

Permit Application Review

Permit No. 2020-17
Received complete: March 17, 2020

Applicant: Kit Bennett; Opus Development Co, LLC
Consultant: Pete Moreau; Sambatek, Inc.
Project: Golden Triangle Industrial
Location: Golden Triangle Drive and Valley View Road: Eden Prairie
Rule(s): 2, 3, 4, 5
Reviewer(s): BCO/LLH

General Background & Comments

The project proposes the construction of a 1-story multiuse (warehouse, manufacturing and office) building located at the southwest quadrant of Golden Triangle Drive and Valley View Road in Eden Prairie, MN. Proposed site improvements include sidewalks, utilities, a stormwater management system, parking areas and landscaping. Currently, the site is effectively undeveloped with a wetland along the western boundary of the site. The proposed work will extend onto City of Eden Prairie right-of-way to “tie-in” with the existing topography and for the construction of the sidewalks as shown.

The South Fork of Nine Mile Creek is located west of the project site. The creek’s 100-year Atlas 14 flood elevation onsite is 841 M.S.L. The revised plans, dated March 16, 2020 show that no land-disturbing activities or alteration of flood flows in the floodplain are proposed by the project.

A wetland area onsite has been identified and the boundary delineated by the applicant’s wetland consultant, Sambatek, Inc. The District is the LGU administering the requirements of the Wetland Conservation Act in Eden Prairie. A Notice of Decision dated October 23, 2019 approving the wetland boundary was issued by the District. The wetland has been identified as a high value wetland requiring a minimum of 30 foot and 60 foot average buffer in accordance with Rule 3.4.1a of the District Rules. A MnRAM provided by the applicant dated September 11, 2019 was submitted to the District and we concur with a high value determination made for the wetland.

The site is 10.26 acres in area. The total disturbed area is 9.56 acres. The project proposes site plans for a Baseline User and an Alternate User. Stormwater management criteria

calculations are based on the more conservative user with a greater proposed impervious area, the Alternate User.

The proposed Baseline User project site information includes the following:

- Total Site Area: 10.26 acres (446,837 square feet)
- Existing Total Site Impervious Area: 1,740 square feet¹
- New Total Site Impervious Area: 274,626 square feet (an increase of 272,886 square feet in impervious area)
- 100% of existing impervious area will be disturbed

The proposed Alternate User project site information includes the following:

- Total Site Area: 10.26 acres (446,837 square feet)
- Existing Total Site Impervious Area: 1,740 square feet
- New Total Site Impervious Area: 275,995 square feet (an increase of 274,255 square feet in impervious area)
- 100% of existing impervious area will be disturbed

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, per Rules 4.2.1b and 5.2.1b, respectively.

Proposed stormwater management for the Baseline and Alternate Users will be provided by an infiltration basin that will provide volume retention, rate control and water quality management. The infiltration basin will receive runoff from the entire site including the proposed 1-story building, parking areas and grassed swales. The grassed swales will provide runoff detention and pretreatment before entering the infiltration basin. All site runoff will be conveyed from the infiltration basin and discharged into the existing wetland on the western border of the site.

Braun Intertec conducted a geotechnical evaluation and performed six standard penetration test (SPT) borings on-site. As identified by the geotechnical report, at the time of observation, the highest groundwater elevation was encountered at approximately 840 M.S.L. The geotechnical evaluation notes that previous geotechnical explorations conducted by Braun Intertec resulted in observed groundwater elevations ranging from 837 to 839 M.S.L.

The low floor elevation of the proposed building is 862.00 feet, providing 22 feet of separation between the building low floor and observed groundwater. No District rule requires a specific distance separation between the low floor elevation of a structure and groundwater; however, the applicant is advised that seasonal fluctuations of the groundwater elevation can occur.

For both the Baseline and Alternate Users, perimeter control is to be constructed at the limits of construction along the northern, western and southern boundaries of the property. Perimeter control will be provided at the perimeter of the proposed stormwater management

¹ The nominal area of imperviousness does not establish the site as "already developed" such that the project is "redevelopment" under the rules. The applicant is subject to no greater stormwater-management requirements under this determination than would apply if the site were already developed.

facility (Rule 5.3.1e). Inlet protection, a rock construction entrance, a temporary diversion ditch, and a temporary sedimentation basin will be provided for erosion prevention and sediment control.

The application is before the managers for decision because 5 acres increase in impervious area on the site exceeds 2.5 acres, causing it to exceed the administrator's delegated authority to approve permit applications under NMCWD Resolution 19-03.

Exhibits

1. Signed Permit Application dated February 19, 2020 and submitted February 21, 2020.
2. Plans dated February 12, 2020, revised March 16, 2020, prepared by Sambatek, Inc.
3. Stormwater Management Report dated February 18, 2020 prepared by Sambatek, Inc.
4. Geotechnical Evaluation Report dated December 2, 2020 prepared by Braun Intertec.
5. Wetland Delineation prepared by Sambatek, Inc. and type and boundary Notice of Decision from the District being the LGU in the City of Eden Prairie dated October 23, 2019.
6. MnRAM prepared by Sambatek, Inc. dated September 11, 2019 with concurrence of the high value determination by the District on January 13, 2020.
7. Notice of Decision dated January 3, 2020 indicating no wetland impacts on the site are proposed.
8. E-mail correspondence dated March 12, 2020 indicating three issues that needed to be addressed for the submittal to be complete.

The applicant with the revised submittal has addressed the items identified in our March 12, 2020 e-mail. The submittal is complete.

2.0 Floodplain Management and Drainage Alterations

A 100-year frequency floodplain elevation of 841 M.S.L. has been established along the South Fork of Nine Mile Creek, which is located west of the project site. The plans dated March 16, 2020 have been revised to show no floodplain impacts are proposed.

3.0 Wetlands Management

As previously stated, the wetland area on the site has been identified and boundary determined by the permit applicant's wetland consultant. The District, being the LGU administering the requirements of the Wetland Conservation Act, has issued a Notice of Decision dated October 23, 2019, approving of the wetland boundary determination. The wetland has been identified as a high value wetland requiring a minimum 30 foot and 60 foot average buffer in accordance with section 3.4.1a of the District rules. We concur with the high value determination for the wetland.

As identified in the site plans for the Baseline and Alternate Users (Sheets C3.01 and 3.02), an area of 43,721 square feet is required for the 60 foot average buffer. The site plans for both users show a buffer area of 44,581 square feet will be provided (Rule 3.4.1a). The plans are in conformance with the minimum buffer width required by District criteria.

The proposed on-site stormwater management facility is shown to be constructed within the buffer area. Rule 3.4.6 allows for the construction of stormwater facilities within a buffer area.

4.0 Stormwater Management

The proposed work includes an infiltration basin located at the northwest corner of the project site for both the Baseline and Alternate Users. The infiltration basin will provide volume retention, rate control and water quality management.

Proposed runoff from the entire for both the Baseline and Alternate Users will be conveyed to the infiltration basin, which outlets to an existing wetland along the western boundary of the project site.

Stormwater management modeling was conducted by the applicant based on Alternate User information, as the proposed impervious area for the Alternate User is greater and results in a more conservative stormwater management facility design. The resulting total proposed impervious surface amount for the Alternate User is 1,369 square feet greater than the Baseline User. The existing and proposed 2, 10 and 100 year frequency discharges from the Alternate User are as follows:

Frequency	Existing Discharge c.f.s.	Proposed Discharge c.f.s.
2 year	2.6	1.9
10 year	12.4	11.4
100 year	40.6	35.5

Rule 4.3.1b is met.

An infiltration volume of 25,300 cubic feet is required for 1.1-inches of runoff from the 275,995 square feet of proposed Alternate User site impervious area.

Soil borings indicate the underlying soils as poorly graded sands (SP) and silty sands (SM) throughout the site. The soil boring site at the proposed infiltration basin location (ST-107) indicates poorly graded sands at the elevation of the proposed bottom of the infiltration basin, 845.67 feet with an infiltration rate of 0.8 inches/hour using the Minnesota Stormwater Manual, based on identification of HSG Type A soils at this location.

The proposed bottom of the infiltration system is at an elevation of 845.67 M.S.L. with an outlet invert elevation at 848.25 M.S.L., resulting in an infiltration system depth of approximately 2.58 feet. An area of 9,806 square feet is required for volume retention using a design infiltration rate of 0.8 inches/hour and a proposed infiltration system depth of 2.58 feet.

In accordance with Rule 4.3.1a, retention onsite of 1.1 inches of runoff from the regulated impervious surface of the parcel was calculated using the proposed Alternate User site impervious. Based on the stormwater management system modeling stage-area storage for the infiltration basin, the stormwater management facility will provide a volume of approximately 25,840 cubic feet at a depth of 2.58 feet. The identified stage-area storage

footprint area for the infiltration basin is 12,432 square feet. Therefore, volume retention criteria identified in Rule 4.3.1a is met.

In accordance with Rule 4.3.1a (i), where infiltration facilities, practices or systems are proposed, pretreatment of runoff must be provided. Proposed pretreatment will be achieved with curb-cut filter boxes (Rain Guardian Bunkers), grassed swales, sump manholes and cleanouts. The Rain Guardian Bunkers will be installed at the eastern parking lot and will remove initial larger sediments, trash and debris for site runoff entering the grassed swales. The grassed swales will act as pretreatment for runoff conveyed to the northwest infiltration basin. Sump catch basins and manholes will provide pretreatment for runoff from the southern and western parking areas.

Runoff from the roof drains is proposed to flow untreated into the infiltration basin. The stormwater report notes that sediment and debris build-up on the proposed Thermoplastic Polyolefin (TPO) roof membrane that is a "clean-surface" without shingle gravel that can wash off and be discharge to the infiltration facility. The roof material to be used, in our opinion, I complies with the objective of Rule 4.3.1a (i) in providing pretreatment of runoff from the building roof.

The maximum inundation depth allowable for the volume retention of 25,300 cubic feet to be drawn down within 48 hours using an infiltration rate of 0.8 inches/hour is 3.2 feet. The proposed infiltration basin provides a depth of 2.58 feet. Therefore, the infiltration facility drawdown requirement identified in Rule 4.3.1.a (ii) 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 indicate the infiltration basin will provide an annual removal efficiency of 95% (1,955 lbs.) for Total Suspended Solids and 95% (11.1 lbs.) for Total Phosphorus. Therefore, 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. The 100-year frequency floodplain of the South Fork of Nine Mile Creek is 841 M.S.L. The proposed low floor elevation for the building is 862 feet, providing 21 feet of separation. The 100-year high water elevation for the proposed infiltration basin is 851.75 M.S.L., providing a separation of 10.25 feet between the proposed finished floor elevation of the building and the 100-year frequency high water elevation of the stormwater management facility. The 100-year high water elevation for the swale located at the northeast corner of the site which provides pretreatment for the infiltration basin is 858.51 M.S.L., providing 3.49 feet of separation.

As previously stated, the soil boring logs indicate that the highest groundwater elevation was encountered at 840 M.S.L. The proposed bottom of the infiltration system is 845.67 M.S.L., resulting in a separation of 5.67 feet. A minimum 3-foot separation is required between the bottom of an infiltration basin and groundwater. Therefore, Rule 4.5.4.d (i) is met.

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

Erosion prevention and sediment control will be provided in two phases for the proposed Baseline and Alternate User site plans. Perimeter control is to be constructed at the limits of construction along the northern, western and southern property boundaries, and at the perimeter of the proposed infiltration basin. Additional perimeter controls will be implemented along the western property boundary upgradient of the existing wetland. Inlet protection, a rock construction entrance, a temporary diversion ditch, and a temporary sedimentation basin will be provided for erosion prevention and sediment control.

The project contact identifying the individual responsible for maintenance of all erosion and sediment control measures (Rule 5.4.2c) is required prior to issuance of permit.

11.0 Fees

Fees for the project are:

Rules 2.0, 4.0 and 5.0 \$3,000

12.0 Financial Assurances

Financial Assurances for the project are:

Rule 3: Wetlands Management \$5,000

Rule 4: Volume Retention: 9,806 sq. ft. x \$12/sq. ft. = \$117,672 \$117,672

Chloride Management: \$5,000

Rule 5: Perimeter control: 3,275 L.F. x \$2.50/L.F.= \$8,188

Inlet Control: 23 x \$100/each = \$2,300

Site restoration: 9.6 acres x \$2500/acre = \$24,000 \$34,488

Contingency and Administration \$67,640

Findings

The proposed project includes the information necessary, plan sheets and erosion control plan for review. Rules 2, 3, 4 and 5 are met.

Recommendation

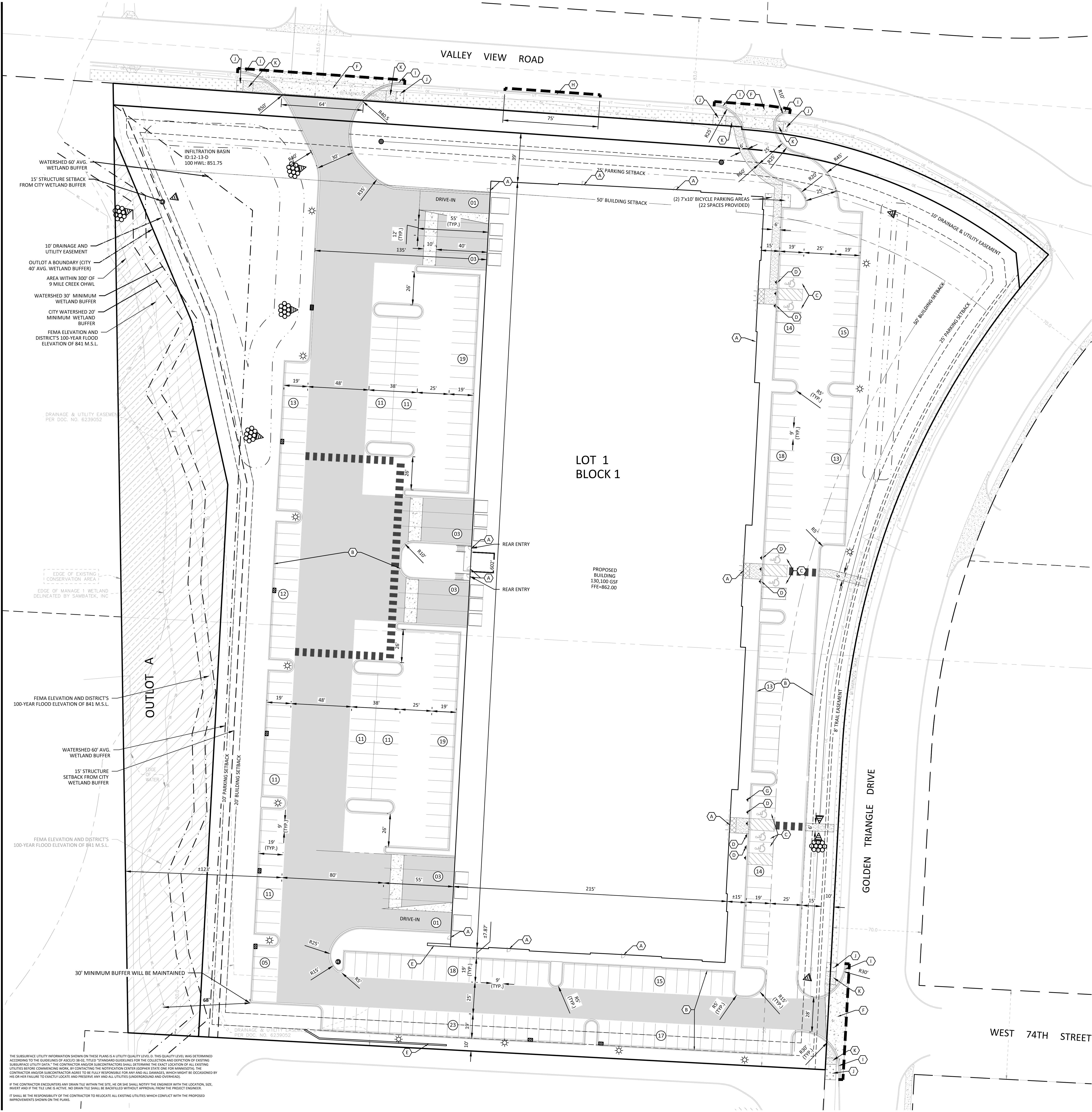
Approval, contingent upon:

1. General Conditions
2. Financial Assurance in the amount of \$229,800, \$224,800 for wetland management, stormwater management, erosion control, and site restoration, and \$5,000 for compliance with the chloride management requirements.
3. Submittal of written documentation demonstrating that the necessary approval and permissions have been obtained from the City of Eden Prairie to perform proposed work for land disturbing activities that will occur within City of Eden Prairie property.
4. Submittal of documentation that a drainage easement over hydrologic features has been submitted to the City of Eden Prairie (Rule 4.5.4i), if such easement is required by the City.

5. A receipt showing recordation of a maintenance declaration for the wetland buffer and on-site stormwater management system. A draft of the declaration must be approved by the District prior to recordation.
6. To fully comply with Rule 5.3.3.c, the erosion control notes should be amended to state that all disturbed areas must be finally stabilized within 14 days of completion of land alteration.
7. To fully comply with Rule 5.3.4.e, the general erosion control note 21 on Sheet C5.04 should be amended to include that stockpiled soils and other materials subject to erosion are protected by established vegetation, anchored straw or mulch, rolled erosion control product or other durable covering; a barrier prevents movement of eroded materials from the location.

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 stormwater facility conforming to the design specifications, including a stage volume relationship in tabular form for the underground infiltration system.
2. Buffer markers for compliance with Rule 3.4.5 are required. The buffer areas will be created in compliance with Rule 3.4.6.
3. 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.
4. For the release of the \$224,800 financial assurance required, Rule 12.4.1b requires demonstration and confirmation that the stormwater management facility has been constructed or installed and is functioning as designed and permitted. Verification, through daily observation logs and photographs, must be provided showing the stormwater facilities used for volume retention have drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.



LEGEND

PROPERTY LIMIT	PROPOSED	EXISTING	STANDARD DUTY ASPHALT PAVING
CURB & GUTTER	---	---	HEAVY DUTY ASPHALT PAVING
EASEMENT	---	---	CONCRETE PAVING
BUILDING	---	---	CONCRETE SIDEWALK
RETAINING WALL	---	---	PROPOSED CONSERVATION EASEMENT
WETLAND LIMITS	---	---	9 MILE CREEK OHWL 300' OFFSET
TREELINE	---	---	ARCH/STRUCTURAL PAVEMENT
FUTURE DESIGN BY OTHERS	---	---	EXISTING BITUMINOUS TRAIL
SAWCUT LINE	---	---	
SIGN	●	●	
PIPE BOLLARD	○	○	
NUMBER OF PARKING STALLS PER ROW	XX	XX	
KEY NOTE	XX	XX	

DEVELOPMENT SUMMARY

AREA		
GROSS SITE AREA	446,837 SF	10.26 AC
LESS OUTLOT A	43,824 SF	1.01 AC
LESS R.O.W.	12,494 SF	0.29 AC
NET SITE AREA	390,519 SF	8.96 AC
GROSS FLOOR AREA		
WAREHOUSE	65,050 SF	1.49 AC
OFFICE	32,525 SF	0.75 AC
MANUFACTURING	33,525 SF	0.75 AC
BUILDING FOOTPRINT	130,100 SF	2.99 AC
PARKING LOT AREA	145,895 SF	3.35 AC
PARKING GREEN SPACE REQUIRED (5%)	7,295 SF	(5.0%)
PARKING GREEN SPACE PROVIDED (5.4%)	7,858 SF	(5.4%)
EXISTING IMPERVIOUS AREA	1,740 SF	(0.5%)
EXISTING PERVIOUS AREA	388,779 SF	(99.5%)
PROPOSED IMPERVIOUS AREA	275,995 SF	(70.7%)
PROPOSED PERVIOUS AREA	114,524 SF	(29.3%)
WETLAND BUFFER SUMMARY		
WATERSHED 60' AVERAGE WETLAND BUFFER REQUIRED	43,721 SF	1.00 AC
WATERSHED 60' AVERAGE WETLAND BUFFER PROVIDED	44,581 SF	1.02 AC
CITY 40' AVERAGE WETLAND BUFFER REQUIRED	28,401 SF	0.65 AC
CITY 40' AVERAGE WETLAND BUFFER PROVIDED	28,477 SF	0.65 AC
MAXIMUM BASE AREA RATIO (BAR)		0.3
PROVIDED BASE AREA RATIO (BAR)		0.35
MAXIMUM FLOOR AREA RATIO (FAR)		0.3 (1-STORY)
PROVIDED FLOOR AREA RATIO (FAR)		0.35
BUILDING SETBACKS		
FRONT YARD		50 FEET
REAR YARD		25 FEET
SIDE YARD		20 FEET
PARKING SETBACKS		
FRONT YARD		25 FEET
REAR YARD		10 FEET
SIDE YARD		10 FEET
ZONING		
EXISTING ZONING		I-2
PROPOSED ZONING		PUD
PARKING INFORMATION		
OFFICE (15/1000) 25%		163 STALLS
W.H. (1/1000) 35%		98 STALLS
W.H. (0.5/1000) 50%		33 STALLS
TOTAL REQUIRED		294 STALLS
PARKING PROVIDED		
AUTO PARKING		294 STALLS
DOCK DOORS		12 STALLS
DRIVE-IN DOORS		2 STALLS
BICYCLE SPACES		22 SPACES
ACCESSIBLE PARKING SUMMARY		
ACCESSIBLE REQUIRED		7 STALLS
ACCESSIBLE PROVIDED		7 STALLS

- DEVELOPMENT NOTES**
- ALL DIMENSIONS ARE ROUNDED TO THE NEAREST TENTH FOOT.
 - ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL REVIEW PAVEMENT GRADIENT AND CONSTRUCT "GUTTER OUT" WHERE WATER DRAINS AWAY FROM CURB. ALL OTHER AREAS SHALL BE CONSTRUCTED AS "GUTTER IN" CURB. COORDINATE WITH GRADING CONTRACTOR.
 - ALL AREAS ARE ROUNDED TO THE NEAREST SQUARE FOOT.
 - ALL PARKING STALLS TO BE 9' IN WIDTH AND 19' IN LENGTH UNLESS OTHERWISE INDICATED.
 - CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF EXIT PORCHES, RAMPS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
 - SEE ARCHITECTURAL PLANS FOR SIGN DETAILS.
 - SEE ARCHITECTURAL PLANS FOR LIGHT POLE FOUNDATION DETAIL AND FOR EXACT LOCATIONS OF LIGHT POLE.
 - REFER TO FINAL PLAT FOR LOT BOUNDARIES, LOT NUMBERS, LOT AREAS, AND LOT DIMENSIONS.
 - ALL GRADIENTS ON SIDEWALKS ALONG THE ADA ROUTE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% (1:20), EXCEPT AT CURB RAMPS (1:12), AND A MAXIMUM CROSS SLOPE OF 1.49% (1:67). THE MAXIMUM SLOPE IN ANY DIRECTION ON AN ADA PARKING STALL OR ACCESS AISLE SHALL BE 2.08% (1:48). THE CONTRACTOR SHALL REVIEW AND VERIFY THE GRADIENT IN THE FIELD ALONG THE ADA ROUTES PRIOR TO PLACING CONCRETE OR BITUMINOUS PAVEMENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE GRADIENT IN THE FIELD VERSUS THE DESIGN GRADIENT AND COORDINATE WITH GRADING CONTRACTOR.
 - "NO PARKING" SIGNS SHALL BE PLACED ALONG ALL DRIVEWAYS AS REQUIRED BY CITY.

- KEY NOTES**
- BUILDING, STOOPS, STAIRS (SEE ARCHITECTURAL PLANS)
 - B-612 CONCRETE CURB AND GUTTER
 - ACCESSIBLE STALL STRIPING
 - ACCESSIBLE PARKING SIGN
 - RETAINING WALL
 - COMMERCIAL DRIVEWAY (SEE DETAIL R-14 ON C7.01)
 - EV CHARGING STATION
 - B-618 CONCRETE CURB AND GUTTER (MATCH VALLEY VIEW RD. EXISTING CURB)
 - 10' TRANSITION TO EXISTING CURB
 - REPLACE PUBLIC BITUMINOUS TRAIL PER CITY STANDARDS
 - PEDESTAL RAMP

OPUS

Opus AE Group, L.L.C.
10350 Glen Road West
Minnetonka, MN 55343-0110
952-856-4444

Opus Design Build, L.L.C.
10350 Glen Road West
Minnetonka, MN 55343-0110
952-856-4444

Opus Development Company, L.L.C.
10350 Glen Road West
Minnetonka, MN 55343-0110
952-856-4444

Sambatek
www.sambatek.com

12800 Whitewater Drive, Suite 300
Minnetonka, MN 55343
763.476.6010 telephone
763.476.6032 facsimile

Engineering | Surveying | Planning | Environmental

GOLDEN TRIANGLE

LOCATION
EDEN PRAIRIE, MN

PROJECT NUMBER
31763000

ISSUE RECORD

11/26/2019
01/03/2020
02/12/2020 CITY COMMENTS
03/03/2020 CITY COMMENTS
03/16/2020 NMCWD COMMENTS

PRELIMINARY SET
02/12/2020

DATE
02/12/2020

PROJECT MANAGER
SCOTT SHIFFLETT

DRAWN BY
CSD

CHECKED BY
BDB

REGISTRATION

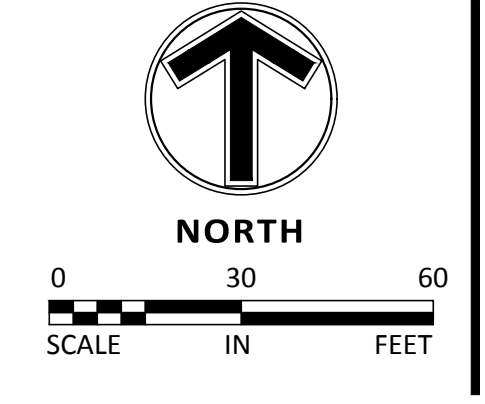
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed professional ENGINEER under the laws of the state of Minnesota.

Brady D. Busselman
Registration No. 44579 Date: 02/12/2020

If applicable, contact us for a wet signed copy of this plan which is available upon request at Sambatek's, Minnetonka, MN office.

SHEET TITLE
ALTERNATE USER SITE PLAN

SHEET NUMBER
C3.02



THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF AASHTO 18-82, TITLED "STANDARD GUIDELINES FOR THE COLLECTION AND REPORTING OF EXISTING SURFACE UTILITY DATA." THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. BY CONTRACTING THE NOTIFICATION CENTER (NOC) FOR MINNESOTA, THE CONTRACTOR AND/OR SUBCONTRACTOR AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES, WHICH MIGHT BE OCCASIONED BY HIS OR HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES UNDERGROUND AND OVERHEAD.

IF THE CONTRACTOR ENCOUNTERS ANY UNKNOWNS UTILITIES WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, INVERT AND IF THE UTILITY IS ACTIVE. NO DRAIN TILE SHALL BE BACKFILLED WITHOUT APPROVAL FROM THE PROJECT ENGINEER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.



LEGEND

PROPOSED LIMIT CURB & GUTTER	EXISTING
STORM SEWER	
DRAIN TILE	
BUILDING	
RETAINING WALL	
WETLAND LIMITS	
TREELINE	
SPOT ELEVATION	902.5
CONTOUR	902.5
RIP RAP	902.5
OVERFLOW ELEV.	902.5
SOIL BORINGS	ST 5 902.5
PROPOSED CONSERVATION EASEMENT	
9 MILE CREEK OHWL 300' OFFSET	
OVERLAND FLOW	

- GRADING NOTES**
- PROPOSED CONTOURS ARE TO FINISHED SURFACE ELEVATION. SPOT ELEVATIONS ALONG PROPOSED CURB DENOTE GUTTER GRADE.
 - CONTRACTOR SHALL REVIEW PAVEMENT GRADIENT AND CONSTRUCT "GUTTER OUT" WHERE WATER DRAINS AWAY FROM CURB. ALL OTHER AREAS SHALL BE CONSTRUCTED TO "GUTTER OUT".
 - ALL GRADIENT ON SIDEWALKS ALONG THE ADA ROUTE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 1% (1:100), EXCEPT AT CURB RAMPS (1:32), AND A MAXIMUM CROSS SLOPE OF 1.49% (1:67). MAXIMUM SLOPE IN ANY DIRECTION ON AN ADA PARKING STALL OR ACCESS AISLE SHALL BE IN 2.08% (1:48). CONTRACTOR SHALL REVIEW AND VERIFY THE GRADIENT IN THE FIELD ALONG THE ADA ROUTES PRIOR TO PLACING CONCRETE OR BITUMINOUS. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE GRADIENT IN THE FIELD VERSUS THE DESIGN GRADIENT. COORDINATE ALL WORK WITH PAVING CONTRACTOR.
 - CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT. CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
 - SAFETY NOTES TO CONTRACTORS: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR THE DEVELOPER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE.
 - CONTRACTOR SHALL COMPLETE THE SITE GRADING CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER'S SOILS ENGINEER. ALL SOIL TESTING SHALL BE COMPLETED BY THE OWNER'S SOILS ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED SOIL TESTS AND INSPECTIONS WITH THE SOILS ENGINEER.
- A GEOTECHNICAL ENGINEERING SOILS REPORT HAS BEEN COMPLETED BY:
- COMPANY: BRIAN INTEREC CORPORATION
 ADDRESS: 11031 HAMPSHIRE AVENUE S, MINNEAPOLIS, MN 55438
 PHONE: 952.995.2000
 DATED: 9/23/2019
- CONTRACTOR SHALL OBTAIN A COPY OF THE SOILS REPORT.

- CONTRACTOR SHALL COMPLETE DEWATERING AS REQUIRED TO COMPLETE THE SITE GRADING CONSTRUCTION.
- PRIOR TO PLACEMENT OF THE AGGREGATE BASE, A TEST ROLL SHALL BE PERFORMED ON THE STREET AND PARKING AREA SUBGRADE. CONTRACTOR SHALL PROVIDE A LOADED TANDEN AXLE TRUCK WITH A GROSS WEIGHT OF 25 TONS. THE TEST ROLL SHALL BE IN THE DIRECTION OF THE SOILS ENGINEER AND SHALL BE COMPLETED AND DIRECTED BY THE SOILS ENGINEER. CORRECTION OF THE SUBGRADE SOILS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SOILS ENGINEER.
- REPLACE ALL SUBGRADE SOIL DISTURBED DURING THE CONSTRUCTION THAT HAS BECOME UNSUITABLE AND WILL NOT PASS A TEST ROLL. REMOVE UNSUITABLE SOIL FROM THE SITE AND IMPORT SUITABLE SOIL AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGMEN AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARDS.
- EXISTING TREES AND OTHER NATURAL VEGETATION WITHIN THE PROJECT AREA OF PRIME CONCERN TO THE CONTRACTOR'S OPERATIONS AND SHALL BE A RESTRICTED AREA. CONTRACTOR SHALL PROTECT TREES TO REMAIN AT ALL TIMES. EQUIPMENT SHALL NOT NECESSARILY BE UNDER TREES AND EXTREME CAUTION SHALL BE EXERCISED WHEN WORKING ADJACENT TO TREES. SHOULD ANY PORTION OF THE TREE BRANCHES REQUIRE REMOVAL TO PERMIT OPERATION OF THE CONTRACTOR'S EQUIPMENT, CONTRACTOR SHALL OBTAIN THE SERVICES OF A PROFESSIONAL ARBORIST PRIOR TO THE BEGINNING OF OPERATION. SHOULD CONTRACTOR'S OPERATIONS RESULT IN THE BREAKING OF ANY LIMBS, THE BROKEN LIMBS SHOULD BE REMOVED IMMEDIATELY AND CUTS SHALL BE PROPERLY PROTECTED TO MINIMIZE ANY LASTING DAMAGE TO THE TREE. NO TREES SHALL BE REMOVED WITHOUT AUTHORIZATION BY THE ENGINEER. COSTS FOR TRIMMING SERVICES SHALL BE CONSIDERED INCIDENTAL TO THE GRADING CONSTRUCTION AND NO SPECIAL PAYMENT WILL BE MADE.
 - RESTRICTED AREAS SHALL INCLUDE ALL DESIGNATED TREE AREAS OUTSIDE OF THE DESIGNATED CONSTRUCTION ZONE. ALL VEGETATION WITHIN THE RESTRICTED AREAS SHALL REMAIN.
 - CONTRACTOR SHALL RESTRICT ALL GRADING AND CONSTRUCTION ACTIVITIES TO AREAS DESIGNATED ON THE PLANS. ACTIVITIES WITHIN THE CONSTRUCTION ZONE MAY BE RESTRICTED TO A NARROWER WIDTH IN THE FIELD TO SAVE ADDITIONAL TREES AS DIRECTED BY THE OWNER.
 - ACTIVITIES PROHIBITED OUTSIDE OF THE CONSTRUCTION BOUNDARIES WOULD INCLUDE, BUT NOT BE LIMITED TO: SOIL AND OTHER MATERIAL STOCKPILING, EQUIPMENT OR MACHINERY STORAGE, DRIVING OF ANY VEHICLE, LEAKAGE OR SPILLAGE OF ANY "WASHOUT" OR OTHER TOXIC MATERIAL. THE COLLECTION OF OTHER DEBRIS AND SOIL STOCKPILING WILL BE IN AN AREA DETERMINED ON-SITE BY THE ENGINEER.
 - ALL RESTRICTED AREAS SHALL BE FENCED OFF WITH BRIGHT ORANGE POLYETHYLENE SAFETY TIGHTING AND STEEL STAKES AS SHOWN ON THE TREE PROTECTION DETAIL. AT NO TIME SHALL THIS FENCING BE REMOVED OR ACTIVITY OF ANY KIND TAKE PLACE WITHIN IT. FINAL PLACEMENT OF ALL PROTECTIVE FENCING SHALL BE COMPLETE BEFORE ANY WORK COMMENCES ON-SITE.
 - BEFORE COMMENCING WITH ANY EXCAVATION CONTRACTOR SHALL COMPLETE ALL PREPARATORY WORK REGARDING TREE REMOVAL, ROOT PRUNING, TREE PRUNING AND STUMP REMOVAL TO THE SATISFACTION OF THE OWNER.
 - PREPARATORY WORK SHALL INCLUDE THE FOLLOWING AND SHALL BE COMPLETED UNDER THE DIRECT SUPERVISION OF THE OWNER'S REPRESENTATIVE.
 - TREE REMOVAL: CONTRACTOR SHALL FELL THE TREES. AT NO TIME SHALL TREES BE BULLDOZED OR, BUT SHALL BE CUT DOWN AND STUMPS REMOVED SEPARATELY. PRIOR TO THE FELLING OF ALL TREES, PROPER REMOVAL OF A PORTION OR ALL OF THE CANOPY SHALL BE COMPLETED SO THAT TREES IN THE RESTRICTED AREAS SHALL NOT BE INJURED IN THE PROCESS.
 - ROOT PRUNING: BEFORE ANY STUMPS ARE TO BE REMOVED, ALL ROOTS SHALL BE SEVERED FROM ROOTS IN THE RESTRICTED AREAS BY SAW CUTTING WITH A WIREMESH DESIGNED FOR ROOT PRUNING BY HAND, OR WITH A CHAINSAW. TREE ROOTS PROJECTING INTO THE CONSTRUCTION ZONE SHALL BE EXPOSED PRIOR TO ROOT PRUNING WITH SMALL MACHINERY, I.E., BOBCAT.
 - STUMP REMOVAL: AT SUCH TIME THAT ROOTS HAVE BEEN PROPERLY SEVERED, STUMPS MAY BE REMOVED. WHERE REMOVAL OF CERTAIN STUMPS COULD CAUSE DAMAGE TO EXISTING PROTECTED TREES, TREE STUMPS SHALL BE GROUND OUT. ALL STUMP REMOVAL SHALL BE UNDER THE DIRECT SUPERVISION OF THE OWNER'S REPRESENTATIVE.
 - TREE PRUNING: PROPER PRUNING OF TREES IN THE RESTRICTED ZONE SHALL BE DIRECTED BY AND SUPERVISION AT ALL TIMES BY THE OWNER'S REPRESENTATIVE.
 - AN OWNER'S REPRESENTATIVE WILL BE AVAILABLE AT ALL TIMES DURING THE PREPARATORY AND CONSTRUCTION PERIOD.
 - MULCH RATHER THAN SEED OR SOIL SHOULD BE USED AT THE BASE OF QUALITY TREES TO A PERIMETER DETERMINED BY THE OWNER'S REPRESENTATIVE. AREAS TO BE SEED FOR EROSION CONTROL PURPOSES WITHIN THE CONSTRUCTION ZONE ARE TO BE DETERMINED BY THE OWNER'S REPRESENTATIVE. NATURAL GROUND COVER WILL BE MAINTAINED WHEREVER POSSIBLE.
 - THE USE OF RETAINING WALLS NEAR TREES, IN ADDITION TO THOSE REQUIRED ON THE PLANS SHALL BE DETERMINED IN THE FIELD, BASED ON TREE LOCATIONS AND TOPOGRAPHY.
 - EXCAVATE TOPSOIL FROM AREAS TO BE FURTHER EXCAVATED OR REGRADED AND STOCKPILE IN AREAS DESIGNATED ON THE SITE. CONTRACTOR SHALL SAVE ENOUGH TOPSOIL FOR REUSE ON THE SITE AS SPECIFIED. EXCESS TOPSOIL SHALL BE PLACED IN PERMANENT AREAS. OUTSIDE OF BUILDING PADS, ROADWAYS AND PARKING AREAS. CONTRACTOR SHALL SUBCUT CUT AREAS, WHERE TURF IS TO BE ESTABLISHED, TO A DEPTH OF 6 INCHES. RESPREAD TOPSOIL IN AREAS WHERE TURF IS TO BE ESTABLISHED TO A MINIMUM DEPTH OF 6 INCHES.
 - TRENCH BORROW CONSTRUCTION: IF ALLOWED BY THE OWNER, CONTRACTOR SHALL COMPLETE "TRENCH BORROW" EXCAVATION IN AREAS DIRECTED BY THE ENGINEER IN ORDER TO OBTAIN STRUCTURAL MATERIAL. TREES SHALL NOT BE REMOVED OR DAMAGED AS A RESULT OF THE EXCAVATION, UNLESS APPROVED BY THE ENGINEER. THE EXCAVATION SHALL COMMENCE A MINIMUM OF 10 FEET FROM THE LIMIT OF THE BUILDING PAD. THE EXCAVATION FROM THIS LIMIT SHALL EXTEND AT A MINIMUM SLOPE OF 1 FOOT HORIZONTAL TO 1 FOOT VERTICAL (1:1). DOWNWARD AND OUTWARD FROM THE FINISHED SURFACE GRADE ELEVATION. THE TRENCH BORROW EXCAVATION SHALL BE BACKFILLED TO THE PROPOSED FINISHED GRADE ELEVATION, AND SHALL BE COMPACTED IN ACCORDANCE WITH REQUIREMENTS OF THE QUALITY COMPACTOR METHOD AS OUTLINED IN MN DOT SPECIFICATION 2105.3F. SNOW FENCE SHALL BE FURNISHED AND PLACED ALONG THE PERIMETER OF THE TRENCH BORROW AREA WHERE THE SLOPES EXCEED 2 FOOT HORIZONTAL TO 1 FOOT VERTICAL (2:1).
 - FINISHED GRADING SHALL BE COMPLETED. CONTRACTOR SHALL UNIFORMLY GRADE AREAS WITHIN LIMITS OF GRADING, INCLUDING ADJACENT TRANSITION AREAS. PROVIDE A SMOOTH FINISHED SURFACE WITHIN SPECIFIED TOLERANCES, WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN, OR BETWEEN SUCH POINTS AND EXISTING GRADES. AREAS THAT HAVE BEEN FINISHED GRADED SHALL BE PROTECTED FROM SUBSEQUENT CONSTRUCTION OPERATIONS, TRAFFIC AND EROSION. REPAIR ALL AREAS THAT HAVE BECOME RUPTED, ERODED OR HAS SETTLED BELOW THE CORRECT GRADE. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO EQUAL OR BETTER THAN ORIGINAL CONDITION OR TO THE REQUIREMENTS OF THE NEW WORK.
 - TOLERANCES
 - THE RESIDENTIAL BUILDING SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.30 FOOT ABOVE, OR 0.30 FOOT BELOW, THE PRESCRIBED ELEVATION AT ANY POINT WHERE MEASUREMENT IS MADE.
 - THE COMMERCIAL BUILDING SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.30 FOOT ABOVE, OR 0.10 FOOT BELOW, THE PRESCRIBED ELEVATION AT ANY POINT WHERE MEASUREMENT IS MADE.
 - THE STREET OR PARKING AREA SUBGRADE FINISHED SURFACE ELEVATION SHALL NOT VARY BY MORE THAN 0.05 FOOT ABOVE, OR 0.10 FOOT BELOW, THE PRESCRIBED ELEVATION OF ANY POINT WHERE MEASUREMENT IS MADE.
 - AREAS WHICH ARE TO RECEIVE TOPSOIL SHALL BE GRADED TO WITHIN 0.30 FOOT ABOVE OR BELOW THE REQUIRED ELEVATION, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
 - TOPSOIL SHALL BE GRADED TO PLUS OR MINUS 1/2 INCH OF THE SPECIFIED THICKNESS.
 - AFTER THE SITE GRADING IS COMPLETED, IF EXCESS OR SHORTAGE OF SOIL MATERIAL EXISTS, CONTRACTOR SHALL TRANSPORT ALL EXCESS SOIL MATERIAL OFF THE SITE TO AN AREA SELECTED BY THE CONTRACTOR, OR IMPORT SUITABLE MATERIAL TO THE SITE.
 - CONTRACTOR SHALL DETERMINE THE LOCATION OF ANY HAUL ROADS THAT MAY BE REQUIRED TO COMPLETE THE SITE GRADING CONSTRUCTION AND SHALL INDICATE HAUL ROADS ON EROSION AND SEDIMENT CONTROL "SITE MAP". CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE GOVERNING AUTHORITY OF EACH ROADWAY. CONTRACTOR SHALL POST WHATEVER SECURITY, AND COMPLY WITH ALL CONDITIONS WHICH ARE REQUIRED BY EACH GOVERNING AUTHORITY OF EACH ROADWAY.
 - DISTURBED AREAS WITHIN WETLAND MITIGATION SITE AND ANY DISTURBED AREAS WITHIN THE WETLAND SHALL BE RESTORED WITH 6 TO 12 INCHES OF ORGANIC SOILS. PREFERRED SOILS (IF THEY WERE PREVIOUSLY REMOVED FROM THE WETLAND AREAS) SHOULD BE USED. MITIGATION AREAS ABOVE THE NORMAL WATER LEVEL SHALL BE MN STATE SEED MIX 34-271, WET MEADOW SOUTH AND WEST, OR APPROVED EQUAL FOR STATE SEED MIXES. OATS AND WINTER WHEAT SHOULD BE SELECTED BASED ON THE TIME OF YEAR THAT THE MIX IS BEING USED. DATS SHOULD BE INCLUDED IN MIXES IF BEING USED BETWEEN OCTOBER 1ST AND AUGUST 31ST. WINTER WHEAT SHOULD BE USED BETWEEN AUGUST 1ST AND OCTOBER 15TH. THE SEEDING RATE IS THE SAME FOR OATS AND WINTER WHEAT. MIX 34-271 SHOULD BE APPLIED AT 12 POUNDS PER ACRE. SEED SHALL BE WATERED UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
 - FILL PLACED WITHIN THE BUILDING PAD AREAS SHALL BE IN CONFORMANCE WITH HUD/FHA PROCEDURES AND DATA SHEET 79G.
 - RETAINING WALLS SHALL BE CONSTRUCTED OF (MODULAR BLOCK, TREATED TIMBER, BOUNDER, ETC.) MATERIAL. CONTRACTOR SHALL SUBMIT TO THE ENGINEER AND LOCAL AUTHORITY CERTIFIED ENGINEERING DRAWINGS, DESIGN CALCULATIONS AND SOIL BORINGS. THE CERTIFIED ENGINEER FOR THE RETAINING WALLS SHALL PROVIDE CONSTRUCTION OBSERVATIONS OF THE RETAINING WALL IMPROVEMENT, AND A LETTER CERTIFYING THE INSTALLATION OF THE WALLS) WAS CONSTRUCTED IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS.

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Engineering | Surveying | Planning | Environmental

GOLDEN TRIANGLE

LOCATION
 EDEN PRAIRIE, MN

PROJECT NUMBER
 31763000

ISSUE RECORD

11/26/2019
 01/03/2020
 02/12/2020 CITY COMMENTS
 03/03/2020 CITY COMMENTS
 03/16/2020 NMCWD COMMENTS

PRELIMINARY SET
 02/12/2020

DATE
 02/12/2020

PROJECT MANAGER
 SCOTT SHIFFLETT

DRAWN BY
 CSD

CHECKED BY
 BDB

REGISTRATION

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.

Brady D. Busselman
 Registration No. 44579 Date: 02/12/2020

If applicable, contact us for a wet signed copy of this plan which is available upon request at sambatek.com, Minneapolis, MN office.

SHEET TITLE
ALTERNATE USER GRADING PLAN

SHEET NUMBER
C4.02

SCALE
 0 30 60
 IN FEET

NORTH

THE SUBSURFACE UTILITY INFORMATION SHOWN ON THESE PLANS IS A UTILITY QUALITY LEVEL. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF AISC/ASCE 38-02, TITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA". THE CONTRACTOR AND/OR SUBCONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. BY CONTRACTING THE NOTIFICATION CENTER (GNPH) STATE ONE FOR MINNESOTA, THE CONTRACTOR AND/OR SUBCONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCURRED BY HIS OR HER FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES UNDERGROUND AND OVERHEAD.

IF THE CONTRACTOR ENCOUNTERS ANY OBSTACLE WITHIN THE SITE, HE OR SHE SHALL NOTIFY THE ENGINEER WITH THE LOCATION, SIZE, DEPTH AND IF THE LINE IS ACTIVE. NO WORK SHALL BE INITIATED WITHOUT APPROVAL FROM THE PROJECT ENGINEER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

Mar 16, 2020 - 4:33pm - User: opus - L:\PROJECTS\21887\01\00\Drawings\21887-01-C4-GRD2.dwg