Permit Application Review

Permit Modification No. 2019-131
Received complete: January 9, 2020

Applicant:	Martin Schreier: TVC Properties
Consultant:	Mike Kettler; Sunde Engineering
Project:	Outside Dog Area – Camp Bow Wow
Location:	10100 Viking Drive; Suite 200: Eden Prairie
Rule(s):	4, 5,11 and 12
Reviewer:	BCO

General Background & Comments

The project proposes the construction of an outdoor dog play area for Camp Bow Wow located at 10100 Viking Drive in Eden Prairie. Camp Bow Wow is a tenant within the office/warehouse complex, Southwest Crossing Tech Center, located in the northwest quadrant of the intersection of Golden Triangle Road and Viking Drive. The permit applicant is the property owner of the building complex, TVC Properties, with the applicant's contact a representative of Camp Bow Wow.

The project site information is:

- Site Area: 270,882 square feet
- Existing Impervious Area: 203,162 square feet
- Proposed Impervious Area: 203,000 square feet
- A net decrease of 162 square feet
- 0.08% reduction in the total site impervious area
- Total disturbed area: 3,850 square feet

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. The project will decrease the impervious surface on the property by 0.08% (162 square feet) and disturb a total area of 3,850 square feet. There is no proposed disturbed and reconstructed impervious area resulting from the project. The storm water criteria in Section 4.3.1 applies to the proposed 3,850 square feet of disturbed area of which 2,354 square feet is new proposed site imperious area (permeable pavers).

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.

Stormwater management is proposed to be provided within the foundation material (BMP) of the permeable pavers to be constructed as the dog walk area of the site.

Silt fence at the limits of construction is shown to be installed to provide for erosion control.

Exhibits

1. Permit Application dated November 4, 2019.
2. Plan sheets dated November 8, 2019, latest revision January 9, 2020, prepared by Sunde Engineering.
3. Storm water management computations dated October 30, 2019, latest revision dated January 8, 2020, prepared by Sunde Engineering.
4. Geotechnical information dated December 6, 2019 prepared by Soil Investigation & Design for the site.

4.0 Stormwater Management

Storm water management for compliance with Rule 4.3.1 is to be provided within the foundation material used for the permeable pavers constructed on the site. Rate control is provided by the proposed reduction in the on-site imperious area and further attenuated by the BMP.

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

Frequency	Existing Discharge to Golden Triangle Drive c.f.s.	Proposed Discharge to Golden Triangle Drive c.f.s.
2 year	<1.0	<1.0
10 year	<1.0	<1.0
100 year	1.0	<1.0

Rule 4.3.1b is met.

A volume retention of 216 cubic feet is required for 1.1-inches of runoff from the 2,354 square feet of site impervious area. The underground BMP will provide 314 cubic feet of volume retention assuming a 40% void ratio in the foundation material. The geotechnical report identifies the on-site underlying soils as silty clay loam (CL) having an infiltration rate of 0.2 inches/hour based on the Minnesota Stormwater Manual. Using this infiltration rate, an area of 270 square feet at a maximum depth of 0.8 feet is required for the 206 cubic feet of volume retention to be drawn down within 48 hours. An area of 2,354 square feet, the entire footprint of the paver area, is to be provided. 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 P8 model indicate the BMP will provide an annual removal efficiency of 99.8% for total suspended solids (2.7 lbs.) and an annual removal efficiency of 93.6% for total phosphorus (<0.1 lbs.). We are in agreement with the modeling results. 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. In addition, all new and reconstructed buildings must be constructed such that no opening where surface flow 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 and low opening elevation of the existing building is 883.7 M.S.L. The calculated 100-year frequency high water elevation of the BMP is 881.6 M.S.L. – a separation of 2.1 feet. The requirements of Rule 4.3.3c are met.

The geotechnical report indicates that redoximorphic was encountered at elevation 873.3 M.S.L. The interface elevation of the BMP and the native soil is 881.2 M.S.L. providing a separation of 7.9 feet. A minimum separation of 3 feet will be provided between the bottom of the infiltration area and groundwater as required by Rule 4.5.4d (i).

Pretreatment of storm water as required by Rule 4.3.1a (i) is provided by the filtration of the surface runoff through the foundation material below the permeable pavers. This filtration will provide the pretreatment as required by the rule.

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. The project contact is Diana Hall, Camp Bow Wow.

11.0 Permit Fees

Fees for the project are:

Rules 2.0-6.0	$1,500

12.0 Financial Assurances

Financial Assurances for the project are:

Rule 4.0 Volume Retention: 270 sq. ft. x $12/sq. ft. = $3,240	$3,240
Chloride Management:	$5000
Rule 5: Silt fence: 83 L.F. x $2.50/L.F. = $208	
Site restoration: 0.1 acres x $2500/ acre = $250	$458
Contingency and Administration	$1,602

Findings

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

1. Rules 4 and 5 are met.

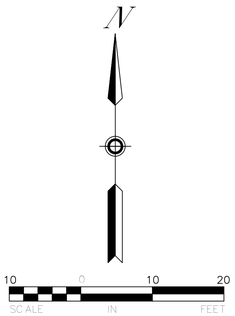
Recommendation

Approval, contingent upon:

1. General Conditions
2. Financial Assurance in the amount of $10,300 - $5,300 for storm water 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 storm water-management facility has been submitted to Eden Prairie (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 facility. 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 facility, including a stage volume relationship for the volume retention provided within the BMP, 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 $5,300 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.



APPROXIMATE DISTURBED AREA OF PROJECT = 3,850 SQUARE FEET

PERMEABLE PAVER SYSTEM PET SURFACING. SEE DETAIL FOR SECTION.

PAVER SURFACE AREA COVERS APPROXIMATELY 2,354 SQ. FT.

4" DEPTH OF SELECT GRANULAR BELOW UNDER DRAIN INVERT WITH 40% VOIDS STORES 314 CUBIC FEET

1.1" OF RAINFALL OVER THE PAVER SURFACE AREA YIELDS 216 CUBIC FEET.

PROTECT PAVEMENT AREA FROM COMPACTION BY HEAVY EQUIPMENT DURING CONSTRUCTION. NO STOCKPILING OF MATERIAL WITHIN PAVER AREA DURING CONSTRUCTION.

MODULAR BLOCK RETAINING WALL (HEIGHT AT OR BELOW 4' IN ALL LOCATIONS).

STAKE LOCATION OF UTILITY EASEMENT LINE PRIOR TO CONSTRUCTION OF RETAINING WALL AND FENCE.

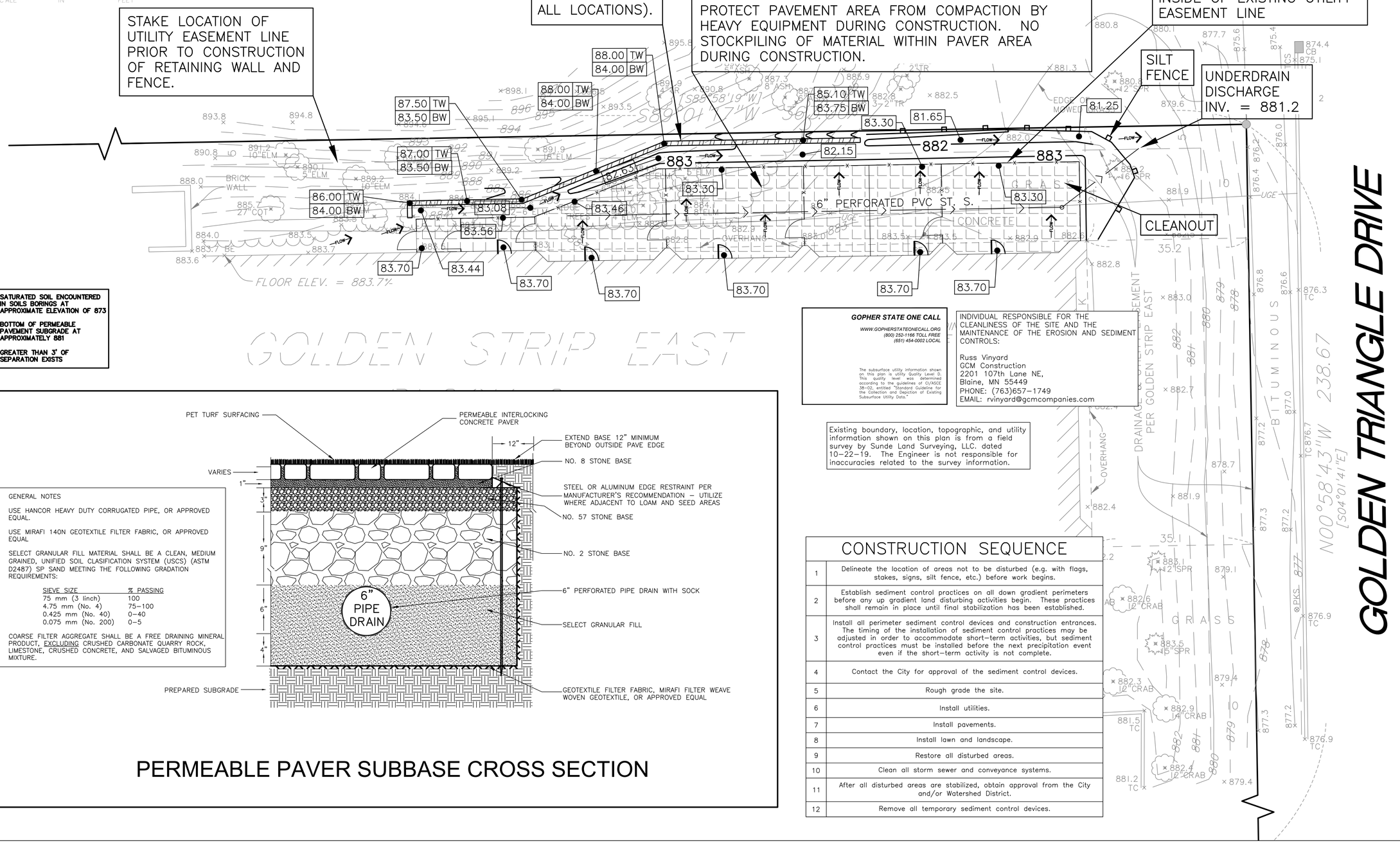
7' HIGH VINYL FENCE. SEE ARCHITECTURAL. LOCATION MUST BE STAKED INSIDE OF EXISTING UTILITY EASEMENT LINE

SILT FENCE

UNDERDRAIN DISCHARGE INV. = 881.2

CLEANOUT

6" PERFORATED PVC ST. S.



GOLDEN TRIANGLE DRIVE

SATURATED SOIL ENCOUNTERED IN SOILS BORINGS AT APPROXIMATE ELEVATION OF 873

BOTTOM OF PERMEABLE PAVEMENT SUBGRADE AT APPROXIMATELY 881

GREATER THAN 3' OF SEPARATION EXISTS

GOLDEN STRIP EAST

GENERAL NOTES

1. USE HANCOR HEAVY DUTY CORRUGATED PIPE, OR APPROVED EQUAL.
2. USE MIRAFI 140N GEOTEXTILE FILTER FABRIC, OR APPROVED EQUAL
3. SELECT GRANULAR FILL MATERIAL SHALL BE A CLEAN, MEDIUM GRAINED, UNIFIED SOIL CLASIFICATION SYSTEM (USCS) (ASTM D2487) SP SAND MEETING THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	% PASSING
75 mm (3 linch)	100
4.75 mm (No. 4)	75–100
0.425 mm (No. 40)	0–40
0.075 mm (No. 200)	0–5

4. COARSE FILTER AGGREGATE SHALL BE A FREE DRAINING MINERAL PRODUCT, EXCLUDING CRUSHED CARBONATE QUARRY ROCK, LIMESTONE, CRUSHED CONCRETE, AND SALVAGED BITUMINOUS MIXTURE.

PERMEABLE PAVER SUBBASE CROSS SECTION

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

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

INDIVIDUAL RESPONSIBLE FOR THE CLEANLINESS OF THE SITE AND THE MAINTENANCE OF THE EROSION AND SEDIMENT CONTROLS:

Russ Vinyard
GCM Construction
2201 107th Lane NE,
Blaine, MN 55449
PHONE: (763)657-1749
EMAIL: rvinyard@gcmcompanies.com

Existing boundary, location, topographic, and utility information shown on this plan is from a field survey by Sunde Land Surveying, LLC. dated 10-22-19. The Engineer is not responsible for inaccuracies related to the survey information.

CONSTRUCTION SEQUENCE

1	Delineate the location of areas not to be disturbed (e.g. with flags, stakes, signs, silt fence, etc.) before work begins.
2	Establish sediment control practices on all down gradient perimeters before any up gradient land disturbing activities begin. These practices shall remain in place until final stabilization has been established.
3	Install all perimeter sediment control devices and construction entrances. The timing of the installation of sediment control practices may be adjusted in order to accommodate short-term activities, but sediment control practices must be installed before the next precipitation event even if the short-term activity is not complete.
4	Contact the City for approval of the sediment control devices.
5	Rough grade the site.
6	Install utilities.
7	Install pavements.
8	Install lawn and landscape.
9	Restore all disturbed areas.
10	Clean all storm sewer and conveyance systems.
11	After all disturbed areas are stabilized, obtain approval from the City and/or Watershed District.
12	Remove all temporary sediment control devices.

Sunde Engineering, PLLC.
CONSULTING CIVIL ENGINEERS
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundecivil.com

CAMP BOW WOW

EDEN PRAIRIE, MN

DATE	REVISION
10/30/19	ORGINAL PLAN DATE
11/4/19	ROCK CONSTRUCTION ENTRANCE
11/6/19	WATERSHED COMMENTS
11/8/19	UPDATED GRADES
12/2/19	POROUS PAVERS
12/12/19	CITY COMMENTS
12/17/19	UPDATED FOR PERMITTING
12/19/19	SOIL BORING INFORMATION
12/23/2019	DEPTH OF PERMEABLE SECION
1/6/20	PERMEABLE CROSS SECTION
1/9/20	WATERSHED REVIEW

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.

Mike R. Kettler
DATE: 11/8/19 REG. NO.: 40425

INFORMATION:

PROJECT NO.: 19-569
DRAWN BY: jm
CHECKED BY: MK
APPROVED BY: MK
SCALE: 1" = 10'
DATE: 10/30/19

DESCRIPTION:

GRADING, DRAINAGE, AND EROSION CONTROL PLAN

SHEET NO:

C1