Permit Application Review

Permit No. 2020-45 Received complete: May 14, 2020

Applicant:	Eric Hamilton, Edina Public Schools
Consultant:	David Rey, Anderson-Johnson Associates Inc.
Project:	Edina High School 2020 Athletic Field Improvements
Location:	6754 Valley View Road: Edina
Rule(s):	4, 5
Reviewer(s):	BCO/LLH

General Background & Comments

The project proposes athletic field improvements at Edina High School, 6754 Valley View Road in Edina, MN. Proposed athletic field improvements include replacement of the synthetic turf at the athletic field located on the west side of Edina High School. The existing athletic field footprint will be expanded to include synthetic turf at the rock mulch walking path surrounding the perimeter of the existing field. In addition to turf replacement, site improvements including construction of an ADA accessible path, retaining wall construction, seat wall improvements, utility improvements, landscaping, grading and stormwater infrastructure are proposed.

The 63.5-acre site includes adjoined parcels under common ownership with two schools on the property, Valley View Middle School (VVMS) and Edina High School (EHS). Two previous projects have been permitted on the site since Redevelopment Rule 4.2.3 became applicable - NMCWD Permits 2016-05 and 2020-18. The 2016 project was completed at Edina High School, 6754 Valley View Road. Work included construction of a building addition, parking area expansion, athletic field improvements and construction of a stormwater management facility. Proposed work for the permitted 2020 improvement project includes site and courtyard improvements at Valley View Middle School, 6750 Valley View Road. Proposed work includes replacement of an existing shed, loading dock improvements including replacement of concrete and asphalt pavement, interior courtyard renovations, and utility improvements.

Updated project site information based on the proposed 2020 EHS Athletic Field Improvements project is summarized below in conjunction with previous permit applications for the site. The project site information includes the following:

Site Information	Permit 2016-05 (acres)	Permit 2020-18 (acres)	Current Permit 2020-45 (acres)	Site Aggregate Total (acres)
Total Site Area	63.50	63.50	63.50	63.50
Existing Site Impervious Area	25.16	31.74	31.74	25.16 ¹
Proposed Site Impervious Area	31.74	31.74	31.86	31.86
New (increase) in Site Impervious Area	6.58 (26.2% increase)	0 (0% increase)	0.12 (0.4% increase)	6.70 (26.6% increase)²
Disturbed and Reconstructed Site Impervious Area	10.00 (39.8% increase)	0.13 (0.4% increase)	0.24 (0.8% increase)	10.37 (41.2% increase) ²
Total Disturbed Area	24.05	0.25	2.28	26.59

¹Pre-2016 project existing conditions

²Calculated based on pre-2016 project existing conditions (Common Scheme of Development Rule 4.2.5)

As previously stated, EHS conducted building additions and improvements at the project site in 2016. The 2016 project included construction of a 97,966 square foot building addition, expansion of the parking lot from 866 stalls to 931 stalls and reconstruction and construction of two artificial turf fields at the project site. Stormwater management was proposed and constructed as part of the 2016 EHS Renovations project and includes an underground infiltration system at the east side of the site beneath the constructed athletic fields. The constructed underground stormwater management facility (UGSWMF) provides rate control, volume retention and water quality management for the project site, including 26.6 acres of aggregate disturbed area resulting from the 2016 and two 2020 projects.

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 site or will increase the imperviousness of the entire site by more than 50%, stormwater management criteria of Rule 4.3 will apply to the entire project site. Otherwise, the stormwater requirements will apply only to the disturbed, replaced and net additional impervious surface on the project site. Stormwater management is therefore required for the aggregate disturbed area of 26.6 acres, including 10.4 acres of disturbed and reconstructed impervious surface and 6.7 acres of net additional impervious surface.

The District's requirements for both stormwater management and erosion and sediment control apply to the project because more than 5,000 square feet or more surface area will be disturbed, Rules 4.2.1a and b and 5.2.1a and b.

The project does not propose to fill or impact the 100-year floodplain of the creek, 853 M.S.L. - Atlas 14 management elevation.

A wetland boundary determination and MnRAM Assessment for the wetland areas on the School property were completed for the Three Rivers Regional Trail project. This information was provided to the School District by Three Rivers Park District. The District approved the boundary determination, July 2014, and accepted the MnRAM Assessment in August 2014.

The onsite wetlands were determined to be high value wetlands requiring a minimum buffer of 30 feet and an average buffer of 60 feet, Rule 3.4.1a. In conjunction with the 2016 EHS Renovations project, the District approved the wetland boundary determination and accepted the high value wetland determination for the wetland on the School District property. Wetland buffer requirements were approved and met as part of the 2016 EHS Renovation project, and the wetland buffer was constructed thereafter. No wetland fill or impacts within the onsite wetlands are proposed for the EHS 2020 Athletic Field Renovations project, Permit 2020-45.

Silt fence and a rock construction are shown to be installed for erosion control, and sod is utilized for permanent stabilization.

Braun Intertec conducted a geotechnical evaluation and performed standard penetration test (SPT) borings onsite throughout February, July, August and November 2015. The soil borings indicate that groundwater was encountered at a depth of 15 feet in boring ST 51-15, elevation 847.4 M.S.L. This boring (of the approximate 20 borings taken in the area) appears to have the highest elevation that groundwater was encountered.

Exhibits

- 1. Signed Permit Application dated April 13, 2020.
- 2. Plan sheets dated March 19, 2020 prepared by Anderson-Johnson Associates, Inc.
- 3. Stormwater Management Report dated April 10, 2020, revised May 13, 2020, prepared by Anderson-Johnson Associates, Inc. including the following supplemental items:
 - Existing HydroCAD model report dated December 22, 2015 prepared by Anderson-Johnson Associates, Inc.
 - Proposed HydroCAD model report dated May 13, 2020 prepared by Anderson-Johnson Associates, Inc.
 - P8 water quality modeling output report dated April 9, 2020 prepared by Anderson-Johnson Associates, Inc.
 - Phase 1 Environmental Site Assessment dated June 30, 2015 prepared by Braun Intertec.
 - Soil borings dated throughout February, July, August and November 2015 provided by Braun Intertec.
- 4. As-builts dated April 28, 2016 prepared by Contech Engineered Solutions, LLC.
- 5. E-mail correspondence dated April 30, 2020 indicating requests that needed to be addressed for the submittal to be considered complete.

The applicant with the revised submittal has addressed the items identified in our April 30, 2020 e-mail. The submittal is complete.

4.0 Stormwater Management

The underground stormwater management facility (UGSWMF) constructed in 2016, following issuance of Permit 2016-05, includes 20 rows of 60-inch perforated CMP with each row being 442 feet in length. The underground infiltration system was installed beneath the two artificial turf athletic fields on the east side of EHS. Stormwater modeling for existing pre-2016 project

conditions was provided. Stormwater modeling for proposed conditions was updated and provided to reflect the post-2020 projects' conditions.

The constructed UGSWMF was designed to meet stormwater management criteria for the 2016 project and two 2020 projects at the site under NMCWD Permits 2016-05, 2020-18 and 2020-45. The system will provide the rate control, volume retention and water quality management required to meet District Rule 4.3.1.

In order to meet the rate control criteria listed in Rule 4.3.1b, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates for pre- and post-development conditions for the 2-, 10-, and 100-year frequency storm events.

Modeled Discharge Location	2-Year Discharge 10 (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop
NMC Total	95.2	42.9	163.3	86.2	320.0	182.9
NMC West	36.3	27.4	60.7	44.4	115.8	82.6
NMC East (Constructed UGSWMF discharge)	43.3	4.0	70.6	16.5	132.4	38.1

The existing and proposed 2, 10 and 100 year frequency discharges from the site are:

The EHS Athletic Field 2020 Improvement project disturbed area is within NMC West modeled discharge location. Proposed discharge rates for the NMC Total modeled discharge location are based on the total post construction site impervious area of 31.86 acres, including 6.70 acres of net additional impervious surface and 10.37 acres of disturbed and reconstructed impervious surface as a result of the 2016 and two 2020 projects. Rule 4.3.1b is met.

In existing conditions, the majority of stormwater runoff from the EHS Athletic Field 2020 Improvement project disturbed area is conveyed to a pipe network via overland flow that eventually discharges to Nine Mile Creek. The project proposes construction of a subsurface drain tile system surrounding the perimeter of the proposed athletic field footprint. In proposed conditions, stormwater runoff from the athletic field drains to the 8-inch perforated drain tile system and is conveyed to the existing pipe network via two (2) existing catch basins located at southwest and northeast corners of the athletic field. The two (2) existing catch basins connect to the existing pipe network on the west side of the property and convey runoff to Nine Mile Creek.

As previously stated, the constructed underground infiltration system was designed to meet stormwater management criteria for the 2016 project and two 2020 projects at the site under NMCWD Permits 2016-05, 2020-18 and 2020-45.

The table below summarizes the volume retention for the site. The proposed project is in conformance with Rule 4.3.1a.

Site Information	Required Volume Retention Depth (inches)	Disturbed, Replaced and Net Additional Impervious Area (acres)	Required Abstraction Volume (cubic feet)	Provided Abstraction Volume (cubic feet)
Permit 2016-05	1.0	16.57	60172	81382
Permit 2020-18	1.1	0.13	535	-
Current Permit 2020-45	1.1	0.36	1438	-
Site Aggregate Total	_	17.06	62145	81382

Based on volume retention depth criteria outlined in the Nine Mile Creek Watershed District Rules in 2016 and 2020, the site aggregate volume required from the disturbed, replaced and net additional impervious surface as a result of the 2016 and two 2020 projects is 62,145 cubic feet. The constructed UGSWMF provides an available volume of 81,382 cubic feet (62,145 cubic feet required) to be drawn down within 48 hours over an area of 79,118 square feet for volume retention. The revised HydroCAD model dated May 13, 2020 identifies an infiltration area footprint adjusted from 71,177 square feet, permit 2020-18 submittal to 79,118 square feet, permit 2020-45 and 2016-05 submittals. We reviewed the submitted UGSWMF as-builts dated April 28, 2016 and concur with the revised HydroCAD model identifying a system outlet invert, 854 M.S.L. and footprint, 79,118 square feet. Rule 4.3.1a (ii) is met.

Soil borings were taken at the underground infiltration area on November 15, 2015 and indicate the underlying soils vary from silty sand (SM) to sandy lean clay (CL). Approximately 70% of the underground system is within the sandy soils and 30% within the clay soils. An infiltration rate of 0.45 inches/hour is used for the SM soil type material and 0.06 inches/hour for the CL soil type using design criteria outlined in the Minnesota Storm Water Manual.

In accordance with Rule 4.3.1a (i), where infiltration facilities, practices or systems are proposed, pretreatment of runoff must be provided. To comply with Rule 4.3.1a (i), 450 lineal feet of 84-inch CMP was constructed as a "clean-out" chamber (sump) for runoff prior to discharging to the infiltration area. This system was constructed as part of the 2016 EHS Renovation project. Rule 4.3.1a (i) is met.

As previously stated, the total disturbed, reconstructed and net additional impervious surface as a result of the 2016 project and two 2020 projects is 17.06 acres, including 6.70 acres of net additional impervious surface and 10.37 acres of disturbed and reconstructed impervious

surface. The UGSWMF receives site runoff from 18.10 acres (17.06 acres required) of impervious surface, including site runoff from the 2016 EHS and 2020 VVMS project disturbed areas. The District's water quality criterion requires a 60% annual removal efficiency for phosphorus and 90% annual removal efficiency for total suspended solids. A P8 model has been submitted showing that the constructed UGSWMF provides 99.6% (12,250 lbs.) annual removal for total suspended solids (TSS) and 95.2% (39 lbs.) annual removal efficiency of total phosphorus (TP) for water quality treatment. Water quality requirements identified in Rule 4.3.1c are met.

Rule 4.3.3.a states that 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 natural overflow of a waterbody. No new buildings will be constructed as part of the 2020 EHS Athletic Fields Renovation project. In addition, no new stormwater management facilities will be constructed; therefore, no adjacent habitable building will be brought into noncompliance with standards in Rule 4.3.3.

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.

Rule 4.5.4d (i) requires no evidence of groundwater or redoximorphic soil conditions within three (3) feet of the bottom of a stormwater management facility. The previously submitted soil borings dated November 15, 2015 indicate that groundwater was encountered at a depth of 15 feet in boring ST 51-15, elevation 847.4 M.S.L. This boring (of the approximate 20 borings taken in the area) appears to have the highest elevation that groundwater was encountered. The bottom of the constructed UGSWMF is 852 M.S.L., providing 4.6 feet of separation. Rule 4.5.4d (i) is met.

5.0 Erosion and Sediment Control

Silt fence and a rock construction is shown to be installed for erosion control, and sod is utilized for permanent stabilization.

The project contact is David Rey, Anderson-Johnson.

11.0 Fees

Because the property owner is a public entity, no fees are charged.

Rules 4.0 and 5.0

12.0 Financial Assurances

Because the property owner is a public entity, the District's financial assurance requirements do not apply.

Sureties for the project are:

Findings

The proposed project includes the information necessary, plan sheets and erosion control plan for review. Rules 4 and 5 are met.

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Recommendation

Approval, contingent upon:

1. General Conditions

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

- 1. Per Rule 4.5.8, an as-built drawing of the project conforming to the design specifications as approved by the District must be submitted. (Also required as a condition of Permits 2016-05 and 2020-18).
- 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. It is required that the chloride-management plan has been provided and approved by the District's Administrator.
- 3. Per Rule 4.2.1, the requirements of the Rule 4 Stormwater Management apply to landdisturbing activities that will disturb 5,000 square feet or more of surface area. For future development at the site, the applicant is required to evaluate compliance with stormwater management criteria based on land-disturbing activities in aggregate, with respect to all development and redevelopment that has occurred on the site or on adjacent sites under common or related ownership (Rule 4.2.5). Future redevelopment activities will be considered in aggregate and apply to disturbed, replaced and net additional impervious surface for the project site (Rule 4.2.3).



SAME BEFORE BEGINNING CONSTRUCTION.



FIELD IMPROVEMENTS EDINA HIGH SCHOOL

6754 Valley View Rd Edina, MN 55439

EDINA PUBLIC SCHOOLS - ISD #273 5701 NORMANDALE ROAD EDINA, MN 55424

	GENERAL NOTES	
1.	ALL CONSTRUCTION MUST COMPLY WITH APPLICABLE STATE AND LOCAL ORDINANCES.	
2.	THE CONTRACTOR WILL BE RESPONSIBLE FOR AND SHALL PAY FOR ALL CONSTRUCTION STAKING / LAYOUT.	
3.	THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL RELATED CONSTRUCTION PERMITS. SUBMIT A COPY OF ALL PERMITS TO THE LANDSCAPE ARCHITECT AND SCHOOL.	
4.	INSTALL CONTROL FENCING AND BARRICADING AS NECESSARY TO PROTECT THE PUBLIC.	
5.	INSPECT SITE TO DETERMINE EXTENT OF WORK AND NATURE OF MATERIALS TO BE HANDLED.	
6.	REFER TO SPECIFICATIONS FOR DEWATERING REQUIREMENTS.	
7.	CHECK ALL PLAN AND DETAIL DIMENSIONS AND VERIFY SAME BEFORE FIELD LAYOUT.	
8.	MAINTAIN ADJACENT PROPERTY AND PUBLIC STREETS CLEAN FROM CONSTRUCTION CAUSED DIRT AND DEBRIS ON A DAILY BASIS. PROTECT DRAINAGE SYSTEMS FROM SEDIMENTATION AS A RESULT OF CONSTRUCTION RELATED DIRT AND DEBRIS.	
9.	MAINTAIN DUST CONTROL DURING GRADING OPERATIONS.	
10.	ALL EROSION CONTROL METHODS SHALL COMPLY WITH MPCA AND LOCAL REGULATIONS.	
11.	CONTRACTOR SHALL MINIMIZE DISTURBANCE TO SITE AND PROTECT EXISTING SITE FEATURES (INCLUDING TURF AND VEGETATION) WHICH ARE TO REMAIN.	
12.	PROPOSED CONTOURS AND SPOT ELEVATIONS ARE SHOWN TO FINISH GRADE UNLESS OTHERWISE NOTED.	
13.	PROPOSED ELEVATIONS SHOWN TYPICALLY AS 85.1 OR 85 SHALL BE UNDERSTOOD TO MEAN 933.1 OR 933.	
14.	THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING QUANTITIES OF CUT, FILL AND WASTE MATERIALS TO BE HANDLED, AND FOR AMOUNT OF GRADING TO BE DONE IN ORDER TO COMPLETELY PERFORM ALL WORK INDICATED ON THE DRAWINGS. IMPORT SUITABLE MATERIAL AND EXPORT UNSUITABLE / EXCESS / WASTE MATERIAL AS REQUIRED. ALL COSTS ASSOCIATED WITH IMPORTING AND EXPORTING MATERIALS SHALL BE INCIDENTAL TO THE CONTRACT.	
15.	NO FINISHED SLOPES SHALL EXCEED 4' HORIZONTAL TO 1' VERTICAL (4:1), UNLESS OTHERWISE NOTED.	
16.	ALL DISTURBED AREAS WHICH ARE NOT DESIGNATED TO RECEIVE SYNTHETIC TURF OR PAVEMENT SHALL RECEIVE AT LEAST 6" OF TOPSOIL AND SHALL BE SODDED.	
17.	ALL DRAIN TILE OR OTHER POTENTIAL SOURCE FOR CONTAMINATION SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY FROM ANY WATERMAIN PER MINNESOTA PLUMBING CODE. THIS ISOLATION DISTANCE SHALL BE MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE (OUTER EDGE OF STRUCTURES OR PIPING OR SIMILAR).	
18.	LOCATE ALL EXISTING UTILITIES, VERIFY LOCATION, SIZE AND INVERT ELEVATION OF ALL EXISTING UTILITIES. VERIFY LOCATIONS, SIZES AND ELEVATIONS OF	1











NDERSON - JOHI ASSOCIATES

FIELD IMPROVEMENT EDINA HIGH SCHOOL

DRAWING INDEX & LOCATION MAP

C1.0	TITLE SHEET
C1.1	EXISTING CONDITIONS AND SITE REMOVALS PLAN
C1.2	SITE LAYOUT AND FINISHING PLAN
C1.3	GRADING AND DRAINAGE PLAN
C1.4	RETAINING WALL PLAN AND DETAIL
C2.1	SITE DETAILS



NO SCALE





THE CONTRACTOR SHALL HIRE THE SERVICES OF A UTILITY LOCATOR COMPANY TO LOCATE ALL PRIVATELY OWNED UTILITIES THAT MAY BE DISTURBED BY CONSTRUCTION OPERATIONS.

----- PROPERTY LINE







- E2 PROVIDE NEW 24"X24" FIBERMENT HAND HOLE TO ALLOW FOR EARIER TO SAND FOR FUTURE INSTALLATION AND PULLING OF FIELD LIGHTING CABLING. PROVIDE NEW 24"X24"X24" FIBERMENT HAND HOLE TO ALLOW FOR EXMPTY CONDUIT RISERS

GED ROCK MULCH OVER WEED BARRIER







- PROVIDE 9" (TYPICAL) 'STEPS' OF WALL HEIGHT IN ORDER TO MATCH GRADE OF CONCRETE 3. WALK AND DECORATIVE FENCE. USE 9" "STEPDOWN" BLOCK (2-SIDED AND 3-SIDED) AS REQUIRED.
- 4. SECURE STEPDOWN AND CAP BLOCKS TO FREESTANDING BLOCK WITH POLYURETHANE SEALANT.
- 5. CORE DRILL CAP AND UNDERLYING BLOCK TO RECEIVE FENCE POST. GROUT POST IN-PLACE PER DETAIL.











