPE DIAMETER WITH POURED CONCRETE TO PROVIDE EFFICIENT FLOW.

(B) WHEN THE INVERT OF THE INLET PIPE IS BELOW THE SPRING LINE OF THE MAIN, THEN PROVIDE CONCRETE "POWER FLOWS" FOR POSITIVE DOWN STREAM FLOW THROUGH MANHOLE.

(C) PRE-CAST CONCRETE MANHOLE SECTIONS.

(D) FILL AROUND INLET PIPE AND LIFTING HOLES WITH CEMENT MORTAR, TYPE N AIR ENTRAINED, FINISH SMOOTH AS NECESSARY. ALL PIPES CONNECTING TO MH'S SHALL BE TRIMMED FLUSH TO THE INTERIOR WALL OF THE MH STRUCTURE.

(E) MANHOLE CASTING SHALL BE SET ON A FULL MORTAR BED, TYPE N AIR ENTRAINED

(F) THE NUMBER OF CONCRETE ADJUSTING RINGS SHALL BE LIMITED TO PROVIDE A MAXIMUM THICKNESS OF 8" INCLUDING MORTAR, TYPE N AIR ENTRAINED WITH A MINIMUM OF 1 - 2" ADJUSTING RING. ALL ADJUSTING RINGS TO BE NEATLY SEALED WITH CONCRETE GROUT, TYPE N AIR ENTRAINED, ON THE INTERIOR OF THE STRUCTURE
MINIMUM OF 2" OF ADJUSTING RINGS & MORTAR TYPE N AIR ENTRAINED REQUIRED.
ALL WOOD AND NON-CONCRETE ADJUSTING DEVICES SHALL BE REMOVED.

(G) CONCRETE MANHOLE BLOCK MAY BE USED WITH THE APPROVAL OF CITY ENGINEER. INTERIOR & EXTERIOR OF BLOCK WORK SHALL BE MORTAR PLASTERED, TYPE N AIR ENTRAINED, TO A SMOOTH FINISH, MIN. 1/2" THICKNESS.

(H) SUITABLE BACKFILL UNIFORMLY DISTRIBUTED IN 8" OR LESS LAYERS AND COMPACTED BEFORE SUCCESSIVE LAYERS ARE ADDED. MNDOT 2451.3 D - BACKFILLING EXCAVATIONS, COMPACTION IN ACCORDANCE WITH MNDOT 2105.3 F1 - SPECIFIED DENSITY METHOD.

(J) FILL ANNULAR SPACE ON BELL END OF 1ST RISER SECTION WITH BRICK AND MORTAR, TYPE N AIR ENTRAINED, IF REQUIRED.

(I) WATER STOP REQUIRED ON PVC, DIP, VCP, HDPE, HOBAS, PPP.

MINNEAPOLIS SHORT CONE SECTION SHALL BE USED UNLESS OTHERWISE SPECIFIED IN THE PLANS AND PLASTER COATED WITH TYPE N AIR ENTRAINED MORTAR (TO A SMOOTH FINISH).

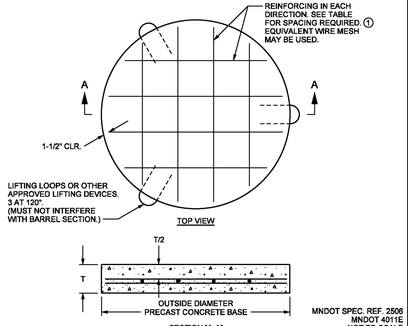
ALL PRE-CAST MH RISER SECTIONS SHALL BE CONFIGURED TO PLACE THE BELL END DOWN.

MINNEAPOLIS CUSTOM
MNDOT SPEC. REF. 2506
MODIFIED MNDOT 4000J, 4005L
NOT TO SCALE

MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		TYPICAL MANHOLE CONSTRUCTION	STANDARD PLATE NO. SEWR-1000-R1
DRAWN: DCD	DATE: 12/09		
APPROVED: HRS	DATE: 12/09		

STRUCTURE	PRECAST CONCRETE BASE				
SIZE (in.)	OUTSIDE DIA. (in.)	"T" (in.)	MIN. REINFORCEMENT (in.) (1)		WT. (lbs.)
			BAR NUMBER	SPACING (in.)	
30	44	6	#4	12	1680
48	66	6	#4	12	1680
60	78	8	#4	12	3320
72	92	8	#4	12	4620
84	106	8	#4	8	6130
96	120	8	#4	8	7850
108	132	10	#4	8	10690
120	146	12	#4	8	17440

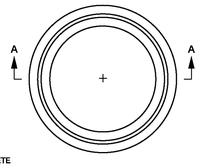
ALL REBARS ARE IN ENGLISH DESIGNATIONS



MNDOT SPEC. REF. 2506
MNDOT 4011E
NOT TO SCALE

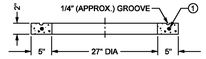
MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		MANHOLE BASE SLAB	STANDARD PLATE NO. SEWR-1003
DRAWN: CKD	DATE: 2/03		
APPROVED: HRS	DATE: 12/06		

CONCRETE ADJUSTING RING



NOTES:
ON CONSTRUCTION OF DRAINAGE STRUCTURES, THE NUMBER OF ADJUSTING RINGS USED PER MANHOLE OR CATCH BASIN SHALL BE LIMITED TO PROVIDE A MAXIMUM THICKNESS OF 8" INCLUDING MORTAR THICKNESS (A 6" RING IS NOT ALLOWED ON NEW CONSTRUCTION). PLASTER COAT INTERIOR OF ADJ. RINGS MIN. 1/2" MORTAR MIX TYPE N AIR ENTRAINED. FINISHED SMOOTH. CONCRETE RINGS MUST BE ENCASED IN MORTAR.

(1) REINFORCING:
A SINGLE HOOP OF 8 GAGE STEEL WIRE.

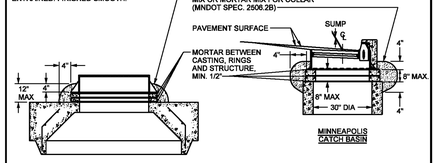


SECTION A-A

INSTALLATION DETAIL

PLASTER COAT INTERIOR OF ADJUSTING RINGS MIN. 1/2" MORTAR MIX TYPE N AIR ENTRAINED. FINISHED SMOOTH.

CONCRETE COLLAR TO ENCASE CASTING AND ADJUSTING RINGS. USE CONCRETE CURB AND GUTTER MIX OR MORTAR MIX FOR COLLAR (MNDOT SPEC. 2506.2B)

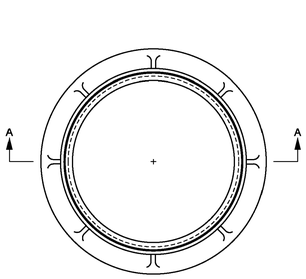


MINNEAPOLIS SHORT CONE SECTION

MINNEAPOLIS CATCH BASIN

MINNEAPOLIS CUSTOM
MNDOT SPEC. REF. 2506, 4026A
CONCRETE ADJUSTING RINGS ONLY
NOT TO SCALE

MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		CONCRETE ADJUSTING RINGS	STANDARD PLATE NO. SEWR-1011-R1
DRAWN: DCD	DATE: 12/09		
APPROVED: HRS	DATE: 12/09		

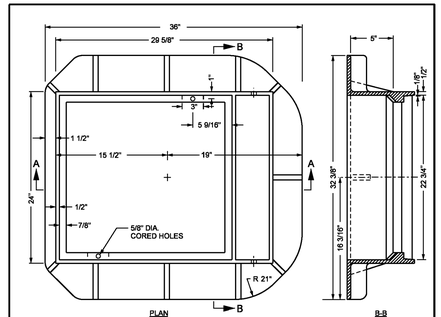


SECTION A-A

NOTES:
WEIGHT = 194 LBS.
MATERIAL: GRAY IRON ASTM A-48

MINNEAPOLIS CUSTOM
MNDOT SPEC. REF. 2506
MODIFIED MNDOT 4101D
NOT TO SCALE

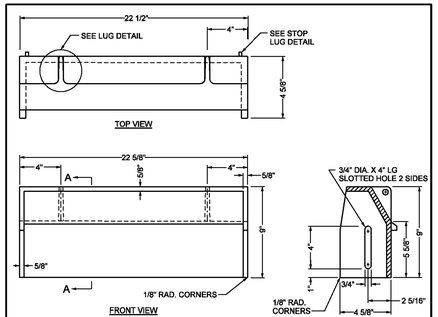
MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		STANDARD MANHOLE CASTING	STANDARD PLATE NO. SEWR-2004
DRAWN: DCD	DATE: 2/07		
APPROVED: HRS	DATE: 2/07		



NOTES:
FOR USE WITH 30" DIA. REINFORCED CONCRETE CATCH BASIN POT.
MAY ALSO BE USED ON A MANHOLE STRUCTURE WHEN PLACED TO CAPTURE GUTTER FLOWS.
MNDOT FRAME CASTING 806, USE GRATE 816, CURB BOX 824.
APPROXIMATE WEIGHT = 302 LBS.
MATERIAL: GRAY IRON ASTM A-48

MNDOT SPEC. REF. 2506
MNDOT 4125D
NOT TO SCALE

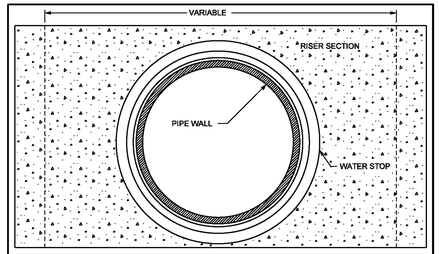
MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		CATCH BASIN CASTING	STANDARD PLATE NO. SEWR-2006
DRAWN: DCD	DATE: 2/03		
APPROVED: HRS	DATE: 12/06		



NOTES:
IN 5/8" CORED HOLE, A 5' PIECE OF #4 REBAR (GRADE 60) IS REQUIRED.
WEIGHT = 54 LBS.
MATERIAL: GRAY IRON ASTM A-48

MNDOT CURB BOX NO. 824
MNDOT SPEC. REF. 2506
MNDOT 4133A
NOT TO SCALE

MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		CURB BOX CASTING FOR CATCH BASIN	STANDARD PLATE NO. SEWR-2007
DRAWN: DCD	DATE: 2/03		
APPROVED: HRS	DATE: 12/06		



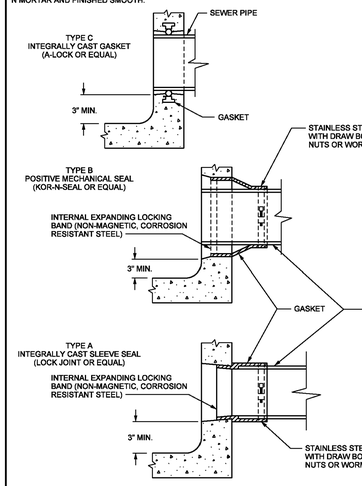
APPLICATIONS REQUIRE CONCRETE MORTAR AND/OR BRICK/BLOCK TO SEAL THE OPENING AND BE FINISHED TO A SMOOTH FINISH INTERIOR AND EXTERIOR

NOTES:
DIMENSIONS VARY BY MANUFACTURER. PIPE SIZE AND MATERIAL TYPE.
SEAL FOR RIGID JOINTS BETWEEN PIPE AND CONCRETE STRUCTURES ILLUSTRATED HERE: FERNCO INC. DAVISON, MI MODEL 12 CMA; PRESS-SEAL GASKET CORP. KWIK SEAL OR. AN APPROVED EQUIVELANT. NEOPRENE MATERIALS SHALL MEET OR EXCEED ASTM C 923 AND C 443.
WATER STOP REQUIRED FOR: PVC, HDPE, CIP, VCP, DIP, PPP, HOBAS.

MINNEAPOLIS CUSTOM
MNDOT SPEC. REF. 2503, 2506
MODIFIED MNDOT 4007C
NOT TO SCALE

MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		WATER STOP DETAIL	STANDARD PLATE NO. SEWR-3000
DRAWN: DCD	DATE: 2/03		
APPROVED: HRS	DATE: 12/06		

CORED OPENINGS SHALL BE BEVELLED TO ALLOW FOR MIS-ALIGNMENT. FLEXIBLE SLEEVE SHALL BE NEOPRENE MATERIAL MEETING ASTM C-443. VOIDS BETWEEN GASKET AND STRUCTURE SHALL BE FILLED USING TYPE N MORTAR AND FINISHED SMOOTH.



MNDOT SPEC. REF. 2503, 2506
MNDOT 4007C
NOT TO SCALE

MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS		WATERTIGHT PIPE CONNECTION	STANDARD PLATE NO. SEWR-3001
DRAWN: DCD	DATE: 3/03		
APPROVED: HRS	DATE: 12/06		

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

PRELIMINARY: NOT FOR CONSTRUCTION

FRANCE 50

4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

PROJECT

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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.

Matthew R. Pavek
DATE 03/21/22 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
08/20/2021	LUA/PDR SUBMITTAL
09/09/21	LUA RE-SUBMITTAL
10/22/21	LUA RE SUBMITTAL
12/03/2021	PDR RESUBMITTAL
01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

DRAWN BY: BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

CIVIL DETAILS

C5.1

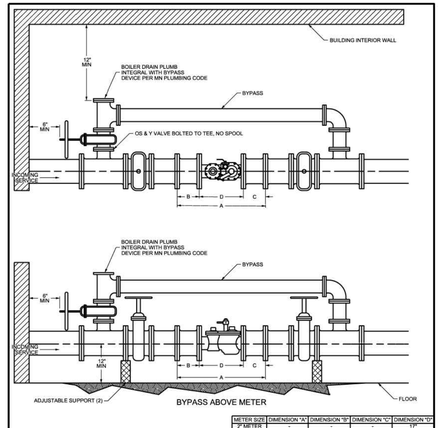
DRIVE APPROACH DIMENSIONS			
CODE	DIMENSION	RESIDENTIAL	COMMERCIAL
Y	DRIVE APPROACH ANGLE	60-90°	60-90°
W	DRIVE APPROACH WIDTH	12' MIN. 25' MAX.*	12' MIN.* 25' MAX.*
R	RADIUS OF CURVATURE OF CURB FOR DRIVE APPROACH	2.5' MIN. 5' MAX.	5' STD.*
R1, R2	RADIUS OF CURVATURE	5' MIN. 15' MAX.	5' MIN. 30' MAX.
F	COMMON FRONTAGE CLEARANCE	5' MIN.	5' MIN.
G	DISTANCE BETWEEN DOUBLE DRIVE APPROACHES	30' MIN.*	30' MIN.*
C	CORNER CLEARANCE AT THE INTERSECTION OF TWO MAJOR STREETS	30' MIN.*	30' MIN.*
N/A	CORNER CLEARANCE AT ALL OTHER INTERSECTIONS	20' MIN.*	20' MIN.*
N/A	CLEARANCE FROM BUS STOP ZONE	40' MIN.*	40' MIN.*

NOTE: PERIODIC CHANGES IN THE ABOVE DIMENSIONS WILL BE MADE AS NECESSARY TO IMPROVE TRAFFIC AND SAFETY ON THE PUBLIC STREETS AND SIDEWALKS.

*OR AS APPROVED BY THE CITY ENGINEER.

Minneapolis City of Lakes — MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS

DRAWN: JFC	DATE: 7/29/14	DRIVEWAY REFERENCE	STANDARD PLATE NO. ROAD-2000-R1
APPROVED: JSH	DATE: 7/29/14		



BYPASS ABOVE METER

METER SIZE	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	DIMENSION "D"
5/8" METER	24" MIN	12" MIN	6" MIN	12"
1" METER	24" MIN	12" MIN	6" MIN	12"
1 1/2" METER	24" MIN	12" MIN	6" MIN	24"
2" METER	24" MIN	12" MIN	6" MIN	24"

NOTE:
1. A BYPASS CIRCUIT IS REQUIRED FOR SERVICE LINES 3" AND LARGER.
2. BYPASS VALVE MUST BE AT LEAST THE SAME SIZE AS THE PERMITTED METER SIZE, LOCKABLE AND BE LOCATED ON THE UPSTREAM TEE.
3. METER ISOLATION VALVES: UPSTREAM VALVE MUST BE THE SAME SIZE AS INCOMING SERVICE LINE.
4. DOWNSTREAM VALVE MUST BE SAME SIZE OR LARGER, AS THE PERMITTED METER.
5. CIRCUIT SIZE MUST BE PERMITTED METER SIZE OR LARGER.
6. METER SIZE: 5/8" METER, 1" METER, 1 1/2" METER, 2" FOR ALL 3", 4" AND 6" METERS
7. 6" MINIMUM CLEARANCE REQUIRED BETWEEN CLOSEST EDGE OF ANY PART OF ASSEMBLY AND ANY FLOOR, WALL OR CEILING
8. THE HEIGHT OF THE CENTERLINE ON INLET AND OUTLET PIPING ABOVE FLOOR FOR ALL METERS WILL BE 12" - 36"
9. WIDTH OF REQUIRED GASKETS MUST BE TAKEN INTO ACCOUNT FOR ALL DIMENSIONS.
10. PLUMBING MATERIALS USED AFTER THE BYPASS VALVE MUST ADHERE TO LOCAL BUILDING CODE.
11. ALL VALVES MUST BE FULL PORT BALL VALVE.
12. ALL ISOLATION VALVES MUST BE A RISING STEM OS AND Y TYPE OR FLANGED CAST IRON FULL PORT BALL VALVE.
13. IF REDUCING SPOOLS ARE USED, THE METER SET MUST BE LENGTHENED TO ACCOMMODATE THEM.
14. METER MUST BE INSTALLED TO ALLOW EASY ACCESS AND REMOVAL FOR METER MAINTENANCE.
15. NO OTHER PLUMBING DEVICES OR CONNECTIONS WILL BE INSTALLED BEFORE THIS METER SET
16. PLUMBING MATERIALS SHALL BE THOSE APPROVED BY THE MINN. STATE PLUMBING CODE - MN RULE 4714.

NOT TO SCALE

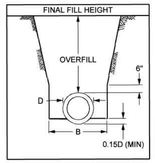
Minneapolis Public Works

DRW: MEN	DATE: 2/1/2020	COMMERCIAL METER BYPASS	STANDARD PLATE NO. WATR-6000-R2
APP: CMD	DATE: 2/2/2020		

CIRCULAR CONCRETE PIPE
HEIGHT OF BACKFILL IN FEET FOR CLASS C BEDDING
MEASURED AT TOP OF PIPE IN FEET, 120 PCF SOIL DENSITY

PIPE CLASS	CLASS II		CLASS III		CLASS IV		CLASS V	
PIPE DIA. (in.)	N	W	N	W	N	W	N	W
12	6	6	9	9	13	13	21	19
15	6	6	9	9	13	13	22	19
18	7	7	9	9	14	13	34	20
21	7	7	9	9	14	14	34	20
24	7	7	9	9	14	14	34	20
27	7	7	9	9	16	14	34	20
30	7	7	10	9	16	14	34	20
33	7	7	10	9	16	14	34	20
36	7	7	10	9	17	14	34	21
42	7	7	10	9	17	14	34	21
48	8	8	11	10	18	14	34	21
54	8	8	11	10	18	14	34	21
60	8	8	11	10	18	14	34	21
66	8	8	11	10	18	14	34	21
72	8	8	12	11	19	14	34	21
78	9	8	12	11	20	15	34	21
84	9	9	12	11	20	15	34	21
90	9	9	12	11	20	15	34	22
96	9	9	13	11	20	15	34	22
102	9	9	13	11	20	16	34	22
108	9	9	13	12	20	16	34	22

N = NARROW TRENCH: MINIMUM WIDTH
W = WIDE TRENCH: TRANSITION WIDTH
PIPE DIA. (in.) = INSIDE DIAMETER IN CHART



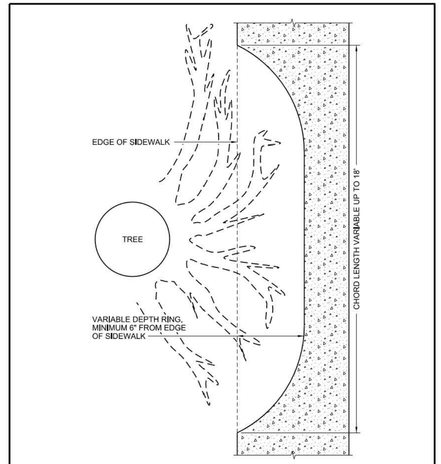
CLASS C (ORDINARY BEDDING)
CLASS C BEDDING CONSISTS OF CAREFULLY SHAPING THE FOUNDATION SOIL TO FIT THE LOWER EXTERIOR OF THE PIPE TO A DEPTH OF AT LEAST 15% OF THE OUTSIDE DIAMETER FOR CIRCULAR PIPES, AND AT LEAST EQUAL TO 1/2 OF THE HEIGHT OF ARCH PIPE. ADDITIONAL CONSIDERATION FOR BELL END PIPE IS USED. THE BEDDING MUST BE EXCAVATED TO ACCEPT THE BELL END SO THAT THE PIPE IS SUPPORTED ALONG ITS FULL LENGTH AND NOT JUST AT THE BELL.

PIPE DIA. (in.)	B
36 OR LESS	D + 24"
42 TO 54	1.5 x D
60 OR OVER	D + 36

MINNEAPOLIS DESIGN REFERENCE
MNDOT DRAINAGE MANUAL
SECTION 2.5; AUGUST 30, 2000
FIG. 2.3 CLASSES OF BEDDING FOR TRENCH CONDITIONS
NOT TO SCALE

Minneapolis Public Works

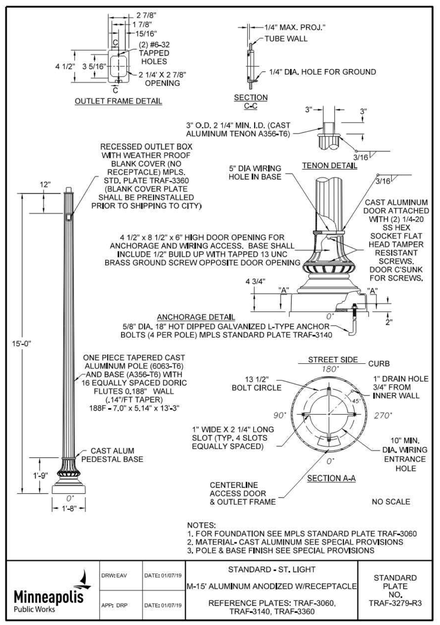
DRW: CLK	DATE: 12/20	CLASS C BEDDING FOR TRENCH CONDITION	STANDARD PLATE NO. SEWR-6002-R1
APP: KMM	DATE: 4/21		



NOTES:
1. TREE RING TO BE CONSTRUCTED WHERE TREE ROOTS DO NOT ALLOW STRAIGHT CONCRETE WALK OR WHERE TREE IS CLOSER THAN 18' FROM EDGE OF NORMAL SIDEWALK.
2. DEPTH OF TREE RING IS VARIABLE DOWN TO MINIMUM 4' WALK WIDTH TO AVOID CUTTING ROOTS.
3. MINIMUM CHORD LENGTH OF 6' TO BE EXTENDED TO AVOID CUTTING ROOTS.
4. MAXIMUM CHORD LENGTH IS 18' UNLESS LONGER CHORD IS APPROVED BY THE CITY ENGINEER.
5. MINIMUM REMAINING SIDEWALK WIDTH IS 4'.

Minneapolis Public Works

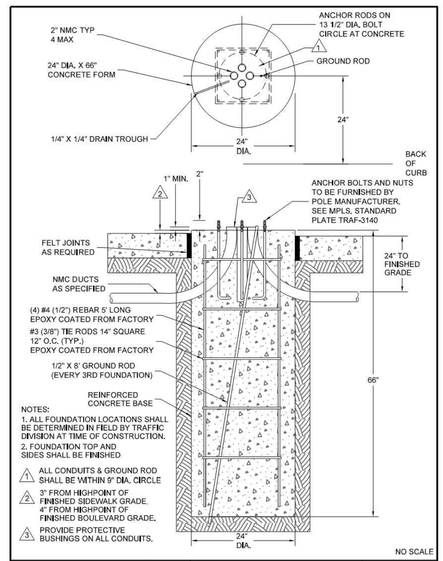
DRW: JFC	DATE: 1/10/18	TREE RING INSTALLATION GUIDE	STANDARD PLATE NO. ROAD-4005-R1
APP: JSH	DATE: 1/10/18		



NOTES:
1. FOR FOUNDATION SEE MPLS STANDARD PLATE TRAF-3060
2. MATERIAL - CAST ALUMINUM SEE SPECIAL PROVISIONS
3. POLE & BASE FINISH SEE SPECIAL PROVISIONS

Minneapolis Public Works

DRW: EAV	DATE: 01/07/19	STANDARD - ST. LIGHT M-15' ALUMINUM ANODIZED W/RECEPTACLE REFERENCE PLATES: TRAF-3060, TRAF-3140, TRAF-3360	STANDARD PLATE NO. TRAF-3279-R3
APP: DRP	DATE: 01/07/19		



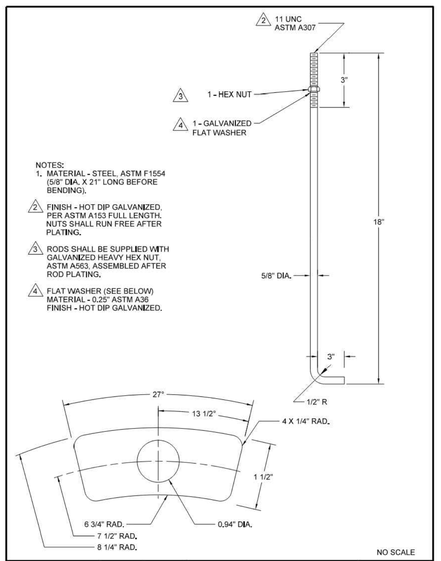
NOTES:
1. ALL FOUNDATION LOCATIONS SHALL BE DETERMINED IN FIELD BY TRAFFIC DIVISION AT TIME OF CONSTRUCTION.
2. FOUNDATION TOP AND SIDES SHALL BE FINISHED

1. ALL CONDUITS & GROUND ROD SHALL BE WITHIN 9" DIA. CIRCLE
2. 3" FROM HIGHPOINT OF FINISHED SIDEWALK GRADE. 4" FROM HIGHPOINT OF FINISHED BOULEVARD GRADE.
3. PROVIDE PROTECTIVE BUSHINGS ON ALL CONDUITS.

NO SCALE

Minneapolis Public Works

DRW: EAV	DATE: 4/23/20	FOUNDATION - ST. LIGHT 12'-15' - ROUND CAP REFERENCE PLATE: TRAF-3140, TRAF-3006	STANDARD PLATE NO. TRAF-3060-R3
APP: DRP	DATE: 4/23/20		

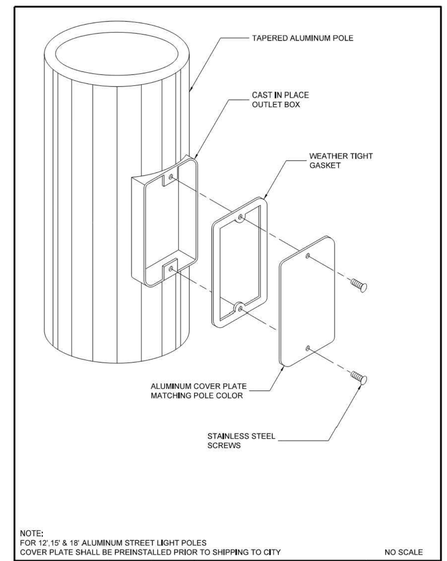


NOTES:
1. MATERIAL - STEEL, ASTM F1554 5/8" DIA. X 21" LONG BEFORE BENDING).
2. FINISH - HOT DIP GALVANIZED, PER ASTM A153 FULL LENGTH. NUTS SHALL RUN FREE AFTER PLATING.
3. RODS SHALL BE SUPPLIED WITH GALVANIZED HEAVY HEX NUT, ASTM A563, ASSEMBLED AFTER ROD PLATING.
4. FLAT WASHER (SEE BELOW) MATERIAL - 0.25" ASTM A36 FINISH - HOT DIP GALVANIZED.

NO SCALE

Minneapolis Public Works

DRW: EAV	DATE: 5/7/18	ANCHOR ROD - ST. LIGHT 5/8" X 18"	STANDARD PLATE NO. TRAF-3140-R3
APP: DRP	DATE: 5/7/18		



NOTE:
FOR 12',15' & 18' ALUMINUM STREET LIGHT POLES
COVER PLATE SHALL BE PREINSTALLED PRIOR TO SHIPPING TO CITY

NO SCALE

Minneapolis Public Works

DRW: CLK	DATE: 11/18/13	ATTACHMENT - ST. LIGHT RECESSED OUTLET BOX	STANDARD PLATE NO. TRAF-3360-R1
APP: DRP	DATE: 11/18/13		

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT
FRANCE 50
4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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.

Matthew R. Pavek
DATE 03/21/22 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
08/20/2021	LUA/PDR SUBMITTAL
09/09/21	LUA RE-SUBMITTAL
10/22/21	LUA RE SUBMITTAL
12/03/2021	PDR RESUBMITTAL
01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

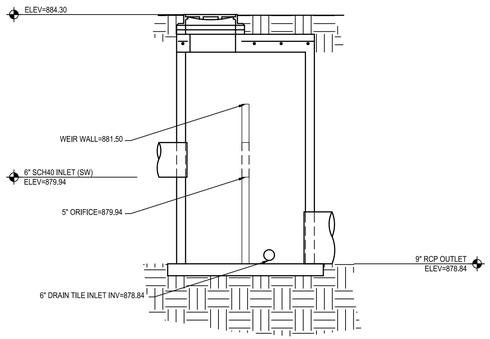
DRAWN BY: BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

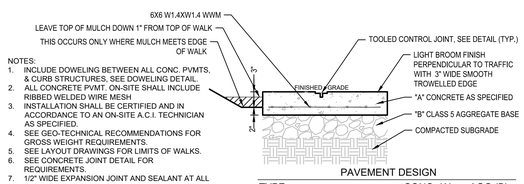
DATE	DESCRIPTION

CIVIL DETAILS

C5.2



1 OUTLET CONTROL STRUCTURE (MH 03)
N T S

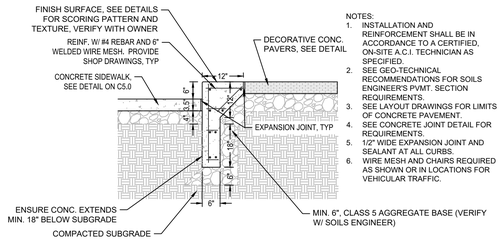


NOTES:
1. INCLUDE DOWELING BETWEEN ALL CONC. PVMTS, & CURB STRUCTURES, SEE DOWELING DETAIL.
2. ALL CONCRETE PVMT. ON-SITE SHALL INCLUDE RIBBED WELDED WIRE MESH
3. INSTALLATION SHALL BE CERTIFIED AND IN ACCORDANCE TO AN ON-SITE A.C.I. TECHNICIAN AS SPECIFIED.
4. SEE GEO-TECHNICAL RECOMMENDATIONS FOR GROSS WEIGHT REQUIREMENTS.
5. SEE LAYOUT DRAWINGS FOR LIMITS OF WALKS.
6. SEE CONCRETE JOINT DETAIL FOR REQUIREMENTS.
7. 1/2" WIDE EXPANSION JOINT AND SEALANT AT ALL CURBS.
8. IF NO DESIGN IS DEFINED IN CHART, SEE GEOTECH REPORT FOR FINAL PAVEMENT SECTION.
9. IF DESIGN IS DEFINED IN CHART, IT SHOULD BE CONSIDERED FOR BIDDING PURPOSES ONLY. REFER TO GEOTECH FOR FINAL PAVEMENT SECTION.

PAVEMENT DESIGN

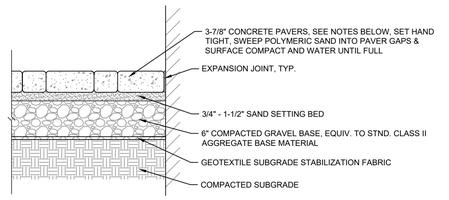
TYPE	CONC. (A)	AGG.(B)
WALKS	5"	6"
CONC. DRIVES	6.0"	6.0"

2 CONCRETE PVMT./WALK/PAD
N T S (PRIVATE PROPERTY)

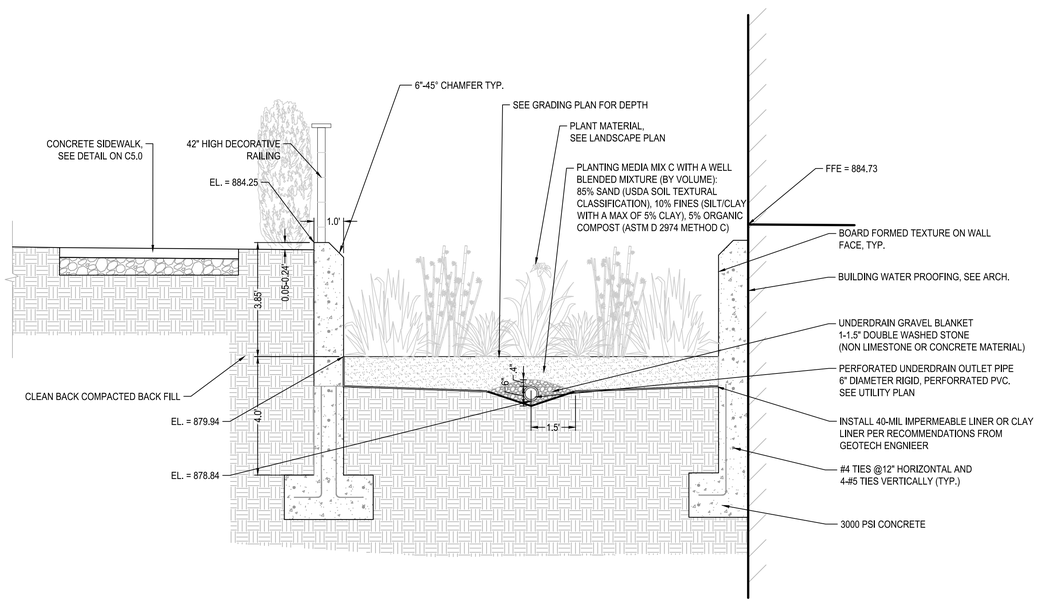


NOTES:
1. INSTALLATION AND REINFORCEMENT SHALL BE IN ACCORDANCE TO A CERTIFIED, ON-SITE A.C.I. TECHNICIAN AS SPECIFIED.
2. SEE GEO-TECHNICAL RECOMMENDATIONS FOR SOILS ENGINEER'S PVMT. SECTION REQUIREMENTS.
3. SEE LAYOUT DRAWINGS FOR LIMITS OF CONCRETE PAVEMENT.
4. SEE CONCRETE JOINT DETAIL FOR REQUIREMENTS.
5. 1/2" WIDE EXPANSION JOINT AND SEALANT AT ALL CURBS.
6. WIRE MESH AND CHAIRS REQUIRED AS SHOWN OR IN LOCATIONS FOR VEHICULAR TRAFFIC.

3 THICKENED EDGE CONCRETE WALK W/ 6" CURB
N T S



4 DECORATIVE CONCRETE PAVERS
N T S



TYPICAL SECTION VIEW

CONSTRUCTION SEQUENCING

1. INSTALL SILT FENCE AND/OR OR OTHER APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
2. ALL DOWN-GRADIENT PERIMETER SEDIMENT CONTROL BMP'S MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITY BEGINS.
3. PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES.
4. INSTALL UTILITIES (WATER, SANITARY SEWER, ELECTRIC, PHONE, FIBER OPTIC, ETC) PRIOR TO SETTING FINAL GRADE OF BIORETENTION DEVICE.
5. ROUGH GRADE THE SITE. IF BIORETENTION AREAS ARE BEING USED AS TEMPORARY SEDIMENT BASINS LEAVE A MINIMUM OF 3 FEET OF COVER OVER THE PRACTICE TO PROTECT THE UNDERLYING SOILS FROM CLOGGING.
6. PERFORM ALL OTHER SITE IMPROVEMENTS.
7. PLANT ALL AREAS AFTER DISTURBANCE.
8. CONSTRUCT BIORETENTION DEVICE UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA.
9. IMPLEMENT TEMPORARY AND PERMANENT EROSION CONTROL PRACTICES.
10. PLANT AND/OR ROCK MULCH BIORETENTION DEVICE.
11. REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY VEGETATED.

GENERAL NOTES

1. IN THE EVENT THAT SEDIMENT IS INTRODUCED INTO THE BMP DURING OR IMMEDIATELY FOLLOWING EXCAVATION, THIS MATERIAL SHALL BE REMOVED FROM THE PRACTICE PRIOR TO CONTINUING CONSTRUCTION.
2. GRADING OF BIORETENTION DEVICES SHALL BE ACCOMPLISHED USING LOW-COMPACTION EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF UNDERLYING SOILS.
3. ALL SUB MATERIALS BELOW THE SPECIFIED BIORETENTION DEPTH (ELEVATION) SHALL BE UNDISTURBED, UNLESS OTHERWISE NOTED.
4. PROVIDE SHOP DRAWINGS FOR POURED IN PLACE CONCRETE WALLS.

5 BIO-FILTRATION BASIN
N T S

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03/21/22	REVISED PLANS

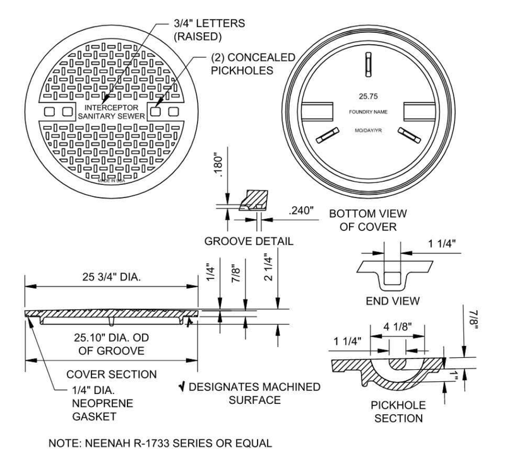
DRAWN BY:BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

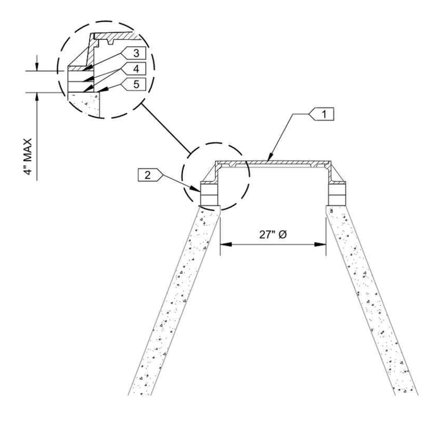
DATE	DESCRIPTION

CIVIL DETAILS

C5.3



1 GI10 **MCES MH COVER**
NO SCALE



2 GI10 **GRADE RINGS AND CASTING**
NO SCALE

GENERAL NOTES:

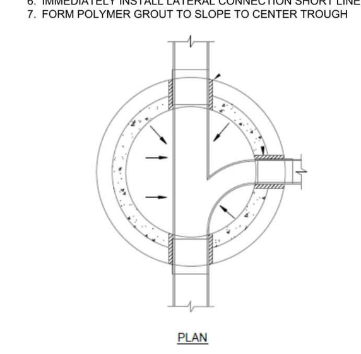
1. USE SLOPED AND OR 1/4-INCH ADJUSTMENT RINGS TO MATCH GRADE AND CROWN OF ROAD.
2. PAVEMENT AND MANICURED AREAS: ADJUST TO 1/4-INCH BELOW FINISHED SURFACE ELEVATION.
3. NON-SURFACED AREAS: ADJUST TO EXISTING GRADE AND INSTALL MCES SUPPLIED FIBERGLASS STAKE.

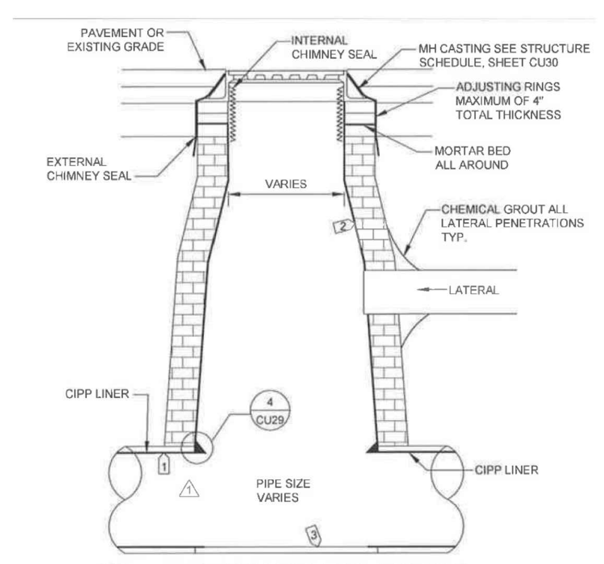
KEY NOTES:

1. SEE 1/GI10.
2. ADJUSTING RINGS. PRO-RING BY CRETEX, HDPE LIFESAVER MANHOLE ADJUSTMENT UNIT BY IPEX, OR HDPE MANHOLE RING BY LADTECH. MAXIMUM ADJUSTING HEIGHT 4-INCHES. RINGS TO EXTEND TO EDGE OF MH SHOULDER TO PROVIDE LOAD TRANSFER AS REQUIRED TO MAINTAIN MH LOAD RATING, BUT SHALL NOT EXTEND MORE THAN 6-INCHES BEYOND SHOULDER.
3. PROVIDE TWO ROWS OF PRO-STIK BUTYL SEALANT OR APPROVED EQUAL BETWEEN TOP ADJUSTMENT RING AND FRAME.
4. PROVIDE TWO ROWS OF ADJUSTMENT RING MANUFACTURER APPROVED SEALANT BETWEEN ALL RINGS AND CONE.
5. BOTTOM HDPE ADJUSTMENT RING REQUIRES 1/4-INCH SOLID RING BELOW BOTTOM RING.

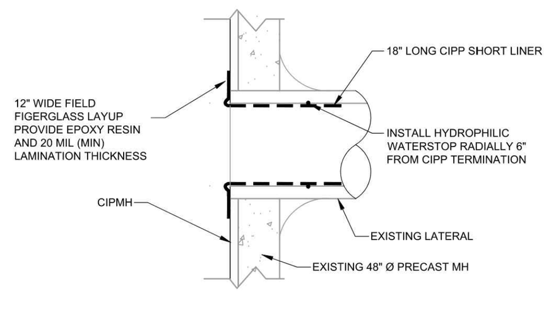
GENERAL NOTES:

1. ALL MH ADJUSTMENTS REQUIRE REMOVAL OF CHIMNEY SEALS AND CONCRETE ADJUSTMENT RINGS. RECONSTRUCT ACCORDING TO THE GRADE RINGS AND CASTING DETAIL
2. FOR ALL NEW CONNECTIONS TO BRICK-CIPMHL MHs:
3. FOLLOW INVERT ELEVATIONS AS SHOWN ON THE UTILITY PLAN
4. CORE DRILL OPENING AND PROVIDE TYPE B WATER TIGHT CONNECTOR
5. PROTECT EXTERIOR OF BRICK MH WHILE CORE DRILLING
6. IMMEDIATELY INSTALL LATERAL CONNECTION SHORT LINER
7. FORM POLYMER GROUT TO SLOPE TO CENTER TROUGH

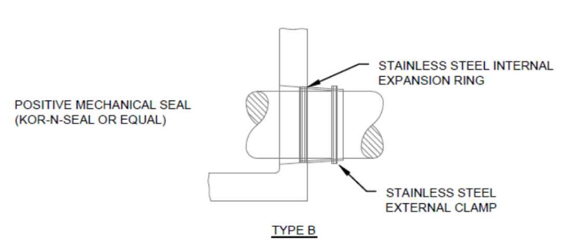


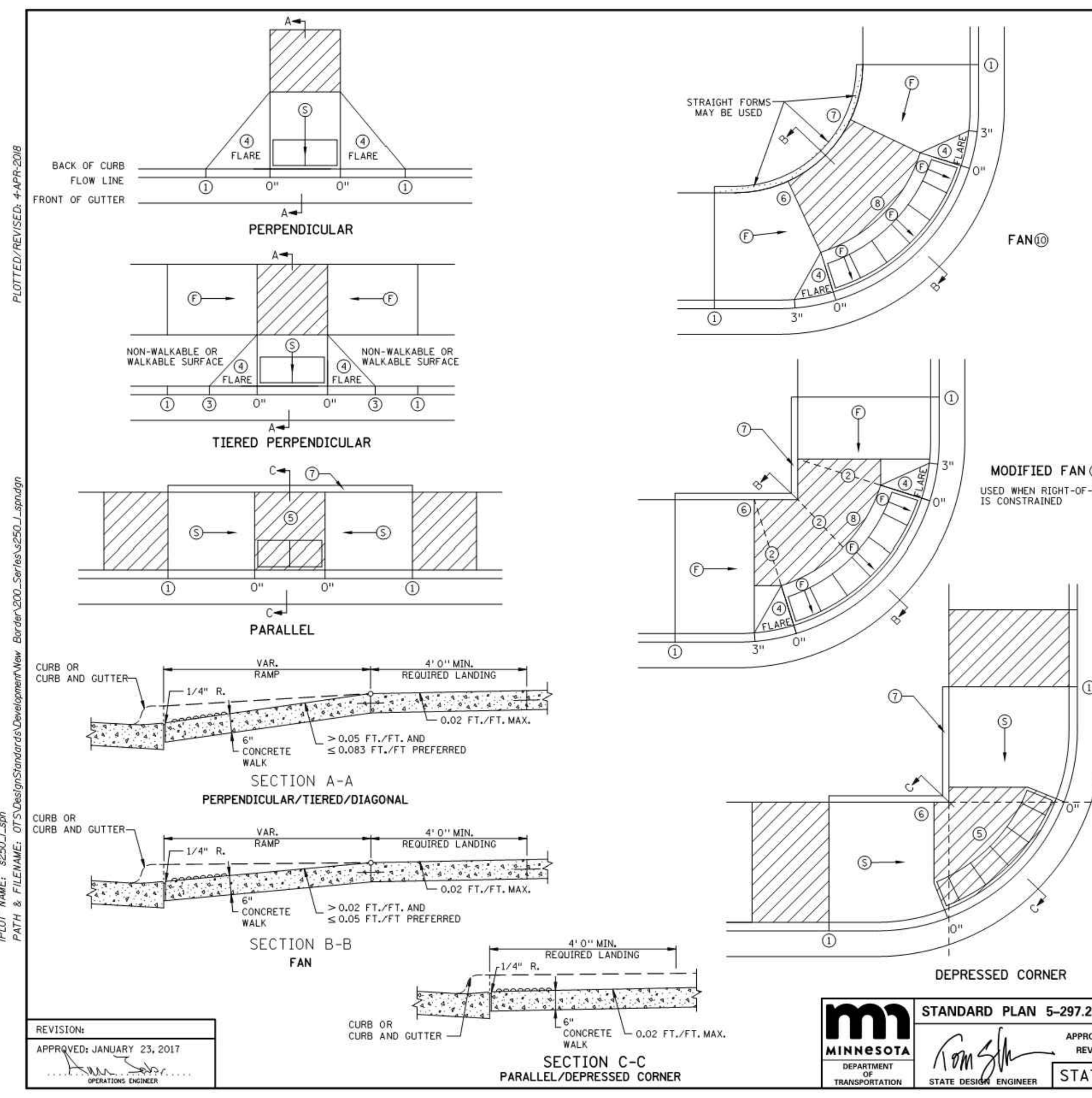


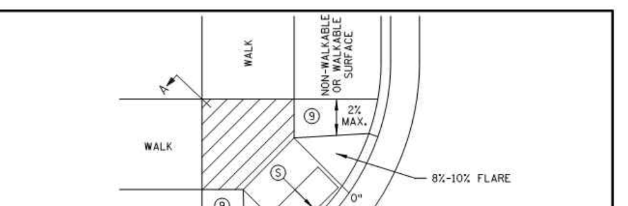
2 CU29 **BRICK MH REHABILITATION**
NO SCALE



3 GI10 **LATERAL CONNECTION SHORT LINER**
NO SCALE







NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN (6) BELOW.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

1. MATCH FULL HEIGHT CURB.
2. 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
3. 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
4. SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS. WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
5. DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
6. THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
7. WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
8. A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
9. PAVE FULL WALK WIDTH.
10. "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

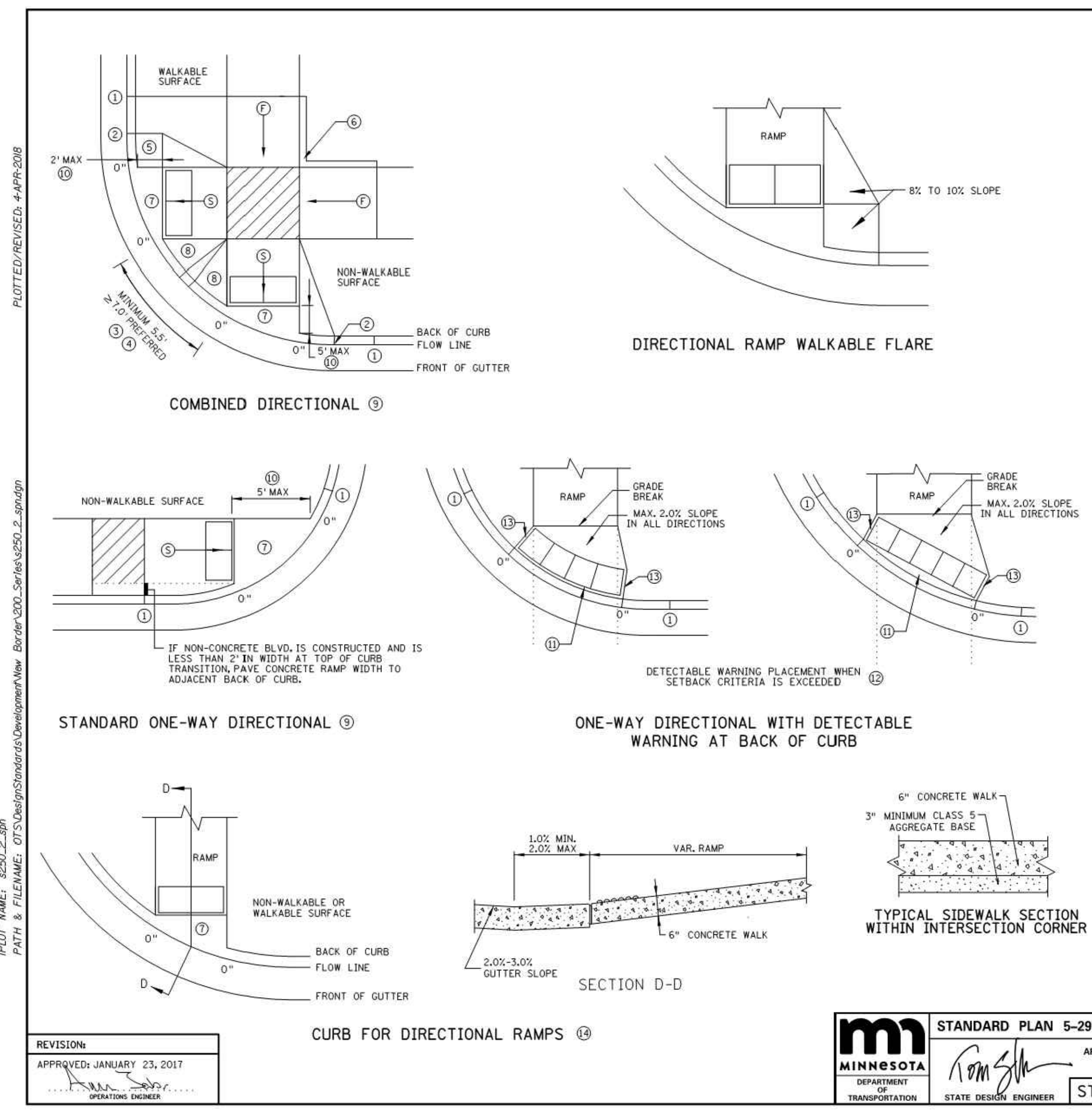
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- X" CURB HEIGHT

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION | STANDARD PLAN 5-297.250 | 1 OF 6 | APPROVED: 1-23-2017 REVISED: | STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS



NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

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ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES (10) & (11) FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

1. MATCH FULL CURB HEIGHT.
2. 3" HIGH CURB WHEN USING A 3' LONG RAMP; 4" HIGH CURB WHEN USING A 4' LONG RAMP.
3. 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES); 4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
4. THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
5. WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.
6. GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
7. MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
8. 8% TO 10% WALKABLE FLARE.
9. PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
10. FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
11. RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
12. FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
13. THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
14. TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- X" CURB HEIGHT

REVISION:
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MINNESOTA DEPARTMENT OF TRANSPORTATION | STANDARD PLAN 5-297.250 | 2 OF 6 | APPROVED: 1-23-2017 REVISED: | STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

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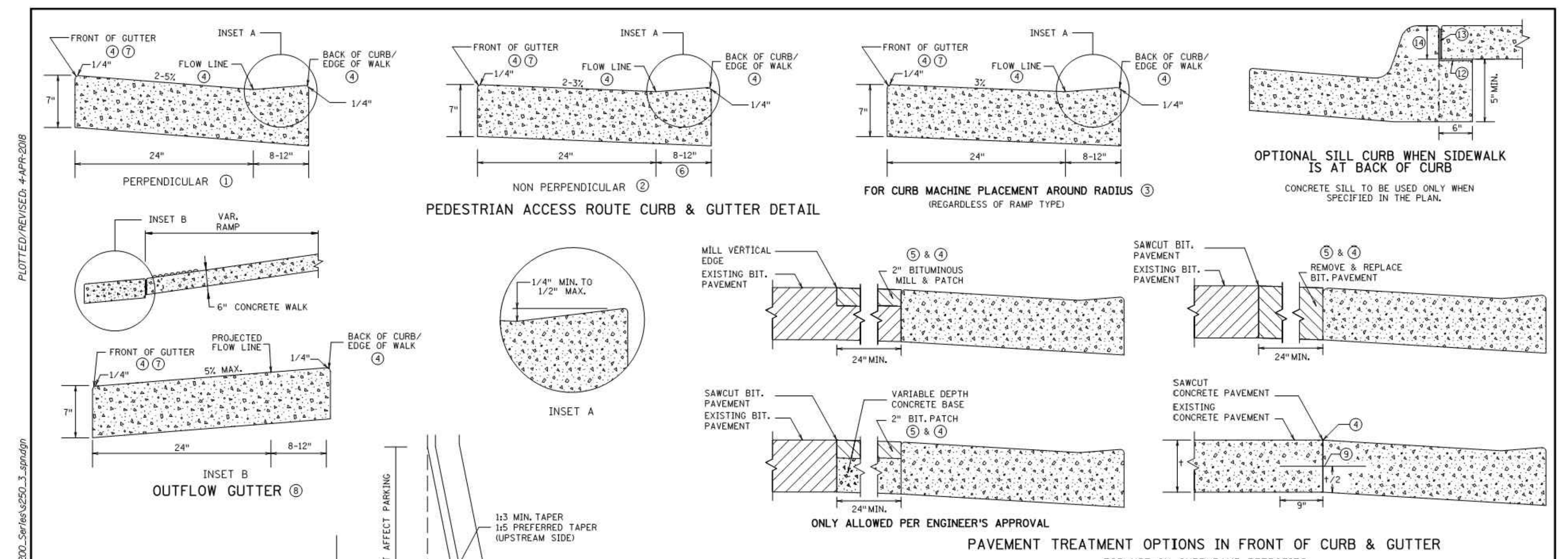

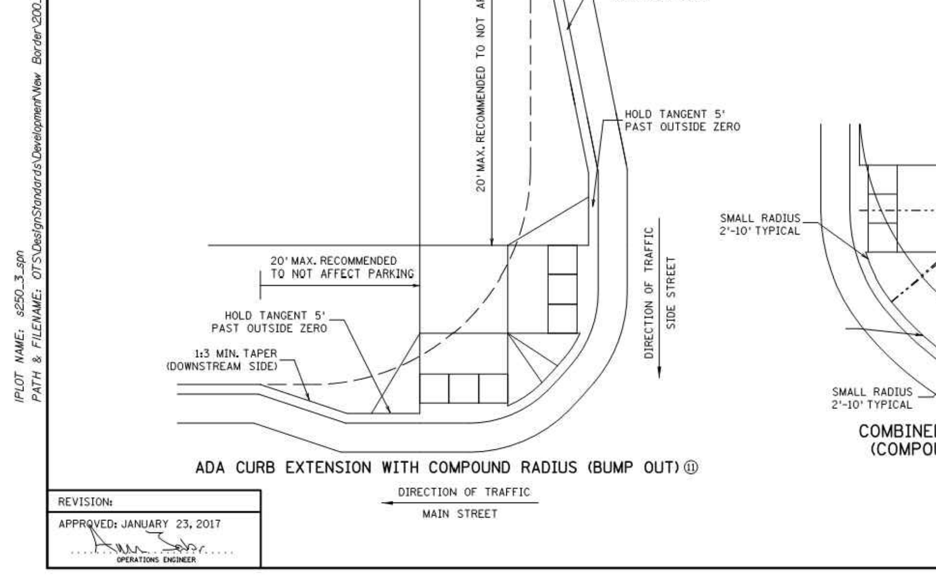

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.
NO PONDING SHALL BE PRESENT IN THE PAR.
ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

1. FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
2. FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
3. BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
4. THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
5. ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
6. VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
7. TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
8. SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
9. DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.
10. HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
11. CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.
12. PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.
13. 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.
14. DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

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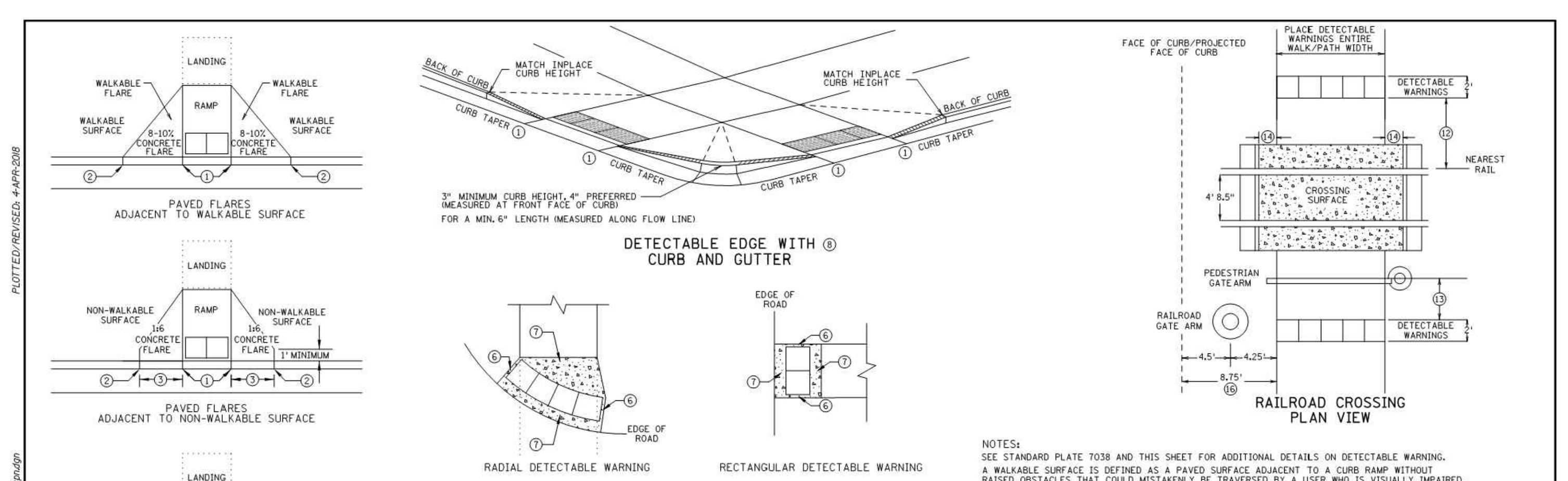
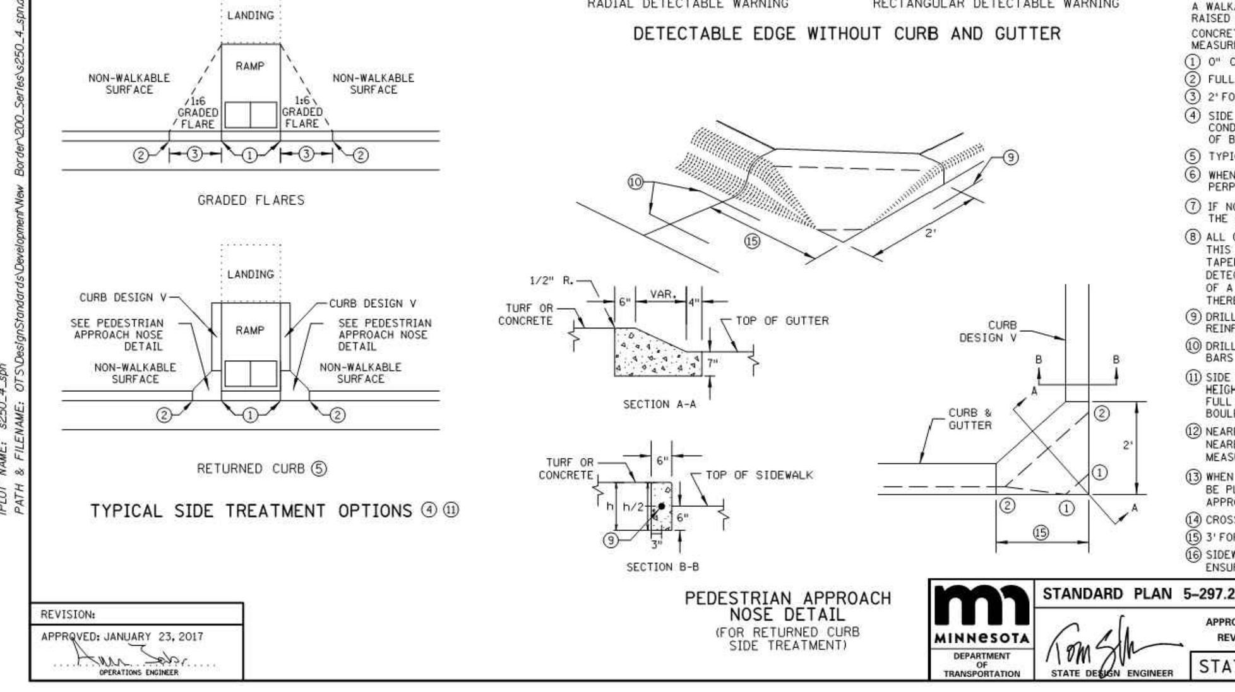
PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS





NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

1. 0" CURB HEIGHT.
2. FULL CURB HEIGHT.
3. 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.
4. SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
5. TYPICALLY USED FOR MEDIANS AND ISLANDS.
6. WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
7. IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
8. ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
9. DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
10. DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
11. SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.
12. NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
13. WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE (12).
14. CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
15. 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
16. SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

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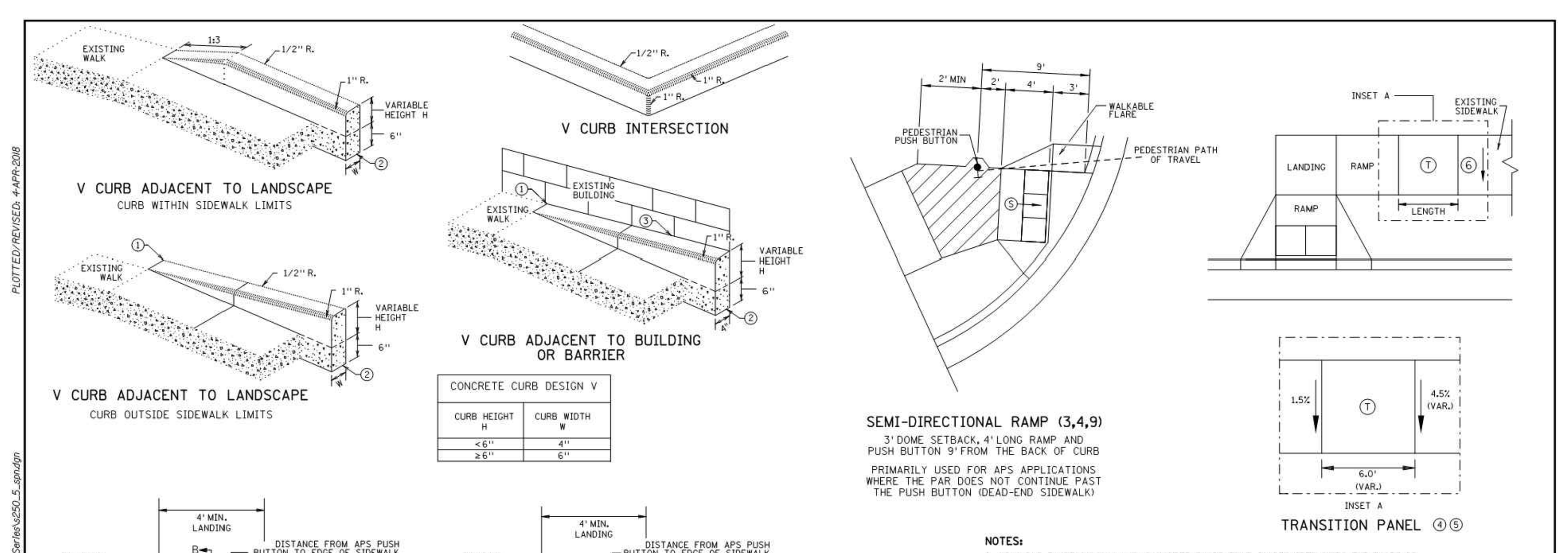
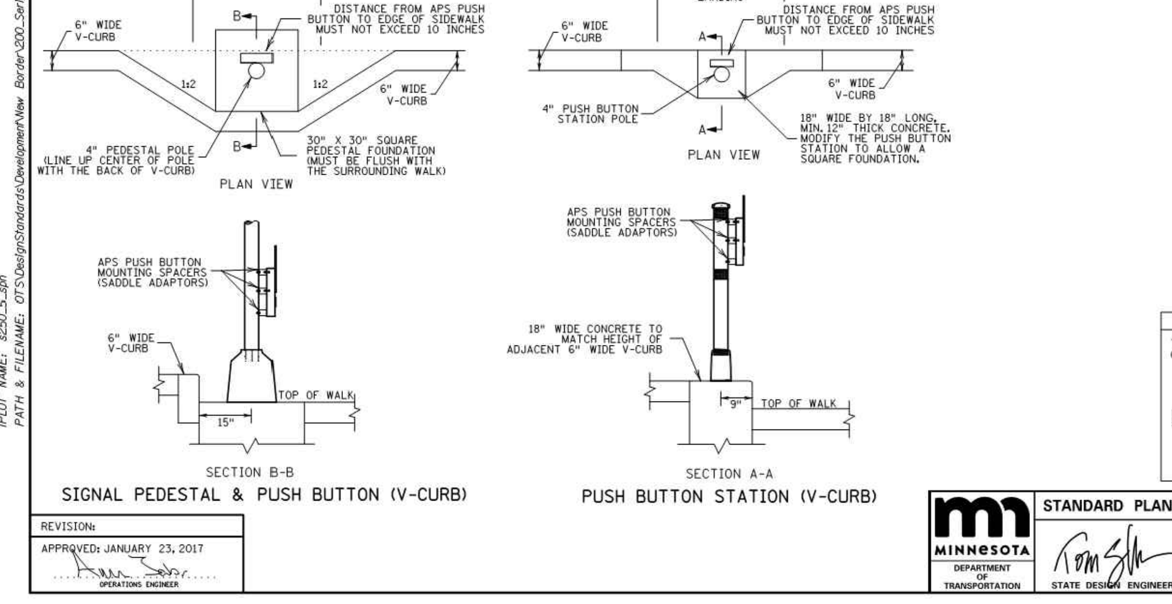
PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS





NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

1. END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
2. ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
3. EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
4. THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
5. TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
6. EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- (T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

REVISION:
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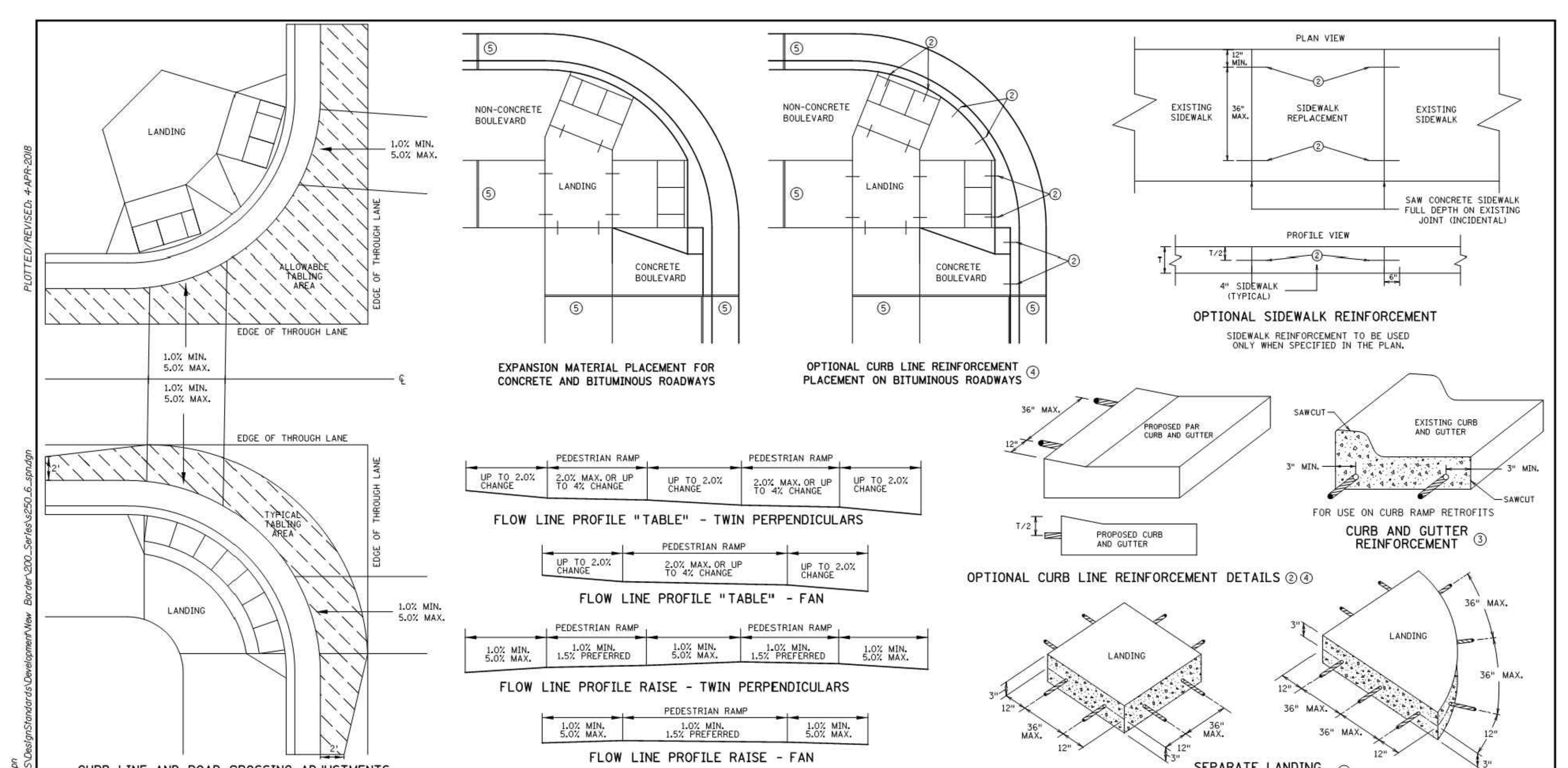
MINNESOTA DEPARTMENT OF TRANSPORTATION | STANDARD PLAN 5-297.250 | 5 OF 6 | APPROVED: 1-23-2017 REVISED: | STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS



"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK. IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

1. TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
2. DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
3. DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
4. THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
5. 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

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MINNESOTA DEPARTMENT OF TRANSPORTATION | STANDARD PLAN 5-297.250 | 6 OF 6 | APPROVED: 1-23-2017 REVISED: | STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT

FRANCE 50
4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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.

Matthew R. Pavek
DATE 03/21/22 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
08/20/2021	LUA/PDR SUBMITTAL
09/09/21	LUA RE-SUBMITTAL
10/22/21	LUA RE SUBMITTAL
12/03/2021	PDR RESUBMITTAL
01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

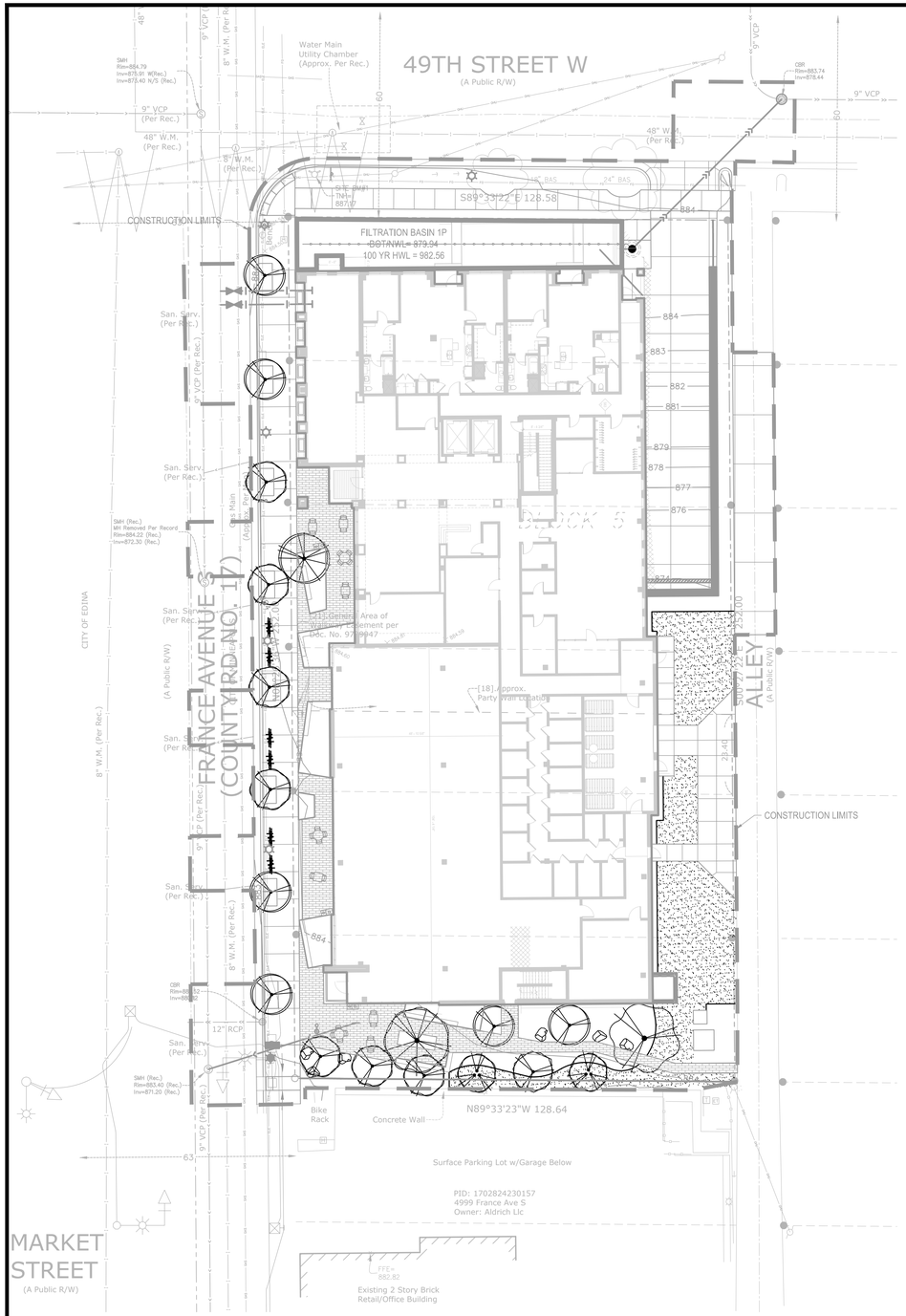
DRAWN BY: BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

CIVIL DETAILS

C5.4



LANDSCAPE NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
2. WHERE SHOWN, SHRUB & PERENNIAL BEDS SHALL BE MULCHED WITH 4" DEPTH (MINIMUM AFTER INSTALLATION AND/OR TOP DRESSING OPERATIONS) OF SHREDDED CEDAR MULCH.
3. ALL TREES SHALL BE MULCHED WITH SHREDDED CEDAR MULCH TO OUTER EDGE OF SAUCER OR TO EDGE OF PLANTING BED, IF APPLICABLE. ALL MULCH SHALL BE KEPT WITHIN A MINIMUM OF 2" FROM TREE TRUNK.
4. IF SHOWN ON PLAN, RANDOM SIZED LIMESTONE BOULDERS COLOR AND SIZE TO COMPLIMENT NEW LANDSCAPING. OWNER TO APPROVE BOULDER SAMPLES PRIOR TO INSTALLATION.
5. PLANT MATERIALS SHALL CONFORM WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND SHALL BE OF HARDY STOCK, FREE FROM DISEASE, DAMAGE AND DISFIGURATION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PLUMPNESS OF PLANT MATERIAL FOR DURATION OF ACCEPTANCE PERIOD.
6. UPON DISCOVERY OF A DISCREPANCY BETWEEN THE QUANTITY OF PLANTS SHOWN ON THE SCHEDULE AND THE QUANTITY SHOWN ON THE PLAN, THE PLAN SHALL GOVERN.
7. CONDITION OF VEGETATION SHALL BE MONITORED BY THE LANDSCAPE ARCHITECT THROUGHOUT THE DURATION OF THE CONTRACT. LANDSCAPE MATERIALS PART OF THE CONTRACT SHALL BE WARRANTED FOR ONE (1) FULL GROWING SEASONS FROM SUBSTANTIAL COMPLETION DATE.
8. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL RECEIVE 4" LAYER TOPSOIL AND SOD AS SPECIFIED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
9. COORDINATE LOCATION OF VEGETATION WITH UNDERGROUND AND OVERHEAD UTILITIES, LIGHTING FIXTURES, DOORS AND WINDOWS. CONTRACTOR SHALL STAKE IN THE FIELD FINAL LOCATION OF TREES AND SHRUBS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
10. ALL PLANT MATERIALS SHALL BE WATERED AND MAINTAINED UNTIL ACCEPTANCE.
11. REPAIR AT NO COST TO OWNER ALL DAMAGE RESULTING FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.
12. SWEEP AND MAINTAIN ALL PAVED SURFACES FREE OF DEBRIS GENERATED FROM LANDSCAPE CONTRACTOR'S ACTIVITIES.
13. REPAIR AT NO COST TO THE OWNER IRRIGATION SYSTEM DAMAGED FROM LANDSCAPE CONSTRUCTION ACTIVITIES.
14. PROVIDE SITE WIDE IRRIGATION SYSTEM DESIGN AND INSTALLATION. SYSTEM SHALL BE FULLY PROGRAMMABLE AND CAPABLE OF ALTERNATE DATE WATERING. THE SYSTEM SHALL PROVIDE HEAD TO HEAD OR DRIP COVERAGE AND BE CAPABLE OF DELIVERING ONE INCH OF PRECIPITATION PER WEEK. SYSTEM SHALL EXTEND INTO THE PUBLIC RIGHT-OF-WAY TO THE EDGE OF PAVEMENT/BACK OF CURB.
15. CONTRACTOR SHALL SECURE APPROVAL OF PROPOSED IRRIGATION SYSTEM INLCUDING PRICING FROM OWNER, PRIOR TO INSTALLATION.

IRRIGATION NOTES:

1. ENTIRE SITE SHALL BE FULLY IRRIGATED. THE CONTRACTOR SHALL SUBMIT IRRIGATION SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. SEE MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS FOR IRRIGATION WATER, METER, AND POWER CONNECTIONS.
3. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND/ABOVE GROUND FACILITIES PRIOR TO ANY EXCAVATION/INSTALLATION. ANY DAMAGE TO UNDERGROUND/ABOVE GROUND FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND COSTS ASSOCIATED WITH CORRECTING DAMAGES SHALL BE BORNE ENTIRELY BY THE CONTRACTOR.
4. SERVICE EQUIPMENT AND INSTALLATION SHALL BE PER LOCAL UTILITY COMPANY STANDARDS AND SHALL BE PER NATIONAL AND LOCAL CODES. EXACT LOCATION OF SERVICE EQUIPMENT SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT OR EQUIVALENT AT THE JOB SITE.
5. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR THE PROPOSED ELECTRICAL SERVICE AND METERING FACILITIES.
6. IRRIGATION WATER LINE CONNECTION SIZE IS 1-½" AT BUILDING. VERIFY WITH MECHANICAL PLANS.COVAGE.
7. ALL MAIN LINES SHALL BE 18" BELOW FINISHED GRADE.
8. ALL LATERAL LINES SHALL BE 12" BELLOW FINISHED GRADE.
9. ALL EXPOSED PVC RISERS, IF ANY, SHALL BE GRAY IN COLOR.
10. CONTRACTOR SHALL LAY ALL SLEEVES AND CONDUIT AT 2'-0" BELOW THE FINISHED GRADE OF THE TOP OF PAVEMENT. EXTEND SLEEVES TO 2'-0" BEYOND PAVEMENT.
11. CONTRACTOR SHALL MARK THE LOCATION OF ALL SLEEVES AND CONDUIT WITH THE SLEEVING MATERIAL "ELLED" TO 2'-0" ABOVE FINISHED GRADE AND CAPPED.
12. FABRICATE ALL PIPE TO MANUFACTURE'S SPECIFICATIONS WITH CLEAN AND SQUARE CUT JOINTS. USE QUALITY GRADE PRIMER AND SOLVENT CEMENT FORMULATED FOR INTENDED TYPE OF CONNECTION.
13. BACKFILL ALL TRENCHES WITH SOIL FREE OF SHARP OBJECTS AND DEBRIS.
14. ALL VALVE BOXES AND COVERS SHALL BE BLACK IN COLOR.
15. GROUP VALVE BOXES TOGETHER FOR EASE WHEN SERVICE IS REQUIRED. LOCATE IN PLANT BED AREAS WHENEVER POSSIBLE.
16. IRRIGATION CONTROLLER LOCATION SHALL BE VERIFIED ON-SITE WITH OWNER'S REPRESENTATIVE.
17. CONTROL WIRES: 14 GAUGE DIRECT BURIAL, SOLID COPPER IRRIGATION WIRE. RUN UNDER MAIN LINE. USE MOISTURE-PROOF SPLICES AND SPLICE ONLY AT VALVES OR PULL BOXES. RUN SEPARATE HOT AND COMMON WIRE TO EACH VALVE AND ONE (1) SPARE WIRE AND GROUND TO FURTHEST VALVE FROM CONTROLLER. LABEL OR COLOR CODE ALL WIRES.
18. AVOID OVER SPRAY ON BUILDINGS, PAVEMENT, WALLS AND ROADWAYS BY INDIVIDUALLY ADJUSTING RADIUS OR ARC ON SPRINKLER HEADS AND FLOW CONTROL ON AUTOMATIC VALVE.
19. ADJUST PRESSURE REGULATING VALVES FOR OPTIMUM PRESSURE ON SITE.
20. USE SCREENS ON ALL HEADS.
21. A SET OF AS-BUILT DRAWINGS SHALL BE MAINTAINED ON-SITE AT ALL TIMES IN AN UPDATED CONDITION.
22. ALL PIPE 3" AND OVER SHALL HAVE THRUST BLOCKING AT EACH TURN.
23. ALL AUTOMATIC REMOTE CONTROL VALVES WILL HAVE 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL UNDERNEATH VALVE AND VALVE BOX. GRAVEL SHALL EXTENT 3" BEYOND PERIMETER OF VALVE BOX.
24. THERE SHALL BE 3" MINIMUM SPACE BETWEEN BOTTOM OF VALVE BOX COVER AND TOP OF VALVE STRUCTURE.

LANDSCAPE CALCULATIONS:

PROPOSED LANDSCAPE AREA CALCULATION:
SITE AREA - BUILDING COVERAGE = OPEN SPACE

32,406.0 SF - 20,788.0 SF = 11,618.0 SF

20% OF OPEN SPACE = LANDSCAPE AREA

20% X 11,618.0 SF = 2,323.6 SF REQUIRED
50% X 11,618.0 SF = 5,825.0 SF PROVIDED

82.0% PROPOSED IMPERVIOUS RATIO

PROPOSED LANDSCAPE:
1 TREE/ 500 SF OF "LANDSCAPE AREA"
2,323.6 SF / 500 = 5 TREES REQUIRED
SEE PLANT SCHEDULE

1 SHRUB/100 SF OR "LANDSCAPE AREA"
2,323.6 SF / 100 = 23.2 SHRUBS REQUIRED
SEE PLANT SCHEDULE

CITY OF MINNEAPOLIS SITE SPECIFIC LANDSCAPE NOTES:

1. ALL PROPOSED TREES IN THE PUBLIC RIGHT-OF-WAY ARE SUBJECT TO THE REVIEW AND APPROVAL OF THE MINNEAPOLIS PARK BOARD. PLEASE CONTACT CRAIG PINKALLA AT (612) 499-9233 TO DISCUSS TREE SPECIES SELECTION, PLANTING METHOD, SPACING AND LOCATIONS. TREE PLANTING DETAILS SHALL BE INCLUDED IN THE PLANS. FOR ALL TREES PROPOSED IN "HARDSCAPE ENVIRONMENTS" WITHIN THE PUBLIC RIGHT-OF- WAY, THE APPLICANT SHALL PROVIDE ENGINEERED/STRUCTURED SOIL IN THE FORM OF A TREE TRENCH OR TREE PIT FOR ALL PROPOSED STREET TREES. LANDSCAPING IN THE PUBLIC RIGHT-OF-WAY SHALL FOLLOW ESTABLISHED DESIGN STANDARDS IN ACCORDANCE WITH THE CITY OF MINNEAPOLIS STANDARD SUPPLEMENTAL SPECIFICATIONS FOR CONSTRUCTION CURRENT EDITION AND ITS ATTACHMENTS (REFER TO THE FOLLOWING:HTTP://WWW.MINNEAPOLISMN.GOV/PUBLICWORKS/PLATES/INDEX.HTM).

POLLINATOR SAFE PLANT MATERIAL:

1. THE CONTRACTOR SHALL PROVIDE ONLY PLANT MATERIAL FREE OF NEONICOTINOID BASED INSECTICIDES AND/OR TREATMENTS OF ANY KIND, INCLUDING BY NOT LIMITED TO IMIDACLOPRID (CONFIDOR, ADMIRE, GAUCHO, ADVOCATE), THIAMETHOXAM (ACTARA, PLATINUM, CRUISER), CLOTHIANIDIN (PONCHO, DANTOSU, DANTOP), ACETAMIPRID (MOSPILAN, ASSAIL, CHIPCOTRISTAR), THIACLOPRID (CALYPSO), DINOTEFURAN (STARKLE, SAFARI, VENOM), AND NITENPYRAM (CAPSTAR, GUARDIAN),
2. CONTRACTOR SHALL CERTIFY, THROUGH SUPPLIERS POLICY STATEMENT OR AFFIDAVIT, THAT NO NEONICOTINOID BASED INSECTICIDES HAVE BEEN USED ON SITE OR DIRECTLY ADJACENT TO THE GROWING OR STORAGE PLOTS OF THE SUPPLIED PLANT MATERIAL, INCLUDING THE PLANTING OF AGRICULTURAL (OR OTHER) SEED TREATED WITH NEONICS..

LANDSCAPE LEGEND

EDGING

Know what's **below.**
Call before you dig.

1" = 20'-0"
10'-0" 0 20'-0"

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT

FRANCE 50

4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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 LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

Patrick J. Sarver
DATE 03/21/22 LICENSE NO. 24904

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
08/20/2021	LUA/PDR SUBMITTAL
09/09/21	LUA RE-SUBMITTAL
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01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

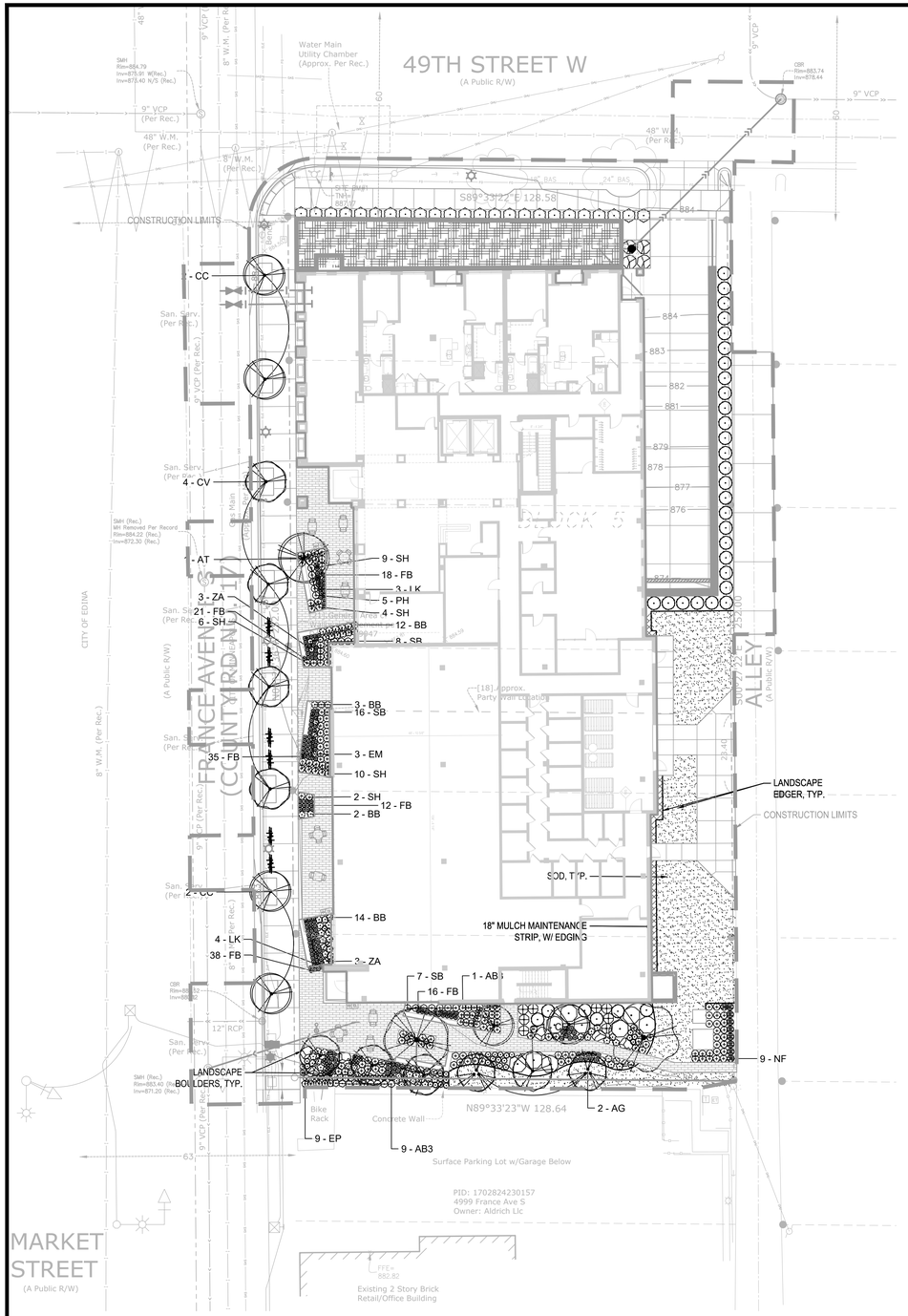
DRAWN BY:BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

OVERALL LANDSCAPE PLAN

L1.0



TREES AND GROUNCOVER PLANT SCHEDULE

TREES	QTY	COMMON / BOTANICAL NAME	CONT	NATIVE	POLLINATOR FRIENDLY
NWM	1	New World Red Maple / Acer rubrum `New World`	2.5" Cal. B&B	Y	
AR	2	Red Rocket Red Maple / Acer rubrum `Red Rocket`	2.5" Cal. B&B	Y	
AA	2	Armstrong Freeman Maple / Acer x freemanii 'Armstrong'	2.5" Cal. B&B		
EVERGREEN TREES	**QTY**	**COMMON / BOTANICAL NAME**	**CONT**	**NATIVE**	**POLLINATOR FRIENDLY**
PG	1	North Star Spruce / Picea glauca `North Star`	#10 CONT	Y	
PM	2	Blue Tear Drop Black Spruce / Picea mariana `Blue Teardrop`	#7 CONT	Y	
ORNAMENTAL TREES	**QTY**	**COMMON / BOTANICAL NAME**	**CONT**	**NATIVE**	**POLLINATOR FRIENDLY**
AT	1	Hot Wings Tatarian Maple / Acer tataricum 'GarAnn' TM	#10 CONT		
AG	2	Autumn Brilliance Serviceberry / Amelanchier x grandiflora `Autumn Brilliance`	#20 CLUMP	Y	Y
CC	4	Blue Beech / Carpinus caroliniana	2" Cal. B&B	Y	
CE	2	Eastern Redbud Multi-trunk / Cercis canadensis	#20 CONT.		
CV	4	Thornless Cockspur Hawthorn / Crataegus crus-galli inermis TM	1.5" Cal. B&B	B&B	

GROUND COVERS	QTY	COMMON / BOTANICAL NAME	SIZE
	467 sf	Shooting Star No Mow Fine Fescue Mix / No MowSeed Mix	Seed Mix
	974 sf	Shooting Star Rain Garden Native Seed / Rain Garden Native Seed Mix Shooting Star Native Seeds Rain Garden/Detention Basin Seed Mix	Seed Mix
	127 sf	Shredded Cedar Mulch / Shredded Hardwood Mulch	Mulch
	3,254 sf	Shredded Hardwood Mulch / Shrub and Perennial Beds All perennial and shrub beds to contain 4" of Shredded Cedar Mulch, with a landscape edger. Provide samples.	Mulch
	1,316 sf	Blue Grass Based / Sod Commercial grade, locally grown, "Big Roll" preferred	Sod

PERENNIAL AND SHRUBS

SHRUBS	QTY	COMMON / BOTANICAL NAME	SIZE	NATIVE	POLLINATOR FRIENDLY
CA3	4	New Jersey Tea / Ceanothus americanus	#5 CONT	Y	Y
CA	34	Baton Rouge Dogwood / Cornus alba 'Minbat' TM	#5 CONT	Y	Y
DL	24	Dwarf Bush Honeysuckle / Diervilla lonicera	#5 CONT	Y	Y
PO	9	Yellow Ninebark / Physocarpus opulifolius `Dart`s Gold`	#5 CONT	Y	Y
GRASSES	**QTY**	**COMMON / BOTANICAL NAME**	**SIZE**	**NATIVE**	**POLLINATOR FRIENDLY**
AB3	9	Blackhawks Big Bluestem / Andropogon gerardii 'Blackhawks'	#1 CONT	Y	
BB	62	Blonde Ambition Blue Grama / Bouteloua gracilis `Blonde Ambition`	#1 CONT	Y	
FB	140	Beyond Blue Fescue / Festuca glauca 'Casca11' TM	#1 CONT		
PH	29	Heavy Metal Switch Grass / Panicum virgatum `Heavy Metal`	#1 CONT	Y	
SB	40	Blue Heaven Little Bluestem / Schizachyrium scoparium `Blue Heaven`	#1 CONT	Y	
SH	94	Prairie Dropseed / Sporobolus heterolepis	#1 CONT	Y	
PERENNIALS	**QTY**	**COMMON / BOTANICAL NAME**	**SIZE**	**NATIVE**	**POLLINATOR FRIENDLY**
EM	19	Magnus Purple Coneflower / Echinacea purpurea `Magnus`	#1 CONT	Y	Y
EP	9	PowWow White Coneflower / Echinacea purpurea `PAS702918` TM	#1 CONT	Y	Y
HG	8	Guacamole Plantain Lily / Hosta x `Guacamole`	#1 CONT		
LK	17	Kobold Blazingstar / Liatris spicata `Kobold`	#1 CONT	Y	Y
NF	9	Walkers Low Catmint / Nepeta x faassenii `Walkers Low`	#1 CONT		Y
PS	36	Stairway to Heaven Jacob's Ladder / Polemonium reptans 'Stairway to Heaven'	#1 CONT	Y	Y
RG	5	Black-eyed Susan / Rudbeckia fulgida sullivantii `Goldsturm`	#1 CONT	Y	Y
ZA	34	Golden Alexander / Zizia aurea	#1 CONT	Y	Y

LANDSCAPE LEGEND

EDGING

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10'-0" 0 20'-0"

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DRAWN BY:BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

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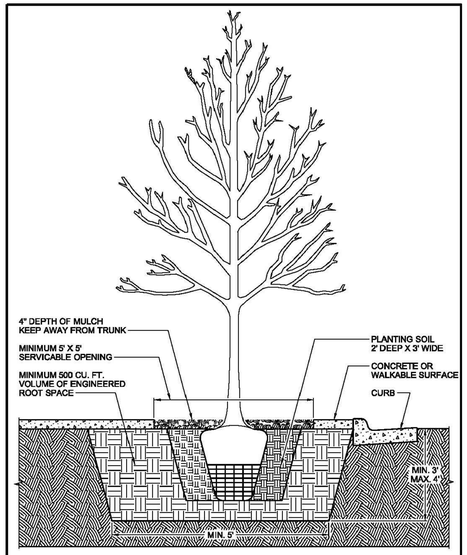
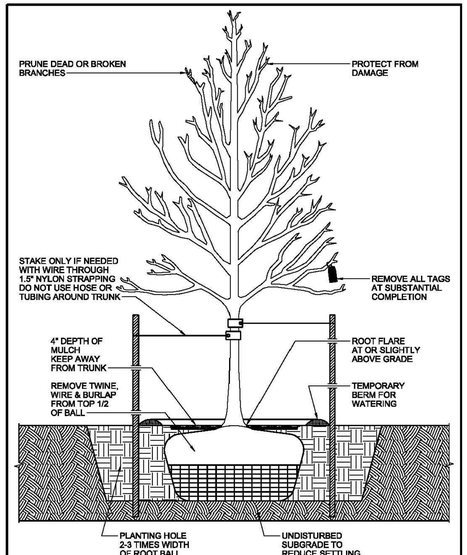
LANDSCAPE TREE AND GROUND COVER PLAN

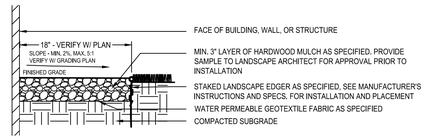
L1.1



Minneapolis Public Works / Minneapolis Park & Recreation Board	DRW: CP	DATE: 2/19/16	ENGINEERED ROOT SPACE	STANDARD PLATE NO. FORE-1003
	APP: RCS	DATE: 2/19/16		

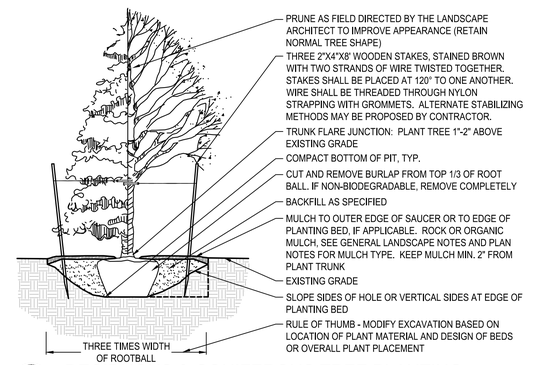


Minneapolis Public Works / Minneapolis Park & Recreation Board	DRW: CP	DATE: 2/19/16	TREE PLANTING BALLED AND BURLAPPED	STANDARD PLATE NO. FORE-1002
	APP: RCS	DATE: 2/19/16		



1 MULCH MAINTANENCE STRIP

NTS



2 DECIDUOUS & CONIFEROUS TREE PLANTING

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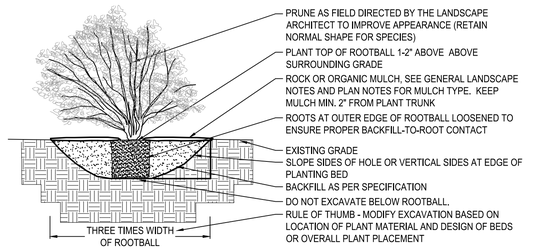

3 DECIDUOUS & CONIFEROUS SHRUB PLANTING

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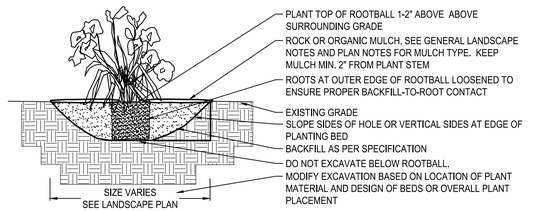
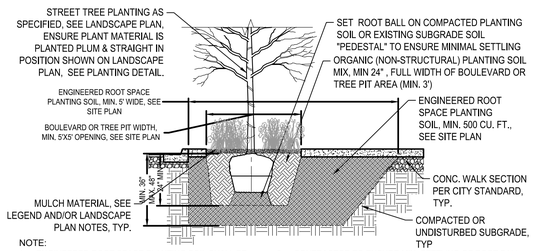


4 PERENNIAL BED PLANTING

NTS



NOTE:

1. ENGINEERED ROOT SPACE PLANTING SOIL SHALL BE "CU-STRUCTURAL SOIL" OR TESTED EQUIVALENT.
2. CONTRACTOR SHALL SELECT HIGH QUALITY, SPECIMEN PLAN STOCK IN STREETSCAPE PLANTING AREAS, MATCHING TREES REQUIRED WHERE A SINGLE SPECIES ARE PLANTED ADJACENT TO ONE ANOTHER. PRUNE TREES FOR HEALTH & FORM.
3. CONTRACTOR TO ENSURE MIN. SETTLING OF ROOT BALL WILL OCCUR THROUGHOUT THE CONTRACTED MAINTENANCE & WARRANTY PERIOD.
4. CONTRACTOR TO ENSURE TREE IS PLANTED AND REMAINS PLUM THROUGHOUT CONTRACTED MAINTENANCE & WARRANTY PERIOD.

5 BOULEVARD/TREE PIT TREE PLANTING - ENGINEERED ROOT SPACE PLANTING SOIL

NTS

IRRIGATION NOTES:

1. ENTIRE SITE SHALL BE FULLY IRRIGATED. THE CONTRACTOR SHALL SUBMIT IRRIGATION SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. SEE MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS FOR IRRIGATION WATER, METER, AND POWER CONNECTIONS.
3. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND/ABOVE GROUND FACILITIES PRIOR TO ANY EXCAVATION/INSTALLATION. ANY DAMAGE TO UNDERGROUND/ABOVE GROUND FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND COSTS ASSOCIATED WITH CORRECTING DAMAGES SHALL BE BORNE ENTIRELY BY THE CONTRACTOR.
4. SERVICE EQUIPMENT AND INSTALLATION SHALL BE PER LOCAL UTILITY COMPANY STANDARDS AND SHALL BE PER NATIONAL AND LOCAL CODES. EXACT LOCATION OF SERVICE EQUIPMENT SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT OR EQUIVALENT AT THE JOB SITE.
5. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR THE PROPOSED ELECTRICAL SERVICE AND METERING FACILITIES.
6. IRRIGATION WATER LINE CONNECTION SIZE IS 1½" AT BUILDING. VERIFY WITH MECHANICAL PLANS.COVAGE.
7. ALL MAIN LINES SHALL BE 18" BELOW FINISHED GRADE.
8. ALL LATERAL LINES SHALL BE 12" BELLOW FINISHED GRADE.
9. ALL EXPOSED PVC RISERS, IF ANY, SHALL BE GRAY IN COLOR.
10. CONTRACTOR SHALL LAY ALL SLEEVES AND CONDUIT AT 2'-0" BELOW THE FINISHED GRADE OF THE TOP OF PAVEMENT. EXTEND SLEEVES TO 2'-0" BEYOND PAVEMENT.
11. CONTRACTOR SHALL MARK THE LOCATION OF ALL SLEEVES AND CONDUIT WITH THE SLEEVING MATERIAL "ELLED" TO 2'-0" ABOVE FINISHED GRADE AND CAPPED.
12. FABRICATE ALL PIPE TO MANUFACTURE'S SPECIFICATIONS WITH CLEAN AND SQUARE CUT JOINTS. USE QUALITY GRADE PRIMER AND SOLVENT CEMENT FORMULATED FOR INTENDED TYPE OF CONNECTION.
13. BACKFILL ALL TRENCHES WITH SOIL FREE OF SHARP OBJECTS AND DEBRIS.
14. ALL VALVE BOXES AND COVERS SHALL BE BLACK IN COLOR.
15. GROUP VALVE BOXES TOGETHER FOR EASE WHEN SERVICE IS REQUIRED. LOCATE IN PLANT BED AREAS WHENEVER POSSIBLE.
16. IRRIGATION CONTROLLER LOCATION SHALL BE VERIFIED ON-SITE WITH OWNER'S REPRESENTATIVE.
17. CONTROL WIRES: 14 GAUGE DIRECT BURIAL, SOLID COPPER IRRIGATION WIRE. RUN UNDER MAIN LINE. USE MOISTURE-PROOF SPLICES AND SPLICE ONLY AT VALVES OR PULL BOXES. RUN SEPARATE HOT AND COMMON WIRE TO EACH VALVE AND ONE (1) SPARE WIRE AND GROUND TO FURTHEST VALVE FROM CONTROLLER. LABEL OR COLOR CODE ALL WIRES.
18. AVOID OVER SPRAY ON BUILDINGS, PAVEMENT, WALLS AND ROADWAYS BY INDIVIDUALLY ADJUSTING RADIUS OR ARC ON SPRINKLER HEADS AND FLOW CONTROL ON AUTOMATIC VALVE.
19. ADJUST PRESSURE REGULATING VALVES FOR OPTIMUM PRESSURE ON SITE.
20. USE SCREENS ON ALL HEADS.
21. A SET OF AS-BUILT DRAWINGS SHALL BE MAINTAINED ON-SITE AT ALL TIMES IN AN UPDATED CONDITION.
22. ALL PIPE 3" AND OVER SHALL HAVE THRUST BLOCKING AT EACH TURN.
23. ALL AUTOMATIC REMOTE CONTROL VALVES WILL HAVE 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL UNDERNEATH VALVE AND VALVE BOX. GRAVEL SHALL EXTENT 3" BEYOND PERIMETER OF VALVE BOX.
24. THERE SHALL BE 3" MINIMUM SPACE BETWEEN BOTTOM OF VALVE BOX COVER AND TOP OF VALVE STRUCTURE.

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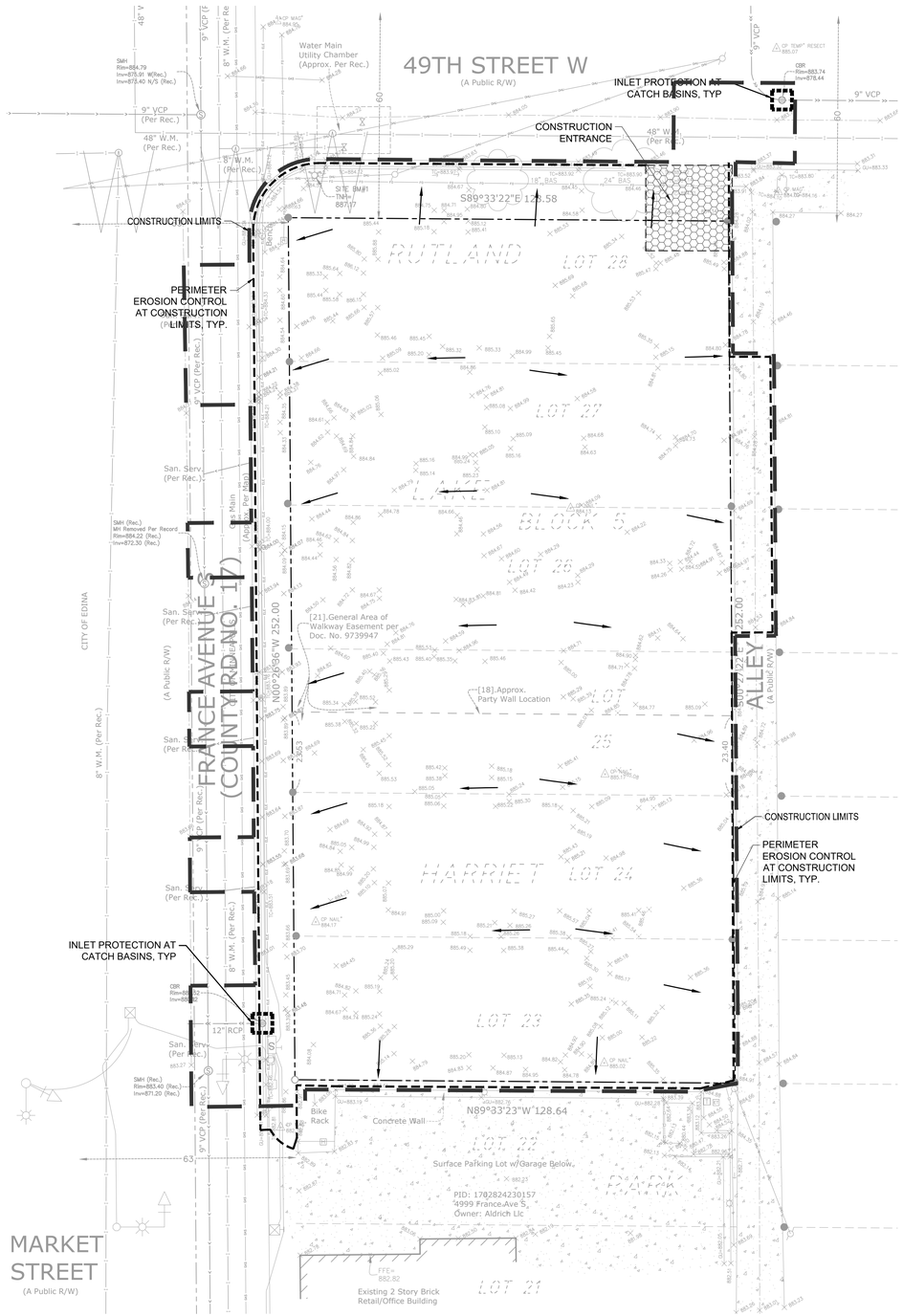
LANDSCAPE PLAN NOTES & DETAILS

L1.2



SWPPP NOTES:

1. ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
2. THIS PROJECT IS LESS THAN ONE ACRE AND WILL NOT REQUIRE AN MPCA NPDES PERMIT. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY EROSION CONTROL PERMITS REQUIRED BY THE CITY.
3. SEE SHEETS SW1.0 - SW1.3 FOR ALL EROSION CONTROL NOTES, DESCRIPTIONS, AND PRACTICES.
4. EE GRADING PLAN FOR ADDITIONAL GRADING AND EROSION CONTROL NOTES.
5. CONTRACTOR IS RESPONSIBLE FOR SWPPP IMPLEMENTATION, INSPECTIONS, AND COMPLIANCE WITH NPDES PERMIT.

CITY OF MINNEAPOLIS EROSION CONTROL NOTES:

1. OWNERS AND OPERATORS ARE RESPONSIBLE FOR COMPLYING WITH REGULATIONS AND OBTAINING ANY NECESSARY COVERAGE UNDER THE MPCA'S GENERAL PERMIT TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. MN R100001).

ALL SPECIFIED EROSION AND SEDIMENT CONTROL PRACTICES, AND MEASURES CONTAINED IN THIS SWPPP ARE THE MINIMUM REQUIREMENTS. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.

LEGEND:

- 1125 — EX. 1' CONTOUR ELEVATION INTERVAL
- 1137 — 1.0' CONTOUR ELEVATION INTERVAL
- DRAINAGE ARROW
- SILT FENCE / BIOROLL - GRADING LIMIT
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET

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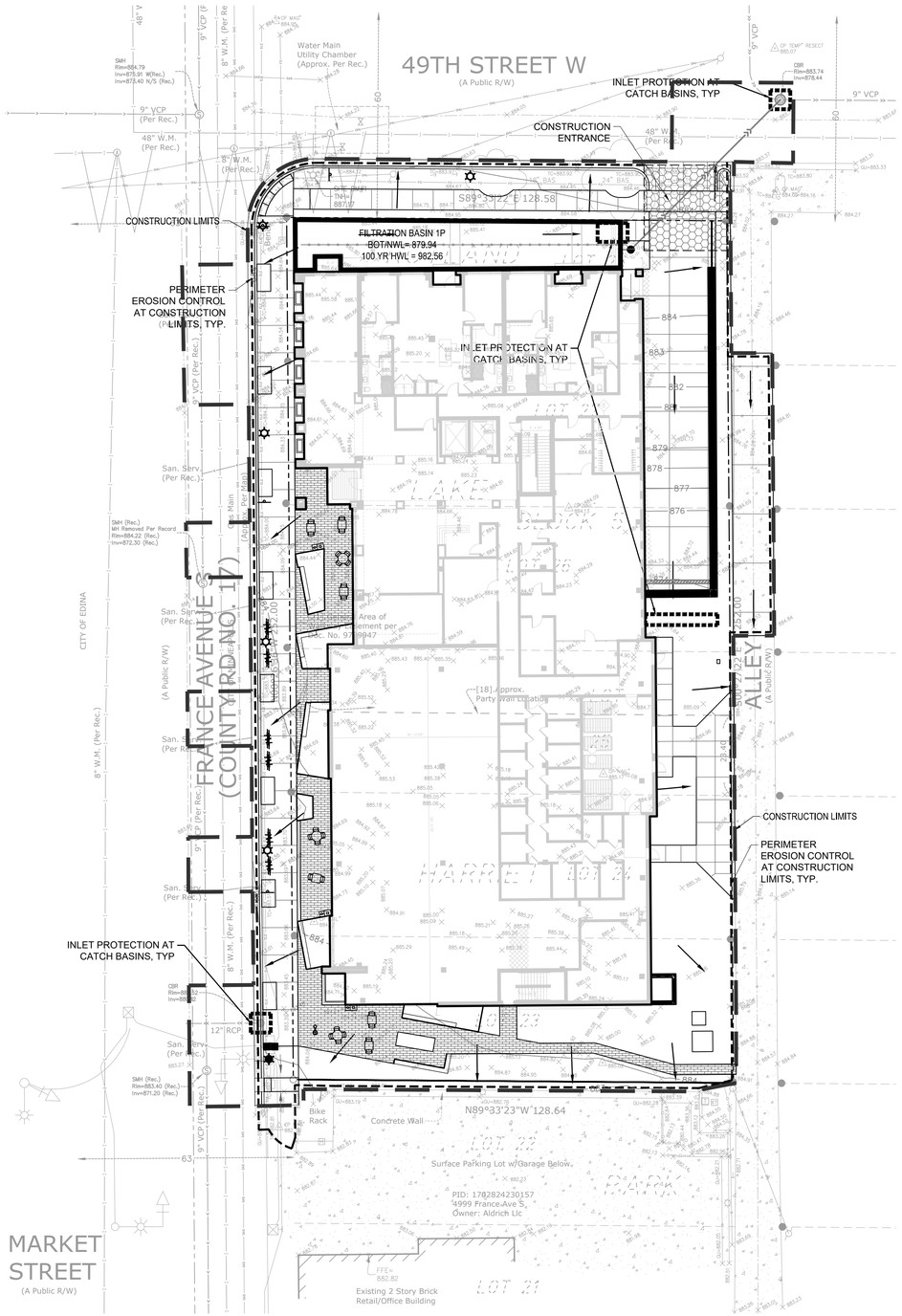
SWPPP - EXISTING CONDITIONS

SW1.0



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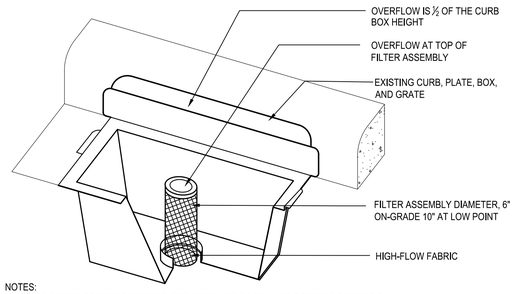
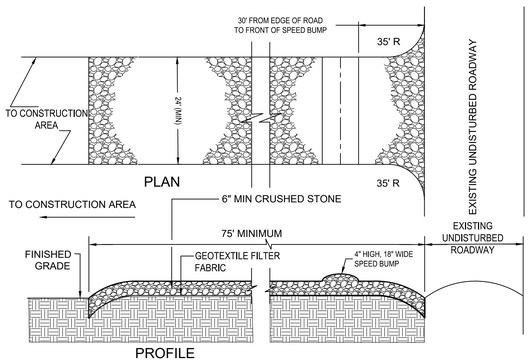
SWPPP - PROPOSED CONDITIONS

SW1.1



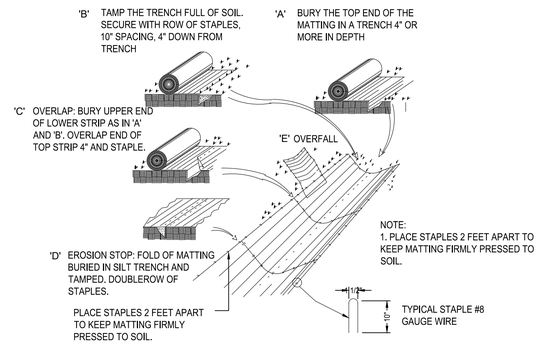
NOTES:
1. REPLACE INLET GRATE UPON COMPLETE INSTALLATION OF INLET PROTECTION FABRIC.
2. CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM THE SURFACE OF THE SYSTEM AFTER EACH STORM EVENT AND AT THE COMPLETION OF THE CONTRACT.
3. REFERENCE APPLE VALLEY STANDARD PLATE ERO-4C.

1 CURB INLET FILTER
NTS

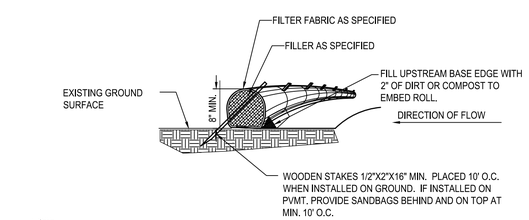


NOTES:
1. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND UNDISTURBED ROADWAY.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO UNDISTURBED ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDING STONE TO THE LENGTH OF THE ENTRANCE.
3. REPAIR AND CLEANOUT MEASURES USED TO TRAP SEDIMENT.
4. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO UNDISTURBED ROADWAY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
5. FINAL LOCATION AND INSTALLATION SHALL BE COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION ACTIVITIES.
6. CRUSHED STONE SHALL BE 1-1/2" DIA. CLOSE GRADED, AND IN ACCORDANCE TO MNDOT SECTION 2118.

2 STABILIZED CONSTRUCTION ACCESS
NTS

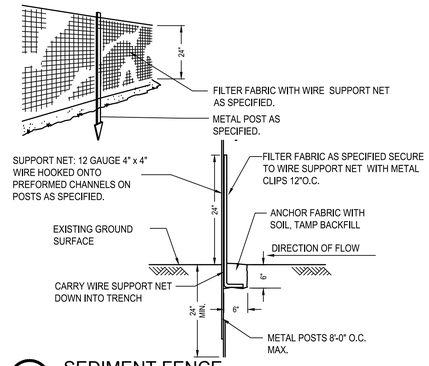


3 EROSION BLANKET
NTS



NOTE:
1. COMPOST FILTER LOGS (BIO ROLLS) SHALL BE FILTREXX EROSION CONTROL SOXX OR APPROVED EQUAL.
2. COMPOST FILLER TO BE MADE FROM A COMPOST BLEND 30%-40% GRADE 2 (SPEC 3890) AND 60%-70% PARTIALLY DECOMPOSED WOOD CHIPS, PER MNDOT SPEC 3897.
3. FILTER FABRIC SHALL BE GEOTEXTILE KNITTED MATERIAL WITH MAX. OPENINGS OF 3/8".
4. IF MULTIPLE ROLLS NEEDED, OVERLAP BY MIN. 12" AT ENDS AND STAKE.
5. SILT SHALL BE REMOVED ONCE IT REACHES 80% OF THE HEIGHT OF THE ROLL OR AS DEEMED NECESSARY BY SITE CONTRACTOR TO MAINTAIN PROPER FUNCTION.

4 SEDIMENT BIO-ROLL / COMPOST FILTER LOG
NTS



5 SEDIMENT FENCE
NTS

City of Minneapolis Standard Erosion Control Notes

City of Minneapolis Standard Erosion and Sediment Control Notes for Plans
These notes may be used as performance standards or requirements for projects not meeting the threshold for a formal plan.

1. Contractor must call a construction start 48 hours prior to any land disturbances 612-673-3867. Failure to do so may result in fines, the revocation of permit and a stop work order being issued.
2. Install perimeter erosion control at the locations shown on the plans prior to the commencement of any land disturbance or construction activities.
3. Before beginning construction, install a temporary rock construction entrance at each point where vehicles exit the construction site. Use 2 inch or greater diameter rock in a layer at least 6 inches thick across the entire width of the entrance. Extend the rock entrance at least 50 feet into the construction zone using a geo-textile fabric beneath the aggregate to prevent migration of soil into the rock from below.
4. Remove all soils and sediments tracked or otherwise deposited onto public and private pavement areas. Removal shall be on a daily basis when tracking occurs and may be ordered by Minneapolis inspectors at any time if conditions warrant. Sweeping shall be maintained throughout the duration of the construction and done in a manner to prevent dust being blown to adjacent properties.
5. Install inlet protection at all public and private catch basin inlets, which receive runoff from the disturbed areas. Contractor shall clean, remove sediment or replace storm drain inlet protection devices on a routine basis such that the devices are fully functional for the next rain event. Sediment deposited in and/or plugging drainage systems is the responsibility of the contractor. Hay bales or filter fabric wrapped grates are not allowed for inlet protection.
6. Locate soil or dirt stockpiles no less than 25 feet from any public or private roadway or drainage channel. If remaining for more than seven days, stabilize the stockpiles by mulching, vegetative cover, tarps, or other means. Control erosion from all stockpiles by placing silt barriers around the piles. Temporary stockpiles located on paved surfaces must be no less than two feet from the drainage/gutter line and shall be covered if left more than 24 hours.
7. Maintain all temporary erosion and sediment control devices in place until the contributing drainage area has been stabilized. Inspect temporary erosion and sediment control devices on a daily basis and replace deteriorated, damaged, or rotted erosion control devices immediately.
8. Temporarily or permanently stabilize all construction areas which have undergone final grading, and all areas in which grading or site building construction operations are not actively underway against erosion due to rain, wind and running water within 7-14 days. Use seed and mulch, erosion control matting, and/or sodding and staking in green space areas. Remove all temporary synthetic, structural, non-biodegradable erosion and sediment control devices after the site has undergone final stabilization with permanent vegetation establishment. Final stabilization for purposes of this removal is 70% established cover over denuded area.
9. Ready mixed concrete and concrete batch/mix plants are prohibited within the public right of way. All concrete related production, cleaning and mixing activities shall be done in the designated *concrete mixing/washout* locations as shown in the erosion control plan. Under no circumstance may washout water drain onto the public right of way or into any public or private storm drain conveyance.
10. Changes to approved erosion control plan must be approved by the erosion control inspector prior to implementation. Contractor to provide installation and details for all proposed alternate type devices.
11. If dewatering or pumping of water is necessary, the contractor is responsible for obtaining any necessary permits and/or approvals prior to discharge of any water from the site. If the discharge from the dewatering or pumping process is turbid or contains sediment laden water, it must be treated through the use of sediment traps, vegetative filter strips, or other sediment reducing measures such that the discharge is not visibly different from the receiving water. Additional erosion control measures may be required at the discharge point to prevent scour erosion. The contractor shall provide a dewatering/pumping plan to the Erosion Control Inspector prior to initiating dewatering activities.

PREPARED BY: THE CITY OF MINNEAPOLIS PUBLIC WORKS SURFACE WATER AND SEWERS WWW.CI.MINNEAPOLIS.MN.US/STORMWATER
JANUARY 7, 2011

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT
FRANCE 50
4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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.

Matthew R. Pavek
DATE 03/21/22 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
08/20/2021	LUA/PDR SUBMITTAL
09/09/21	LUA RE-SUBMITTAL
10/22/21	LUA RE SUBMITTAL
12/03/2021	PDR RESUBMITTAL
01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

DRAWN BY:BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - DETAILS

SW1.2

THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED WITH A CONSTRUCTION ACTIVITY THAT DISTURBS SITE SOIL OR WHO IMPLEMENT A POLLUTANT CONTROL MEASURE IDENTIFIED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT (DATED AUGUST 1, 2018 # MNR100001) AND ANY LOCAL GOVERNING AGENCY HAVING JURISDICTION CONCERNING EROSION AND SEDIMENTATION CONTROL.

STORMWATER DISCHARGE DESIGN REQUIREMENTS

SWPPP

THE NATURE OF THIS PROJECT WILL BE CONSISTENT WITH WHAT IS REPRESENTED IN THIS SET OF CONSTRUCTION PLANS AND SPECIFICATIONS. SEE THE SWPPP PLAN SHEETS AND SWPPP NARRATIVE (ATTACHMENT A: CONSTRUCTION SWPPP TEMPLATE) FOR ADDITIONAL SITE SPECIFIC SWPPP INFORMATION. THE PLANS SHOW LOCATIONS AND TYPES OF ALL TEMPORARY AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL BMP'S. STANDARD DETAILS ARE ATTACHED TO THIS SWPPP DOCUMENT.

THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:
1. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE
2. INSTALLATION OF SILT FENCE AROUND SITE
3. INSTALL ORANGE CONSTRUCTION FENCING AROUND INFILTRATION AREAS
4. INSTALL INLET PROTECTION AT ALL ADJACENT AND DOWNSTREAM CATCH BASINS
5. CLEAR AND GRUB FOR TEMPORARY SEDIMENT BASIN / POND INSTALL
6. CONSTRUCT TEMPORARY SEDIMENT BASIN / POND (SECTION 14)
7. CLEAR AND GRUB REMAINDER OF SITE
8. STRIP AND STOCKPILE TOPSOIL
9. ROUGH GRADING OF SITE
10. STABILIZE DENUDED AREAS AND STOCKPILES
11. INSTALL SANITARY SEWER, WATER MAIN STORM SEWER AND SERVICES
12. INSTALL SILT FENCE / INLET PROTECTION AROUND CB'S
13. INSTALL STREET SECTION
14. INSTALL CURB AND GUTTER
15. BITUMINOUS ON STREETS
16. FINAL GRADE BOULEVARD, INSTALL SEED AND MULCH
17. REMOVE ACCUMULATED SEDIMENT FROM BASIN / POND
18. FINAL GRADE POND / INFILTRATION BASINS (DO NOT COMPACT SOILS IN INFILTRATION AREAS.)
19. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED BY EITHER SEED OR SOD/LANDSCAPING, REMOVE SILT FENCE AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.

RECORDS RETENTION:

THE SWPPP (ORIGINAL OR COPIES) INCLUDING, ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE PERMITTEE WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. THE SWPPP CAN BE KEPT IN EITHER THE FIELD OFFICE OR IN AN ON SITE VEHICLE DURING NORMAL WORKING HOURS.

ALL OWNER(S) MUST KEEP THE SWPPP, ALONG WITH THE FOLLOWING ADDITIONAL RECORDS, ON FILE FOR THREE (3) YEARS AFTER SUBMITTAL OF THE NOT AS OUTLINED IN SECTION 4. THIS DOES NOT INCLUDE ANY RECORDS AFTER SUBMITTAL OF THE NOT.

1. THE FINAL SWPPP;
2. ANY OTHER STORMWATER RELATED PERMITS REQUIRED FOR THE PROJECT;
3. RECORDS OF ALL INSPECTION AND MAINTENANCE CONDUCTED DURING CONSTRUCTION (SEE SECTION 11, INSPECTIONS AND MAINTENANCE);
4. ALL PERMANENT OPERATION AND MAINTENANCE AGREEMENTS THAT HAVE BEEN IMPLEMENTED, INCLUDING ALL RIGHT OF WAY, CONTRACTS, COVENANTS AND OTHER BINDING REQUIREMENTS REGARDING PERPETUAL MAINTENANCE; AND
5. ALL REQUIRED CALCULATIONS FOR DESIGN OF THE TEMPORARY AND PERMANENT STORMWATER MANAGEMENT SYSTEMS.

SWPPP IMPLEMENTATION RESPONSIBILITIES:

1. THE OWNER AND CONTRACTOR ARE PERMITTEE(S) AS IDENTIFIED BY THE NPDES PERMIT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE IMPLEMENTATION OF THE SWPPP, INCLUDING THE ACTIVITIES OF ALL OF THE CONTRACTOR'S SUBCONTRACTORS.
3. CONTRACTOR SHALL PROVIDE A PERSON(S) KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS TO OVERSEE ALL INSTALLATION AND MAINTENANCE OF BMPS AND IMPLEMENTATION OF THE SWPPP.
4. CONTRACTOR SHALL PROVIDE PERSON(S) MEETING THE TRAINING REQUIREMENTS OF THE NPDES PERMIT TO CONDUCT INSPECTION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT. ONE OF THESE INDIVIDUAL(S) MUST BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY MPCA. CONTRACTOR SHALL PROVIDE TRAINING DOCUMENTATION FOR THESE INDIVIDUAL(S) AS REQUIRED BY THE NPDES PERMIT. THIS TRAINING DOCUMENTATION SHALL BE RECORDED IN OR WITH THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS THE PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED. DOCUMENTATION SHALL INCLUDE:
   - 4.1. NAMES OF THE PERSONNEL ASSOCIATED WITH THE PROJECT THAT ARE REQUIRED TO BE TRAINED PER SECTION 21 OF THE PERMIT.
   - 4.2. DATES OF TRAINING AND NAME OF INSTRUCTOR AND ENTITY PROVIDING TRAINING.
   - 4.3. CONTENT OF TRAINING COURSE OR WORKSHOP INCLUDING THE NUMBER OF HOURS OF TRAINING.
5. FOLLOWING FINAL STABILIZATION AND THE TERMINATION OF COVERAGE FOR THE NPDES PERMIT, THE OWNER IS EXPECTED TO FURNISH LONG TERM OPERATION AND MAINTENANCE (O & M) OF THE PERMANENT STORM WATER MANAGEMENT SYSTEM.

CONSTRUCTION ACTIVITY REQUIREMENTS

SWPPP AMENDMENTS (SECTION 6):

1. ONE OF THE INDIVIDUALS DESCRIBED IN ITEM 21.2.A OR ITEM 21.2.B OR ANOTHER QUALIFIED INDIVIDUAL MUST COMPLETE ALL SWPPP CHANGES. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP MUST INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.
2. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS HAVING A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER.
3. PERMITTEES MUST AMEND THE SWPPP TO INCLUDE ADDITIONAL OR MODIFIED BMPS AS NECESSARY TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER OR OPERATOR, USEPA OR MPCA OFFICIALS INDICATE THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER OR THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES (E.G., NUISANCE CONDITIONS AS DEFINED IN MINN. R. 7050.0210, SUBP. 2) OR THE SWPPP IS NOT CONSISTENT WITH THE OBJECTIVES OF A USEPA APPROVED TMDL.

BMP SELECTION AND INSTALLATION (SECTION 7):

1. PERMITTEES MUST SELECT, INSTALL, AND MAINTAIN THE BMPS IDENTIFIED IN THE SWPPP AND IN THIS PERMIT IN AN APPROPRIATE AND FUNCTIONAL MANNER AND IN ACCORDANCE WITH RELEVANT MANUFACTURER SPECIFICATIONS AND ACCEPTED ENGINEERING PRACTICES.

EROSION PREVENTION (SECTION 8):

1. BEFORE WORK BEGINS, PERMITTEES MUST DELINEATE THE LOCATION OF AREAS NOT TO BE DISTURBED.
2. PERMITTEES MUST MINIMIZE THE NEED FOR DISTURBANCE OF PORTIONS OF THE PROJECT WITH STEEP SLOPES. WHEN STEEP SLOPES MUST BE DISTURBED, PERMITTEES MUST USE TECHNIQUES SUCH AS PHASING AND STABILIZATION PRACTICES DESIGNED FOR STEEP SLOPES (E.G., SLOPE DRAINING AND TERRACING).
3. PERMITTEES MUST STABILIZE ALL EXPOSED SOIL AREAS, INCLUDING STOCKPILES. STABILIZATION MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHEN CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION MUST BE COMPLETED NO LATER THAN 14 CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY HAS CEASED. STABILIZATION IS NOT REQUIRED ON CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES. STABILIZATION IS NOT REQUIRED ON TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) BUT PERMITTEES MUST PROVIDE SEDIMENT CONTROLS AT THE BASE OF THE STOCKPILE.
4. FOR PUBLIC WATERS THAT THE MINNESOTA DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" DURING SPECIFIED FISH SPAWNING TIME FRAMES, PERMITTEES MUST COMPLETE STABILIZATION OF ALL EXPOSED SOIL AREAS WITHIN 200 FEET OF THE WATER'S EDGE, AND THAT DRAIN TO THESE WATERS, WITHIN 24 HOURS DURING THE RESTRICTION PERIOD.
5. PERMITTEES MUST STABILIZE THE NORMAL WETTED PERIMETER OF THE LAST 200 LINEAR FEET OF TEMPORARY OR PERMANENT DRAINAGE DITCHES OR SWALES THAT DRAIN WATER FROM THE SITE WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE. PERMITTEES MUST COMPLETE STABILIZATION OF REMAINING PORTIONS OF TEMPORARY OR PERMANENT DITCHES OR SWALES WITHIN 14 CALENDAR DAYS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE AND CONSTRUCTION IN THAT PORTION OF THE DITCH TEMPORARILY OR PERMANENTLY CEASES.
6. TEMPORARY OR PERMANENT DITCHES OR SWALES BEING USED AS A SEDIMENT CONTAINMENT SYSTEM DURING CONSTRUCTION (WITH PROPERLY DESIGNED ROCK-DITCH CHECKS, BIO ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED. PERMITTEES MUST STABILIZE THESE AREAS WITHIN 24 HOURS AFTER THEIR USE AS A SEDIMENT CONTAINMENT SYSTEM CEASES
7. PERMITTEES MUST NOT USE MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE OR SIMILAR EROSION PREVENTION PRACTICES WITHIN ANY PORTION OF THE NORMAL WETTED PERIMETER OF A TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE SECTION WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT.
8. PERMITTEES MUST PROVIDE TEMPORARY OR PERMANENT ENERGY DISSIPATION AT ALL PIPE OUTLETS WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER OR PERMANENT STORMWATER TREATMENT SYSTEM.
9. PERMITTEES MUST NOT DISTURB MORE LAND (I.E., PHASING) THAN CAN BE EFFECTIVELY INSPECTED AND MAINTAINED IN ACCORDANCE WITH SECTION 11.

SEDIMENT CONTROL (SECTION 9):

1. PERMITTEES MUST ESTABLISH SEDIMENT CONTROL BMPS ON ALL DOWNGRADIENT PERIMETERS OF THE SITE AND DOWNGRADIENT AREAS OF THE SITE THAT DRAIN TO ANY SURFACE WATER, INCLUDING CURB AND GUTTER SYSTEMS. PERMITTEES MUST LOCATE SEDIMENT CONTROL PRACTICES UPGRADIENT OF ANY BUFFER ZONES. PERMITTEES MUST INSTALL SEDIMENT CONTROL PRACTICES BEFORE ANY UPGRADIENT LAND-DISTURBING ACTIVITIES BEGIN AND MUST KEEP THE SEDIMENT CONTROL PRACTICES IN PLACE UNTIL THEY ESTABLISH PERMANENT COVER.
2. IF DOWNGRADIENT SEDIMENT CONTROLS ARE OVERLOADED, BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE REQUIREMENTS, PERMITTEES MUST INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS TO ELIMINATE THE OVERLOADING AND AMEND THE SWPPP TO IDENTIFY THESE ADDITIONAL PRACTICES AS REQUIRED IN ITEM 6.3.
3. TEMPORARY OR PERMANENT DRAINAGE DITCHES AND SEDIMENT BASINS DESIGNED AS PART OF A SEDIMENT CONTAINMENT SYSTEM (E.G., DITCHES WITH ROCK-CHECK DAMS) REQUIRE SEDIMENT CONTROL PRACTICES ONLY AS APPROPRIATE FOR SITE CONDITIONS.
4. A FLOATING SILT CURTAIN PLACED IN THE WATER IS NOT A SEDIMENT CONTROL BMP TO SATISFY ITEM 9.2 EXCEPT WHEN WORKING ON A SHORELINE OR BELOW THE WATERLINE. IMMEDIATELY AFTER THE SHORT TERM CONSTRUCTION ACTIVITY (E.G., INSTALLATION OF RIP RAP ALONG THE SHORELINE) IN THAT AREA IS COMPLETE, PERMITTEES MUST INSTALL AN UPLAND PERIMETER CONTROL PRACTICE IF EXPOSED SOILS STILL DRAIN TO A SURFACE WATER.
5. PERMITTEES MUST RE-INSTALL ALL SEDIMENT CONTROL PRACTICES ADJUSTED OR REMOVED TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING OR GRUBBING, OR PASSAGE OF VEHICLES, IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY IS COMPLETED. PERMITTEES MUST RE-INSTALL SEDIMENT CONTROL PRACTICES BEFORE THE NEXT PRECIPITATION EVENT EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE.
6. PERMITTEES MUST PROTECT ALL STORM DRAIN INLETS USING APPROPRIATE BMPS DURING CONSTRUCTION UNTIL THEY ESTABLISH PERMANENT COVER ON ALL AREAS WITH POTENTIAL FOR DISCHARGING TO THE INLET.
7. PERMITTEES MAY REMOVE INLET PROTECTION FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (E.G. STREET FLOODING/FREEZING) IS IDENTIFIED BY THE PERMITTEES OR THE JURISDICTIONAL AUTHORITY (E.G., CITY/COUNTY/TOWNSHIP/MINNESOTA DEPARTMENT OF TRANSPORTATION ENGINEER). PERMITTEES MUST DOCUMENT THE NEED FOR REMOVAL IN THE SWPPP.
8. PERMITTEES MUST PROVIDE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS AT THE BASE OF STOCKPILES ON THE DOWNGRADIENT PERIMETER.
9. PERMITTEES MUST LOCATE STOCKPILES OUTSIDE OF NATURAL BUFFERS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER.
10. PERMITTEES MUST INSTALL A VEHICLE TRACKING BMP TO MINIMIZE THE TRACK OUT OF SEDIMENT FROM THE CONSTRUCTION SITE OR ONTO PAVED ROADS WITHIN THE SITE.
11. PERMITTEES MUST USE STREET SWEEPING IF VEHICLE TRACKING BMPS ARE NOT ADEQUATE TO PREVENT SEDIMENT TRACKING ONTO THE STREET.
12. PERMITTEES MUST INSTALL TEMPORARY SEDIMENT BASINS AS REQUIRED IN SECTION 14.
13. IN ANY AREAS OF THE SITE WHERE FINAL VEGETATIVE STABILIZATION WILL OCCUR, PERMITTEES MUST RESTRICT VEHICLE AND EQUIPMENT USE TO MINIMIZE SOIL COMPACTION.
14. PERMITTEES MUST PRESERVE TOPSOIL ON THE SITE, UNLESS INFEASIBLE.
15. PERMITTEES MUST DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS UNLESS INFEASIBLE.
16. PERMITTEES MUST PRESERVE A 50 FOOT NATURAL BUFFER OR, IF A BUFFER IS INFEASIBLE ON THE SITE, PROVIDE REDUNDANT (DOUBLE) PERIMETER SEDIMENT CONTROLS WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF THE PROJECT'S EARTH DISTURBANCES AND STORMWATER FLOWS TO THE SURFACE WATER. PERMITTEES MUST INSTALL PERIMETER SEDIMENT CONTROLS AT LEAST 5 FEET APART UNLESS LIMITED BY LACK OF AVAILABLE SPACE. NATURAL BUFFERS ARE NOT REQUIRED ADJACENT TO ROAD DITCHES, JUDICIAL DITCHES, COUNTY DITCHES, STORMWATER CONVEYANCE CHANNELS, STORM DRAIN INLETS, AND SEDIMENT BASINS. IF PRESERVING THE BUFFER IS INFEASIBLE, PERMITTEES MUST DOCUMENT THE REASONS IN THE SWPPP. SHEET PILING IS A REDUNDANT PERIMETER CONTROL IF INSTALLED IN A MANNER THAT RETAINS ALL STORMWATER.
17. PERMITTEES MUST USE POLYMERS, FLOCCULANTS, OR OTHER SEDIMENTATION TREATMENT CHEMICALS IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES, DOSING SPECIFICATIONS AND SEDIMENT REMOVAL DESIGN SPECIFICATIONS PROVIDED BY THE MANUFACTURER OR SUPPLIER. THE PERMITTEES MUST USE CONVENTIONAL EROSION AND SEDIMENT CONTROLS PRIOR TO CHEMICAL ADDITION AND MUST DIRECT TREATED STORMWATER TO A SEDIMENT CONTROL SYSTEM FOR FILTRATION OR SETTLEMENT OF THE FLOC PRIOR TO DISCHARGE.

DEWATERING AND BASIN DRAINING (SECTION 10):

1. PERMITTEES MUST DISCHARGE TURBID OR SEDIMENT-LADEN WATERS RELATED TO DEWATERING OR BASIN DRAINING (E.G., PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) TO A TEMPORARY OR PERMANENT SEDIMENT BASIN ON THE PROJECT SITE UNLESS INFEASIBLE. PERMITTEES MAY DEWATER TO SURFACE WATERS IF THEY VISUALLY CHECK TO ENSURE ADEQUATE TREATMENT HAS BEEN OBTAINED AND NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2) WILL NOT RESULT FROM THE DISCHARGE. IF PERMITTEES CANNOT DISCHARGE THE WATER TO A SEDIMENTATION BASIN PRIOR TO ENTERING A SURFACE WATER, PERMITTEES MUST TREAT IT WITH APPROPRIATE BMPS SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE SURFACE WATER OR DOWNSTREAM PROPERTIES.
2. IF PERMITTEES MUST DISCHARGE WATER CONTAINING OIL OR GREASE, THEY MUST USE AN OIL-WATER SEPARATOR OR SUITABLE FILTRATION DEVICE (E.G., CARTRIDGE FILTERS, ABSORBENTS PADS) PRIOR TO DISCHARGE.
3. PERMITTEES MUST DISCHARGE ALL WATER FROM DEWATERING OR BASIN-DRAINING ACTIVITIES IN A MANNER THAT DOES NOT CAUSE EROSION OR SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS OR INUNDATION OF WETLANDS IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS THAT CAUSES SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.
4. IF PERMITTEES USE FILTERS WITH BACKWASH WATER, THEY MUST HAUL THE BACKWASH WATER AWAY FOR DISPOSAL, RETURN THE BACKWASH WATER TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE THE BACKWASH WATER INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION.

INSPECTIONS AND MAINTENANCE (SECTION 11):

1. PERMITTEES MUST ENSURE A TRAINED PERSON, AS IDENTIFIED IN ITEM 21.2.B, WILL INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 1/2 INCH IN 24 HOURS.
2. PERMITTEES MUST INSPECT AND MAINTAIN ALL PERMANENT STORMWATER TREATMENT BMPS.
3. PERMITTEES MUST INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS AND POLLUTION PREVENTION MANAGEMENT MEASURES TO ENSURE INTEGRITY AND EFFECTIVENESS. PERMITTEES MUST REPAIR, REPLACE OR SUPPLEMENT ALL NONFUNCTIONAL BMPS WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY UNLESS ANOTHER TIME FRAME IS SPECIFIED IN ITEM 11.5 OR 11.6. PERMITTEES MAY TAKE ADDITIONAL TIME IF FIELD CONDITIONS PREVENT ACCESS TO THE AREA.
4. DURING EACH INSPECTION, PERMITTEES MUST INSPECT SURFACE WATERS, INCLUDING DRAINAGE DITCHES AND CONVEYANCE SYSTEMS BUT NOT CURB AND GUTTER SYSTEMS, FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. PERMITTEES MUST REMOVE ALL DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS, INCLUDING DRAINAGE WAYS, CATCH BASINS, AND OTHER DRAINAGE SYSTEMS AND RESTABILIZE THE AREAS WHERE SEDIMENT REMOVAL RESULTS IN EXPOSED SOIL. PERMITTEES MUST COMPLETE REMOVAL AND STABILIZATION WITHIN SEVEN (7) CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. PERMITTEES MUST USE ALL REASONABLE EFFORTS TO OBTAIN ACCESS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF OBTAINING ACCESS. PERMITTEES ARE RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AUTHORITIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK IN SURFACE WATERS.
5. PERMITTEES MUST INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS, STREETS AND CURB AND GUTTER SYSTEMS WITHIN AND ADJACENT TO THE PROJECT FOR SEDIMENTATION FROM EROSION OR TRACKED SEDIMENT FROM VEHICLES. PERMITTEES MUST REMOVE SEDIMENT FROM ALL PAVED SURFACES WITHIN ONE (1) CALENDAR DAY OF DISCOVERY OR, IF APPLICABLE, WITHIN A SHORTER TIME TO AVOID A SAFETY HAZARD TO USERS OF PUBLIC STREETS.
6. PERMITTEES MUST REPAIR, REPLACE OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE.
7. PERMITTEES MUST DRAIN TEMPORARY AND PERMANENT SEDIMENTATION BASINS AND REMOVE THE SEDIMENT WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME.
8. PERMITTEES MUST ENSURE THAT AT LEAST ONE INDIVIDUAL PRESENT ON THE SITE (OR AVAILABLE TO THE PROJECT SITE IN THREE (3) CALENDAR DAYS) IS TRAINED IN THE JOB DUTIES DESCRIBED IN ITEM 21.2.B.
9. PERMITTEES MAY ADJUST THE INSPECTION SCHEDULE DESCRIBED IN ITEM 11.2 AS FOLLOWS:
   a. INSPECTIONS OF AREAS WITH PERMANENT COVER CAN BE REDUCED TO ONCE PER MONTH, EVEN IF CONSTRUCTION ACTIVITY CONTINUES ON OTHER PORTIONS OF THE SITE; OR
   b. WHERE SITES HAVE PERMANENT COVER ON ALL EXPOSED SOIL AND NO CONSTRUCTION ACTIVITY IS OCCURRING ANYWHERE ON THE SITE, INSPECTIONS CAN BE REDUCED TO ONCE PER MONTH AND, AFTER 12 MONTHS, MAY BE SUSPENDED COMPLETELY UNTIL CONSTRUCTION ACTIVITY RESUMES. THE MPCA MAY REQUIRE INSPECTIONS TO RESUME IF CONDITIONS WARRANT; OR
   c. WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS, INSPECTIONS MAY BE SUSPENDED. INSPECTIONS MUST RESUME WITHIN 24 HOURS OF RUNOFF OCCURRING, OR UPON RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.
10. PERMITTEES MUST RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES WITHIN 24 HOURS OF BEING CONDUCTED AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP. THESE RECORDS MUST INCLUDE:
   a. DATE AND TIME OF INSPECTIONS; AND
   b. NAME OF PERSONS CONDUCTING INSPECTIONS; AND
   c. ACCURATE FINDINGS OF INSPECTIONS, INCLUDING THE SPECIFIC LOCATION WHERE CORRECTIVE ACTIONS ARE NEEDED; AND
   d. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); AND
   e. DATE OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCHES IN 24 HOURS, AND THE AMOUNT OF RAINFALL FOR EACH EVENT. PERMITTEES MUST OBTAIN RAINFALL AMOUNTS BY EITHER A PROPERLY MAINTAINED RAIN GAUGE INSTALLED ONSITE, A WEATHER STATION THAT IS WITHIN ONE (1) MILE OF YOUR LOCATION, OR A WEATHER REPORTING SYSTEM THAT PROVIDES SITE SPECIFIC RAINFALL DATA FROM RADAR SUMMARIES; AND
   f. IF PERMITTEES OBSERVE A DISCHARGE DURING THE INSPECTION, THEY MUST RECORD AND SHOULD PHOTOGRAPH AND DESCRIBE THE LOCATION OF THE DISCHARGE (I.E., COLOR, ODOR, SETTLED OR SUSPENDED SOLIDS, OIL SHEEN, AND OTHER OBVIOUS INDICATORS OF POLLUTANTS); AND
   g. ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION MUST BE DOCUMENTED AS REQUIRED IN SECTION 6 WITHIN SEVEN (7) CALENDAR DAYS.

POLLUTION PREVENTION MANAGEMENT (SECTION 12):

1. PERMITTEES MUST PLACE BUILDING PRODUCTS AND LANDSCAPE MATERIALS UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) OR PROTECT THEM BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER. PERMITTEES ARE NOT REQUIRED TO COVER OR PROTECT PRODUCTS WHICH ARE EITHER NOT A SOURCE OF CONTAMINATION TO STORMWATER OR ARE DESIGNED TO BE EXPOSED TO STORMWATER.
2. PERMITTEES MUST PLACE PESTICIDES, FERTILIZERS AND TREATMENT CHEMICALS UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) OR PROTECT THEM BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER.
3. PERMITTEES MUST STORE HAZARDOUS MATERIALS AND TOXIC WASTE, (INCLUDING OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MATERIALS MUST BE IN COMPLIANCE WITH MINN. R. CH. 7045 INCLUDING SECONDARY CONTAINMENT AS APPLICABLE.
4. PERMITTEES MUST PROPERLY STORE, COLLECT AND DISPOSE SOLID WASTE IN COMPLIANCE WITH MINN. R. CH. 7035.
5. PERMITTEES MUST POSITION PORTABLE TOILETS SO THEY ARE SECURE AND WILL NOT TIP OR BE KNOCKED OVER. PERMITTEES MUST PROPERLY DISPOSE SANITARY WASTE IN ACCORDANCE WITH MINN. R. CH. 7041.
6. PERMITTEES MUST TAKE REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED INCLUDING THE USE OF DRIP PANS OR ABSORBENTS UNLESS INFEASIBLE. PERMITTEES MUST ENSURE ADEQUATE SUPPLIES ARE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS AND THAT AN APPROPRIATE DISPOSAL METHOD IS AVAILABLE FOR RECOVERED SPILLED MATERIALS. PERMITTEES MUST REPORT AND CLEAN UP SPILLS IMMEDIATELY AS REQUIRED BY MINN. STAT. 115.061, USING DRY CLEAN UP MEASURES WHERE POSSIBLE.
7. PERMITTEES MUST LIMIT VEHICLE EXTERIOR WASHING AND EQUIPMENT TO A DEFINED AREA OF THE SITE. PERMITTEES MUST CONTAIN RUNOFF FROM THE WASHING AREA IN A SEDIMENT BASIN OR OTHER SIMILARLY EFFECTIVE CONTROLS AND MUST DISPOSE WASTE FROM THE WASHING ACTIVITY PROPERLY. PERMITTEES MUST PROPERLY USE AND STORE SOAPS, DETERGENTS, OR SOLVENTS.
8. PERMITTEES MUST PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OPERATIONS (E.G., CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS) RELATED TO THE CONSTRUCTION ACTIVITY. PERMITTEES MUST PREVENT LIQUID AND SOLID WASHOUT WASTES FROM CONTACTING THE GROUND AND MUST DESIGN THE CONTAINMENT SO IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR AREAS. PERMITTEES MUST PROPERLY DISPOSE LIQUID AND SOLID WASTES IN COMPLIANCE WITH MPCA RULES. PERMITTEES MUST INSTALL A SIGN INDICATING THE LOCATION OF THE WASHOUT FACILITY.

PERMIT TERMINATION (SECTION 4 AND SECTION 13):

1. PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER ALL TERMINATION CONDITIONS LISTED IN SECTION 13 ARE COMPLETE.
2. PERMITTEES MUST SUBMIT A NOT WITHIN 30 DAYS AFTER SELLING OR OTHERWISE LEGALLY TRANSFERRING THE ENTIRE SITE, INCLUDING PERMIT RESPONSIBILITY FOR ROADS (E.G., STREET SWEEPING) AND STORMWATER INFRASTRUCTURE FINAL CLEAN OUT, OR TRANSFERRING PORTIONS OF A SITE TO ANOTHER PARTY. THE PERMITTEES' COVERAGE UNDER THIS PERMIT TERMINATES AT MIDNIGHT ON THE SUBMISSION DATE OF THE NOT.
3. PERMITTEES MUST COMPLETE ALL CONSTRUCTION ACTIVITY AND MUST INSTALL PERMANENT COVER OVER ALL AREAS PRIOR TO SUBMITTING THE NOT. VEGETATIVE COVER MUST CONSIST OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION, SUCH AS IMPERVIOUS SURFACES OR THE BASE OF A SAND FILTER.
4. PERMITTEES MUST CLEAN THE PERMANENT STORMWATER TREATMENT SYSTEM OF ANY ACCUMULATED SEDIMENT AND MUST ENSURE THE SYSTEM MEETS ALL APPLICABLE REQUIREMENTS IN SECTION 15 THROUGH 19 AND IS OPERATING AS DESIGNED.
5. PERMITTEES MUST REMOVE ALL SEDIMENT FROM CONVEYANCE SYSTEMS PRIOR TO SUBMITTING THE NOT.
6. PERMITTEES MUST REMOVE ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS PRIOR TO SUBMITTING THE NOT. PERMITTEES MAY LEAVE BMPS DESIGNED TO DECOMPOSE ON-SITE IN PLACE.
7. FOR RESIDENTIAL CONSTRUCTION ONLY, PERMIT COVERAGE TERMINATES ON INDIVIDUAL LOTS IF THE STRUCTURES ARE FINISHED AND TEMPORARY EROSION PREVENTION AND DOWNGRADIENT PERIMETER CONTROL IS COMPLETE, THE RESIDENCE SELLS TO THE HOMEOWNER, AND THE PERMITTEE DISTRIBUTES THE MPCA'S "HOMEOWNER FACT SHEET" TO THE HOMEOWNER.
8. FOR CONSTRUCTION PROJECTS ON AGRICULTURAL LAND (E.G., PIPELINES ACROSS CROPLAND), PERMITTEES MUST RETURN THE DISTURBED LAND TO ITS PRECONSTRUCTION AGRICULTURAL USE PRIOR TO SUBMITTING THE NOT.

SEED NOTES:

ALL SEED MIXES AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MNDOT SEEDING MANUAL.

GENERAL RECOMMENDATIONS:
THE CONTRACTOR IS RESPONSIBLE TO SALVAGE AND PRESERVE EXISTING TOPSOIL NECESSARY FOR FINAL STABILIZATION AND TO ALSO MINIMIZE COMPACTION IN ALL LANDSCAPE AREAS. IMMEDIATELY BEFORE SEEDING THE SOIL SHALL BE TILLED TO A MINIMUM DEPTH OF 3 INCHES.

TEMPORARY EROSION CONTROL SEEDING, MULCHING & BLANKET.

SEED
- TEMPORARY SEED SHALL BE MNDOT SEED MIX 21-112 (WINTER WHEAT COVER CROP) FOR WINTER AND 21-111 (OATS COVER CROP) FOR SPRING/SUMMER APPLICATIONS. BOTH SEED MIXES SHALL BE APPLIED AT A SEEDING RATE OF 100 LBS/ACRE.

MULCH
- IMMEDIATELY AFTER SEEDING, WITHIN 24 HOURS, MNDOT TYPE 1 MULCH SHOULD BE APPLIED TO PROTECT AND ENHANCE SEED GERMINATION. MULCH SHALL BE APPLIED AT 90% COVERAGE (2 TONS PER ACRE OF STRAW MULCH)

SLOPES
- 3:1 (HORIZ/VERT.) OR FLATTER MUCH SHALL BE COVERED WITH MULCH
- SLOPES STEEPER THAN 3:1 OR DITCH BOTTOMS SHALL BE COVERED WITH EROSION CONTROL BLANKET.
- SEE PLAN FOR MORE DETAILED DITCH AND STEEP SLOPE EROSION CONTROL TREATMENTS.

TRAINING SECTION 21

DESIGN ENGINEER: MATTHEW R. PAVEK P.E.
TRAINING COURSE: DESIGN OF SWPPP
TRAINING ENTITY: UNIVERSITY OF MINNESOTA
INSTRUCTOR: JOHN CHAPMAN
DATES OF TRAINING COURSE: 5/15/2011 - 5/16/2011
TOTAL TRAINING HOURS: 12
RE-CERTIFICATION: 2/27/2020 (8 HOURS), EXP. 5/31/2023

OWNER INFORMATION

FRANCE 50 LLC
6035 CULLIGAN WAY
MINNETONKA, MN 55345
CONTACT:
952-949-3630

AREAS AND QUANTITIES:

SITE AREA CALCULATIONS				
	EXISTING		PROPOSED	
BUILDING COVERAGE	9,769 SF	30.1%	20,074 SF	61.9%
ALL PAVEMENTS	5,149 SF	15.9%	9,171 SF	28.3%
ALL NON-PAVEMENTS	17,487 SF	54.0%	3,160 SF	9.8%
TOTAL SITE AREA	32,405 SF	100.0%	32,405 SF	100.0%

IMPERVIOUS SURFACE		
EXISTING CONDITION	14,918 SF	46.0%
PROPOSED CONDITION	29,245 SF	90.2%
DIFFERENCE (EX. VS PROP.)	14,327 SF	44.2%
IMPERVIOUS TOTAL	29,245 SF	90.2%

EROSION CONTROL QUANTITIES		
DISTURBED AREA	42,611 SF	0.98 AC
SILT FENCE/BIO-ROLL	950 LF	
EROSION CONTROL BLANKET	0 SF	
INLET PROTECTION DEVICES	4± EA	

NOTE: QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL DETERMINE FOR THEMSELVES THE EXACT QUANTITIES FOR BIDDING AND CONSTRUCTION.

SWPPP CONTACT PERSON

CONTRACTOR:

SWPPP INSPECTOR TRAINING:
ALL SWPPP INSPECTIONS MUST BE PERFORMED BY A PERSON THAT MEETS THE TRAINING REQUIREMENTS OF THE NPDES CONSTRUCTION SITE PERMIT.
TRAINING CREDENTIALS SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON SITE WITH THE SWPPP

PARTY RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORM WATER MANAGEMENT SYSTEM

PERMANENT STORMWATER MANAGEMENT IS NOT REQUIRED AS PART OF THIS PROJECT TO MEET NPDES PERMIT REQUIREMENTS. THE PROPERTY OWNER IS RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PROPOSED STORMWATER SYSTEM.

SWPPP ATTACHMENTS (ONLY APPLICABLE IF SITE IS 1 ACRE OR GREATER):

N//A

SUPPLEMENTARY SITE SPECIFIC EROSION CONTROL NOTES:

THESE NOTES SUPERCEDE ANY GENERAL SWPPP NOTES.

THIS PROJECT IS LESS THAN 1.0 ACRES SO AN NPDES PERMIT IS NOT REQUIRED.

PROJECT NARRATIVE:

PROJECT IS A REDEVELOPMENT OF AN EXISTING SITE INTO A NEW RESIDENTIAL APARTMENT BUILDING. SITE AND LANDSCAPE IMPROVEMENTS WILL OCCUR.

SPECIAL TMDL BMP REQUIREMENTS SITE SPECIFIC (IF REQUIRED):

NOT REQUIRED

PERMANENT STABILIZATION NOTES SITE SPECIFIC:

PERMANENT SEED MIX
- FOR THIS PROJECT ALL AREAS THAT ARE NOT TO BE SODDED OR LANDSCAPED SHALL RECEIVE A NATIVE PERMANENT SEED MIX.
  - AREAS IN BUFFERS AND ADJACENT TO OR IN WET AREAS MNDOT SEED MIX 33-261 (STORMWATER SOUTH AND WEST) AT 35 LBS PER ACRE.
  - DRY AREAS MNDOT SEED MIX 35-221 (DRY PRAIRIE GENERAL) AT 40 LBS PER ACRE.
- MAINTENANCE SHALL BE IN ACCORDANCE TO THE MNDOT SEEDING MANUAL.

CivilSite GROUP
Civil Engineering • Surveying • Landscape Architecture
5000 Glenwood Avenue
Golden Valley, MN 55422
civilsitegroup.com 612-615-0060

PRELIMINARY: NOT FOR CONSTRUCTION

PROJECT

FRANCE 50
4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

FRANCE 50 LLC
6035 CULLIGAN WAY, MINNETONKA, MN 55345

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.

Matthew R. Pavek
DATE 03/21/22 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY

DATE	DESCRIPTION
08/20/2021	LUA/PDR SUBMITTAL
09/09/21	LUA RE-SUBMITTAL
10/22/21	LUA RE SUBMITTAL
12/03/2021	PDR RESUBMITTAL
01/14/2022	PDR RESUBMITTAL
01/27/2022	WATERSHED RESUBMITTAL
03/08/22	PDR RESUBMITTAL
03/21/22	REVISED PLANS

DRAWN BY: BN, BB REVIEWED BY: MP
PROJECT NUMBER: 20339

REVISION SUMMARY

DATE	DESCRIPTION

SWPPP - NARRATIVE

SW1.3

Stormwater Management Report

Owner:
France 50 LLC.
6035 Culligan Way
St. Paul MN 55104

Project:
France 50
4901 France Ave S
Minneapolis, MN 55410

Engineer's Certification:

All plans and supporting Documentation contained in this report have been reviewed by me and it is hereby certified that to the best of my knowledge the plans comply with the requirements of the ordinance.

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Matthew R. Pavek P.E.

Registration Number: 44263

Date:

8/25/21
Revised 10/16/21
Revised 1/14/22
Revised 1/27/22

Table of Contents:

Figures:

Appendices:

2.0 Summary Analysis / Narrative:

2.1 Introduction:

This stormwater management report accompanies the Civil Engineering Plans prepared by Civil Site Group for the subject project dated 01-27-2022. This memo includes a summary of the existing and proposed site conditions, and proposed design calculations and data to meet the requirements.

2.2 Existing Site Conditions :

Site Description:
The existing site consists of multiple single-family homes and parking areas. The existing structures and site features will be removed to facilitate the construction of the proposed site. Below is the existing surface area tabulation.

Existing Conditions

Drainage Area	Impervious Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
EX1	7246	98	7784	39	15030	67
EX2	12517	98	11593	39	24110	70

Existing Soils:
A geotechnical evaluation report was completed by Haugo Geotechnical Services dated December 16, 2020. This report determined the soils on site are primarily silty sand. For the purposes of this report, soils have been assumed to have a hydrologic soil group “A” designation.

Groundwater:
Groundwater encountered in the soil borings at elevations ranging from 860.0 to 865.0. The proposed filtration BMP’s will be more than 3.0’ above the groundwater elevation.

2.3 Proposed Site Conditions:

Site Description:
The proposed site is a residential/commercial building with associated parking, landscaping, utility and stormwater improvements. The entirety of the building roof water is routed to the green roof portion or the planter/dry basin located north of the building. The remaining areas on site that are not within the building footprint will runoff untreated. The site is located within the Shoreland Overlay District of the City of Minneapolis and the project will follow all the guidelines spelled out in the District’s narrative. Below is the proposed surface area tabulation.

Proposed Conditions

Drainage Area	Impervious Area		Green Roof Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
PR1	4815	98	0	92	1602	61	6417	89
PR2A	13375	98	10383	92	1639	61	25397	93
PR2B	5859	98	0	92	1467	61	7326	91

2.4 Stormwater Requirements City (Minneapolis):

Requirement threshold - Projects over 0.5 acre in size.
Rate Control – Peak discharge rates shall be maintained at or below the existing condition rate for the disturbed land area.
Water Quality – Water quality standards are set according to the receiving water body.
Volume Control – Redevelopment shall capture and retain on-site, 1.1 inches of runoff from the new and fully reconstructed impervious surfaces within the disturbed area.

2.5 Stormwater Requirements Watershed District – (Minnehaha Creek Watershed District (MCWD)):

Requirement threshold – Redevelopment projects that are >1 acre, result in an increase in impervious surface and disturb >40% of the site.
Rate Control – Peak runoff rate may not exceed existing conditions for the 1-yr, 10-yr, 100-yr 24-hour rainfall events, utilize Atlas 14 rainfall data.
Water Quality – Stormwater must be treated prior to discharge to result in no net increase of total phosphorus. If volume control requirements are met, it can be assumed that water quality requirements are satisfied.
Volume Control – Stormwater runoff volume must be infiltrated/abstracted onsite in the amount equivalent to one inch (1") of runoff generated from the new or reconstructed impervious surface. If infiltration is infeasible onsite, volume control requirements double to 2" of runoff generated from the new or reconstructed impervious surface.

2.6 Stormwater Requirements Shoreland Overlay District

Requirement threshold – Areas within the Shoreland Overlay District
Rate Control – Minimize off-site runoff
Water Quality – Maximize water quality
Volume Control – Maximize volume control

2.7 Stormwater Requirements - Minnesota Pollution Control Agency – NPPDES permit (MPCA):

Requirement threshold - A permit is required for projects with a disturbed area over 1 acre in size, Stormwater management is required for a project adding 1-acre of more of NEW impervious surface (reconstructed impervious is not included).
Rate Control – No specific regulation, may not degrade downstream facilities.
Water Quality – Stormwater water quality treatment volume must be provided equal to 1.0" over all new impervious surfaces (includes all newly constructed impervious surfaces only, re-constructed impervious surfaces are not included).
Volume Control – Must consider volume reduction if feasible and not prohibited on site. The required infiltration volume is equal to the water quality volume described above.

3.0 Stormwater Calculations:

3.1 Proposed Stormwater Management Strategy & Facilities Description

This project is disturbing more than 0.50 of one acre thus the City of Minneapolis are triggered but the Minnehaha Creek Watershed District Rules are not triggered. The project is within the Shoreland Overlay District. Per the Shoreland Overlay District all development shall comply with all applicable regulations governing stormwater management and shall employ best management practices to minimize off-site stormwater runoff, maximize overland flow and flow distances over surfaces covered with vegetation, increase onsite filtration, replicate predevelopment hydraulic conditions as nearly as possible, minimize off-site discharge of pollutants to ground and surface water, and encourage natural filtration function. In addition, Minneapolis stormwater requirements apply. Rate control is met has been met by utilizing the proposed planter/dry basin. Water quality standards and volume control are not feasible on this site.

3.2 Rate Control

Rate control is provided by live storage within the proposed planter/dry basin. This information was derived using HydroCAD stormwater modeling software. The existing and proposed runoff rates are shown in the summary table below.

Stormwater Rate Summary

Drainage Area	Existing Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
PR1 (FRANCE AVENUE)	0.79	1.43	3.04
PR2 (49TH STREET WEST)	1.35	2.40	4.99
TOTAL	2.14	3.83	8.03

Drainage Area	Proposed Conditions Without Planter/Dry Basin Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
PR1 (FRANCE AVENUE)	0.49	0.79	1.48
PR2 (49TH STREET WEST)	2.84	4.53	8.29
TOTAL	3.33	5.32	9.77

Drainage Area	Proposed Conditions With Planter/Dry Basin Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
PR1 (FRANCE AVENUE)	0.49	0.80	1.52
PR2 (49TH STREET WEST)	1.36	2.78	4.72
TOTAL	1.85	3.58	6.24

Overall Stormwater Rate Summary

	Existing Conditions Rate (cfs)	Proposed Conditions Without Planter/Dry Basin Rate (cfs)	Proposed Conditions With Planter/Dry Basin Rate (cfs)
2-Year Event	2.14	3.33	1.85
10-Year Event	3.83	5.32	3.58
100-Year Event	8.03	9.77	6.24

There are no specific runoff rate requirement for the Shoreland Overlay District, however, the city stormwater management regulations require that the proposed rates be reduced less to less than the existing rates. All runoff rates with the proposed planter/dry basin are reduced when compared to the existing runoff rates. In addition, the proposed planter/dry basin has a HWL of 882.73 which provides 2' of freeboard related to the proposed building which has a FFE of 884.73. – REQUIREMENT SATISFIED

3.3 Water Quality/Volume

There are no specific water quality/volume requirements for the Shoreland Overlay District, however, the city stormwater management regulations requires that the 1.1" storm be captured and treated onsite. It is not feasible to capture and treat the 1.1" storm thus water quality/volume has been achieved to the maximum extent practicable. The proposed green roof and planter/dry basin will provide water quality control for the roof water leaving the site as it heads downstream to the city stormsewer. The proposed water quality calculations are shown in the table below:

Stormwater Water Quality and Volume Summary

Drainage Area	Infiltration Vol. Summary	
	New Impv. Area (sf)	1.25" Volume (cf)
PR1	4815	502
PR2A	13375	1393
PR2B	5859	610
TOTAL	24049	2505

Proposed BMP Area	Provided Vol (cf)	Drawdown Time Calculations (0.45"/Hour)		
		Inf. Area (sf)	Assoc. Inf. Height (ft)	Drawdown Time (h)
Planter/Dry Basin	0	1264	0.00	0.00
TOTAL	0			

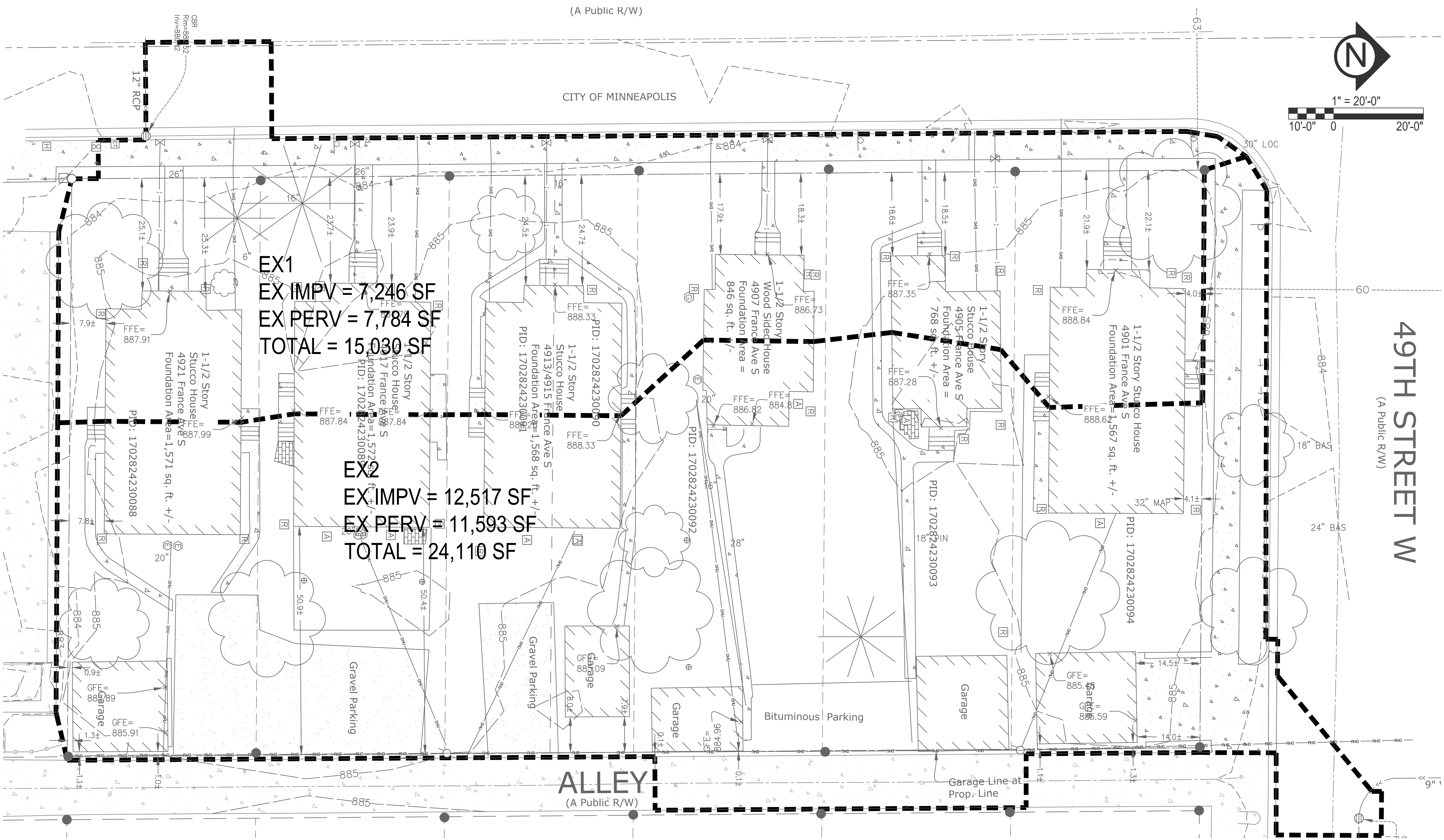
Existing	Loading (Lbs)	Removal (Lbs)	Reduction (Lbs)	Percent Removed
TSS	178.8	165.8	13	93%
TP	0.984	0.76	0.224	77%

Proposed	Loading (Lbs)	Removal (Lbs)	Reduction (Lbs)	Percent Removed
TSS	268	177.6	90.4	66%
TP	1.475	0.744	0.731	50%

The project provides water quality/volume to the maximum extent feasible - REQUIREMENT PARTIALLY SATISFIED

3.0 Conclusions:

To the best of our knowledge, this project meets the City of Minneapolis Shoreland Overlay District requirements, as well as the Minnehaha Creek Watershed District Requirements.



FRANCE 50

CivilSite GROUP

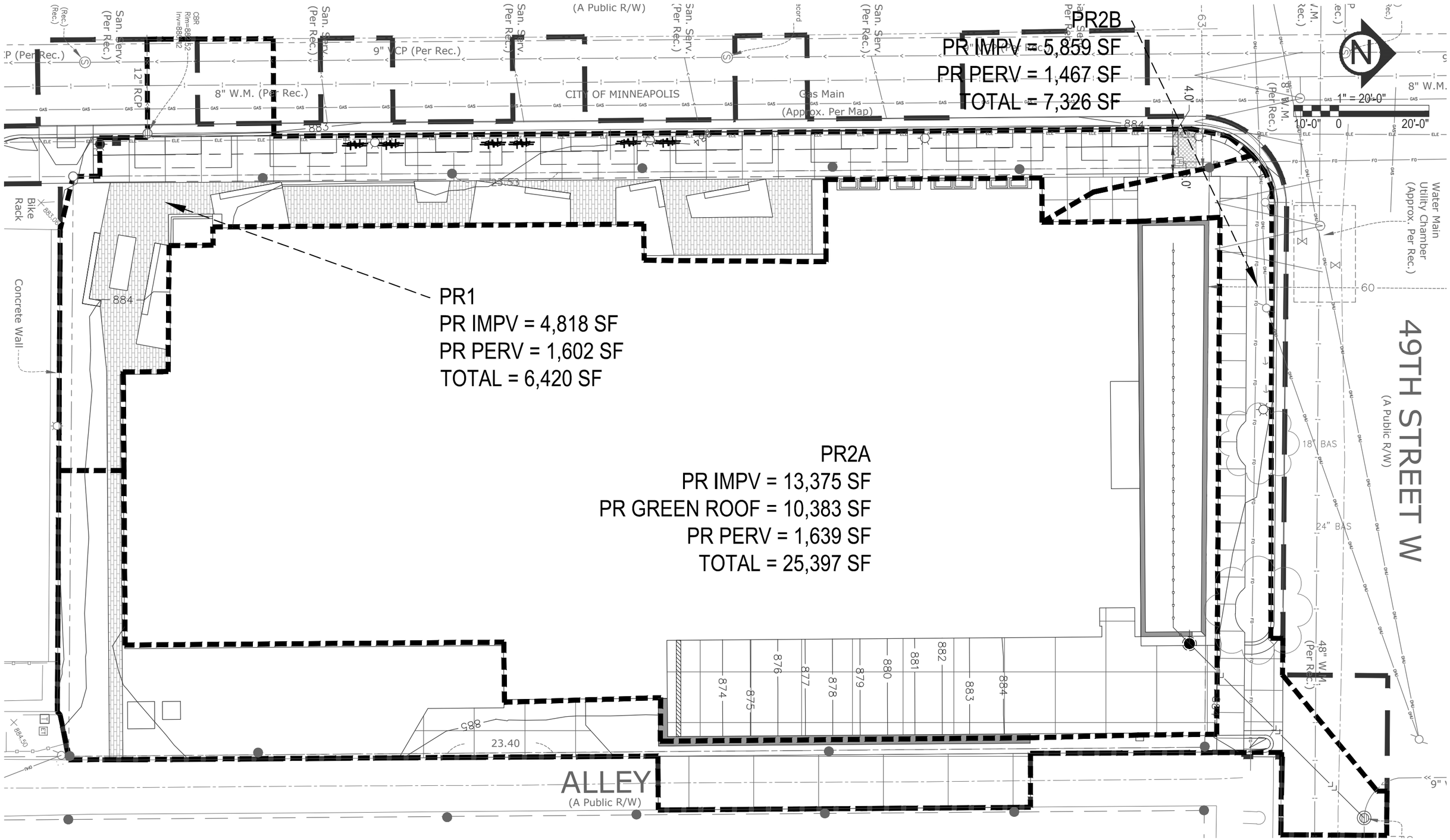
4931 W. 35TH ST., #200
ST. LOUIS PARK, MN 55416
952.250.2003 / 763.213.394
www.CivilSiteGroup.com

EXISTING DRAINAGE MAP

4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

Project Number:	20339	Revision Number:	.
Issue Date:	11/16/2021	Revision Date:	.

DA1



FRANCE 50

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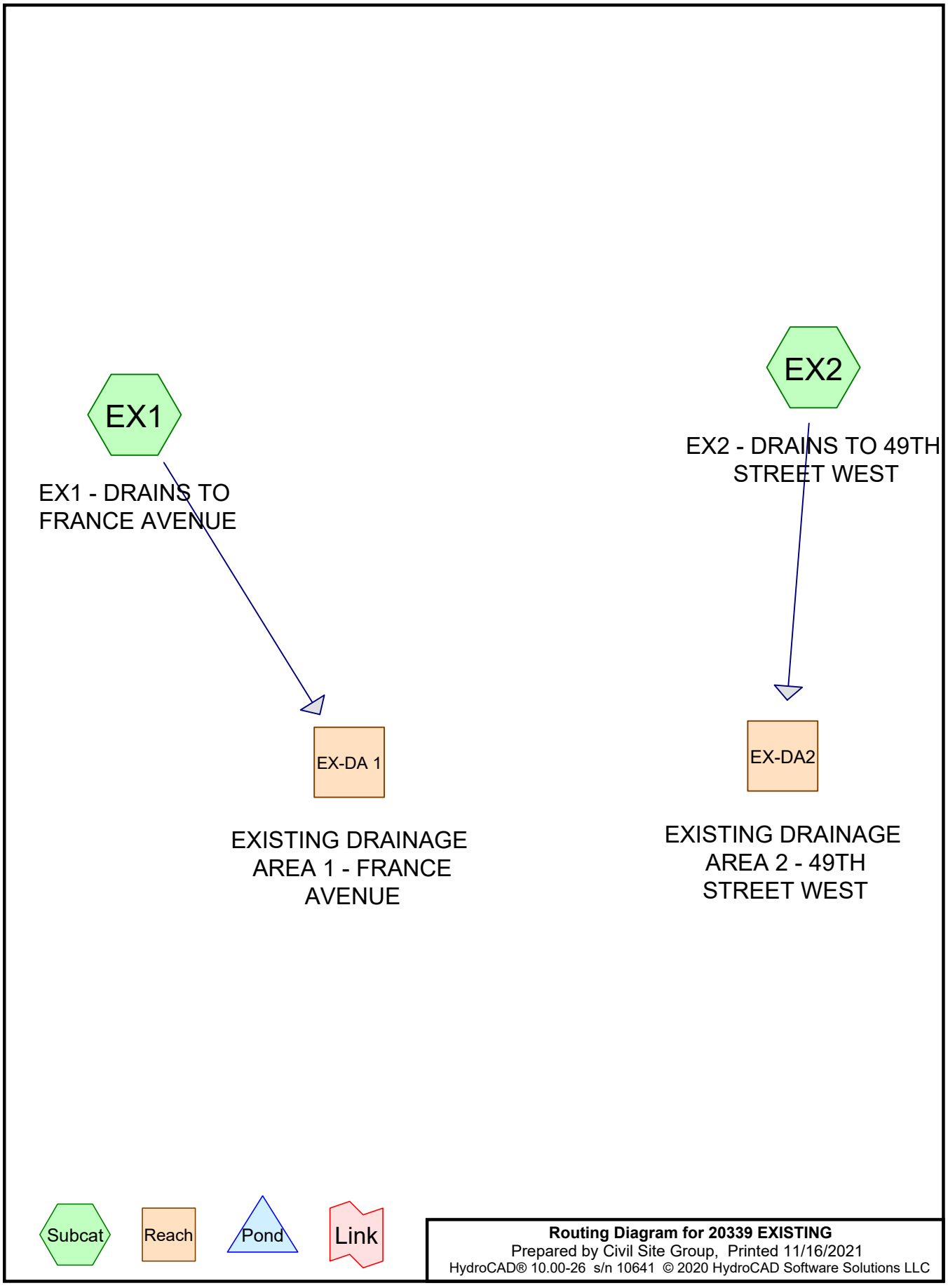
PROPOSED DRAINAGE MAP

4901 FRANCE AVE S, MINNEAPOLIS, MN 55410

Project Number:	20339	Revision Number:	.
Issue Date:	01/14/2022	Revision Date:	.

DA2


EX1
EX1 - DRAINS TO FRANCE AVENUE
EX2
EX2 - DRAINS TO 49TH STREET WEST
EX-DA 1
EXISTING DRAINAGE AREA 1 - FRANCE AVENUE
EX-DA2
EXISTING DRAINAGE AREA 2 - 49TH STREET WEST
Subcat
Reach
Pond
Link
Routing Diagram for 20339 EXISTING
Prepared by Civil Site Group, Printed 11/16/2021
HydroCAD® 10.00-26 s/n 10641 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.445	61	>75% Grass cover, Good, HSG B (EX1, EX2)
0.454	98	Paved parking, HSG B (EX1, EX2)
0.899	**80**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.899	HSG B	EX1, EX2
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.899		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.445	0.000	0.000	0.000	0.445	>75% Grass cover, Good	EX1, EX2
0.000	0.454	0.000	0.000	0.000	0.454	Paved parking	EX1, EX2
0.000	**0.899**	**0.000**	**0.000**	**0.000**	**0.899**	**TOTAL AREA**	

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment EX1: EX1 - DRAINS TO Runoff Area=15,030 sf 48.21% Impervious Runoff Depth=1.48"
Tc=6.0 min CN=WQ Runoff=0.79 cfs 0.043 af

Subcatchment EX2: EX2 - DRAINS TO Runoff Area=24,110 sf 51.92% Impervious Runoff Depth=1.57"
Tc=6.0 min CN=WQ Runoff=1.35 cfs 0.072 af

Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE Inflow=0.79 cfs 0.043 af
Outflow=0.79 cfs 0.043 af

Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST Inflow=1.35 cfs 0.072 af
Outflow=1.35 cfs 0.072 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.115 af Average Runoff Depth = 1.54"
49.51% Pervious = 0.445 ac 50.49% Impervious = 0.454 ac

Summary for Subcatchment EX1: EX1 - DRAINS TO FRANCE AVENUE

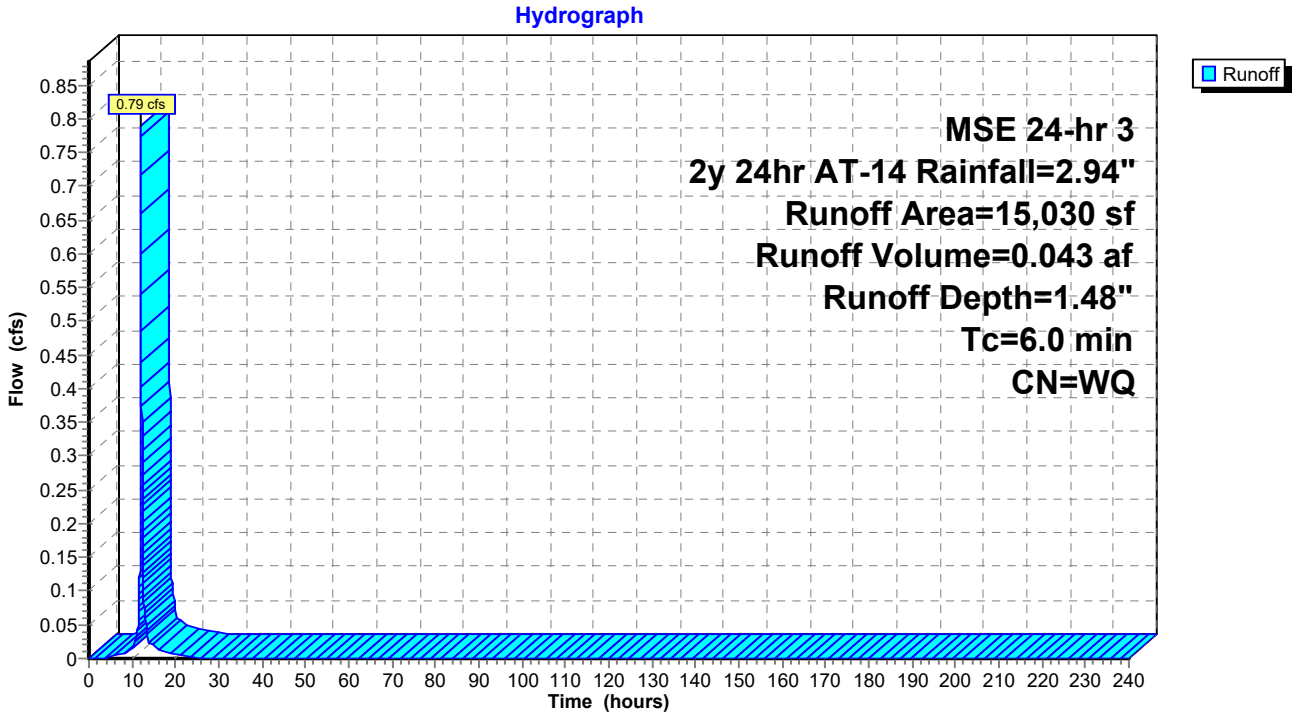
Runoff = 0.79 cfs @ 12.13 hrs, Volume= 0.043 af, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
7,246	98	Paved parking, HSG B
7,784	61	>75% Grass cover, Good, HSG B
15,030		Weighted Average
7,784		51.79% Pervious Area
7,246		48.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX1: EX1 - DRAINS TO FRANCE AVENUE



Summary for Subcatchment EX2: EX2 - DRAINS TO 49TH STREET WEST

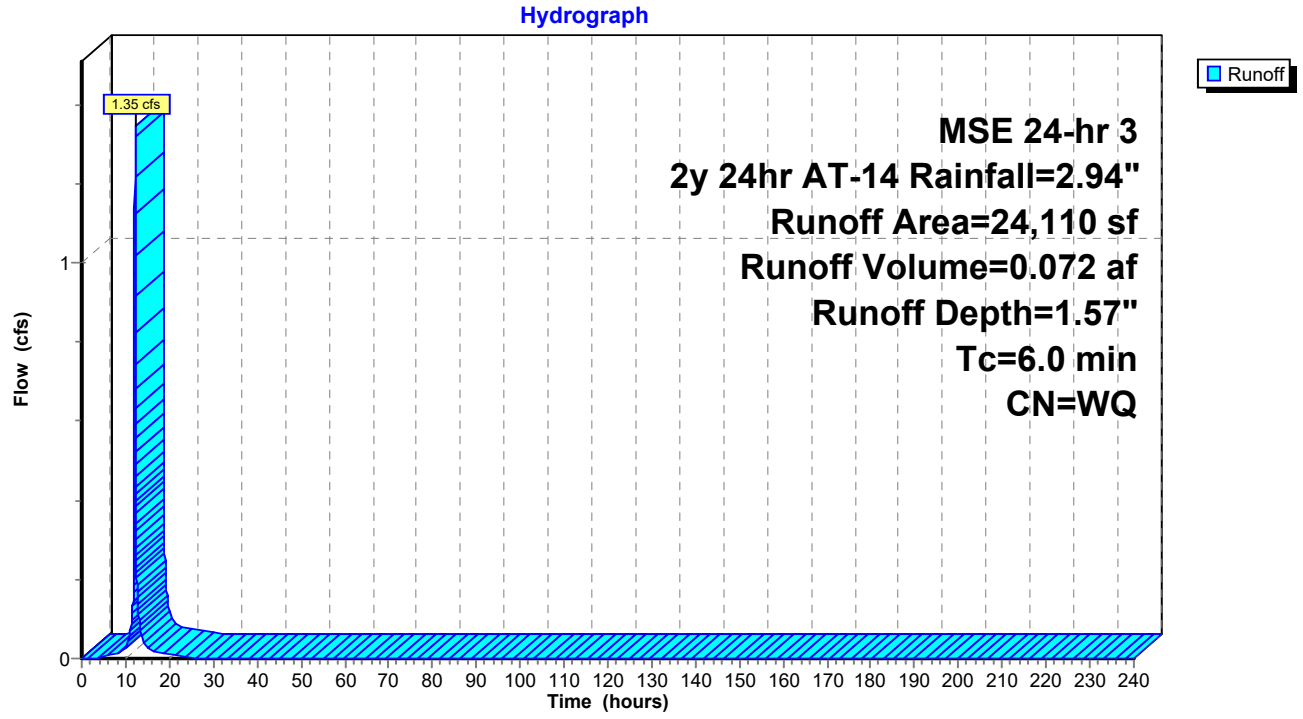
Runoff = 1.35 cfs @ 12.13 hrs, Volume= 0.072 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
12,517	98	Paved parking, HSG B
11,593	61	>75% Grass cover, Good, HSG B
24,110		Weighted Average
11,593		48.08% Pervious Area
12,517		51.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX2: EX2 - DRAINS TO 49TH STREET WEST



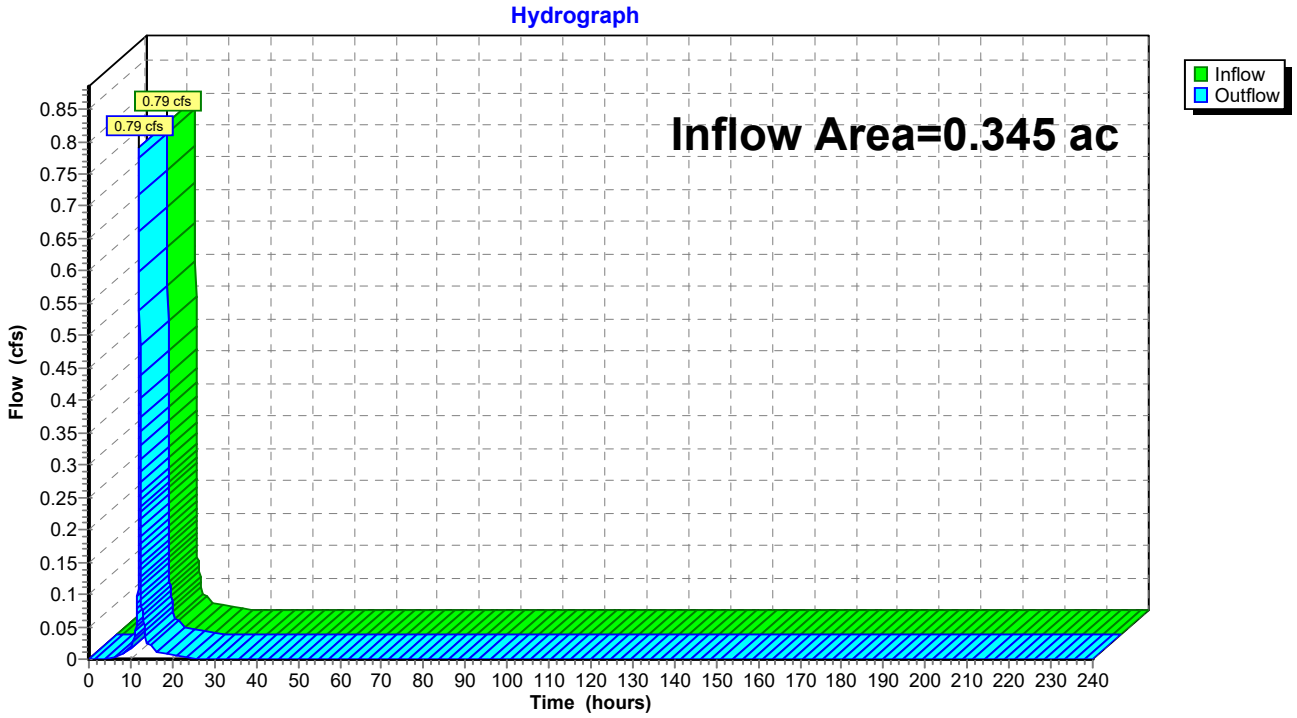
Summary for Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.345 ac, 48.21% Impervious, Inflow Depth = 1.48" for 2y 24hr AT-14 event
Inflow = 0.79 cfs @ 12.13 hrs, Volume= 0.043 af
Outflow = 0.79 cfs @ 12.13 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE



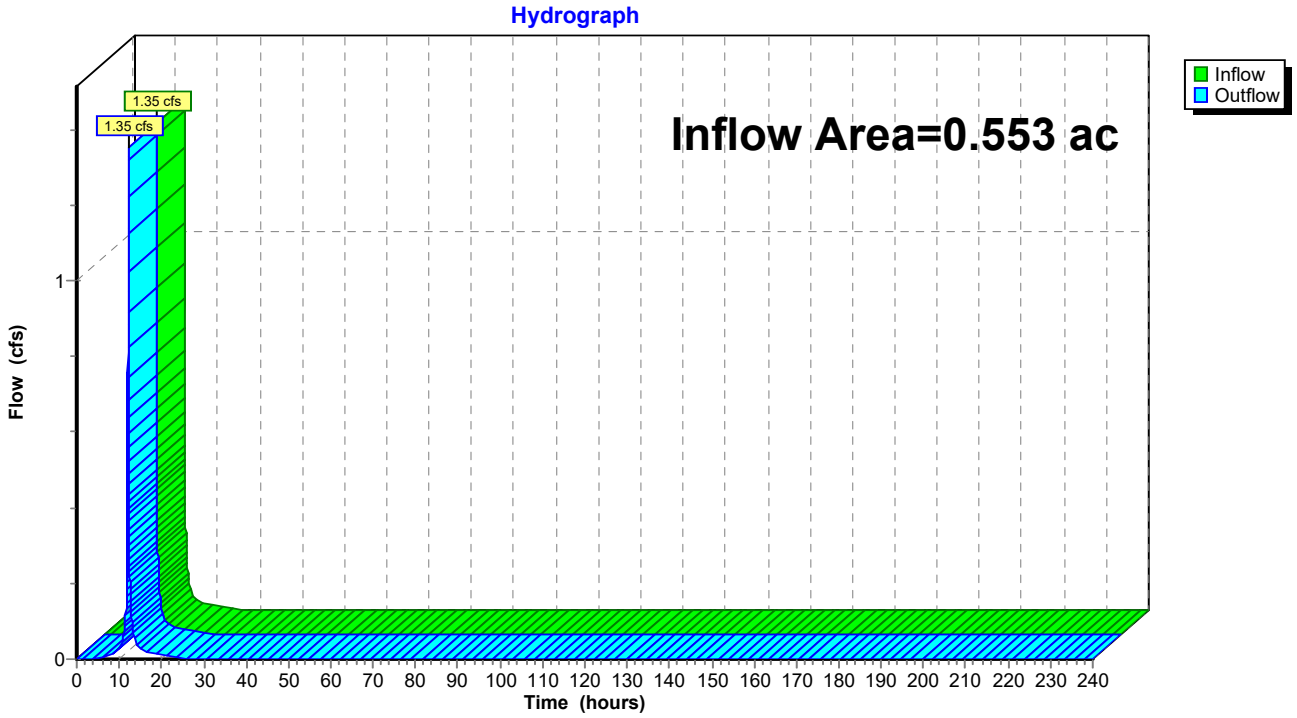
Summary for Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.553 ac, 51.92% Impervious, Inflow Depth = 1.57" for 2y 24hr AT-14 event
Inflow = 1.35 cfs @ 12.13 hrs, Volume= 0.072 af
Outflow = 1.35 cfs @ 12.13 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST



Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment EX1: EX1 - DRAINS TO Runoff Area=15,030 sf 48.21% Impervious Runoff Depth=2.59"
Tc=6.0 min CN=WQ Runoff=1.43 cfs 0.075 af

Subcatchment EX2: EX2 - DRAINS TO Runoff Area=24,110 sf 51.92% Impervious Runoff Depth=2.71"
Tc=6.0 min CN=WQ Runoff=2.40 cfs 0.125 af

Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE Inflow=1.43 cfs 0.075 af
Outflow=1.43 cfs 0.075 af

Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST Inflow=2.40 cfs 0.125 af
Outflow=2.40 cfs 0.125 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.199 af Average Runoff Depth = 2.66"
49.51% Pervious = 0.445 ac 50.49% Impervious = 0.454 ac

Summary for Subcatchment EX1: EX1 - DRAINS TO FRANCE AVENUE

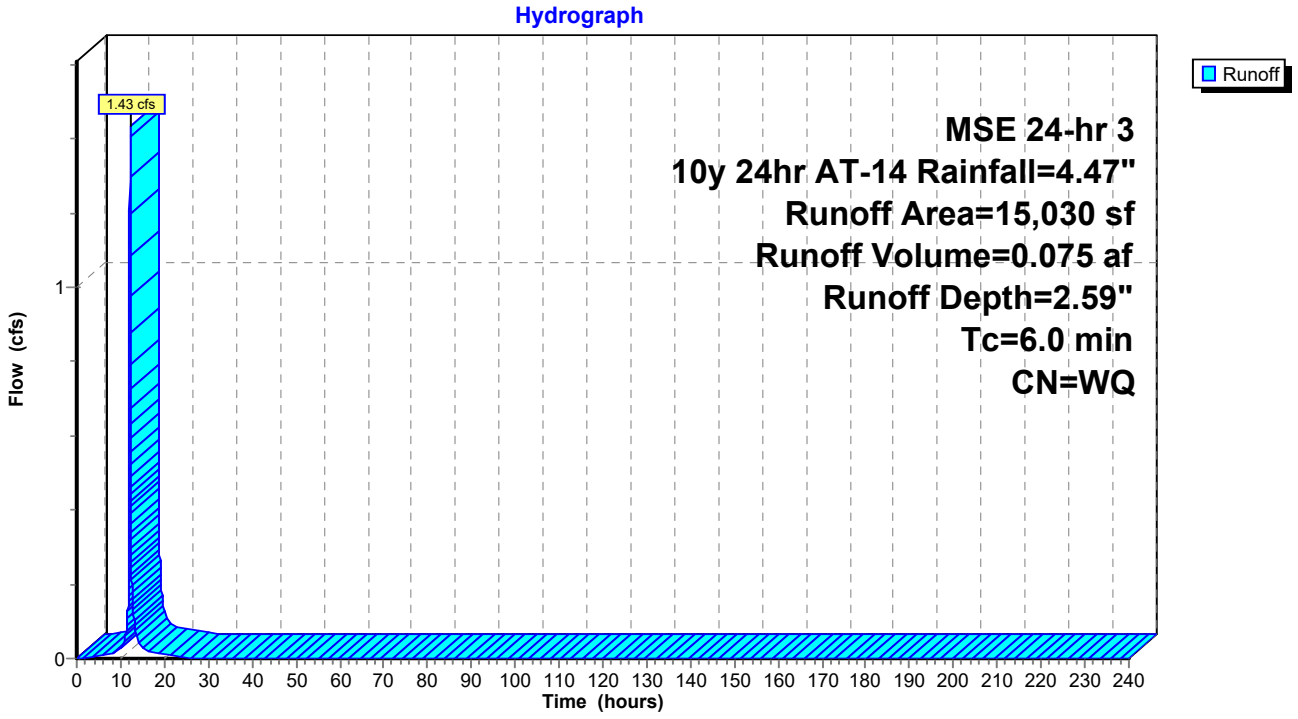
Runoff = 1.43 cfs @ 12.13 hrs, Volume= 0.075 af, Depth= 2.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
7,246	98	Paved parking, HSG B
7,784	61	>75% Grass cover, Good, HSG B
15,030		Weighted Average
7,784		51.79% Pervious Area
7,246		48.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX1: EX1 - DRAINS TO FRANCE AVENUE



Summary for Subcatchment EX2: EX2 - DRAINS TO 49TH STREET WEST

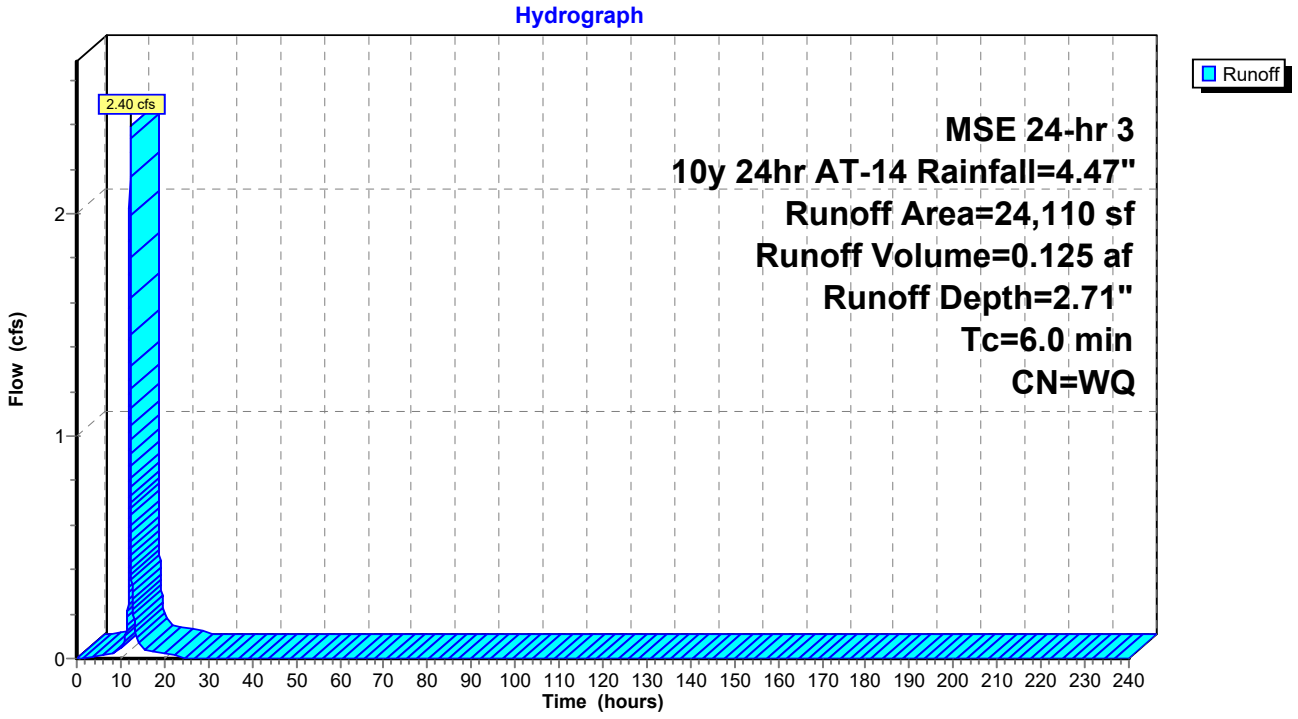
Runoff = 2.40 cfs @ 12.13 hrs, Volume= 0.125 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
12,517	98	Paved parking, HSG B
11,593	61	>75% Grass cover, Good, HSG B
24,110		Weighted Average
11,593		48.08% Pervious Area
12,517		51.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX2: EX2 - DRAINS TO 49TH STREET WEST



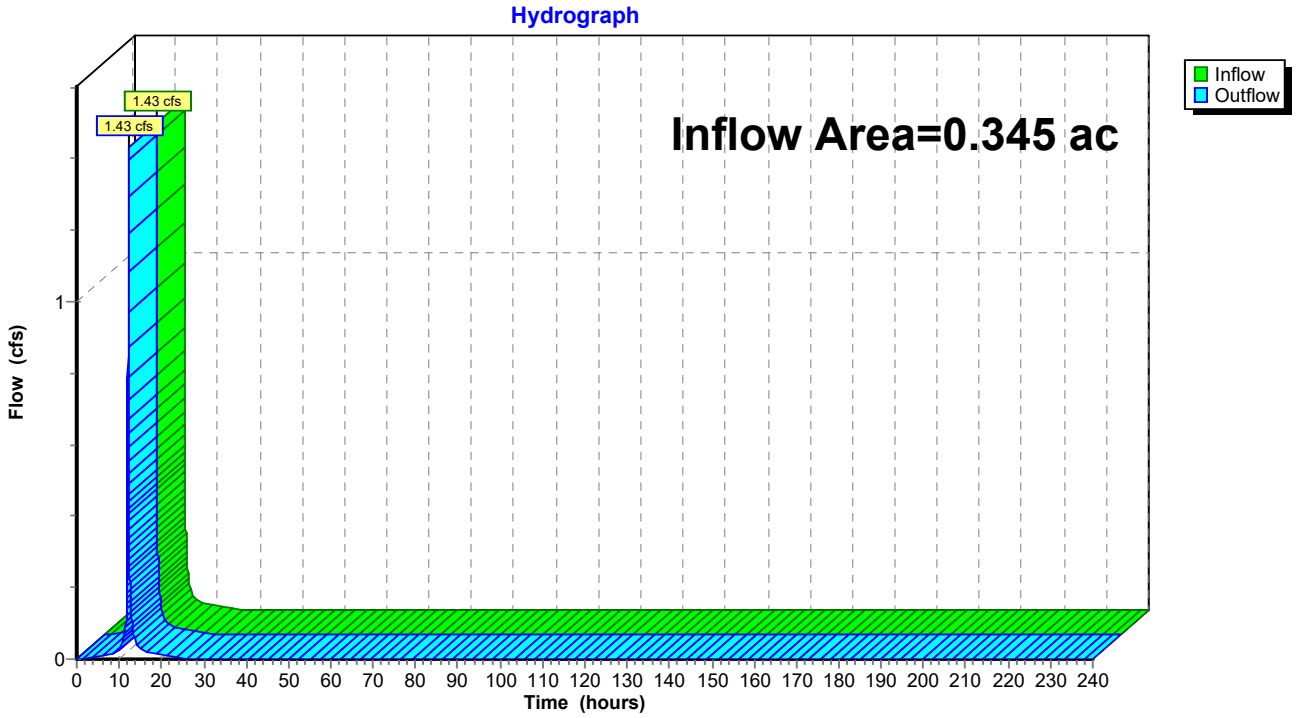
Summary for Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.345 ac, 48.21% Impervious, Inflow Depth = 2.59" for 10y 24hr AT-14 event
Inflow = 1.43 cfs @ 12.13 hrs, Volume= 0.075 af
Outflow = 1.43 cfs @ 12.13 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE



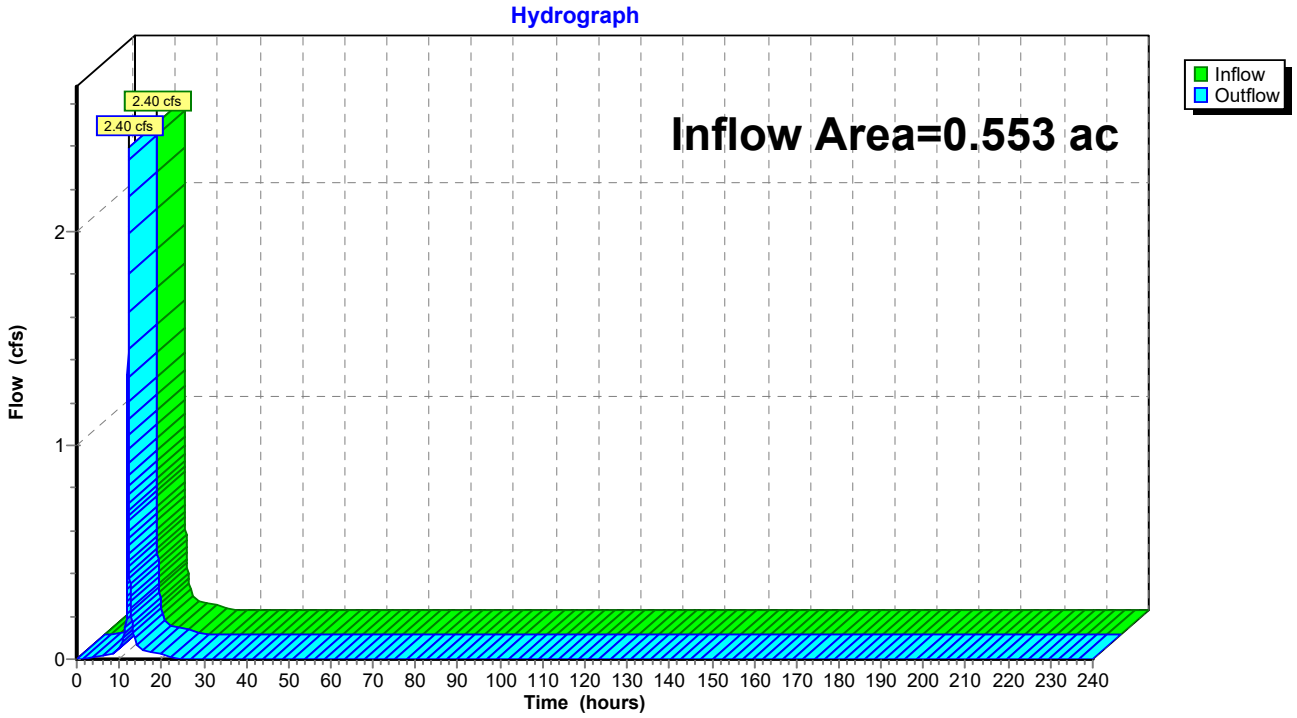
Summary for Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.553 ac, 51.92% Impervious, Inflow Depth = 2.71" for 10y 24hr AT-14 event
Inflow = 2.40 cfs @ 12.13 hrs, Volume= 0.125 af
Outflow = 2.40 cfs @ 12.13 hrs, Volume= 0.125 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST



Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment EX1: EX1 - DRAINS TO Runoff Area=15,030 sf 48.21% Impervious Runoff Depth=5.36"
Tc=6.0 min CN=WQ Runoff=3.04 cfs 0.154 af

Subcatchment EX2: EX2 - DRAINS TO Runoff Area=24,110 sf 51.92% Impervious Runoff Depth=5.52"
Tc=6.0 min CN=WQ Runoff=4.99 cfs 0.254 af

Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE Inflow=3.04 cfs 0.154 af
Outflow=3.04 cfs 0.154 af

Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST Inflow=4.99 cfs 0.254 af
Outflow=4.99 cfs 0.254 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.409 af Average Runoff Depth = 5.46"
49.51% Pervious = 0.445 ac 50.49% Impervious = 0.454 ac

Summary for Subcatchment EX1: EX1 - DRAINS TO FRANCE AVENUE

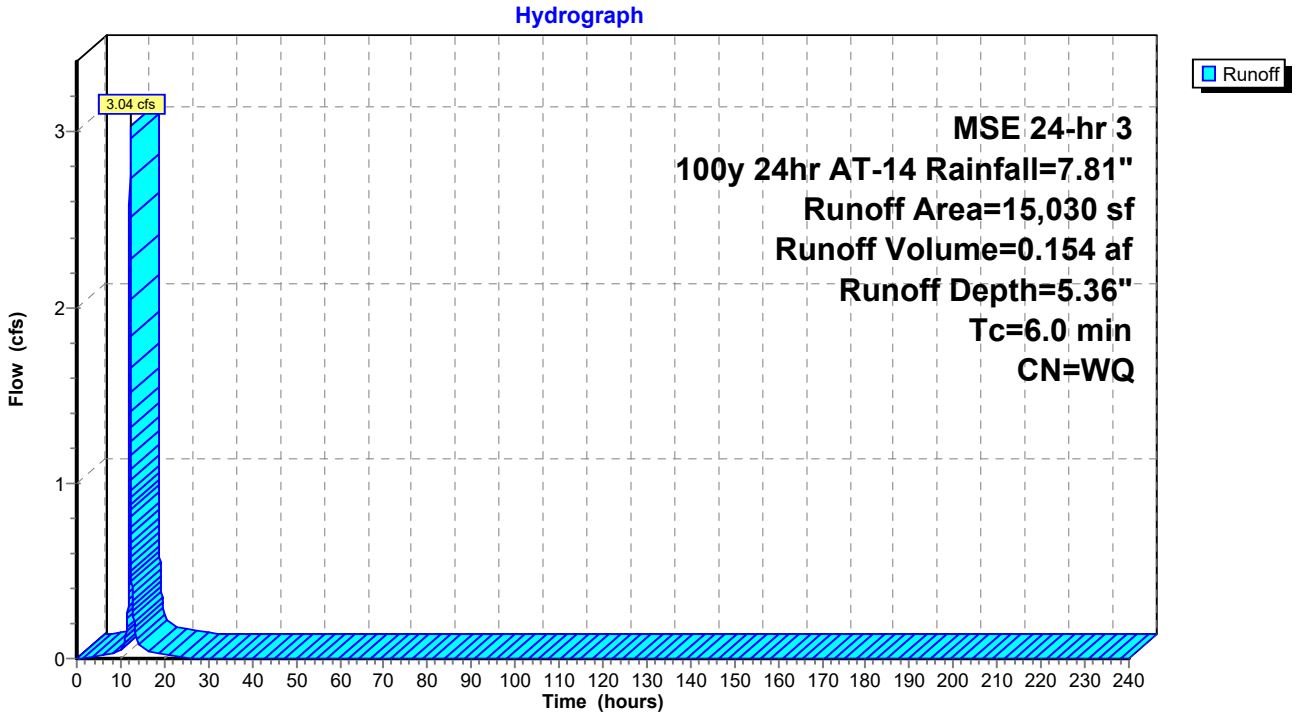
Runoff = 3.04 cfs @ 12.13 hrs, Volume= 0.154 af, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
7,246	98	Paved parking, HSG B
7,784	61	>75% Grass cover, Good, HSG B
15,030		Weighted Average
7,784		51.79% Pervious Area
7,246		48.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX1: EX1 - DRAINS TO FRANCE AVENUE



Summary for Subcatchment EX2: EX2 - DRAINS TO 49TH STREET WEST

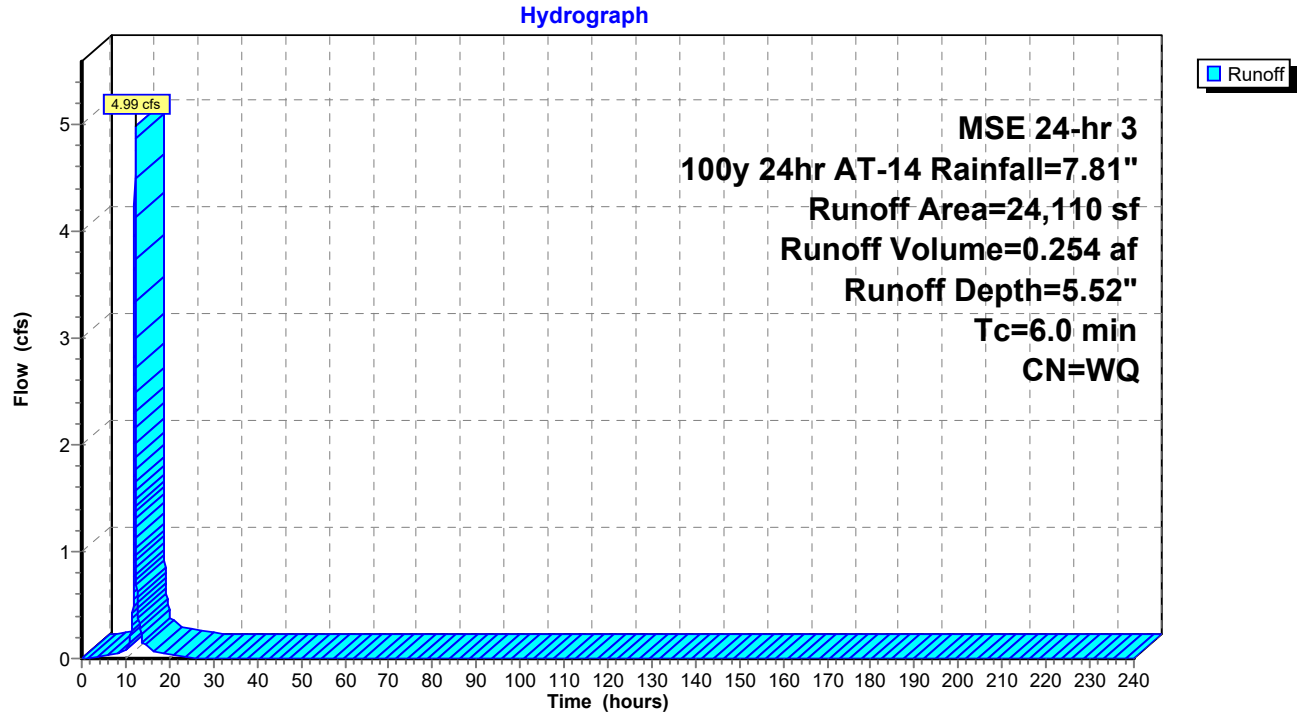
Runoff = 4.99 cfs @ 12.13 hrs, Volume= 0.254 af, Depth= 5.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
12,517	98	Paved parking, HSG B
11,593	61	>75% Grass cover, Good, HSG B
24,110		Weighted Average
11,593		48.08% Pervious Area
12,517		51.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment EX2: EX2 - DRAINS TO 49TH STREET WEST



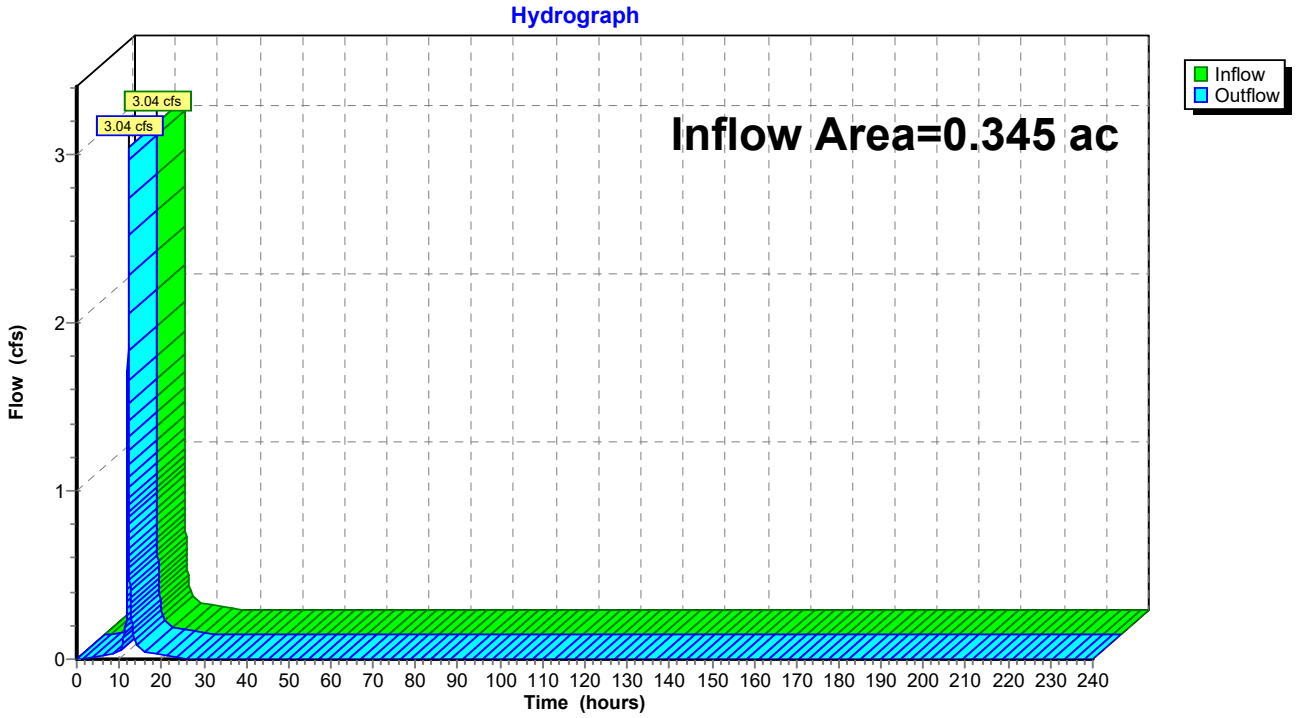
Summary for Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.345 ac, 48.21% Impervious, Inflow Depth = 5.36" for 100y 24hr AT-14 event
Inflow = 3.04 cfs @ 12.13 hrs, Volume= 0.154 af
Outflow = 3.04 cfs @ 12.13 hrs, Volume= 0.154 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach EX-DA 1: EXISTING DRAINAGE AREA 1 - FRANCE AVENUE



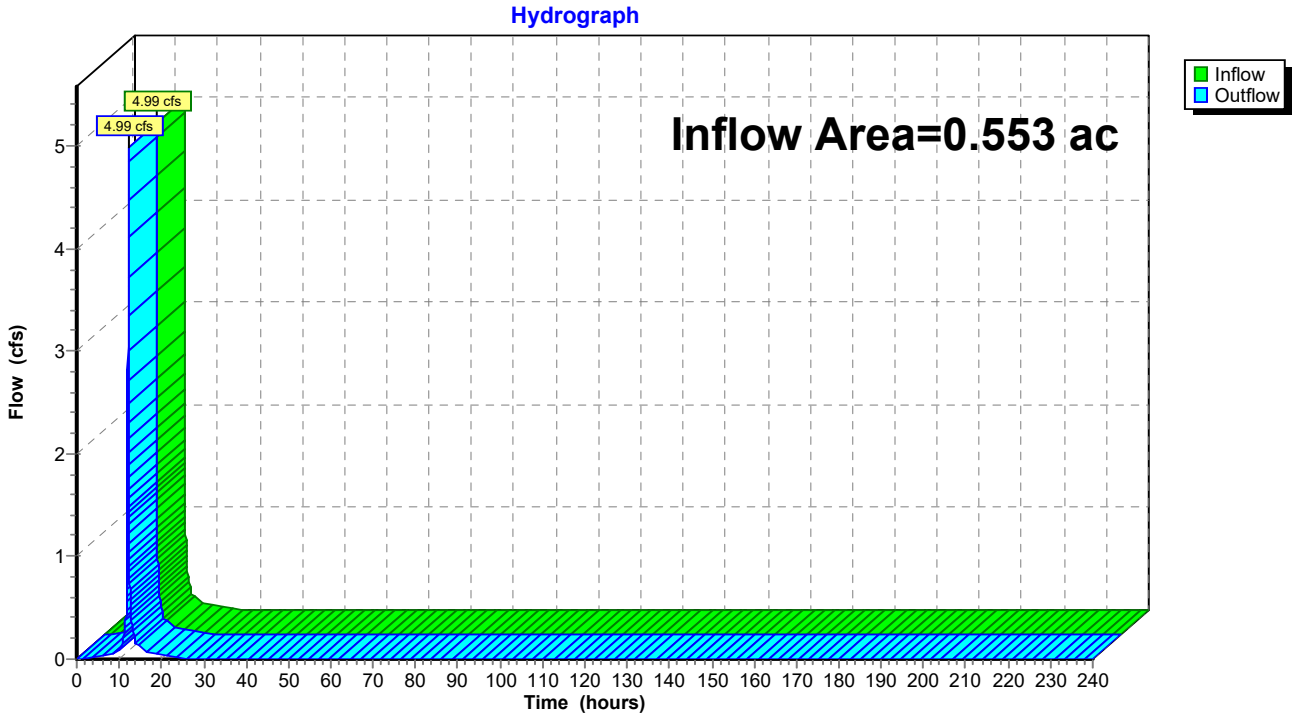
Summary for Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST

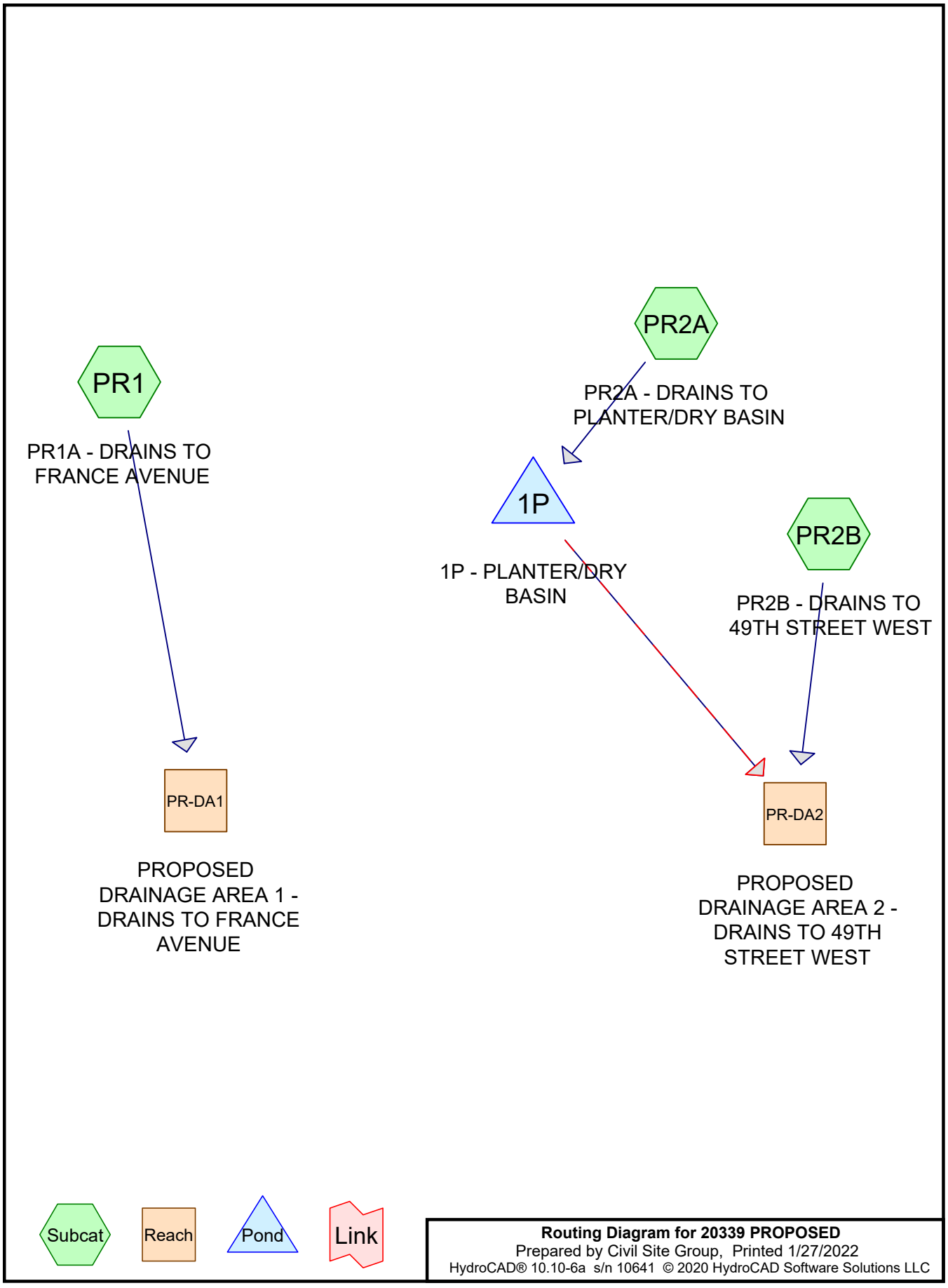
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.553 ac, 51.92% Impervious, Inflow Depth = 5.52" for 100y 24hr AT-14 event
Inflow = 4.99 cfs @ 12.13 hrs, Volume= 0.254 af
Outflow = 4.99 cfs @ 12.13 hrs, Volume= 0.254 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach EX-DA2: EXISTING DRAINAGE AREA 2 - 49TH STREET WEST





Routing Diagram for 20339 PROPOSED
Prepared by Civil Site Group, Printed 1/27/2022

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	2.94	2
2	10y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	4.47	2
3	100y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	7.81	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.108	61	>75% Grass cover, Good, HSG B (PR1, PR2A, PR2B)
0.238	92	Green Roof, HSG B (PR2A)
0.552	98	Paved parking, HSG B (PR1, PR2A, PR2B)
0.899	**92**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.899	HSG B	PR1, PR2A, PR2B
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.899		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.108	0.000	0.000	0.000	0.108	>75% Grass cover, Good	PR1, PR2A, PR2B
0.000	0.238	0.000	0.000	0.000	0.238	Green Roof	PR2A
0.000	0.552	0.000	0.000	0.000	0.552	Paved parking	PR1, PR2A, PR2B
0.000	**0.899**	**0.000**	**0.000**	**0.000**	**0.899**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1P	878.84	878.57	55.0	0.0049	0.010	0.0	9.0	0.0

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment PR1: PR1A - DRAINS TO Runoff Area=6,417 sf 75.04% Impervious Runoff Depth=2.12"
Tc=6.0 min CN=WQ Runoff=0.49 cfs 0.026 af

Subcatchment PR2A: PR2A - DRAINS TO Runoff Area=25,397 sf 52.66% Impervious Runoff Depth=2.31"
Tc=6.0 min CN=WQ Runoff=2.24 cfs 0.112 af

Subcatchment PR2B: PR2B - DRAINS TO Runoff Area=7,326 sf 79.98% Impervious Runoff Depth=2.23"
Tc=6.0 min CN=WQ Runoff=0.60 cfs 0.031 af

Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE Inflow=0.49 cfs 0.026 af
Outflow=0.49 cfs 0.026 af

Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET Inflow=1.36 cfs 0.144 af
Outflow=1.36 cfs 0.144 af

Pond 1P: 1P - PLANTER/DRY BASIN Peak Elev=881.03' Storage=1,378 cf Inflow=2.24 cfs 0.112 af
Primary=0.88 cfs 0.112 af Secondary=0.00 cfs 0.000 af Outflow=0.88 cfs 0.112 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.170 af Average Runoff Depth = 2.26"
38.56% Pervious = 0.346 ac 61.44% Impervious = 0.552 ac

Summary for Subcatchment PR1: PR1A - DRAINS TO FRANCE AVENUE

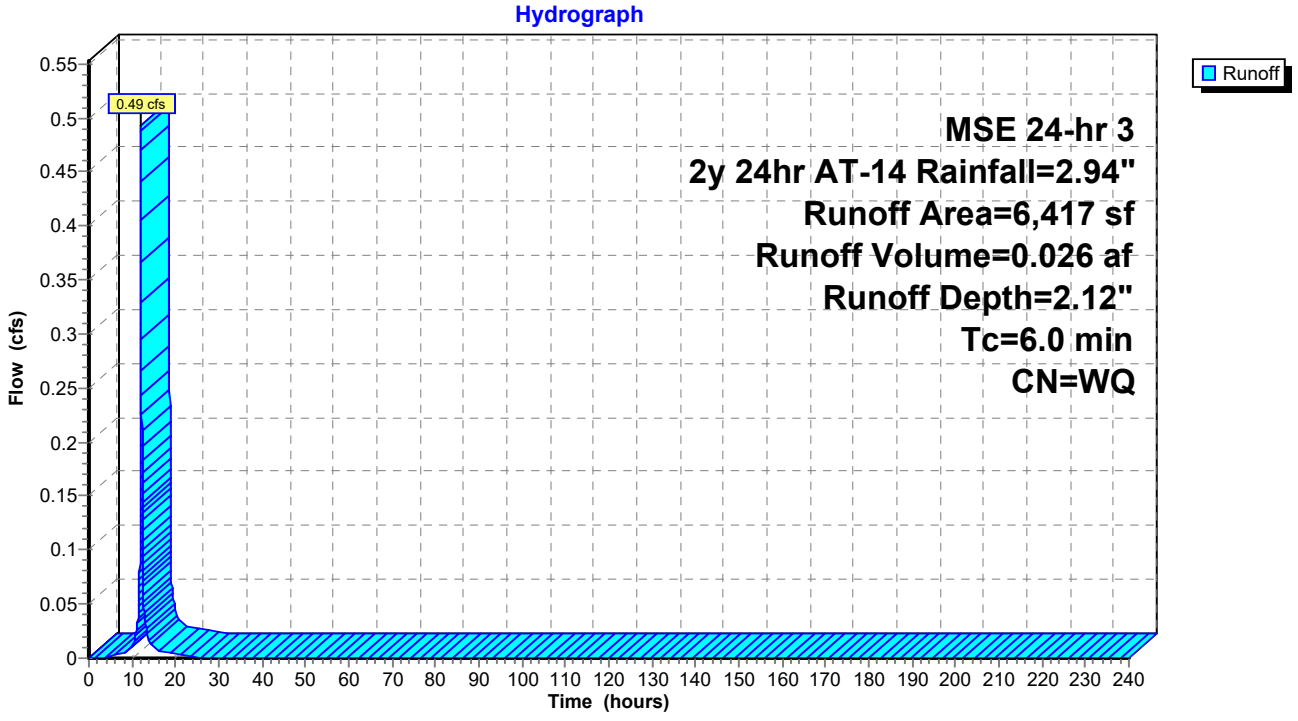
Runoff = 0.49 cfs @ 12.13 hrs, Volume= 0.026 af, Depth= 2.12"
Routed to Reach PR-DA1 : PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
4,815	98	Paved parking, HSG B
1,602	61	>75% Grass cover, Good, HSG B
6,417		Weighted Average
1,602		24.96% Pervious Area
4,815		75.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR1: PR1A - DRAINS TO FRANCE AVENUE



Summary for Subcatchment PR2A: PR2A - DRAINS TO PLANTER/DRY BASIN

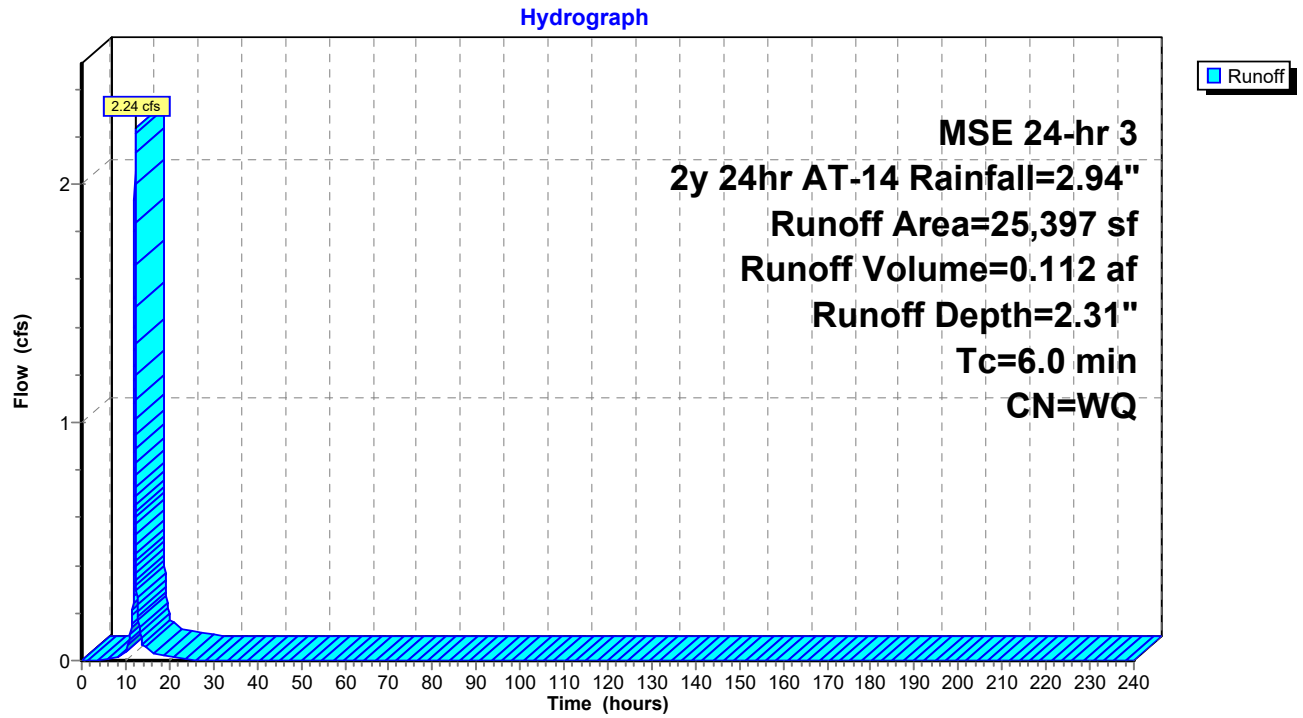
Runoff = 2.24 cfs @ 12.13 hrs, Volume= 0.112 af, Depth= 2.31"
Routed to Pond 1P : 1P - PLANTER/DRY BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

	Area (sf)	CN	Description
	13,375	98	Paved parking, HSG B
*	10,383	92	Green Roof, HSG B
	1,639	61	>75% Grass cover, Good, HSG B
	25,397		Weighted Average
	12,022		47.34% Pervious Area
	13,375		52.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2A: PR2A - DRAINS TO PLANTER/DRY BASIN



Summary for Subcatchment PR2B: PR2B - DRAINS TO 49TH STREET WEST

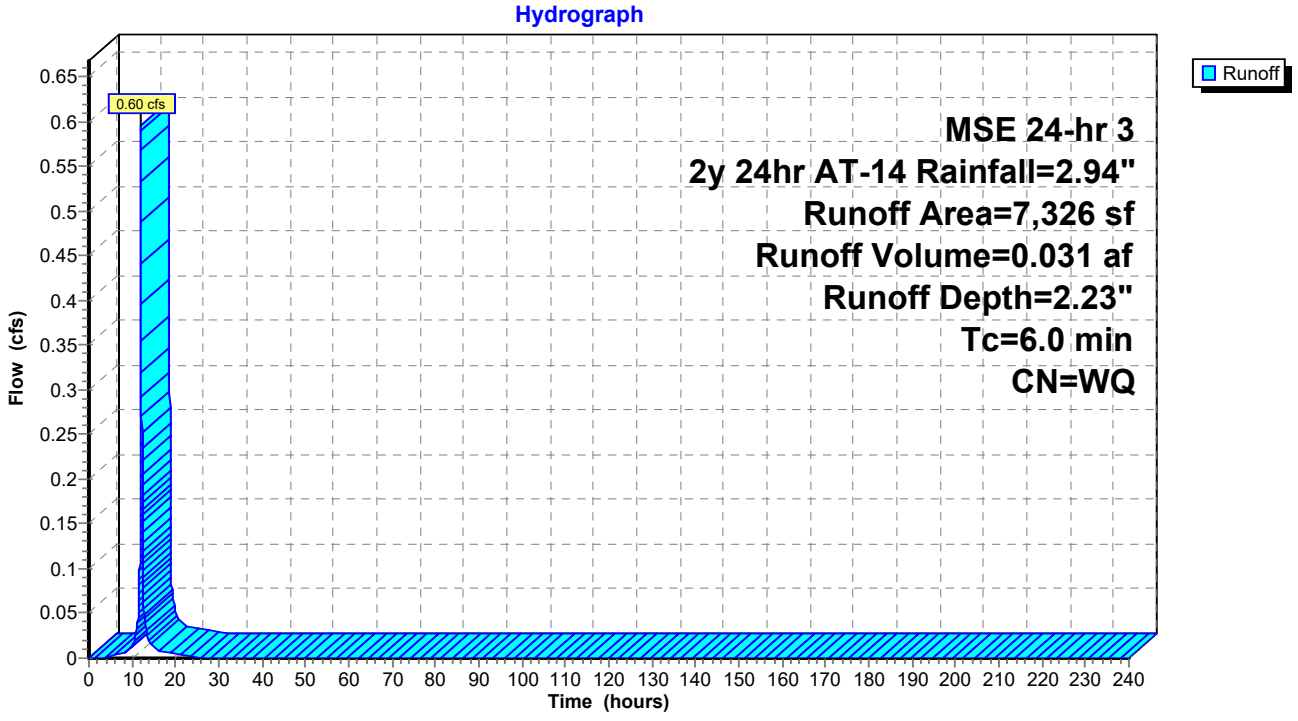
Runoff = 0.60 cfs @ 12.13 hrs, Volume= 0.031 af, Depth= 2.23"
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
5,859	98	Paved parking, HSG B
1,467	61	>75% Grass cover, Good, HSG B
7,326		Weighted Average
1,467		20.02% Pervious Area
5,859		79.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2B: PR2B - DRAINS TO 49TH STREET WEST



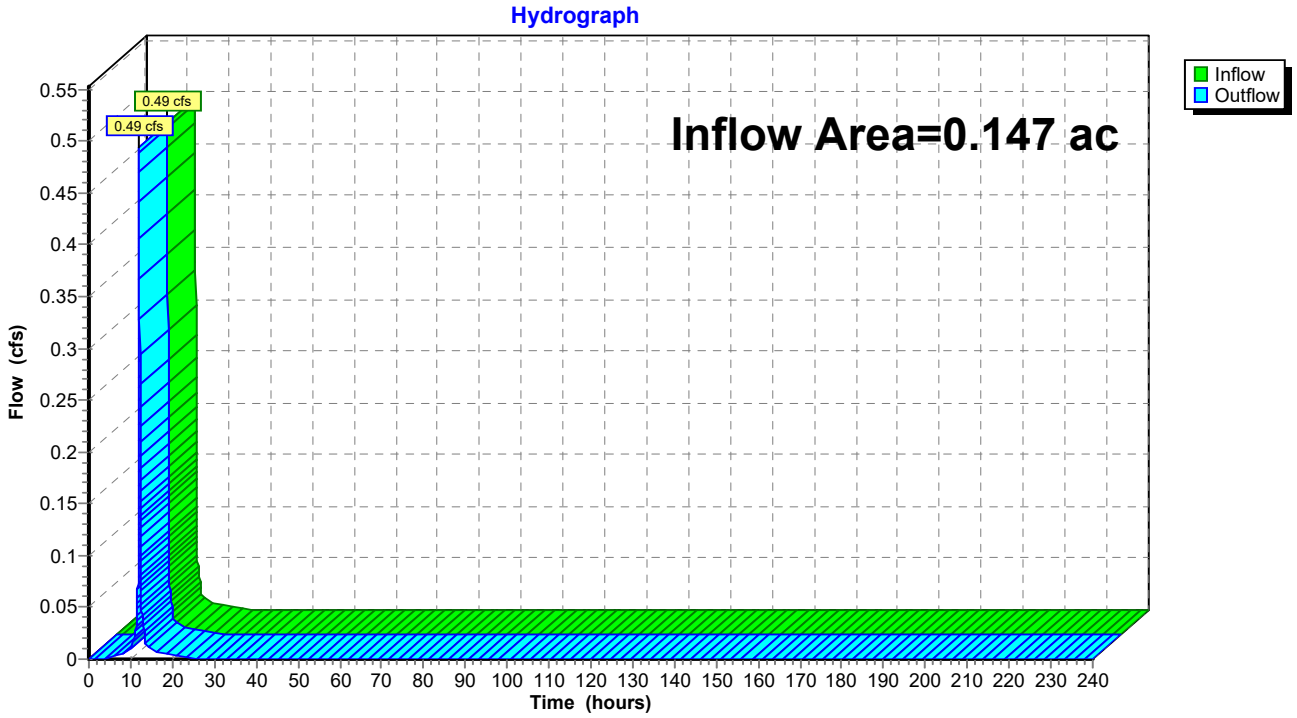
Summary for Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.147 ac, 75.04% Impervious, Inflow Depth = 2.12" for 2y 24hr AT-14 event
Inflow = 0.49 cfs @ 12.13 hrs, Volume= 0.026 af
Outflow = 0.49 cfs @ 12.13 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE



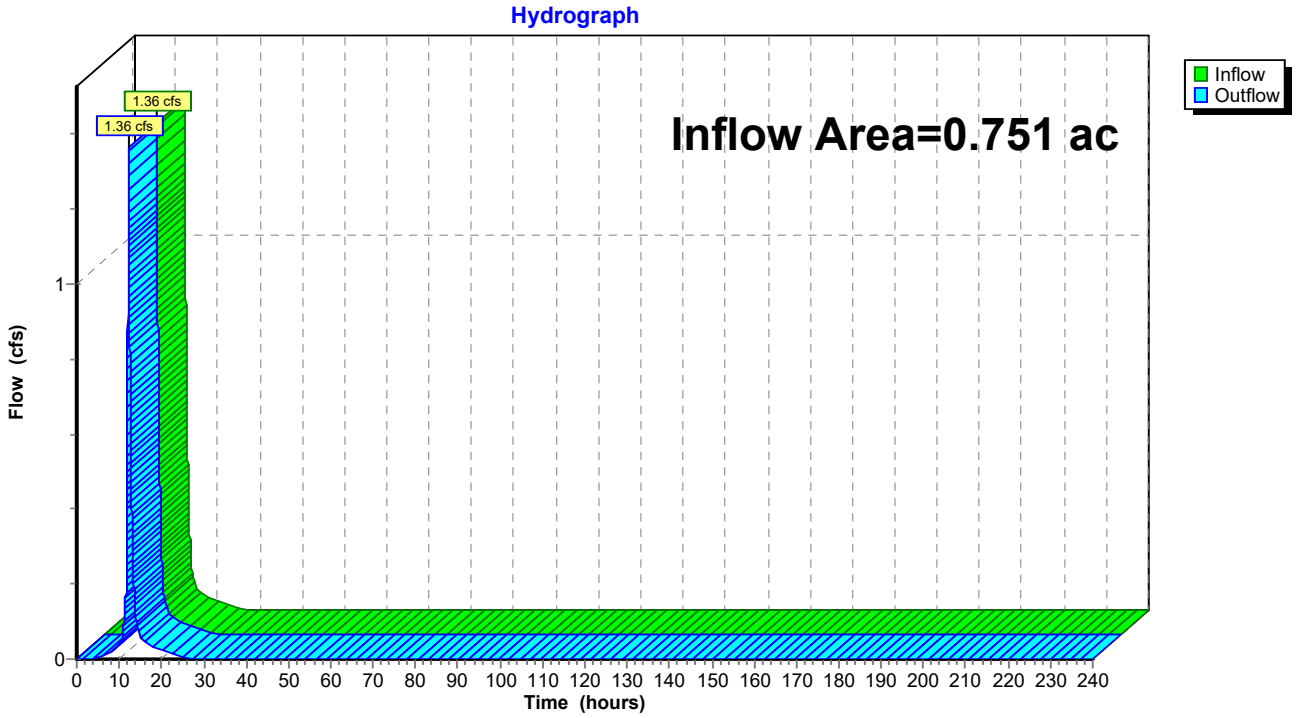
Summary for Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.751 ac, 58.78% Impervious, Inflow Depth = 2.29" for 2y 24hr AT-14 event
Inflow = 1.36 cfs @ 12.15 hrs, Volume= 0.144 af
Outflow = 1.36 cfs @ 12.15 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST



Summary for Pond 1P: 1P - PLANTER/DRY BASIN

Inflow Area = 0.583 ac, 52.66% Impervious, Inflow Depth = 2.31" for 2y 24hr AT-14 event
Inflow = 2.24 cfs @ 12.13 hrs, Volume= 0.112 af
Outflow = 0.88 cfs @ 12.25 hrs, Volume= 0.112 af, Atten= 61%, Lag= 7.3 min
Primary = 0.88 cfs @ 12.25 hrs, Volume= 0.112 af
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
Peak Elev= 881.03' @ 12.25 hrs Surf.Area= 1,264 sf Storage= 1,378 cf

Plug-Flow detention time= 31.9 min calculated for 0.112 af (100% of inflow)
Center-of-Mass det. time= 31.9 min (798.2 - 766.2)

Volume	Invert	Avail.Storage	Storage Description
#1	879.94'	6,585 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

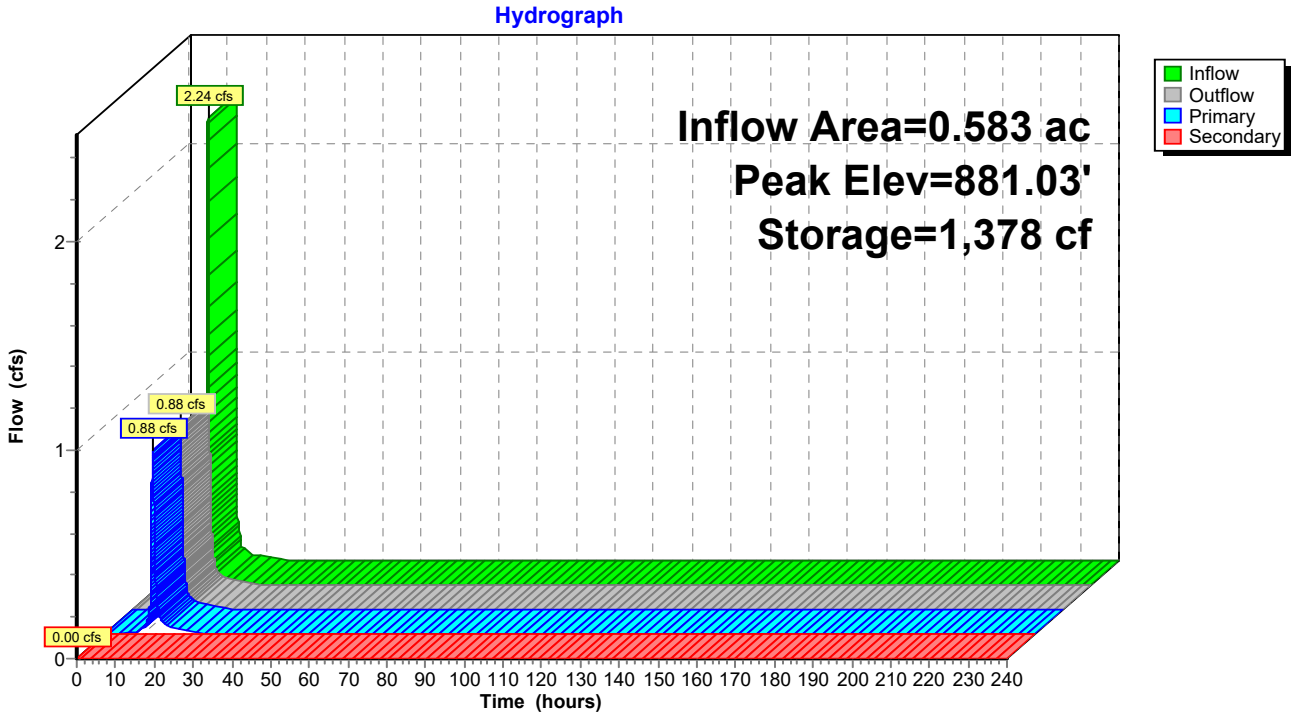
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
879.94	1,264	0	0
880.40	1,264	581	581
881.00	1,264	758	1,340
882.80	1,264	2,275	3,615
883.30	1,264	632	4,247
883.80	1,264	632	4,879
884.30	1,264	632	5,511
884.80	1,264	632	6,143
885.15	1,264	442	6,585

Device	Routing	Invert	Outlet Devices
#1	Device 6	879.94'	**0.450 in/hr Exfiltration over Surface area**
#2	Device 6	883.00'	**24.0" Horiz. 24" Rim Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 4	879.94'	**6.0" Vert. 6" Outlet Pipe to OCS** C= 0.600 Limited to weir flow at low heads
#4	Device 6	879.94'	**6.0" Vert. 6" Orifice in OCS** C= 0.600 Limited to weir flow at low heads
#5	Device 6	881.40'	**4.0' long 4' Weir Wall in OCS** 2 End Contraction(s)
#6	Primary	878.84'	**9.0" Round 9" Outlet Pipe** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 878.84' / 878.57' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.44 sf
#7	Secondary	884.10'	**2.0' long EOF Weir** Cv= 2.62 (C= 3.28)

Primary OutFlow Max=0.88 cfs @ 12.25 hrs HW=881.03' (Free Discharge)
└─**6=9" Outlet Pipe** (Passes 0.88 cfs of 2.26 cfs potential flow)
  ├─**1=Exfiltration** (Exfiltration Controls 0.01 cfs)
  ├─**2=24" Rim Orifice** (Controls 0.00 cfs)
  ├─**4=6" Orifice in OCS** (Controls 0.87 cfs)
  │ └─**3=6" Outlet Pipe to OCS** (Orifice Controls 0.87 cfs @ 4.41 fps)
  └─**5=4' Weir Wall in OCS** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=879.94' (Free Discharge)
└─**7=EOF Weir** (Controls 0.00 cfs)

Pond 1P: 1P - PLANTER/DRY BASIN



Stage-Area-Storage for Pond 1P: 1P - PLANTER/DRY BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
879.94	**1,264**	0
880.04	1,264	126
880.14	1,264	253
880.24	1,264	379
880.34	1,264	506
880.44	1,264	632
880.54	1,264	758
880.64	1,264	885
880.74	1,264	1,011
880.84	1,264	1,138
880.94	1,264	1,264
881.04	1,264	1,390
881.14	1,264	1,517
881.24	1,264	1,643
881.34	1,264	1,770
881.44	1,264	1,896
881.54	1,264	2,022
881.64	1,264	2,149
881.74	1,264	2,275
881.84	1,264	2,402
881.94	1,264	2,528
882.04	1,264	2,654
882.14	1,264	2,781
882.24	1,264	2,907
882.34	1,264	3,034
882.44	1,264	3,160
882.54	1,264	3,286
882.64	1,264	3,413
882.74	1,264	3,539
882.84	1,264	3,666
882.94	1,264	3,792
883.04	1,264	3,918
883.14	1,264	4,045
883.24	1,264	4,171
883.34	1,264	4,298
883.44	1,264	4,424
883.54	1,264	4,550
883.64	1,264	4,677
883.74	1,264	4,803
883.84	1,264	4,930
883.94	1,264	5,056
884.04	1,264	5,182
884.14	1,264	5,309
884.24	1,264	5,435
884.34	1,264	5,562
884.44	1,264	5,688
884.54	1,264	5,814
884.64	1,264	5,941
884.74	1,264	6,067
884.84	1,264	6,194
884.94	1,264	6,320
885.04	1,264	6,446
885.14	1,264	**6,573**

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment PR1: PR1A - DRAINS TO Runoff Area=6,417 sf 75.04% Impervious Runoff Depth=3.44"
Tc=6.0 min CN=WQ Runoff=0.80 cfs 0.042 af

Subcatchment PR2A: PR2A - DRAINS TO Runoff Area=25,397 sf 52.66% Impervious Runoff Depth=3.76"
Tc=6.0 min CN=WQ Runoff=3.58 cfs 0.183 af

Subcatchment PR2B: PR2B - DRAINS TO Runoff Area=7,326 sf 79.98% Impervious Runoff Depth=3.60"
Tc=6.0 min CN=WQ Runoff=0.96 cfs 0.050 af

Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE Inflow=0.80 cfs 0.042 af
Outflow=0.80 cfs 0.042 af

Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET Inflow=2.78 cfs 0.233 af
Outflow=2.78 cfs 0.233 af

Pond 1P: 1P - PLANTER/DRY BASIN Peak Elev=881.59' Storage=2,079 cf Inflow=3.58 cfs 0.183 af
Primary=2.17 cfs 0.183 af Secondary=0.00 cfs 0.000 af Outflow=2.17 cfs 0.183 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.275 af Average Runoff Depth = 3.68"
38.56% Pervious = 0.346 ac 61.44% Impervious = 0.552 ac

Summary for Subcatchment PR1: PR1A - DRAINS TO FRANCE AVENUE

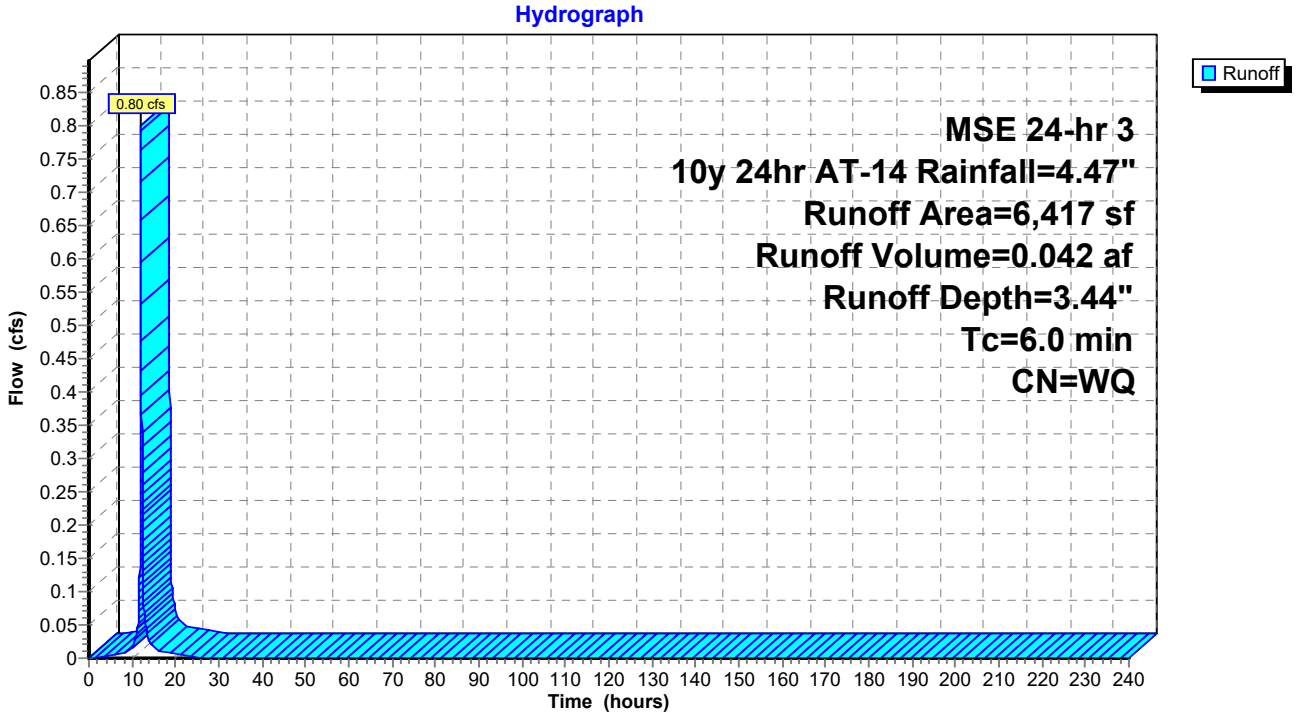
Runoff = 0.80 cfs @ 12.13 hrs, Volume= 0.042 af, Depth= 3.44"
Routed to Reach PR-DA1 : PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
4,815	98	Paved parking, HSG B
1,602	61	>75% Grass cover, Good, HSG B
6,417		Weighted Average
1,602		24.96% Pervious Area
4,815		75.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR1: PR1A - DRAINS TO FRANCE AVENUE



Summary for Subcatchment PR2A: PR2A - DRAINS TO PLANTER/DRY BASIN

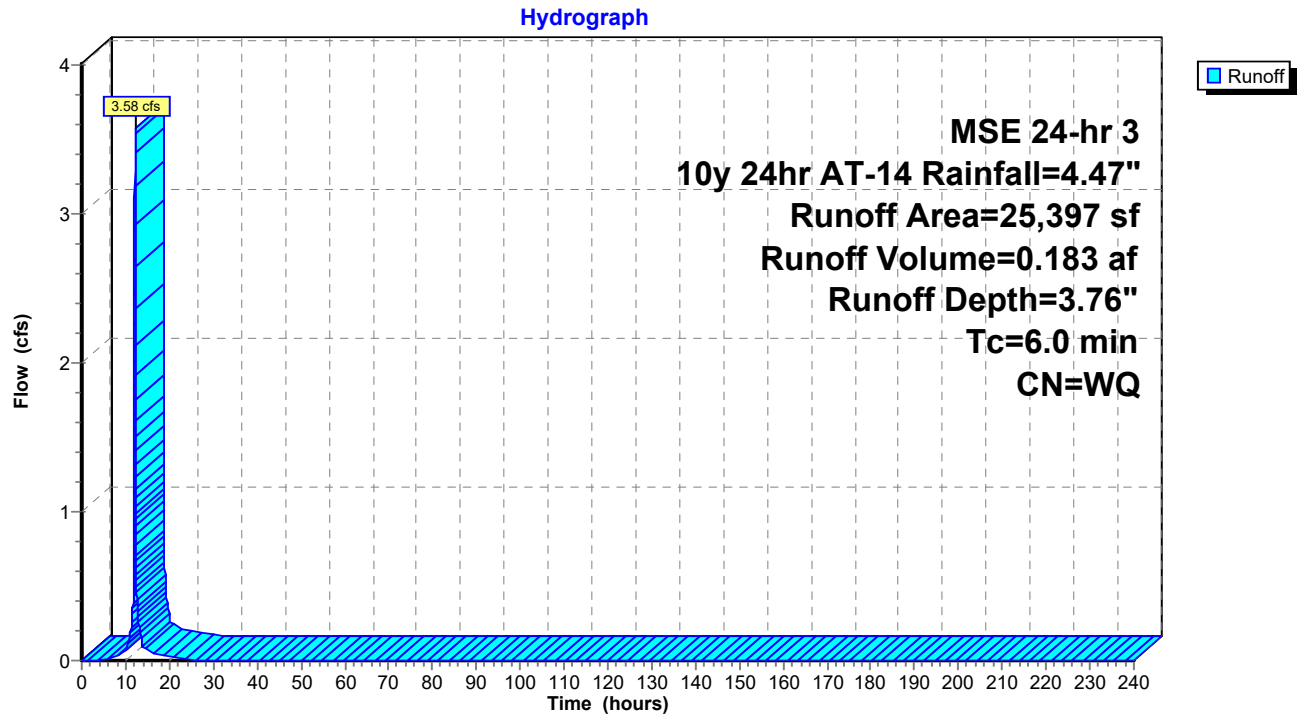
Runoff = 3.58 cfs @ 12.13 hrs, Volume= 0.183 af, Depth= 3.76"
Routed to Pond 1P : 1P - PLANTER/DRY BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

	Area (sf)	CN	Description
	13,375	98	Paved parking, HSG B
*	10,383	92	Green Roof, HSG B
	1,639	61	>75% Grass cover, Good, HSG B
	25,397		Weighted Average
	12,022		47.34% Pervious Area
	13,375		52.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2A: PR2A - DRAINS TO PLANTER/DRY BASIN



Summary for Subcatchment PR2B: PR2B - DRAINS TO 49TH STREET WEST

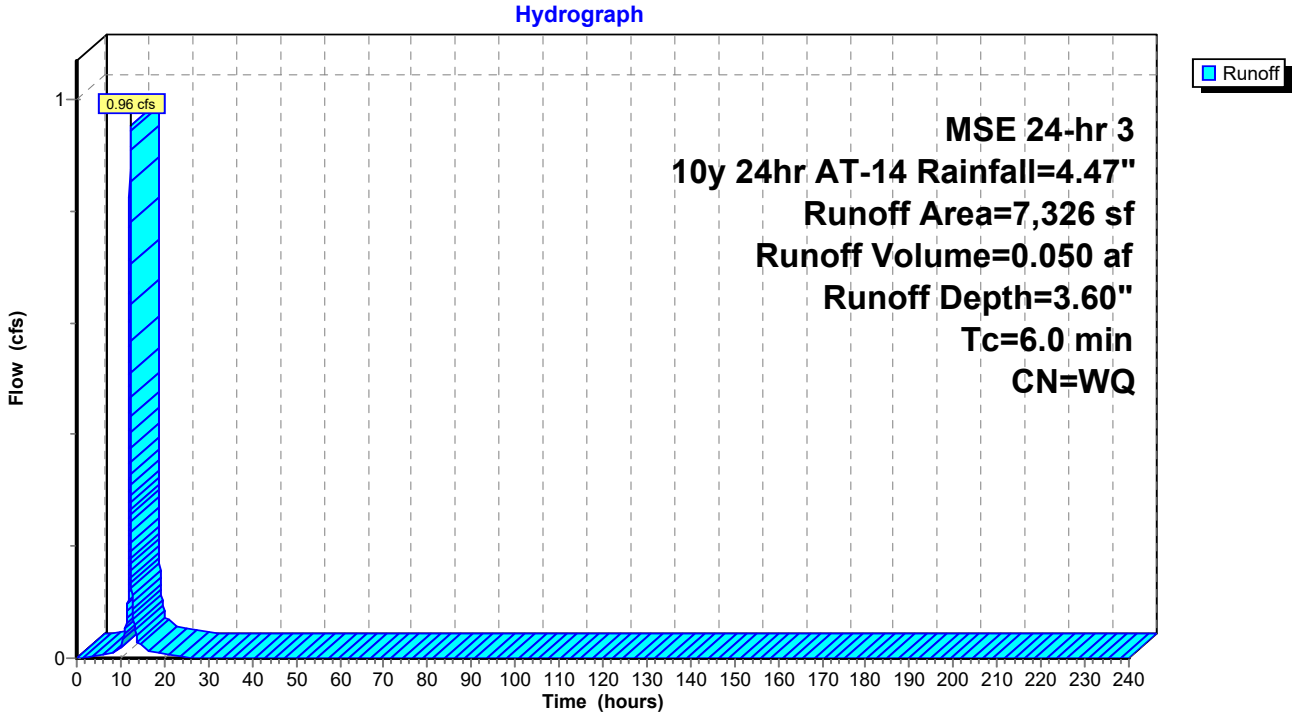
Runoff = 0.96 cfs @ 12.13 hrs, Volume= 0.050 af, Depth= 3.60"
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
5,859	98	Paved parking, HSG B
1,467	61	>75% Grass cover, Good, HSG B
7,326		Weighted Average
1,467		20.02% Pervious Area
5,859		79.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2B: PR2B - DRAINS TO 49TH STREET WEST



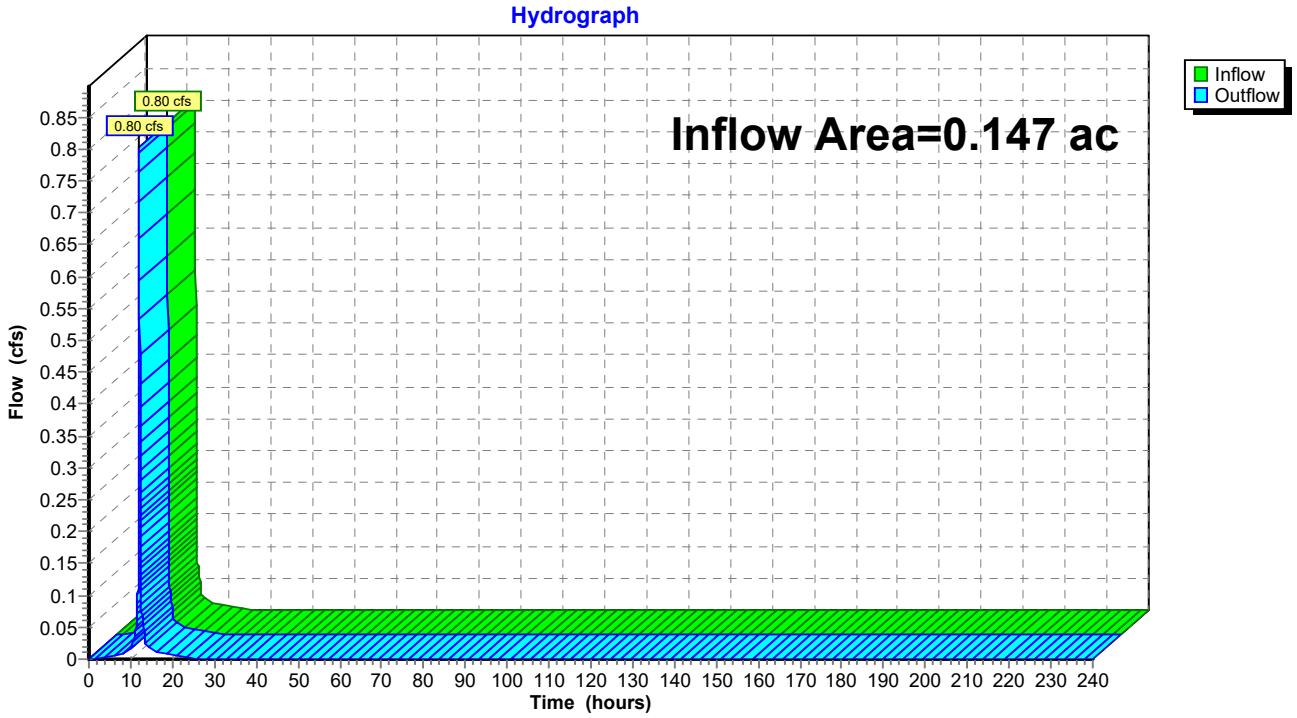
Summary for Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.147 ac, 75.04% Impervious, Inflow Depth = 3.44" for 10y 24hr AT-14 event
Inflow = 0.80 cfs @ 12.13 hrs, Volume= 0.042 af
Outflow = 0.80 cfs @ 12.13 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE



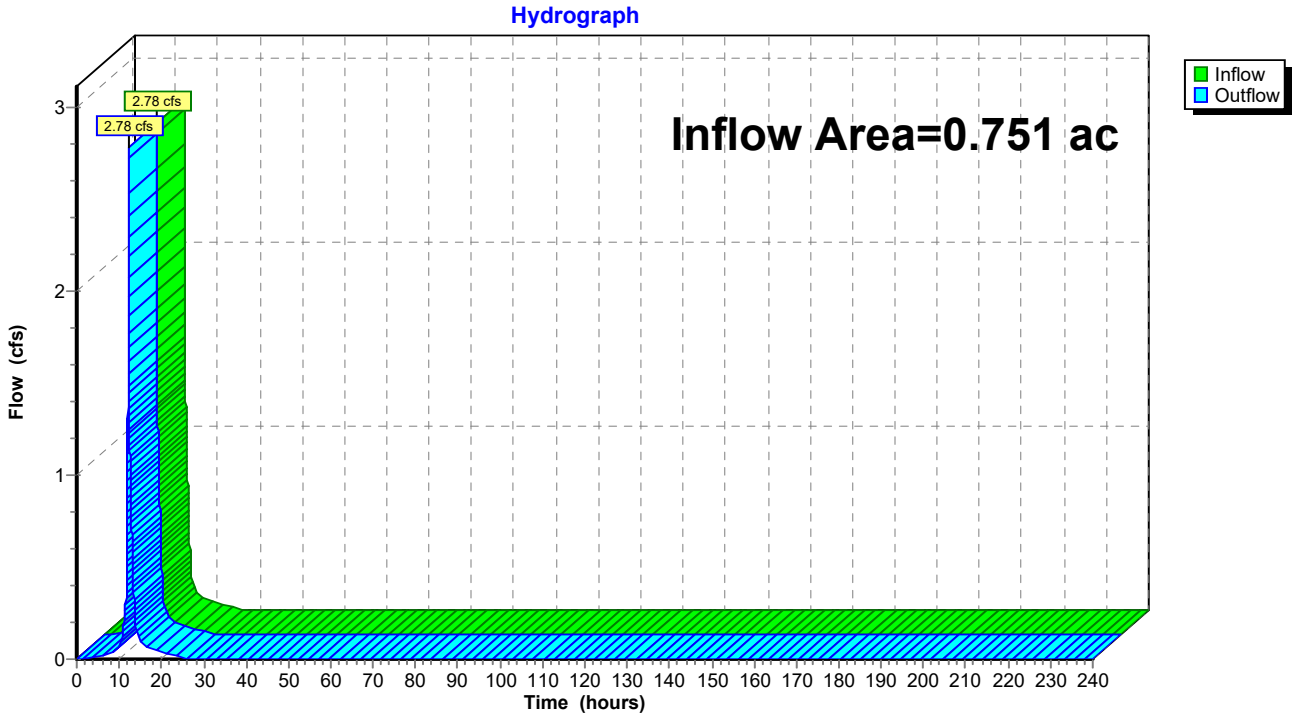
Summary for Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.751 ac, 58.78% Impervious, Inflow Depth = 3.72" for 10y 24hr AT-14 event
Inflow = 2.78 cfs @ 12.19 hrs, Volume= 0.233 af
Outflow = 2.78 cfs @ 12.19 hrs, Volume= 0.233 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST



Summary for Pond 1P: 1P - PLANTER/DRY BASIN

Inflow Area = 0.583 ac, 52.66% Impervious, Inflow Depth = 3.76" for 10y 24hr AT-14 event
Inflow = 3.58 cfs @ 12.13 hrs, Volume= 0.183 af
Outflow = 2.17 cfs @ 12.20 hrs, Volume= 0.183 af, Atten= 39%, Lag= 4.1 min
Primary = 2.17 cfs @ 12.20 hrs, Volume= 0.183 af
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
Peak Elev= 881.59' @ 12.20 hrs Surf.Area= 1,264 sf Storage= 2,079 cf

Plug-Flow detention time= 30.1 min calculated for 0.183 af (100% of inflow)
Center-of-Mass det. time= 30.1 min (789.3 - 759.2)

Volume	Invert	Avail.Storage	Storage Description
#1	879.94'	6,585 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

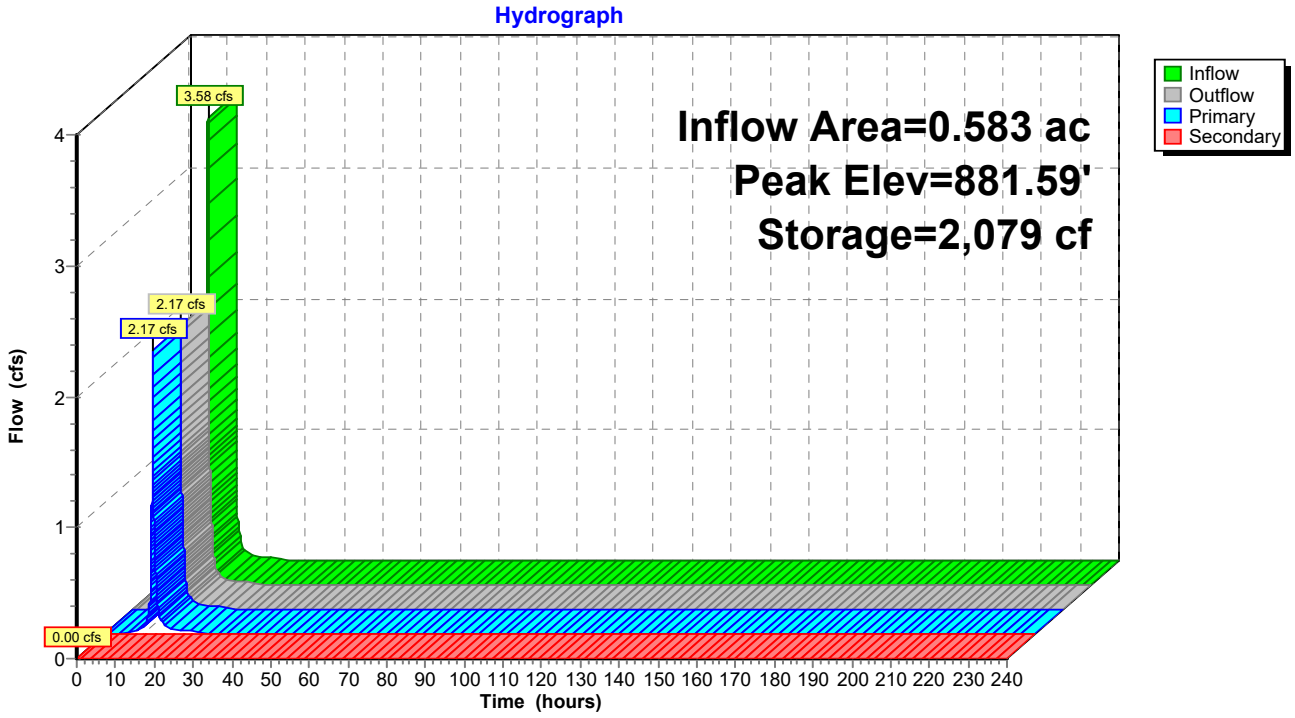
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
879.94	1,264	0	0
880.40	1,264	581	581
881.00	1,264	758	1,340
882.80	1,264	2,275	3,615
883.30	1,264	632	4,247
883.80	1,264	632	4,879
884.30	1,264	632	5,511
884.80	1,264	632	6,143
885.15	1,264	442	6,585

Device	Routing	Invert	Outlet Devices
#1	Device 6	879.94'	**0.450 in/hr Exfiltration over Surface area**
#2	Device 6	883.00'	**24.0" Horiz. 24" Rim Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 4	879.94'	**6.0" Vert. 6" Outlet Pipe to OCS** C= 0.600 Limited to weir flow at low heads
#4	Device 6	879.94'	**6.0" Vert. 6" Orifice in OCS** C= 0.600 Limited to weir flow at low heads
#5	Device 6	881.40'	**4.0' long 4' Weir Wall in OCS** 2 End Contraction(s)
#6	Primary	878.84'	**9.0" Round 9" Outlet Pipe** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 878.84' / 878.57' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.44 sf
#7	Secondary	884.10'	**2.0' long EOF Weir** Cv= 2.62 (C= 3.28)

Primary OutFlow Max=2.16 cfs @ 12.20 hrs HW=881.58' (Free Discharge)
└─**6=9" Outlet Pipe** (Passes 2.16 cfs of 2.59 cfs potential flow)
  ├─**1=Exfiltration** (Exfiltration Controls 0.01 cfs)
  ├─**2=24" Rim Orifice** (Controls 0.00 cfs)
  ├─**4=6" Orifice in OCS** (Controls 1.12 cfs)
  │ └─**3=6" Outlet Pipe to OCS** (Orifice Controls 1.12 cfs @ 5.69 fps)
  └─**5=4' Weir Wall in OCS** (Weir Controls 1.03 cfs @ 1.41 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=879.94' (Free Discharge)
└─**7=EOF Weir** (Controls 0.00 cfs)

Pond 1P: 1P - PLANTER/DRY BASIN



Stage-Area-Storage for Pond 1P: 1P - PLANTER/DRY BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
879.94	**1,264**	0
880.04	1,264	126
880.14	1,264	253
880.24	1,264	379
880.34	1,264	506
880.44	1,264	632
880.54	1,264	758
880.64	1,264	885
880.74	1,264	1,011
880.84	1,264	1,138
880.94	1,264	1,264
881.04	1,264	1,390
881.14	1,264	1,517
881.24	1,264	1,643
881.34	1,264	1,770
881.44	1,264	1,896
881.54	1,264	2,022
881.64	1,264	2,149
881.74	1,264	2,275
881.84	1,264	2,402
881.94	1,264	2,528
882.04	1,264	2,654
882.14	1,264	2,781
882.24	1,264	2,907
882.34	1,264	3,034
882.44	1,264	3,160
882.54	1,264	3,286
882.64	1,264	3,413
882.74	1,264	3,539
882.84	1,264	3,666
882.94	1,264	3,792
883.04	1,264	3,918
883.14	1,264	4,045
883.24	1,264	4,171
883.34	1,264	4,298
883.44	1,264	4,424
883.54	1,264	4,550
883.64	1,264	4,677
883.74	1,264	4,803
883.84	1,264	4,930
883.94	1,264	5,056
884.04	1,264	5,182
884.14	1,264	5,309
884.24	1,264	5,435
884.34	1,264	5,562
884.44	1,264	5,688
884.54	1,264	5,814
884.64	1,264	5,941
884.74	1,264	6,067
884.84	1,264	6,194
884.94	1,264	6,320
885.04	1,264	6,446
885.14	1,264	**6,573**

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment PR1: PR1A - DRAINS TO Runoff Area=6,417 sf 75.04% Impervious Runoff Depth=6.50"
Tc=6.0 min CN=WQ Runoff=1.52 cfs 0.080 af

Subcatchment PR2A: PR2A - DRAINS TO Runoff Area=25,397 sf 52.66% Impervious Runoff Depth=7.00"
Tc=6.0 min CN=WQ Runoff=6.51 cfs 0.340 af

Subcatchment PR2B: PR2B - DRAINS TO Runoff Area=7,326 sf 79.98% Impervious Runoff Depth=6.72"
Tc=6.0 min CN=WQ Runoff=1.78 cfs 0.094 af

Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE Inflow=1.52 cfs 0.080 af
Outflow=1.52 cfs 0.080 af

Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET Inflow=4.72 cfs 0.434 af
Outflow=4.72 cfs 0.434 af

Pond 1P: 1P - PLANTER/DRY BASIN Peak Elev=882.73' Storage=3,529 cf Inflow=6.51 cfs 0.340 af
Primary=3.15 cfs 0.340 af Secondary=0.00 cfs 0.000 af Outflow=3.15 cfs 0.340 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.514 af Average Runoff Depth = 6.87"
38.56% Pervious = 0.346 ac 61.44% Impervious = 0.552 ac

Summary for Subcatchment PR1: PR1A - DRAINS TO FRANCE AVENUE

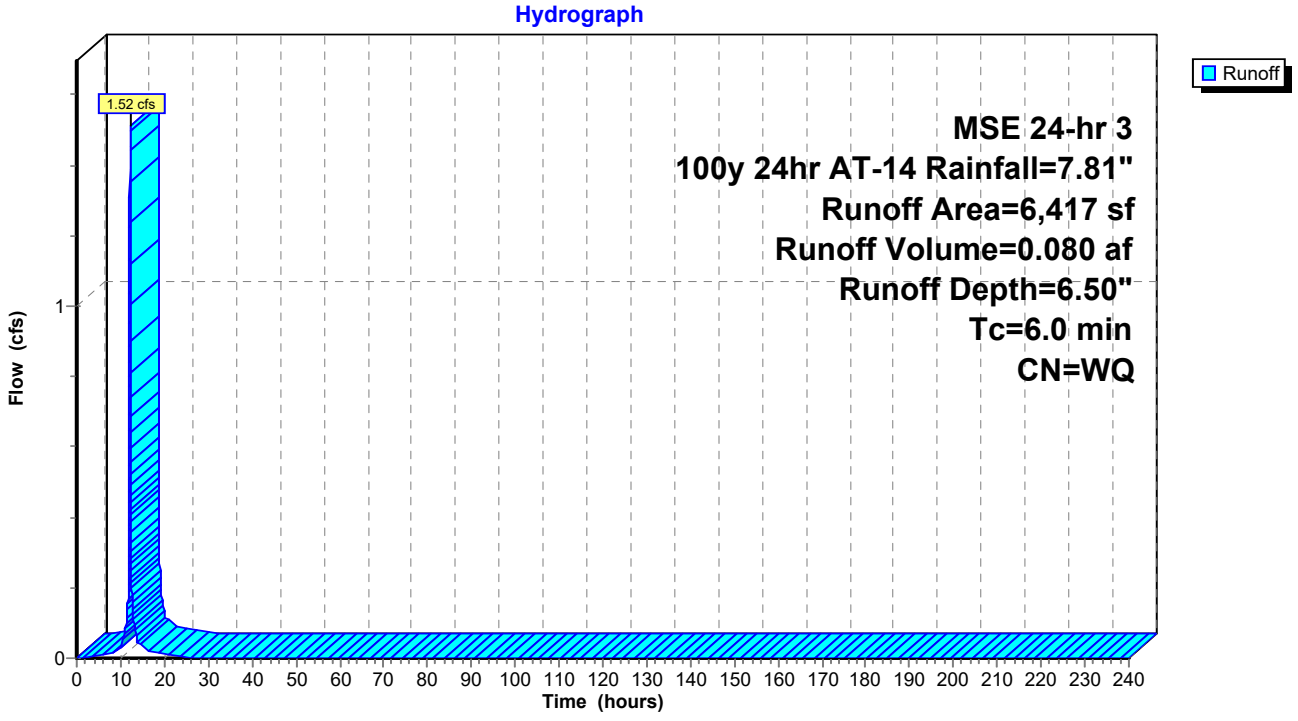
Runoff = 1.52 cfs @ 12.13 hrs, Volume= 0.080 af, Depth= 6.50"
Routed to Reach PR-DA1 : PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
4,815	98	Paved parking, HSG B
1,602	61	>75% Grass cover, Good, HSG B
6,417		Weighted Average
1,602		24.96% Pervious Area
4,815		75.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR1: PR1A - DRAINS TO FRANCE AVENUE



Summary for Subcatchment PR2A: PR2A - DRAINS TO PLANTER/DRY BASIN

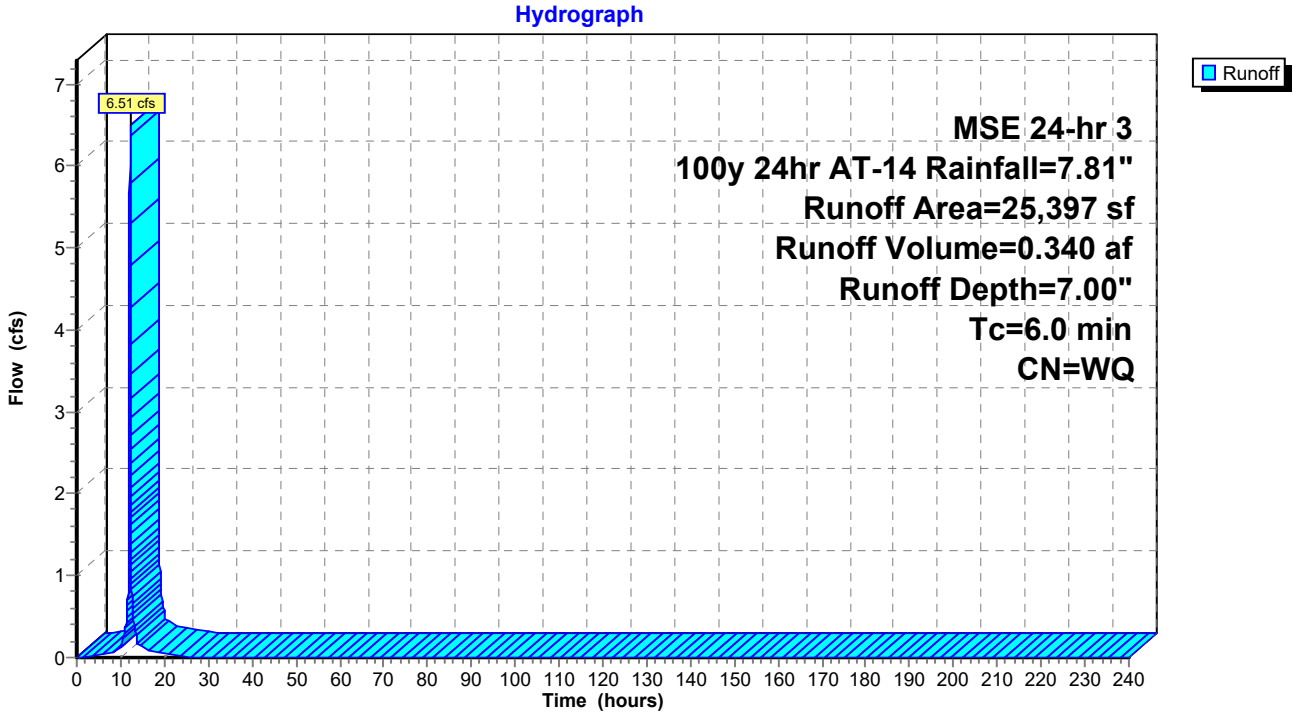
Runoff = 6.51 cfs @ 12.13 hrs, Volume= 0.340 af, Depth= 7.00"
Routed to Pond 1P : 1P - PLANTER/DRY BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

	Area (sf)	CN	Description
	13,375	98	Paved parking, HSG B
*	10,383	92	Green Roof, HSG B
	1,639	61	>75% Grass cover, Good, HSG B
	25,397		Weighted Average
	12,022		47.34% Pervious Area
	13,375		52.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2A: PR2A - DRAINS TO PLANTER/DRY BASIN



Summary for Subcatchment PR2B: PR2B - DRAINS TO 49TH STREET WEST

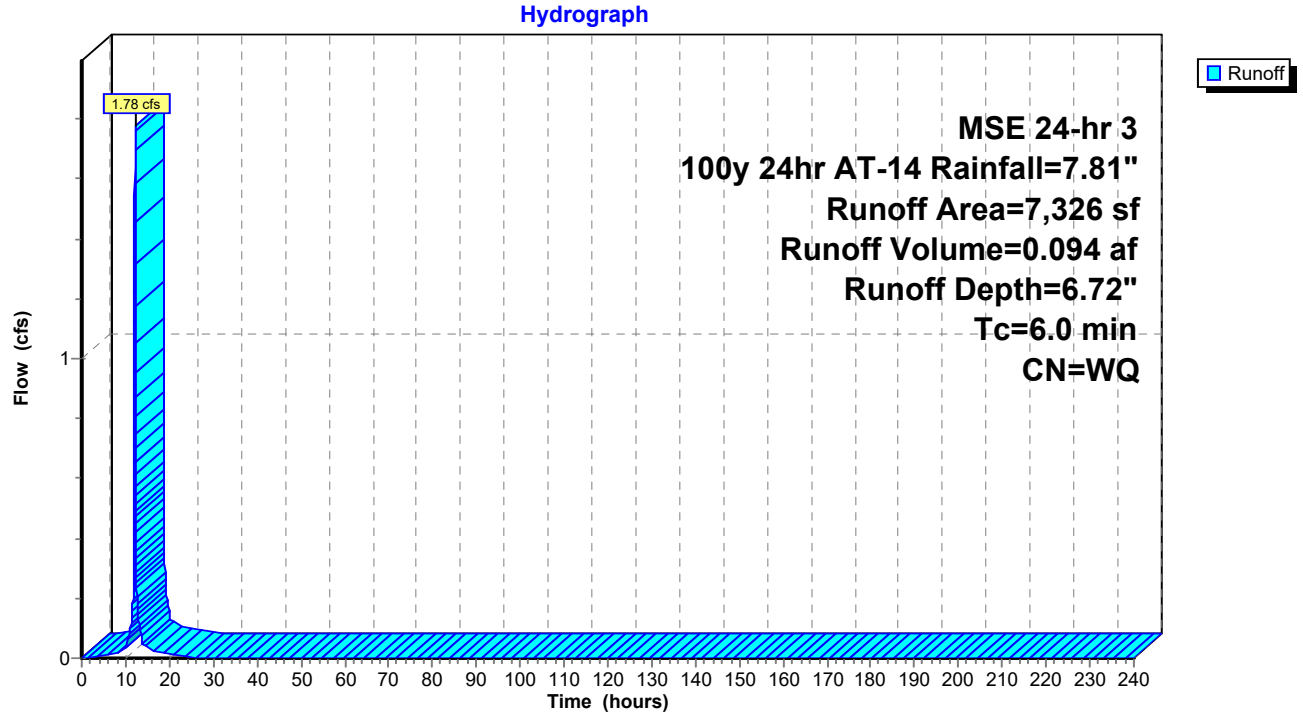
Runoff = 1.78 cfs @ 12.13 hrs, Volume= 0.094 af, Depth= 6.72"
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
5,859	98	Paved parking, HSG B
1,467	61	>75% Grass cover, Good, HSG B
7,326		Weighted Average
1,467		20.02% Pervious Area
5,859		79.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PR2B: PR2B - DRAINS TO 49TH STREET WEST



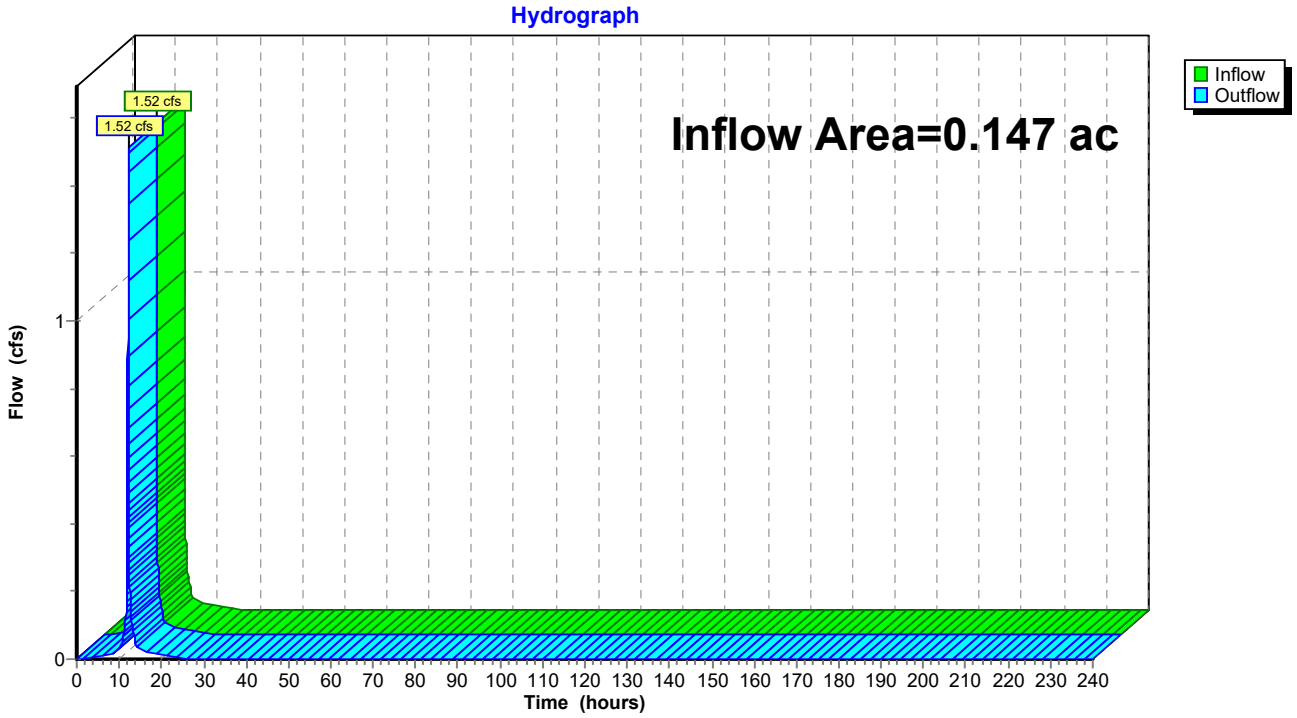
Summary for Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.147 ac, 75.04% Impervious, Inflow Depth = 6.50" for 100y 24hr AT-14 event
Inflow = 1.52 cfs @ 12.13 hrs, Volume= 0.080 af
Outflow = 1.52 cfs @ 12.13 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach PR-DA1: PROPOSED DRAINAGE AREA 1 - DRAINS TO FRANCE AVENUE



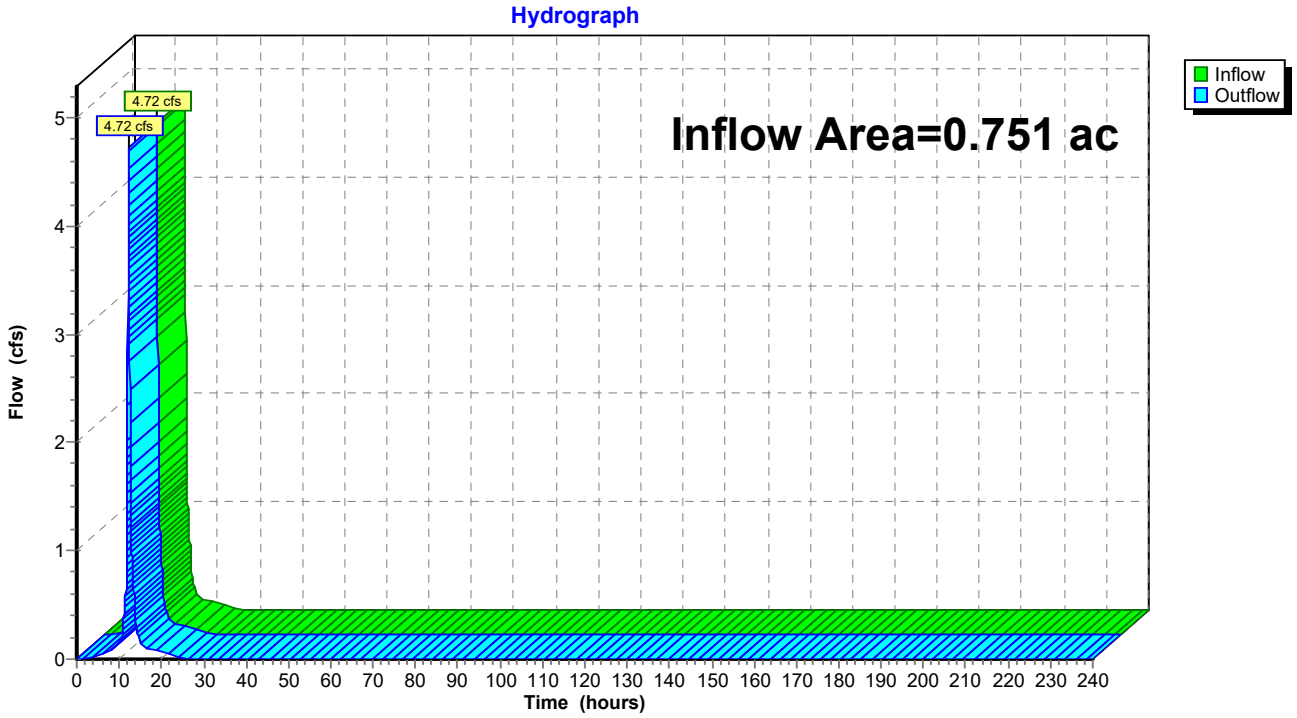
Summary for Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.751 ac, 58.78% Impervious, Inflow Depth = 6.94" for 100y 24hr AT-14 event
Inflow = 4.72 cfs @ 12.14 hrs, Volume= 0.434 af
Outflow = 4.72 cfs @ 12.14 hrs, Volume= 0.434 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach PR-DA2: PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST



Summary for Pond 1P: 1P - PLANTER/DRY BASIN

Inflow Area = 0.583 ac, 52.66% Impervious, Inflow Depth = 7.00" for 100y 24hr AT-14 event
Inflow = 6.51 cfs @ 12.13 hrs, Volume= 0.340 af
Outflow = 3.15 cfs @ 12.22 hrs, Volume= 0.340 af, Atten= 52%, Lag= 5.5 min
Primary = 3.15 cfs @ 12.22 hrs, Volume= 0.340 af
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach PR-DA2 : PROPOSED DRAINAGE AREA 2 - DRAINS TO 49TH STREET WEST

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
Peak Elev= 882.73' @ 12.22 hrs Surf.Area= 1,264 sf Storage= 3,529 cf

Plug-Flow detention time= 26.0 min calculated for 0.340 af (100% of inflow)
Center-of-Mass det. time= 26.0 min (777.0 - 751.1)

Volume	Invert	Avail.Storage	Storage Description
#1	879.94'	6,585 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

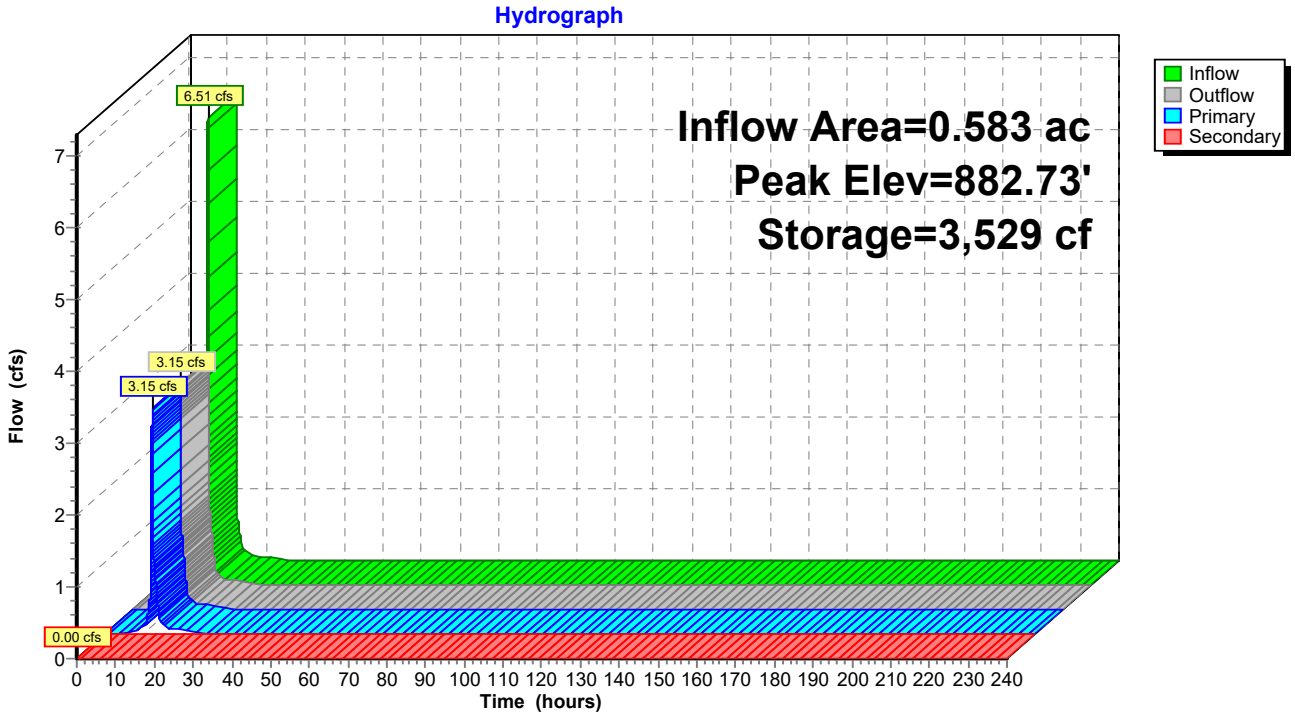
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
879.94	1,264	0	0
880.40	1,264	581	581
881.00	1,264	758	1,340
882.80	1,264	2,275	3,615
883.30	1,264	632	4,247
883.80	1,264	632	4,879
884.30	1,264	632	5,511
884.80	1,264	632	6,143
885.15	1,264	442	6,585

Device	Routing	Invert	Outlet Devices
#1	Device 6	879.94'	**0.450 in/hr Exfiltration over Surface area**
#2	Device 6	883.00'	**24.0" Horiz. 24" Rim Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 4	879.94'	**6.0" Vert. 6" Outlet Pipe to OCS** C= 0.600 Limited to weir flow at low heads
#4	Device 6	879.94'	**6.0" Vert. 6" Orifice in OCS** C= 0.600 Limited to weir flow at low heads
#5	Device 6	881.40'	**4.0' long 4' Weir Wall in OCS** 2 End Contraction(s)
#6	Primary	878.84'	**9.0" Round 9" Outlet Pipe** L= 55.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 878.84' / 878.57' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.44 sf
#7	Secondary	884.10'	**2.0' long EOF Weir** Cv= 2.62 (C= 3.28)

Primary OutFlow Max=3.15 cfs @ 12.22 hrs HW=882.73' (Free Discharge)
└─**6=9" Outlet Pipe** (Inlet Controls 3.15 cfs @ 7.13 fps)
  ├─**1=Exfiltration** (Passes < 0.01 cfs potential flow)
  ├─**2=24" Rim Orifice** (Controls 0.00 cfs)
  ├─**4=6" Orifice in OCS** (Passes < 1.51 cfs potential flow)
  │ └─**3=6" Outlet Pipe to OCS** (Passes < 1.51 cfs potential flow)
  └─**5=4' Weir Wall in OCS** (Passes < 18.76 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=879.94' (Free Discharge)
└─**7=EOF Weir** (Controls 0.00 cfs)

Pond 1P: 1P - PLANTER/DRY BASIN



Stage-Area-Storage for Pond 1P: 1P - PLANTER/DRY BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
879.94	**1,264**	0
880.04	1,264	126
880.14	1,264	253
880.24	1,264	379
880.34	1,264	506
880.44	1,264	632
880.54	1,264	758
880.64	1,264	885
880.74	1,264	1,011
880.84	1,264	1,138
880.94	1,264	1,264
881.04	1,264	1,390
881.14	1,264	1,517
881.24	1,264	1,643
881.34	1,264	1,770
881.44	1,264	1,896
881.54	1,264	2,022
881.64	1,264	2,149
881.74	1,264	2,275
881.84	1,264	2,402
881.94	1,264	2,528
882.04	1,264	2,654
882.14	1,264	2,781
882.24	1,264	2,907
882.34	1,264	3,034
882.44	1,264	3,160
882.54	1,264	3,286
882.64	1,264	3,413
882.74	1,264	3,539
882.84	1,264	3,666
882.94	1,264	3,792
883.04	1,264	3,918
883.14	1,264	4,045
883.24	1,264	4,171
883.34	1,264	4,298
883.44	1,264	4,424
883.54	1,264	4,550
883.64	1,264	4,677
883.74	1,264	4,803
883.84	1,264	4,930
883.94	1,264	5,056
884.04	1,264	5,182
884.14	1,264	5,309
884.24	1,264	5,435
884.34	1,264	5,562
884.44	1,264	5,688
884.54	1,264	5,814
884.64	1,264	5,941
884.74	1,264	6,067
884.84	1,264	6,194
884.94	1,264	6,320
885.04	1,264	6,446
885.14	1,264	**6,573**

TABLE OF CONTENTS

FRANCE 50
Civil Site Group - Stormwater Calculations

Existing Conditions

Drainage Area	Impervious Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
EX1	7246	98	7784	39	15030	67
EX2	12517	98	11593	39	24110	70

Proposed Conditions

Drainage Area	Impervious Area		Green Roof Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
PR1	4815	98	0	92	1602	61	6417	89
PR2A	13375	98	10383	92	1639	61	25397	93
PR2B	5859	98	0	92	1467	61	7326	91

Site Area Summary

	Impervious [SF]	Impervious [AC]	Pervious [SF]	Pervious [AC]	Total [SF]	Total [AC]
Existing Site	19763	0.45	19377	0.44	39140	0.90
Proposed Site	24049	0.55	15091	0.35	39140	0.90

*Pervious Area Includes Green Roof

Stormwater Rate Summary

Drainage Area	Existing Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
PR1 (FRANCE AVENUE)	0.79	1.43	3.04
PR2 (49TH STREET WEST)	1.35	2.40	4.99
TOTAL	2.14	3.83	8.03

Drainage Area	Proposed Conditions Without Planter/Dry Basin Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
PR1 (FRANCE AVENUE)	0.49	0.79	1.48
PR2 (49TH STREET WEST)	2.84	4.53	8.29
TOTAL	3.33	5.32	9.77

Drainage Area	Proposed Conditions With Planter/Dry Basin Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
PR1 (FRANCE AVENUE)	0.49	0.80	1.52
PR2 (49TH STREET WEST)	1.36	2.78	4.72
TOTAL	1.85	3.58	6.24

Overall Stormwater Rate Summary

	Existing Conditions Rate (cfs)	Proposed Conditions Without Planter/Dry Basin Rate (cfs)	Proposed Conditions With Planter/Dry Basin Rate (cfs)
2-Year Event	2.14	3.33	1.85
10-Year Event	3.83	5.32	3.58
100-Year Event	8.03	9.77	6.24

Stormwater Water Quality and Volume Summary

Drainage Area	Infiltration Vol. Summary	
	New Impv. Area (sf)	1.25" Volume (cf)
PR1	4815	502
PR2A	13375	1393
PR2B	5859	610
TOTAL	24049	2505

Proposed BMP Area	Provided Vol (cf)	Drawdown Time Calculations (0.45"/Hour)		
		Inf. Area (sf)	Assoc. Inf. Height (ft)	Drawdown Time (h)
Planter/Dry Basin	0	1264	0.00	0.00
TOTAL	0			

Existing	Loading (Lbs)	Removal (Lbs)	Reduction (Lbs)	Percent Removed
TSS	178.8	165.8	13	93%
TP	0.984	0.76	0.224	77%

Proposed	Loading (Lbs)	Removal (Lbs)	Reduction (Lbs)	Percent Removed
TSS	268	177.6	90.4	66%
TP	1.475	0.744	0.731	50%

Project Information

Calculator Version:	Version 3: January 2017
Project Name:	France 50
User Name / Company Name:	Civil Site Group - Ben Jore
Date:	10/26/2021
Project Description:	Construction of a building. Grading and landscape improvements will occur.
Construction Permit?:	No

Site Information

Retention Requirement (inches):	1.25
Site's Zip Code:	55410
Annual Rainfall (inches):	31.2
Phosphorus EMC (mg/l):	0.3
TSS EMC (mg/l):	54.5

Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed		0.44			0.44
			Impervious Area (acres)		0.45
				Total Area (acres)	0.89

Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed		0.44			0.44
			Impervious Area (acres)		0.45
				Total Area (acres)	0.89

Summary Information

Performance Goal Requirement

Performance goal volume retention requirement:	2042	ft3
Volume removed by BMPs towards performance goal:	974	ft^3
Percent volume removed towards performance goal	**48**	**%**

Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	1.2063	acre-ft
Annual runoff volume removed by BMPs:	0.9312	acre-ft
Percent annual runoff volume removed:	**77**	**%**
Post development annual particulate P load:	0.541	lbs
Annual particulate P removed by BMPs:	0.418	lbs
Post development annual dissolved P load:	0.443	lbs
Annual dissolved P removed by BMPs:	0.342	lbs
Percent annual total phosphorus removed:	**77**	**%**
Post development annual TSS load:	178.8	lbs
Annual TSS removed by BMPs:	165.8	lbs
Percent annual TSS removed:	**93**	**%**

BMP Summary

Performance Goal Summary

BMP Name	BMP Volume Capacity (ft3)	Volume Recieved (ft3)	Volume Retained (ft3)	Volume Outflow (ft3)	Percent Retained (%)
Stormwater disconnection (Impervious dis	974	2042	974	1068	48

Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
Stormwater disconnection (Impervious dis	1.2063	0	0.9312	0.2751	77

Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
Stormwater disconnection (Impervious dis	0.5414	0	0.4179	0.1235	77

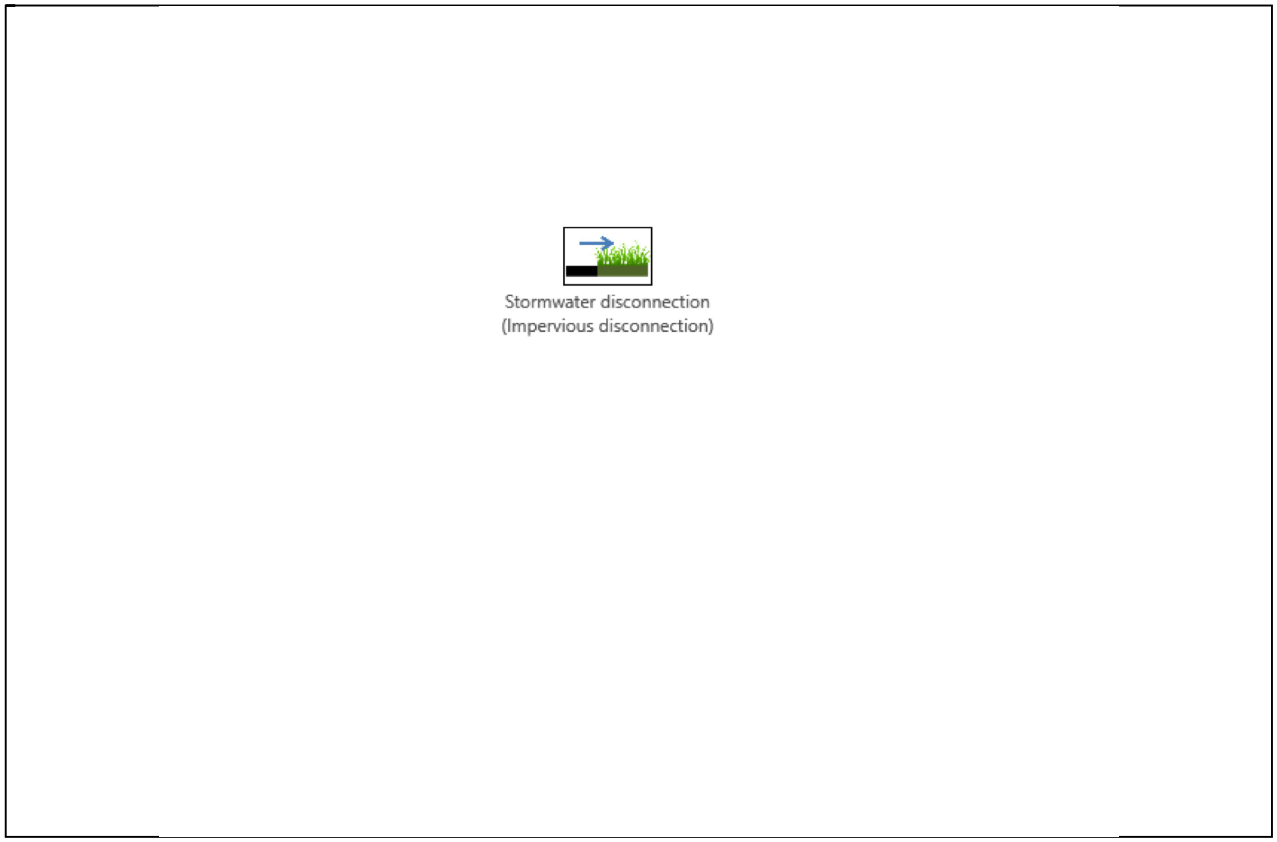
Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
Stormwater disconnection (Impervious dis	0.4429	0	0.3419	0.101	77

TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
Stormwater disconnection (Impervious dis	178.82	0	165.77	13.05	93

BMP Schematic



Project Information

Calculator Version:	Version 3: January 2017
Project Name:	Proposed France 50
User Name / Company Name:	Civil Site Group - Ben Jore
Date:	01/27/2022
Project Description:	Construction of a Building. Grading and landscape improvements will occur.
Construction Permit?:	No

Site Information

Retention Requirement (inches):	1.25
Site's Zip Code:	55410
Annual Rainfall (inches):	31.2
Phosphorus EMC (mg/l):	0.3
TSS EMC (mg/l):	54.5

Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed		0.11			0.11
			Impervious Area (acres)		0.79
			Total Area (acres)		0.9

Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed		0.038			0.038
			Impervious Area (acres)		0.546
			Total Area (acres)		0.584

Summary Information

Performance Goal Requirement

Performance goal volume retention requirement:	3585	ft3
Volume removed by BMPs towards performance goal:	1238	ft^3
Percent volume removed towards performance goal	**35**	**%**

Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	1.8076	acre-ft
Annual runoff volume removed by BMPs:	0.6388	acre-ft
Percent annual runoff volume removed:	**35**	**%**
Post development annual particulate P load:	0.811	lbs
Annual particulate P removed by BMPs:	0.466	lbs
Post development annual dissolved P load:	0.664	lbs
Annual dissolved P removed by BMPs:	0.278	lbs
Percent annual total phosphorus removed:	**50**	**%**
Post development annual TSS load:	268	lbs
Annual TSS removed by BMPs:	177.6	lbs
Percent annual TSS removed:	**66**	**%**

BMP Summary

Performance Goal Summary

BMP Name	BMP Volume Capacity (ft3)	Volume Recieved (ft3)	Volume Retained (ft3)	Volume Outflow (ft3)	Percent Retained (%)
1 - Green roof	1143	2164	1143	1021	53
1 - Bioretention basin (with underdrain)	95	1334	95	1239	7

Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
1 - Green roof	1.0604	0	0.4772	0.5832	45
1 - Bioretention basin (with underdrain)	0.1712	0.5832	0.1617	0.5927	21

Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Green roof	0.4759	0	0	0.4759	0
1 - Bioretention basin (with underdrain)	0.0768	0.4759	0.4658	0.0869	84

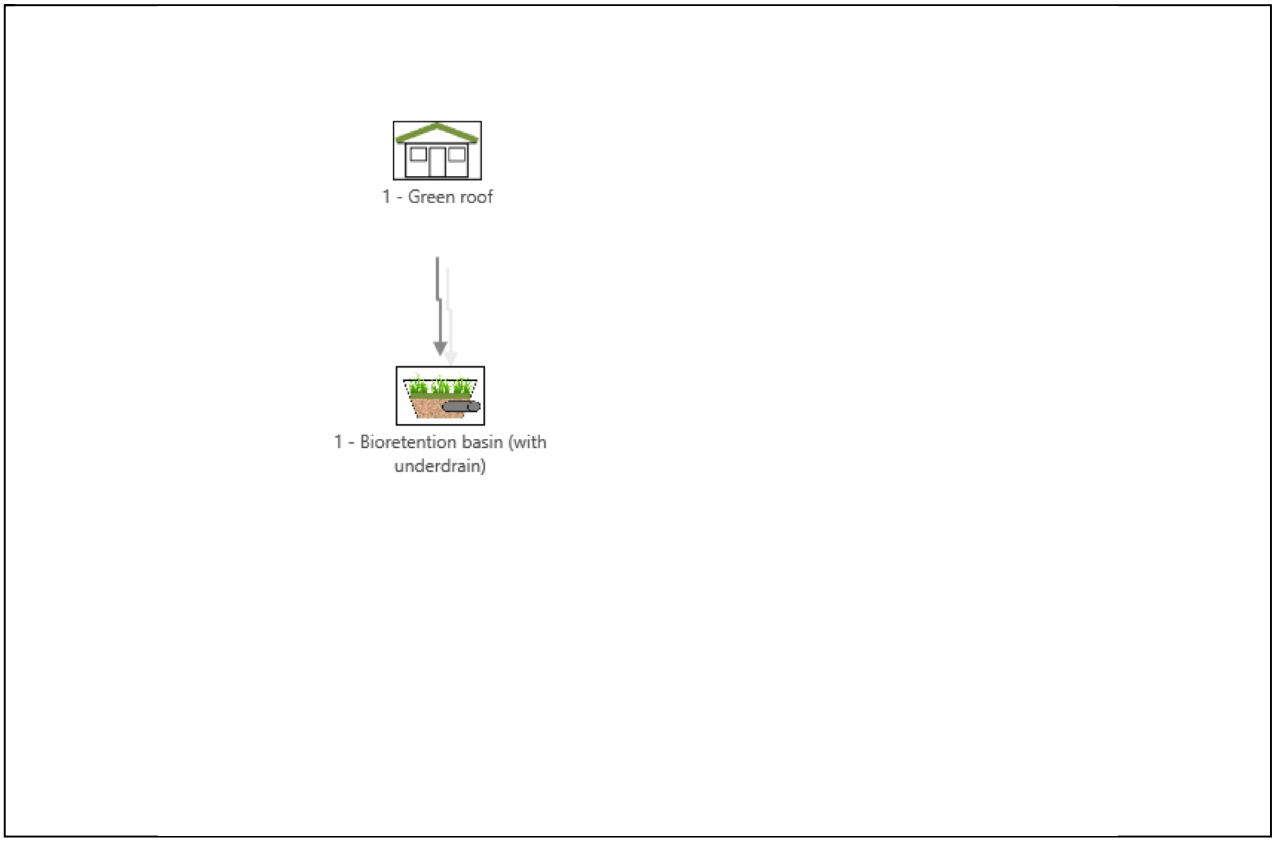
Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Green roof	0.3894	0	0	0.3894	0
1 - Bioretention basin (with underdrain)	0.0629	0.3894	0.2782	0.1741	61

TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Green roof	157.19	0	150.7	6.4900000000	96
1 - Bioretention basin (with underdrain)	25.37	6.4900000000	26.85	5.0100000000	84

BMP Schematic



HAUGO GEOTECHNICAL SERVICES

December 16, 2020 HGTS Project Number: 20-1046

Ralph Murphy
Homestead Partners
6035 Culligan Way
Minnetonka, MN 55345

**Re: Geotechnical Exploration Report, Proposed Condominiums,
4901, 4909, 4917 and 4921 France Avenue South, Minneapolis, Minnesota**

Dear Mr. Murphy:

We have completed the geotechnical exploration report for the proposed condominiums at 4917, 4921, 4909, and 4901 France Avenue South in Minneapolis, Minnesota. A brief summary of our results and recommendations is presented below. Specific details regarding our procedures, results and recommendations follow in the attached geotechnical exploration report.

A total of six (6) soil borings were completed across the project site that generally encountered varying thicknesses of topsoil, aggregate base and Fill overlying native alluvial or glacial outwash deposits composed predominantly of poorly graded sand with sandy lean clay glacial till encountered at depth in some of the borings. These sandy and clayey materials extended to the termination depths of the borings.

Groundwater was encountered in four (4) of the six (6) soil borings at depths ranging from about 24 to 25 feet below the ground surface, corresponding to elevations of about 860 to 861 feet above mean sea level (MSL). We do not anticipate groundwater will be encountered during construction.

The vegetation and topsoil are not suitable for foundation, pavement or utility support and will need to be removed from below these areas and oversize areas and replaced with suitable compacted engineered fill. The origin of the Fill encountered in the borings is unknown but is likely associated with construction of the existing structures and/or existing utilities. Portions of the Fill had a soft consistency or loose relative density and in its current condition is likewise not suitable for foundation support. We therefore recommend it be removed and replaced with suitable compacted engineered fill. If the proposed structure(s) will have a basement of lower level, removal of the Fill could be incidental to construction. Portions of the Fill, quantity unknown, might be suitable for reuse provided it is free of debris, organic soils or other unsuitable materials.

It is our opinion the underlying native sandy and clayey soils are suitable for foundation support and with the building pad prepared as recommended it is our opinion that the development can be supported on typical frost depth footings designed for a net allowable soil bearing pressure up to 3,000 pounds per square foot (psf).

Thank you for the opportunity to assist you on this project. If you have any questions or need additional information, please contact Paul Gionfriddo at 612-271-8185.

Sincerely,

Haugo GeoTechnical Services, LLC

Jesse Miller, E.I.T.
Staff Engineer

Paul Gionfriddo
Senior Engineer

GEOTECHNICAL EXPLORATION REPORT

PROJECT:

Proposed Condominiums
4901, 4909, 4917 and 4921 France Avenue South
Minneapolis, Minnesota 55410

PREPARED FOR:

Homestead Partners
6035 Culligan Way
Minnetonka, MN 55345

PREPARED BY:

Haugo GeoTechnical Services, LLC
2825 Cedar Avenue South
Minneapolis, Minnesota 55407

Haugo GeoTechnical Services Project: 20-1046

December 16, 2020

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Paul Gionfriddo, P.E.
Senior Engineer
License Number: 23093

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1.0 INTRODUCTION

1.1 Project Description

Homestead Partners is proposing to construct condominium(s) at 4917, 4921, 4909, and 4901 France Avenue South in Minneapolis, Minnesota and retained Haugo GeoTechnical Services (HGTS) to perform a geotechnical exploration to evaluate the suitability of site soil conditions to support the proposed development.

We understand the proposed condominium building will likely be have one below grade parking level with four stories above grade for living spaces.

1.2 Purpose

The purpose of this geotechnical exploration was to characterize subsurface soil and groundwater conditions and provide recommendations for foundation design and construction of the proposed condominium building.

1.3 Site Description

The project site contains 7 parcels that carry the mailing addresses 4901, 4905, 4909, 4913/4915, 4917 and 4921 France Avenue South in Minneapolis, Minnesota. At the time of our exploration each of the parcels contained a home, with some homes having a detached garage, along with the associated driveways, sidewalks and landscaped/lawn areas.

The project site was relatively flat and level with elevations at the soil boring locations ranging from about 884 ½ to 886 feet above mean sea level (MSL).

1.4 Scope of Services

Our services were performed as authorized by Homestead Partners in phone and email correspondence between Mr. Ralph Murphy and Mr. Paul Haugo on November 24th and 25th, 2020. Our services were performed under the terms of our General Conditions and included the following tasks:

- Completing four (4) standard penetration test soil borings and extending each to a nominal depth of 35 feet.
- Sealing the borings in accordance with Minnesota Department of Health requirements.
- Obtaining GPS coordinates and ground surface elevations at the soil boring locations.
- Visually/manually classifying samples recovered from the soil borings.
- Performing laboratory tests on selected samples.
- Preparing soil boring logs describing the materials encountered and the results of groundwater level measurements.
- Preparing an engineering report describing soil and groundwater conditions and providing recommendations for foundation design and construction.

1.5 Documents Provided

We were not provided with any specific architectural, structural or civil engineering documents or drawings for the proposed condominium.

HGTS completed a geotechnical exploration for Schaefco Development, LLC on this project site in 2019 under HGTS project number 19-0686. We understand that Homestead Partners acquired that report. Some of the information presented in that report was used in preparing this report.

1.6 Locations and Elevations

The soil boring locations were selected by Homestead Partners and modified, as needed, in the field based on access and underground and/or overhead utility locations. The approximate locations of the soil borings are shown on Figure 1, "Soil Boring Location Sketch," in the Appendix. The sketch was prepared by HGTS using an aerial image from Google Earth as a base.

HGTS obtained the ground surface elevations at the soil boring locations using GPS technology based on the MN County Coordinate System (Hennepin County). The ground surface elevations and GPS coordinates are shown on Figure 2 in the Appendix.

2.0 FIELD PROCEDURES

Four (4) standard penetration test (SPT) borings were advanced on December 3 and 4, 2020 by HGTS with a rotary drilling rig, using continuous flight augers to advance the boreholes. Representative samples were obtained from the borings, using the split-barrel sampling procedures in general accordance with ASTM Specification D-1586. In the split-barrel sampling procedure, a 2-inch O.D. split-barrel spoon is driven into the ground with a 140-pound hammer falling 30 inches. The number of blows required to drive the sampling spoon the last 12 inches of an 18-inch penetration is recorded as the standard penetration resistance value, or "N" value. The results of the standard penetration tests are indicated on the boring log. The samples were sealed in containers and provided to HGTS for testing and soil classification.

A field log of each boring was prepared by HGTS. The logs contain visual classifications of the soil materials encountered during drilling, as well as the driller's interpretation of the subsurface conditions between samples and water observation notes. The final boring logs included with this report represent an interpretation of the field logs and include modifications based on visual/manual method observation of the samples.

The soil boring logs, general terminology for soil description and identification, and classification of soils for engineering purposes are also included in the appendix. The soil boring logs identify and describe the materials encountered, the relative density or consistency based on the Standard Penetration resistance (N-value, "blows per foot") and groundwater observations.

The strata changes were inferred from the changes in the samples and auger cuttings. The depths shown as changes between strata are only approximate. The changes are likely transitions, variations can occur beyond the location of the boring.

3.0 RESULTS

3.1 Soil Conditions

Soil conditions encountered in the borings completed in 2020 for this project were similar to the borings completed on the overall project site in 2019. A description of soil conditions is presented in the following paragraphs.

Soil Borings 1 & 2 – HGTS Project 19-0686

At the surface, the soil borings encountered about ½ foot of poorly graded sand and gravel that may have initially been placed as Class5 aggregate base. The sand and gravel were dark brown in color and contained some roots.

Below the topsoil, soil boring SB-1 encountered about 4 ½ feet of topsoil/buried topsoil that consisted of silty sand that was black in color and judged to be slightly organic. The topsoil/buried topsoil was underlain by about 2 ½ feet of silty sand Fill that was dark brown in color and extended to a depth of about 7 feet.

Below the aggregate base, topsoil/buried topsoil and Fill the soil borings encountered native sand soils that extended to the termination depths of the borings. The native sand soils consisted of poorly graded sand. A relatively thin layer of sandy silt was noted in soil boring SB-2 at a depth of about 15 feet below the ground surface.

N-Values within the native poorly graded sand soils ranged from 4 to 16 bpf. These values indicated the granular (sand) soils had a very loose to medium dense relative density.

Soil Borings 1 thru 4 – HGTS Project 20-1046

At the surface, the soil borings encountered about ½ to 2 ½ feet of topsoil/Fill consisting of silty sand and sandy lean clay that were black and dark brown in color and contained traces of roots.

Below the topsoil-Fill, borings SB-1, SB-2, and SB-3 encountered exiting Fill soils that extended to depths ranging from about 4 ½ to 7 feet below the ground surface. The Fill consisted of silty sand, silty clay, and sandy lean clay that were brown and dark brown in color.

Penetration resistance values (N-Values), shown as blows per foot (bpf) on the boring logs, within the clayey Fill materials ranged from 2 to 13 bpf, indicating the a soft to stiff consistency. N-Values within the sandy Fill materials were 7 bpf, indicating a loose relative density.

Below the topsoil/Fill and existing Fill, the soil borings encountered native sandy and clayey soils that extended to the termination depths of the borings. The native soils below the Fill consisted predominantly of poorly graded sand but also encountered sandy lean clay at depth in the borings. Some relatively thin sand seams were noted within the sandy lean clay layers.

N-Values within the native poorly graded sand soils ranged from 3 to 20 bpf. These values indicated the sand soils had a very loose to medium dense relative density. N-Values within the native sandy lean clay soils ranged from 6 to 14 bpf. These values indicated the clay soils had a medium to stiff consistency.

3.2 Groundwater

Groundwater was encountered in four (4) of the six (6) soil borings at depths ranging from about 24 to 25 feet below the ground surface while drilling and sampling or after removing the augers form the boreholes. These depths correspond to elevations of about 860 to 861 feet above mean sea level (MSL). The observed water levels are summarized in Table 1.

Table 1. Summary of Groundwater Levels

Boring Number	Measured Surface Elevation (feet)	Approximate Depth to Groundwater (feet)*	Approximate Groundwater Elevation (feet)*
Soil Borings 1 thru 4 – Project 20-1046			
SB-1	884.7	24	860 ½
SB-2	885.0	25	860
SB-3	885.9	25	861
SB-4	885.5	25	860 ½
Soil Borings 1 & 2 – Project 19-0686			
SB-1	885.4	NE	NE
SB-2	885.4	NE	NE

* = Depths and elevations were rounded to the nearest ½ foot. NE = Not encountered

Water levels were measured on the dates as noted on the boring logs and the period of water level observations was relatively short. Groundwater monitoring wells or piezometers would be required to more accurately determine water levels. Seasonal and annual fluctuations in the groundwater levels should be expected.

3.3 Laboratory Testing

Laboratory moisture content tests were performed on selected samples recovered from the soil borings. Table 2 below summarizes the results of the laboratory tests. Results of the moisture content tests are also shown on the boring logs adjacent to the sample tested.

Table 2. Summary of Laboratory Tests

Boring Number	Sample Number	Depth (feet)	Moisture Content (%) *
Soil Borings 1 thru 4 – Project 20-1046			
SB-1	SS-2	2 ½	6
SB-2	SS-14	5	14
SB-3	SS-24	2 ½	12 ½
Soil Borings 1 & 2 – Project 19-0686			
SB-1	SS-3	5	14
SB-2	SS-10	2 ½	3 ½

* Moisture content values rounded to the nearest ½ percent.

3.4 OSHA Soil Classification

The soils encountered in the borings consisted predominantly of granular (sandy) soils composed of silty sand and poorly graded sand ASTM Classifications of SM and SP, respectively. The sand soils will generally be Type C soils under Department of Labor Occupational Safety and Health Administration (OSHA) guidelines.

Cohesive soil composed of sandy lean clay were also encountered in the boring and were generally encountered at depths about 25 feet or more below the ground surface. The clay soils will generally be Type B soils under Department of Labor Occupational Safety and Health Administration (OSHA) guidelines.

An OSHA-approved qualified person should review the soil classification in the field. Excavations must comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, "Excavations and Trenches." This document states excavation safety is the responsibility of the contractor. The project specifications should reference these OSHA requirements.

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 Proposed Construction

Specific architectural, structural or civil plans were not available at the time of this geotechnical evaluation. We anticipate the project will include constructing a 3 to 5 story condominiums/apartment building with 1 below grade level for parking along with the associated drive lanes and underground utilities.

We anticipate that the below grade parking level will likely consist of concrete masonry (CMU) block or cast in-place concrete foundation walls with pre-cast concrete columns and beams supporting pre-cast concrete planks. The upper-level floors will likely consist of wood framing. We anticipate the project will also include the associated underground utilities and exterior flatwork such as concrete driveway(s), patios and sidewalks.

Assuming the condominium will include lower parking level we anticipate wall loads will range from about 6 to 8 kips (6,000 to 8,000 pounds) per lineal foot and maximum column loads are assumed to be about 300 kips (300,000 pounds). Based on the anticipated structural loads, we assume a minimum soil bearing pressure of 3,000 pounds per square foot (psf) will be required for adequate foundation support and to avoid excessively large footings.

We assume the main floor for the building will be constructed at or near existing ground surface elevations corresponding to an elevation of about 885 feet MSL with the lower parking level about 12 feet below that elevation.

If the proposed loads exceed these values, the proposed grades differ by more than 2 feet from the assumed values or if the design or location of the proposed building changes, we should be informed. Additional analyses and revised recommendations may be necessary.

4.2 Discussion

Several structures existed on the project site which we assume will be removed/demolished to make way for the proposed apartment complex. We recommend that all remnants of the structures including footings, floor slabs, foundation walls and underground utilities be removed from within the proposed building and oversize areas. Likewise, we recommend that all driveways, sidewalks, patios and aggregate base be removed from within the proposed building and oversize areas.

The vegetation, topsoil and buried topsoil are not suitable for foundation support and will need to be removed from within the proposed building and oversize areas.

The origin of the Fill encountered in the borings is unknown but is likely associated with construction of the existing structures and/or underground utilities on the project site. We are not aware of any documentation regarding placement or compaction of the Fill and we typically do not recommend supporting new structures on undocumented Fill because of the potential for unfavorable settlement of the Fill under the structural loads associated with the new building and because of the potential for unsuitable materials (debris, organic matter, etc.) to be buried within the Fill which can also settle unfavorably. Sine the new building will likely include a lower parking level, removal of these materials will likely be incidental to construction.

We were not provided final floor grades and have assumed that the lowest parking level will bear about 12 feet below the ground surface corresponding to about elevation 873 feet. At this elevation we anticipate that the footings will bear on the native poorly graded sand soils which in our opinion are suitable for foundation support.

Groundwater was encountered in four (4) of the six (6) soil borings at depths ranging from about 24 to 25 feet below the ground surface while drilling and sampling or after removing the augers form the boreholes. These depths correspond to elevations of about 860 to 861 feet above mean sea level (MSL). We do not anticipate groundwater will be encountered during construction.

The following sections provide recommendations for foundation design and construction of the proposed condominiums.

4.3 Site Grading Recommendations

Excavation We recommend that all vegetation, topsoil/buried topsoil, Fill and any soft or otherwise unsuitable soils, if any, be removed from below the proposed building and oversize areas. Structures currently exist on the project site which we understand will be removed/demolished to make way for the proposed development. We recommend that all remnants such as footings, floor slabs, foundation walls and/or underground utilities, if encountered, be removed from within the building and oversize area. Any loose soil or soils disturbed during excavation activities will need to be surface compacted to increase their density and uniformity prior to engineered fill and/or footing placement. Table 3 below summarizes the anticipated excavation depths at the soil boring locations. Excavation depths may vary and could be deeper.

Table 3. Anticipated Excavation Depths

Boring Number	Measured Surface Elevation (feet)	Anticipated Excavation Depth (feet)*	Anticipated Excavation Elevation (feet)*	Approximate Groundwater Elevation (feet)*
Soil Borings 1 thru 4 – Project 20-1046				
SB-1	884.7	5	879 ½	860 ½
SB-2	885.0	7	878	860
SB-3	885.9	4 ½	881 ½	861
SB-4	885.5	1	884 ½	860 ½
Soil Borings 1 & 2 – Project 19-0686				
SB-1	885.4	7	878 ½	NE
SB-2	885.4	½	885	NE

* = Excavation and groundwater elevations were rounded to nearest ½ foot. NE = Not Encountered

Oversizing In areas where the excavations extend below the proposed footing elevations, the excavations require oversizing. We recommend the perimeter of the excavation be extended a foot outside the proposed footprint for every foot below footing grade (1H:1V oversizing). The purpose of the oversizing is to provide lateral support of the foundation.

Shoring The proposed condominium building will likely have 1 below grade parking level and that the garage floor slab will bear about 12 feet below the ground surface corresponding to about elevation 873 feet. At typical excavation backslopes of 1 ½ H: 1 V, for Type C soils, the excavations will extend about 18 feet beyond the building perimeter posing a risk of undermining the structures, streets and underground utilities on the adjacent properties. If site constraint will not allow excavations with these dimensions then shoring will likely be required.

Fill Material Fill required to attain site grades may consist of any debris-free, non-organic mineral soil. The on-site materials appear generally suitable for use or reuse as fill or

backfill, above the water table, provided they are free of organic material, debris or other unsuitable materials. These materials could require moisture conditioning (drying or wetting) to meet the recommended compaction levels. Sand fill soils could be used for ease in compaction.

For fill and backfill in wet excavations (at and below the groundwater table, if encountered) we recommend using a "clean, coarse" sand with less than 50 percent of its particles passing the # 40 sieve and less than 5 percent of its particles passing the #200 sieve.

The topsoil, organic soils or soils that are black in color are not suitable for reuse as structural fill or backfill.

Backfilling Prior to placing fill/backfill or building foundations, we recommend surface compacting the sands to increase their uniformity and density. We recommend a minimum of 6 passes in each perpendicular direction with a large self-propelled compactor operating in vibratory mode.

We recommend that backfill placed to attain site grades be compacted to a minimum of 95 percent of its standard Proctor density (ASTM D 698). Granular fill classified as SP or SP-SM should be placed within 65 percent to 105 percent of its optimum moisture content as determined by the standard Proctor. Other fill soils should be placed within 3 percentage points above and 1 percentage point below its optimum moisture content as determined by the standard Proctor. All fill should be placed in thin lifts and be compacted with a large self-propelled vibratory compactor operating in vibratory mode.

Foundations We recommend the perimeter footings bear a minimum of 42 inches below the exterior grade for frost protection. Interior footings may be placed immediately below the slab provided construction does not occur during below freezing weather conditions. Foundation elements in unheated areas (i.e., deck or porch footings) should bear at least 5 feet below exterior grade for frost protection.

We anticipate the foundations and floor slabs will bear on compacted engineered fill or native sand soils. With the building pad prepared as recommended, it is our opinion the footings can be designed for a net allowable bearing pressure up to 3,000 pounds per square foot (psf).

We anticipate total and differential settlement of the foundations will be less than 1 inch and ½ inch, respectively, across a 30-foot span.

4.4 Dewatering

We were not provided final floor grades and have assumed that the lowest parking level will bear about 12 feet below the ground surface corresponding to about elevation 873 feet. Groundwater was encountered in four (4) of the six (6) soil borings at depths ranging from about 24 to 25 feet below the ground surface corresponding to elevations of about 860 to 861 feet above mean sea level (MSL).

We do not anticipate that groundwater will be encountered during construction and do not anticipate that dewatering will be required.

4.5 Interior Slabs

The anticipated floor subgrade will consist of compacted engineered fill (sand) or native sands. It is our opinion a modulus of subgrade reaction, k, of 150 pounds per square inch of deflection (psi) may be used for sand soils to design the floor.

If floor coverings or coatings less permeable than the concrete slab will be used, we recommend that a vapor retarder or vapor barrier be placed immediately beneath the slab. Some contractors prefer to bury the vapor barrier or vapor retarder beneath a layer of sand to reduce curling and shrinkage, but this practice often traps water between the slab and vapor retarder or barrier. Regardless of where the vapor retarder or vapor barrier is placed, we recommend consulting the floor covering manufacturer regarding the appropriate type, use and installation of the vapor retarder or vapor barrier to preserve the warranty.

We recommend following all state and local building codes with regards to a radon mitigation plan beneath interior slabs.

4.6 Below Grade Walls

We recommend general waterproofing of the below grade walls. We recommend either placing drainage composite against the backs of the exterior walls or backfilling adjacent to the walls with sand having less than 50 percent of the particles by weight passing the #40 sieve and less than 5 percent of the particles by weight passing the #200 sieve. The sand backfill should be placed within 2 feet horizontally of the wall. We recommend the balance of the backfill for the walls consist of sand however the sand may contain up to 20 percent of the particles by weight passing the #200 sieve.

We recommend installing drain tile behind the below grade walls, adjacent to the wall footing and below the slab elevation. Preferably the drain tile should consist of perforated pipe embedded in gravel. A geotextile filter fabric should encase the pipe and gravel. The drain tile should be routed to a storm sewer, sump pump or other suitable disposal site.

Foundation walls or below grade (basement) walls will have lateral loads from the surrounding soil transmitted to them. Active earth pressures can be used to design the below grade walls if the walls are allowed to rotate slightly. If wall rotation cannot be tolerated, then below grade wall design should be based on at-rest earth pressures. It is our opinion that the estimated soil parameters presented in Table 4 can be used for below grade wall design. These design parameters are based on the assumptions that the walls are drained, there are no surcharge loads within a horizontal distance equal to the height of the wall and the backfill is level.

Table 4. Soil Parameters

Soil Type	Estimated Unit Weight (pcf)	Estimated Friction Angle (degrees)	At-Rest Pressure (pcf)	Active Soil Pressure (pcf)	Passive Soil Pressure (pcf)
Sand (SP, SP-SM)	120	32	55	35	390
Other Soils (CL, SC, SM)	135	28	70	50	375

Resistance to lateral earth pressures will be provided by passive resistance against the wall footings and by sliding resistance along the bottom of the wall footings. We recommend a sliding coefficient of 0.35. This value does not include a factor of safety.

4.7 Exterior Slabs

Portions of the exterior slabs will likely be underlain by silty and clayey soils which are considered moderately to highly frost susceptible. If these soils become saturated and freeze, frost heave may occur. This heave can be a nuisance in front of doors and at other critical grade areas. One way to help reduce the potential for heaving is to remove the frost-susceptible soils below the slabs down to bottom of footing grades and replace them with non-frost-susceptible backfill consisting of sand having less than 5 percent of the particles by weight passing the number 200 sieve.

If this approach is used and the excavation bottoms terminate in non-free draining granular soil, we recommend a drain tile be installed along the bottom outer edges of the excavation to collect and remove any water that may accumulate within the sand. The bottom of the excavation should be graded away from the building.

If the banks of the excavations to remove the frost-susceptible soils are not sloped, abrupt transitions between the frost-susceptible and non-frost-susceptible backfill will exist along which unfavorable amounts of differential heaving may occur. Such transitions could exist between exterior slabs and sidewalks, between exterior slabs and pavements and along the slabs themselves if the excavations are confined to only the building entrances. To address this issue, we recommend sloping the excavations to remove frost-susceptible soils at a minimum 3:1 (horizontal:vertical) gradient.

Another alternative for reducing frost heave is to support the slabs on frost depth footings. A void space of at least 4 inches should be provided between the slab and the underlying soil to allow the soil to heave without affecting the slabs.

4.8 Site Grading and Drainage

We recommend the site be graded to provide positive run-off away from the proposed building. We recommend landscaped areas be sloped a minimum of 6 inches within 10 feet of the building and slabs be sloped a minimum of 2 inches. In addition, we recommend downspouts with long splash blocks or extensions.

We recommend the lowest floor grades be constructed to maintain at least a 4-foot separation between the lowest floor slab and the observed groundwater levels and at least a 2-foot separation between the lowest floor slab and the 100-year flood level of nearby wetlands, storm water ponds or other surface water features.

4.9 Utilities

We anticipate that new utilities will be installed as part of this project. We further anticipate that new utilities will bear at depths ranging from about 7 to 10 feet below the ground surface. At these depths, we anticipate that the pipes will bear on compacted engineered fill or native sand soils.

We recommend bedding material be thoroughly compacted around the pipes. We recommend trench backfill above the pipes be compacted to a minimum of 95 percent beneath slabs and pavements, the exception being within 3 feet of the proposed pavement subgrade, where 100 percent of standard Proctor density is required. In landscaped areas, we recommend a minimum compaction of 90 percent.

Groundwater was encountered in four of the soil borings at elevations ranging from about 860 to 861 feet above mean sea level (MSL). We do not anticipate that groundwater will be encountered during construction and do not anticipate that dewatering will be required.

4.10 Pavement Considerations

We assume the condominium complex could include a relatively small surface parking lot along with drive lanes to the underground parking. We were not provided any information regarding estimated traffic volumes, vehicle types, vehicle distribution or projected growth rates. We anticipate that the parking lots will be used primarily by automobiles and light trucks that will require a light duty pavement section. We anticipate a medium duty pavement section in the drive lanes will be required. Based on the assumed traffic types we estimate the light duty pavements will be subjected to less than 50,000 Equivalent Single Axel Loads (ESAL's) over a 20-year design life and the medium duty drive lanes will be subjected to 50,000 to 75,000 ESAL's over a 20-year design life.

We recommend removing all vegetation, topsoil, pavement, topsoil/buried topsoil, existing Fill or other unsuitable materials from within the pavement subgrade. Prior to placing additional fill and/or aggregate base (Class 5) we recommend surface compacting the subgrade soils with a large self-propelled vibratory compactor operating in vibratory mode to densify and loose soils disturbed during construction activities. Prior to paving we recommend observing a test roll of the subgrade soils with a loaded tandem truck to identify soft, weak, loose or unsuitable areas that may require additional subcuts.

Backfill, if needed, to attain pavement subgrade elevation can consist of any mineral soils provided it is free of organic material or other deleterious materials. We recommend compacting the backfill at moisture contents within a range of 1 percentage point below and 3 percentage points above its optimum moisture content. Granular fill classified as SP or SP-SM should be placed within 65 percent to 105 percent of its optimum moisture content as determined by the standard Proctor. The backfill should be compacted to a minimum of 95

percent of its standard Proctor maximum dry density with the upper 3 feet of fill and backfill compacted to a minimum of 100 percent of its standard Proctor maximum dry density.

R-Value testing was beyond the scope of this project. The soil borings generally encountered predominately granular soil consisting of poorly graded sand, and silty sand corresponding to the ASTM Classifications of SP and SM. These soils typically have R-Values ranging from 30 to 70. We recommend using an R-Value of 30 for pavement design.

Based on an estimated R-Value of 30 and a maximum of 50,000 ESAL's we recommend a light duty car parking pavement section consisting of 3 ½ inches of bituminous underlain by a minimum of 8 inches of Class 5 aggregate base. For medium duty drive lanes, we recommend a minimum of 4 inches of bituminous (2 inches of bituminous wear and 2 inches of bituminous base) and 9 inches of Class 5 aggregate base.

We recommend aggregate base meeting MN/DOT specification 3138 for Class 5 aggregate base. We recommend the aggregate base be compacted to 100 percent of its maximum standard Proctor dry density.

We recommend that the bituminous wear and base courses meet the requirements of MN/DOT specification 2360. We recommend the bituminous pavements be compacted to at least 92% of the maximum theoretical density.

We recommend specifying concrete that has a minimum 28-day compressive strength to 3,900 psi. We recommend specifying 5 to 8 percent entrained air for exposed concrete to provide resistance to freeze-thaw deterioration. We recommend slump, air content and compressive strength test of Portland cement concrete.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 Excavation

The soils encountered in the borings consisted predominantly of granular (sandy) soils composed of silty sand and poorly graded sand ASTM Classifications of SM and SP, respectively. The sand soils will generally be Type C soils under Department of Labor Occupational Safety and Health Administration (OSHA) guidelines.

Cohesive soil composed of sandy lean clay were also encountered in the boring and were generally encountered at depths about 25 feet or more below the ground surface. The clay soils will generally be Type B soils under Department of Labor Occupational Safety and Health Administration (OSHA) guidelines.

Temporary excavations in Type C soils should be constructed at a minimum of 1 ½ foot horizontal to every 1-foot vertical within excavations. Temporary excavations in Type B soils should be constructed at a minimum of 1 foot horizontal to every 1-foot vertical within excavations. Slopes constructed in this manner may still exhibit surface sloughing. If site constraints do not allow the construction of slopes with these dimensions, then temporary shoring may be required.

5.2 Observations

A geotechnical engineer or qualified engineering technician should observe the excavation subgrade to evaluate if the subgrade soils are similar to those encountered in the borings and adequate to support the proposed construction.

5.3 Backfill and Fills

We recommend moisture conditioning (drying or wetting) all soils that will be used as fill or backfill in accordance with Section 4.3 above. We recommend that fill and backfill be placed in lifts not exceeding 4 to 12 inches, depending on the size of the compactor and materials used.

5.4 Testing

We recommend density tests of backfill and fills placed for the proposed foundations. Samples of the proposed materials should be submitted to our laboratory prior to placement for evaluation of their suitability and to determine their optimum moisture content and maximum dry density (Standard Proctor).

5.5 Winter Construction

If site grading and construction is anticipated to proceed during cold weather, all snow and ice should be removed from cut and fill areas prior to additional grading and placement of fill. No fill should be placed on frozen soil and no frozen soil should be used as fill or backfill.

Concrete delivered to the site should meet the temperature requirements of ASTM and/or ACI. Concrete should not be placed on frozen soil. Concrete should be protected from freezing until the necessary strength is obtained. Frost should not be permitted to penetrate below the footings.

6.0 PROCEDURES

6.1 Soil Classification

The drill crew chief visually and manually classified the soils encountered in the borings in general accordance with ASTM D 2488, "Description and Identification of Soils (Visual-Manual Procedure)." Soil terminology notes are included in the Appendix. The samples were returned to our laboratory for review of the field classification by a soils engineer. Samples will be retained for a period of 30 days.

6.2 Groundwater Observations

Immediately after taking the final samples in the bottom of the boring, the hole was checked for the presence of groundwater. Immediately after removing the augers from the borehole the hole was once again checked and the depth to water and cave-in depths were noted.

7.0 GENERAL

7.1 Subsurface Variations

The analyses and recommendations presented in this report are based on data obtained from a limited number of soil borings. Variations can occur away from the borings, the nature of which may not become apparent until additional exploration work is completed, or construction is conducted. A reevaluation of the recommendations in this report should be made after performing on-site observations during construction to note the characteristics of any variations. The variations may result in additional foundation costs and it is suggested that a contingency be provided for this purpose.

It is recommended that we be retained to perform the observation and testing program during construction to evaluate whether the design is as expected, if any design changes have affected the validity of our recommendations, and if our recommendations have been correctly interpreted and implemented in the designs, specifications and construction methods. This will allow correlation of the soil conditions encountered during construction to the soil borings and test pits and will provide continuity of professional responsibility.

7.2 Review of Design

This report is based on the design of the proposed structure as related to us for preparation of this report. It is recommended that we be retained to review the geotechnical aspects of the design and specifications. With the review, we will evaluate whether any changes have affected the validity of the recommendations and whether our recommendations have been correctly interpreted and implemented in the design and specifications.

7.3 Groundwater Fluctuations

We made water level measurements in the borings at the times and under the conditions stated on the boring logs. The data was interpreted in the text of this report. The period of observation was relatively short and fluctuations in the groundwater level may occur due to rainfall, flooding, irrigation, spring thaw, drainage, and other seasonal and annual factors not evident at the time the observations were made. Design drawings and specifications and construction planning should recognize the possibility of fluctuations.

7.4 Use of Report

This report is for the exclusive use of Homestead Partners and their design team to use to design the proposed structures and prepare construction documents. In the absence of our written approval, we make no representation and assume no responsibility to other parties regarding this report. The data, analysis and recommendations may not be appropriate for other structures or purposes. We recommend that parties contemplating other structures or purposes contact us.

7.5 Level of Care

Haugo GeoTechnical Services has used the degree of skill and care ordinarily exercised under similar circumstance by members of the profession currently practicing in this locality. No warranty expressed or implied is made.

APPENDIX

Legend

Approximate Soil Boring Location

N
W
E
S

GPS Boring Locations

Boring Number	Elevation (US Survey Feet)	Northing Coordinate	Easting Coordinate
SB-1	884.7	144691.578	514107.179
SB-2	885.0	144786.651	514104.43
SB-3	885.9	144869.437	514108.251
SB-4	885.5	144892.442	514209.734
SB-1 2019	885.4	144716.342	514197.489
SB-2 2019	885.4	144716.342	514197.489

Haugo GeoTechnical Services, LLC
2825 Cedar Avenue S.
Minneapolis, MN 55407

Soil Boring Location Sketch
4901, 4909 & 4921 France Avenue South
Minneapolis, Minnesota

Figure #: 1
Drawn By: RD
Date: 12/7/20
Scale: None
Project #: 20-1046

HAUGO GEOTECHNICAL SERVICES
Haugo GeoTechnical Services
2825 Cedar Ave South
Minneapolis, MN 55407
Telephone: 612-729-2959
Fax: 763-445-2238

BORING NUMBER SB-1

CLIENT Homestead Partners
PROJECT NAME 4901, 4909 & 4921 France Avenue South
PROJECT NUMBER 20-1046
PROJECT LOCATION Minneapolis, MN
DATE STARTED 12/3/20 **COMPLETED** 12/3/20
GROUND ELEVATION 884.7 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 24.00 ft / Elev 860.70 ft
LOGGED BY CP **CHECKED BY** PG
AT END OF DRILLING ---
NOTES Borehole grouted.
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		Silty Sand, trace Roots, black, moist. (Topsoil/FILL)	AU 1				
		Silty Sand, fine to medium grained, trace Gravel, brown and dark brown, moist. (FILL)	SS 2		4-3-4 (7)	6	
5		(SP) Poorly Graded Sand, fine to coarse grained, trace Gravel, brown, moist, loose to medium dense. (Glacial Outwash)	SS 3		8-6-6 (12)		
			SS 4		8-10-10 (20)		
10			SS 5		10-10-10 (20)		
			SS 6		4-4-5 (9)		
15			SS 7		4-4-5 (9)		
20			SS 8		3-4-4 (8)		
		▽					
25			SS 9		3-4-5 (9)		
		(CL) Sandy Lean Clay, trace Gravel, grey, wet, medium. (Glacial Till)					
30			SS 10		3-3-4 (7)		
35			SS 11		5-5-5 (10)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 36.0 feet.

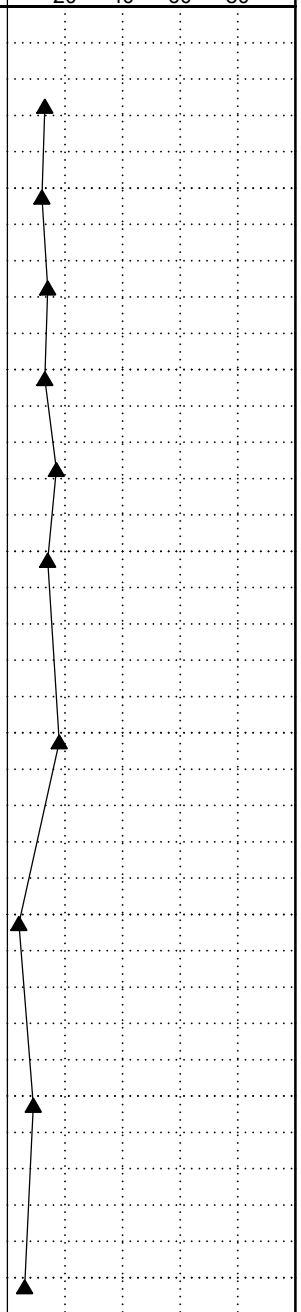
HAUGO GEOTECHNICAL SERVICES
Haugo GeoTechnical Services
2825 Cedar Ave South
Minneapolis, MN 55407
Telephone: 612-729-2959
Fax: 763-445-2238

BORING NUMBER SB-2

CLIENT Homestead Partners
PROJECT NAME 4901, 4909 & 4921 France Avenue South
PROJECT NUMBER 20-1046
PROJECT LOCATION Minneapolis, MN
DATE STARTED 12/4/20 **COMPLETED** 12/4/20
GROUND ELEVATION 885 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 25.00 ft / Elev 860.00 ft
LOGGED BY CP **CHECKED BY** PG
AT END OF DRILLING ---
NOTES Borehole grouted.
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		Silty Sand, trace Roots, black, moist. (Topsoil/FILL)	AU 12				
		Silty Clay, brown, moist. (FILL)	SS 13		3-8-5 (13)		
5			SS 14		3-5-7 (12)	14	
		(SP) Poorly Graded Sand, fine to coarse grained, trace Gravel, brown, moist, loose to medium dense. (Glacial Outwash)	SS 15		6-7-7 (14)		
10			SS 16		5-6-7 (13)		
			SS 17		5-7-10 (17)		
15			SS 18		5-6-8 (14)		
20			SS 19		6-8-10 (18)		
25	▽		SS 20		3-1-3 (4)		
30			SS 21		3-4-5 (9)		
35			SS 22		4-3-3 (6)		

Bottom of borehole at 36.0 feet.



HAUGO GEOTECHNICAL SERVICES
Haugo GeoTechnical Services
2825 Cedar Ave South
Minneapolis, MN 55407
Telephone: 612-729-2959
Fax: 763-445-2238

BORING NUMBER SB-3

CLIENT Homestead Partners
PROJECT NAME 4901, 4909 & 4921 France Avenue South
PROJECT NUMBER 20-1046
PROJECT LOCATION Minneapolis, MN
DATE STARTED 12/4/20 **COMPLETED** 12/4/20
GROUND ELEVATION 885.9 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 25.00 ft / Elev 860.90 ft
LOGGED BY CP **CHECKED BY** PG
AT END OF DRILLING ---
NOTES Borehole grouted.
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0		Silty Sand, trace Roots, black, moist. (Topsoil/FILL)	AU 23				
		Sandy Lean Clay, trace Gravel, brown. (FILL)	SS 24		2-1-1 (2)	12.5	
5		(SP) Poorly Graded Sand, fine to coarse grained, trace Gravel, brown, moist, loose to medium dense. (Glacial Outwash)	SS 25		3-2-1 (3)		
			SS 26		4-5-6 (11)		
10			SS 27		3-4-5 (9)		
		(SP) Poorly Graded Sand, fine grained, brown, moist, medium dense. (Glacial Outwash)	SS 28		4-6-8 (14)		
15			SS 29		4-7-10 (17)		
20			SS 30		4-5-6 (11)		
25		▽ (CL) Sandy Lean Clay, trae Gravel, with Poorly Graded Sand seams at about 25 feet, grey, waterbearing, medium to rather stiff. (Glacial Till)	SS 31		2-2-4 (6)		
30			SS 32		3-4-5 (9)		
35			SS 33		3-4-7 (11)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 36.0 feet.

HAUGO GEOTECHNICAL SERVICES
Haugo GeoTechnical Services
2825 Cedar Ave South
Minneapolis, MN 55407
Telephone: 612-729-2959
Fax: 763-445-2238

BORING NUMBER SB-4

CLIENT Homestead Partners
PROJECT NAME 4901, 4909 & 4921 France Avenue South
PROJECT NUMBER 20-1046
PROJECT LOCATION Minneapolis, MN
DATE STARTED 12/4/20 **COMPLETED** 12/4/20
GROUND ELEVATION 885.5 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 750
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
▽ **AT TIME OF DRILLING** 25.00 ft / Elev 860.50 ft
LOGGED BY CP **CHECKED BY** PG
AT END OF DRILLING ---
NOTES Borehole grouted.
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0	Sandy Lean Clay, trace Roots, dark brown, wet. (Topsoil)	AU 34				
	(SP) Poorly Graded Sand, fine to coarse grained, trace Gravel, brown, moist, medium dense. (Glacial Outwash)	SS 35		4-5-6 (11)		
5		SS 36		5-6-5 (11)		
	(SP) Poorly Graded Sand, fine to medium grained, trace Gravel, brown, moist, loose. (Glacial Outwash)	SS 37		2-3-3 (6)		
10		SS 38		2-4-6 (10)		
		SS 39		3-4-5 (9)		
15		SS 40		2-3-4 (7)		
20		SS 41		5-5-5 (10)		
	(SP) Poorly Graded Sand, fine to coarse grained, trace Gravel, grey, waterbearing, loose. (Glacial Outwash)					
25	▽	SS 42		3-3-4 (7)		
	(CL) Sandy Lean Clay, trace Gravel, grey, wet, stiff. (Glacial Till)					
30		SS 43		6-7-7 (14)		
	(SP) Poorly Graded Sand, fine to coarse grained, trace Gravel, grey, waterbearing, loose. (Glacial Till0					
35		SS 44		4-5-5 (10)		

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80

Bottom of borehole at 36.0 feet.

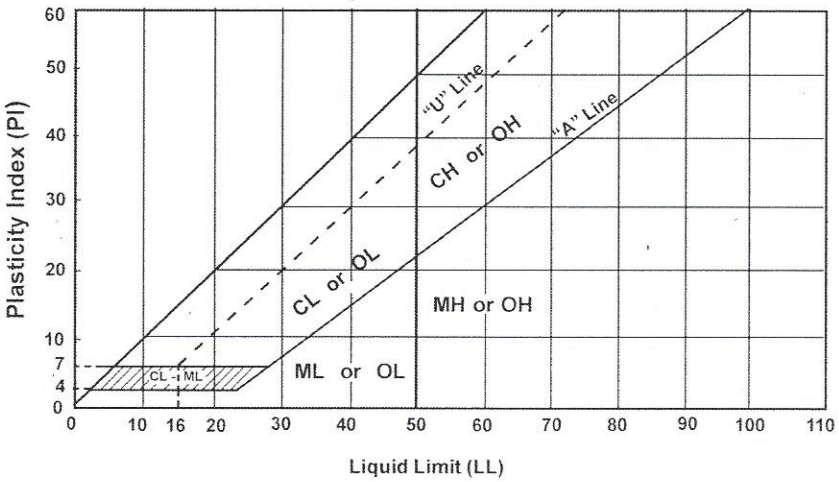
HAUGO GEOTECHNICAL SERVICES

Descriptive Terminology of Soil

Standard D 2487 - 00
Classification of Soils for Engineering Purposes
(Unified Soil Classification System)

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [a]				Soils Classification	
				Group Symbol	Group Name [b]
Coarse-grained Soils more than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels 5% or less fines [e]	$C_u \geq 4$ and $1 \leq C_c \leq 3$ [c]	GW	Well-graded gravel [d]
			$C_u < 4$ and/or $1 > C_c > 3$ [c]	GP	Poorly graded gravel [d]
		Gravels with Fines More than 12% fines [e]	Fines classify as ML or MH	GM	Silty gravel [d f g]
			Fines classify as CL or CH	GC	Clayey gravel [d f g]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands 5% or less fines [i]	$C_u \geq 6$ and $1 \leq C_c \leq 3$ [c]	SW	Well-graded sand [h]
			$C_u < 6$ and/or $1 > C_c > 3$ [c]	SP	Poorly graded sand [h]
		Sands with Fines More than 12% [i]	Fines classify as ML or MH	SM	Silty sand [f g h]
			Fines classify as CL or CH	SC	Clayey sand [f g h]
Fine-grained Soils 50% or more passed the No. 200 sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI > 7 and plots on or above "A" line [j]	CL	Lean clay [k l m]
			PI < 4 or plots below "A" line [j]	ML	Silt [k l m]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OL	Organic clay [k l m n]
				OL	Organic silt [k l m o]
	Silts and clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line	CH	Fat clay [k l m]
			PI plots below "A" line	MH	Elastic silt [k l m]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OH	Organic clay [k l m p]
				OH	Organic silt [k l m q]
Highly Organic Soils		Primarily organic matter, dark in color and organic odor		PT	Peat

a. Based on the material passing the 3-in (75mm) sieve.
b. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders or both" to group name.
c. $C_u = D_{60} / D_{10}$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
d. If soil contains ≥15% sand, add "with sand" to group name.
e. Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay
f. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.
g. If fines are organic, add "with organic fines" to group name.
h. If soil contains ≥ 15% gravel, add "with gravel" to group name.
i. Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay
j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.
k. If soil contains 10 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
l. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.
m. If soil contains ≥ 30% plus No. 200 predominantly gravel, add "gravelly" to group name.
n. PI ≥ 4 and plots on or above "A" line.
o. PI < 4 or plots below "A" line.
p. PI plots on or above "A" line.
q. PI plots below "A" line.



Laboratory Tests

DD	Dry density, pcf	OC	Organic content, %
WD	Wet density, pcf	S	Percent of saturation, %
MC	Natural moisture content, %	SG	Specific gravity
LL	Liquid limit, %	C	Cohesion, psf
PL	Plastic limit, %	∅	Angle of internal friction
PI	Plasticity index, %	qu	Unconfined compressive strength, psf
P200	% passing 200 sieve	qp	Pocket penetrometer strength, tsf

Particle Size Identification

Boulders	over 12"
Cobbles	3" to 12"
Gravel	
Coarse	3/4" to 3"
Fine	No. 4 to 3/4"
Sand	
Coarse	No. 4 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Silt	< No. 200, PI < 4 or below "A" line
Clay	< No. 200, PI ≥ 4 and on or above "A" line

Relative Density of Cohesionless Soils

Very loose	0 to 4 BPF
Loose	5 to 10 BPF
Medium dense	11 to 30 BPF
Dense	31 to 50 BPF
Very dense	over 50 BPF

Consistency of Cohesive Soils

Very soft	0 to 1 BPF
Soft	2 to 3 BPF
Rather soft	4 to 5 BPF
Medium	6 to 8 BPF
Rather stiff	9 to 12 BPF
Stiff	13 to 16 BPF
Very stiff	17 to 30 BPF
Hard	over 30 BPF

Drilling Notes

Standard penetration test borings were advanced by 3 1/4" or 6 1/4" ID hollow-stem augers unless noted otherwise. Jetting water was used to clean out auger prior to sampling only where indicated on logs. Standard penetration test borings are designated by the prefix "ST" (Split Tube). All samples were taken with the standard 2" OD split-tube sampler, except where noted.

Power auger borings were advanced by 4" or 6" diameter continuous-flight, solid-stem augers. Soil classifications and strata depths were inferred from disturbed samples augered to the surface and are, therefore, somewhat approximate. Power auger borings are designated by the prefix "B."

Hand auger borings were advanced manually with a 1 1/2" or 3 1/4" diameter auger and were limited to the depth from which the auger could be manually withdrawn. Hand auger borings are indicated by the prefix "H."

BPF: Numbers indicate blows per foot recorded in standard penetration test, also known as "N" value. The sampler was set 6" into undisturbed soil below the hollow-stem auger. Driving resistances were then counted for second and third 6" increments and added to get BPF. Where they differed significantly, they are reported in the following form: 2/12 for the second and third 6" increments, respectively.

WH: WH indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WR: WR indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

TW indicates thin-walled (undisturbed) tube sample.

Note: All tests were run in general accordance with applicable ASTM standards.

Stantec

Memo

To:	Will Roach MCWD	From:	Rena Weis Stantec
Project/File:	227701403: 21-684	Date:	February 2, 2022, revised March 22, 2022

Listed below are the rules applicable to this project and our analysis of how the applicant has satisfied the requirements of each rule.

Reviewed Exhibits (*some documents were edited and resubmitted throughout the permit review process; only the final versions are listed below*)

- Stormwater report, dated 1/27/2022
- Response memo, dated 1/27/2022
- Civil Plans – watershed resubmittal, dated 1/27/2022

Project Scope and Understanding

The applicant has proposed to construct one multifamily residence where six homes (single-family and two-family) exist, located at 4901-4921 France Ave S, Minneapolis. The project site includes the following parcels: 1702824230094, 1702824230093, 1702824230092, 1702824230090, 1702824230091, 1702824230089, and 1702824230088. Overall, the parcels total 0.72 acres. As the scope of work extends beyond the parcel limits and includes reconstructing adjacent sidewalks and disturbed pavement, the project site size is considered to be 0.98 acres.

Erosion Control Rule

For District review.

Stormwater Management Rule

This project proposes a redevelopment, resulting in an increase in impervious surface area, on a site less than one acre in size. Therefore, the District's Stormwater Management rule requires the project to incorporate a BMP into the site design.

The applicant has proposed both a green roof and a dry basin / filtration basin to serve as the BMP on site. Details for the green roof were not provided. This review focused on the design of the dry basin, rather than the green roof. The dry basin will receive runoff from the entirety of the multifamily building roof, and will be located directly adjacent to the building.

The dry basin will not provide any formal volume abstraction for the site, as the outlet elevation is set at the top of the filter media. During the review process, MCWD encouraged inclusion of a formal water quality volume, but volume abstraction is not a requirement of the permit and the applicant deemed it infeasible.

Reference: 4901-4921 France Ave S, Minneapolis

Some water will filter through the media and enter the drain tile. The applicant's priorities were providing rate control and freeboard.

The outlet control structure of the dry basin was designed to provide 2-ft of freeboard between the modeled 100-yr HWL of the dry basin (982.73 ft) and the proposed low-opening elevation of the adjacent building (884.73 ft).

The proposed work satisfies the requirements of the Stormwater Management rule.

Stantec Fees

$2,743 as of 3/22/2022

Financial Assurances

Erosion Control: N/A, due to project area <1 acre

Stormwater Management: N/A, due to no defined treatment scope requirement

Will Roach

From: Philippe Le Corre <plcvr4@yahoo.com>
Sent: Saturday, February 19, 2022 10:09 AM
To: Will Roach; Steve Neighbor
Subject: France 50 project

Dear mister Roach
My name is Philippe Le Corre
4853 France Avenue South
55410 minneapolis mn
Tel 6127561135
I received your note in the mail regarding the 50 France Avenue multi family residential building This project was designed with the city of minneapolis guidance to by pass various city zoning and using the very flawed 2040 city council project The neighborhood residents were NEVER consulted and informed of this huge project until late last year Over 100 local residents joined for e to push back on the size / configuration of the building but after numerous online meeting it became clear that the city was just checking boxes and was not willing to listen to the residents Every neighbors of this project I talked to is OPPOSE to this project and we really feel hopeless and violated for the way the approval process has been granted I live / own my house for 30 years and I always paid my property taxes and maintain my property to the best of my abilities by respect for the neighborhood I wish the city of minneapolis would have guide this project sigh the same intentions Thank you Philippe Le Corre

Sent from my iPhone

Will Roach

From: R Castellano <rcastellano2@outlook.com>
Sent: Sunday, February 20, 2022 9:55 PM
To: Will Roach
Subject: MCWD Review of Permit #21-684@4901-4921 France Ave S ('France 50' proposal)

Will,

Hello! I am writing to you because, by chance, I just learned this evening (Sun. Feb. 20) of an MCWD mailing received by a neighbor regarding Permit #21-684, an infiltration basin for stormwater management, for the project proposed at 4901-4921 France Ave. S. in Minneapolis, a five-story mixed-use building with 45 dwelling units on the upper floors, 15,878 square feet of ground level commercial, and two levels of underground parking ('France 50'). The proposed would constitute a dramatic change from the 4 duplexes and 2 single-family homes presently on the site. We neighbors are very concerned about the size and scope of the proposed project, about the proximity of such a large and intensive operation so close to our homes, about the potential for construction-related damage, and about numerous permanent, post-construction, environmental impacts upon our homes and our respective neighborhoods. We have voiced many concerns, including about misrepresentations in the architectural renderings.

I note in your mailing, it is indicated that the notification reach is 600 feet, and yet, a mailing was not sent to me. My home is kitty-corner from the subject site, and my property is within 100 feet of the subject site. Could you tell me why I was excluded? And could you send me a copy of the permit?

Also, could you explain the processes that you have referenced in the final paragraph? That is, what is entailed in each type of review, and what is the difference between the staff review and a review by the MCWD Board of Managers, such that someone might request a review by the board?

Thank you for any help,

Roberta Castellano
4854 France Ave S
Edina, MN 55410-1756
Email: rcastellano2@outlook.com

Will Roach

From: Kathy Peter <kathy.peter@me.com>
Sent: Monday, February 21, 2022 7:49 AM
To: Will Roach
Cc: Cindy Davis; MaryPat Ladner; Michelle Hunt-Graham
Subject: Request Board review of Permit #21-684

Will,
I request your MCWD Board consider the above permit application, as I (and a large number of my Fulton neighbors) am concerned about the impact this project will have on our "quality of water, quality of life". This project planned for 4901-4921 France Ave S will remove 7 front and back yards, and replace with extensive impermeable surface, essentially concrete and asphalt from curb to alley. That will certainly have an effect on stormwater runoff, and there is a sensitive wetlands area just 1 block to the northeast (I believe White Oaks wetlands on Edina side of 4800 block of France) that has some history of stormwater diversion problems.
Please consider this permit application carefully. We fear adequate impact studies have been lacking in the enthusiasm with which our city council and the developers have pushed this project forwards.
Thank you for considering our concerns.
Kathy Peter
4849 Ewing Ave S
Minneapolis, MN

Will Roach

From: Michelle Hunt-Graham <mhuntgraham@gmail.com>
Sent: Monday, February 21, 2022 1:42 PM
To: Kathy Peter; Will Roach
Cc: Cindy Davis; MaryPat Ladner
Subject: Re: Request Board review of Permit #21-684

Thanks Kathy!
I'm going to invite our email list to also reach out with concerns.
Thanks!
M

Michelle Hunt-Graham MA, LMFT, CDWF
Parkdale Therapy Center
1000 Shelard Pkwy Suite 520
St. Louis Park, MN 55426
MHG@Parkdaletherapy.org
612-750-0011
Fax: 952-224-0396
Www.parkdaletherapy.org
www.insideoutlifedevelopment.com

From: Kathy Peter <kathy.peter@me.com>
Date: Monday, February 21, 2022 at 7:49 AM
To: "wroach@minnehahacreek.org" <wroach@minnehahacreek.org>
Cc: Cindy Davis <cin.d@me.com>, MaryPat Ladner <marypat.ladner@gmail.com>, Michelle Hunt-Graham <mhuntgraham@gmail.com>
Subject: Request Board review of Permit #21-684

Will,
I request your MCWD Board consider the above permit application, as I (and a large number of my Fulton neighbors) am concerned about the impact this project will have on our "quality of water, quality of life". This project planned for 4901-4921 France Ave S will remove 7 front and back yards, and replace with extensive impermeable surface, essentially concrete and asphalt from curb to alley. That will certainly have an effect on stormwater runoff, and there is a sensitive wetlands area just 1 block to the northeast (I believe White Oaks wetlands on Edina side of 4800 block of France) that has some history of stormwater diversion problems.
Please consider this permit application carefully. We fear adequate impact studies have been lacking in the enthusiasm with which our city council and the developers have pushed this project forwards.
Thank you for considering our concerns.

Kathy Peter
4849 Ewing Ave S
Minneapolis, MN

Will Roach

From: Mary Pat Ladner <marypat.ladner@gmail.com>
Sent: Monday, February 21, 2022 2:45 PM
To: Will Roach; Sherry White
Cc: Peter T Stevens; Kathy Peter; cindy davis; Michelle Hunt-Graham
Subject: Request Board review of Permit #21-684

Dear Will and Sherry,

I want to second Kathy Peter's request to have the MCWD Board consider the above permit application, as I (and a large number of my Fulton neighbors) am concerned about the impact this project will have on our "quality of water, quality of life".

This project planned for 4901-4921 France Ave S will remove 7 front and back yards, and replace with extensive impermeable surface, essentially concrete and asphalt from curb to alley. That will certainly have an effect on stormwater runoff, and there is a sensitive wetlands area just 1 block to the northeast (I believe White Oaks wetlands on Edina side of 4800 block of France) that has some history of stormwater diversion problems.

Please consider this permit application carefully.

We fear adequate impact studies have been lacking in the enthusiasm with which our city council and the developers have pushed this project forwards.

Thank you for considering our concerns.

Mary Pat

--
Mary Pat Ladner
marypat.ladner@gmail.com
612.810.4939