

Barr Engineering Co.

MEMORANDUM

To: Board of Managers: Nine Mile Creek Watershed District
From: Barr Engineering Company
Subject: Richfield Bloomington Credit Union Volume Banking: Bloomington
Date: March 7, 2019

The Bloomington Richfield Credit Union received approval of permit #2008-21 from the District for the construction of a building, parking lot, and utilities at their site located at 9500 Lyndale Avenue in Bloomington. The permit approved was for Phase 1 construction activities (building and surface parking) and the stormwater management infrastructure for both Phase 1 and a future Phase 2. The Phase 1 construction has been completed which included an on-site storm water management basin providing 8,946 square feet of stormwater management capacity. The applicant has requested a permit, #2018-109, for Phase 2 of the development. Even after completion of the proposed Phase 2 work volume of 2,391 cubic feet available will remain available, and the applicant has indicated an interest in banking this volume. This equates to 1.1-inches of runoff from an additional 26,084 square feet of impervious area.

The on-site basin provides a total annual removal efficiency of 79% total phosphorus (2.91 lbs.) and an annual removal efficiency of 90% total suspended solids (603 lbs.) from the Phase 1 and 2 runoff. We are in agreement with this credit amount and recommend that the managers approve the applicant's request to deposit of 2,391 cubic feet of credit.

Importantly, banked volume credits can only be used (under the present rules) if an applicant demonstrates that stormwater volume management in accordance with the standard in subsection 4.3.1a in the NMCWD Stormwater Management Rule cannot be met in accordance with the sequence in subsection 4.3.3. Conversely, excess and available stormwater management capacity can be used onsite by an applicant to meet –in whole or part- future stormwater management requirements in accordance with the rules then in effect and on demonstration of remaining available capacity.

Permit Application Review

Permit No. 2018-109
Received complete: March 7, 2019

Applicant: Greg Worthen, RBCU
Consultant: Gary Johnson, Anderson Engineering
Project: Phase 2 Building and Parking Lot construction for Richfield Bloomington Credit Union
Location: 9500 Lyndale Avenue: Bloomington
Rule(s): 4,5,11 and 12
Reviewer: BCO

General Background & Comments

The project proposes the construction of a building addition and parking lot expansion for Richfield Bloomington Credit Union located at 9500 Lyndale Avenue in Bloomington. The District approved Permit #2008-21 for Phase 1 construction activities on the site, which included site grading of the entire 2.9 acre site, building and parking lot construction and construction of the stormwater infrastructure for the entire site (including a surface storm water basin providing volume retention, rate control and water quality management). The 2008 submittal also identified a future Phase 2 that was to include a building addition and parking lot expansion and the applicant overbuilt the stormwater management basin to accommodate the additional impervious area.

The project site information is:

- Total Site Area: 126,324 square feet
- Phase 1 Site Impervious Area: 69,131 square feet (constructed)
- Phase 2 Site Impervious Area: 8,664 square feet (proposed)

The redevelopment and common scheme of development in subsections 4.2.3 and 4.2.5, respectively, of the NMCWD Stormwater Management Rule apply to the site and the presently proposed work. All work on the site since the adoption of the 2008 rules is considered in this analysis (4.2.5) And because the presently proposed addition to the property does not involve disturbance of more than 50% of the site nor does it increase site impervious area by more than 50%, the present NMCWD stormwater management requirements only apply to the proposed increase in impervious area (4.2.3).

The District's requirements for erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed and 5000 square feet or more surface area disturbed, Rules 4.2.1 b and 5.2.1 b.

Silt fence and sediment logs will be provided for at the limits of construction for erosion control. A rock construction entrance will be constructed at the entryway to the site.

Exhibits

1. Permit Application dated February 25, 2019.
2. Plan dated August 14, 2008, with the latest revision December 15, 2019, prepared by Anderson Engineering.
3. Stormwater Volume Retention Credit Banking Application # 18-2
4. Geotechnical report dated September 26, 2007 prepared by Braun Intertec.
5. Atlas 14 100-year flood elevation calculation for the on-site stormwater basin dated March 7, 2019 prepared by Anderson Engineering.

4.0 Stormwater Management

As previously stated, the 2008 project included the construction of a surface stormwater basin providing volume retention, rate control and water quality management for compliance with the applicable District's storm water requirements (2008 Rules). The applicant has submitted as-built stage volume relationship for the constructed basin showing that the constructed basin provided 8,946 cubic feet of capacity in the existing basin for volume retention and water quality. To comply with the District's requirement of retention 1.0 inches of runoff from the Phase 1 impervious area of 69,131 square feet (2008 Rules), a volume of 5,761 cubic feet was required. This leaves 3185 cubic feet of volume and water quality capacity available in the existing basin.

The Phase 2 work will increase the site impervious area by 8,664 square feet. Rule 4.3.1a (May 2018 Rules), requires a retention volume of 794 cubic feet - a volume retention of 1.1 inches of runoff from the new impervious area. The remaining 3,185 cubic feet of stormwater management capacity is sufficient for the application to meet the Rule 4.3.1a criterion. The geotechnical report identifies sites underlying soil as poorly graded sand (SP). Using an infiltration rate of 0.8 inches/hour from the Minnesota Stormwater Manual for a poorly graded sand, an area of 2,228 square feet is required for a 48 hour drawn down of the 6,555 cubic feet of volume retention for Phases 1 and 2. An area within the basin of 4,047 square feet is provided to comply with Rule 4.3.1a (ii).

The District's water quality treatment requires an annual removal efficiency of 90% for total suspended solids and 60% total phosphorus. The results from a MIDS calculator shows that the basin will provided an annual removal efficiency of 90% for total suspended solids (603 lbs.) and 79 % annual removal efficiency for total phosphorus (2.91 lbs.) for both Phase 1 and Phase 2. Rule 3.5 is met.

In accordance with section 4.3.3c of the District rules, all new and reconstructed buildings must be constructed such that the low floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a constructed facility. The finished floor

elevation of the proposed addition is 826.2 M.S.L. The Atlas 14 100-year flood elevation of the basin is 822.7 M.S.L. A separation of 3.5 feet will be provided between the 100-year frequency flood elevation of the basin and the proposed finished floor elevation of the Phase 2 addition. Rule 4.3.3 is met.

Rule 4.3.3 also states the elevation of a new and reconstructed building must be constructed such that no opening where surface water can enter the structure is less than two feet above the 100-year high water elevation of an adjacent facility or waterbody. The finished floor elevation of the proposed addition is 826.2 M.S.L. The Atlas 14 100-year flood elevation of the basin is 822.7 M.S.L. A separation of 3.5 feet will be provided between the 100-year frequency flood elevation of the basin and the proposed finished floor elevation of the addition. Rule 4.3.3 is met.

In accordance with Rule 4.3.1a (i), the pre-treatment of runoff prior to the infiltration area will be provided by sumps within existing upstream manholes.

In accordance with Rule 4.3.4, a post-project chloride management plan must be provided that will, 1) designate an individual authorized to implement the chloride-use plan and 2) designate a MPCA certified salt applicator engaged in the implementation of the chloride-use plan for the site.

5.0 Erosion and Sediment Control

The submitted erosion and sediment control plan includes silt fence, sediment logs, inlet protection and a gravel construction entrance. The project contact is Gary Johnson, Anderson Engineering.

11.0 Fees

Fees for the project are:

Rules 2.0-6.0	\$1,500
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12.0 Financial Assurances

Financial Assurances for the project are:

Rule 4.0 Volume Retention: Basin Constructed and functional	\$0
Chloride Management:	\$5000
Rule 5: Silt Fence: 660 L.F. x \$2.50/L.F. = \$1,650	\$1,650
Sediment logs: 66 L.F. x \$5/L.F. = \$330	\$330
Inlet Protection: 8 x \$100/each = \$800	\$800
Site restoration: 0.9 acres x \$2500/ acre = \$2,250	\$2,250
Contingency and Administration	\$2,170

Findings

The proposed project includes the information necessary, plan sheets and erosion control plan, for review.

1. Rule 5 is met.

2. Compliance with District Rules 4.3.1a and 4.3.1c are met for Phase 2 using available credits within NMCWD SW Volume Retention Bank Account #18-2.
3. District Rule 4.3.1b was complied with the requirement and approval of Permit #2008-21.

Recommendation

Approval, contingent upon:

1. General Conditions
2. Financial Assurance in the amount of \$12,200 - \$7,200 for erosion control and site restoration and \$5,000 for compliance with the chloride management requirements.
3. Submission of documentation that a drainage easement over the stormwater-management facility has been submitted to Bloomington (4.5.4i), if such easement is required by the city.
4. A receipt showing recordation of a maintenance declaration for the on-site storm water management facility and wetland buffer. A draft of the declaration must be approved by the District prior to recordation.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Submission of a plan for post-project management of Chloride use on the site. The plan must include 1) the designation of an individual authorized to implement the chloride use plan and 2) the designation of a Minnesota Pollution Control Agency certified salt applicator engaged in the implementation of the chloride-use plan for the site. The release of the \$5,000 of the financial assurance required for the chloride-management plan requires that chloride-management plan has been provided and approved by the District's Administrator.
2. For the release of the \$7,200 financial assurance required in Recommendation #2, Rule 12.4.1a requires demonstration and confirmation that the site has been vegetated and stabilized to prevent erosion and sedimentation per subsection 5.3.3 and that erosion and sediment controls have been removed.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve permit application No. 2018-109 with the conditions recommended by staff.

Permit #: 2018-109
Project Name: Phase 2 Building Addition and Parking Lot Expansion for Richfield Bloomington Credit Union;
9500 Lyndale Avenue: Bloomington
Approval Date: March 20, 2019

General Provisions

1. All temporary erosion control measures shown on the erosion and sedimentation control plans must be installed prior to commencement of surface or vegetation alteration and be maintained until completion of construction and vegetation is established as determined by NMCWD.

If silt fence is used, the bottom flap must be buried and the maximum allowable spacing between posts is 4-foot on center. All posts must be either 2-inch x 2-inch pine, hardwood, or steel fence posts. If hay bales are used, all bales must be staked in place and reinforced on the downstream side with snow fence.
2. All areas altered because of construction must be restored with seed and disced mulch, sod, wood fiber blanket, or be hard surfaced within two weeks after completion of land alteration and no later than the end of the permit period.
3. Upon final stabilization, the permit applicant is responsible for the removal of all erosion control measures installed throughout the project site.
4. At the entryway onto the site, a rock filter dike being a minimum of two feet in height and having maximum side slopes of 4:1 must be constructed. This rock filter dike will enable construction traffic to enter the site and also provide an erosion control facility.
5. If dewatering is required and sump pumps are used, all pumped water must be discharged through an erosion control facility prior to leaving the construction site. Proper energy dissipation must be provided at the outlet of the pump system.
6. The NMCWD must be notified a minimum of 48 hours prior to commencement of construction.
7. The NMCWD, its officers, employees and agents review, comment upon, and approve plans and specifications prepared by permit applicants and their consultants for the limited administrative purpose of determining whether there is reasonable assurance that the proposed project will comply with the regulations and criteria of the NMCWD. The determination of the NMCWD that issuance of this permit is appropriate was made in reliance on the information provided by the applicant.
8. The grant of this permit shall not in any way relieve the permittee, its engineer, or other professional consultants of responsibility, nor shall it make the NMCWD responsible for the technical adequacy of the engineer's or consultant's work. The grant of this permit shall not relieve the permittee from complying with all conditions and requirements of the permit which shall be retained by the permittee with the permit.
9. The issue of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
10. This permit is permissive only. No liability shall be imposed upon the NMCWD or any of its officers, agents or employees, officially or personally, on account of the granting of this permit or on account of any damage to any person or property resulting from any act or omission of the permittee or any of its agents, employees, or contractors.

11. In all cases where the doing by the permittee of anything authorized by this permit shall involve the taking, using, or damaging of any property, rights or interests of any other person or persons, or of any publicly-owned lands or improvements or interests, the permittee, before proceeding therewith, shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all necessary property, rights, and interest.
12. The permit is transferable only with the approval of the NMCWD (see NMCWD Rule 1.0). The permittee shall make no changes, without written permission previously obtained from the NMCWD, in the dimensions, capacity, or location of any items of work authorized by this permit.
13. The permittee shall grant access to the site at all reasonable times during and after construction to authorized representatives of the NMCWD for inspection of the work authorized by this permit.
14. This permit may be terminated by the NMCWD at any time deemed necessary in the interest of public health and welfare, or for violation of any of the provisions of this permit.
15. Construction work authorized under this permit shall be completed on or before date specified above. The permittee may, in writing, request that the NMCWD extend the time to complete the project in accordance with NMCWD Rule 1.0.



Permit No.2018-109

Is hereby issued to Greg Worthen, Richfield Bloomington Credit Union, subject to the conditions specified in the attached form:

For Phase 2 construction on the site (building addition and parking expansion) located at 9500 Lyndale Avenue in Bloomington.

Jodi Peterson, Chair
Nine Mile Creek Watershed District

This permit expires on: April 1, 2020

STORM WATER POLLUTION PREVENTION PLAN NOTES:

- GRADING CONTRACTORS SHALL VERIFY LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO CONSTRUCTION.
- ALL EROSION CONTROL MEASURES CALLED FOR ON THESE PLANS AND SPECIFICATIONS, WHICH MAY INCLUDE SILT FENCE, SEDIMENTATION BASINS OR TEMPORARY SEDIMENT TRAPS, SHALL BE CONSTRUCTED AND MAINTAINABLE IN THE FOLLOWING MANNER:
 - ROCK CONSTRUCTION ENHANCED A MINIMUM OF 18 FEET
 - SILT FENCE
 - TEMPORARY CULVERTS
 - TEMPORARY CONSTRUCTION BARRIERS AND OUTLET FACILITIES
 - SEDIMENTATION BASIN CONSTRUCTION
 - CONCRETE DETENTION AND SEDIMENTATION GRADING
 - SEED AND MULCH OR SOIL
 - BRUSH LOG BARRIERS IN FINISHED GRADED AREAS
 - INLET AND OUTLET FACILITIES RESISTANT TO STORM WINDS
- GRADING CONTRACTOR SHALL PRESERVE AND MAINTAIN ALL EXISTING CONTROL MEASURES IN ACCORDANCE WITH CITY AND WISCONSIN PERMITS. PERMITTING REQUIREMENTS AS WELL AS EROSION CONTROL MEASURES AS MAY BE SHOWN ON THESE PLANS OR SPECIFICATIONS. GRADING CONTRACTOR SHALL MAINTAIN ANY ADDITIONAL EROSION CONTROL MEASURES AS MAY BE REQUIRED TO PROTECT ADJACENT PROPERTY.
- ALL EROSION CONTROL FACILITIES SHALL BE MAINTAINED BY THE CONTRACTOR DURING GRADING OPERATIONS. ANY TEMPORARY FACILITIES WHICH ARE TO BE REMOVED SHALL BE REMOVED BY THE CONTRACTOR DURING GRADING OPERATIONS. ANY TEMPORARY FACILITIES WHICH ARE TO BE MAINTAINED SHALL BE MAINTAINED BY THE CONTRACTOR DURING GRADING OPERATIONS. THE GRADING CONTRACTOR SHALL RESTORE THE SUBSEQUENTLY DISTURBED AREA IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.
- THE GRADING CONTRACTOR SHALL SCHEDULE THE SOILS ENGINEER TO VISIT THE SITE TO VERIFY THAT ALL CONTROL MEASURES WILL BE MAINTAINED TO THE DEGREE AND UNDER CONDITIONS OF THE PROJECT.
- ALL DISTURBED AREAS EXCEPT AREAS TO BE PLANTED OR SPECIFICALLY CERTIFIED BY A LANDSCAPE PLAN SHALL BE COVERED WITH A MINIMUM OF 1" OF TOP SOIL OR AS INDICATED IN SPECIFICATIONS OR LANDSCAPE PLAN. ALL DISTURBED AREAS SHALL BE SEED & MULCHED AT THE PRESCRIBED RATES WITHIN 72 HOURS OF FINAL GRADING (LATE AFTERNOON).
- SEED & MULCH:

SEED:	MIXTURE NO. 54-01	MULCH:	3/8" FINE (20-40 MESH)
MULCH:	TYPE 1 2.5-11	SEED/AZE:	

ALL EXPOSED SOIL AREAS WITH A CONTIGUOUS POSITIVE SLOPE WITHIN ONE LINEAL FEET OF ANY SURFACE WATER, MUST HAVE TEMPORARY EROSION PROTECTION OR PERMANENT COVER FOR THE EXPOSED SOIL. AS A YEAR ROUND, ACCORDING TO THE FOLLOWING TABLE OF SOILS AND TIME PERIODS:

TYPE OF SLOPE:	TIME (Minimum time an area can remain open when the soil is not actively being worked):
STEEPER THAN 2:1	7 DAYS
2:1 TO 3:1	4 DAYS
FLATTER THAN 3:1	21 DAYS
- THE EXISTING TOPOGRAPHY AND CONTOUR ELEVATIONS SHOWN ON THE PLAN WERE TAKEN FROM A PLAN FURNISHED BY THE OWNER.
- CONTRACTOR'S GRADING AND EROSION CONTROL OPERATIONS SHALL TAKE PLACE WITHIN THE CONSTRUCTION LIMITS.
- IT IS REQUIRED THAT SOILS TRACKED FROM THE SITE BY MOTOR VEHICLES BE CLEANED DAILY FROM PAVED ROADWAY SURFACES THROUGHOUT THE DURATION OF CONSTRUCTION.
- PROVIDE TEMPORARY SEDIMENTATION BASINS AS DIRECTED BY THE ENGINEER.
- ALL REQUIREMENTS OF THE LOCAL WATERSHED DISTRICT SHALL BE SATISFIED PER THE APPROVED PERMIT.
- ALL EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THIS PLAN AND IMPLEMENTED IN THE FIELD AS DIRECTED BY THE ENGINEER SHALL CONFORM TO THE MPCA'S "PROTECTING WATER QUALITY IN URBAN AREAS: BEST MANAGEMENT PRACTICES FOR MINNESOTA".
- DRAINAGE AND/OR BASIN DRAINAGE DISCHARGE SHALL BE DIRECTED TO SEDIMENTATION BASINS WHEREVER POSSIBLE. ALL DISCHARGE POINTS SHALL BE ADEQUATELY PROTECTED FROM EROSION & SCOUR THROUGH USE OF APPROVED ENERGY DISSIPATION DEVICES.
- ALL SOLID WASTE / CONSTRUCTION DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH MPCA REQUIREMENTS. HAZARDOUS WASTE MATERIALS SHALL BE STORED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS. THIS WORK SHALL CONSIST OF OPERATIONS NECESSARY TO RAPIDLY STABILIZE SMALL CRITICAL AREAS TO PREVENT OFF SITE SEDIMENTATION AND/OR TO OCCUPY WITH PERMIT REQUIREMENTS. THIS WORK MAY BE PERFORMED AT ANY TIME DURING THE CONSTRUCTION AND DURING NORMAL WORKING HOURS. THIS WORK WILL BE CONDUCTED ON SMALL AREAS THAT MAY OR MAY NOT BE ACCESSIBLE WITH NORMAL EQUIPMENT. THIS WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE MPCA STANDARDS SPECIFICATIONS, THE DETAIL S SHOWN IN THE PLANS, AND THE FOLLOWING:

THERE ARE FIVE STABILIZATION METHODS APPROVED FOR THESE OPERATIONS. THESE METHODS MAY BE CONDUCTED INDEPENDENTLY OR IN COMBINATION:

METHOD	RAPID STABILIZATION
1	TYPE I MULCH WITH SOIL ANCHORING
2	TYPE MULCH WITH TYPE HYDRAULIC MULCH
3	TYPE HYDRAULIC MULCH WITH SEED MIXTURE 20-11
4	CATEGORY 2 EROSION CONTROL BLANKET WITH SEED MIXTURE
5	RIPRAP CLASS II WITH GEOTEXTILE TYPE II

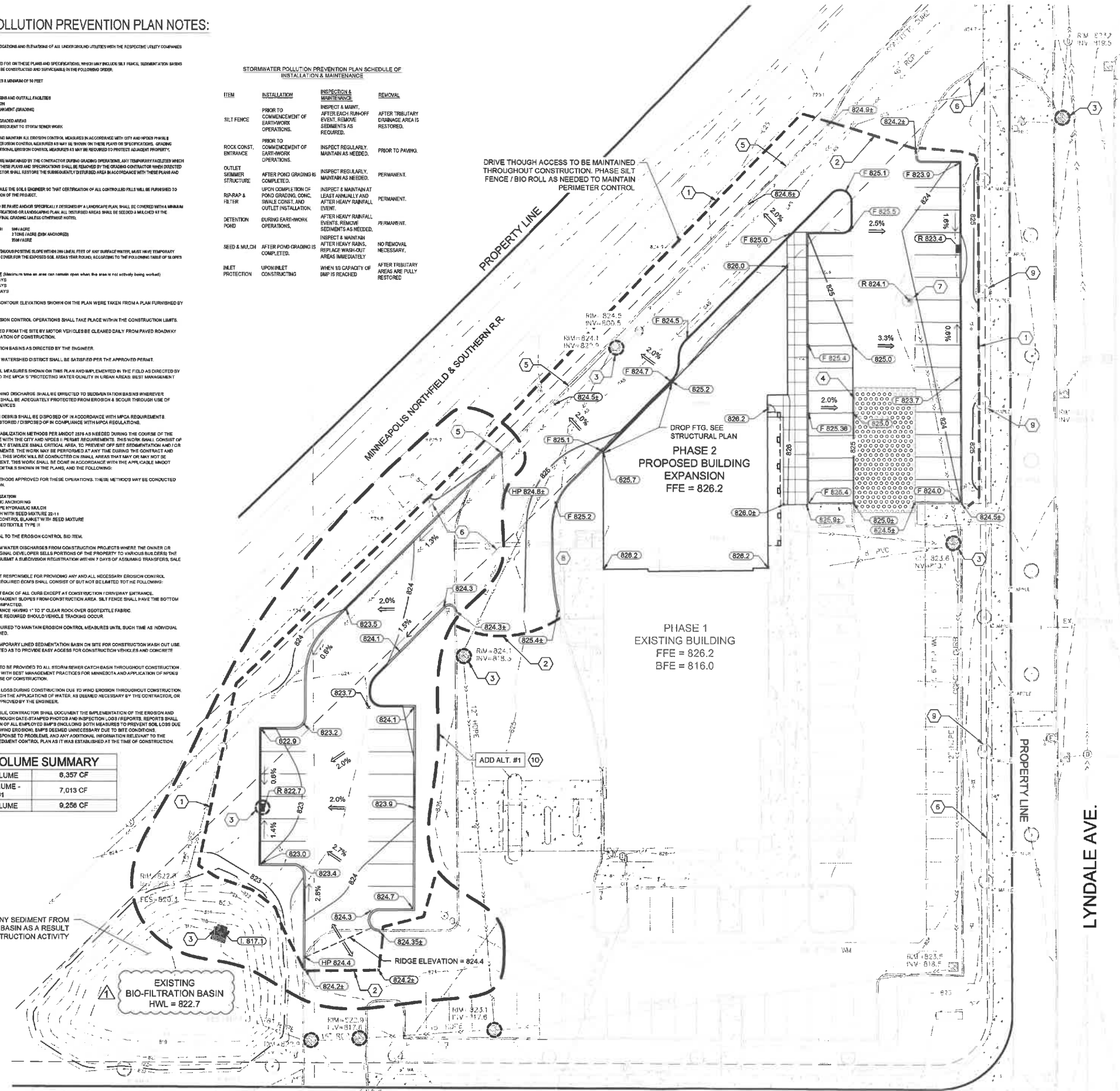
THESE EFFORTS WILL BE INCIDENTAL TO THE EROSION CONTROL BID ITEM.
- CHANGE OF COVERAGE: FOR STORM WATER DISCHARGES FROM CONSTRUCTION PROJECTS WHERE THE OWNER OR OPERATOR CHANGES, E.G., AN ORIGINAL DEVELOPER SELLS PORTIONS OF THE PROPERTY TO VARIOUS BUYERS, THE NEW OWNER OR OPERATOR MUST SUBMIT A SUBSEQUENT REGISTRATION WITHIN 7 DAYS OF ASSUMING TRANSFER OF SALE OR CLOSING ON THE PROPERTY.
- INDIVIDUAL SITE BUILDERS SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL NECESSARY EROSION CONTROL MEASURES AS MAY BE REQUIRED. REQUIRED EROSION CONTROL SHALL BE LIMITED TO THE FOLLOWING:
 - STAYED TREE LOG ROLLS AT BACK OF ALL CURBS EXCEPT AT CONSTRUCTION FOR VEHICLE ENTRANCE.
 - SILT FENCE OR ALL DOWN GRABBER BARRIERS FROM CONSTRUCTION ON AREA. SILT FENCE SHALL HAVE THE BOTTOM DOG IN WITH SOIL FIRMLY COMPACTED.
 - ROCK CONSTRUCTION ENTRANCE: "WALKING" 1" TO 1" CLEAR ROCK OVER GEOTEXTILE FABRIC.
 - STREET CLEANING AS MAY BE REQUIRED SHOULD VEHICLE TRACKING OCCUR.

INDIVIDUAL SITE BUILDERS ARE REQUIRED TO MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH TIME AS INDIVIDUAL YARD/VEGETATION ARE ESTABLISHED.
- CONTRACTOR SHALL PROVIDE A TEMPORARY LINED SEDIMENTATION BASIN ON SITE FOR CONSTRUCTION WASH OUT USE. TEMPORARY BASIN SHALL BE LOCATED AS TO PROVIDE EASY ACCESS FOR CONSTRUCTION VEHICLES AND CONCRETE TRUCKS AS NECESSARY.
- INLET SEDIMENTATION CONTROL IS TO BE PROVIDED TO ALL STORM SEWER CATCH BASIN THROUGHOUT CONSTRUCTION. MEASURES APPLIED SHALL COMPLY WITH BEST MANAGEMENT PRACTICES FOR MINNESOTA AND APPLICATION OF NPDES PHASE I AS APPROPRIATE FOR PHASE OF CONSTRUCTION.
- CONTRACTOR SHALL PREVENT SOIL LOSS DURING CONSTRUCTION DUE TO WIND EROSION THROUGHOUT CONSTRUCTION. DUST SHALL BE SUPPRESSED THROUGH THE APPLICATION OF WATER, AS DEEMED NECESSARY BY THE CONTRACTOR, OR THROUGH EQUIVALENT MEASURES AS APPROVED BY THE ENGINEER.
- IF LEED ACCREDITATION IS APPLICABLE, CONTRACTOR SHALL DOCUMENT THE IMPLEMENTATION OF THE EROSION AND SEDIMENTATION CONTROL PLAN THROUGH DAILY SITE SAFETY PHOTOS AND INSPECTION LOSS REPORTS. REPORTS SHALL INCLUDE AT A MINIMUM DESCRIPTION OF ALL EMPLOYED BMP'S INCLUDING BOTH MEASURES TO PREVENT SOIL LOSS DUE TO RUNOFF AND SOIL LOSS DUE TO WIND EROSION, BMP'S DESIGNED UNNECESSARY DUE TO SITE CONDITIONS. CORRECTIVE ACTIONS TAKEN IN RESPONSE TO PROBLEMS AND ANY ADDITIONAL INFORMATION BE NECESSARY TO THE CONDITION OF THE EROSION AND SEDIMENT CONTROL PLAN AS IT WAS ESTABLISHED AT THE TIME OF CONSTRUCTION.

STORMWATER POLLUTION PREVENTION PLAN SCHEDULE OF INSTALLATION & MAINTENANCE

ITEM	INSTALLATION	INSPECTION & MAINTENANCE	REMOVAL
SILT FENCE	PRIOR TO COMMENCEMENT OF EARTHWORK OPERATIONS.	INSPECT & MAINT. AFTER EACH RUN-OFF EVENT. REMOVE SEDIMENTS AS REQUIRED.	AFTER TRIBUTARY DRAINAGE AREA IS RESTORED.
ROCK CONST. ENTRANCE	PRIOR TO COMMENCEMENT OF EARTHWORK OPERATIONS.	INSPECT REGULARLY. MAINTAIN AS NEEDED.	PRIOR TO PAVING.
OUTLET SUMMER STRUCTURE	AFTER POND GRADING IS COMPLETED.	INSPECT REGULARLY. MAINTAIN AS NEEDED.	PERMANENT.
RIP-RAP & FILTER	UPON COMPLETION OF POND GRADING, CONC. SWALE CONST. AND OUTLET INSTALLATION.	INSPECT & MAINTAIN AT LEAST ANNUALLY AND AFTER HEAVY RAINFALL EVENT.	PERMANENT.
DETENTION POND	DURING EARTHWORK OPERATIONS.	AFTER HEAVY RAINFALL EVENTS, REMOVE SEDIMENTS AS NEEDED.	PERMANENT.
SEED & MULCH	AFTER POND GRADING IS COMPLETED.	INSPECT & MAINTAIN AFTER HEAVY RAIN. REPLACE WASH-OUT AREAS IMMEDIATELY NECESSARY.	NO REMOVAL NECESSARY.
INLET PROTECTION	UPON INLET CONSTRUCTION.	WHEN IS 50% CAPACITY OF BMP IS REACHED.	AFTER TRIBUTARY AREAS ARE FULLY RESTORED.

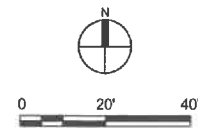
DRIVE THROUGH ACCESS TO BE MAINTAINED THROUGHOUT CONSTRUCTION. PHASE SILT FENCE / BIO ROLL AS NEEDED TO MAINTAIN PERIMETER CONTROL.



POND VOLUME SUMMARY

REQUIRED VOLUME	8,357 CF
REQUIRED VOLUME - ADD ALT. #1	7,013 CF
PROVIDED VOLUME	9,256 CF

EXISTING BIO-FILTRATION BASIN
HWL = 822.7



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LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING SPOT ELEVATION
- DRAINAGE ARROW
- PROPOSED CONCRETE C&G
- SILT FENCE
- INLET SEDIMENT PROTECTION
- ROCK CONSTRUCTION ENTRANCE
- SPOT ELEVATION
- FLOW LINE OF CURB
- MATCH SPOT ELEVATION
- RIM ELEVATION

CONTRACTOR NOTES

- CONTRACTOR IS RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REMOVAL OF ALL APPLICABLE EROSION & SEDIMENT CONTROL ITEMS.
- SPECIFIED EROSION/SEDIMENT CONTROL MEASURES ARE THE MINIMUM. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.
- THE TOTAL DISTURBED AREA IS EQUAL TO 0.87 ACRES. THIS IS BELOW THE 1.0 ACRE THRESHOLD, AND THEREFORE AN MPCA PERMIT IS NOT REQUIRED.
- PROPOSED SPOT ELEVATIONS ARE TO TOP OF FINISHED SURFACE UNLESS OTHERWISE NOTED.
- TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. LOCATIONS OF UTILITIES SHOWN BASED ON SURVEY AND AS-BUILT INFORMATION AND MAY NOT REPRESENT ACTUAL CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR UTILIZING UTILITY LOCATES PRIOR TO STARTING ANY WORK.
- COORDINATE CITY ENGINEERING INSPECTIONS FOR WATER, SEWER AND WORK IN RIGHT OF WAY.

KEY NOTES

- INSTALL & MAINTAIN SILT FENCE PERIMETER SEDIMENT PROTECTION IN TURF AREAS
- INSTALL & MAINTAIN SEDIMENT PROTECTION BIO-ROLL IN PAVED AREAS
- INSTALL & MAINTAIN INLET SEDIMENT PROTECTION
- INSTALL TEMP ROCK ENTRANCE AT CONSTRUCTION VEHICLE INGRESS & EGRESS LOCATION(S)
- MATCH EXISTING CURB LINE ELEVATION
- DRAINAGE AND UTILITY EASEMENT
- RAISE EXISTING RIM APPROXIMATELY 6" TO FINISHED SURFACE ELEVATION.
- REMOVE & REPLACE CONC. SIDEWALK / PEDESTRIAN RAMP TO MATCH NEW CURB & GUTTER
- LANDSCAPE / PARKING LOT SCREENING ALONG LYNDALE AVE. TO REMAIN IN PLACE. REPLACE IF DAMAGED.
- ADD ALTERNATE #1 IS TO INCLUDE THE CONSTRUCTION OF THE WEST PARKING LOT AND ASSOCIATED SITE FEATURES.

PROJECT

**RICHFIELD BLOOMINGTON
CREDIT UNION**

MAIN OFFICE ADDITION

9550 LYNDALE AVE S
BLOOMINGTON, MN 55420

ISSUED SET

REVISIONS

DATE	NO.	WATERSHED COMMENTS
3.7.19	1	

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.

GARY R. JOHNSON, P.E.
 # 42010 REG. NO. 02.01.2019 DATE



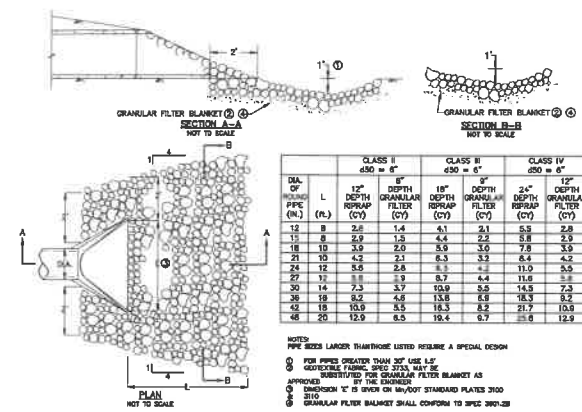
13605 1st Avenue North, Suite 100
 Plymouth, MN 55441
 Tel: 763-412-4000 Fax: 763-412-4080
 www.ae-mn.com

GRADING DRAINAGE & EROSION CONTROL PLAN

DRAWN BY: BJF CHECKED BY: GRJ

C2

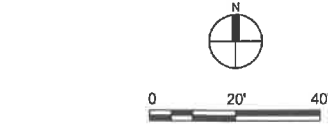
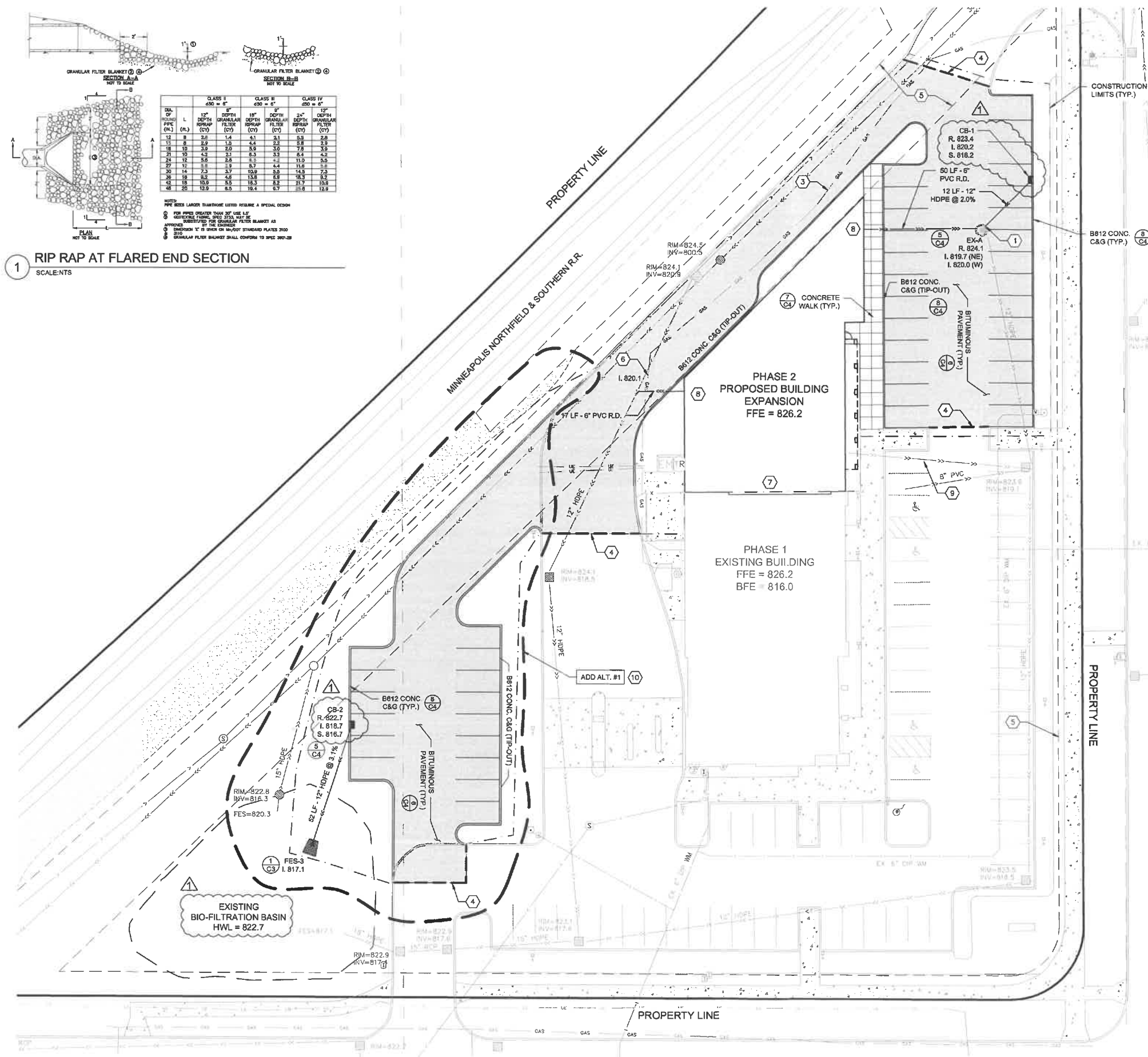




CLASS I 450 # 6"	CLASS II 450 # 6"		CLASS III 450 # 6"		CLASS IV 450 # 6"	
	DEPTH (CY)	DEPTH (CY)	DEPTH (CY)	DEPTH (CY)	DEPTH (CY)	DEPTH (CY)
12	8	2.6	1.4	4.1	2.1	5.5
15	8	2.9	1.5	4.4	2.2	5.8
18	10	3.9	2.0	5.9	3.0	7.5
21	10	4.2	2.1	6.3	3.2	8.4
24	12	5.6	2.8	8.3	4.2	11.0
27	12	5.9	2.9	8.7	4.4	11.6
30	14	7.3	3.7	10.9	5.0	14.9
36	18	9.2	4.6	13.8	6.5	18.3
42	18	10.9	5.5	16.3	7.7	21.7
48	20	12.9	6.5	18.4	8.9	25.9

NOTES:
 1. PIPE SIZES LARGER THAN 30" USE LIP
 2. COVERABLE FABRIC SPEC 2303, MAY BE
 3. SUBSTITUTED FOR GRANULAR FILTER BLANKET AS
 4. APPROVED BY THE ENGINEER
 5. DIMENSION 12" IS BASED ON 30" FOOT STANDARD PLATES 3000
 6. GRANULAR FILTER BLANKET SHALL CONFORM TO SPEC 3001.02

1 RIP RAP AT FLARED END SECTION
 SCALE: NTS



LEGEND

- PROPERTY LIMITS
- CONSTRUCTION LIMITS
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED DRAIN TILE
- PROPOSED STORM INLETS

CONTRACTOR NOTES

- ALL CONSTRUCTION SHALL COMPLY WITH RECOMMENDATIONS OF THE SOIL ENGINEER UNLESS DIRECTED OTHERWISE.
- ALL CONSTRUCTION SHALL COMPLY WITH THE MOST CURRENT CITY OF BLOOMINGTON CODE AND STANDARDS, AND THE 2018 EDITION OF MNDOT STANDARD CONSTRUCTION SPECIFICATIONS (INCLUDING SUPPLEMENTS) AND THE C.E.A.M. STANDARD SPECIFICATIONS-2013 EDITION UNLESS DIRECTED OTHERWISE.
- ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE MUNICIPAL, WATERSHED DISTRICT, COUNTY, MPCA, DEPT. OF HEALTH AND MNDOT PERMITS.
- THE LOCATION AND TYPE OF EXISTING UTILITIES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR, IN COOPERATION WITH THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY, IS RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES.
- PROVIDE MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION OF ALL WATERMAIN CROSSINGS FROM STORM OR SANITARY SEWER.
- ALL WATER SERVICE SHALL BE INSTALLED WITH 8" MINIMUM COVER FROM FINISHED GRADE, MAX 10 FT.
- HDPE PIPE CONNECTIONS INTO ALL CONCRETE STRUCTURES MUST BE MADE WITH WATER TIGHT MATERIALS UTILIZING AN A-LOCK OR WATERSTOP GASKET OR BOOT. CAST-IN-PLACE RUBBER BOOT OR APPROVED EQUAL, WHERE THE ALIGNMENT PRECLUDES THE USE OF THE ABOVE APPROVED WATERTIGHT METHODS, CONSEAL 231 WATERSTOP SEALANT, OR APPROVED EQUAL WILL ONLY BE ALLOWED AS APPROVED BY THE ENGINEER.
- ALL NEW NON METALLIC SANITARY AND WATER SERVICE PIPE SHALL HAVE TRACER WIRE, PER SPECIFICATIONS.
- LOCATE AND PROTECT EXISTING UTILITIES UNLESS OTHERWISE NOTED.
- SUBSTITUTIONS FROM INFO. SHOWN HEREON SHALL BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD AND CITY ENGINEER.
- ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF A BUILDING OR WATER SERVICE LINE MUST BE TESTED IN ACCORDANCE WITH MINNESOTA RULES, CHAPTER 4714, SECTION 1109.0. TESTING OF WATER AND SEWER SHALL COMPLY WITH 2013 CEAM REQUIREMENTS.
- PVC SANITARY SEWER MUST MEET ASTM STANDARDS LISTED IN MINNESOTA RULES, CHAPTER 4714, SECTION 1109.0 AND INSTALLATION STANDARD 1. FITTING MUST COMPLY WITH ASTM D1988, D2665, OR F794 RESPECTIVELY. JOINTS MUST BE APPROVED MECHANICAL OR PUSH-ON UTILIZING ELASTOMERIC SEAL, OR SOLVENT WELDING USING ASTM F856 AND ASTM D2584. THE INSTALLATION MUST COMPLY WITH ASTM D2321.
- HDPE STORM SEWERS MUST MEET ASTM F714 (SEE MINNESOTA RULES, CHAPTER 4714 SECTION 1102.4 AND INSTALLATION STANDARD 1).
- ALL COMPONENTS OF WATER SYSTEM, UP TO THE WATER METER OR FIRE SERVICE EQUIPMENT MUST UTILIZE PROTECTED INTERNAL COATINGS MEETING CURRENT ANSII/AWWA STANDARDS FOR CEMENT MORTAR LINING OR SPECIAL COATING. THE USE OF UNLINED OR UNCOATED PIPE IS NOT ALLOWED. PROVIDE 8 MIL POLYWRAP ON DIP WATERMAIN PER CITY STANDARDS.
- COMBINATION FIRE AND DOMESTIC SERVICES MUST TERMINATE WITH A THREAD ON FLANGE OR AN MJ TO FLANGE ADAPTER.
- UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICE PIPES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.
- CONTRACTOR TO PROVIDE UTILITY AS-BUILTS TO CITY OF BLOOMINGTON PRIOR TO CERTIFICATE OF OCCUPANCY.
- CONTACT MET COUNCIL (651-802-1378) FOR SEWER AVAILABILITY CHARGE (SAC) DETERMINATION.

KEY NOTES

- CONNECT TO EXISTING STORM MANHOLE VIA CORE DRILL AT ELEVATION 819.7
- CONNECT 6" PVC ROOF DRAIN TO STORM MANHOLE WITH A 2.0% MIN SLOPE
- RELOCATE EXISTING GAS LINE AS NEEDED FOR CONSTRUCTION OF PROPOSED BUILDING.
- FULL DEPTH SAWCUT LINE PERPENDICULAR WITH TRAFFIC FLOW
- DRAINAGE AND UTILITY EASEMENT
- 12x6 WYE BITO EXISTING 12" HDPE STORM SEWER
- SANITARY SEWER & WATER SERVICE TO BE EXTENDED FROM EXISTING BUILDING
- ROOF DRAIN CLEANOUT PROVIDED INTERNALLY. SEE MECHANICAL PLANS FOR MORE INFORMATION.
- EXISTING 8" ROOF DRAIN CONSTRUCTED TO SERVE PHASE 2 OF CONSTRUCTION. PIPE TO BE ABANDONED IN PLACE.
- ADD ALTERNATE #1 IS TO INCLUDE THE CONSTRUCTION OF THE WEST PARKING LOT AND ALL ASSOCIATED SITE FEATURES.

STRUCTURE SCHEDULE

STRUCTURE NO.	SIZE	CASTING	NOTES
EX-A	-	R-2596 "SOLID"	-
CB-1	2'x3'	R-3067-L*	2' SUMP
CB-2	2'x3' BOX	R-3067-L*	2' SUMP
FES-3	12"	W/ TRASH GUARD	-

* SEE DETAIL C4 FOR MORE DETAILS ON CASTING



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PROJECT

**RICHFIELD BLOOMINGTON
 CREDIT UNION**

MAIN OFFICE ADDITION

9550 LYNDALE AVE S
 BLOOMINGTON, MN 55420

ISSUED SET

DATE	NO.	REVISIONS	WATERSHED COMMENTS
3.7.19	1		

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.

Gary R. Johnson
 GARY R. JOHNSON, P.E.

42010 02.01.2019
 REG. NO. DATE



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UTILITY PLAN

DRAWN BY: B.JF CHECKED BY: GRJ