

Applicant: Michael Cregan; Donaldson
Consultant: Kraig Klund; TKDA
Project: Construction of a Materials Research Building for Donaldson Company
Location: 1400 West 94th Street; Bloomington
Rule(s): 4, 5, 11 and 12
Reviewer: BCO

General Background & Comments

The project proposes the construction of a 13,900 square foot building to be located between two existing buildings (D and E) on the Donaldson Company campus located at 1400 West 94th Street in Bloomington.

The project also includes the realignment and reconstruction of sidewalks surrounding the new building and the construction of a fire lane on the east side of the new building. A permit, #2011-25, has been previously issued to Donaldson Company (based on the 2008 Rules) for the remodeling of an existing courtyard and expansion of a cafeteria within one of the existing buildings. The project site information is:

- Site Area: 32.8 acres
- Existing Campus Impervious Area: 20.8 acres (871,200 square feet) – includes a 1,517 square foot reduction in impervious area in 2011
- Proposed 2019 Campus Impervious Area: 889,931 square feet
- Increase in impervious area from the proposed building and associated improvements: 18,731 square feet
- 2.2% increase in the total site impervious area since 2008
- Disturbed and Reconstructed Impervious Area in 2011: 5,483 square feet
- Disturbed and Reconstructed Impervious Area this project: 5,663 square feet
- Total Disturbed and Reconstructed Impervious Area (2011 thru 2019 – including the current Project): 11,146 square feet
- 1.3% of the existing site impervious area will/or has been disturbed and replaced since 2008.

The Nine Mile Creek Watershed District's Rule for Redevelopment, Rule 4.2.3, states, if a proposed activity will disturb more than 50% of the existing impervious surface on a parcel or

will increase the imperviousness of the parcel by more than 50%, storm water management will apply to the entire project parcel. Otherwise, the storm water requirements will apply only to the disturbed areas and additional impervious area on the parcel. Under Section 4.2.5 of the Stormwater Rule – Common scheme of development, the extent of redevelopment for purposes of applicability of storm water management requirements is measured accounting for redevelopment in aggregate since the rule was adopted in 2008. Activities since 2008 have disturbed a total of 1.3% of the impervious surfaces of the property with an overall increase in imperviousness of the property by 18,731 square feet, 2.2%. The storm water criteria in Section 4.3.1 apply only to any newly disturbed and reconstructed and additional impervious area under the present project – 24,394 square feet.

The District’s requirements for both storm water management and erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed and more than 5000 square feet altered, Rules 4.2.1a and b and 5.2.1a and b.

Silt fence, filter logs, inlet protection and a rock construction entrance are shown to be installed to provide for erosion control.

Exhibits

1. Permit Application dated March 28, 2019, received April 2, 2019.
2. Plan sheet dated March 29, 2019, latest revision May 3, 2019 prepared by TKDA.
3. Storm water management computations dated March 20, 2019, latest revision May 3, 2019, prepared by TKDA.
4. Soil borings dated March 29, 2019 prepared by Braun Intertec.
5. E-mail correspondence dated April 22, 2019 requesting a breakdown of the new impervious area and the disturbed and reconstructed impervious area proposed for the project. E-mail response from TKDA, dated 4/22, stating that the plans were being modified to include a fire lane required by the City. Revised information would be provided to the District the week of April 29th.

4.0 Stormwater Management

Stormwater management, volume retention, rate control and water quality management will be provided within two rainwater garden/infiltration areas to be located on the project site. The 2, 10 and 100-year frequency discharges for existing and proposed conditions are as follows:

Frequency	Existing Discharge to Frontage Road c.f.s.	Proposed Discharge to Frontage Road c.f.s.
2 year	<1.0	<1.0
10 year	<1.0	<1.0
100 year	1.5	<1.0

Frequency	Existing Discharge to Donaldson Storm Sewer c.f.s.	Proposed Discharge to Donaldson Storm Sewer c.f.s.
2 year	1.0	<1.0
10 year	1.8	1.4
100 year	5.4	5.4

A volume retention of 2,236 cubic feet is required for 1.1-inches of runoff from the 24,394 square feet of new and disturbed and reconstructed impervious area. The two rainwater garden/infiltration basins will provide 4,015 cubic feet of volume retention. With the on-site underlying soils being classified as a poorly graded sand (SP), an infiltration rate of 0.8 inches/hour can be used based on the Minnesota Stormwater Manual. The applicant has however used a conservative infiltration rate of 0.5 inches/hour. Using the 0.5 inches/hour infiltration rate, an area of 1,117 square feet at a maximum depth of 2 feet is required for the 2,236 cubic feet of volume retention to be drawn down within 48 hours. An area of 3,770 square feet is to be provided within the two basins. Rule 4.3.1a is met.

The District's water quality criterion requires a 60% annual removal efficiency for phosphorus and 90% annual removal efficiency for total suspended solids. The results of a MIDS calculator indicates the basins will provide an annual removal efficiency of 97% for total suspended solids (229 lbs.) and an annual removal efficiency of 95% for total phosphorus (1.02 lbs.). Rule 4.3.1c is met.

District Rule 4.3.3c states that all new and reconstructed buildings must be constructed such that the low floor elevation is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a constructed facility. The following table provides the information showing compliance with the rule:

Building	Low Floor Elevation (MSL)	Low Opening Elevation (MSL)	100-year Flood Elevation of the Main Basin (MSL)	100-year Flood Elevation of the East Basin (MSL)	Separation – Main Basin (Feet)	Separation – East Basin (Feet)
Proposed Building	840	840	833.9	833.8	6.1	6.2
9300 Building D	835.9	835.9	833.9	833.8	2.0	2.1
9250 Building E	840	840	833.9	833.8	6.1	6.2

District Rule 4.3.3 states that all new and reconstructed buildings 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

and the low opening of the structures area the same as stated above. This requirement of paragraph 4.3.3 is met.

The geotechnical report indicates that groundwater was not encountered to a depth of 14.5 feet, approximately elevation 819.5 M.S.L. The bottom of the Main Basin is to be the lowest, elevation 833.6 M.S.L, a separation of 14.1 feet. A minimum separation of 3 feet is required between the bottom of an infiltration facility and groundwater.

Pretreatment of stormwater prior to discharging to an infiltration facility, Rule 4.3.1a (i), will be provided by a sump manhole with a SAFL baffle upstream of the Main Basin and a Rain Guardian Turret prior to stormwater discharging to the East Basin.

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 at the limits of construction, sediment control logs, inlet protection and a rock construction entrance at the entryway onto the site. The project contact is Amanda Kieffer, TKDA.

11.0 Permit 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: 1,117 sq. ft. x \$12/sq. ft. = \$13,404	\$13,404
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Chloride Management:	\$5000
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Rule 5: Silt fence: 602 L.F. x \$2.50/L.F. = \$1,505	
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Sediment Filter Logs: 344 L.F. x \$5/L.F. = \$1,720	
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Inlet Protection: 5 x \$100/each = \$500	
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Site restoration: 1.1 acres x \$2500/ acre = \$2,750	\$6,475
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Contingency and Administration	\$8,621
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Findings

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

1. Rules 4 and 5 are met.

Recommendation

Approval, contingent upon:

1. General Conditions

2. Financial Assurance in the amount of \$33,500 - \$28,500 for stormwater management, 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 facilities has been submitted to Bloomington (4.5.4i), if such easements are required by the city.
4. A receipt showing recordation of a maintenance declaration for the on-site storm water management facilities. 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. Per Rule 4.5.6, an as-built drawing of the storm water facilities, including a stage-volume relationship in tabular form, for the two rainwater garden/infiltration basins conforming to the design specifications as approved by the District must be submitted.
2. 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.
3. For the release of the \$28,500 financial assurance required in Recommendation #2, Rule 12.4.1b requires demonstration and confirmation that the storm water management facilities have been constructed or installed and are functioning as designed and permitted. Verification, through daily observation logs and photographs, must be provided showing the storm water facilities used for volume retention have drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.

Board Action

It was moved by Manager _____, seconded by Manager _____ to approve permit application No. 2019-28 with the conditions recommended by staff.

Permit #: 2019-28
Project Name: Materials Research Building Construction for Donaldson Company – 1400 West 94th Street:
Bloomington
Approval Date: May 15, 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.2019-28

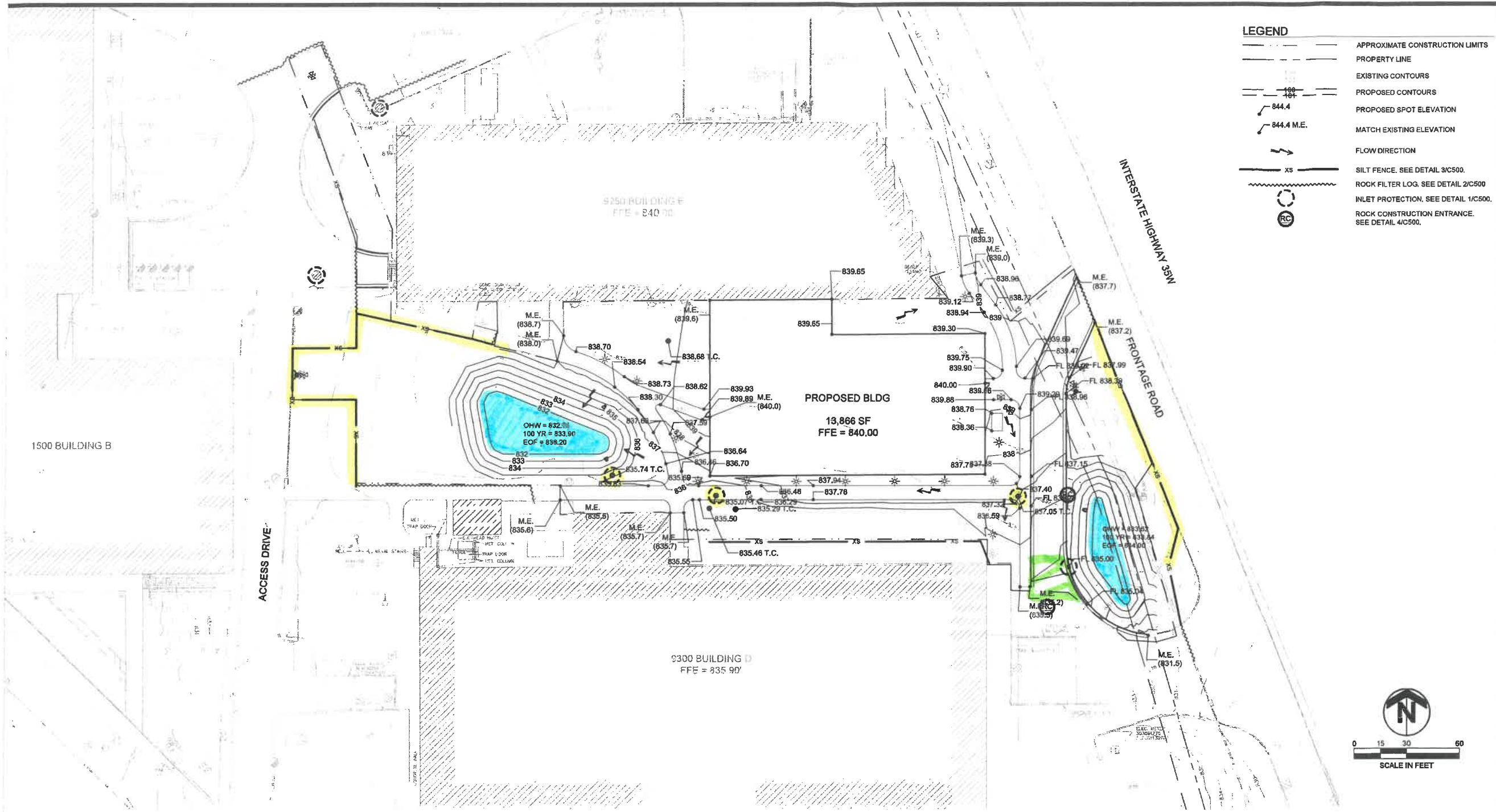
Is hereby issued to Michael Cregan, Donaldson Company, subject to the conditions specified in the attached form:

For construction of a Materials Research building addition located within the Donaldson's Company campus located at 1400 West 94th Street in Bloomington.

Jodi Peterson, Chair
Nine Mile Creek Watershed District

This permit expires on: June 1, 2020

May 03, 2019 - 3:04pm
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LEGEND

	APPROXIMATE CONSTRUCTION LIMITS
	PROPERTY LINE
	EXISTING CONTOURS
	PROPOSED CONTOURS
	PROPOSED SPOT ELEVATION
	MATCH EXISTING ELEVATION
	FLOW DIRECTION
	SILT FENCE. SEE DETAIL 3/C500.
	ROCK FILTER LOG. SEE DETAIL 2/C500
	INLET PROTECTION. SEE DETAIL 1/C500.
	ROCK CONSTRUCTION ENTRANCE. SEE DETAIL 4/C500.

Donaldson.
 FILTRATION SOLUTIONS

DONALDSON

1400 W 94th Street
 Bloomington, MN 55431
 www.donaldson.com

**MATERIALS
 RESEARCH
 CENTER**

CONFIDENTIAL

ALL CONTRACTORS AND SUBCONTRACTORS SHALL VERIFY ALL DIMENSIONS BY MEASUREMENT AT THE BUILDING AND/OR SITE

0 1
 BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS DRAWING ADJUST SCALES ACCORDINGLY.

GMP SET (NOT FOR CONSTRUCTION)

NO.	DATE	ISSUE RECORD
3	5-03-19	NMC WSD RESUBMITTAL
2	03-29-19	GMP SET (NOT FOR CONSTRUCTION)
1	03-20-19	DRC SITE PLAN SUBMITTAL

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

SIGNATURE: *Kraig Klund*
 PRINTED NAME: KRAIG KLUND
 LIC. NO.: 43955 DATE: 03-29-19

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

TKDA

DESIGNED	AMK	DRAWN	MTH	CHECKED	KEK
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**GRADING AND
 EROSION CONTROL
 PLAN**

C300
 17137.000

GRADING NOTES:

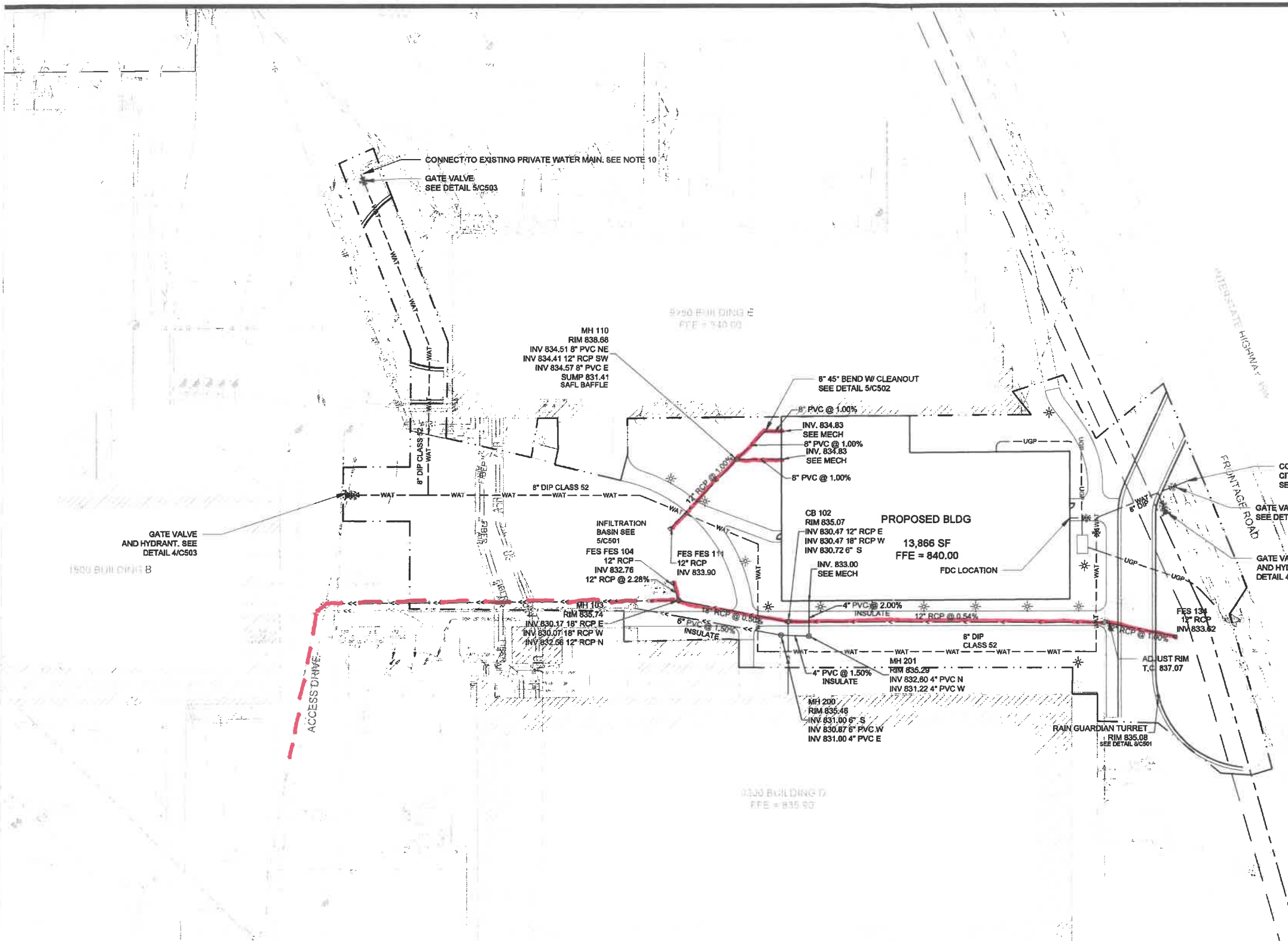
- SEE UTILITY PLAN FOR STORM SEWER AND OTHER UTILITY INFORMATION.
- THE CONTRACTOR SHALL STAGE CLEARING AND GRADING OPERATIONS TO THE EXTENT PRACTICAL TO REDUCE THE AMOUNT OF DISTURBED AREA TO THE MINIMUM REQUIRED FOR IMMEDIATE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL NOT CREATE ANY EARTH DISTURBANCE, REMOVE VEGETATION, OR OTHERWISE ENCROACH BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF UNDERGROUND UTILITIES THROUGH GOPHER STATE ONE CALL PRIOR TO COMMENCING DEMOLITION OR CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL UTILITY LOCATES. CONTOURS AND ELEVATIONS SHOWN REPRESENT FINISHED GRADE, UNLESS NOTED.
- THE CONTRACTOR SHALL TEST ROLL ALL SUBGRADES RECEIVING CONCRETE OR BITUMINOUS PAVEMENTS PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE COURSE.
- ALL SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2 PERCENT.
- ADJUST ALL EXISTING CATCH BASIN AND MANHOLE CASTINGS, VALVE BOXES AND OTHER STRUCTURES TO MATCH NEW PAVEMENT ELEVATIONS.
- BENCHMARKS:
 - TNH 1ST HYDRANT SOUTH OF 92ND ST. ON WEST SIDE OF FRONTAGE ROAD TO 35W. ELEVATION = 840.23
 - TNH 3RD HYDRANT NORTH OF 94TH ST. ON WEST SIDE OF FRONTAGE ROAD TO 35W. ELEVATION = 841.44.

SEDIMENT AND EROSION CONTROL NOTES:

- THE CONTRACTOR SHALL SEQUENCE THEIR WORK AS FOLLOWS:
- INSTALL SILT FENCE PRIOR TO GRADING OPERATIONS AND MAINTAIN THROUGHOUT CONSTRUCTION.
 - PROVIDE INTERIM INLET PROTECTION WITH SILT FENCE OR EQUIVALENT MEASURES FOR EXISTING CB'S AND/OR CULVERTS ON THE PROJECT SITE AND ANY OFF-SITE CB'S AND/OR CULVERTS RECEIVING DRAINAGE FROM THE PROJECT SITE.
 - INSTALL ROCK CONSTRUCTION ENTRANCE.
 - CONSTRUCT STORM WATER DETENTION PONDS AND ESTABLISH TURF OR TEMPORARY SEDIMENTATION BASINS AND SEED/MULCH WITH TEMPORARY EROSION CONTROL SEEDING.
 - PERFORM GRADING OPERATIONS. PROVIDE TEMPORARY EROSION AND SEDIMENT CONTROL FOR STOCKPILE AREAS DURING CONSTRUCTION. PROVIDE INLET PROTECTION ON NEW CB'S AND SEDIMENT CONTROL AS THE CONSTRUCTION PROGRESSES.
 - PROVIDE TEMPORARY COVER SEEDING ON ANY AREAS NOT WORKED FOR 7 DAYS ON FLATTER THAN 10:1 SLOPES, 7 DAYS ON 10:1 TO 3:1 SLOPES AND IMMEDIATELY ON STEEPER THAN 3:1 SLOPES.
 - COMPLETE GRADING OPERATIONS AND INSTALL PAVEMENTS, ESTABLISH TURF AND PROVIDE OTHER SITE IMPROVEMENTS.
 - GRADE TEMPORARY SEDIMENTATION BASIN AREAS TO FINAL GRADE.
 - INSTALL PERMANENT EROSION CONTROL (SODDING, SEEDING, MULCHING, EROSION CONTROL BLANKET, RIP RAP ETC.) ON ALL AREAS NOT ALREADY COMPLETED WITH FINAL TURF ESTABLISHMENT OR OTHER EROSION CONTROL.
 - REMOVE ROCK CONSTRUCTION ENTRANCE(S)
 - REMOVE SILT FENCE, ROCK CONSTRUCTION ENTRANCE AND CB INLET PROTECTION AFTER TURF IS ESTABLISHED.

#2019-28

May 03, 2018 - 3:05pm \\dasv01.tkda.com\projects\17137000\04_Production\01_CAD\02_Sheets\05_CivC400 UTILITY PLAN.dwg



LEGEND

(---)	APPROXIMATE CONSTRUCTION LIMITS
(---)	PROPERTY LINE
(---)	EASEMENT LINE
(---)	PROPOSED WATER LINE
(---)	PROPOSED UNDERGROUND POWER. SEE ELECTRICAL PLAN
(---)	PROPOSED STORM SEWER
(---)	PROPOSED STORM SEWER STRUCTURE SEE DETAIL 4/C501
(---)	PROPOSED SANITARY SEWER
(---)	PROPOSED SANITARY SEWER STRUCTURE SEE DETAIL 1/C502
(---)	EXISTING STORM SEWER
(---)	EXISTING SANITARY SEWER
(---)	PROPOSED FLARED END SECTION
(---)	HYDRANT SEE DETAIL 4/C503
(---)	VALVE SEE DETAIL 5/C503
(---)	BOLLARD LIGHT SEE ELECTRICAL SITE PLAN

- UTILITY NOTES:**
- LOCATES OF EXISTING UTILITIES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL RCP PIPE SHALL BE CLASS 5. ALL PVC PIPES SHALL BE SCH.40 OR SDR 26.
 - ADJUST ALL PLATES, LIDS, GRATES, CASTINGS, ETC FLUSH WITH NEW FINISHED GRADES.
 - COMPLY WITH ALL LOCAL AND STATE REQUIREMENTS FOR UTILITY INSTALLATION AND TESTING.
 - THE CONTRACTOR SHALL COMPLETE AN AS-BUILT SURVEY AND DRAWINGS AND SUBMIT THEM TO THE OWNER AT COMPLETION OF PROJECT. THE SURVEY SHALL INCLUDE TYPE, SIZE, LENGTH AND HORIZ. AND VERT. LOCATIONS OF PIPES AND DRAINAGE STRUCTURES.
 - CONTRACTOR SHALL OBTAIN A PUBLIC WORKS PERMIT FOR UNDER GROUND WORK WITHIN THE RIGHT-OF-WAY. PERMIT REQUIRED FOR REMOVALS OR INSTALLATION. CONTACT UTILITIES AT 952-563-4568 FOR PERMIT INFORMATION.
 - UTILITY PERMITS ARE REQUIRED FOR CONNECTIONS TO THE PUBLIC STORM, SANITARY, AND WATER SERVICE. CONTACT UTILITIES AT 952-563-8777 FOR PERMIT INFORMATION.
 - WATERMANS SHALL BE INSTALLED A MINIMUM OF 8 FEET DEEP AND A MAXIMUM OF 10 FEET DEEP, WITH A MINIMUM SEPARATION OF 10 FEET HORIZONTAL AND 18 INCHES VERTICAL FROM SEWERS.
 - ALL WATERMANS SHALL BE CLASS 52 DIP W/ MINIMUM 8 MIL. POLY WRAP.
 - TAPS OF LIVE WATERMANS ARE DONE BY CITY FORCES AND PAID AND COORDINATED WITH THE CONTRACTOR.
 - INSTALL INSULATION OVER SANITARY SEWER SERVICE LINE WITH LESS THAN 7' OF COVER PER DETAIL 6/C502.

DONALDSON

1400 W 94th Street
Bloomington, MN 55431
www.donaldson.com

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

SIGNATURE: *Kraig Klund*
 PRINTED NAME: KRAIG KLUND
 LIC. NO.: 43955 DATE: 03-28-19

444 Cedar Street, Suite 1500
 Saint Paul, MN 55101
 651.292.4400
 tkda.com

DESIGNED	DRAWN	CHECKED
AMK	MTH	KEK

UTILITY PLAN

STORM/SANITARY STRUCTURE TABLE

STRUCTURE NAME:	SIZE:	FRAME:	CASTING:	NOTES:
CB 102	48"	NEENAH R-1733	R-2573	DETAIL 4/C501
FES 104	12"			DETAIL 6/C501
FES 111	12"			DETAIL 6/C501
FES 134	12"			DETAIL 6/C501
MH 103	48"	NEENAH R-1733	SOLID VENTED LID	DETAIL 4/C501
MH 110	48"	NEENAH R-1733	SOLID VENTED LID	DETAIL 4/C501
MH 200	48"	NEENAH R-1733	SOLID VENTED LID	DETAIL 1/C501
MH 201	48"	NEENAH R-1733	SOLID VENTED LID	DETAIL 1/C501

C400
17137.000