Erosion Control & Storm Water Management Maintenance/Operation Plan

For:

La Crosse New Elementary School

PREPARED BY:

Point of Beginning

4941 KIRSCHLING COURT
STEVENS POINT, WI 54481
(715) 344-9999 ■ (715) 344-9922

Project Number: 25.0034

Located in:

City of La Crosse
La Crosse County, Wisconsin

Dated:

October 28, 2025

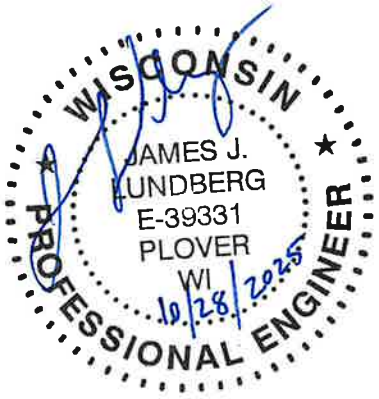


TABLE OF CONTENTS

Erosion Control & Storm Water Management Plan
La Crosse New Elementary School
City of La Crosse, Wisconsin

Appendices

Erosion Control & Storm Water Management
Maintenance/Operation Plan
La Crosse New Elementary School
La Crosse, WI

1.0 BACKGROUND & GENERAL INFORMATION

1.1 Introduction and Project Location

Point of Beginning, Inc. has been retained by the School District of La Crosse to perform storm water management calculations and prepare a storm water management plan per NR216.47 and NR151, for the proposed La Crosse New Elementary School project. The project site is located at 807 East Avenue South, La Crosse, WI 54601

1.2 Project Contacts

Designation	Name	Address	Phone Number
Landowner & Developer *School District of La Crosse*	Joe Ledvina	807 East Avenue South La Crosse, WI 54601	(608) 789-7627
Stormwater Engineer *Point of Beginning, Inc.*	Jim Lundberg, P.E.	4941 Kirschling Ct Stevens Point, WI 54481	(715) 344-9999
Person Responsible for BMP Installation TBD	TBD	TBD	TBD

1.3 Project Description

The proposed project consists of demolition of the existing Hogan Administration Center building including all paved surfacing, infield baseball mix, gravel areas, woodchip playground areas, and landscape areas. A new elementary school building is to be constructed including paved parking lot, concrete sidewalks, hard surface playground areas, rubber surface play areas, woodchip play areas, and landscape/turf grass areas. Additionally, the site will be graded to ensure proper drainage, and one new underground stormwater wet pond system will be installed. (See Layout Plan in **Appendix A**).

1.4 Project Requirements

The project area includes approximately 4.5 acres that will be disturbed. Since the disturbed area exceeds one acre, a Wisconsin Department of Natural Resources Notice of Intent application/permit (NOI-WPDES per WDNR) is required.

The storm water management plan for this project has been developed in accordance with NOI-WPDES, NR216.47, NR151.121, and City of La Crosse Chapter 105 requirements for redevelopment sites.

1.5 General Project Data

<u>Soils</u>
The Natural Resources Conservation Service (NRCS) has no data for existing subgrade soils. A geotechnical exploration was performed to verify the soil conditions and explore the possibility of stormwater infiltration. The geotechnical data is attached in **Appendix B**.

<u>Groundwater</u>
Groundwater was estimated to be deeper than the termination depths (16-26') at the test boring locations at the time the borings were conducted.

Wetlands
Per the DNR Surface Water Data Viewer, there are no wetlands or wetland indicators located on the project site or within 75' of the project limits.

Precipitation
The following precipitation rates have been utilized for storm water calculations:

$P_{2,24}$ = 3.01"
$P_{10,24}$ = 4.46"

2.0 EXISTING DRAINAGE CONDITIONS

2.1 Existing Drainage Areas

The existing site consists of one sub-basin (E1). Sub-basin E1 consists of existing asphalt, concrete sidewalk, baseball infield mix, gravel, woodchip play area, and landscape/grass areas. Runoff from E1 drains offsite to via overland flow and into existing municipal storm sewer system. An existing drainage map can be found in **Appendix C**.

2.2 Existing Drainage Calculation Summary

Existing drainage calculations utilize TR-55 methodology and results for a 1, 2, 10, 25 and 100-year design storm are included. Existing drainage calculations are provided in **Appendix C**.

2.3 Existing Off-Site Drainage

Existing off-site storm water runoff draining onto the project site has been taken into consideration for the existing drainage evaluation.

3.0 PROPOSED DRAINAGE CONDITIONS

3.1 Proposed Drainage Areas

The proposed site is divided into seven sub-basins (D1-D7). Sub-basin D1 consists of building rooftop, concrete sidewalk, rubber play surface, hard surface play area, wood chip play area, and grass area. Runoff from D1 is collecting into storm pipe and conveyed to the proposed Storm Tech system. Sub-basin D2 consists of paved parking area, concrete sidewalk, and grass area. Runoff from D2 flows directly offsite to the west and into the existing municipal storm sewer system within the right of way of East Avenue. Sub-basin D3 consists of grass areas. Runoff from D3 flows directly offsite to the north and into the existing municipal storm sewer system within the right of way of 19th Street South. Sub-basin D4 consists of paved parking area, concrete sidewalk, soft surface play area, and grass area. Runoff from D4 flows directly offsite to the east and into the existing municipal storm sewer system within the right of way of 19th Street South. Sub-basin D5 consists of paved parking area, concrete sidewalk, and grass areas. Runoff from D5 flows directly offsite to the south and into the existing municipal storm sewer system within the right of way of Mississippi Street. Sub-basin D6 consists of concrete sidewalk, paved parking area, and grass area. Runoff from D6 is collected into storm pipe and conveyed to the proposed Storm Tech system. Sub-basin D7 consists of concrete sidewalk, paved parking area, and grass area. Runoff from D7 is collecting into storm pipe and conveyed to the proposed Storm Tech system. A proposed drainage area map is provided in **Appendix D.**

3.2 Post-Development Runoff Summary

Proposed drainage calculations utilize TR-55 methodology and results for a 2 and 10-year design storm are included. A proposed drainage area map and calculations are provided in **Appendix D.**

3.3 Proposed Detention Areas

One stormwater management practice is proposed.

The StormTech Chamber System (1P) collects storm water runoff from the developed areas of D1, D7, & D6 and is located under the proposed parking lot on the southwest side of the site. This system provides rate control and treatment for the site.

4.0 POST-DEVELOPMENT PERFORMANCE STANDARDS

4.1 Total Suspended Solids

According to NR151.122, BMPs shall be designed in accordance with Table 1, or to the maximum extent practicable. For redevelopment projects Table 1 indicates that the total suspended solids shall be reduced by 40 percent for parking and roads, based on an average annual rainfall, as compared to no runoff management controls.

Per City of La Crosse Section 105-61(b)(4)(a)(1), BMPs shall be designed in accordance with Table 1, or to the maximum extent practicable as provided in subsection (b)(4)a.2. The design shall be based on an average annual rainfall, as compared to no runoff management controls. For redevelopment projects Table 1 indicates that the total suspended solids shall be reduced by 40 percent for parking areas and roads.

The total suspended solids removal has been modeled in WinSLAMM version 10.5.0. According to the WinSLAMM modeling, the expected TSS removal is **71.18%**; therefore, the proposed design meets NR151.122 and City of La Crosse total suspended solids removal requirements. See **Appendix D** for the WinSLAMM modeling inputs and outputs.

4.2 Infiltration

According to NR151.124(1)(b), redevelopment projects are exempt from infiltration performance standards.

Per City of La Crosse Section 105-61(b)(4)(d)(3)(b)(iii), redevelopment post-construction sites are exempt from infiltration performance standards.

4.3 Peak Discharge

According to NR151.123(2)(b), redevelopment projects are exempt from peak discharge rate performance standards.

Per City of La Crosse Section 105-61(b)(4)(b), BMPs shall be employed to reduce the two-year, 24-hour; and the ten-year, 24-hour post construction peak runoff discharge rates to the two-year, 24-hour; and the ten-year, 24-hour pre-development peak runoff discharge rates respectively.

In accordance with good engineering practice and Point of Beginning policy, the project's pre-development and post-development peak runoff discharge rates have been calculated.
The pre-development and post-development peak rates of the discharge leaving the site are summarized in the table on the following page. See **Appendix D** for HydroCAD modeling routing diagrams, summaries, and node listings.

	Pre-Development	Post-Development
	Total (1L)	Total (1L)
2-year 24-hour Peak Flow	1.53 cfs	0.91 cfs
10-year 24-hour Peak Flow	3.65 cfs	1.95 cfs

4.4 Protective Area

No neighboring waterways or wetlands within 75' of the project site. Therefore, protective area requirements are not applicable for this project.

4.6 Summary

The modeling of this site shows that the performance standards set by the Department of Natural Resources and the City of La Crosse 105-61 can be met with the proposed design.

The Storm Water Management Plan shows basic compliance with accepted engineering practice in hydrologic planning and design. The resulting development will function as a positive addition to the community while sustaining environmental benefits in storm water management and quality.

5.0 CONSTRUCTION SITE PERFORMANCE STANDARDS

5.1 Erosion Control

The purpose of this control plan is to provide guidelines that comply with the state and local requirements, as well as to make recommendations regarding erosion control and storm water management. The construction of this development is a critical phase in terms of storm water management and runoff control. Construction site erosion control will help minimize the impact of development, enhance and protect the local environment, and protect the surrounding project area by applying best management practices for erosion control at construction sites. This work shall be planned and executed in accordance with the Wisconsin Department of Natural Resources Storm Water Management Technical Standards and/or accepted local engineering practice. The owner/developer will be responsible for erosion control during the process of construction. Silt fence, site vegetation, rock construction entrance, inlet protection, temporary ditch checks and erosion mat will be utilized to keep sediment from leaving the construction site. **See Appendix E.**

5.2 Construction Site Erosion Control Measures

The following erosion control devices may be used on the project site at any time during the construction phases to ensure compliance with NR 216 and local erosion control requirements, as applicable.

a) Site Vegetation

Existing site vegetation outside of project limits shall be protected and maintained to the maximum extent practicable. Existing site vegetation within the project limits shall remain undisturbed until construction schedule warrants disturbance. For disturbed areas vegetation that resists erosion, maintains slow storm water velocities, and retains sediment from runoff shall be provided by the contractor. Temporary seeding may be required for disturbed areas that are subject to long periods of construction inactivity. Temporary vegetation is used when areas are disturbed and may remain unfinished long enough to allow vegetation to grow and assist with erosion control. Permanent vegetation is encouraged as soon as possible in the construction process.

b) Inlet Protection (WDNR 1060)

Inlet protection will be placed at all inlets to minimize sediment from entering storm drainage systems in area where the contributing drainage area is temporarily disturbed. Runoff shall be routed through a properly designed sediment trapping or settling practice upstream of the inlet. The appropriate type of inlet protection shall be installed prior to drain, drop, or curb inlet receiving runoff and maintained until the contributing drainage area is stabilized with appropriate vegetation or impervious surface.

c) Stone Tracking Pad (WDNR 1057)

Stone tracking pads will be constructed at all entrances to the construction site to minimize sediment tracking onto existing streets. A minimum of one construction entrance is required for the project site. Tracking pads are temporary and will be removed or much of the aggregate will be removed before the site is completed.

d) Waste and Material Disposal

All waste and unused building materials (including garbage, debris, cleaning wastes, or other construction materials) shall be properly disposed of and not allowed to be carried by runoff into a receiving channel or inlet.

e) Silt Fence (WDNR 1056)

Continuous silt fencing will be required along all areas downstream of disturbed area, and around the base of all stockpiled material subject to sediment transportation during rain fall events (stockpiled topsoil, gravel base, etc.). The silt fencing will provide a siltation barrier between the disturbed area and any inlets and ultimately downstream water bodies. All silt fence shall be removed upon completion of the project or when disturbed areas have generated sufficient vegetation to prevent erosion and the threat of sediment reaching inlets and bodies of water.

f) Non-channel Erosion Mat (WDNR 1052)

The purpose of this practice is to protect the soil surface from the erosive effect of rainfall and prevent sheet erosion during the establishment of grass or other vegetation, and to reduce soil moisture loss due to evaporation. This practice applies to both Erosion Control Re-vegetative Mats (ECRM) and Turf-Reinforcement Mats (TRM).

1. CLASS I: A short-term duration (minimum of 6 months), light duty, organic mat with photodegradable plastic or biodegradable netting.
   a. Type A – Use on erodible slopes 2.5:1 or flatter.

   b. Type B – Double netted product for use on erodible slopes 2:1 or flatter.

5.3 Operation and Maintenance, Short-term

The owner of this project is responsible for implementation and maintenance of erosion control measures during construction.

The Contractor shall conduct the following inspections:

- Weekly inspections of implemented erosion and sediment controls.
- Inspections of erosion and sediment controls within 24 hours after precipitation event 0.5 inches or greater which results in runoff during active construction periods.

The Contractor shall maintain weekly written reports of all inspections that include:

- The date, time, and exact place of the inspection.
- The name of the individual who performed the inspection.
- An assessment of the condition of erosion and sediment controls.
- A description of any erosion and sediment control implementation and maintenance performed.
- A description of the present phase of construction at the site.

Repairs shall be made immediately, as required, to maintain effectiveness until permanent vegetation is established. All repairs to erosion control devices shall be documented on the

Wisconsin Department of Natural Resources Construction Site Inspection Report (Form 3400-187). A copy of Form 3400-187 can be found in **Appendix F**.

5.4 Operation and Maintenance, Long-term

The owner of this project is responsible for the post-construction inspection and maintenance of the proposed stormwater best management practices as described below:

- Catch Basins, Storm Sewer, and Outfall:
  - Inspection: Look for accumulation of sediment and/or debris within catch basin, storm sewer pipe, and/or outfall. Look for damage to pipe, catch basin structure, and outfall.
  - Maintenance: Remove accumulated sediment and/or debris within the pipe, sump below catch basin, and/or within or near outfall. Repair damage to pipe, catch basin, and/or outfall.

- StormTech Chamber System:
  - Inspection: Measure and document the depth of water in basin. Inspect storm sewer for erosion or damage. Inspect trash rack for debris.
  - Maintenance: Remove any accumulated sediment and/or debris within inlets. Repair storm sewer if erosion or damage is identified. Remove accumulated debris from trash rack and weir plate.

The aforementioned inspection and maintenance schedule shall be performed after any rainfall event exceeding one inch of rainfall, and at a minimum semi-annually in early spring and fall.

All inspections and maintenance shall be documented, and the owner shall keep all inspection and maintenance records onsite and available upon request of the local municipality or the Wisconsin Department of Natural Resources.

6.0 SUMMARY

6.1 General

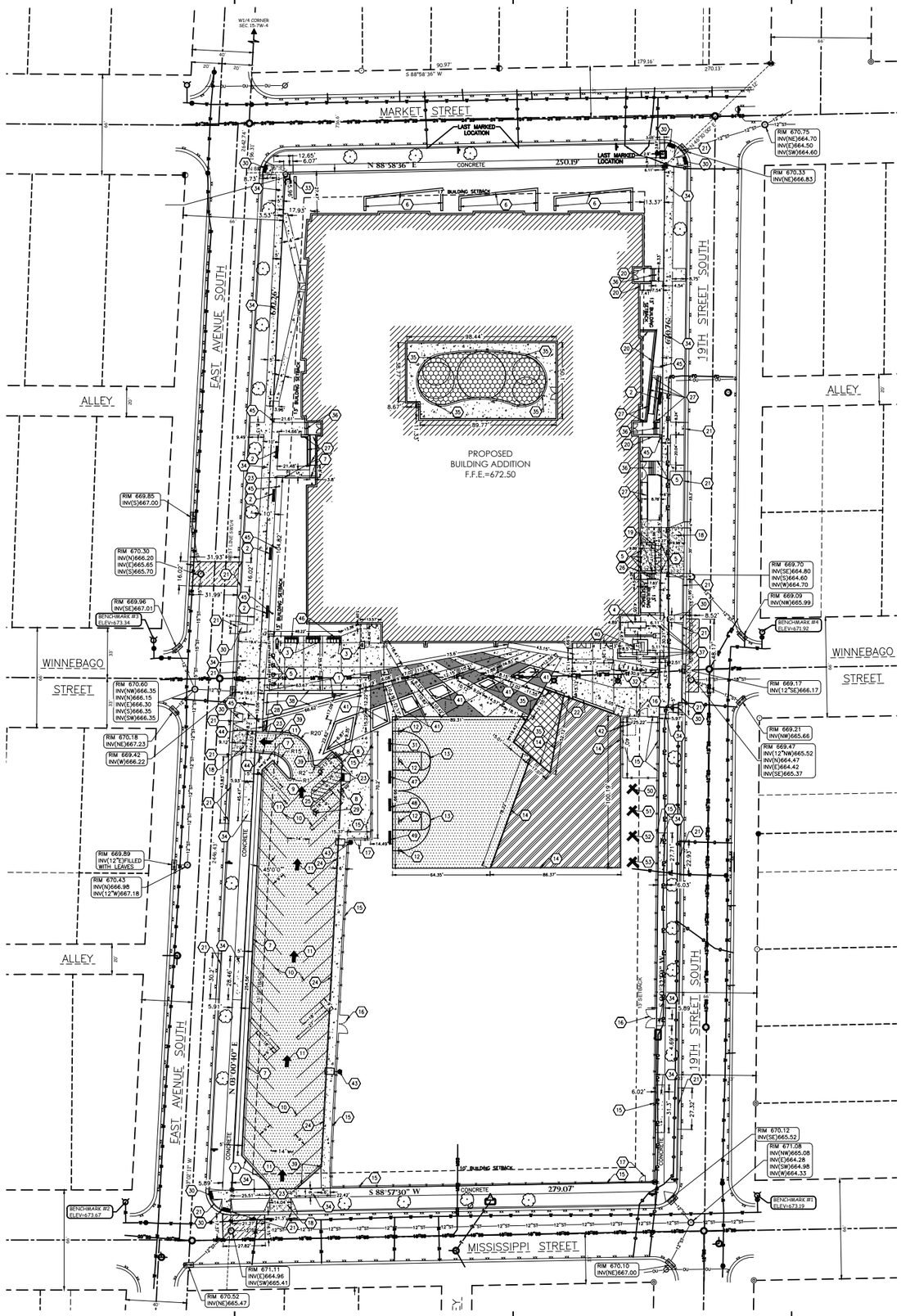
The proposed development as outlined above meets all applicable Wisconsin Department of Natural Resources storm water regulations.

For the temporary construction site scenario, sediment transport from this site to adjacent properties will be reduced by the erosion control devices and conservation practice standards.

This plan meets state storm water requirements and provides an environmentally sound and practical solution for the future storm water runoff generated from the development of this site.

APPENDIX A

Proposed Layout Plan



GENERAL NOTES:

1. CONTRACTOR SHALL LOCATE ALL PUBLIC AND PRIVATE UTILITIES PRIOR TO COMMENCEMENT OF WORK.
2. GRADE, LINE, AND LEVEL TO BE REVIEWED IN THE FIELD BY THE CONSTRUCTION MANAGER.
3. ALL REQUIRED EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH LOCAL MUNICIPAL AND DEPARTMENT OF NATURAL RESOURCES REGULATIONS.
4. SEE SHEET C4.0 FOR ALL REQUIRED EROSION CONTROL ELEMENTS.
5. ANY EXISTING UTILITIES NOT SHOWN ON THIS DOCUMENT WHICH NEED TO BE REMOVED, RELOCATED AND OR ADJUSTED SHALL BE THE RESPONSIBILITY OF THE SITE GRADING CONTRACTOR.
6. VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF DEMOLITION/CONSTRUCTION.
7. BIDDERS SHALL VISIT THE SITE AND REVIEW EXISTING CONDITIONS PRIOR TO THE BID DATE.
8. PRIOR TO STARTING WORK, VERIFY WITH THE LOCAL AUTHORITIES THAT ALL REQUIRED PERMITS HAVE BEEN ACQUIRED.
9. COORDINATE CONSTRUCTION IN THE RIGHT OF WAY WITH THE LOCAL AUTHORITIES.
10. PROVIDE PROPER BARRICADES, SIGNS, AND TRAFFIC CONTROL TO MAINTAIN THRU TRAFFIC ALONG ADJACENT STREETS IN ACCORDANCE WITH LOCAL MUNICIPAL REQUIREMENTS.
11. SIDEWALK JOINTS SHALL BE INSTALLED AS INDICATED OR AS APPROVED BY THE CONSTRUCTION MANAGER.
12. ALL GENERAL LANDSCAPE AREAS SHALL BE SEEDED, FERTILIZED, AND CRIMP HAY MULCHED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

PAVEMENT HATCH PATTERNS:

- PROPOSED STANDARD ASPHALT PAVEMENT — 1 / C6.0
- PROPOSED STANDARD CONCRETE PAVEMENT — 2 / C6.0
- COLOR CONCRETE TYPE 1 COLOR: 'DARK GREY' BY DAVIS COLORS FINISH: LIGHT SAND BLAST — 2 / C6.0
- PROPOSED REINFORCED CONCRETE PAVEMENT — 2 / C6.0
- PROPOSED RUBBER SURFACE PLAY AREA (COURTYARD) — 11 / C6.0, 9 / C6.0
- PROPOSED WOOD CHIP PLAY AREA — 10 / C6.0, 12 / C6.0
- PROPOSED ASPHALT PAVEMENT– TO MEET CITY OF LACROSSE STANDARDS SPECIFICATIONS AND DETAILS
- PROPOSED RUBBER SURFACE PLAY AREA (OUTSIDE OF SCHOOL) — 10 / C6.0

KEYNOTES:

1. FLAG POLE– AMERICAN BEACON EXTERNAL HALYARD SERIES 25' ANODIZED CLEAR FLAG POLE – (OR APPROVED EQUAL) INSTALL PER MANUFACTURER'S RECOMMENDATIONS — 7 / C6.0
2. BENCH – TYPE ZB.LE.02 CONCRETE TECH BENCH BY WAUSAU TILE, COLOR: A20 WHITE FINISH: WEATHERSTONE(B) OPTION: CAST–IN SKATE STOPPERS
3. CANOPY PILLAR– SEE ARCHITECTURAL PLANS
4. GENERATOR PAD – SEE ELECTRICAL PLANS
5. REINFORCED CONCRETE BOLLARD– SEE ARCHITECTURAL PLANS
6. GARDEN WALL – SEE ARCHITECTURAL PLANS
7. 18" CONCRETE CURB & GUTTER–STANDARD — 3 / C6.0
8. ADA PARKING SIGN — 8 / C6.0
9. ADA PARKING STALL– STANDARD — 2 / C6.1
10. PARKING LOT STRIPING — 2 / C6.1
11. DIRECTIONAL ARROW — 1 / C6.1
12. BASKETBALL HOOP– KEEPER GOALS PRODUCT ALL–AMER–IN–GL 60" IN–GROUND BASKETBALL HOOP (OR APPROVED EQUAL) INSTALL PER MANUFACTURER'S RECOMMENDATIONS
13. PLAYGROUND STRIPING– 4" WIDE LINE, WHITE TRAFFIC PAINT (VERIFY LOCATION & DIMENSIONS W/OWNER PRIOR TO CONSTRUCTION)
14. PLAY AREA CURBING — 10 / C6.0
15. 6' TALL CHAIN LINK FENCING — 5 / C6.1, 6 / C6.1
16. 12' SERVICE GATE — 4 / C6.1
17. 4' PEDESTRIAN GATE — 3 / C6.1
18. DRIVE APRON — 2 / C6.3
19. DUMPSTER ENCLOSURE– SEE ARCHITECTURAL PLANS
20. ARCHITECTURAL WALL– SEE ARCHITECTURAL PLANS
21. CONCRETE CURB & GUTTER– TO MEET CITY OF LACROSSE STANDARDS SPECIFICATIONS AND DETAILS — 4 / C6.3
22. BENCH WALL – SEE ARCHITECTURAL PLANS
23. 6" CURB HEAD TAPER SECTION — 5 / C6.0
24. THICKENED EDGE WALK — 4 / C6.0
25. ADA CURB RAMP 'A' — 6 / C6.0
26. CONCRETE STAIRS W/RAILING — 5 / C6.2
27. RAMP & RAILING– SEE ARCHITECTURAL PLANS
28. STOP SIGN — 7 / C6.1
29. ADA PARKING STALL–VAN ACCESSIBLE — 2 / C6.1
30. ADA CURB RAMP 'B' — 1 / C6.3
31. THEORY – THICK BEAM BENCH BY LANDSCAPE FORMS, LENGTH: 8 FOOT TYPE: THICK BENCH W/SOLID SEAT & 2 SKATE STOPS COLOR: APPLE RED FINISH: POWDERCOAT (ALTERNATE #4)
32. KEY BIKE RACK BY LANDSCAPE FORMS (9) COLOR: RED FINISH: POWDERCOAT
33. MONUMENT SIGN– SEE ARCHITECTURAL PLANS
34. CONCRETE SIDEWALK– TO MEET CITY OF LACROSSE STANDARD SPECIFICATIONS AND DETAILS — 2 / C6.0
35. CONCRETE CURB ADJACENT TO POURED RUBBER SURFACE — 11 / C6.0
36. CONCRETE STAIRS & RAILING– SEE ARCHITECUREAL PLANS
37. SCREEN WALL & GATES– SEE ARCHITECTURAL PLANS
38. PLANTER BENCH– SEE ARCHITECTURAL PLANS
39. 18" CONCRETE CURB & GUTTER –REJECT — 3 / C6.0
40. TRANFORMER PAD– SEE ELECTRICAL PLANS
41. PLANTER BENCH– SEE ARCHITECTURAL PLANS. FILL INTERIOR OF PLANTER WITH 12" OF TOPSOIL. TOP OF TOPSOIL TO BE HELD 4" BELOW BOTTOM OF BENCH CAP.
42. UNDERGROUND GEOTHERMAL VAULT, SHOWN FOR REFERENCE ONLY. SEE GEOTHERMAL PLANS FOR DETAILS.
43. LIGHT POLE– SEE ELECTRICAL PLANS
44. 'DO NOT ENTER' SIGN — 7 / C6.1
45. CONCRETE BOLLARD– SEE ARCHITECTURAL PLANS
46. BENCH– SEE ARCHITECTURAL PLANS
47. THEORY – THICK BEAM BENCH BY LANDSCAPE FORMS, LENGTH: 8 FOOT TYPE: THICK BENCH W/SOLID SEAT & 2 SKATE STOPS COLOR: NAVY BLUE FINISH: POWDERCOAT (ALTERNATE #4)
48. THEORY – THICK BEAM BENCH BY LANDSCAPE FORMS, LENGTH: 8 FOOT TYPE: THICK BENCH W/SOLID SEAT & 2 SKATE STOPS COLOR:LEAF GREEN FINISH: POWDERCOAT (ALTERNATE #4)
49. THEORY – THICK BEAM BENCH BY LANDSCAPE FORMS, LENGTH: 8 FOOT TYPE: THICK BENCH W/SOLID SEAT & 2 SKATE STOPS COLOR: LEMON FINISH: POWDERCOAT (ALTERNATE #4)
50. (2)THEORY – THICK BEAM BENCHES BY LANDSCAPE FORMS (LAYOUT 10) LENGTH: 8 FOOT TYPE: THICK BENCH W/SOLID SEAT & 2 SKATE STOPS COLOR: APPLE RED FINISH: POWDERCOAT (ALTERNATE #4)
51. (2) THEORY – THICK BEAM BENCHES BY LANDSCAPE FORMS (LAYOUT 10) LEGTH: 8 FOOT TYPE: THICK BENCH W/SOLID SEAT & 2 SKATE STOPS COLOR: NAVY BLUE FINISH: POWDERCOAT ALTERNATE #4
52. (2) THEORY – THICK BEAM BENCHES BY LANDSCAPE FORMS LENGTH: 8 FOOT TYPE: THICK BENCH W/SOLID SEAT & 2 SKATE STOPS COLOR: LEAF GREEN FINISH: POWDERCOAT (ALTERNATE #4)
53. (2) THEORY– THICK BEAMS BENCHES BY LANDSCAPE FORMS LENGTH: 8 FOOT TYPE: THICK BENCH W/SOLID SEAT & 2 SKATE STOPS COLOR: LEMON FINISH: POWDERCOAT (ALTERNATE #4)

BENCHMARK:

ELEVATIONS ARE REFERENCED TO NAVD 88 DATUM.

BENCHMARK #1
NORTHWEST FLANGE BOLT ON HYDRANT, LOCATED AT THE NORTHEAST QUADRANT OF THE INTERSECTION OF MISSISSIPPI STREET AND 19TH STREET SOUTH. ELEVATION = 673.19

BENCHMARK #2
NORTHEAST FLANGE BOLT ON HYDRANT, LOCATED AT THE NORTHWEST QUADRANT OF THE INTERSECTION OF MISSISSIPPI STREET AND EAST AVENUE SOUTH. ELEVATION = 673.67

BENCHMARK #3
NORTHEAST FLANGE BOLT ON HYDRANT, LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF EAST AVENUE SOUTH AND WINNEBAGO STREET. ELEVATION = 673.34

BENCHMARK #4
BURY BOLT ON HYDRANT, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF 19TH STREET SOUTH AND WINNEBAGO STREET.

UTILITY DISCLAIMER:

THE LOCATIONS, SIZES, AND TYPES OF UNDERGROUND PUBLIC AND PRIVATE UTILITIES OR SUBSTRUCTURES SHOW HEREON WERE OBTAINED FROM VISUAL INSPECTION, FIELD MEASUREMENTS, AND/OR AS–BUILT PLANS. SANITARY SEWER AND STORM SEWER PIPE SIZES, INVERTS, DIRECTION, AND LOCATIONS BETWEEN MANHOLES ARE SUPPLEMENTED BY AS–BUILT PLANS AND/OR ESTIMATED BASED ON FIELD OBSERVATIONS. PRIOR TO CONSTRUCTION IN THE VICINITY OF ANY UTILITIES SHOWN HEREON, IT IS RECOMMENDED THAT THE LOCATIONS, DEPTHS, AND SIZES BE FIELD VERIFIED. THE LOCATIONS SHOWN HEREON ARE ONLY APPROXIMATE, WITH POSSIBILITY THAT ADDITIONAL UTILITY LINES NOT DISCOVERED, OR MARKED, DURING THE SEARCH OF RECORDS AND THE FIELD SURVEY MAY EXIST. ANY CONTRACTOR USING THE INFORMATION SHOWN HEREON IS HEREBY FOREWARNED THAT ANY EXCAVATION UPON THIS SITE MAY RESULT IN THE DISCOVERY OF ADDITIONAL UNDERGROUND UTILITIES NOT SHOWN HEREON. IN GENERAL, UNDERGROUND UTILITY LOCATIONS ARE SHOWN FROM UTILITY MARKINGS, BY OTHERS, AND/OR AS–BUILT PLANS, PROVIDED BY OTHERS. POINT OF BEGINNING MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO THE EXISTING UTILITIES SHOWN HEREON, AND BELIEVES THAT THE INFORMATION CONTAINED HEREIN IS RELIABLE AND GENERALLY ACCURATE FOR THE PURPOSE INTENDED.

0' 30' 60'
1" = 30'

BRAY ARCHITECTS
Milwaukee
829 South 1st Street
Milwaukee, Wisconsin 53204
T: 414.226.0200
Sheboygan • Davenport • Moline
www.brayarch.com
Point of Beginning
Civil Engineering
Land Surveying
Landscape Architecture
4941 Kirchling Court
Stevens Point, WI 54481
715.344.9999(Ph)
715.344.9922(Fx)

Project Title:
ADDITIONS AND ALTERATIONS TO:
LA CROSSE NEW ELEMENTARY SCHOOL
LA CROSSE SCHOOL DISTRICT
807 EAST AVE S.
LA CROSSE, WI 54601

REVISIONS:

	DATE	DESCRIPTION

NOT FOR CONSTRUCTION

Project Number: 3752

Issued For: CONTRACT DOCUMENTS
09/30/2025

Sheet Title: Layout Plan

Sheet Number: C2.0

APPENDIX B

Geotechnical Data

Map Scale: 1:1,220 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: La Crosse County, Wisconsin
Survey Area Data: Version 23, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 31, 2020—Sep 2, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2020	Urban land, valley trains	4.2	100.0%
Totals for Area of Interest		**4.2**	**100.0%**

Geotechnical Engineering Exploration and Analysis

Proposed Elementary School
807 East Avenue South
La Crosse, Wisconsin

Prepared for:

School District of La Crosse
La Crosse, Wisconsin

May 9, 2025
Giles Project No. 1G-2502021-3

GILES
ENGINEERING ASSOCIATES, INC.

GILES
ENGINEERING ASSOCIATES, INC.
GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

• Dallas, TX
• Los Angeles, CA
• Manassas, VA
• Milwaukee, WI

May 9, 2025

School District of La Crosse
Hogan Administrative Center
807 East Avenue South
La Crosse, WI 54601

Attention: Mr. Joe Ledvina
Director of Facilities

Proposal for: Geotechnical Engineering Exploration and Analysis
Proposed Elementary School
807 East Avenue South
La Crosse, Wisconsin
Giles Project No. 1G-2502021-3

Dear Mr. Ledvina:

As requested, Giles Engineering Associates, Inc. conducted a *Geotechnical Engineering Exploration and Analysis* for the proposed project. The accompanying report describes the services that were performed, and it provides geotechnical-related findings, conclusions, and recommendations that were derived from those services.

We sincerely appreciate the opportunity to provide geotechnical consulting services for the proposed project. Please contact the undersigned if there are questions about the report or if we may be of further service.

Very truly yours,

GILES ENGINEERING ASSOCIATES, INC.

Grace C. Hill
Staff Professional

Colleen M. Finley, P.E.
Geotechnical Department Manager

WISCONSIN
COLLEEN M. FINLEY
100150-6
OCONOMOWOC, WISCONSIN
5/9/25
PROFESSIONAL ENGINEER

Distribution: Bray Architects
Attn: Mr. Nathan Derks (nderks@brayarch.com)

TABLE OF CONTENTS

GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSIS

PROPOSED ELEMENTARY SCHOOL
807 EAST AVENUE SOUTH
LA CROSSE, WISCONSIN
GILES PROJECT NO. 1G-2502021-3

GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSIS

PROPOSED ELEMENTARY SCHOOL
807 EAST AVENUE SOUTH
LA CROSSE, WISCONSIN
GILES PROJECT NO. 1G-2502021-3

EXECUTIVE SUMMARY

This Executive Summary provides limited geotechnical information regarding the proposed project. Because this Executive Summary is exceedingly abbreviated, it must be read in complete context with the following report ("Report").

Material Conditions

- Eighteen geotechnical test borings and three test pits were conducted at the site to explore subsurface conditions.
- Topsoil was at the surface of test borings 1, 2, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, and 16 and generally consisted of sandy silt or silty sand with estimated trace to little amounts of organic matter. The topsoil thickness varied between ±5 and ±10 inches. Asphalt-concrete that was ±6 and ±4 inches thick was at the surface of Test Boring 17 and 18, respectively. Base material that was ±10 and ±8.5 inches was below the asphalt-concrete, respectively.
- Fill material was at the surface of Test Borings 3, 4, and 9 and consisted of sandy silt and silty sand. Fill material was also below the surface materials at the remaining test borings. Fill material was encountered to depths between ±6½ to ±9 feet below-ground at Test Borings 1 through 16, to a depth of ±2 feet below ground at Test Borings 17 and 18, and to a depth of ±3 feet below ground at Test Pits TP-1 and TP-2. The fill material generally consisted of sand (variable gradations) with variable amounts of silt and gravel. Asphalt rubble was encountered within the fill material at Test Boring 6 and pulverized asphalt within the fill at Test Pit TP-1. Metal debris was encountered within the fill material at Test Pit TP-2. Based on corrected SPT N-values, the fill material exhibited loose to firm relative densities.
- Native sand with variable amounts of silt was beneath the material discussed above and was encountered to the ±16 and ±26-foot termination depth at each test boring. Based on SPT N-Values, the native sand exhibited loose to firm relative densities.
- It is estimated that the water table was deeper than the ±16- to ±26-foot termination depth at the test boring locations when the test borings were conducted. However, groundwater conditions will likely fluctuate, and the water table could be shallower at certain times.

Building Foundation

- The proposed building can be supported by spread-footing foundations; however, because of the existing fill, a layer of compacted aggregate is recommended to be directly below each footing. The aggregate layer is recommended to be at least 12 inches thick and must extend horizontally at least 6 inches beyond the bottom edges of each footing pad.

Building Foundation (Continued)

- Assuming that all foundations will be supported by the recommended aggregate layer, a 2,000 pound per square foot (psf) maximum, net, allowable soil bearing capacity is recommended for foundation design. For geotechnical considerations and regardless of the calculated foundation-bearing stress, strip footings are recommended to be at least 16 inches wide and isolated footings are recommended to be at least 24 inches wide and long.

At-Grade Floor

- With proper subgrade preparation, it is expected that site soil will be suitable for support of at-grade floor slabs. Engineered fill that is selected, placed, and compacted according to the Report could also support concrete floor slabs. However, subgrade improvement might be necessary to develop uniform slab support, especially considering the low strength of some of the surface soils and existing fill material.
- Assuming proper site preparation, the floor slab may be designed using a *Modulus of Subgrade Reaction* (K_{v1}) value of 150 pounds per square inch per inch (psi/in). It is recommended and assumed that a structural engineer will specify the actual floor slab thickness, reinforcing, joint details, and other parameters.
- A minimum 4-inch-thick aggregate base course and a 10-mil vapor retarder are recommended to be below the floor slab. It is recommended that a structural engineer or architect specify the vapor retarder position (above or below the base course).

Pavement Areas

- Hot-mix asphalt (HMA) pavement is adequate for this site, except that Portland cement concrete (PCC) pavement is recommended in areas of higher traffic stress, such as at entrance and exit aprons, at trash enclosures, and in areas where buses and trucks will turn or will be parked.

Preliminary Stormwater Infiltration Considerations

- Based on the conditions encountered within stormwater management area, the underlying sand soils are generally suitable for stormwater infiltration. Based on the sandy soils and the correlations provided in WDNR Conservation Practice Standard 1002, a maximum infiltration rate of 1.63 inches per hour is considered appropriate for infiltration within the loamy sand site soils.

GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSIS

PROPOSED ELEMENTARY SCHOOL
807 EAST AVENUE SOUTH
LA CROSSE, WISCONSIN
GILES PROJECT NO. 1G-2502021-3

1.0 SCOPE OF SERVICES

This report provides the results of the *Geotechnical Engineering Exploration and Analysis* that Giles Engineering Associates, Inc. ("Giles") conducted for the proposed new school project. The *Geotechnical Engineering Exploration and Analysis* included a geotechnical subsurface exploration program, geotechnical laboratory services, and geotechnical engineering. The scope of each service area was narrow and limited, as directed by our client and based on our understanding and assumptions about the proposed project. Services are briefly described later. Environmental consulting was beyond Giles' authorized scope for this project.

Geotechnical-related recommendations are provided in this report for design and construction of the foundation and at-grade floor for the proposed school building. Recommendations are also provided for pavement parking lots and drives. Furthermore, information is provided regarding stormwater infiltration within the proposed stormwater management areas. Site preparation recommendations are also given but are only preliminary because the means and methods of site preparation will depend on factors that were unknown when this report was prepared. These factors include, but are not limited to, the weather before and during construction, the subsurface conditions that are exposed during construction, and the final details of the proposed project.

2.0 SITE DESCRIPTION

The subject site is located at 807 East Avenue South in La Crosse, Wisconsin. The site is bounded by Market Street, Mississippi Street, and 19th Street South to the north, south, and east, respectively. The site is shown on the *Test Boring and Test Pit Location Plan* , enclosed as Figure 1 in Appendix A. When the test borings (described later) were performed, the site was occupied by the existing Hogan Administrative Building, a paved parking lot, recreation fields, and grassy areas. Topographically, the site is relatively flat and level. Based on topographic contours shown on the *Layout Plan*, dated March 14, 2025, prepared by Bray Architects, the ground surface elevations at the site were between El. 670 and El. 674.

Based on historical aerial imagery, it appears the site has remained relatively unchanged. However, the 1906 Sanborn Fire Insurance Map shows that Winnebago Street previously ran through the site and a railroad line ran north-south on the east of East Avenue South Street.

3.0 PROJECT DESCRIPTION

Proposed School Building

A new school building will be constructed at the location shown in the *Test Boring and Test Pit Location Plan .* It is understood that the proposed school building will be an approximately 55,700

square foot, two-story, at-grade structure that will not have basements or other below-grade areas. It is assumed that the school will be a masonry structure with a bar-joist and metal-deck roof system. Interior and perimeter walls of the school building will be constructed of concrete masonry units (CMU). The at-grade floor is planned to be a ground-bearing concrete slab. It is assumed that bearing walls and columns will support the building. Maximum foundation loads were not provided to us and were, therefore, assumed to be 5,000 pounds per lineal foot (plf) from bearing walls and 200,000 pounds per column. This report assumes that the maximum floor load will be 100 pounds per square foot (psf).

The proposed at-grade floor elevation for the proposed school building is understood to be El. 671, based on the *Layout Plan*. Based on the test boring elevations and proposed floor elevation, only minor grade changes (two-foot maximum) are expected in the proposed building area.

Proposed Pavement

It is understood that hard play surfaces and new parking areas and drives will be constructed at the site, as shown in the *Test Boring Location Plan*. It is assumed that new pavement will consist of asphalt-concrete, but Portland cement concrete pavement will be in areas of higher traffic stress. Because Giles was not provided with traffic information, the pavement recommendations provided in this report are based on arbitrarily assumed traffic conditions. Also, this report assumes that pavement surface grades will be within about two feet of the current ground grades.

Proposed Stormwater Management

It is understood that stormwater management areas are planned on the southwest and southeast areas of the property, in the area of Test Pits TP-1 through TP-3. Additional details regarding the stormwater management areas were not provided. Therefore, this report assumes that stormwater management basins will be several feet deep, measured from existing ground grades.

4.0 GEOTECHNICAL SUBSURFACE EXPLORATION PROGRAM

Test Borings

To explore subsurface conditions, eighteen geotechnical test borings were conducted at the site using a mechanical drill-rig. Test Borings 1 through 16 were in the proposed building area and were advanced to ±26 feet below-ground. Test Borings 17 and 18 were in proposed pavement areas and were advanced to ±16 feet below-ground. Test boring locations were positioned at the site based on measurement from existing site features and apparent property lines, and by estimating right angles. Approximate locations of the test borings are shown on the *Test Boring and Test Pit Location Plan*.

Samples were collected from each test boring, at certain depths, using the Standard Penetration Test (SPT), conducted with the drill rig. A brief description of the SPT is given in Appendix B along

with descriptions of other field procedures. Immediately after sampling, select portions of the SPT samples were placed in containers that were labeled at the site for identification. A Standard Penetration Resistance value (N-value) was determined from each SPT. N-values are reported on the *Test Boring Logs* (in Appendix A), which are records of the test borings. N-values are used to estimate the in-place density of granular soil, such as the granular soil that was encountered at the test borings, as described later.

The boreholes were backfilled upon completion; however, backfill material will likely settle or heave, creating a hazard that can injure people and animals. Borehole areas should, therefore, be carefully and routinely monitored by the School District of La Crosse or by others; settlement and heave of backfill materials should be repaired immediately. Giles will not monitor or repair boreholes.

Test Pits

On April 30, 2025, three test pits were excavated in the proposed stormwater management areas to observe subsurface conditions with regard to stormwater infiltration. The test pit locations were positioned on-site based on field measurements from existing site features. Approximate locations of the test pits are shown on the *Test Boring and Test Pit Location Plan*.

The test pits were excavated using an excavator equipped with a toothed bucket. Each test pit was planned to be excavated to a depth of 15 feet; however the test pits were terminated at depths of ±5, ±11, and ±9 feet due to caving soils at Test Pits TP-1, TP-2, and TP-3, respectively. A Giles representative observed the excavation procedures and logged the subsurface conditions within the test pit. The test pits were backfilled after the subsurface conditions were logged. However, backfill material was loosely placed and is, therefore, unsuitable for structural or pavement support.

Elevations

The ground elevations at the test boring and test pit locations were estimated from topographic contour lines shown on the *Layout Plan*. The test boring elevations are noted on the *Test Boring Logs* and the test pit elevations are noted on the Wisconsin DSPS *Soil and Site Evaluation – Stormwater Infiltration* logs. The reported elevations are assumed to be accurate within about one foot.

5.0 GEOTECHNICAL LABORATORY SERVICES

Samples that were retained from the test borings were transported to Giles' geotechnical laboratory where the samples were classified using the descriptive terms and particle-size criteria shown on the *General Notes* in Appendix D and by using the Unified Soil Classification System (ASTM D 2488) as a general guide. The classifications are shown on the *Test Boring Logs* along with horizontal lines that show estimated depths of material change. Field-related information

pertaining to the test borings is also shown on the *Test Boring Logs*. For simplicity and abbreviation, terms and symbols are used on the *Test Boring Logs;* the terms and symbols are defined on the *General Notes*.

Soil conditions observed within Test Pits TP-1 through TP-3 (conducted in the proposed stormwater management areas) were visually classified using the USDA textural classification system in general accordance with the guidelines provided in the *Field Book for Describing and Sampling Soils* (USDA, Sept. 2012). USDA classifications of the retained samples are shown on the Wisconsin DSPS *Soil and Site Evaluation – Stormwater Infiltration* logs, enclosed in Appendix A. Supplemental information regarding soil classifications, including the USDA and USCS soil classification systems, is included in the *Soil Classification Notes* enclosure within Appendix D.

6.0 MATERIAL CONDITIONS

Because material sampling at the test borings was discontinuous, it was necessary to estimate conditions between sample intervals. Estimated conditions at the test borings are briefly discussed in this section and are described in more detail on the *Test Boring Logs*. The conclusions and recommendations in this report are based only on the estimated conditions.

6.1. Surface Materials

Topsoil was at the surface of test borings 1, 2, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, and 16 and generally consisted of sandy silt or silty sand with estimated trace to little amounts of organic matter. The topsoil thickness varied between ±5 and ±10 inches. Asphalt-concrete that was ±6 and ±4 inches thick was at the surface of Test Borings 17 and 18, respectively. Base material that was ±10 and ±8.5 inches was below the asphalt-concrete at Test Borings 17 and 18, respectively.

6.2. Fill Materials

Fill material was at the surface of Test Borings 3, 4, and 9 and consisted of sandy silt and silty sand. Fill material was also below the surface materials at the remaining test borings. Fill material was encountered to depths between ±6½ to ±9 feet below-ground at Test Borings 1 through 16, to a depth of ±2 feet below ground at Test Borings 17 and 18, and to a depth of ±3 feet below ground at Test Pits TP-1 and TP-2. The fill material generally consisted of sand (variable gradations) with variable amounts of silt and gravel. Asphalt rubble was encountered within the fill material at Test Boring 6 and pulverized asphalt within the fill at Test Pit TP-1. Metal debris was encountered within the fill material at Test Pit TP-2. Based on corrected SPT N-values, the fill material exhibited loose to firm relative densities.

6.3. Native Soil

Native sand with variable amounts of silt was beneath the fill materials and was encountered to the ±16- and ±26-foot termination depth at each test boring. Based on SPT N-Values, the native sand exhibited loose to firm relative densities.

7.0 GROUNDWATER CONDITIONS

It is estimated that the water table was deeper than the ±16- to ±26-foot termination depths at the test boring locations when the test borings were conducted. However, groundwater conditions will likely fluctuate, and the water table could be shallower at certain times. The estimated groundwater conditions is only an approximation based on the colors and relative moisture conditions of the retained soil samples, and the lack of groundwater within the test borings. The water table could be shallower than estimated. Groundwater observation wells can be installed and observed at the site to further evaluate the groundwater conditions. Giles can install and monitor observations wells.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1. Seismic Design Considerations

A soil Site Class D is recommended for seismic design. Site Class is based on the average properties of subsurface materials to 100 feet below-ground. Because 100-foot test borings were not requested or authorized for the project, it was necessary to estimate the Site Class based on the test borings, presumed area geology, and the International Building Code.

8.2. School Building Foundation Recommendations

The proposed school building can be supported by spread-footing foundations; however, because of the existing fill, a layer of compacted aggregate is recommended to be directly below each footing. The aggregate layer is recommended to be at least 12 inches thick and must extend horizontally at least 6 inches beyond the bottom edges of each footing pad. Aggregate is recommended to consist of dense-graded crushed stone that meets the gradation requirements of *dense-graded base* (1¼-inch) in Section 305 of the Wisconsin Department of Transportation Standard Specifications (2019). Aggregate with other gradation characteristics could possibly also be used but must be approved by Giles before the material is placed.

Aggregate is recommended to be placed in uniform layers that are a maximum of 8 inches thick (measured loose), and each layer is recommended to be compacted to at least 95 percent of the material's maximum dry density determined from the Standard Proctor compaction test (ASTM D698). The water content of aggregate is recommended to be uniform and within a narrow range of the optimum moisture content, also determined by the Standard Proctor compaction test. A subsequent layer of aggregate should not be placed until a geotechnical engineer confirms (by testing and observation) that the previous layer was properly compacted to the required in-place density. Full-time observation and testing by a geotechnical engineer during placement and compaction of each aggregate layer is critical.

Existing granular soil that is within the foundation influence zone but does not meet the recommended strength criteria is recommended to be compacted to the required in-place density. Compaction must be done with care and in accordance with the recommendations of a geotechnical engineer. Soil might need to be scarified and moisture-conditioned (uniformly moistened or dried) before compaction.

Assuming that all foundations will be supported by the recommended aggregate layer, a 2,000 pound per square foot (psf) maximum, net, allowable soil bearing capacity is recommended for foundation design. For geotechnical considerations and regardless of the calculated foundation-bearing stress, strip footings are recommended to be at least 16 inches wide and isolated footings are recommended to be at least 24 inches wide and long. Also, due to the existing fill and possible fill, and from a geotechnical perspective, foundation walls are recommended to be constructed of reinforced cast-in-place concrete, rather than concrete masonry units. Specific foundation details including footing and wall dimensions, reinforcing, and other details are recommended to be specified by the project structural engineer.

A minimum 48-inch foundation-embedment depth is required by the building code. It is, therefore, recommended that footings for perimeter walls and other exterior elements of the building bear at least 48 inches below the finished ground-grade at the perimeter of the building. Because it is understood that the entire building will be heated, interior footings can bear above the 48-inch embedment depth.

A frictional coefficient of 0.40 is recommended to determine lateral resistance at the base of the foundation. The recommended frictional coefficient is only for concrete cast directly on suitable native soil, or on new engineered fill or lean-concrete backfill used to replace unsuitable materials. Lateral resistance due to friction should be determined based on dead load only. Also, the ultimate lateral resistance determined from the frictional coefficient is recommended to be factored to determine an allowable value. Passive resistance is recommended to be neglected to at least the recommended 48-inch foundation-embedment depth due to seasonal changes and due to the amount of lateral movement necessary to develop full passive pressure.

Foundation excavations are recommended to be dug with a smooth-edge bucket to develop a relatively undisturbed bearing grade. A toothed bucket will likely disturb foundation-bearing soil more than a smooth-edge bucket thereby making soil at the excavation base more susceptible to saturation and instability, especially during adverse weather. It is critical that contractors protect foundation-support soil and foundation construction materials (concrete and reinforcing). Furthermore, engineered fill is recommended to be placed and compacted in benched excavations along foundation walls immediately after the foundation walls can properly support lateral pressures from backfill, compaction, and compaction equipment. Earth-formed footing construction techniques are likely not feasible due to caving of granular soil.

Foundation Support-Soil Requirements

As previously described, each footing is recommended to be directly supported by a compacted-aggregate layer. Aggregate may be placed on suitable existing soil, including existing fill, possible fill, and native soil. Based on the recommended 2,000 psf maximum, net, allowable soil bearing capacity, the in-situ unconfined compressive strength of cohesive native soil (if any) within the foundation influence zone is recommended to be at least 1.0 tons per square foot (tsf). Granular soil, such as sand, within the foundation influence zone is recommended to have a corrected N-value (determined from SPTs and correlated from other in-situ tests) of at least 6, based on the recommended bearing capacity. It is further recommended that the strength characteristics of soil within all foundation influence zones (determined by a geotechnical engineer during construction) meet or exceed the recommended values unless Giles approves other values.

Because of the existing fill and existing development, full-time evaluation by a geotechnical engineer during excavation for the recommended aggregate layer for each building is critical. The purpose of the recommended evaluation is (1) to confirm that the aggregate layer will be placed on suitable existing soil, (2) to determine the required thickness and width of the aggregate layer, and (3) to confirm that the subsurface conditions are similar to those described on the *Test Boring Logs*. If a firm other than Giles performs the recommended evaluations, Giles must be notified if the composition or strength characteristics of existing soils differ from those shown on the *Test Boring Logs*; revision of this report might be necessary. Without evaluation and approval of foundation support materials by a geotechnical engineer, the proposed buildings could be improperly supported, which could lead to excessive settlement and structural distress.

Estimated Foundation Settlement

The post-construction total and differential settlements of a spread-footing foundation designed and constructed based on this report are estimated to be less than about 1 inch and ½ inch, respectively. These estimated settlements assume that the recommendations provided in this report will be followed and that foundation-support soil will be evaluated and approved by a geotechnical engineer during construction.

8.3. At-Grade Floor Slab Recommendations

With proper subgrade preparation, existing soil is expected to be suitable to support at-grade floor slabs for the proposed school building; new engineered fill that is placed on properly prepared existing soil is also expected to be suitable for floor slab support. However, subgrade improvement might be necessary to develop uniform slab support, especially considering the low strength of some of the surface soils and existing fill material. Consequently, the entire floor area is recommended to be thoroughly evaluated and approved by a geotechnical engineer immediately before fill placement and before floor construction.

Assuming proper site preparation, the floor slab may be designed using a *Modulus of Subgrade Reaction* (K_{v1}) value of 150 pounds per square inch per inch (psi/in). It is recommended and assumed that a structural engineer will specify the actual floor slab thickness, reinforcing, joint details, and other parameters.

A minimum 4-inch-thick base course is recommended to be below the floor slabs to serve as a capillary break. It is recommended that the base course consist of compacted free-draining crushed stone that meets the gradation requirements of ASTM No. 57 aggregate. Depending on the subgrade condition and materials, geotextile might need to be below the base course to serve as a separator, especially where the subgrade consists of cohesive soil. The need for geotextile should be determined during construction with the assistance of a geotechnical engineer.

A minimum 10-mil vapor retarder is recommended to be directly above or below the base course throughout all floor areas, including the garage area. The position (above or below the base course) of the vapor retarder should be specified by the project structural engineer or architect. Vapor retarder sheets are recommended to be overlapped at least 6 inches, and the overlaps are recommended to be continuously taped. Also, vapor retarder must extend to all foundation walls. Furthermore, vapor retarder is recommended to be in accordance with ASTM E 1745, entitled *Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs*, and other relevant documents. If the base course contains sharp aggregate, protecting the retarder with geotextile or by other means is recommended.

Certain areas of the floor slab (such as near exterior doors and entrance-exit vestibules) might be susceptible to freeze-thaw movement. Installation of insulation or other protective measures against freeze-thaw movement should be considered for floor areas that are susceptible to freeze-thaw. Pavement and ground grades are recommended to be sloped away from the building and sidewalks to reduce water infiltration and potential freeze-thaw problems.

Estimated Floor Slab Settlement

The post-construction total and differential settlements of an isolated floor slab constructed in accordance with this report are estimated to be less than about ⅝ inch and ⅜ inch, respectively, over about 20 feet. Estimated settlements assume that floor slab support materials will be thoroughly tested and approved by a geotechnical engineer.

8.4. Pavement Recommendations

Traffic-related information was not provided to us. Therefore, recommendations are provided herein for light-duty vehicle areas, medium-duty vehicle areas, and recreation areas. The light-duty pavement section is for passenger-vehicle parking lots and is based on an assumed traffic condition of five 18-kip Equivalent Single Axle Loads (ESALs) per day. The medium-duty pavement section is for drives that will be subject to buses and other heavy vehicles and is based on an assumed traffic condition consisting of fifteen 18-kip ESALs per day. The light-duty and

medium-duty pavement sections assume no increase in traffic volume and no changes in vehicle type or traffic pattern. It is assumed that the ESALs noted above will be in one direction for each lane. The recreation-area pavement section is for student recreation areas that will be subject to a very limited amount of vehicle traffic, such as due to snow removal or for infrequent maintenance.

It is important that the project owner, developer, civil engineer, and other design professionals involved with the project confirm that the ESALs noted above are appropriate for the expected traffic conditions, vehicle types, and axle loadings. If requested, Giles can provide supplemental pavement recommendations based on other traffic conditions, vehicle types, and axle loads. The recommended pavement sections could underperform or fail prematurely if the design ESALs are exceeded.

Based on the test borings and with proper subgrade preparation, it is expected that pavement support materials will consist of silty sand and sand fill. Therefore, the recommended pavement sections were developed based on an assumed field CBR value of 10 and a *Modulus of Subgrade Reaction* (K_{V1}) value of 150 psi/in. Engineered fill that is placed in proposed pavement areas is recommended to have a field CBR value and a *Modulus of Subgrade Reaction* (K_{V1}) value at least equal to these design values. Fill is recommended to be placed and compacted per this report.

Asphalt-Concrete Pavement

The following table shows the recommended thicknesses for hot-mix asphalt (HMA) pavement with an aggregate base course. State specifications are also included in the table. The recommended pavement sections are based on the traffic conditions described above.

TABLE 1
RECOMMENDED HMA PAVEMENT SECTION

Materials	Recreation Areas	Light Duty	Medium Duty	Wisconsin DOT Standard Specifications
Hot-Mix Asphalt Surface Course	1.5 inches	1.5 inches	1.5 inches	Section 460
Hot Mix Asphalt Binder Course	1.5 inches	2.0 inches	2.5 inches	Section 460
Dense-Graded Aggregate Base Course	6.0 inches	6.0 inches	6.0 inches	Section 305, 1¼-inch Crushed Stone

Portland Cement Concrete Pavement

Portland cement concrete (PCC) pavement is recommended in areas of higher traffic stress, such as parking lot entrance and exit aprons, at refuse enclosures, and in areas where trucks and buses will turn or will be parked. Based on the assumed ESALs, discussed above, concrete

pavement is recommended to be at least 6 inches thick and is recommended to be underlain by a minimum 4-inch-thick aggregate base course. It is recommended that concrete pavement have load-transfer reinforcement, where appropriate. Control-joint spacing should be determined in accordance with the current ACI code. Expansion joints should be provided where pavement abuts fixed objects, such as the building and light poles. The recommended PCC pavement thickness assumes that the 28-day compressive strength of the concrete will be at least 4,000 psi. The concrete is recommended to be properly air-entrained for durability. It is recommended and assumed that a civil engineer will provide specific recommendations for concrete pavement, including reinforcing details and control-joint spacing. Materials and construction procedures for concrete pavement and the aggregate base are recommended to be in accordance with Wisconsin DOT specifications.

General Pavement Considerations

The pavement recommendations assume that the pavement subgrade will be prepared according to this report, the base course will be properly drained, and a geotechnical engineer will observe and test pavement construction. Pavement was designed based on AASHTO design parameters for a twenty-year design period, but the actual service could be less. Local codes may require specific testing to determine soil support characteristics, and a minimum pavement section might be required.

8.5. Preliminary Stormwater Infiltration Screening

It is understood that three stormwater management areas are planned to be constructed in the southwestern and southeastern portions of the site, in the areas of Test Pits TP1 through TP-3; the approximate locations of the test pits are shown on the *Test Boring and Test Pit Location Plan*. Details of the proposed stormwater management devices were not provided. This report assumes that the devices bottoms will be between 5 and 8 feet deep.

Based on the soil conditions at the test pits, infiltration of stormwater is feasible. Based on the textural correlation for design infiltration rates provided in Table 2 of Wisconsin DNR 1002 and the soil encountered at the test pits, a design infiltration rate 1.63 inch/hour may be achieved for the loamy sand site soils. The actual infiltration rate will depend on the in-place density, or compactness, of native soil and replacement media (if needed). Soil classifications at the test pit locations and the correlated infiltration rates are shown on the *Soil and Site Evaluation – Stormwater Infiltration* logs in Appendix A.

8.6. Generalized Site Preparation Recommendations

This section provides recommendations for the preparation of the proposed building, pavement, and engineered fill areas. The means and methods of site preparation will greatly depend on the weather conditions before and during construction, the subsurface conditions that are exposed during earthwork operations, and the finalized details of the proposed development. Therefore,

only general site preparation recommendations are given. In addition to being general, the following site preparation recommendations are abbreviated; the *Guide Specifications* in Appendix D gives further recommendations. The *Guide Specifications* should be read along with this section. Also, the *Guide Specifications* are recommended to be used as an aid to develop the project specifications.

Demolition and Removal

The existing building is recommended to be removed from the development area and to at least five feet beyond the proposed development area. Disposal of rubble and debris is recommended to be in accordance with local, state, and federal regulations for the material type. Outside the proposed building area, it might be feasible for existing foundations to remain, provided the foundations are stable, are cut off at least 3 feet below the planned subgrade, and hollow cores are grouted solid. Existing floor slabs that are sufficiently outside the proposed building area could possibly also stay in-place, provided that the slabs are at least 3 feet below the planned finished grade, are perforated (broken) on a maximum 2-foot grid, are “seated” into the subgrade for stability, and are covered with a minimum 12-inch-thick layer of well-graded free-draining granular material for drainage. It is important to note that building remnants that are left in-place could cause excavation difficulties for new utilities and landscape plantings and for future construction. Building remnants might also be susceptible to frost heave. Excavations created during removal of the existing building must be backfilled with engineered fill, which might need to be benched into the surrounding soil, as noted in Item No. 3 of the *Guide Specifications* enclosed in Appendix D.

Existing pavement, surface vegetation, trees and bushes (including root-balls), topsoil, and other unsuitable materials are recommended to be removed from the proposed building, pavement, and engineered fill areas. Where feasible, stripping should extend at least several feet beyond the development area. Existing pavement should remain in-place as long as practical to protect the underlying soil.

Proof-Rolling and Fill Placement

After the recommended demolition and removal operations, and once the site is cut (lowered) as needed, the subgrade within the proposed development area is recommended to be proof-rolled with a fully-loaded tandem-axle dump truck to help locate unstable soil based on subgrade deflection caused by the wheel loads of the proof-roll equipment. The proposed development area is recommended to be thoroughly proof-rolled except that, for safety, proof-roll equipment must be kept a sufficient distance from excavations. Where feasible, proof-rolling should extend at least several feet beyond the limits of the proposed development area. It is recommended that a geotechnical engineer observe the proof-roll operations and evaluate the stability of the subgrade based on these observations. Areas that are not accessible to proof-roll equipment are recommended to be evaluated and approved by a geotechnical engineer using appropriate means and methods.

Unsuitable granular soil that is identified during proof-rolling and testing can likely be improved by scarification and moisture-conditioning (uniformly moistening or drying) followed by compaction using appropriate compaction equipment. Also, unsuitable soil could be replaced with engineered fill; however, engineered fill material is recommended to be approved by a geotechnical engineer before it is placed. Also, recommendations for subgrade improvement should be made by a geotechnical engineer based on the site conditions during construction. Areas requiring subgrade improvement should be defined during construction with the assistance of a geotechnical engineer. Specific improvement methods should be determined during construction on an area-by-area basis.

The proposed development area is recommended to be raised, where necessary, to the planned finished grade with engineered fill immediately after the subgrade is confirmed to be stable and suitable to support the proposed site improvements. Engineered fill is recommended to be placed in relatively thin layers (lifts) that are uniform in elevation. Each layer of engineered fill is recommended to be compacted to at least 95 percent of the fill material's maximum dry density determined from the Standard Proctor compaction test (ASTM D698). As an exception, the in-place dry density of engineered fill within one foot of the pavement subgrade is recommended to be compacted to at least 100 percent of the fill material's maximum dry density. The water content of fill material is recommended to be uniform and within a narrow range of the optimum moisture content, also determined by the Standard Proctor compaction test. Item Nos. 4 and 5 of the *Guide Specifications* give more information pertaining to selection and compaction of engineered fill.

Engineered fill that does not meet the density and water content requirements is recommended to be replaced, or possibly it could be scarified to a sufficient depth (likely 6 to 12 inches, or more), moisture-conditioned, and compacted to the required density. A subsequent lift of fill should only be placed after a geotechnical engineer confirms that the previous lift was properly placed and compacted. Subgrade soil might need to be recompacted immediately before construction since equipment traffic and adverse weather may reduce soil stability.

Use of Site Soil as Engineered Fill

Site soil that does not contain adverse organic content or other deleterious materials, as noted in the *Guide Specifications,* could be used as engineered fill. Site soil will likely need to be moisture conditioned (uniformly moistened or dried) before it is used as engineered fill. If construction is during adverse weather (discussed in the following section), drying site soil will likely not be feasible. In that case, aggregate fill (or other fill material with a low water-sensitivity) will likely need to be imported to the site. Additional recommendations regarding fill selection, placement, and compaction are given in the *Guide Specifications*.

8.7. Generalized Construction Considerations

Adverse Weather

Site soil is moisture sensitive and will likely become unstable when exposed to adverse weather, such as rain, snow, and freezing temperatures. Therefore, it might be necessary to remove or stabilize the upper 6 to 12 inches (or more) of soil due to adverse weather, which commonly occurs during late fall, winter, and early spring. At least some over-excavation or stabilization of unstable soil should be expected if construction is during or after adverse weather. Because site preparation is weather dependent, bids for site preparation and other earthwork activities should consider the time of year that construction will be conducted.

To protect soil from adverse weather, the site is recommended to be smoothly graded and contoured during construction to divert surface water from construction areas and excavations. Contoured subgrades are recommended to be rolled with a smooth-drum compactor before precipitation to “seal” the surface. Furthermore, construction traffic should be restricted to certain aggregate-covered areas to control traffic-related soil disturbance. Foundation, floor slab, and pavement construction should begin immediately after suitable support is confirmed.

Dewatering

If water collects in shallow excavations due to precipitation, the water is expected to permeate into on-site sand relatively quick. If needed, filtered sump pumps, drawing water from sump pits excavated in the bottom of construction trenches, could be used to remove water that collects in excavations due to precipitation or runoff. Excavated sump pits should be fully-lined with geotextile and filled with open-graded, free-draining aggregate.

Excavation Stability

Excavations are recommended to be made in accordance with current OSHA excavation and trench safety standards and other applicable requirements. Excavation walls are recommended to be sloped, benched, or braced to develop and maintain a safe work environment. Temporary shoring must be designed according to applicable regulatory requirements. Contractors are responsible for excavation safety.

Existing Utilities

All existing utilities are recommended to be identified and located, and any planned to be maintained should be relocated outside the proposed addition area. Utilities that are not reused should be capped and removed in accordance with local codes and ordinances. Excavations for the removal of utilities are recommended to be backfilled with engineered fill placed under engineering-controlled conditions. Grading operations must be done carefully so that existing

utilities are not damaged or disturbed. Utility locations, elevations, and types should be checked relative to the planned construction to identify any concerns.

8.8. Recommended Construction Materials Testing Services

This report was prepared assuming that a geotechnical engineer will perform Construction Materials Testing ("CMT") services during construction of the proposed development. Supplemental geotechnical recommendations may be needed based on the results of CMT services and specific details of the project not known at this time.

9.0 BASIS OF REPORT

This report is strictly based on the project description given in Section 3.0. Giles must be notified if the project description or our assumptions about the project are not accurate so that this report can be amended, if needed. This report assumes that the proposed improvements will be designed and constructed according to the codes that govern construction at the site.

The conclusions and recommendations in this report are based on the estimated subsurface conditions shown on the *Test Boring Logs*. Giles must be notified if the subsurface conditions that are encountered during construction of the proposed development differ from those shown on the *Test Boring Logs*; revision of this report might be necessary. General comments and limitations of this report are given in the appendix.

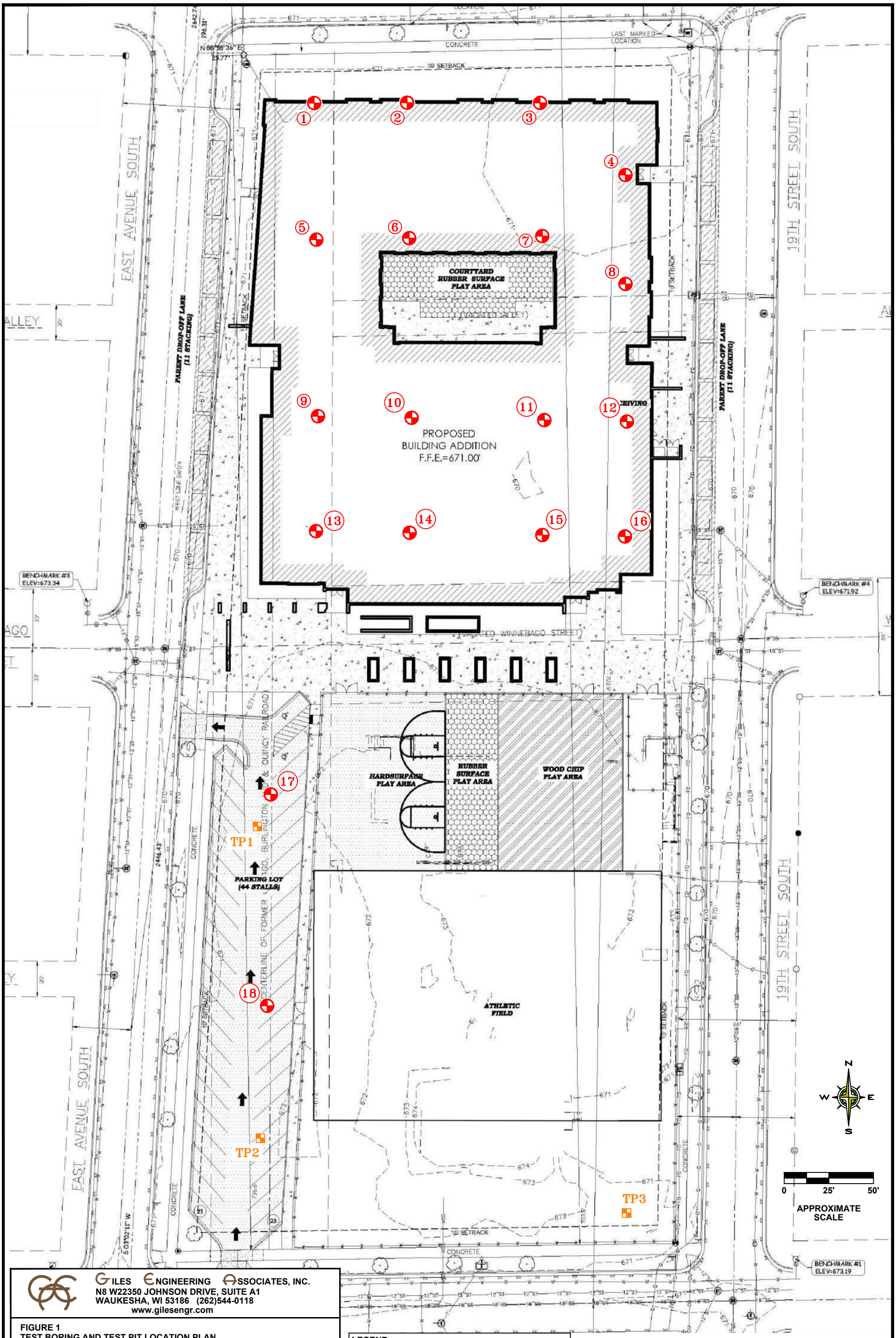
The conclusions and recommendations in this report have been promulgated in accordance with generally accepted professional engineering practices in the field of geotechnical engineering. No other warranty is either expressed or implied.

APPENDIX A

FIGURES AND TEST BORING LOGS

The Test Boring Location Plan contained herein was prepared based upon information supplied by *Giles'* client, or others, along with *Giles'* field measurements and observations. The diagram is presented for conceptual purposes only and is intended to assist the reader in report interpretation.

The Test Boring Logs and related information enclosed herein depict the subsurface (soil and water) conditions encountered at the specific boring locations on the date that the exploration was performed. Subsurface conditions may differ between boring locations and within areas of the site that were not explored with test borings. The subsurface conditions may also change at the boring locations over the passage of time.



GILES ENGINEERING ASSOCIATES, INC.
N8 W22350 JOHNSON DRIVE, SUITE A1
WAUKESHA, WI 53186 (262)544-0118
www.gilesengr.com

FIGURE 1
TEST BORING AND TEST PIT LOCATION PLAN
PROPOSED ELEMENTARY SCHOOL
807 EAST AVENUE SOUTH
La CROSSE, WISCONSIN

DESIGNED	DRAWN	SCALE	DATE	REVISED
GCH	GCH	approx. 1"=50'	05-09-25	--
PROJECT NO.: 1G-2502021-3			CAD No. 1g2502021-3blp2	

LEGEND:

TP1 — TEST PIT LOCATIONS

① — GEOTECHNICAL TEST BORING

NOTES:

1.) TEST BORING AND TEST PIT LOCATIONS ARE APPROXIMATE.

2.) BASE MAP DEVELOPED FROM THE "LAYOUT PLAN" (SHEET C2.0), DATED 3-14-2025, PREPARED BY BRAY ARCHITECTS.

BORING NO. & LOCATION: 1	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.6 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Topsoil: Dark Brown Sandy Silt, little Organic Matter-Moist		670	1-SS	5						
Fill: Dark Brown fine to medium Sand-Moist			2-SS	7						
	5	665	3-SS	6						
Brown fine to medium Sand-Moist			4-SS	7						
	10	660	5-SS	13						
	15	655	6-SS	14						
	20	650	7-SS	7						
	25	645	8-SS	25						
Boring Terminated at about 26 feet (EL. 644.6')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 2	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.5 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Topsoil: Dark Brown Silty fine Sand, trace Organic Matter-Moist		670	1-SS	6						
Fill: Dark Brown fine to medium Sand, trace to little Silt, trace Gravel-Moist			2-SS	8						
	5	665	3-SS	8						
Brown fine to medium Sand-Moist			4-SS	11						
	10	660	5-SS	13						
	15	655	6-SS	11						
	20	650	7-SS	14						
	25	645	8-SS	21						
Boring Terminated at about 26 feet (EL. 644.5')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 3	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 671.1 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/23/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
Fill: Brown Sandy Silt-Moist										
Fill: Dark Brown fine to medium Sand, little Silt-Moist		670	1-SS	8						
			2-SS	8						
	5		3-SS	9						
		665								
			4-SS	12						
Brown fine to medium Sand-Moist	10		5-SS	13						
		660								
	15		6-SS	13						
		655								
	20		7-SS	15						
		650								
	25		8-SS	27						
Boring Terminated at about 26 feet (EL. 645.1')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 4	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 671.1 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/23/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
Fill: Brown Sandy Silt, little Gravel-Moist										
Fill: Dark Brown fine to medium Sand, little Silt-Moist		670	1-SS	6						
			2-SS	8						
	5		3-SS	6						
		665								
			4-SS	8						
Brown fine to medium Sand-Moist	10		5-SS	12						
		660								
	15		6-SS	11						
		655								
	20		7-SS	13						
		650								
	25		8-SS	23						
Boring Terminated at about 26 feet (EL. 645.1')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 5	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.5 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Topsoil: Dark Brown Sandy Silt, little Organic Matter-Moist		670	1-SS	7						
Fill: Dark Brown fine to medium Sand-Moist			2-SS	7						
	5	665	3-SS	8						
Brown fine to medium Sand-Moist			4-SS	9						
	10	660	5-SS	10						
	15	655	6-SS	11						
	20	650	7-SS	10						
	25	645	8-SS	26						
Boring Terminated at about 26 feet (EL. 644.5')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

BORING NO. & LOCATION: 6	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.5 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±5" Topsoil: Dark Brown Sandy Silt, little Organic Matter-Moist		670	1-SS	7						
Fill: Dark Brown fine to medium Sand, little Silt, trace Gravel (Includes Asphalt Rubble)-Moist			2-SS	8						
	5	665	3-SS	11						
Brown fine to medium Sand-Moist			4-SS	10						
	10	660	5-SS	11						
	15	655	6-SS	11						
	20	650	7-SS	13						
	25	645	8-SS	19						
Boring Terminated at about 26 feet (EL. 644.5')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 7	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 671 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/23/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±10" Topsoil: Dark Brown Sandy Silt, little Organic Matter-Moist										
Fill: Dark Brown fine to medium Sand, little Silt-Moist		670	1-SS	5						
			2-SS	7						
	5		3-SS	8						
		665	4-SS	13						
Brown fine to medium Sand-Moist	10	660	5-SS	9						
	15	655	6-SS	13						
	20	650	7-SS	14						
	25	645	8-SS	25						
Boring Terminated at about 26 feet (EL. 645')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 8	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.7 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/23/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±8" Topsoil: Dark Brown Sandy Silt, little Organic Matter-Moist	0	670	1-SS	6						
Fill: Dark Brown fine to medium Sand, little Silt-Moist			2-SS	7						
	5	665	3-SS	10						
			4-SS	8						
Brown fine to medium Sand-Moist	10	660	5-SS	11						
	15	655	6-SS	9						
	20	650	7-SS	11						
	25	645	8-SS	23						
Boring Terminated at about 26 feet (EL. 644.7')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 9	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.3 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
Fill: Brown Silty fine to medium Sand, trace Gravel-Moist	0	670	1-SS	7						
Fill: Dark Brown fine to medium Sand, little Silt-Moist			2-SS	5						
	5	665	3-SS	6						
Brown fine to medium Sand-Moist			4-SS	11						
	10	660	5-SS	14						
	15	655	6-SS	13						
	20	650	7-SS	12						
	25	645	8-SS	21						
Boring Terminated at about 26 feet (EL. 644.3')										

	Water Observation Data	Remarks:
▽	Water Encountered During Drilling:	
▼	Water Level At End of Drilling:	
⋯	Cave Depth At End of Drilling:	
▼	Water Level After Drilling:	
▬	Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 10	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.5 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
Fill: Brown Sandy Silt, little Gravel-Moist		670	1-SS	8						
Fill: Dark Brown fine to medium Sand, little Silt, trace Gravel-Moist			2-SS	7						
	5	665	3-SS	16						
Brown fine to medium Sand-Moist			4-SS	11						
	10	660	5-SS	12						
	15	655	6-SS	12						
	20	650	7-SS	14						
	25	645	8-SS	24						
Boring Terminated at about 26 feet (EL. 644.5')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 11	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.6 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±5" Topsoil: Dark Brown Silty fine Sand, trace Organic Matter-Moist		670	1-SS	6						
Fill: Dark Brown fine to medium Sand, trace Gravel, trace to little Silt-Moist			2-SS	4						
	5	665	3-SS	5						
Brown fine to medium Sand, trace Gravel-Moist			4-SS	8						
	10	660	5-SS	8						
	15	655	6-SS	8						
	20	650	7-SS	10						
	25	645	8-SS	13						
Boring Terminated at about 26 feet (EL. 644.6')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 12	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.5 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/23/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Topsoil: Dark Brown Sandy Silt, trace Organic Matter-Moist	0	670	1-SS	6						
Fill: Dark Brown fine to medium Sand, little Silt, trace Gravel-Moist			2-SS	9						
	5	665	3-SS	10						
			4-SS	11						
Brown fine to medium Sand-Moist	10	660	5-SS	10						
	15	655	6-SS	9						
	20	650	7-SS	12						
	25	645	8-SS	16						
Boring Terminated at about 26 feet (EL. 644.5')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 13	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.3 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Topsoil: Dark Brown Sandy Silt, trace Organic Matter-Moist		670	1-SS	5						
Fill: Dark Brown fine to medium Sand-Moist			2-SS	4						
	5	665	3-SS	6						
Brown fine to medium Sand, little Silt-Moist			4-SS	8						
Brown fine to medium Sand-Moist	10	660	5-SS	9						
	15	655	6-SS	14						
	20	650	7-SS	7						
	25	645	8-SS	20						
Boring Terminated at about 26 feet (EL. 644.3')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 14	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.4 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Topsoil: Dark Brown Silty fine Sand, trace Organic Matter-Moist		670	1-SS	6						
Fill: Dark Brown fine to medium Sand, trace Gravel, trace to little Silt-Moist			2-SS	4						
	5	665	3-SS	6						
			4-SS	8						
Brown fine to medium Sand-Moist	10	660	5-SS	10						
	15	655	6-SS	11						
	20	650	7-SS	14						
	25	645	8-SS	20						
Boring Terminated at about 26 feet (EL. 644.4')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 15	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.3 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/24/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Topsoil: Dark Brown Silty fine Sand, trace Organic Matter-Moist		670	1-SS	5						
Fill: Dark Brown fine to medium Sand, trace Gravel, trace to little Silt-Moist			2-SS	5						
	5	665	3-SS	6						
			4-SS	10						
Brown fine to medium Sand-Moist	10	660	5-SS	9						
	15	655	6-SS	11						
	20	650	7-SS	14						
	25	645	8-SS	19						
Boring Terminated at about 26 feet (EL. 644.3')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 16	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 670.5 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/23/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Topsoil: Dark Brown Sandy Silt, little Organic Matter-Moist	0	670	1-SS	5						
Fill: Dark Brown fine to medium Sand, little Silt-Moist			2-SS	7						
	5	665	3-SS	8						
			4-SS	11						
Brown fine to medium Sand-Moist	10	660	5-SS	8						
	15	655	6-SS	6						
	20	650	7-SS	10						
	25	645	8-SS	22						
Boring Terminated at about 26 feet (EL. 644.5')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 17	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 671.5 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/23/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±6" Asphalt Concrete										
±10" Base Course: Brown Gravelly fine to medium Sand-Damp										
Fill: Dark Brown fine to medium Sand, little Silt, trace Gravel-Moist										
Brown fine Sand-Moist										
Brown fine to medium Sand-Moist			1-SS	10						
		670								
			2-SS	11						
	5		3-SS	15						
		665								
			4-SS	13						
	10		5-SS	9						
		660								
	15		6-SS	7						
Boring Terminated at about 16 feet (EL. 655.5')										

Water Observation Data	Remarks:
Water Encountered During Drilling:	
Water Level At End of Drilling:	
Cave Depth At End of Drilling:	
Water Level After Drilling:	
Cave Depth After Drilling:	

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

BORING NO. & LOCATION: 18	TEST BORING LOG	GILES ENGINEERING ASSOCIATES, INC.
SURFACE ELEVATION: 671.5 feet	PROPOSED ELEMENTARY SCHOOL	
COMPLETION DATE: 04/23/25	807 EAST AVENUE SOUTH LA CROSSE, WISCONSIN	
FIELD REP: DAVIS LUCKETT	PROJECT NO: 1G-2502021-3	

MATERIAL DESCRIPTION	Depth (ft)	Elevation	Sample No. & Type	N	Q_u (tsf)	Q_p (tsf)	Q_s (tsf)	W (%)	PID	NOTES
±4" Asphalt Concrete										
±8.5" Base Course: Brown Sandy Gravel-Damp										
Fill: Dark Brown fine Sand, little Silt-Moist										
Brown fine Sand, little Silt-Moist										
Brown fine to medium Sand-Moist										
		670	1-SS	11						
			2-SS	9						
	5		3-SS	16						
		665								
			4-SS	11						
	10		5-SS	9						
		660								
	15		6-SS	8						
Boring Terminated at about 16 feet (EL. 655.5')										

	Water Observation Data	Remarks:
▽	Water Encountered During Drilling:	
▼	Water Level At End of Drilling:	
	Cave Depth At End of Drilling:	
▼	Water Level After Drilling:	
	Cave Depth After Drilling:	

GILES LOG REPORT 1G2502021-3.GPJ GILES.GDT 5/5/25

Changes in strata indicated by the lines are approximate boundary between soil types. The actual transition may be gradual and may vary considerably between test borings. Location of test boring is shown on the Boring Location Plan.

Wisconsin Department of Safety and Professional Services
Division of Industry Services
4822 Madison Yards Way
PO Box 7302
Madison, WI 53707

Phone: 608-266-2112
Web: http://dsps.wi.gov
Email: dsps@wisconsin.gov

Program: Plumbing
Web: https://dsps.wi.gov/Pages/Programs/Plumbing

Soil and Site Evaluation – Stormwater Infiltration

In accordance with SPS 382.365, 385, Wis. Adm. Code, and WDNR Standard 1002

Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m)]

Attach a complete site plan on paper not less than 8 ½ x 11 inches in size. Plan must include but is not limited to: vertical and horizontal reference point (BM); direction and percent of slope; scale or dimensions; north arrow; and BM referenced to nearest road. **PLEASE PRINT ALL INFORMATION**	COUNTY La Crosse PARCEL ID

PROPERTY OWNER PROPERTY OWNER'S MAILING ADDRESS CITY, STATE, ZIP CODE PHONE	PROPERTY LOCATION Govt. Lot: NW ¼ SW ¼ S4 T15N R7W Lot #, Block #, Subd. Name or CSM #: _____ Municipality: La Crosse ☒ City ☐ Village ☐ Town Nearest Road: East Avenue South

Drainage area_____ ☐sq. ft. ☐acres Test site suitable for (check all thatapply): ☐ Site not suitable ☐Bioretention ☐ Reuse ☐Subsurface Dispersal System ☐ Irrigation ☐Other _____	HYDRAULIC APPLICATION TEST METHOD ☒ Morphological Evaluation ☐ Double Ring Infiltrometer ☐ Other: (specify) _____	SOIL MOISTURE Date of soil borings: 4/30/2025 USDA-NRCS WETS VALUE: ☐ Dry = 1 ☐ Normal = 2 ☐ Wet = 3

1 #OBS. ☒ Pit ☐ Boring Ground Surface Elevation 671.5 ft. Elevation of Limiting Factor_____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
PVMT	0-3	--	--	--	--	--	--	--	--	--
FILL	3-13	7.5YR 7/4	--	SGr	MA	M, FI	A, S	80	5	--
FILL	13-36	7.5YR 4/4	--	LS	MA	M, FI	C, S	<5	10	1.63
C	36-60	7.5YR 6/4	--	S	MA	M, FI	--	<5	5	3.60

Comments: Pulverized asphalt encountered within the fill material.
Caved at 60 inches

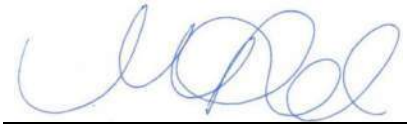
2 #OBS. ☒ Pit ☐ Boring Ground Surface Elevation 671.7 ft. Elevation of Limiting Factor_____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
A	0-12	7.5YR 3/2	--	fS	MA	M, FR	A, S	<5	10	--
FILL	12-36	7.5YR 4/4	--	LS	MA	M, F1	C, S	10	10	1.63
C	36-132	7.5YR 5/4	--	S	MA	M, FI	--	<5	<5	3.60

Comments: Metal debris encountered within the fill material.
Caved at 132 inches.

3 #OBS. ☒ Pit ☐ Boring Ground Surface Elevation 672 ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
A	0-4	7.5YR 3/2	--	LS	MA	M, FR	A, S	<5	20	--
C	4-108	7.5YR 5/4	--	LS	MA	M, FI	--	<5	10	1.63
Comments: Caved at 108 inches.										



Michelle L. Peed, P.G. — Name (Please Print)

Signature

P.G. No.: 1370-13 — Credential Number

N8 W22350 Johnson Drive, Waukesha, WI — Address

April 30, 2025 — Date Evaluation Conducted

(262) 544-0118 — Phone Number

APPENDIX B

FIELD PROCEDURES

The field operations were conducted in general accordance with the procedures recommended by the American Society for Testing and Materials (ASTM) designation D

420 entitled “Standard Guide for Sampling Rock and Rock” and/or other relevant specifications. Soil samples were preserved and transported to *Giles'* laboratory in general accordance with the procedures recommended by ASTM designation D 4220 entitled “Standard Practice for Preserving and Transporting Soil Samples.” Brief descriptions of the sampling, testing and field procedures commonly performed by *Giles* are provided herein.

GENERAL FIELD PROCEDURES

Test Boring Elevations

The ground surface elevations reported on the Test Boring Logs are referenced to the assumed benchmark shown on the Boring Location Plan (Figure 1). Unless otherwise noted, the elevations were determined with a conventional hand-level and are accurate to within about 1 foot.

Test Boring Locations

The test borings were located on-site based on the existing site features and/or apparent property lines. Dimensions illustrating the approximate boring locations are reported on the Boring Location Plan (Figure 1).

Water Level Measurement

The water levels reported on the Test Boring Logs represent the depth of "free" water encountered during drilling and/or after the drilling tools were removed from the borehole. Water levels measured within a granular (sand and gravel) soil profile are typically indicative of the water table elevation. It is usually not possible to accurately identify the water table elevation with cohesive (clayey) soils, since the rate of seepage is slow. The water table elevation within cohesive soils must therefore be determined over a period of time with groundwater observation wells.

It must be recognized that the water table may fluctuate seasonally and during periods of heavy precipitation. Depending on the subsurface conditions, water may also become perched above the water table, especially during wet periods.

Borehole Backfilling Procedures

Each borehole was backfilled upon completion of the field operations. If potential contamination was encountered, and/or if required by state or local regulations, boreholes were backfilled with an "impervious" material (such as bentonite slurry). Borings that penetrated pavements, sidewalks, etc. were "capped" with Portland Cement concrete, asphaltic concrete, or a similar surface material. It must, however, be recognized that the backfill material may settle, and the surface cap may subside, over a period of time. Further backfilling and/or re-surfacing by *Giles'* client or the property owner may be required.

FIELD SAMPLING AND TESTING PROCEDURES

Auger Sampling (AU)

Soil samples are removed from the auger flights as an auger is withdrawn above the ground surface. Such samples are used to determine general soil types and identify approximate soil stratifications. Auger samples are highly disturbed and are therefore not typically used for geotechnical strength testing.

Split-Barrel Sampling (SS) – (ASTM D-1586)

A split-barrel sampler with a 2-inch outside diameter is driven into the subsoil with a 140-pound hammer free-falling a vertical distance of 30 inches. The summation of hammer-blows required to drive the sampler the final 12-inches of an 18-inch sample interval is defined as the "Standard Penetration Resistance" or N-value is an index of the relative density of granular soils and the comparative consistency of cohesive soils. A soil sample is collected from each SPT interval.

Shelby Tube Sampling (ST) – (ASTM D-1587)

A relatively undisturbed soil sample is collected by hydraulically advancing a thin-walled Shelby Tube sampler into a soil mass. Shelby Tubes have a sharp cutting edge and are commonly 2 to 5 inches in diameter.

Bulk Sample (BS)

A relatively large volume of soils is collected with a shovel or other manually-operated tool. The sample is typically transported to *Giles'* materials laboratory in a sealed bag or bucket.

Dynamic Cone Penetration Test (DC) – (ASTM STP 399)

This test is conducted by driving a 1.5-inch-diameter cone into the subsoil using a 15-pound steel ring (hammer), free-falling a vertical distance of 20 inches. The number of hammer-blows required to drive the cone 1¾ inches is an indication of the soil strength and density, and is defined as "N". The Dynamic Cone Penetration test is commonly conducted in hand auger borings, test pits and within excavated trenches.

- Continued -

Ring-Lined Barrel Sampling – (ASTM D 3550)

In this procedure, a ring-lined barrel sampler is used to collect soil samples for classification and laboratory testing. This method provides samples that fit directly into laboratory test instruments without additional handling/disturbance.

Sampling and Testing Procedures

The field testing and sampling operations were conducted in general accordance with the procedures recommended by the American Society for Testing and Materials (ASTM) and/or other relevant specifications. Results of the field testing (i.e. N-values) are reported on the Test Boring Logs. Explanations of the terms and symbols shown on the logs are provided on the appendix enclosure entitled “General Notes”.

APPENDIX C

LABORATORY TESTING AND CLASSIFICATION

The laboratory testing was conducted under the supervision of a geotechnical engineer in accordance with the procedures recommended by the American Society for Testing and Materials (ASTM) and/or other relevant specifications. Brief descriptions of laboratory tests commonly performed by *Giles* are provided herein.

LABORATORY TESTING AND CLASSIFICATION

Photoionization Detector (PID)

In this procedure, soil samples are "scanned" in *Giles'* analytical laboratory using a Photoionization Detector (PID). The instrument is equipped with an 11.7 eV lamp calibrated to a Benzene Standard and is capable of detecting a minute concentration of **certain** Volatile Organic Compound (VOC) vapors, such as those commonly associated with petroleum products and some solvents. Results of the PID analysis are expressed in HNu (manufacturer's) units rather than actual concentration.

Moisture Content (w) (ASTM D 2216)

Moisture content is defined as the ratio of the weight of water contained within a soil sample to the weight of the dry solids within the sample. Moisture content is expressed as a percentage.

Unconfined Compressive Strength (qu) (ASTM D 2166)

An axial load is applied at a uniform rate to a cylindrical soil sample. The unconfined compressive strength is the maximum stress obtained or the stress when 15% axial strain is reached, whichever occurs first.

Calibrated Penetrometer Resistance (qp)

The small, cylindrical tip of a hand-held penetrometer is pressed into a soil sample to a prescribed depth to measure the soils capacity to resist penetration. This test is used to evaluate unconfined compressive strength.

Vane-Shear Strength (qs)

The blades of a vane are inserted into the flat surface of a soil sample and the vane is rotated until failure occurs. The maximum shear resistance measured immediately prior to failure is taken as the vane-shear strength.

Loss-on-Ignition (ASTM D 2974; Method C)

The Loss-on-Ignition (L.O.I.) test is used to determine the organic content of a soil sample. The procedure is conducted by heating a dry soil sample to 440°C in order to burn-off or "ash" organic matter present within the sample. The L.O.I. value is the ratio of the weight loss due to ignition compared to the initial weight of the dry sample. L.O.I. is expressed as a percentage.

Particle Size Distribution (ASTB D 421, D 422, and D 1140)

This test is performed to determine the distribution of specific particle sizes (diameters) within a soil sample. The distribution of coarse-grained soil particles (sand and gravel) is determined from a “sieve analysis,” which is conducted by passing the sample through a series of nested sieves. The distribution of fine-grained soil particles (silt and clay) is determined from a “hydrometer analysis” which is based on the sedimentation of particles suspended in water.

Consolidation Test (ASTM D 2435)

In this procedure, a series of cumulative vertical loads are applied to a small, laterally confined soil sample. During each load increment, vertical compression (consolidation) of the sample is measured over a period of time. Results of this test are used to estimate settlement and time rate of settlement.

Classification of Samples

Each soil sample was visually-manually classified, based on texture and plasticity, in general accordance with the Unified Soil Classification System (ASTM D-2488-75). The classifications are reported on the Test Boring Logs.

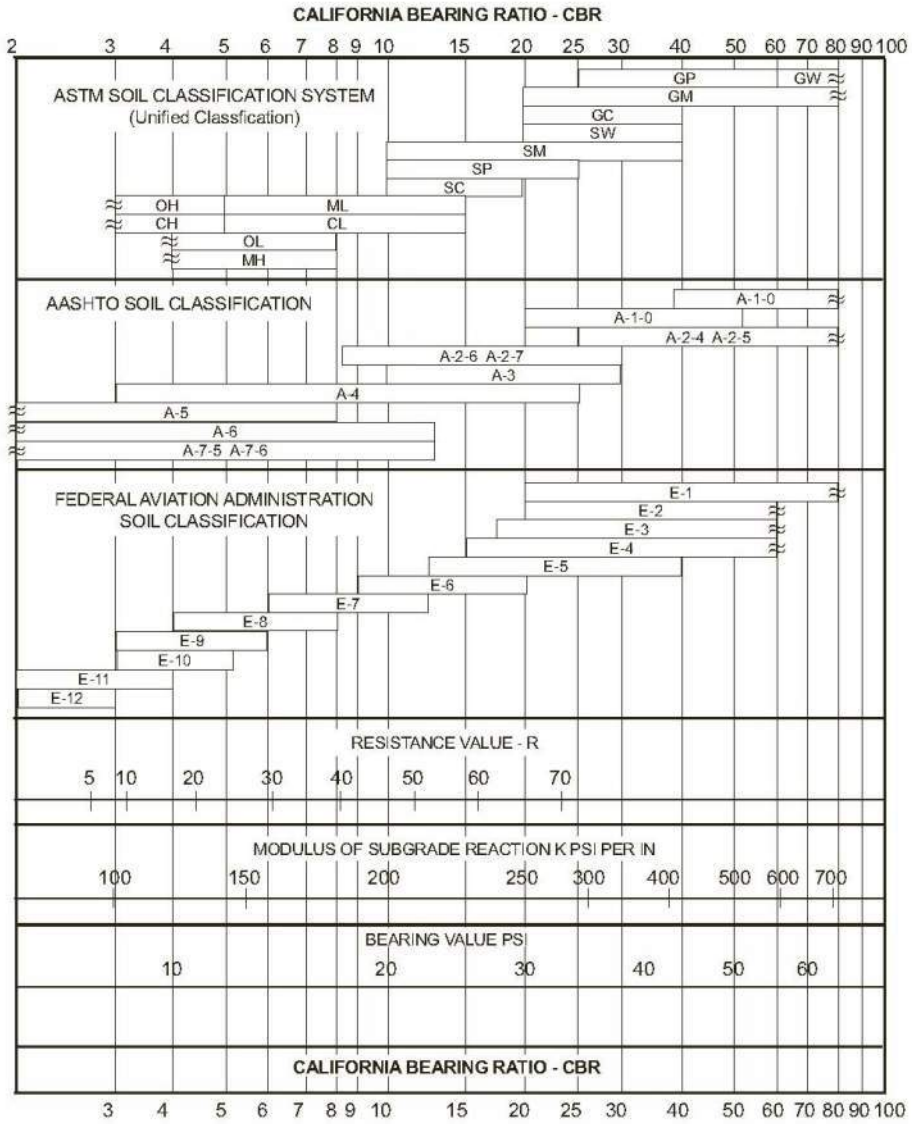
Laboratory Testing

The laboratory testing operations were conducted in general accordance with the procedures recommended by the American Society for Testing and Materials (ASTM) and/or other relevant specifications. Results of the laboratory tests are provided on the Test Boring Logs or other appendix enclosures. Explanation of the terms and symbols used on the logs is provided on the appendix enclosure entitled “General Notes.”

California Bearing Ratio (CBR) Test ASTM D-1833

The CBR test is used for evaluation of a soil subgrade for pavement design. The test consists of measuring the force required for a 3-square-inch cylindrical piston to penetrate 0.1 or 0.2 inch into a compacted soil sample. The result is expressed as a percent of force required to penetrate a standard compacted crushed stone.

Unless a CBR test has been specifically requested by the client, the CBR is estimated from published charts, based on soil classification and strength characteristics. A typical correlation chart is below.



APPENDIX D

GENERAL INFORMATION

AND
IMPORTANT INFORMATION ABOUT
THIS GEOTECHNICAL REPORT

GENERAL COMMENTS

The soil samples obtained during the subsurface exploration will be retained for a period of thirty days. If no instructions are received, they will be disposed of at that time.

This report has been prepared exclusively for the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. Copies of this report may be provided to contractor(s), with contract documents, to disclose information relative to this project. The report, however, has not been prepared to serve as the plans and specifications for actual construction without the appropriate interpretation by the project architect, structural engineer, and/or civil engineer. Reproduction and distribution of this report must be authorized by the client and *Giles*.

This report has been based on assumed conditions/characteristics of the proposed development where specific information was not available. It is recommended that the architect, civil engineer and structural engineer along with any other design professionals involved in this project carefully review these assumptions to ensure they are consistent with the actual planned development. When discrepancies exist, they should be brought to our attention to ensure they do not affect the conclusions and recommendations provided herein. The project plans and specifications may also be submitted to *Giles* for review to ensure that the geotechnical related conclusions and recommendations provided herein have been correctly interpreted.

The analysis of this site was based on a subsoil profile interpolated from a limited subsurface exploration. If the actual conditions encountered during construction vary from those indicated by the borings, *Giles* must be contacted immediately to determine if the conditions alter the recommendations contained herein.

The conclusions and recommendations presented in this report have been promulgated in accordance with generally accepted professional engineering practices in the field of geotechnical engineering. No other warranty is either expressed or implied.

GUIDE SPECIFICATIONS FOR SUBGRADE AND GRADE PREPARATION FOR FILL, FOUNDATION, FLOOR SLAB AND PAVEMENT SUPPORT; AND SELECTION, PLACEMENT AND COMPACTION OF FILL SOILS USING STANDARD PROCTOR PROCEDURES

1. Construction monitoring and testing of subgrades and grades for fill, foundation, floor slab and pavement; and fill selection, placement and compaction shall be performed by an experienced soils engineer and/or his representatives.

2. All compaction fill, subgrades and grades shall be (a) underlain by suitable bearing material; (b) free of all organic, frozen, or other deleterious material, and (c) observed, tested and approved by qualified engineering personnel representing an experienced soils engineer. Preparation of subgrades after stripping vegetation, organic or other unsuitable materials shall consist of (a) proof-rolling to detect soil, wet yielding soils or other unstable materials that must be undercut, (b) scarifying top 6 to 8 inches, (c) moisture conditioning the soils as required, and (d) recompaction to same minimum in-situ density required for similar materials indicated under Item 5. Note: compaction requirements for pavement subgrade are higher than other areas. Weather and construction equipment may damage compacted fill surface and reworking and retesting may be necessary to assure proper performance.

3. In overexcavation and fill areas, the compacted fill must extend (a) a minimum 1 foot lateral distance beyond the exterior edge of the foundation at bearing grade or pavement subgrade and down to compacted fill subgrade on a maximum 0.5(H):1(V) slope, (b) 1 foot above footing grade outside the building, and (c) to floor subgrade inside the building. Fill shall be placed and compacted on a 5(H):1(V) slope or must be stepped or benched as required to flatten if not specifically approved by qualified personnel under the direction of an experienced soil engineer.

4. The compacted fill materials shall be free of deleterious, organic, or frozen matter, shall contain no chemicals that may result in the material being classified as "contaminated", and shall be low-expansive with a maximum Liquid Limit (ASTM D-423) and Plasticity Index (ASTM D-424) of 30 and 15, respectively, unless specifically tested and found to have low expansive properties and approved by an experienced soils engineer. The top 12 inches of compacted fill should have a maximum 3-inch-particle diameter and all underlying compacted fill a maximum 6-inch-diameter unless specifically approved by an experienced soils engineer. All fill materials must be tested and approved under the direction of an experienced soils engineer prior to placement. If the fill is to provide non-frost susceptible characteristics, it must be classified as a clean GW, GP, SW or SP per the Unified Soil Classification System (ASTM D-2487).

5. For structural fill depths less than 20 feet, the density of the structural compacted fill and scarified subgrade and grades shall not be less than 95 percent of the maximum dry density as determined by Standard Proctor (ASTM-698) with the exception of the top 12 inches of pavement subgrade which shall have a minimum in-situ density of 100 percent of maximum dry density, or 5 percent higher than underlying fill materials. Where the structural fill depth is greater than 20 feet, the portions below 20 feet should have a minimum in-place density of 100 percent of its maximum dry density of 5 percent greater than the top 20 feet. The moisture content of cohesive soil shall not vary by more than -1 to +3 percent and granular soil ±3 percent of the optimum when placed and compacted or recompacted, unless specifically recommended/approved by the soils engineer monitoring the placement and compaction. Cohesive soils with moderate to high expansion potentials (PI>15) should, however, be placed, compacted and maintained prior to construction at a moisture content 3±1 percent above optimum moisture content to limit further heave. The fill shall be placed in layers with a maximum loose thickness of 8 inches for foundations and 10 inches for floor slabs and pavement, unless specifically approved by the soils engineer taking into consideration the type of materials and compaction equipment being used. The compaction equipment should consist of suitable mechanical equipment specifically designed for soil compaction. Bulldozers or similar tracked vehicles are typically not suitable for compaction.

6. Excavation, filling, subgrade and grade preparation shall be performed in a manner and sequence that will provide drainage at all times and proper control of erosion. Precipitation, springs and seepage water encountered shall be pumped or drained to provide a suitable working platform. Springs or water seepage encountered during grading/foundation construction must be called to the soil engineer's attention immediately for possible construction procedure revision or inclusion of an underdrain system.

7. Non-structural fill adjacent to structural fill should typically be placed in unison to provide lateral support. Backfill along walls must be placed and compacted with care to ensure excessive unbalanced lateral pressures do not develop. The type of fill material placed adjacent to below-grade walls (i.e. basement walls and retaining walls) must be properly tested and approved by an experienced soils engineer with consideration for the lateral pressure used in the wall design.

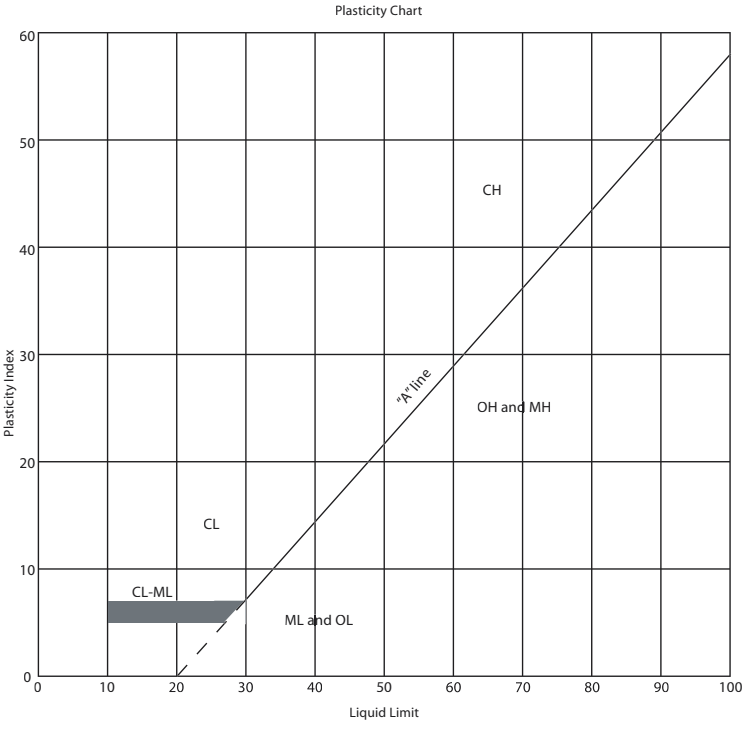
8. Whenever, in the opinion of the soils engineer or the Owner's Representatives, an unstable condition is being created either by cutting or filling, the work shall not proceed into that area until an appropriate geotechnical exploration and analysis has been performed and the grading plan revised, if found necessary.

CHARACTERISTICS AND RATINGS OF UNIFIED SOIL SYSTEM CLASSES FOR SOIL CONSTRUCTION *									
Class	**Compaction Characteristics**	**Max. Dry Density Standard Proctor (pcf)**	**Compressibility and Expansion**	**Drainage and Permeability**	**Value as an Embankment Material**	**Value as Subgrade When Not Subject to Frost**	**Value as Base Course**	**Value as Temporary Pavement**	
								With Dust Palliative	**With Bituminous Treatment**
GW	Good: tractor, rubber-tired, steel wheel or vibratory roller	125-135	Almost none	Good drainage, pervious	Very stable	Excellent	Good	Fair to poor	Excellent
GP	Good: tractor, rubber-tired, steel wheel or vibratory roller	115-125	Almost none	Good drainage, pervious	Reasonably stable	Excellent to good	Poor to fair	Poor	
GM	Good: rubber-tired or light sheepsfoot roller	120-135	Slight	Poor drainage, semipervious	Reasonably stable	Excellent to good	Fair to poor	Poor	Poor to fair
GC	Good to fair: rubber-tired or sheepsfoot roller	115-130	Slight	Poor drainage, impervious	Reasonably stable	Good	Good to fair **	Excellent	Excellent
SW	Good: tractor, rubber-tired or vibratory roller	110-130	Almost none	Good drainage, pervious	Very stable	Good	Fair to poor	Fair to poor	Good
SP	Good: tractor, rubber-tired or vibratory roller	100-120	Almost none	Good drainage, pervious	Reasonably stable when dense	Good to fair	Poor	Poor	Poor to fair
SM	Good: rubber-tired or sheepsfoot roller	110-125	Slight	Poor drainage, impervious	Reasonably stable when dense	Good to fair	Poor	Poor	Poor to fair
SC	Good to fair: rubber-tired or sheepsfoot roller	105-125	Slight to medium	Poor drainage, impervious	Reasonably stable	Good to fair	Fair to poor	Excellent	Excellent
ML	Good to poor: rubber-tired or sheepsfoot roller	95-120	Slight to medium	Poor drainage, impervious	Poor stability, high density required	Fair to poor	Not suitable	Poor	Poor
CL	Good to fair: sheepsfoot or rubber-tired roller	95-120	Medium	No drainage, impervious	Good stability	Fair to poor	Not suitable	Poor	Poor
OL	Fair to poor: sheepsfoot or rubber-tired roller	80-100	Medium to high	Poor drainage, impervious	Unstable, should not be used	Poor	Not suitable	Not suitable	Not suitable
MH	Fair to poor: sheepsfoot or rubber-tired roller	70-95	High	Poor drainage, impervious	Poor stability, should not be used	Poor	Not suitable	Very poor	Not suitable
CH	Fair to poor: sheepsfoot roller	80-105	Very high	No drainage, impervious	Fair stability, may soften on expansion	Poor to very poor	Not suitable	Very poor	Not suitable
OH	Fair to poor: sheepsfoot roller	65-100	High	No drainage, impervious	Unstable, should not be used	Very poor	Not suitable	Not suitable	Not suitable
Pt	Not suitable		Very high	Fair to poor drainage	Should not be used	Not suitable	Not suitable	Not suitable	Not suitable

* "The Unified Classification: Appendix A - Characteristics of Soil, Groups Pertaining to Roads and Airfields, and Appendix B - Characteristics of Soil Groups Pertaining to Embankments and Foundations," Technical Memorandum 357, U.S. Waterways Ixperiment Station, Vicksburg, 1953.

** Not suitable if subject to frost.

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

Major Divisions			Group Symbols	Typical Names	Laboratory Classification Criteria	
Coarse-grained soils (more than half of material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 percent: GW, GP, SW, SP; More than 12 percent: GM, GC, SM, SC; 5 to 12 percent: *Borderline* cases requiring dual symbols[b]	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			GP	Poorly graded gravels, gravel-sand mixtrues, little or no fines		Not meeting all gradation requirements for GW
		Gravels with fines (appreciable amount of fines)	GM[a] d	Silty gravels, gravel-sand-silt mixtures		Atterberg limits below "A" line or P.I. less than 4 — Limits plotting within shaded area, above "A" line with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols
			GM[a] u			
			GC	Clayey gravels, gravel-sand-clay mixtures		Atterberg limits above "A" line or P.I. greater than 7
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines		$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3
			SP	Poorly graded sands, gravelly sands, little or no fines		Not meeting all gradation requirements for SW
		Sands with fines (Appreciable amount of fines)	SM[a] d	Silty sands, sand-silt mixtures		Atterberg limits below "A" line or P.I. less than 4 — Limits plotting within shaded area, above "A" line with P.I. between 4 and 7 are *borderline* cases requiring use of dual symbols
			SM[a] u			
			SC	Clayey sands, sand-clay mixtures		Atterberg limits above "A" line or P.I. greater than 7
Fine-grained soils (More than half material is smaller than No. 200 sieve size)	Silts and clays (Liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays		
			OL	Organic silts and organic silty clays of low plasticity		
	Silts and clays (Liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			CH	Inorganic clays of high plasticity, fat clays		
			OH	Organic clays of medium to high plasticity, organic silts		
	Highly organic soils		Pt	Peat and other highly organic soils		

[a] Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits, suffix d used when L.L. is 28 or less and the P.I. is 6 or less; the suffix u is used when L.L. is greater than 28.

[b] Borderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group sympols. For example GW-GC, well-graded gravel-sand mixture with clay binder.

GENERAL NOTES

SAMPLE IDENTIFICATION

All samples are visually classified in general accordance with the Unified Soil Classification System (ASTM D-2487-75 or D-2488-75)

DESCRIPTIVE TERM (% BY DRY WEIGHT)

Trace:	1-10%
Little:	11-20%
Some:	21-35%
And/Adjective	36-50%

PARTICLE SIZE (DIAMETER)

Boulders:	8 inch and larger
Cobbles:	3 inch to 8 inch
Gravel:	coarse - ¾ to 3 inch
	fine – No. 4 (4.76 mm) to ¾ inch
Sand:	coarse – No. 4 (4.76 mm) to No. 10 (2.0 mm)
	medium – No. 10 (2.0 mm) to No. 40 (0.42 mm)
	fine – No. 40 (0.42 mm) to No. 200 (0.074 mm)
Silt:	No. 200 (0.074 mm) and smaller (non-plastic)
Clay:	No 200 (0.074 mm) and smaller (plastic)

SOIL PROPERTY SYMBOLS

Dd:	Dry Density (pcf)
LL:	Liquid Limit, percent
PL:	Plastic Limit, percent
PI:	Plasticity Index (LL-PL)
LOI:	Loss on Ignition, percent
Gs:	Specific Gravity
K:	Coefficient of Permeability
w:	Moisture content, percent
qp:	Calibrated Penetrometer Resistance, tsf
qs:	Vane-Shear Strength, tsf
qu:	Unconfined Compressive Strength, tsf
qc:	Static Cone Penetrometer Resistance (correlated to Unconfined Compressive Strength, tsf)
PID:	Results of vapor analysis conducted on representative samples utilizing a Photoionization Detector calibrated to a benzene standard. Results expressed in HNU-Units. (BDL=Below Detection Limit)

DRILLING AND SAMPLING SYMBOLS

SS:	Split-Spoon
ST:	Shelby Tube – 3 inch O.D. (except where noted)
CS:	3 inch O.D. California Ring Sampler
DC:	Dynamic Cone Penetrometer per ASTM Special Technical Publication No. 399
AU:	Auger Sample
DB:	Diamond Bit
CB:	Carbide Bit
WS:	Wash Sample
RB:	Rock-Roller Bit
BS:	Bulk Sample
Note:	Depth intervals for sampling shown on Record of Subsurface Exploration are not indicative of sample recovery, but position where sampling initiated

N: Penetration Resistance per 12 inch interval, or fraction thereof, for a standard 2 inch O.D. (1⅜ inch I.D.) split spoon sampler driven with a 140 pound weight free-falling 30 inches. Performed in general accordance with Standard Penetration Test Specifications (ASTM D-1586). N in blows per foot equals sum of N-Values where plus sign (+) is shown.

Nc: Penetration Resistance per 1¾ inches of Dynamic Cone Penetrometer. Approximately equivalent to Standard Penetration Test N-Value in blows per foot.

Nr: Penetration Resistance per 12 inch interval, or fraction thereof, for California Ring Sampler driven with a 140 pound weight free-falling 30 inches per ASTM D-3550. Not equivalent to Standard Penetration Test N-Value.

SOIL STRENGTH CHARACTERISTICS

COHESIVE (CLAYEY) SOILS

COMPARATIVE CONSISTENCY	BLOWS PER FOOT (N)	UNCONFINED COMPRESSIVE STRENGTH (TSF)
Very Soft	0 - 2	0 - 0.25
Soft	3 - 4	0.25 - 0.50
Medium Stiff	5 – 8	0.50 - 1.00
Stiff	9 – 15	1.00 - 2.00
Very Stiff	16 – 30	2.00 - 4.00
Hard	31+	4.00+

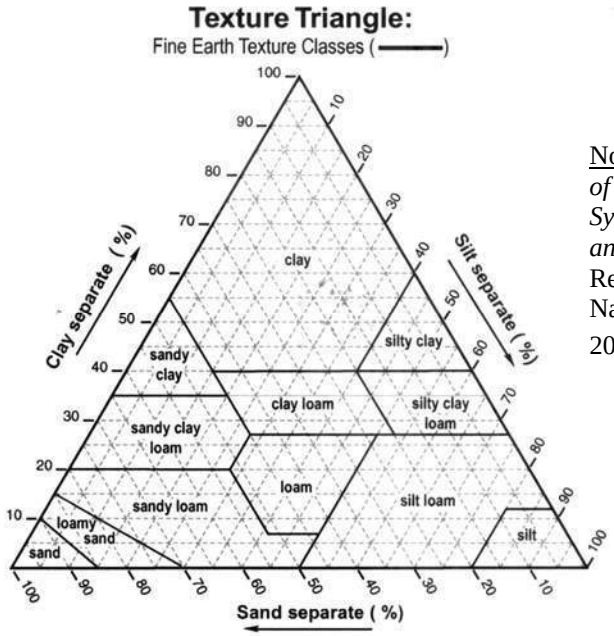
NON-COHESIVE (GRANULAR) SOILS

RELATIVE DENSITY	BLOWS PER FOOT (N)
Very Loose	0 - 4
Loose	5 - 10
Firm	11 - 30
Dense	31 - 50
Very Dense	51+

DEGREE OF PLASTICITY	PI
None to Slight	0 - 4
Slight	5 - 10
Medium	11 - 30
High to Very High	31+

DEGREE OF EXPANSIVE POTENTIAL	PI
Low	0 - 15
Medium	15 - 25
High	25+

SOIL CLASSIFICATION NOTES



Note: *Texture Triangle* and *Comparison of Particle Size Classes in Different Systems* from *Field Book for Describing and Sampling Soil*, USDA Natural Resources Conservation Service National Soil Survey Center (September 2002).

Comparison of Particle Size Classes in Different Systems

	FINE EARTH										ROCK FRAGMENTS					
											channers			flagst.	stones	boulders
USDA [1]	Clay [2]		Silt		Sand						Gravel			Cobbles	Stones	Boulders
	fine	co.	fine	co.	v.fi.	fi.	med.	co.	v. co.		fine	medium	coarse			
millimeters:	0.0002	.002 mm		.02	.05	.1	.25	.5	1	2 mm	5	20		76	250	600 mm
U.S. Standard Sieve No. *(opening)*:					300 [3]	140	60	35	18	10	4	*(3/4")*		*(3")*	*(10")*	*(25")*

International [4]	Clay	Silt	Sand		Gravel	Stones	
			fine	coarse			
millimeters:	.002 mm	.02	.20		2 mm	20 mm	
U.S. Standard Sieve No. *(opening)*:					10	*(3/4")*	

Unified [5]	Silt or Clay	Sand			Gravel		Cobbles	Boulders
		fine	medium	co.	fine	coarse		
millimeters:	.074	.42	2 mm	4.8	19	76	300 mm	
U.S. Standard Sieve No. *(opening)*:	200	40	10	4	*(3/4")*	*(3")*		

AASHTO [6,7]	Clay	Silt	Sand		Gravel or Stones			Broken Rock (angular), or Boulders (rounded)
			fine	coarse	fine	med.	co.	
millimeters:	.005 mm	.074	.42	2 mm	9.5	25	75 mm	
U.S. Standard Sieve No.:		200	40	10	*(3/8")*	*(1")*	*(3")*	

phi #:	12	10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10		-12
Modified Wentworth [8]	clay			silt				sand					pebbles						Cobbles		boulders			
millimeters:	.002	.004	.008	.016	.031	.062	.125	.25	.5	1	2 mm		8	16	32	64		256				4092 mm		
U.S. Standard Sieve No.:						230	120	60	35	18	10		5											

1. Soil Survey Staff. 1995. Soil survey Laboratory information manual. USDA, Natural Resources Conservation Service, Soil Survey Investigations Report No. 45, Version 1.0, National Soil Survey Center, Lincoln, NE. 305 p.
2. Soil Survey Staff. 1995. Soil Survey Lab information manual. USDA-NRCS, Soil Survey Investigation Report #45, version 1.0, National Soil Survey Center, Lincoln, NE. Note: Mineralogy studies may subdivide clay into three size ranges; fine (<0.08µm), medium (0.08-0.2µm), and coarse (0.2-2µm); Jackson, 1969.
3. The Soil Survey Lab (Lincoln, NE) uses a no. 300 sieve (0.047 mm opening) for the USDA-sand/silt measurement. A no. 270 sieve (0.053 mm opening) is more readily available and widely used.
4. International Soil Science Society. 1951. *In*: Soil Survey Manual. Soil Survey Staff, USDA-Soil Conservation Service, Agricultural Handbook No. 18, U.S. Gov. Print. Office, Washington, D.C. 214 p.
5. ASTM. 1993. Standard classification of soils for engineering purposes (Unified Soil Classification System). ASTM designation D2487-92. *In*: Soil and rock; dimension stone; geosynthetics. Annual book of ASTM standards-Vol. 04.08.
6. AASHTO. 1986a. Recommended practice for the classification of soils and soil-aggregate mixtures for highway construction purposes. AASHTO designation M145-82. *In*: Standard specifications for transportation materials and methods of sampling and testing; Part 1: Specifications (14th ed.). American Association of State Highway and Transportation Officials, Washington, D.C.
7. AASHTO. 1986b. Standard definitions of terms relating to subgrade, soil-aggregate, and fill materials. AASHTO designation M146-70 (1980). *In*: sampling and testing; Part 1: Specifications (14th ed.). American Association of State Highway and Transportation Officials, Washington, D.C.
8. Ingram, R.L. 1982. Modified Wentworth scale. *In*: Grain-size scales. AGI Date Sheet 29.1. *In*: Dutro, J.T., Dietrich, R.V., and Foose, R.M. 1989. AGI data sheets for geology in the field, laboratory, and office, 3rd edition. American Geological Institute, Washington, D.C.

GILES
ENGINEERING ASSOCIATES, INC.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

Geotechnical, Environmental & Construction Materials Consultants

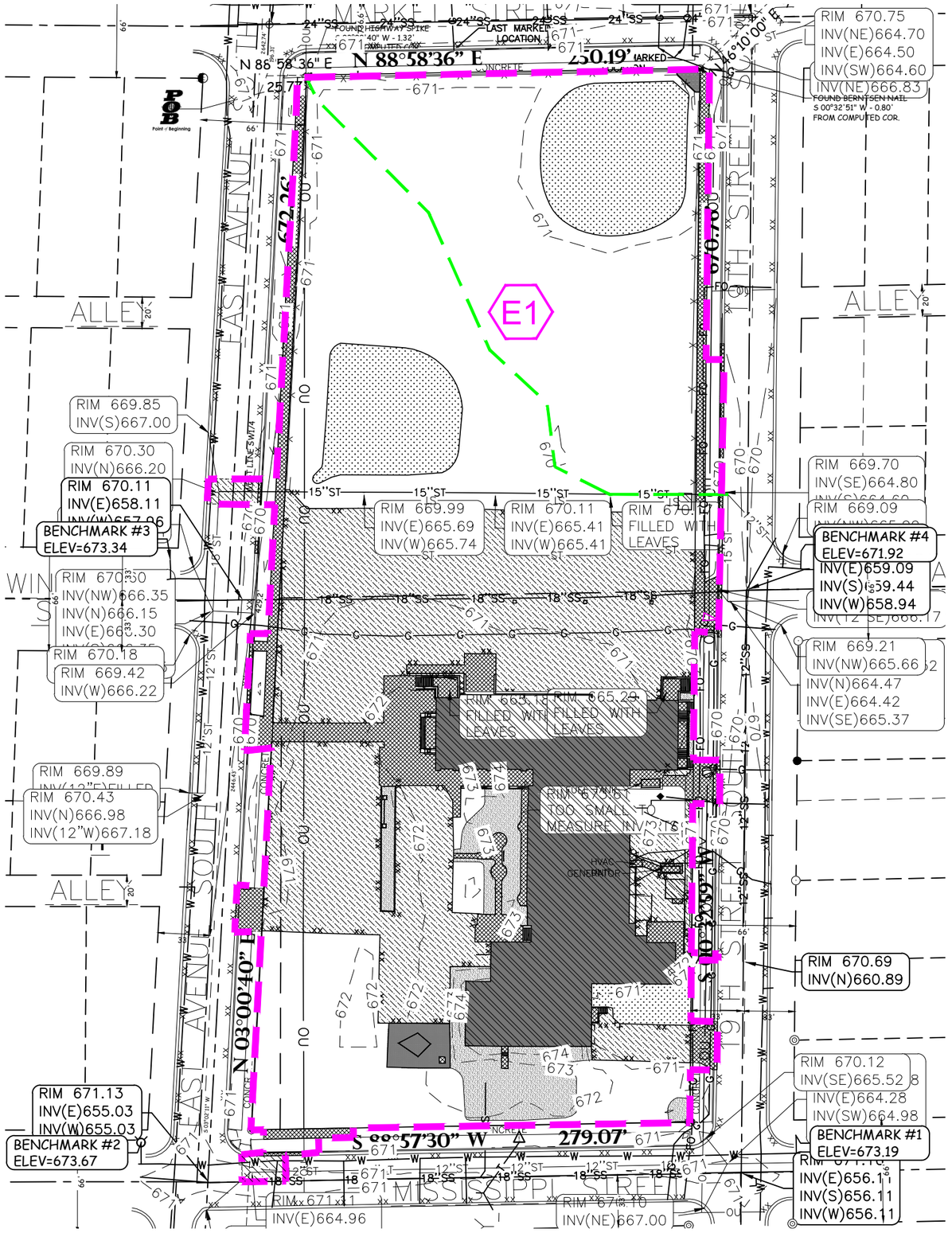
GILES

ENGINEERING ASSOCIATES, INC.

www.gilesengr.com

APPENDIX C

Existing Drainage Map and Calculations



LEGEND:

EXISTING DRAINAGE AREA LIMITS

EXISTING Tc FLOW PATH

EXISTING DRAINAGE AREA LABEL — E1

REVISIONS

CHECKED:	JL
DRAWN:	MK
DATE	11/04/2025
PROJECT NO.	25.0034

EXISTING DRAINAGE

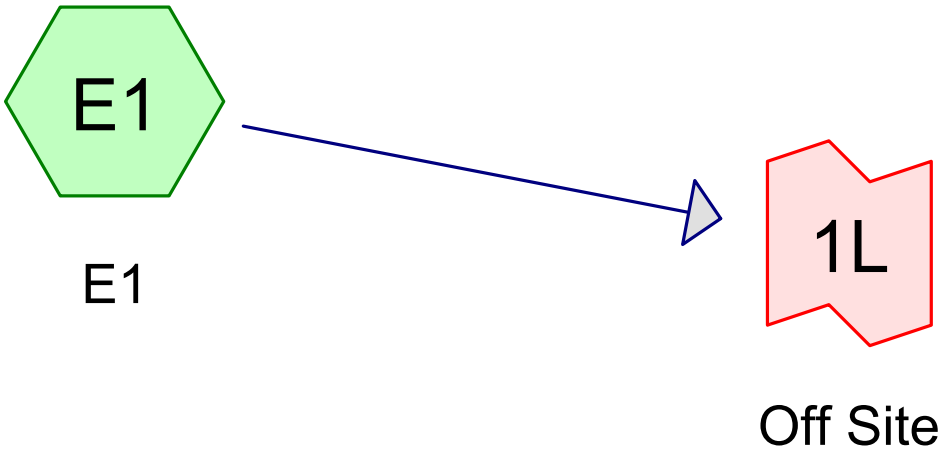
LACROSSE SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL
CITY OF LACROSSE
LACROSSE CO, WISCONSIN

Civil Engineering
Land Surveying
Landscape Architecture

4941 Kirschling Court
Stevens Point, WI 54481
Phone: 715.344.9999 Fax: 715.344.9922

POB Point of Beginning

SHEET EX



Subcat Reach Pond Link

Routing Diagram for 25.0034 - EXISTING
Prepared by Point of Beginning, Inc., Printed 10/14/2025

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	E1	0.00	0.00	76.0	0.0048	0.013	0.0	15.0	0.0

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1: E1 Runoff Area=187,985 sf 47.29% Impervious Runoff Depth=0.81"
Flow Length=378' Tc=68.4 min CN=72 Runoff=1.53 cfs 12,752 cf

Link 1L: Off Site Inflow=1.53 cfs 12,752 cf
Primary=1.53 cfs 12,752 cf

Total Runoff Area = 187,985 sf Runoff Volume = 12,752 cf Average Runoff Depth = 0.81"
52.71% Pervious = 99,094 sf 47.29% Impervious = 88,891 sf

Summary for Subcatchment E1: E1

Runoff = 1.53 cfs @ 13.00 hrs, Volume= 12,752 cf, Depth= 0.81"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 2-Year Rainfall=3.01"

	Area (sf)	CN	Description
	57,825	98	Paved parking, HSG B
*	10,378	98	Concrete pavement, HSG B
	20,688	98	Roofs, HSG B
*	14,649	96	Baseball Infield
*	1,116	77	Soft Surface Play Area
	83,329	39	>75% Grass cover, Good, HSG A
	187,985	72	Weighted Average
	99,094		52.71% Pervious Area
	88,891		47.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	17	0.0454	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"
17.8	100	0.0050	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"
35.9	96	0.0008	0.04		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"
11.9	50	0.0034	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"
0.7	39	0.0043	0.98		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.3	76	0.0048	3.65	4.48	**Pipe Channel, CMP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
68.4	378	Total			

Summary for Link 1L: Off Site

Inflow Area = 187,985 sf, 47.29% Impervious, Inflow Depth = 0.81" for 2-Year event
Inflow = 1.53 cfs @ 13.00 hrs, Volume= 12,752 cf
Primary = 1.53 cfs @ 13.00 hrs, Volume= 12,752 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1: E1 Runoff Area=187,985 sf 47.29% Impervious Runoff Depth=1.79"
Flow Length=378' Tc=68.4 min CN=72 Runoff=3.65 cfs 28,054 cf

Link 1L: Off Site Inflow=3.65 cfs 28,054 cf
Primary=3.65 cfs 28,054 cf

Total Runoff Area = 187,985 sf Runoff Volume = 28,054 cf Average Runoff Depth = 1.79"
52.71% Pervious = 99,094 sf 47.29% Impervious = 88,891 sf

Summary for Subcatchment E1: E1

Runoff = 3.65 cfs @ 12.99 hrs, Volume= 28,054 cf, Depth= 1.79"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 10-Year Rainfall=4.46"

	Area (sf)	CN	Description
	57,825	98	Paved parking, HSG B
*	10,378	98	Concrete pavement, HSG B
	20,688	98	Roofs, HSG B
*	14,649	96	Baseball Infield
*	1,116	77	Soft Surface Play Area
	83,329	39	>75% Grass cover, Good, HSG A
	187,985	72	Weighted Average
	99,094		52.71% Pervious Area
	88,891		47.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	17	0.0454	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"
17.8	100	0.0050	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"
35.9	96	0.0008	0.04		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"
11.9	50	0.0034	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"
0.7	39	0.0043	0.98		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.3	76	0.0048	3.65	4.48	**Pipe Channel, CMP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Concrete pipe, bends & connections
68.4	378	Total			

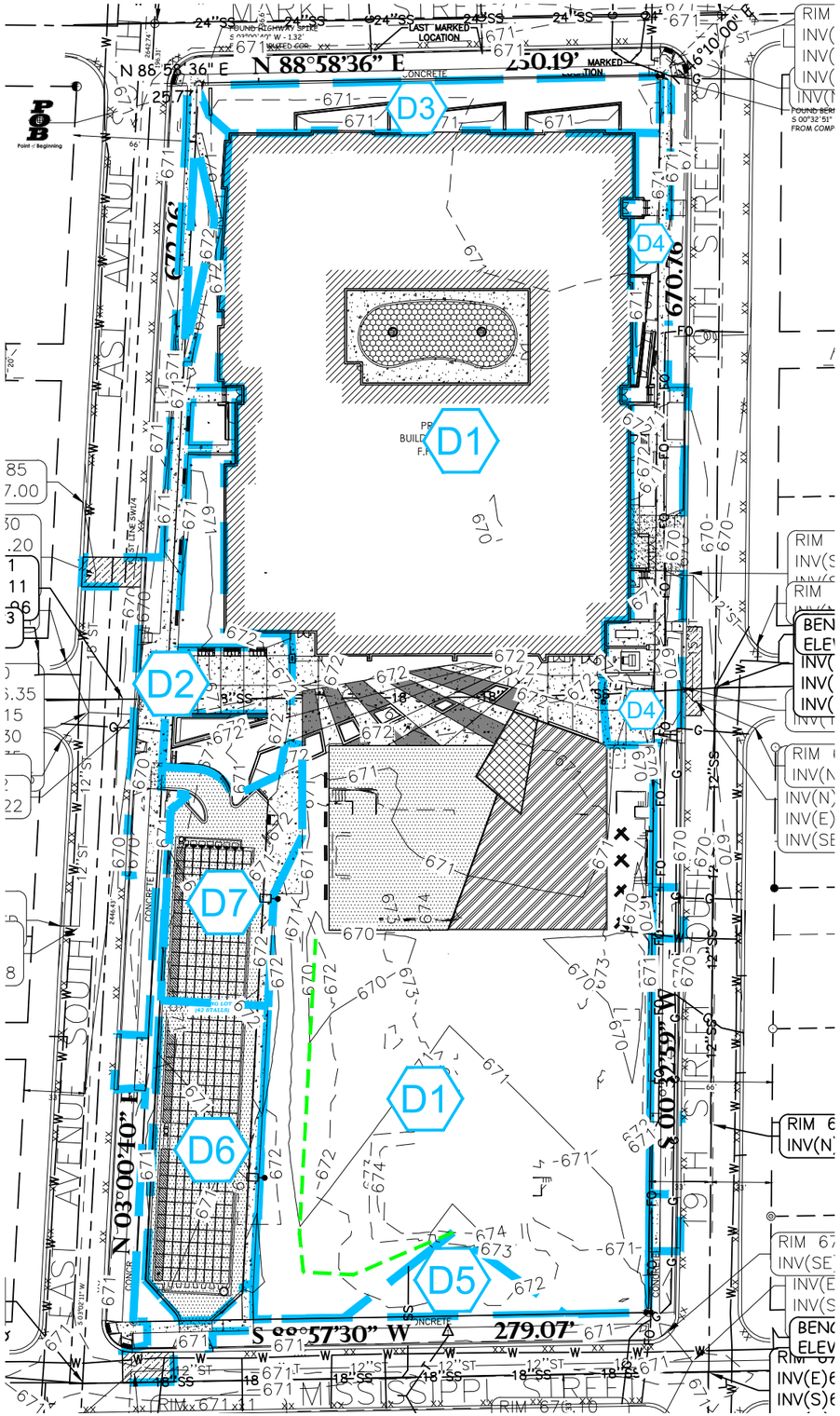
Summary for Link 1L: Off Site

Inflow Area = 187,985 sf, 47.29% Impervious, Inflow Depth = 1.79" for 10-Year event
Inflow = 3.65 cfs @ 12.99 hrs, Volume= 28,054 cf
Primary = 3.65 cfs @ 12.99 hrs, Volume= 28,054 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs

APPENDIX D

Proposed Drainage Map and Calculations



LEGEND:

PROPOSED DRAINAGE AREA LIMITS

PROPOSED Tc FLOW PATH

PROPOSED DRAINAGE AREA LABEL D1

REVISIONS

CHECKED:	JL
DRAWN:	MK
DATE	11/04/2025
PROJECT NO.	25.0034

PROPOSED DRAINAGE

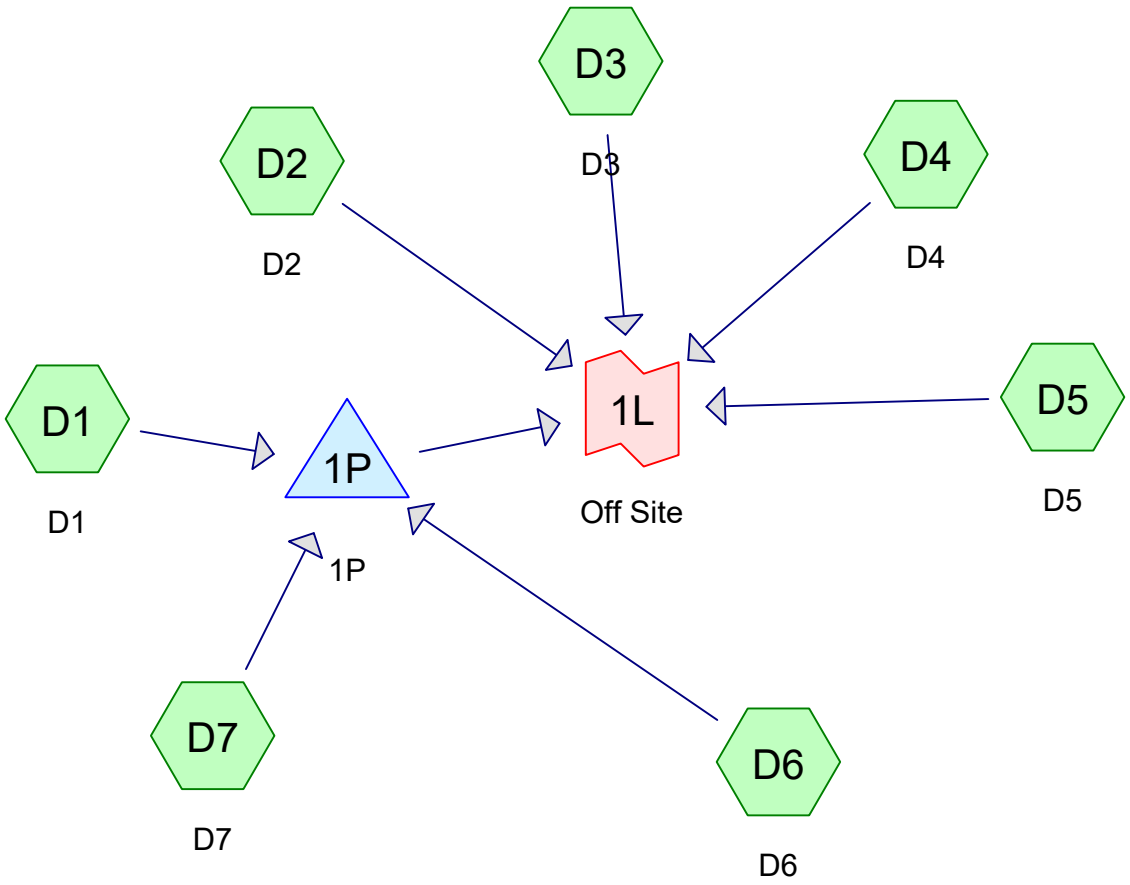
LACROSSE SCHOOL DISTRICT
NEW ELEMENTARY SCHOOL
CITY OF LACROSSE
LACROSSE CO, WISCONSIN

Civil Engineering
Land Surveying
Landscape Architecture

4941 Kirschling Court
Stevens Point, WI 54481
Phone: 715.344.9999 Fax: 715.344.9922

Point of Beginning

SHEET PR



Subcat Reach Pond Link

Routing Diagram for ADS Update25.0034 - PROPOSED-5-30-25
Prepared by Point of Beginning, Inc., Printed 10/14/2025

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1P	665.26	665.07	52.0	0.0037	0.012	0.0	12.0	0.0

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentD1: D1 Runoff Area=138,302 sf 56.09% Impervious Runoff Depth=0.91"
Flow Length=266' Slope=0.0109 '/' Tc=28.5 min CN=74 Runoff=2.25 cfs 10,541 cf

SubcatchmentD2: D2 Runoff Area=12,328 sf 63.60% Impervious Runoff Depth=1.08"
Tc=6.0 min CN=77 Runoff=0.49 cfs 1,107 cf

SubcatchmentD3: D3 Runoff Area=7,013 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0 cf

SubcatchmentD4: D4 Runoff Area=8,494 sf 69.74% Impervious Runoff Depth=1.26"
Tc=6.0 min CN=80 Runoff=0.40 cfs 890 cf

SubcatchmentD5: D5 Runoff Area=4,311 sf 27.28% Impervious Runoff Depth=0.15"
Flow Length=93' Slope=0.0294 '/' Tc=8.3 min UI Adjusted CN=53 Runoff=0.00 cfs 54 cf

SubcatchmentD6: D6 Runoff Area=9,583 sf 100.00% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=98 Runoff=0.86 cfs 2,219 cf

SubcatchmentD7: D7 Runoff Area=7,972 sf 97.82% Impervious Runoff Depth=2.67"
Tc=6.0 min CN=97 Runoff=0.70 cfs 1,773 cf

Pond 1P: 1P Peak Elev=665.81' Storage=2,836 cf Inflow=2.54 cfs 14,532 cf
Discarded=0.96 cfs 13,421 cf Primary=0.21 cfs 1,112 cf Outflow=1.16 cfs 14,532 cf

Link 1L: Off Site Inflow=0.91 cfs 3,163 cf
Primary=0.91 cfs 3,163 cf

Total Runoff Area = 188,003 sf Runoff Volume = 16,584 cf Average Runoff Depth = 1.06"
41.54% Pervious = 78,101 sf 58.46% Impervious = 109,902 sf

Summary for Subcatchment D1: D1

Runoff = 2.25 cfs @ 12.44 hrs, Volume= 10,541 cf, Depth= 0.91"
Routed to Pond 1P : 1P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 2-Year Rainfall=3.01"

	Area (sf)	CN	Description
	8,930	98	Unconnected pavement, HSG A
	57,281	98	Unconnected roofs, HSG A
*	3,398	98	Rubber pavement, HSG A
*	7,971	98	Paved Play Area
	54,014	39	>75% Grass cover, Good, HSG A
*	6,708	77	Soft Surface Play Area
	138,302	74	Weighted Average
	60,722		43.91% Pervious Area
	77,580		56.09% Impervious Area
	66,211		85.35% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.5	266	0.0109	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"

Summary for Subcatchment D2: D2

Runoff = 0.49 cfs @ 12.14 hrs, Volume= 1,107 cf, Depth= 1.08"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 2-Year Rainfall=3.01"

Area (sf)	CN	Description
566	98	Paved parking, HSG A
7,275	98	Unconnected pavement, HSG A
4,487	39	>75% Grass cover, Good, HSG A
12,328	77	Weighted Average
4,487		36.40% Pervious Area
7,841		63.60% Impervious Area
7,275		92.78% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D3: D3

Runoff = 0.00 cfs @ 1.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 2-Year Rainfall=3.01"

Area (sf)	CN	Description
7,013	39	>75% Grass cover, Good, HSG A
7,013		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D4: D4

Runoff = 0.40 cfs @ 12.14 hrs, Volume= 890 cf, Depth= 1.26"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 2-Year Rainfall=3.01"

Area (sf)	CN	Description
1,089	98	Paved parking, HSG A
4,835	98	Unconnected pavement, HSG A
2,570	39	>75% Grass cover, Good, HSG A
8,494	80	Weighted Average
2,570		30.26% Pervious Area
5,924		69.74% Impervious Area
4,835		81.62% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D5: D5

Runoff = 0.00 cfs @ 12.42 hrs, Volume= 54 cf, Depth= 0.15"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 2-Year Rainfall=3.01"

Area (sf)	CN	Adj	Description
828	98		Paved parking, HSG A
3,135	39		>75% Grass cover, Good, HSG A
348	98		Unconnected pavement, HSG A
4,311	55	53	Weighted Average, UI Adjusted
3,135			72.72% Pervious Area
1,176			27.28% Impervious Area
348			29.59% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	93	0.0294	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"

Summary for Subcatchment D6: D6

Runoff = 0.86 cfs @ 12.13 hrs, Volume= 2,219 cf, Depth= 2.78"
Routed to Pond 1P : 1P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 2-Year Rainfall=3.01"

Area (sf)	CN	Description
8,668	98	Paved parking, HSG A
915	98	Unconnected pavement, HSG A
9,583	98	Weighted Average
9,583		100.00% Impervious Area
915		9.55% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D7: D7

Runoff = 0.70 cfs @ 12.13 hrs, Volume= 1,773 cf, Depth= 2.67"
Routed to Pond 1P : 1P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 2-Year Rainfall=3.01"

Area (sf)	CN	Description
6,186	98	Paved parking, HSG A
1,612	98	Unconnected pavement, HSG B
174	39	>75% Grass cover, Good, HSG A
7,972	97	Weighted Average
174		2.18% Pervious Area
7,798		97.82% Impervious Area
1,612		20.67% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond 1P: 1P

Inflow Area = 155,857 sf, 60.93% Impervious, Inflow Depth = 1.12" for 2-Year event
Inflow = 2.54 cfs @ 12.42 hrs, Volume= 14,532 cf
Outflow = 1.16 cfs @ 12.87 hrs, Volume= 14,532 cf, Atten= 54%, Lag= 27.1 min
Discarded = 0.96 cfs @ 12.04 hrs, Volume= 13,421 cf
Primary = 0.21 cfs @ 12.87 hrs, Volume= 1,112 cf
Routed to Link 1L : Off Site

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 665.81' @ 12.87 hrs Surf.Area= 11,502 sf Storage= 2,836 cf

Plug-Flow detention time= 16.9 min calculated for 14,529 cf (100% of inflow)
Center-of-Mass det. time= 16.9 min (854.5 - 837.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	665.26'	10,149 cf	**44.25'W x 259.94'L x 3.50'H Field A** 40,258 cf Overall - 14,885 cf Embedded = 25,373 cf x 40.0% Voids
#2A	665.76'	14,885 cf	**ADS_StormTech SC-740 +Cap** x 324 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 324 Chambers in 9 Rows
		25,034 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	665.26'	**12.0" Round Culvert** L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 665.26' / 665.07' S= 0.0037 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	665.26'	**3.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	666.01'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	668.25'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Discarded	665.26'	**3.600 in/hr Exfiltration over Surface area from 660.26' - 665.26'** Excluded Surface area = 0 sf

Discarded OutFlow Max=0.96 cfs @ 12.04 hrs HW=665.30' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 0.96 cfs)

Primary OutFlow Max=0.21 cfs @ 12.87 hrs HW=665.81' (Free Discharge)
└**1=Culvert** (Passes 0.21 cfs of 0.80 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.21 cfs @ 3.08 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Off Site

Inflow Area = 188,003 sf, 58.46% Impervious, Inflow Depth = 0.20" for 2-Year event
Inflow = 0.91 cfs @ 12.14 hrs, Volume= 3,163 cf
Primary = 0.91 cfs @ 12.14 hrs, Volume= 3,163 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs

Time span=1.00-48.00 hrs, dt=0.01 hrs, 4701 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentD1: D1 Runoff Area=138,302 sf 56.09% Impervious Runoff Depth=1.94"
Flow Length=266' Slope=0.0109 '/' Tc=28.5 min CN=74 Runoff=5.03 cfs 22,378 cf

SubcatchmentD2: D2 Runoff Area=12,328 sf 63.60% Impervious Runoff Depth=2.18"
Tc=6.0 min CN=77 Runoff=1.00 cfs 2,238 cf

SubcatchmentD3: D3 Runoff Area=7,013 sf 0.00% Impervious Runoff Depth=0.10"
Tc=6.0 min CN=39 Runoff=0.00 cfs 61 cf

SubcatchmentD4: D4 Runoff Area=8,494 sf 69.74% Impervious Runoff Depth=2.43"
Tc=6.0 min CN=80 Runoff=0.77 cfs 1,718 cf

SubcatchmentD5: D5 Runoff Area=4,311 sf 27.28% Impervious Runoff Depth=0.62"
Flow Length=93' Slope=0.0294 '/' Tc=8.3 min UI Adjusted CN=53 Runoff=0.07 cfs 224 cf

SubcatchmentD6: D6 Runoff Area=9,583 sf 100.00% Impervious Runoff Depth=4.22"
Tc=6.0 min CN=98 Runoff=1.28 cfs 3,373 cf

SubcatchmentD7: D7 Runoff Area=7,972 sf 97.82% Impervious Runoff Depth=4.11"
Tc=6.0 min CN=97 Runoff=1.06 cfs 2,730 cf

Pond 1P: 1P Peak Elev=666.47' Storage=9,116 cf Inflow=5.50 cfs 28,481 cf
Discarded=0.96 cfs 22,671 cf Primary=0.77 cfs 5,810 cf Outflow=1.73 cfs 28,481 cf

Link 1L: Off Site Inflow=1.95 cfs 10,051 cf
Primary=1.95 cfs 10,051 cf

Total Runoff Area = 188,003 sf Runoff Volume = 32,722 cf Average Runoff Depth = 2.09"
41.54% Pervious = 78,101 sf 58.46% Impervious = 109,902 sf

Summary for Subcatchment D1: D1

Runoff = 5.03 cfs @ 12.41 hrs, Volume= 22,378 cf, Depth= 1.94"
Routed to Pond 1P : 1P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 10-Year Rainfall=4.46"

	Area (sf)	CN	Description
	8,930	98	Unconnected pavement, HSG A
	57,281	98	Unconnected roofs, HSG A
*	3,398	98	Rubber pavement, HSG A
*	7,971	98	Paved Play Area
	54,014	39	>75% Grass cover, Good, HSG A
*	6,708	77	Soft Surface Play Area
	138,302	74	Weighted Average
	60,722		43.91% Pervious Area
	77,580		56.09% Impervious Area
	66,211		85.35% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.5	266	0.0109	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"

Summary for Subcatchment D2: D2

Runoff = 1.00 cfs @ 12.13 hrs, Volume= 2,238 cf, Depth= 2.18"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 10-Year Rainfall=4.46"

Area (sf)	CN	Description
566	98	Paved parking, HSG A
7,275	98	Unconnected pavement, HSG A
4,487	39	>75% Grass cover, Good, HSG A
12,328	77	Weighted Average
4,487		36.40% Pervious Area
7,841		63.60% Impervious Area
7,275		92.78% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D3: D3

Runoff = 0.00 cfs @ 13.24 hrs, Volume= 61 cf, Depth= 0.10"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 10-Year Rainfall=4.46"

Area (sf)	CN	Description
7,013	39	>75% Grass cover, Good, HSG A
7,013		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D4: D4

Runoff = 0.77 cfs @ 12.13 hrs, Volume= 1,718 cf, Depth= 2.43"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 10-Year Rainfall=4.46"

Area (sf)	CN	Description
1,089	98	Paved parking, HSG A
4,835	98	Unconnected pavement, HSG A
2,570	39	>75% Grass cover, Good, HSG A
8,494	80	Weighted Average
2,570		30.26% Pervious Area
5,924		69.74% Impervious Area
4,835		81.62% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D5: D5

Runoff = 0.07 cfs @ 12.18 hrs, Volume= 224 cf, Depth= 0.62"
Routed to Link 1L : Off Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 10-Year Rainfall=4.46"

Area (sf)	CN	Adj	Description
828	98		Paved parking, HSG A
3,135	39		>75% Grass cover, Good, HSG A
348	98		Unconnected pavement, HSG A
4,311	55	53	Weighted Average, UI Adjusted
3,135			72.72% Pervious Area
1,176			27.28% Impervious Area
348			29.59% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	93	0.0294	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.94"

Summary for Subcatchment D6: D6

Runoff = 1.28 cfs @ 12.13 hrs, Volume= 3,373 cf, Depth= 4.22"
Routed to Pond 1P : 1P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 10-Year Rainfall=4.46"

Area (sf)	CN	Description
8,668	98	Paved parking, HSG A
915	98	Unconnected pavement, HSG A
9,583	98	Weighted Average
9,583		100.00% Impervious Area
915		9.55% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment D7: D7

Runoff = 1.06 cfs @ 12.13 hrs, Volume= 2,730 cf, Depth= 4.11"
Routed to Pond 1P : 1P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 10-Year Rainfall=4.46"

Area (sf)	CN	Description
6,186	98	Paved parking, HSG A
1,612	98	Unconnected pavement, HSG B
174	39	>75% Grass cover, Good, HSG A
7,972	97	Weighted Average
174		2.18% Pervious Area
7,798		97.82% Impervious Area
1,612		20.67% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond 1P: 1P

Inflow Area = 155,857 sf, 60.93% Impervious, Inflow Depth = 2.19" for 10-Year event
Inflow = 5.50 cfs @ 12.39 hrs, Volume= 28,481 cf
Outflow = 1.73 cfs @ 13.02 hrs, Volume= 28,481 cf, Atten= 69%, Lag= 38.1 min
Discarded = 0.96 cfs @ 11.86 hrs, Volume= 22,671 cf
Primary = 0.77 cfs @ 13.02 hrs, Volume= 5,810 cf
Routed to Link 1L : Off Site

Routing by Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 666.47' @ 13.02 hrs Surf.Area= 11,502 sf Storage= 9,116 cf

Plug-Flow detention time= 48.7 min calculated for 28,475 cf (100% of inflow)
Center-of-Mass det. time= 48.7 min (876.0 - 827.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	665.26'	10,149 cf	**44.25'W x 259.94'L x 3.50'H Field A** 40,258 cf Overall - 14,885 cf Embedded = 25,373 cf x 40.0% Voids
#2A	665.76'	14,885 cf	**ADS_StormTech SC-740 +Cap** x 324 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 324 Chambers in 9 Rows
		25,034 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	665.26'	**12.0" Round Culvert** L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 665.26' / 665.07' S= 0.0037 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	665.26'	**3.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	666.01'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	668.25'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#5	Discarded	665.26'	**3.600 in/hr Exfiltration over Surface area from 660.26' - 665.26'** Excluded Surface area = 0 sf

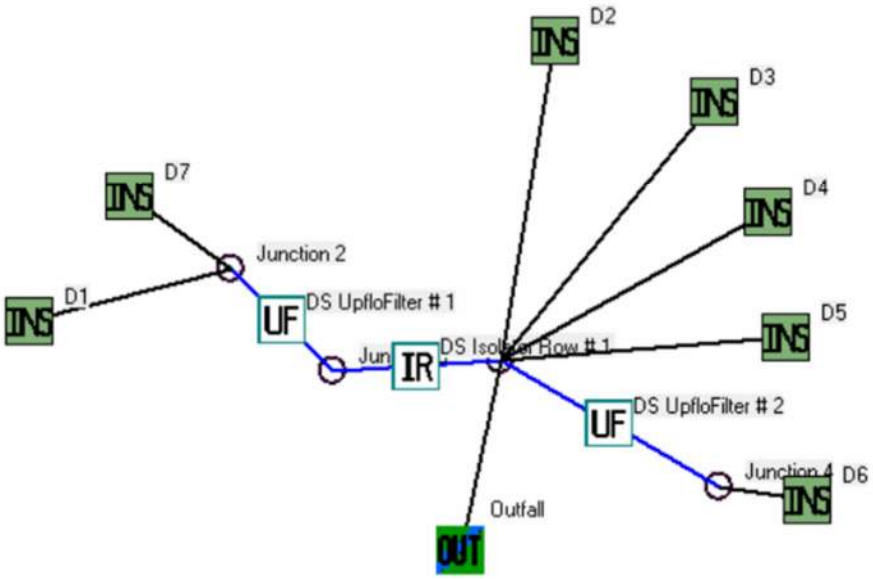
Discarded OutFlow Max=0.96 cfs @ 11.86 hrs HW=665.30' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 0.96 cfs)

Primary OutFlow Max=0.77 cfs @ 13.02 hrs HW=666.47' (Free Discharge)
└**1=Culvert** (Passes 0.77 cfs of 2.62 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 0.33 cfs @ 4.97 fps)
├**3=Orifice/Grate** (Orifice Controls 0.44 cfs @ 2.32 fps)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 1L: Off Site

Inflow Area = 188,003 sf, 58.46% Impervious, Inflow Depth = 0.64" for 10-Year event
Inflow = 1.95 cfs @ 12.14 hrs, Volume= 10,051 cf
Primary = 1.95 cfs @ 12.14 hrs, Volume= 10,051 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-48.00 hrs, dt= 0.01 hrs


D2
D3
D4
D5
D6
D7
D1
Junction 2
DS UpfloFilter # 1
DS UpfloFilter # 2
Outfall

Data file name: O:\Projects\2025\25.0034 - Hogan Administrative Center - Bray\14 - Storm Water\HydroCAD and WinSLAMM Models\100925 ADS Update Model.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 10-14-2025 Time: 12:27:08
Site information:

LU# 1 - Institutional: D1 Total area (ac): 3.175
  1 - Roofs 1: 1.315 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#4
  31 - Sidewalks 1: 0.205 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#5
  45 - Large Landscaped Areas 1: 1.240 ac. Normal Sandy Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#7
  63 - Paved Playground 1: 0.183 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#8
  71 - Other Pervious Areas 1: 0.154 ac. Normal Sandy Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#6
  72 - Other Pervious Areas 2: 0.078 ac. Normal Sandy Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#9

LU# 2 - Institutional: D7 Total area (ac): 0.183
  13 - Paved Parking 1: 0.142 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  31 - Sidewalks 1: 0.037 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#16

45 - Large Landscaped Areas 1: 0.004 ac.   Normal Sandy   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz   OD-CP#17

LU# 3 - Institutional: D6   Total area (ac): 0.220
13 - Paved Parking 1: 0.199 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.021 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Institutional: D5   Total area (ac): 0.099
13 - Paved Parking 1: 0.019 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.008 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz   OD-CP#15
45 - Large Landscaped Areas 1: 0.072 ac.   Normal Sandy   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz   OD-CP#14

LU# 5 - Institutional: D4   Total area (ac): 0.195
13 - Paved Parking 1: 0.025 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.111 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz   OD-CP#12
45 - Large Landscaped Areas 1: 0.059 ac.   Normal Sandy   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz   OD-CP#13

LU# 6 - Institutional: D3   Total area (ac): 0.161
45 - Large Landscaped Areas 1: 0.161 ac.   Normal Sandy   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 7 - Institutional: D2   Total area (ac): 0.283
13 - Paved Parking 1: 0.013 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.167 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz   OD-CP#10
45 - Large Landscaped Areas 1: 0.103 ac.   Normal Sandy   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz   OD-CP#11

Control Practice 1: Upflo Filter CP# 1 (DS) - DS UpfloFilter # 1
Media Type: CPZ
Fraction of Area Served by Upflo Filters (0-1): 1.0
Height from Outlet Invert to Structure Top (ft): 3.0
Sump Depth (ft): 4.00
The program will determine the Sump Cleaning/Filter Replacement Frequency
Solve for Given Conditions
Number of filters: 6
Control Practice 2: Isolator Row CP# 1 (DS) - DS Isolator Row # 1
Total available system length (ft) = 245
Total available system width (ft) = 45
Available height from chamber base to surface (ft) = 5.00

```
   Number of isolator rows = 1
   Native soil infiltration rate (in/hr) = 1.63
   Assumed stone porosity () = 0.40
   Sizing option:  Use all available area
   Selected Chamber Information
      Chamber type:  SC-740
      Chamber height (in):  30.00
      Chamber width (in):  51.00
      Chamber segment length (in):  85.40
      Final storage volume (cf):  25529
      Number of rows:  10
      Row length (ft):  234.9
      Total system length (ft):  2348.5
      Total system width (ft):  42.5
      Number of chambers:  330
   Overflow weir invert elevation (ft) = 2.99
   Orifice 1 invert elevation (ft) = 0.00
   Orifice 1 diameter (ft) = 0.29
   Drain Tile Present

Control Practice 3:  Upflo Filter CP# 2 (DS) - DS UpfloFilter # 2
   Media Type:  CPZ
   Fraction of Area Served by Upflo Filters (0-1):  1.0
   Height from Outlet Invert to Structure Top (ft):  3.0
   Sump Depth (ft):  4.00
   The program will determine the Sump Cleaning/Filter Replacement Frequency
   Solve for Given Conditions
   Number of filters:  2
Control Practice 4:  Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 1
   Fraction of drainage area served by device (ac) = 1.00
   Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 0.00
   Runoff volume reduction fraction = 0

Control Practice 5:  Other Device CP# 2 (SA) - SA Device, LU# 1 ,SA# 31
   Fraction of drainage area served by device (ac) = 1.00
   Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 0.00
   Runoff volume reduction fraction = 0

Control Practice 6:  Other Device CP# 3 (SA) - SA Device, LU# 1 ,SA# 71
   Fraction of drainage area served by device (ac) = 1.00
   Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 0.00
   Runoff volume reduction fraction = 0

Control Practice 7:  Other Device CP# 4 (SA) - SA Device, LU# 1 ,SA# 45
   Fraction of drainage area served by device (ac) = 1.00
   Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 0.00
```

Runoff volume reduction fraction = 0

Control Practice 8: Other Device CP# 5 (SA) - SA Device, LU# 1 ,SA# 63
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Control Practice 9: Other Device CP# 6 (SA) - SA Device, LU# 1 ,SA# 72
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Control Practice 10: Other Device CP# 7 (SA) - SA Device, LU# 7 ,SA# 31
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Control Practice 11: Other Device CP# 8 (SA) - SA Device, LU# 7 ,SA# 45
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Control Practice 12: Other Device CP# 9 (SA) - SA Device, LU# 5 ,SA# 31
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Control Practice 13: Other Device CP# 10 (SA) - SA Device, LU# 5 ,SA# 45
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Control Practice 14: Other Device CP# 11 (SA) - SA Device, LU# 4 ,SA# 45
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Control Practice 15: Other Device CP# 12 (SA) - SA Device, LU# 4 ,SA# 31
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 1.00
Filterable Concentration reduction fraction = 0.00
Runoff volume reduction fraction = 0

Control Practice 16: Other Device CP# 13 (SA) - SA Device, LU# 2 ,SA# 31
   Fraction of drainage area served by device (ac) = 1.00
   Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 0.00
   Runoff volume reduction fraction = 0

Control Practice 17: Other Device CP# 14 (SA) - SA Device, LU# 2 ,SA# 45
   Fraction of drainage area served by device (ac) = 1.00
   Particulate Concentration reduction fraction = 1.00
   Filterable Concentration reduction fraction = 0.00
   Runoff volume reduction fraction = 0

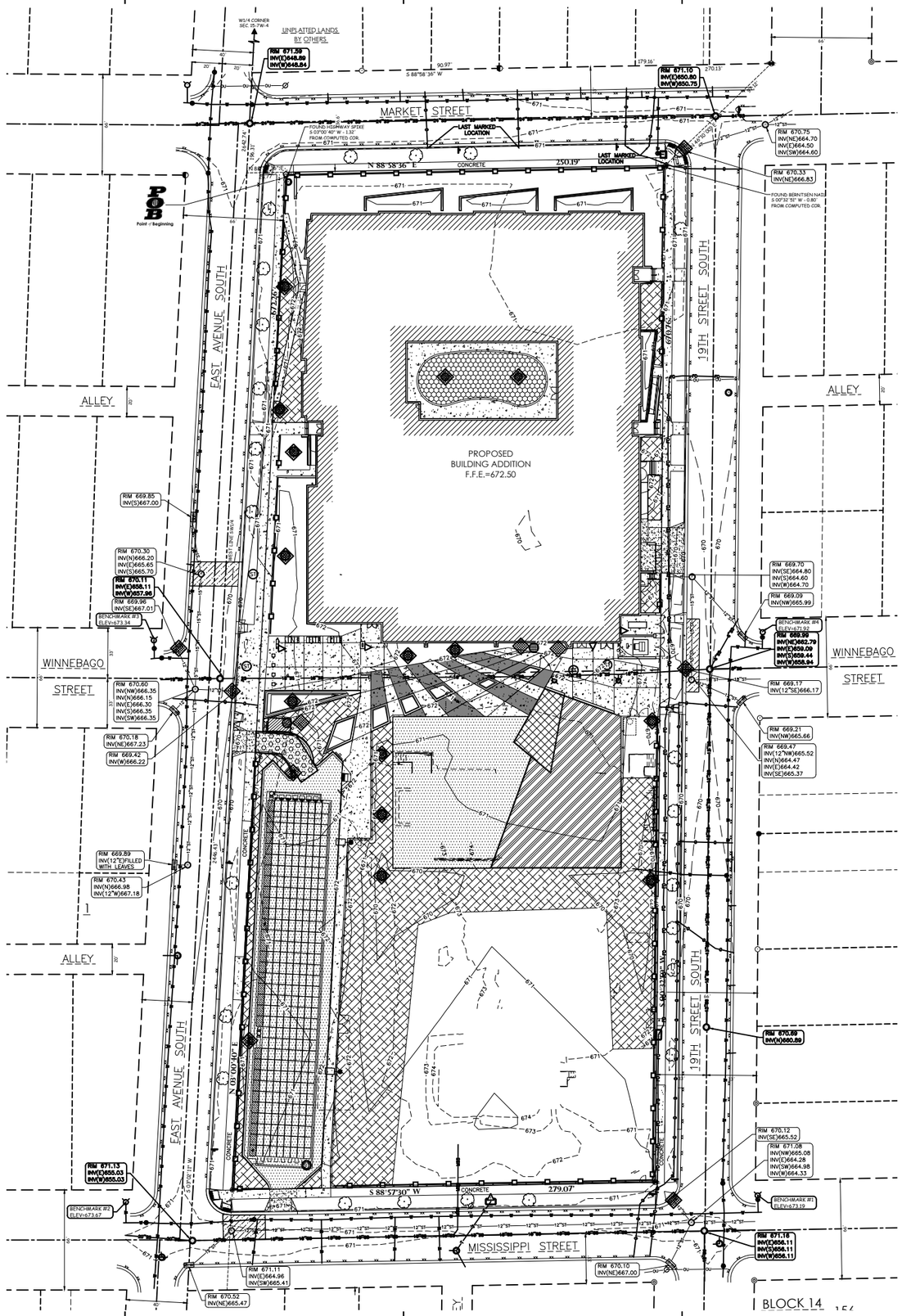
SLAMM for Windows Version 10.5.0

Data file name: O:\Projects\2025\25.0034 - Hogan Administrative Center - Bray\14 - Storm Water\HydroCAD and WinSLAMM Models\100925 ADS Update Model.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81
Date of run: 10-14-2025 Time of run: 12:27:40
Total Area Modeled (acres): 4.316
Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	193840	-	21.13	255.7	-
Outfall Total with Controls:	64927	66.50%	18.18	73.69	71.18%
Annualized Total After Outfall Controls:	65105			73.90	

APPENDIX E

Proposed Erosion Control Plan



GENERAL NOTES:

1. CONTRACTOR SHALL LOCATE ALL PUBLIC AND PRIVATE UTILITIES PRIOR TO COMMENCEMENT OF WORK.
2. NOTIFY THE LOCAL MUNICIPALITY AT LEAST 2 WORKING DAYS PRIOR TO THE START OF SOIL DISTURBING ACTIVITIES.
3. INSTALL ALL TEMPORARY EROSION CONTROL ELEMENTS PRIOR TO THE START OF DEMOLITION/CONSTRUCTION.
4. ALL ACTIVITIES SHALL BE CONDUCTED IN A LOGICAL SEQUENCE TO MINIMIZE THE AMOUNT OF BARE SOIL EXPOSED AT ANY ONE TIME. MAINTAIN EXISTING VEGETATION AS LONG AS POSSIBLE.
5. CRUSHED ROCK DRIVES FOR SEDIMENT TRACKING UTILIZING 3" CRUSHED ROCK SHALL BE MAINTAINED AT ALL CONSTRUCTION ENTRANCES TO THE SITE. THE ROCK DRIVE SHALL BE A MINIMUM OF 12" THICK AND BE A MINIMUM OF 50 FEET IN LENGTH BY THE WIDTH OF THE DRIVEWAY.
6. OFFSITE SEDIMENT DEPOSITS RESULTING FROM STORMWATER RUNOFF SHALL BE CLEANED BY THE END OF THE NEXT WORKDAY. OFFSITE SEDIMENT DEPOSITS RESULTING FROM CONTRACTOR ACTIVITIES, INCLUDING SOIL TRACKING, SHALL BE CLEANED EACH WORKDAY. EXCESSIVE AMOUNTS OF SEDIMENT OR DEBRIS TRACKED ONTO ADJACENT STREETS SHALL BE CLEANED IMMEDIATELY. FINE SEDIMENT ACCUMULATIONS ON ADJACENT STREETS SHALL SWEPT MECHANICALLY OR MANUALLY AT LEAST WEEKLY AND BEFORE IMMINENT RAINFALL.
7. DISTURBED GROUND OUTSIDE OF THE EVERYDAY CONSTRUCTION AREAS, INCLUDING SOIL STOCKPILES, THAT ARE LEFT INACTIVE FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY STABILIZED BY SEEDING/MULCHING OR OTHER APPROVED METHODS.
8. WASTE MATERIAL THAT IS GENERATED ON THE CONSTRUCTION SITE SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO RUN INTO RECEIVING WATERS.
9. EROSION CONTROL DEVICES DESTROYED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE END OF EACH WORK DAY.
10. INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE A WEEK AND AFTER ANY RAINFALL OF 0.5" OR MORE. MAKE NEEDED REPAIRS AND DOCUMENT ALL ACTIVITIES AS PER THE REQUIREMENTS OF THE NOTICE OF INTENT SUBMITTED BY THE PROJECT CIVIL ENGINEER.
11. ALL TEMPORARY EROSION CONTROL ELEMENTS SHALL REMAIN IN PLACE UNTIL A SUFFICIENT GROWTH OF VEGETATION IS ESTABLISHED AND THEN BE REMOVED AS PART OF THE BASE BID.
12. IF SEDIMENT LADEN WATER NEEDS TO BE REMOVED FROM THE SITE, FILTER BAGS OR SCREENING SHALL BE USED IN ACCORDANCE WITH WI DNR TECHNICAL STANDARD 1061 TO PREVENT SEDIMENT DISCHARGE TO THE MAXIMUM EXTENT PRACTICABLE.
13. COORDINATE ALL EARTHWORK ACTIVITIES WITH THE RESPECTIVE TRADES RESPONSIBLE FOR THE INSTALLATION OF GAS, CABLE, TELEPHONE AND ELECTRICAL (INCLUDING MAIN SERVICE, SITE LIGHTING, CONDUITS AND SIGNAGE).
14. INSTALL WisDOT TYPE HR FILTER FABRIC BENEATH ALL RIP RAP.
15. IF BARE SOIL IS EXPOSED DURING THE WINTER MONTHS, STABILIZATION BY MULCHING OR ANIONIC POLYACRYLAMIDE SHALL OCCUR PRIOR TO SNOWFALL OR GROUND FREEZE.
16. SILT FENCE SHALL BE INSTALLED AROUND THE TOPSOIL STOCKPILE.
17. THE CONTRACTOR SHALL PERFORM INSPECTIONS AND MONITORING OF EROSION CONTROL PRACTICES IN ACCORDANCE WITH THE WI DNR "CONSTRUCTION SITE INSPECTION REPORT" FORM 3400-187. THIS FORM CAN BE FOUND IN THE CONSTRUCTION SPECIFICATIONS.

EROSION CONTROL LEGEND:

EXISTING CONTOUR — — — 888 — — —

PROPOSED CONTOUR ——— 888 ———

PROPOSED SILT FENCE — 9 C6.1

PROPOSED INLET PROTECTION — 10 C6.1

EROSION CONTROL BLANKET — 11 C6.1

ROCK CONSTRUCTION ENTRANCE — 12 C6.1

CONCRETE WASHOUT AREA — 8 C6.1

STORM WATER OVERLAND FLOW DIRECTION →

EROSION CONTROL SEQUENCING:

1. INSTALL PERIMETER EROSION CONTROL
2. BEGIN DEMOLITION
3. BEGIN ROUGH GRADING AND UTILITY INSTALLATION
4. DURING GRADING ACTIVITIES EXISTING GRASS AND VEGETATION, TO BE REMOVED, SHALL REMAIN IN PLACE FOR AS LONG AS POSSIBLE, TO AVOID SEDIMENT TRANSPORT.
5. TEMPORARY STABILIZATION ACTIVITY SHALL COMMENCE WHEN LAND DISTURBING CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS.
6. FINAL STABILIZATION ACTIVITY SHALL COMMENCE WHEN LAND DISTURBING ACTIVITIES CEASE AND FINAL GRADE HAS BEEN REACHED ON ANY PORTION OF THE SITE.
7. IF DISTURBED AREAS MUST BE LEFT OVER WINTER, AN ANIONIC POLYACRYLAMIDE SHALL BE APPLIED TO ALL DISTURBED AREAS PRIOR TO GROUND FREEZE. SEE SPECIFICATIONS FOR DETAILS.

BENCHMARK:

ELEVATIONS ARE REFERENCED TO NAVD 88 DATUM.

BENCHMARK #1
NORTHWEST FLANGE BOLT ON HYDRANT, LOCATED AT THE NORTHEAST QUADRANT OF THE INTERSECTION OF MISSISSIPPI STREET AND 19TH STREET SOUTH.
ELEVATION = 673.19

BENCHMARK #2
NORTHEAST FLANGE BOLT ON HYDRANT, LOCATED AT THE NORTHWEST QUADRANT OF THE INTERSECTION OF MISSISSIPPI STREET AND EAST AVENUE SOUTH.
ELEVATION = 673.67

BENCHMARK #3
NORTHEAST FLANGE BOLT ON HYDRANT, LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF EAST AVENUE SOUTH AND WINNEBAGO STREET.
ELEVATION = 673.34

BENCHMARK #4
BURY BOLT ON HYDRANT, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF 19TH STREET SOUTH AND WINNEBAGO STREET.
ELEVATION = 671.92

UTILITY DISCLAIMER:

THE LOCATIONS, SIZES, AND TYPES OF UNDERGROUND PUBLIC AND PRIVATE UTILITIES OR SUBSTRUCTURES SHOW HEREON WERE OBTAINED FROM VISUAL INSPECTION, FIELD MEASUREMENTS, AND/OR AS-BUILT PLANS. SANITARY SEWER AND STORM SEWER PIPE SIZES, INVERTS, DIRECTION, AND LOCATIONS BETWEEN MANHOLES ARE SUPPLEMENTED BY AS-BUILT PLANS AND/OR ESTIMATED BASED ON FIELD OBSERVATIONS. PRIOR TO CONSTRUCTION IN THE VICINITY OF ANY UTILITIES SHOWN HEREON, IT IS RECOMMENDED THAT THE LOCATIONS, DEPTHS, AND SIZES BE FIELD VERIFIED. THE LOCATIONS SHOWN HEREON ARE ONLY APPROXIMATE, WITH POSSIBILITY THAT ADDITIONAL UTILITY LINES NOT DISCOVERED, OR MARKED, DURING THE SEARCH OF RECORDS AND THE FIELD SURVEY MAY EXIST. ANY CONTRACTOR USING THE INFORMATION SHOWN HEREON IS HEREBY FOREWARNED THAT ANY EXCAVATION UPON THIS SITE MAY RESULT IN THE DISCOVERY OF ADDITIONAL UNDERGROUND UTILITIES NOT SHOWN HEREON. IN GENERAL, UNDERGROUND UTILITY LOCATIONS ARE SHOWN FROM UTILITY MARKINGS, BY OTHERS, AND/OR AS-BUILT PLANS, PROVIDED BY OTHERS. POINT OF BEGINNING MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO THE EXISTING UTILITIES SHOWN HEREON, AND BELIEVES THAT THE INFORMATION CONTAINED HEREIN IS RELIABLE AND GENERALLY ACCURATE FOR THE PURPOSE INTENDED.

0' 30' 60'
1" = 30'

BRAY ARCHITECTS
Milwaukee
829 South 1st Street
Milwaukee, Wisconsin 53204
T: 414.226.0200
Sheboygan • Davenport • Moline
www.brayarch.com
Point of Beginning
Civil Engineering
Land Surveying
Landscape Architecture
4941 Kirschling Court
Stevens Point, WI 54481
715.344.9999(Ph)
715.344.9922(Fx)

Project Title:
ADDITIONS AND ALTERATIONS TO:
LA CROSSE NEW ELEMENTARY SCHOOL
LA CROSSE SCHOOL DISTRICT
807 EAST AVE S.
LA CROSSE, WI 54601

REVISIONS:

	DATE	DESCRIPTION

NOT FOR CONSTRUCTION

Project Number: 3752

Issued For: CONTRACT DOCUMENTS 09/30/2025

Sheet Title: Erosion Control Plan

Sheet Number: C4.0

APPENDIX F

State of Wisconsin Construction Site Inspection Report, Post Construction Long-Term Storm Water Management Checklist, And Notice of DNR Notice of Termination

State of Wisconsin
Department of Natural Resources (DNR)
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

CONSTRUCTION SITE INSPECTION REPORT

Form 3400-187 (R 11/16)

Notice: This form was developed in accordance with s. NR 216.48 Wis. Adm. Code for WPDES permittees' convenience; however, use of this specific form is voluntary. Multiple copies of this form may be made to compile the inspection report. Inspections of the construction site and implemented erosion and sediment control best management practices (BMPs) must be performed weekly and within 24 hours after a rainfall event 0.5 inches or greater.

Construction Site Name and Location (Project, Municipality, and County):	**Site/Facility ID No. (FIN):**
Onsite Contact/Contractor:	**Onsite Phone/Cell:**

Note: Inspection reports, along with erosion control and storm water management plans, are required to be maintained on site in accordance with s. NR 216.48 (4) and made available upon request. PLEASE PRINT LEGIBLY.

Date of inspection:

Time of inspection:
Start: _____ ◯ **am** ◯ **pm**
End: _____ ◯ **am** ◯ **pm**

Type of inspection: ◯ **Weekly** ◯ **Precipitation Event** ◯ **Other (specify)**

Weather/Site Conditions:

Temp. _____ **°F** **Antecedent Soil Moisture**

◯ **Dry** ◯ **Frozen or snow covered**
◯ **Variable** ◯ **Frozen (Thaw predicted in next week)**
◯ **Wet** ◯ **Melting Snow/slush**

Last Rainfall Depth: _____ **inches**

Last Rainfall Date: _____

Describe current phase of construction:

Scheduled Final Stabilization Date for Universal Soil Loss Equation (USLE) [1] :

Project on Schedule[2]? ◯ **Yes** ◯ **No**

Name(s) of individual(s) performing inspection:

Inspector Phone/Cell:

I certify that the information contained on this form is an accurate assessment of site conditions at the time of inspection:

Inspector Signature _____ **Date:** _____

Inspection Questions:	**Yes**	**No (Identify Actions Required):**	**Location/Comments:**	**Actions Completed by Date & Initials**
1. Is the erosion control plan accessible to operators?	☐	☐ Provide onsite copy		
2. Is the permit certificate posted where visible?	☐	☐ Post certificate		
3. Is the current phase of construction on sequence with the site-specific erosion and sediment control plan, including installation/stabilization of ponds and ditches?	☐	☐ Add sediment control ☐ Install missing ditch/pipe/pond ☐ Stabilize bare soil		
4. Are all erosion and sediment control BMPs shown on plan properly installed and in functional condition?	☐	☐ Repair ☐ Modify ☐ Install/Replace		
5. Is inlet protection properly installed and functioning in all inlets likely to receive runoff from the site?	☐	☐ Clean ☐ Replace ☐ Install		
6. Is the air free of fugitive dust resulting from construction activity and bare soil exposure?	☐	☐ Apply water ☐ Apply dust control product		

[1] The Universal Soil Loss Equation (USLE) model and the Construction Site Soil Loss and Sediment Discharge Guidance are available at: http://dnr.wi.gov/topic/stormwater/standards/const_standards.html

[2] If the project is not on schedule then the soil loss summary for the project should be reviewed and schedule, plan or practices modified accordingly.

CONSTRUCTION SITE INSPECTION REPORT

Inspection Questions:	Yes	No (Identify Actions Required):	Location/Comments:	Actions Completed by Date & Initials
7. Is the public right of way curb line free of tracked soil and accumulation?	☐	☐ Install tracking pad ☐ Widen/lengthen pad ☐ Amend stone/Add geotextile ☐ Install wheel washing station ☐ Close entrance/exit ☐ Limit traffic across disturbed areas ☐ Sweep road and curb line		
8. Are wetlands, lakes, streams, ditches, or storm sewers downstream of the site free of sedimentation and turbid water leaving the site?[3]	☐	☐ Repair/Replace erosion control ☐ Add sediment controls ☐ Modify operations ☐ Contact DNR to verify extent of cleanup required		
9. Is dewatering and/or vehicle and equipment washing being done in a manner that prevents erosion and sediment discharge?	☐	☐ Install treatment train ☐ Install energy dissipation ☐ Modify discharge location ☐ Modify intake to reduce sediment		
10. Are soil stockpiles existing for more than 7 days covered and stabilized?	☐	☐ Seed ☐ Install mat/mulch/polymer ☐ Cover with tarp/plastic sheeting		
11. Are downstream channels and other downhill areas protected from scour and erosion?	☐	☐ Install energy dissipation at outfall ☐ Install ditch checks ☐ Install slope interruption ☐ Install onsite detention		
12. Are good housekeeping practices or treatment controls in place to prevent the discharge of chemicals, cement, trash, and other materials into wetlands, waterways, storm sewers, ditches, or drainage-ways?[4]	☐	☐ Properly dispose of trash ☐ Provide concrete washout station ☐ Contact DNR to verify extent of cleanup required		
13. Is the plan reflective of current site operations and does it address all erosion and sediment control issues identified during the inspection?	☐	☐ Revise sequence ☐ Revise sediment control BMP ☐ Revise erosion control BMP ☐ Revise post-construction storm water BMP		
14. Are all areas where construction has temporarily ceased (and will not resume for more than 2 weeks) temporarily stabilized?	☐	☐ Topsoil & seed ☐ Install mat/mulch/polymer ☐ Cover with tarp/plastic sheeting		
15. **Are all areas at final grade permanently vegetated or stabilized with other treatments?**	☐	☐ Topsoil & seed ☐ Install mat/mulch/polymer ☐ Sod ☐ Install stone base		
16. **Have temporary sediment controls been removed in areas of the site that meet the permit definition of 'final stabilization'?**	☐	☐ Water to establish vegetation ☐ Repair or reseed areas ☐ Remove temporary practices		

3 If sediment discharge enters a wetland or waterbody, the permittee should consult with DNR staff to determine if sediment cleanup and/or additional control measures are required.

4 The permittee shall notify the DNR immediately via the spills hotline at (800)943-0003 of any release or spill of a hazardous substance to the environment in accordance with s. 292.11, Wis. Stats., and ch. NR 706, Wis. Adm. Code.

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Construction Site Inspection Corrective Action Photos

Form 3400-187A (R 11/16)

Corrective Action Photo Documentation Pages (Attach as many as needed):

Notice: Use of this specific form is voluntary, and is provided as an optional attachment to Form 3400-187 for use in documenting erosion and sediment control maintenance actions. This form is provided for the convenience of the permittee to meet the requirements of s. NR 216.48(4), Wis. Adm. Code.

Construction Site Name (Project):	**Site/Facility ID No. (FIN):**
Photo Location:	

BEFORE CONDITION:

	Photo #:
	Date/Time of Photo:
	Photo By:
	Photo Description:

AFTER CONDITION:

	Photo #:
	Date/Time of Photo:
	Photo By:
	Photo Description:

Construction Site Inspection Corrective Action Photos

Construction Site Name (Project):	Site/Facility ID No. (FIN):
Photo Location:	

BEFORE CONDITION:

	Photo #:
	Date/Time of Photo:
	Photo By:
	Photo Description:

AFTER CONDITION:

	Photo #:
	Date/Time of Photo:
	Photo By:
	Photo Description:

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Notice of Termination (NOT)
Industrial Storm Water Discharges Permit

Form 3400-170 (R 6/15)

Notice: This Notice of Termination (NOT) form is authorized by s. 283.37, Wis. Stats. The authorized representative of the facility shall submit this NOT form to the Department to certify that the facility no longer claims coverage under any general or individual permit for the discharge of storm water from industrial activity. Submittal of this NOT form constitutes notice that the party identified in Section I of this form is no longer authorized to discharge storm water from industrial activity under a WPDES permit. Termination of coverage will be effective when confirmed by the Department to the permittee. Personally identifiable information found on this form is not intended to be used for any other purpose.

All necessary information must be provided on this NOT form. Failure to complete this form correctly may result in rejection of this NOT form by the Department. Please read all instructions on page 3 of this form before completing it.

Please type or clearly print your answers to all questions

Section I: Owner/Operator Contact Information

Business Name	Authorized Representative		
Mailing Address	City	State: WI	Zip Code
E-mail Address	Phone Number (area code)	Alternate Phone Number	

Section II: Facility/Site Information

Facility/Site Name	Facility Identification (FID) or FIN Number: FID FIN
Location Address/Description	County

PLSS Information	Township: N	Range: ☐ East ☐ West	Section	Quarter	Quarter-Quarter

Section III: Termination Information

Reason for Termination Request

If facility was sold or transferred, please provide the following:

Name of New Owner	E-mail Address	Phone Number (area code)
Mailing Address of New Owner	City	State: WI / Zip Code

If this is a move, provide new address of facility:

If this facility will be inactive, are any significant materials (see back of form) exposed to storm water? ○ Yes ○ No
If yes, please explain:

Have you retained any control over the industrial activities or materials at the facility? ○ Yes ○ No
If yes, please explain:

Required: Attach photos that are representative of the current outdoor conditions at the facility. Current photos may eliminate the need for an inspection and facilitate a more timely acknowledgment by the Department.

Date Photos were taken: _____

Section IV: Certification & Signature

This form must be signed by an official representative of the permitted facility, in accordance with s. NR 216.22(7), Wis. Adm. Code. If this form is not signed, or is found to be incomplete, it will be returned.

State regulations require this form to be signed by an official representative of the facility as follows:

1. For a corporation, by a principal executive officer of at least the level of Vice President, or a duly authorized representative having overall responsibility for the operation covered by this permit.
2. For a unit of government, a principal executive officer, a ranking elected official or other duly authorized representative.
3. For a partnership, by a general partner; for a sole proprietorship, by the proprietor.
4. For a limited liability company, by a member or manager.

Certification: I understand that by submitting this Notice of Termination, the site described herein is no longer authorized to discharge, and does not discharge, storm water associated with industrial activity by the general WPDES permit; and that discharging pollutants in storm water associated with industrial activity to waters of Wisconsin is unlawful where the discharge is not authorized by a WPDES permit.

Signature of Landowner/Authorized Representative	Date Signed

Printed Name of Landowner/Authorized Representative	Title

Mail this completed NOT form to the appropriate Wisconsin Department of Natural Resources office in the region where the facility is located. See the instructions on page 3 of this form for regional office addresses.

Instructions

Section I: Owner/Operator Contact Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the industrial activity described in Section II of this form and holds or qualifies for an applicable general or individual industrial storm water discharge permit. The operator of the activity is the legal entity which controls the activity's operation. The mailing address and phone number given should be for the facility contact person.

Section II: Facility/Site Information

Provide the name of the facility as it appears on the permit application or permit cover letter. If known, provide the Facility Identification (FID) and/or FIN Number.

Section III: Termination Information

Provide some details about the reason for this termination request. If you moved your activities to a new site, you need to reapply for the storm water permit coverage. If new owners or operators are continuing activity at this site, they need to apply for a storm water permit separately. The storm water permit coverage is site specific and is not transferable.

Examples of significant materials are: industrial machinery, raw materials, intermediate and finished products, waste products, fuels, solvents, detergents, hazardous substances, and fertilizers.

Section IV: Certification & Signature

State Statutes provide for severe penalties for submitting false information on this NOT form. State regulations require this form to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of Vice President, or a duly authorized representative having overall responsibility for the operation covered by this permit.
2. For a unit of government, a principal executive officer, a ranking elected official, or other duly authorized representative.
3. For a partnership, by a general partner; for a sole proprietorship, by the proprietor.
4. For a limited liability company, by a member or manager.

Sign the form, print or type the name of the individual signing the NOT and the date of signature, and provide the contact information.

Mailing Address

Unless otherwise directed, mail this completed NOT Form to the Wisconsin Department of Natural Resources office associated with the county of the facility site location as follows:

NORTHERN REGION (NOR)				
Ashland Barron Bayfield Burnett	Douglas Florence Forest Iron	Langlade Lincoln Oneida Polk Price	Rusk Sawyer Taylor Vilas Washburn	WDNR Baldwin Service Center 890 Spruce Street Baldwin, WI 54002 715-684-2914 ext. 109
NORTHEAST REGION (NER)				
Brown Calumet Door Fond du Lac	Green Lake Kewaunee Manitowoc Marinette	Marquette Menominee Oconto Oneida Reservation	Outagamie Shawano Waupaca Waushara Winnebago	WDNR Northeast Regional Headquarters 2984 Shawano Avenue Green Bay, WI 54313-6727 920-662-5100
WEST CENTRAL REGION (WCR)				
Adams Buffalo Chippewa Clark	Crawford Dunn Eau Claire Jackson Juneau	La Crosse Marathon Monroe Pepin Pierce	Portage St. Croix Trempealeau Vernon Wood	WDNR Baldwin Service Center 890 Spruce Street Baldwin, WI 54002 715-684-2914 ext. 109
SOUTH CENTRAL REGION (SCR)				
Columbia Dane Dodge	Grant Green Iowa	Jefferson LaFayette Richland	Rock Sauk	WDNR South Central Regional Headquarters 3911 Fish Hatchery Road Fitchburg, WI 53711 608-275-3266
SOUTHEAST REGION (SER)				
Kenosha Milwaukee	Ozaukee Racine	Sheboygan Walworth	Washington Waukesha	WDNR Waukesha Service Center 141 N.W. Barstow Street, Room 180 Waukesha, WI 53188 262-574-2100

Storm Water Management Practices
Post Construction Long-Term Storm Water Management Checklist

Site Name: New Elementary School

Location: City of La Crosse, La Crosse County, Wisconsin

Responsible Party: The owner is responsible for the post construction long-term storm water management upkeep. This checklist may be utilized when performing inspections after any rainfall event exceeding one inch of rainfall, and at a minimum semi-annually in early spring and fall.

Date of Inspection: (mm/dd/yy)

Time of Inspection: (start/end)

Type of Inspection: (annual/quarterly/precipitation event)

Weather:

Inspector's Name:

Component Inspected:	**Repairs Required:**	**Comments:**
Grass and Plants throughout Site		
-Bare Spots		
-Dead Plant Material		
-Washouts		
Storm Sewer Pipes:		
-Sediment Deposits		
-Trash/Debris		
-Cracks		
StormTech Chamber System:		
-Sediment Deposits		
-Trash		
-Inlet/Outlet Pipes		
-Pond Depth		