Permit Application Review

Permit No. 2023-025
Received complete: May 31, 2023

Applicant:	Linda McGinty; The Luther Company, LLLP
Consultant:	Steve Sabraski; Landform Professional Services, LLC
Project:	Luther Bloomington Hyundai Building Additions and Site Improvements
Location:	4801 American Boulevard West, Bloomington, MN
Applicable Rules:	4, 5, 11, and 12
Reviewers:	Parker Brown & Louise Heffernan; Barr Engineering Co.

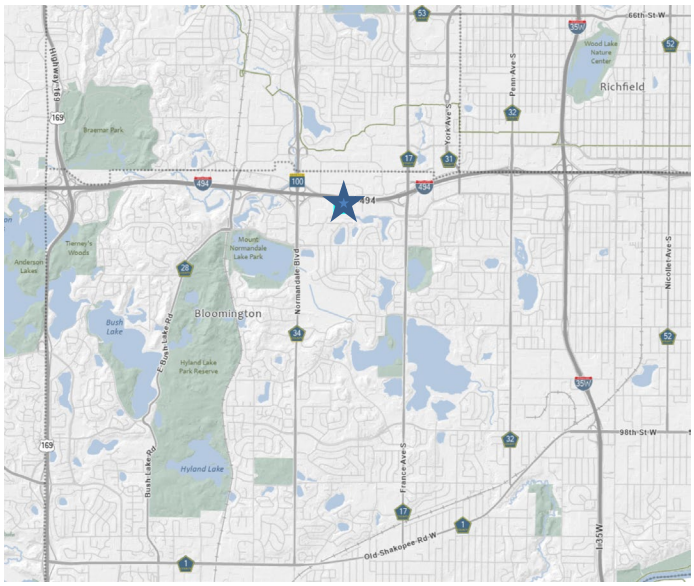
General Background & Comments

The applicant proposes redevelopment of the existing commercial site located at 4801 American Boulevard West in Bloomington (Luther Hyundai). Currently, the 7.3-acre site is occupied by a commercial building with surface parking. Proposed work includes the construction of three building additions along the north, northwest and southern portions of the existing structure, landscaping, bituminous and concrete improvements, utility improvements, the construction of an underground stormwater management facility, and the removal of two existing stormwater management facilities.

The site is shown in Figures 1 and 2 below.

Figure 1. Luther Hyundai Site.

Figure 2. Site within the City of Bloomington.



The district's requirements for both stormwater management and erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed and 5,000 square feet or more of surface area is altered, Rules 4.2.1a and b and 5.2.1a and b.

One permit has previously been issued by the NMCWD for work at the Luther Hyundai site. Relevant project site information is provided in the table below.

Site Information[3]	Permit 2011-046	Permit 2023-025 (Current)	Site Aggregate Total (Includes 2 Projects)
Total Site Area[1] (ac)	7.29	7.29	7.29
Existing Site Impervious Area[2] (ac)	5.98	5.93	5.98
Change (increase or decrease) in Site Impervious Area (ac)	-0.05	0.0	-0.05
Percent Change in Impervious Area (%)	-0.8%	0%	**-0.8%**
Disturbed and Reconstructed Impervious Area (ac)	0.18	0.65	0.83
Percent Disturbance of Existing Impervious Area (%)	2.9%	11.0%	**13.8%**

[1]Total site area includes one parcel.

[2]Permit #2011-046 existing site impervious area includes pre-2008 project existing conditions. Activity subject to Rule 4.2.5 is considered in aggregate, and the requirements applicable to the activity will be determined with respect to all development and redevelopment that has occurred at the site since the date the rule took effect (March 2008).

[3]The description of property information here is based on present information in NMCWD's possession. Adjustment in the context of an overall stormwater management plan for the Luther Hyundai site may be necessary, but any minor discrepancy that could be discovered through detailed analysis of the redevelopment projects undertaken in the last 15 years would not affect the outcome of the analysis of the present application.

Exhibits Reviewed:

1. Permit Application dated February 20, 2023, (received March 9, 2023).
2. Stormwater Management Plan dated March 8, 2023, (received March 9, 2023), revised May 30, 2023, (received May 31, 2023), prepared by Landform Professional Services, LLC.
3. Geotechnical Evaluation dated June 8, 2011, (received March 9, 2023), prepared by Northern Technologies, Inc.
4. Electronic HydroCAD models received March 9, 2023, revised May 31, 2023, prepared by Landform Professional Services, LLC.
5. Electronic MIDS model files received March 9, 2023, revised May 31, 2023, prepared by Landform Professional Services, LLC.
6. Plans dated March 8, 2023, (received March 9, 2023) revised May 30, 2023, (received May 31, 2023) prepared by Landform Professional Services, LLC.
7. Soil Borings Logs dated May 1, 2023, prepared by American Engineering Testing, Inc.
8. Landform Professional Services, LLC Comment Responses received May 31, 2023.

The application with the submittal items above is complete.

4.0 Stormwater Management

NMCWD's requirements for stormwater management apply to the project because more than 50 cubic yards of material will be disturbed and 5,000 square feet or more of surface area is altered, Rules 4.2.1a and b.

The NMCWD's Rule for Redevelopment, Rule 4.2.3, states, if a proposed activity will disturb more than 50% of the existing impervious surface on the site or will increase the imperviousness of the site by more than 50%, stormwater management 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. Because one other project has been permitted since Rule 4.2.5 became effective in 2008 (Permit 2011-046) the proposed work under the current application (Permit 2023-025) is considered in aggregate with activities subject to Rule 4.2.5 Common Scheme of Development.

The project activities under the current application, considered in aggregate with the previous project permitted at the site, result in a 13.8% combined disturbance of the existing impervious surface, less than 50% of the existing impervious area at the site, and will not increase the imperviousness at the site by more than 50% (no combined increase). Therefore, stormwater management is required only for the net new impervious area (0 square feet) and 0.65 acres of newly disturbed and reconstructed areas under the current permit application, 28,230 square feet of regulated impervious surface.

Stormwater management for compliance with subsection 4.3.1a-c criteria will be provided by an underground stormwater management facility (UGSWMF) to provide rate control, volume retention and water quality management for the regulated areas. Two stormwater management facilities have previously been constructed at the site, including an underground

stormwater management facility located on the west and south sides of the existing structure. The two existing underground stormwater management facilities are proposed to be removed, and the stormwater management for compliance with the NMCWD rules under Permit 2011-048 and the current application will be provided by the proposed facility.

Rule 4.3.1b requires the 2-, 10-, and 100-year post development peak runoff rates be equal to or less than the existing discharge rates for all collection points where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates. The existing and proposed 2-, 10- and 100-year frequency discharge rates are summarized below.

Existing Conditions			
Discharge Location	**2- year (c.f.s.)**	**10- year (c.f.s.)**	**100- year (c.f.s.)**
To South	26.8	40.9	70.8
North to American Blvd	1.2	1.9	3.6

Proposed Conditions			
Discharge Location	**2- year (c.f.s.)**	**10- year (c.f.s.)**	**100- year (c.f.s.)**
To South	24.3	37.5	70.4
North to American Blvd	1.1	1.8	3.4

The proposed stormwater management facility provides attenuation of the site rate(s) of runoff, resulting a reduction of peak 2-, 10, and 100-year discharges at both major discharge points. Rule 4.3.1b is met.

The Northern Technologies, Inc. geotechnical report and American Engineering Testing boring logs generally identify the underlying soil within the area of the UGSWMF as silty sand (SM), underlain by a restrictive layer(s) of clayey sand (SC). The plans must indicate that soils with low permeability in the area of the proposed facility will be excavated, removed, and backfilled with material suitable for infiltration. A design infiltration rate of 0.45 inches per hour has been used for design, using infiltration rates identified in the Minnesota Storm Water Manual for silty sands.

A retention volume of 640 cubic feet[1] is required from the 7,684 square feet of regulated impervious area under Permit 2011-046, based on the NMCWD rules when the previous project was permitted. A retention volume of 2,588 cubic feet is required from the newly regulated 28,230 square feet of disturbed and reconstructed impervious area under the current application. Because the two in-place UGSWMF's will be removed, the proposed facility is

[1] Based on the NMCWD rules at the time of the permitted activities, including 1.0 inches of runoff required from the regulated areas.

required to provide the required volume retention for the two projects (Permits 2011-048 and 2023-025), amounting to 3,228 cubic feet of volume retention required.

The table below summarizes the volume retention required and volume retention provided by the proposed facility. The proposed project is in conformance with subsection 4.3.1a.

Volume Retention Summary

Required Volume Retention (cubic feet)	Provided Volume Retention (cubic feet)	Maximum Infiltration Depth Allowable* (feet)	Provided Infiltration Depth (feet)
3,228	3,347	4.5	2.4

*Maximum inundation depth allowable for the UGSWMF to draw down within 48-hours based on a design infiltration rate of 0.45 inches/hour and 40% rock voids.

With an infiltration area of 2,087 square feet to be provided (1,793 square feet required), the required volume retention is drawn down within the required 48-hours, complying with Rule 4.3.1a (ii).

Rule 4.5.4d (i) requires three feet of separation between the bottom of an infiltration facility and groundwater. No groundwater was encountered in soil borings near the proposed infiltration facility. The Northern Technologies, Inc. boring located near the proposed facility did not encounter groundwater to the bottom of the boring, approximately elevation 819 M.S.L. The bottom of the proposed facility is elevation 830.5 M.S.L., approximately 11.5 feet above the elevation where groundwater was not encountered in SB-1. Rule 4.5.4d (i) is met.

NMCWD's water quality criterion requires 60% annual removal efficiency for total phosphorus (TP) and 90% annual removal efficiency for total suspended solids (TSS) from the regulated site runoff. The results from the MIDS model provided show the UGSWMF will provide the required annual removal efficiency. The results of the MIDS modeling are summarized in the table below. We agree with the modeling results and the project is in conformance with Rule 4.3.1c criteria.

Annual TSS and TP Removal Summary

Pollutant of Interest	Regulated Site Loading (lbs./year)	Required Load Removal (lbs./year)	Provided Load Reduction (lbs./year)
Total Suspended Solids (TSS)	250	225 (90%)	230 (92%)
Total Phosphorus (TP)	1.4	0.8 (60%)	1.3 (92%)

Rule 4.3.3 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 emergency overflow of a constructed facility. Additionally, Rule 4.3.3 also states that a stormwater management facility must be constructed at an elevation that ensures no adjacent habitable building will be brought into noncompliance with a standard in subsection 4.3.3.

The low floor elevations of the existing structure(s) in relation to the proposed UGSWMF's 100-year high-water elevation is summarized in the table below, in compliance with subsection 4.3.3 criteria.

Low Floor Elevation Summary

Low Floor Elevation of Existing Structure(s) (M.S.L.)	100-year Frequency Flood Elevation of Proposed Facility (M.S.L.)	Low Floor Elevation Freeboard (feet)
839.5	835.8	3.7

Rule 4.3.3 also states that 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. The low opening floor elevation(s) of the proposed additions and existing structure must be identified for compliance with subsection 4.3.3 criteria.

In accordance with Rule 4.3.1a (i), where infiltration or filtration facilities, practices or systems are proposed, pre-treatment of runoff must be provided. Sump manholes will provide the required pretreatment of runoff prior to discharging to the UGSWMF, complying with Rule 4.3.1a (i).

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.

Subsection 4.3.5 requires the submission of a maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed. The applicant must provide a receipt showing recordation of a maintenance declaration for the operation and maintenance of the stormwater management facility, including the sump manholes to be provided.

5.0 Erosion and Sediment Control

NMCWD's requirements for erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed and 5,000 square feet or more of surface area is altered, Rules 5.2.1a and b.

The erosion control plan prepared by Landform Professional Services, LLC includes installation of perimeter control (bio rolls) at the limits of construction, a stabilized rock construction entrance and storm sewer inlet protection.

The contractor for the project will need to designate a contact who will remain liable to the district for performance under NMCWD's Erosion and Sediment Control Rule 5.0 from the time the permitted activities commence until areas disturbed are restored, in accordance with subsection 5.4.1e. NMCWD must be notified if the responsible individual changes during the permit term.

11.0 Fees

Fees for the project are:

Rules 4.0 and 5.0 ..... $2,000

12.0 Financial Assurances

Financial Assurances for the project are:

Rule 4: Stormwater Management Facility: 1,793 S.F. x $12/S.F.= $21,516

Rule 5: Perimeter Control: 591 L.F. x $2.50/L.F. =..... $1,478

Inlet Protection: 7 x $100 =..... $700

Site Restoration: 2.2 acres x $2,500/acre =..... $5,500

Chloride Management $5,000

Contingency and Administration $12,506

Findings

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project will conform to Rules 4.0 and 5.0 requirements with the fulfilment of the conditions identified in the *Recommendations* section of this report.
3. The proposed stormwater management facility will provide volume retention, rate control and water quality management in accordance with subsections 4.3.1a-c criteria.
4. In accordance with NMCWD Rule 4.3.5, the applicant must provide a maintenance and inspection plan that identifies and protects the design, capacity, and functionality of the stormwater management facility and the sump manholes constructed by the project.

Recommendation

Approval, contingent upon:

Compliance with the General Provisions (attached).

Financial Assurance in the amount of $46,700, $41,700 for stormwater management, erosion control and site restoration, and $5,000 for compliance with the chloride management requirements.

The applicant provides a name and contact information for the individual responsible for the erosion and sediment control at the site. NMCWD must be notified if the responsible individual changes during the permit term.

A design infiltration rate of 0.45 inches per hour has been used for design, using infiltration rates identified in the Minnesota Storm Water Manual for silty sands. The plans must indicate that soils with low permeability encountered in the area of the proposed facility will be excavated, removed, and backfilled with material suitable for infiltration.

Per Rule 4.3.5, a receipt showing recordation of a maintenance declaration for the operation and maintenance of the stormwater management facility and stormwater infrastructure. A draft of the declaration must be approved by the district prior to recordation.

Rule 4.3.3 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 emergency overflow of a constructed facility. To fully comply with Rule 4.3.3 criteria the following is required.

1. The Landform comment responses indicate that the low floor elevation of the existing building is 839.5 ft, in compliance with subsection 4.3.3 freeboard requirements. It must be clarified if the 839.5 ft low floor elevation of the existing building is also the low floor elevation for the three proposed building additions. Alternately, if the low floor elevations of the three proposed building additions differs, the elevations must be provided and comply with subsection 4.3.3 criteria, or Appendix 4a may be used to demonstrate compliance.
2. Rule 4.3.3 also states that 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. The Landform comment responses do not identify the low opening elevations. The low opening elevation(s) of the existing structure and the three building additions must be identified to fully comply with subsection 4.3.3 criteria.

By accepting the permit, when issued, the applicant agrees to the following stipulations for closeout of the permit and release of the financial assurance after the project:

The work for Luther Bloomington Hyundai under the terms of Permit 2023-025 must have an impervious surface area and configuration materially consistent with the approved plans. Design that differs materially from the approved plans (e.g., in terms of the total impervious area or stormwater management design) will need to be the subject of a request for a permit modification or new permit, which will be subject to review for compliance with all applicable regulatory requirements.

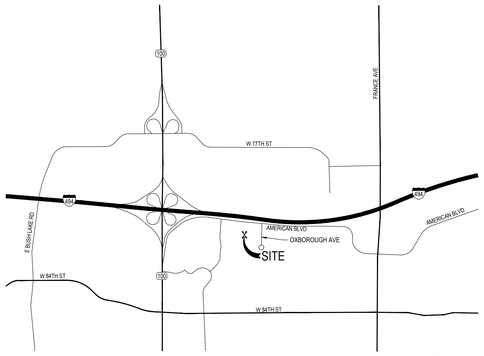
Per Rule 4.5.6, an as-built drawing of the underground stormwater management facility conforming to the design specifications, including a stage volume relationship in tabular form for the underground stormwater management facility, as approved by the district, must be provided. The as-built drawing must include relevant design information based on surveyed data including but not limited to the invert elevation of the pipe, the controlling outlet elevation, the bottom of the facility, etc.

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.

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 facility used for volume retention has drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.

AREA LOCATION MAP

BLOOMINGTON, MN



NORTH
NO SCALE

LUTHER HYUNDAI

BLOOMINGTON, MINNESOTA

ABBREVIATIONS

°	Angle	LB.	Pound
&	And	LGU	Local Government Unit
@	At	LB.	Pound
100 YR.	100 Year Flood Elevation	LB.	Longitudinal
A.B.	Anchor Bolt	LT.	Light / Lighting
A.D.	Area Drain	MAINT.	Maintenance
A/C	Air Conditioning Unit	MAS.	Masonry
ADD.	Addendum	MATL.	Material
ADDL.	Additional	MAX.	Maximum
ADJ.	Adjacent / Adjust	MECH	Mechanical
AHU	Air Handling Unit	MED.	Medium
ALT.	Alternate	MFR.	Manufacturer
ALUM.	Aluminum	MH	Manhole
ANOD.	Anodized	MIN.	Minimum / Minute
APPROX.	Approximate	MISC.	Miscellaneous
ARCH	Architect / Architectural	MNDOT	Minnesota Department Of Transportation
AUTO.	Automatic	MOD.	Module / Modular
AVG.	Average	MUL.	Mullion
B.C.	Back of Curb	N.	North
B/W	Bottom of Wall	N.I.C.	Not In Contract
BFE	Basement Floor Elevation	NO. OR #	Number
BIT	Bituminous (Asphaltic)	NOM	Nominal
BLDG.	Building	NTS	Not to Scale
BM	Benchmark	NWE	Normal Water Elevation
BSMT.	Basement	NWL	Normal Water Level
C.F.	Cubic Feet	O.F.	On Center
C.F.S.	Cubic Feet Per Second	O.G.	Outside Dimension
C.G.	Corner Guard	O.H.	Overhead Electric
C.J.	Control Joint	OH.	Overhead
C.L.	Centerline	OHWL	Ordinary High Water Level
C.M.U.	Concrete Masonry Unit	OPNG.	Opening
C.O.	Cleanout	ORIG.	Original
C.O.E.	U.S. Army Corps Of Engineers	P.C.	Point of Curvature
C.Y.	Cubic Yards	P.I.	Point of Intersection
CB	Catch Basin	PIV	Post Indicator Valve
CBMH	Catch Basin Manhole	P.L. OR P/L	Property Line
CEM.	Cement	P.O.B.	Point of Beginning
CIP	Cast Iron Pipe	P.S.F.	Pounds Per Square Foot
CMP	Corrugated Metal Pipe	P.S.I.	Pounds Per Square Inch
CONC.	Concrete (Portland)	P.T.	Point of Tangency
CONN.	Connection	P.V.C.	Point of Vertical Curvature
CONST.	Construction	P.V.I.	Point of Vertical Intersection
CONT.	Continuous	P.V.T.	Point of Vertical Tangency
CONTR.	Contractor	PE	Polyethylene
COP.	Copper	PED.	Pedestal / Pedestrian
CU.	Cubic	PERF	Perforated
D.S.	Down Spout	PREP.	Preparation
DEG.	Degree	PROJ.	Project
DEMO.	Demolition / Demolish	PROP.	Proposed
DEPT.	Department	PVC	Poly-Vinyl-Chloride (Piping)
DET.	Detail	PVMT.	Pavement
DIA.	Diameter	QTR.	Quarter
DIAG.	Diagonal	QTY.	Quantity
DIM.	Dimension	R	Radius
DIP	Ductile Iron Pipe	RAD.	Radius
DN	Down	RE	Rim Elevation (Casting)
DWG.	Drawing	R.D.	Roof Drain
E.	East	R.E.	Remove Existing
E.J.	Expansion Joint	R.O.	Rough Opening
E.O.	Emergency Overflow	R.P.	Radius Point
E.O.S.	Emergency Overflow Swale	RC	Reinforced Concrete Pipe
E.W.	Each Way	R.S.	Rough Slab
EA.	Each EL. Elevation	RSD	Roof Storm Drain
ELEC.	Electrical	RE.	Regarding
ELEV.	Elevation	REINF.	Reinforced
EMER.	Emergency	REQ'D	Required
ENGR.	Engineer	REV.	Revision / Revised
ENTR.	Entrance	RGU	Regulatory Government Unit
EQ.	Equal	ROW OR R/W	Right of Way
EQUIP.	Equipment	S.	South
EQUIV.	Equivalent	S.F.	Square Feet
EXIST.	Existing	SAN.	Sanitary Sewer
EXP.	Expansion	SECT.	Section
F & I.	Furnish and Install	SE	Split Entry /Side Exit
F.B.O.	Furnished by Others	SEWO	Split Entry Walk Out /Side Exit Walk Out
F.C.	Face of Curb	SHT.	Sheet
F.D.	Floor Drain	SIM.	Similar
F.D.C.	Fire Department Connection	SLNT.	Sealant
F.V.	Field Verify	SPEC.	Specification
FB	Full Basement	SQ.	Square
FBWO	Full Basement Walk Out	SSD	Subsurface drain
FBLO	Full Basement Look Out	STMH	Storm Sewer Manhole
FDN.	Foundation	STD.	Standard
FES	Flared End Section	STRUCT.	Structural
FFE	Finished Floor Elevation	SYM.	Symmetrical
FLR.	Floor	T	Thickness
FT. OR (')	Foot	T/R.	Top of Rim
FUT.	Future	T/W	Top of Wall
G.B.	Grade Break	TEMP.	Temporary
G.C.	General Contractor	THK.	Thick / Thickness
GAL.	Gallon	T.J.	Tooled Joint
GALV.	Galvanized	TNH	Top Nut Hydrant
GFE	Garage Floor Elevation	TYP.	Typical
GL.	Glass	U.N.O.	Unless Noted Otherwise
GR.	Grade	V.B.	Vapor Barrier
H.	Height	V.C.	Vertical Curve
H.P.	High Point	V.I.F.	Verify In Field
HDPEP	High Density Polyethylene Pipe	VER.	Verify
HGT.	Height	VER.	Vertical
HORIZ.	Horizontal	VEST.	Vestibule
HVAC	Heating, Ventilation, Air Conditioning	W	Width
HYD	Hydrant	W.PT.	Working Point
I.D.	Inside Dimension OR Identification	W.W.F.	Welded Wire Fabric
I.E. or IE	Invert Elevation	W/	With
IN. OR (")	Inches	W/O	Without
INFO.	Information	WO	Walk Out
INL.	Inlet Elevation	WTR.	Wetland
INSUL.	Insulation	WP	Waterproof
INV.	Invert Elevation	WETL.	Weight
JT.	Joint	YD.	Yard
L.F.	Linear Feet	YR.	Year
L.P.	Low Point / Liquid Petroleum		

SYMBOLS

EXISTING	DESCRIPTION	NEW	DESCRIPTION
120	MAJOR CONTOUR	120	MAJOR CONTOUR
123	MINOR CONTOUR	123	MINOR CONTOUR
234.5	SPOT ELEVATION	123.45	SPOT ELEVATION
	BUILDING		BUILDING
	CANOPY / OVERHANG		CANOPY/OVERHANG
	CONCRETE		UNDERGROUND STRUCTURE
	BITUMINOUS		CONCRETE
	LANDSCAPING		CONCRETE CURB
	GRAVEL	BIT. EDGE (HEIGHT TYPE)	EDGE OF PAVEMENT
	PAVING BLOCK		FENCING
	PAVING BLOCK		GUARD RAIL
			CONCRETE RETAINING WALL
STORM SEWER LINE			MODULAR RETAINING WALL
SANITARY SEWER LINE			FIELDSTONE RETAINING WALL
WATER MAIN			EXIT LOCATION
OVERHEAD ELECTRIC			LIGHT STANDARD
UNDERGROUND TELEPHONE		Ø	POWER PLE
UNDERGROUND FIBER OPTIC		00 %	SLOPE DIRECTION
UNDERGROUND ELECTRIC			CATCH BASIN
GAS LINE			MANHOLE
CONCRETE CURB			BOLLARD
FENCING		STS FES RIPRAP	STORM SEWER
		SAN	SANITARY SEWER-WASTE
RETAINING WALL		FM	FORCE MAIN
SET 1/2" X 14" IRON PIPE		RD	ROOF DRAIN SYSTEM
IRON MONUMENT FOUND		GATE VALVE WTR HYD	WATERMAIN
SURVEY DISK (BENCHMARK)		FIRE	FIRE LINE (IF SEPARATE)
POWERPOLE		BLDG.	FIRE DEPT. CONNECTION
GUY WIRE		C.O. X"SSD	SOIL SUBDRAIN
GUARD POST		GAS	GAS LINE-UNDERGROUND
GAS METER		ELEC	ELECTRIC-UNDERGROUND
TRANSFORMER		TELE	TELEPHONE-UNDERGROUND
WATER SHUT-OFF VALVE		CATV	UNDERGROUND CABLE/TV
TRAFFIC SIGN		LSS	LAWN SPRINKLER SLEEVE
FLAG POLE			
LIGHT POLE			
TREES			
TREE LINE			
MANHOLE			
CATCH BASIN			
FIRE HYDRANT			
WATER VALVE			
FLARED END SECTION			
MAILBOX			
NOTE NUMBER			
MEASURED DISTANCE			
DISTANCE PER RECORDED PLAT			
SOIL BORING			

EROSION CONTROL SYMBOLS

SYMBOL	DESCRIPTION
	SILT FENCE
	COMPOST/BIO LOG
	INLET PROTECTION
	EROSION CONTROL BLANKET

DRAWING SYMBOLS

SYMBOL	DESCRIPTION
3	NOTE REFERENCE
12	PARKING STALL COUNT
C7.3	LARGE SHEET DETAIL
C21	COORDINATE POINT
3	REVISION - ADDENDUM, BULLETIN, ETC.
	REVISED AREA (THIS ISSUE)

LEGAL DESCRIPTION

Lot 2, Block 1, Sill Hunting Properties. Hennepin County, Minnesota

BENCHMARK

PROJECT BENCHMARK:
MNDOT GSID STATION #94891
STATION NAME: CAVALIA
IN BLOOMINGTON, 0.6 MILE WEST ALONG INTERSTATE HIGHWAY 494 FROM THE JUNCTION OF INTERSTATE HIGHWAY 494 AND FRANCE AVENUE IN BLOOMINGTON, AT INTERSTATE HIGHWAY 494 MILEPOINT 7.5, 41.2 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 494, 23.5 FEET SOUTH OF A FENCE, 15.1 FEET SOUTHEAST OF UTILITY CABINET NUMBER SSE, 1.5 FEET SOUTH OF A WITNESS POST.
ELEVATION = 827.190 (NAVD 88)

SITE BENCHMARK:
TOP NUT OF FIRE HYDRANT
LOCATION: SOUTH OF AMERICAN BLVD ALONG THE NORTH PROPERTY LINE OF THE SITE, APPROXIMATELY 185 FEET EAST OF THE NW DRIVE ENTRANCE INTO THE SITE.

ELEVATION = 841.818 (NAVD 88)

OWNER

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FAX (952) 258-8900
CONTACT: LINDA MCGINTY

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520 NICOLLET MALL, SUITE 305
MINNEAPOLIS, MN 55402
TEL (612) 330-0411
CONTACT: CRAIG JOHN

CIVIL / LANDSCAPE SHEET INDEX & REVISION MATRIX

SHEETS ISSUED BY DATE		11.15.22	01.13.23	03.08.23	05.30.23
SHEET NO.	DESCRIPTION				
C0.1	CIVIL & LANDSCAPE TITLE SHEET	X	X	X	X
C1.1	EXISTING CONDITIONS & DEMOLITION	X	X	X	X
C2.1	SITE PLAN	X	X	X	X
C3.1	GRADING, DRAINAGE, PAVING & EROSION CONTROL	X	X	X	X
C3.2	SWPPP				X
C4.1	UTILITIES		X	X	X
C7.1	CIVIL CONSTRUCTION DETAILS		X	X	X
C7.2	CIVIL CONSTRUCTION DETAILS		X	X	X
L2.1	LANDSCAPE PLAN		X	X	X
L4.1	PHOTOMETRICS PLAN - INSTALLED VALUES		X	X	X
L4.2	PHOTOMETRICS PLAN - MAINTAINED VALUES		X	X	X

CERTIFICATIONS

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. THIS CERTIFICATION IS FOR SHEET NUMBERS BEGINNING WITH "C".

STEVE SABRASKI, P.E.

LICENSE NUMBER: 47165 DATE: 05/30/2023

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 LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA. THIS CERTIFICATION IS FOR SHEET NUMBERS BEGINNING WITH "L".

JOSH POPEHN, RLA

LICENSE NUMBER: 44803 DATE: 05/30/2023

Know what's Below. Call before you dig.

DEVELOPER

THE LUTHER COMPANY, LLLP
3701 ALABAMA AVENUE SOUTH
ST. LOUIS PARK, MN
TEL (952)258-8800 - FAX (952) 258-8900

MUNICIPALITY

BLOOMINGTON
MINNESOTA

PROJECT

LUTHER HYUNDAI
BLOOMINGTON, MN

ISSUE / REVISION HISTORY

CONTACT ENGINEER FOR ANY PRIOR HISTORY

DATE	ISSUE / REVISION	REVIEW
15 NOV 2022	DRC SUBMITTAL	SES
11 JAN 2023	CITY SUBMITTAL	SES
08 MAR 2023	PERMIT SET	SES
30 MAY 2023	CITY / WATERSHED RESUBMITTAL	SES

CERTIFICATION

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CITY / WATERSHED RESUBMITTAL
MAY 30, 2023

LANDFORM
From Site to Finish

105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

FILE NAME C001LUT054

PROJECT NO. LUT22054

CIVIL & LANDSCAPE TITLE SHEET
C0.1

GENERAL NOTES

1. For construction staking and surveying services contact Landform at 612.252.9070.

SITE PLAN NOTES

2. Obtain all necessary permits for construction within, or use of, public right-of-way.
3. The digital file, which can be obtained from the Engineer, shall be used for staking. Discrepancies between the drawings and the digital file shall be reported to the Engineer. The building footprint, as shown on these drawings, and the digital file, shall be compared to the structural drawings prior to staking.
4. Reserved.
5. Dimensions shown are to face of curb and exterior face of building unless noted otherwise.
6. Delineate parking stalls with a 4-inch wide white painted stripe. Delineate access aisles with 4-inch wide white painted stripes 18 inches on center and at 45 degree angle to direction of travel.
7. Trash Enclosure. Refer to Architectural plans for details.
8. Reinstall salvaged fence.
9. Reinstall salvaged light pole.
10. 4-space Bike rack. See sheet L2.1 for detail.

PROPOSED ZONING AND SETBACK SUMMARY

The Existing Property is Currently Zoned: Commercial Service (CS-0.5)

Proposed Zoning: Freeway Office and Service (C-1)

Building Setback Information is as follows:
Front Yard = 35 ft.
Rear = 30 ft.
Side = 20 ft.

Parking Setback Information is as follows:
Front Yard = 20 ft.
Rear = 5 ft.
Side (interior) = 5 ft.
Side (street) = 20 ft.

AREA SUMMARY

Existing:					
Pervious	58,149	s.f.	1.33	ac.	18.3%
Impervious	259,620	s.f.	5.96	ac.	81.7%
Total	317,769	s.f.	7.29	ac.	100.0%
Proposed:					
Pervious	56,960	s.f.	1.31	ac.	17.9%
Impervious	260,809	s.f.	5.98	ac.	82.1%
Total	317,769	s.f	7.29	ac.	100.0%
Building expansion:					
Existing	42,969	s.f.			
Additions	9,210	s.f.			
Total	52,179	s.f			

PARKING SUMMARY

Required Parking:

Service Area	Three stalls for each enclosed "major service" bay	24	72 Stalls
	Two stalls for each enclosed "minor service" bay	27	54 Stalls
	One stall per 300 SF of GFA excluding service bays	9,070 SF Service Area	30 Stalls
Car Wash	One stall per 375 SF of GFA	776 SF Car Wash	2 Stalls
Office	One stall per 285 SF of office GFA	8,834 SF Office Area	31 Stalls
Large Item Retail	One stall per 180 SF of retail GFA	3,208 SF Showroom Area	18 Stalls
Warehouse	One stall per 1,000 SF of warehouse GFA	7,292 sf Warehouse Area	7 Stalls
Total Parking Stalls Required			214 Stalls

Provided Parking:

Inventory Stalls	(9x18)	288	ea.
Customer / Employee / Service stalls	(9x18)	203	ea.
Accessible Stalls	(9x18)	7	ea.
Compact Stalls	(9x15)	4	ea.
Total Parking Stalls Provided		502	ea.

LEGEND

- Green Space (Landscape Area)
- Customer / Employee / Service parking (remainder of stalls are sales / inventory)

DEVELOPER

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MUNICIPALITY

BLOOMINGTON
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PROJECT

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30 MAY 2023	CITY / WATERSHED RESUBMITTAL	SES

CERTIFICATION

I hereby certify that this plan 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.

Steven E. Sabraski
License No. 47165 Date: 05/30/2023

Signature shown is a digital reproduction of original. Wet signed copy of this plan on file at Landform Professional Services, LLC office and is available upon request.

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CITY / WATERSHED RESUBMITTAL
MAY 30, 2023

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Fax: 612-252-9077
Web: landform.net

FILE NAME C201LUT22054.DWG
PROJECT NO. LUT22054

SITE PLAN
C2.1

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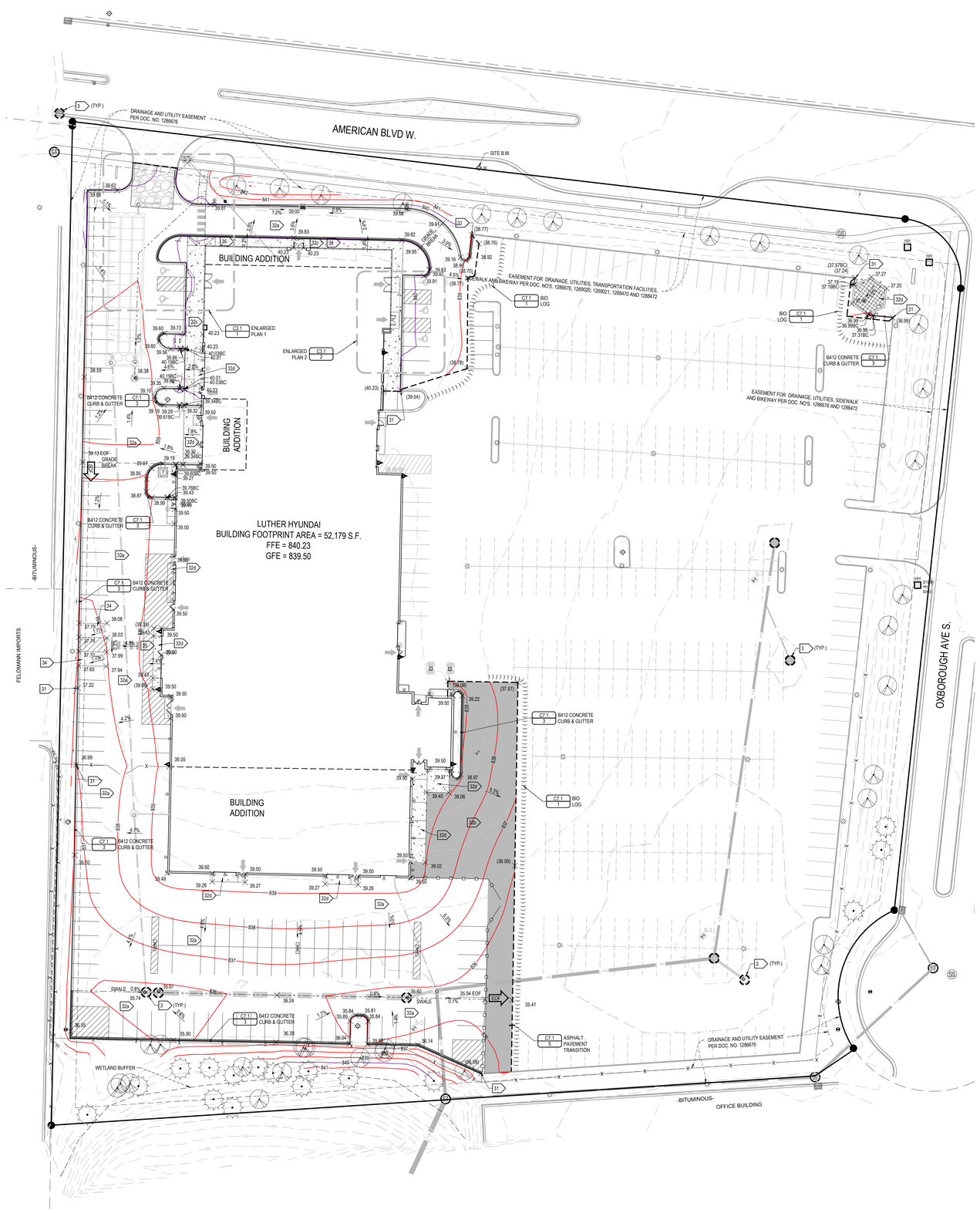
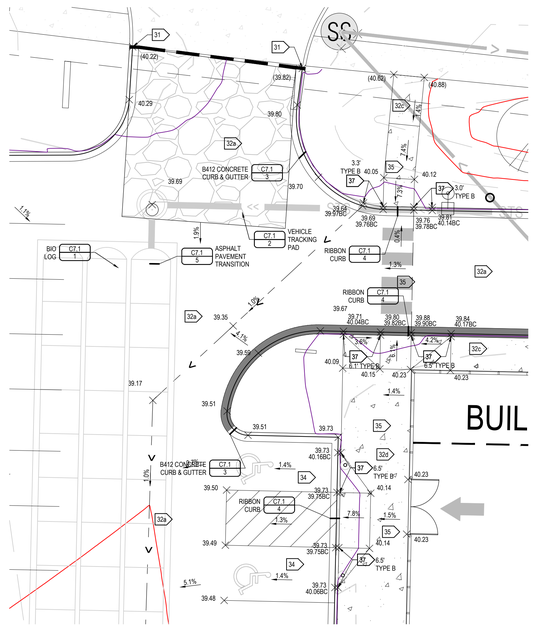
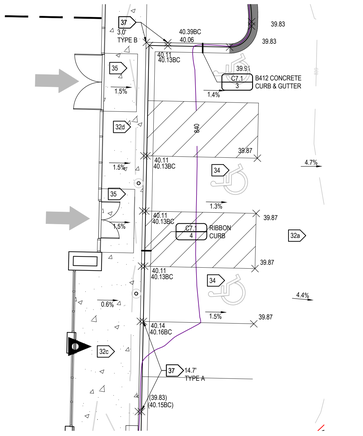
NORTH
0 30 60





1 **ENLARGED PLAN 1**

10 SCALE



2 **ENLARGED PLAN 2**

10 SCALE

GENERAL NOTES

1. For construction staking and surveying services contact Landform at 612 252 9070.

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

2. Install perimeter sediment controls prior to beginning work and maintain for duration of construction. Remove controls after areas contributing runoff are permanently stabilized and dispose of off site.

3. Install inlet protection: Wimco RO or CG models as appropriate, or approved equal. Maintain protection until project is stabilized.

4. Limit soil disturbance to the grading limits shown. Schedule operations to minimize length of exposure of disturbed areas.

5. Management practices shown are the minimum requirement. Install and maintain additional controls as work proceeds to prevent erosion and control sediment carried by wind or water.

6. Dewatering activity must ensure discharge does not adversely affect surface waters or downstream properties.

7. Soil stockpiles require perimeter control or other erosion control BMP.

8. Contractor shall prevent sediment laden water from entering the infiltration system and all storm sewer until the site is completely stabilized.

9. Stabilization must be started immediately to limit soil erosion when the construction activity in that portion of the site has temporarily or permanently ceased and will not resume for 14 calendar days.

10. Seed, Sod, Mulch, Erosion Control Blanket, and Fertilizer shall meet the following Specifications, as modified.

Item	Specification Number
Sod	MNDOT 3878
Seed	MNDOT 3876
MN Type 21-111 @ 100 lb./ac. - Temporary Erosion Control - Temporary Erosion Control, May 1 - Jul 31 MN Type 21-112 @ 100 lb./ac. - Temporary Erosion Control - Temporary Erosion Control, Aug 1 - Oct 31	
MN Type 25-151 @ 120 lb./ac. - Permanent Turf	
Mulch	MNDOT 3882
(MNDOT Type 1 @ 2 ton/ac., Disc Anchored)	
Erosion Control Blanket	MNDOT 3885
MNDOT Type 3N	
Fertilizer	MNDOT 3881
General Placement	MNDOT 2575

11. See Landscape Sheets for permanent turf and landscape establishment.

12. Scrape adjacent streets clean daily and sweep clean weekly.

GRADING NOTES

13. Contact utility service providers for field location of services 72 hours prior to beginning grading.

14. Refer to the Geotechnical Report prepared by NTI, Dated 09/08/2011, for additional information on backfill material and groundwater conditions.

15. Remove topsoil from grading areas and stockpile sufficient quantity for reuse. Materials may be mined from landscape areas for use on site and replaced with excess organic material with prior Owner approval.

16. Remove surface and ground water from excavations. Provide initial lifts of stable foundation material if exposed soils are wet and unstable.

17. Rough grade Building Pad to 12 Inches below Finished Floor Elevation (FFE).

18. Refer to Structural Specifications for earthwork requirements for building pads.

19. An Independent Testing Firm shall verify the removal of organic and unsuitable soils, soil correction, and compaction and provide periodic reports to the Owner.

20. Place and compact fill using lift thicknesses matched to soil type and compaction equipment to obtain specified compaction throughout the lift.

21. Compact cohesive soils in paved areas to 95% of maximum dry density. Standard Proctor (ASTM D698) except the top 3 feet which shall be compacted to 100%. Compact to 98% density where fill depth exceeds 10 feet. The soils shall be within 3% of optimum moisture content. In granular soils all portions of the embankment shall be compacted to not less than 95% of Modified Proctor Density (ASTM D1557).

22. Coordinate with Architectural for building stoop locations. Slopes shown on adjacent walks and pavements should continue over stoops.

INFILTRATION BASIN INFORMATION & TESTING

23. Avoid soil compaction of infiltration practices. Any equipment used in infiltration areas should be small scaled and tracked. Install protective fencing as shown before work begins.

24. Reserved.

25. DESIGN PERMEABILITY RATES:
Infiltration Basin was designed with a permeability of 0.06 inches/hour.

TESTING:

a. Infiltration Basins: Once filtration basin media has been placed, permeability testing shall be performed.

b. Contractor shall engage a qualified testing firm to measure the permeability of the basin surface utilizing a Double Ring Infiltrometer, Modified Philip Dunn (MPD) Infiltrometer, or other method approved by the Civil Engineer or Geotechnical Engineer. Test results shall be greater than or equal to the following rates to meet long term rates required for design:
Infiltration Basin needs a permeability of 0.12 inches/hour.

c. Contractor to contact the following to schedule testing. Representative staff from each entity may wish to observe the tests. Contact shall be made 72 hours prior to testing.

26. Civil Engineer: Steve Sabraski, ssabraski@landform.net, 612-252-9070
Geotechnical Engineer: TBD
Nine Mile Creek Watershed: TBD
City of Bloomington: TBD

27. RATE OF TESTING: Contractor shall coordinate with the testing firm to provide permeameter tests at the following rates:

Infiltration Basin I.D.	Basin Area (s.f.)	No. of Tests Required
1	7,292	3

28. Test results shall be provided to the Civil Engineer, Geotechnical Engineer, Watershed, & City staff.

PAVING NOTES

29. Spot Elevations at curblines indicate flowlines unless noted otherwise. See Sheet C4.1 for rim elevations of catch basins.

30. Grades between proposed spot elevations shall be continuous and nonvariable. Spot Elevations shall govern over contour lines.

31. Meet and Match existing curb. Transition as needed.

32. Paving Sections (Refer to Geotechnical Report by NTI, Dated 06-08-2011)
a. Bituminous Paving (Light Duty)
Bituminous Wear (MNDOT 2360)
Tack Coat (MNDOT 2357)
Bituminous Base (MNDOT 2360)
Aggregate Base (MNDOT 3138, Class 5)
Compacted Subsoil

b. Bituminous Paving (Heavy Duty)
Bituminous Wear (MNDOT 2360)
Tack Coat (MNDOT 2357)
Bituminous Base (MNDOT 2360)
Aggregate Base (MNDOT 3138, Class 5)
Compacted Subsoil

c. Concrete Walkways
4-inch Concrete Walk, 4000 PSI, 5%-8% Air Entrained, Max. 4" Slump (MNDOT 2301)
4-inch Aggregate Base (MNDOT 3138, CLASS 5)
Compacted Subsoil

d. Concrete Drives, Aprons, and Exterior Slabs
Concrete, 4000 PSI, 5%-8% Air Entrained, Max. 4" Slump (MNDOT 2301)
Aggregate Base (MNDOT 3138, CLASS 5)
Compacted Subsoil

33. Concrete Joints
Install joints as shown and align across sidewalks, curbs, and pavement, paying attention to spacing of expansion joints. Joint spacing shall be as follows:
a. Tooled joints: Divide panels into nominally equal areas unless shown otherwise.
b. Expansion Joints: Sidewalks - 40 feet max.; Curbs - 60 feet max.; Pavement: 80 feet max.; Adjacent to building foundations and stoops.
c. Contraction Joints: Sidewalks - 8 to 10 feet; Curbs and Aprons - 12 to 15 feet.

34. Accessible Parking Stalls and adjacent access aisles shall not exceed a 2.00% slope in any direction.

35. Accessible Routes shall have a maximum cross slope of 2.00% and a maximum running slope of 5.00%.

36. Adjust all structure rims to match pavement elevations.

37. Transition from 4" concrete curb & gutter to Ribbon Curb. Refer to detail C7.1/10.

38. Contractor shall obtain a Public Works permit for obstructions and concrete work within the right-of-way. Permit is required prior to removals or installation. Contact Sean Jenkins (952-563-4545, sjenkins@BloomingtonMN.gov) for permit information.

39. Street lighting and interconnect conduit must be exposed for city inspection prior to pouring concrete or backfilling excavation in city right-of-way.

LEGEND

SYMBOL	DESCRIPTION	ESTIMATED QUANTITY
	:Inlet Protection	7 ea.
	:Compost or Bio Log	591 ft.
	:Vehicle Tracking Pad	1 ea.
	:Tip Out Curb	
	:Pavement Sawcut	
	:Construction Limits	
	:Erosion Control Blanket	325 sf.

DEVELOPER

THE LUTHER COMPANY, LLLP
3701 ALABAMA AVENUE SOUTH
ST. LOUIS PARK, MN
TEL (952)258-8800 - FAX (952) 258-8900

MUNICIPALITY

BLOOMINGTON
MINNESOTA

PROJECT

LUTHER HYUNDAI
BLOOMINGTON, MN

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MAY 30, 2023

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FILE NAME C301LUT22054.DWG
PROJECT NO. LUT22054

GRADING, DRAINAGE, PAVING, & EROSION CONTROL
C3.1

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NPDES PERMIT AND SWPPP COMPONENTS

1. ***The current Minnesota Construction Stormwater General Permit (Permit) dated August 1, 2018 is referenced in this document as the Permit.***

The SWPPP includes the following components:

- Construction Documents prepared by Landform
- Stormwater Management Plan prepared by Landform
- Maintenance Plan for permanent stormwater BMPs
- Geotechnical Report prepared by NTI

All components must be kept onsite by the Operator. The Operator shall contact Civil Engineer if they do not have all of the above documents.

SITE INFORMATION

Site location: Latitude: 44.85714, Longitude: -93.34162

Disturbed area = 2.16 ac.
Pre-construction impervious area within disturbed area = 1.97 ac.
Post-construction impervious area within disturbed area = 2.00 ac.
Net change in impervious area within disturbed area = 0.03 ac.

Type of stormwater management:

- Infiltration

Erosion prevention and sediment control quantities are on sheets C3.1

SITE EVALUATION / ASSESSMENT / PLANNING

1. The Operator shall have primary responsibility and significant authority for the development, implementation, maintenance, inspection and amendments to the approved SWPPP. Duties include but are not limited to:
   - Ensuring full compliance with the SWPPP and the Permit
   - Implementing all elements of the SWPPP, including but not limited to:
     - Implementing prompt and effective erosion and sediment control measures
     - Implementing all non-storm water management, and good housekeeping BMPs ensuring that no materials other than Storm water are discharged in quantities, which will have an adverse effect on receiving waters or storm drain systems, etc.
   - Conducting routine inspections and maintenance
   - Ensuring elimination of all unauthorized discharges
   - Coordinating to ensure necessary corrections / repairs are made immediately, and that the project complies with the SWPPP, the Permit, and approved plans at all times.

STORMWATER POLLUTION PREVENTION MANAGEMENT MEASURES

1. ***Operator must develop pollution prevention management measures, implement good housekeeping BMPs, must follow all applicable federal, state, and local building codes, Occupational Safety and Health Act (OSHA), and the general conditions and general requirements of the construction contract.***
2. The Operator shall minimize the exposure to stormwater of any of the products, material, or wastes stored on site that may wash downstream or contaminate stormwater.
3. Building products that have the potential to leach pollutants must be under cover.
4. Chemicals and landscape materials shall be under cover to prevent the discharge of pollutants.
5. Operator to track progress of the following items on site maps: portable toilets, material storage areas, vehicle and equipment fueling and maintenance areas, concrete washouts, paint and stucco washouts, dumpsters or other trash and debris containers, spill kits, stockpiles, any other non-structural non-storm water management BMPs, any temporarily removed structural BMPs, any changes to the structural BMPs.
6. Solid waste: collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements.
7. Hazardous waste: oil, gasoline, paint and any hazardous substances must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or materials must be in compliance with Minn. R. Ch. 7045 including secondary containment as applicable.
8. Portable toilets must be positioned so that they are secure and will not be tipped or knocked over.
9. Concrete and other washout waste: operator must provide effective containment for all liquid and solid wastes generated by washout operations. The liquid and solid wastes must not contact the ground, and the containment must be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.
10. External vehicle washing: external washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.
11. Operator shall take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where they will be loaded or unloaded as detailed in the Permit.

SWPPP CONTACT AND TRAINING INFORMATION

1. Owner:
   The Luther Company, LLLP
   attn: Linda McGinty
   3701 Alabama Avenue S
   St. Louis Park, MN 55416
   (952) 258-8800
2. Operator:
   To Be Determined. Contact Owner until Contractor Is Selected.
3. Long Term Maintenance And Operation:
   To Be Determined. Contact Owner until Contractor Is Selected.
4. SWPPP Designer:
   Steve Sabraski, P.E.
   Landform Professional Services
   105 South Fifth Avenue, Suite 513
   Minneapolis, Mn 55401
   612-252-9070
   ssabraski@landform.net
   Certification: U Of MN, Design Of Construction SWPPP, Exp. May 31, 2025
5. SWPPP Inspector / Manager:
   To Be Determined. Contact Owner until Contractor And SWPPP Inspector / Manager is selected.
6. BMP Installation And Repair:
   To Be Determined. Contact Owner until BMP Installer And Maintainer is selected.

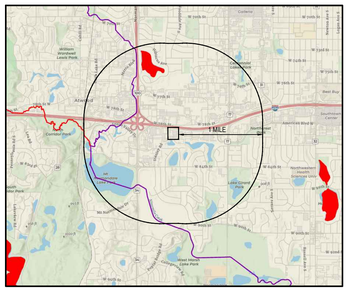
DESCRIPTION OF CONSTRUCTION ACTIVITY

1. Construction activity includes erosion and sediment control BMPs installation, clearing and grubbing, site grading, utility installation, building construction, paving, and landscaping.

SCHEDULE OF BMP INSTALLATION AND CONSTRUCTION ACTIVITY

1. Install perimeter sediment control BMPs prior to start of other site work. Refer to Grading, Drainage, Paving and Erosion Control sheet for initial locations of BMPs.
2. Protect infiltration areas with construction fencing. Install fencing prior to site grading or within 24-hours of excavating an infiltration basin.
3. Construct temporary / permanent sedimentation basins prior to upland disturbance. Install perimeter sediment control BMPs around normal water levels within 48-hours of completion of basin grading.
4. Stabilize outlets from temporary / permanent sedimentation basins within 24-hours of outlet construction.
5. Perform work in phases to minimize disturbed area at any one time. Operator to develop phasing plan prior to start of work.
6. Strip topsoil from areas to be disturbed and stockpile with perimeter sediment control BMPs. Provide stabilization if stockpile is left longer than 14 days.
7. Rough grade site.
8. Install utilities.
9. Install small utilities (gas, electric, communications).
10. Final grade pavement areas and compact subgrade.
11. Lay down pavement aggregate and compact.
12. Install curb and gutter. Backfill after a minimum of three days and provide a minimum of two rolls of sod at the back of curb.
13. Construct building / addition and site features.
14. Construct site walks and patios.
15. Provide final stabilization.
16. Connect infiltration / filtration practices to storm sewer inlets.
17. Remove temporary BMPs and dispose of properly.

WATERS WITHIN ONE MILE OF SITE



MN SPECIAL (PROHIBITED, RESTRICTED, OTHER) & IMPAIRED WATERS

1. Lake Edina is impaired based on the current USEPA 303(d) clean water act list; is within 1 mile of this site; and stormwater does not discharge to it. Impairments are for Aquatic consumption.
2. Nine Mile Creek is impaired based on the current USEPA 303(d) clean water act list; is within 1 mile of this site; and stormwater does not discharge to it. Impairments are for Aquatic Life.

EROSION PREVENTION AND SEDIMENT CONTROL

1. See Grading, Drainage, Paving and Erosion Control sheets for the location and type of temporary erosion prevention and sediment control BMPs. See Grading and Drainage, Utility, and Landscape sheets for the location and type of permanent erosion prevention and sediment control BMPs.
2. **Minimize Disturbed Areas and Protect Natural Features and Soil**

   Appropriate construction practices (e.g. construction phasing, vegetative buffer strips, horizontal slope grading) shall be used to minimize erosion.

   Areas not to be disturbed (buffers, infiltration basins, etc.) shall be protected with construction or silt fence before work begins.

   Operator shall develop methods to minimize soil compaction outside of building pads, pavement areas and utility trenches and shall use tracked equipment wherever practicable.

   Topsoil shall be salvaged and reused to the extent practicable.
3. **Phase Construction Activity**

   Operator must not disturb more land than can be effectively inspected and maintained.

   Sediment control practices shall be established on all down gradient perimeters before any upgradient land disturbing activities begin. These practices shall remain in place until final stabilization has been established in accordance with the Permit.

   The timing of the installation of sediment control practices may be adjusted to accommodate short-term activities such as clearing or grubbing, or passage of vehicles. Any short-term activity must be completed as quickly as possible and the sediment control practices shall be installed immediately after the activity is completed. However, sediment control practices shall be installed before the next precipitation event even if the activity is not complete.
4. **Control Stormwater Flowing onto and Through the Project**

   The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, shall be stabilized within 200 lineal feet from the property edge, or from the point of discharge into any surface water.

   Stabilization of the last 200 lineal feet shall be completed within 24 hours after connecting to a surface water.

   Stabilization of the remaining portions of any temporary or permanent ditches or swales shall be complete within 14 days after connecting to a surface water and construction in that portion of the ditch has temporarily or permanently ceased.

   Temporary or permanent ditches or swales that are being used as a sediment containment system (with properly designed rock ditch checks, bio rolls, silt dikes etc.) do not need to be stabilized. These areas shall be stabilized within 24 hours after no longer being used as a sediment containment system.
5. **Stabilize Soils**

   All exposed soil areas, including stockpiles, must be stabilized.

   Stabilization must be started immediately to limit soil erosion when the construction activity in that portion of the site has temporarily or permanently ceased and will not resume for 14 calendar days. Stabilization must be complete within 14 days of cessation of construction activity.

   Temporary soil stockpiles shall have silt fence or other effective sediment controls, and cannot be placed in surface waters, including storm water conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the storm water.

   Temporary stockpiles without significant silt, clay or organic components (e.g. clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces, are exempt from this requirement.
6. Protect Slopes

   Operator shall avoid work on slopes with a grade of 3:1 or greater when practicable. Grading on slopes with a grade of 3:1 or steeper will require techniques such as phasing and stabilization practices designed for steep slopes(e.g. slope draining and terracing).
7. Protect Storm Drain Inlets

   All storm drain inlets shall be protected by appropriate BMPs during construction until all sources with potential for discharging to the inlet have been stabilized. Inlet protection may be temporarily removed if a specific safety concern has been identified.
8. Provide Energy Dissipation at all Pipe Outlets within 24 Hours

   After connection to a surface water or permanent stormwater treatment system.
9. Establish Perimeter Controls and Sediment Barriers

   Prior to disturbing soils on a project site, establish sediment control BMPs on all down-gradient perimeters and where site discharges to public waters.
10. Retain Sediment On-site and Control Dewatering Practices

    Discharge shall not cause nuisance conditions, erosion in receiving channels, adversely affect receiving water or impact wetlands, or downstream properties. Discharge points shall be adequately protected from erosion and scour by accepted energy dissipation measures.

    Discharge water containing oil or grease shall be treated to remove oil or grease prior to discharge to surface waters.

    Refer to Permit requirements for temporary or permanent sediment basins.
11. Establish Stabilized Construction Exits

    Vehicle tracking pads shall be established as shown on the Grading, Drainage, Paving and Erosion Control sheet to minimize tracking of sediment from the construction site onto adjacent streets.
12. Infiltration Basin Protection

    Operator must not excavate infiltration systems to final grade or within three (3) feet of final grade until the contributing drainage area has been constructed and fully stabilized unless rigorous erosion prevention and sediment controls have been installed.

    When excavating an infiltration system to within three (3) feet of final grade, operator shall mark off and protect the area from heavy construction equipment to prevent compaction of soils.
13. Dewatering and Basin Draining

    Permittees must discharge turbid or sediment-laden waters related to dewatering or basin draining to a temporary or permanent sediment basin. Discharges must not cause erosion or scour near the discharge points.
14. Remove Sediment from Surface Waters

    All sediment deposits and deltas must be removed from surface waters, including drainage ways, catch basins, and other drainage systems, and the removal areas restabilized within seven (7) days.

TEMPORARY SEDIMENTATION BASIN(S)

1. This project does not have more than five (5) disturbed acres draining to a common location and the site does not drain to an impaired or special water, therefore a temporary sediment basin is not required.
2. Temporary sediment basins shall provide treatment to runoff before it leaves the construction site or enters surface waters. The contractor shall comply with the following requirements:
   A. Sedimentation basins must provide live storage of runoff resulting from the 2-year 24-hour rainfall event from each acre drained to the basin, with a minimum of 1,800 c.f./acre live storage volume. (Where no calculation has been performed, each basin shall provide at least 3,600 c.f./acre live storage.) Sedimentation basins must include a stabilized emergency overflow to prevent basin integrity failure.
   B. Discharge from temporary sedimentation basins will be withdrawn from the surface in order to minimize the discharge of pollutants.
3. Discharge from basin draining shall not adversely affect the receiving water or downstream properties. Contractor will visually check to ensure adequate treatment has been obtained and that nuisance conditions will not result from the discharge.
4. Any discharge observed to be occurring during the inspection shall be recorded, described, and photographed.
5. If any proposed temporary BMPs are not working as intended refer to the "Stormwater Compliance Assistance Toolkit for Small Construction Operators", MPCA, 2017 for additional information. Operator shall contact the SWPPP Designer for additional requirements and information.

POST CONSTRUCTION / PERMANENT BMPS

1. See Grading and Drainage, Utility, and Landscape sheets for post construction and permanent stormwater BMPs.

INSPECTIONS AND MAINTENANCE

1. Permittees must ensure that a trained person will inspect the entire construction site at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5-inches in 24 hours.
2. Inspections shall include stabilized areas, erosion prevention and sediment control BMPs, and infiltration areas.
3. Surface waters on or adjacent to the site must be inspected for evidence of erosion or sediment deposition.
4. Permittees must record all inspection and maintenance activities within 24 hours of being conducted as detailed in the Permit.
5. Inspection Records content shall include:
   A. Date and time of inspections;
   B. Name of persons conduction inspections;
   C. Findings of inspections, including specific locations where corrective actions are needed;
   D. Corrective actions taken including dates, times, and the party taking the corrective action;
   E. Dates of all rainfall events greater than 1/2 inch in 24 hours (refer to Permit for measurement requirements);
   F. Any discovered discharge must be recorded, including photographs, descriptions of discharge (color, odor, settled or suspended solids, oil sheen, or other obvious indicators of pollution), and specific location of discharge location;
   G. Any amendments to the Permit as a result of inspections must be documented within seven calendar days as described in the Permit
6. BMP Maintenance:
   A. Nonfunctional BMPs must be repaired or replaced by the end of the next business day after discovery unless a different time frame is indicated.
   B. Follow the designer's or manufacturer's recommended maintenance procedures for all BMPs.
   C. Remove sediment from BMPs when the depth of sediment has reached 1/2 the height of the BMP and properly dispose of sediment into controlled areas to prevent soil from returning to the BMP during subsequent rain events.
   D. Remove sediment from paved roadways **within one calendar day of discovery**.
   E. Remove sediment from around BMPs protecting storm drain inlets.
   F. Surface waters with evidence of sediment deposition must be stabilized and sediment removed **within seven calendar days of discovery, or as stated by the Permit**.
   G. Ensure that construction support activities, including borrow areas, waste areas, contractor work areas, and material storage areas and dedicated concrete and asphalt batch plants are cleaned and maintained.
   H. Replace damaged BMPs that no longer operate effectively.
7. Add BMPs as needed during construction to minimize erosion and prevent sediment from leaving the site.

RECORD KEEPING / RECORD RETENTION

1. The SWPPP (original or copies), including all changes to it, and inspections and maintenance records, shall be kept at the site during construction by the Owner / Operator who has operational control of that portion of the site. The SWPPP can be kept in either the field office or in an on site vehicle during normal working hours.
2. All Owners(s) must keep the SWPPP, along with the following additional records, on file for three (3) years after submittal of the Notice of Termination (NOT). This does not include any records after submittal of the NOT.
3. The following is a list of records that shall be kept at the project site available for inspectors to review:
   - Copy of the SWPPP, with any modifications;
   - Inspection and maintenance records;
   - Permanent operation and maintenance agreements;
   - Calculations for the design of temporary and permanent stormwater management systems;
   - Any other permits required for the project;
   - Records of all inspection and maintenance conducted during construction; and
   - All permanent operation and maintenance agreements that have been implemented, including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance

LOG OF CHANGES TO THE SWPPP / AMENDMENTS

1. ***The Owner / Operator(s) must amend the SWPPP as necessary to include additional requirements, such as additional or modified BMPs, designed to correct problems identified or address situations as detailed in the Permit.***

FINAL STABILIZATION

1. ***The Owner / Operator(s) must ensure final stabilization of the site. Final stabilization includes:***
   A. Ensuring all areas have permanent cover.
   B. Vegetative areas must have perennial cover with a density of 70% of expected final growth.

TERMINATION OF COVERAGE

1. ***Owner / Operator(s) wishing to terminate coverage under the Permit must submit a Notice of Termination (NOT) to the MPCA. Compliance with the Permit is required until a NOT is submitted. Refer to the Permit for details. Conditions for submitting a NOT include:***
   A. Site must have achieved final stabilization (refer to section above).
   B. The permanent stormwater treatment and conveyance systems must be clean and all accumulated sediment removed.
   C. All temporary synthetic erosion prevention and sediment control BMPs must be removed from the site and disposed of properly.

DEVELOPER

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ST. LOUIS PARK, MN
TEL (952)258-8800 - FAX (952) 258-8900

MUNICIPALITY

BLOOMINGTON
MINNESOTA

PROJECT

LUTHER HYUNDAI
BLOOMINGTON, MN

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30 MAY 2023	CITY / WATERSHED RESUBMITTAL	SES

CERTIFICATION

I hereby certify that this plan 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.

Steven E. Sabraski
License No. 47165 Date: 05/30/2023

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FILE NAME C302LUT54.DWG
PROJECT NO. LUT22054

MN SWPPP NOTES

C3.2

GENERAL NOTES

1. For construction staking and surveying services contact Landform at 612.252.9070.

UTILITY NOTES

2. Pipe Materials
   - Storm Sewer: PVC Schedule 40 (ASTM: D1785, D2665, F794, & F1866); RCP 12"-18" Class 5 (ASTM C76)
   - Drain Tile: HDPE - Corrugated & Perforated (ASTM F405 & F667)
3. Contact utility service providers for field location of services 72 hours prior to beginning.
4. Contractor to field verify location and elevation of all utility points of connection prior to construction of any proposed utilities. Contractor to notify Engineer immediately if there is any discrepancy.
5. Contractor to pothole all utility crossings prior to construction of new utilities to verify depths of existing lines. Contact Engineer immediately if any conflicts are discovered.
6. Provide means and measures to protect adjacent property from damage during utility installation.
7. Pipe lengths shown are from center of structure to center of structure or end of end section.
8. Install tracer wire with all non-conductive utilities in accordance with City of Bloomington Standards.
9. Connect to City utilities in accordance with City of Bloomington Standards.
10. HDPE pipe connections into all concrete structures must be made with water tight materials utilizing an A-Lok or WaterStop gasket or boot, cast-in-place rubber boot, or approved equal. Where the alignment precludes the use of the above approved watertight methods, Conseal 231 WaterStop sealant, or approved equal will only be allowed as approved by the Engineer.
11. Utility permits are required for connection to the public storm, sanitary, and water system. Contact utilities (952-563-8777) for permit information
12. Deflect water to maintain 18-inch minimum outside separation at sewer crossings. Center pipe lengths to provide greatest separation between joints.
13. Contact City of Bloomington Utilities Department Department, at 952.563.8777 for flushing and pressure test inspections.
14. Reserved.
15. Reserved.
16. Reserved.
17. All portions of the storm sewer system, located within 10 feet of the building or water service line must be tested in accordance with Minnesota Rules, Part 4714.
18. All joints and connections in the storm sewer system shall be gastight or water tight. Approved resilient rubber joints must be used to make watertight connections to manholes, catch basins, and other structures.
19. Catch basins in curb and gutter are sumped 2 inches below the gutter grade.
20. Rock media in infiltration or filtration systems shall be angular, non-calcareous rock.
21. Irrigation sleeve to be 4 inch Schedule 80 PVC buried 24" below grade. Extend sleeves 3-feet beyond the edge of pavement. Mark each end of sleeve with 3/4-inch rebar 12 inches below finish grade. (Coordinate with irrigation contractor.)
22. Coordinate with Private Utilities to provide electric, natural gas, and communications services to building.
23. The primary electric feed, transformer, and meter are provided and installed by Xcel Energy. The transformer pad design is provided by the Utility and construction is by the Contractor. Contact Utility for pad detail. The secondary electric and conduits shall be installed by the Electrical Contractor.
24. See site lighting plan for additional information.
25. Protect sanitary service line. Contractor to inspect line after construction to ensure it has not been damaged.
26. Reserved.
27. Provide conduits for cable television and other electronic communication.
28. Coordinate with Mechanical, Plumbing, and Electrical Drawings for locations of service connections and continuation of services within building.
29. Compact cohesive soils in paved areas to 95% of maximum dry density, Standard Proctor (ASTM D698) except the top 3 feet which shall be compacted to 100%. compact to 98% density where fill depth exceeds 10 feet. The soils shall be within 3% of optimum moisture content. In granular soils all portions of the embankment shall be compacted to not less than 95% of Modified Proctor Density (ASTM D1557).
30. Adjust structures to final grade where disturbed. Comply with requirements of Utility. Meet requirements for traffic loading in paved areas.

INFILTRATION / FILTRATION BASIN REQUIREMENTS

31. Refer to the C3.1 sheet notes for requirements.

UTILITY CROSSINGS

1. Crossing 1
   Storm Sewer Bottom=835.02
   Sanitary Sewer Top=832.47
   Clearance = 2.55'

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Steven E. Sabraski

License No. 47165 Date: 05/30/2023

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PROJECT NO. LUT22054

UTILITIES

C4.1

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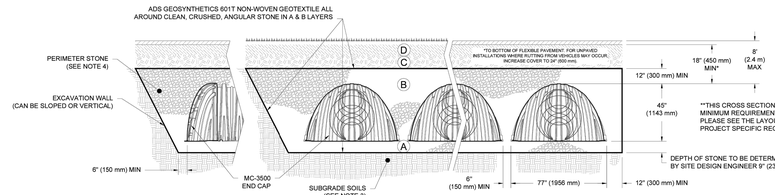
NORTH
0 30 60

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



*FOR COVER DEPTHS GREATER THAN 8.0' (2.4 m) PLEASE CONTACT ADS

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 **UNDERGROUND INFILTRATION SYSTEM**

NO SCALE

MC-3500
STANDARD CROSS SECTION
DATE: 8/03/22 DRAWN: KLJ
PROJECT #: CHECKED: KLJ

DATE	DRWN	CHKD	DESCRIPTION

StormTech® Chamber System
888.892.2694 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026

THE DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED TO THIS ENGINEER BY THE OWNER AND/OR OTHER PROFESSIONALS. THE ADS ENGINEER ASSUMES NO RESPONSIBILITY FOR ACTUAL CONDITIONS THAT VARY FROM THE INFORMATION PROVIDED. THE ADS ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE OWNER TO ENSURE THAT THE CONSTRUCTION DRAWINGS ARE CONSISTENT WITH ALL PERTINENT ASPECTS OF THE PROJECT. FAILURE TO DO SO MAY RESULT IN ADDITIONAL COSTS TO THE OWNER. THE ADS ENGINEER SHALL BE NOTIFIED OF ANY VARIATIONS BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO THE START OF ANY CONSTRUCTION.

1 SHEET OF 1

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CIVIL CONSTRUCTION DETAILS
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