

Rec # 16. 001422 7/24, 155⁰⁰
7/24/2019 RB



City of Fitchburg
Planning/Zoning Department
5520 Lacy Road
Fitchburg, WI 53711
(608-270-4200)

LAND DIVISION APPLICATION

The undersigned owner, or owner's authorized agent, of property herein described hereby submits ten (10) copies of the attached maps, one (1) copy no larger than 11" x 17", and one (1) pdf document of the complete submittal (planning@fitchburgwi.gov) for approval under the rules and requirements of the Fitchburg Land Division Ordinance.

1. Type of Action Requested:
- Certified Survey Map Approval
 - Preliminary Plat Approval
 - Final Plat Approval
 - Replat
 - Comprehensive Development Plan Approval

2. Proposed Land Use (Check all that Apply):
- Single Family Residential
 - Two-Family Residential
 - Multi-Family Residential
 - Commercial/Industrial

3. No. of Parcels Proposed: 131

4. No. Of Buildable Lots Proposed: 121

5. Zoning District: Existing: R-R Proposed: PDD

6. Current Owner of Property: Fitchburg Campus II LLC

Address: 301 Blount Street #201 Phone No: _____

7. Contact Person: Dan Day - D'Onofrio Kottke & Assoc.

Email: dday@donofrio.cc

Address: 7530 Westward Way, Madison, WI 53717 Phone No: 608-833-7530

8. Submission of legal description in electronic format (MS Word or plain text) by email to: planning@fitchburgwi.gov
Pursuant to Section 24-2 (4) of the Fitchburg Land Division Ordinance, all Land Divisions shall be consistent with the currently adopted City of Fitchburg Comprehensive Plan.

Respectfully Submitted By: David Simon, Veridian Homes
Owner's or Authorized Agent's Signature Print Owner's or Authorized Agent's Name

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

For City Use Only: Date Received: 7/23/19

Ordinance Section No. _____ Fee Paid: \$ 24,155

Permit Request No. PP-2307-19

Receipt No: 16.001422

Jul 24, 2019

FITCHBURG CAMPUS II LLC

LICENSES & PERMITS

PP-2307-19 24,155.00

Total: 24,155.00

=====

CHECK

Check No: 14040 24,155.00

Payor:

VERIDIAN MANAGEMENT SOLUTIONS LLC

Total Applied: 24,155.00

Change Tendered: .00

=====

07/24/2019 12:18PM

CITY OF FITCHBURG

5520 LACY RD

FITCHBURG WI 53711

608-270-4200

July 23, 2019

Sonja Kruesel
City of Fitchburg – Planning & Zoning
5520 Lacy Road
Fitchburg, WI 53711

RE: Crescent Crossing
Preliminary Plat Submittal

Dear Sonja:

On behalf of Veridian Homes, we are pleased to submit for the Preliminary Plat for the Crescent Crossing Neighborhood. Vandewalle Associates will be providing a separate zoning submittal for the City's review. The preliminary plat proposes to divide the parcel at the north east corner of Seminole Highway and Lacy Road into single family and two-family residences. More detail on the land use is included in the zoning submittal.

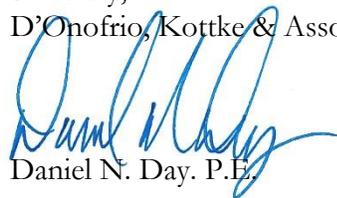
Enclosed with the Preliminary Plat Submittal is the following:

- Land Division Application (1 copy)
- Check in the amount of \$24,155 for the
- Preliminary Plat (22" x 34" - 10 copies, 11" x 17" - 1 copy)
- Preliminary Engineering Plans (1 copy)
- Draft Storm Water Management Report (1 copy)
- Draft Conditions, Covenants and Restrictions (1 copy)

All the above information will be submitted in digital format.

We look forward to working with the City of Fitchburg in the review and approval of this new neighborhood.

Sincerely,
D'Onofrio, Kottke & Associates, Inc.



Daniel N. Day, P.E.

cc: David Simon, Veridian Homes
Brian Munson, Vandewalle Associates

U:\User\1907106\Surveying\Crescent Crossing Preliminary Plat Submittal 2019.07.23.docx

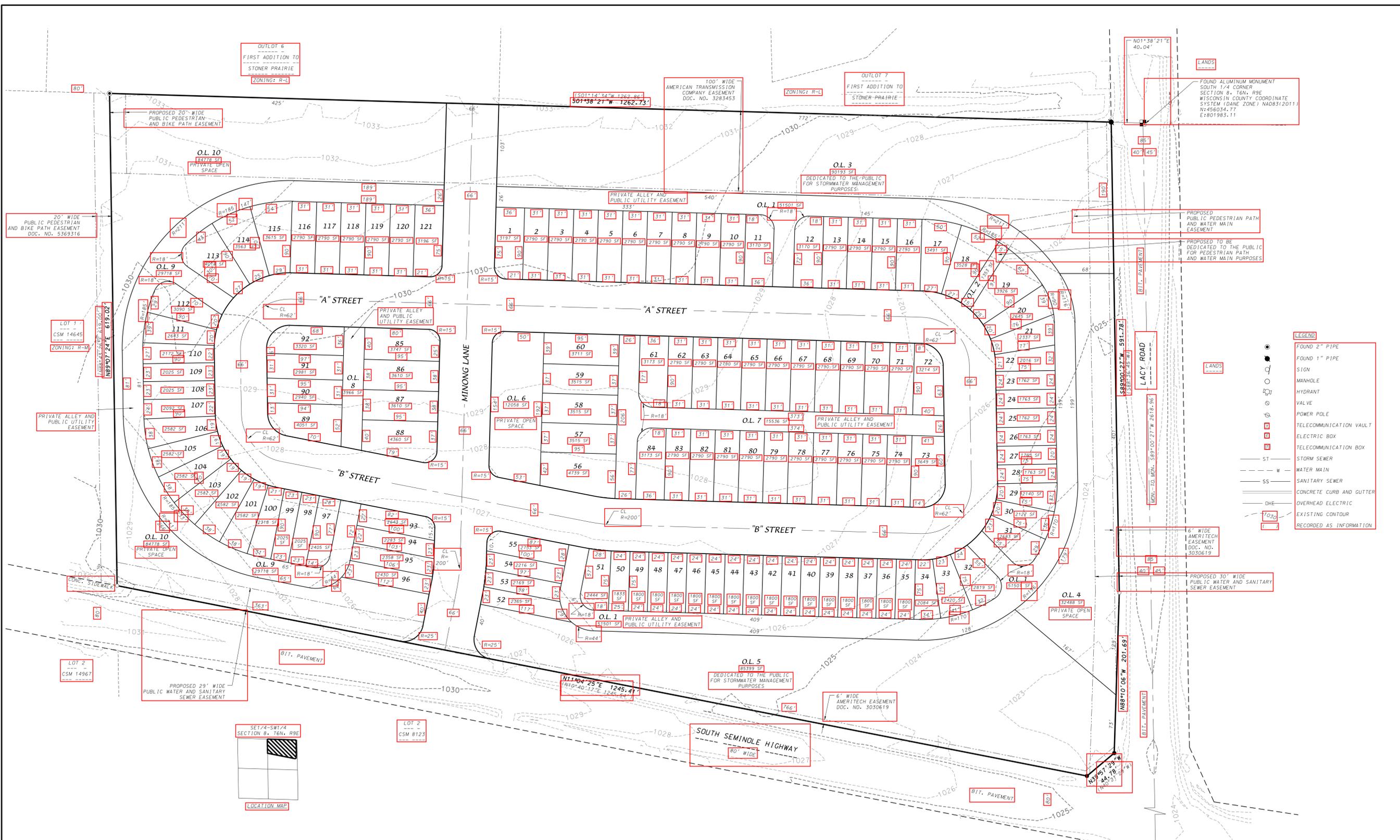


GRID NORTH
 WISCONSIN COUNTY COORDINATE
 SYSTEM (DANE ZONE) NAD83(2011)

SCALE: 1" = 60'

DATE: 07-23-19
 REVISED:
 X

FN: 19-07-106
 Sheet Number:
 1 of 1



LEGAL DESCRIPTION
 Part of Lot 1, Certified Survey Map No. 8023, recorded in Volume 42 of Certified Survey Maps on pages 313-316 as Document Number 2719359, Dane County Registry, located in the SE1/4 of the SW1/4 of Section 8, T6N, R8E, City of Fitchburg, Dane County, Wisconsin to-wit:
 Commencing at the South 1/4 corner of said Section 8; thence N01°38'21"E, 40.04 feet to the Southwest corner of Outlot 1; First Addition to Stoner Prairie, also being the point of beginning; thence S89°00'27"W, 591.78 feet; thence N88°10'06"W, 201.69 feet; thence N39°57'29"W, 44.78 feet; thence N11°04'25"E, 1245.41 feet to the Southwest corner of Lot 1, Certified Survey Map No. 14645; thence N89°07'24"E, 619.02 feet along the South line of and to the Southeast corner of said Lot 1, also being on the West line of Outlot 6, First Addition to Stoner Prairie; thence S01°38'21"W, 1262.73 feet along the West line of said Outlot 1 and 2 to the point of beginning. Containing 513.065 square feet (120.961 acres).

SURVEYOR'S CERTIFICATE
 I, Brett T. Stoffregan, Professional Land Surveyor, S-2742, hereby certify that I have surveyed and mapped the above property in accordance with information furnished and in compliance with the requirements of Chapter A-E 7, Wisconsin Administrative Code and the Subdivision Regulations for the City of Fitchburg and that the map hereon is a correct representation of such survey to the best of my knowledge and belief.
 Dated this 23rd day of July, 2019.

 Brett T. Stoffregan, Professional Land Surveyor, S-2742



NOTES
 1. Engineer/Surveyor: D'Onofrio Kotke & Assoc., 7530 Westward Way, Madison, WI 53717, Planner: Vandewalle and Assoc., 120 E. Lakeside St., Madison, WI 53703, Subdivider: Veridian Homes, 6801 South Towne Dr., Madison, WI 53719
 2. Zoning: Current - R-R, Proposed - PDD

FOUND ALUMINUM MONUMENT
 SOUTHWEST CORNER
 SECTION 8, T6N, R8E
 WISCONSIN COUNTY COORDINATE
 SYSTEM (DANE ZONE) NAD83(2011)
 N:456390.41
 E:799364.54

CRESCENT CROSSING - PRELIMINARY PLANS

CITY OF FITCHBURG DANE COUNTY, WISCONSIN



PROJECT LOCATION

| SHEET NUMBER | SHEET TITLE |
|--------------|-------------------------------|
| 1 OF 4 | COVER SHEET |
| 2 OF 4 | PRELIMINARY PHASING PLAN |
| 3 OF 4 | PRELIMINARY STREET GRADES |
| 4 OF 4 | PRELIMINARY UTILITY SCHEMATIC |

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
 7530 Westward Way, Madison, WI 53717
 Phone: 608.833.7530 • Fax: 608.833.1089
 YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

FN: 19-04-106

ISSUE DATE: 07-23-19

SHEET 1 of 4

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
 7530 Westward Way, Madison, WI 53717
 Phone: 608.833.7530 • Fax: 608.833.1089
 YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

PRELIMINARY UTILITY SCHEMATIC
CRESCENT CROSSING
 PART OF LOT 1, CERTIFIED SURVEY MAP NO. 8023, LOCATED IN THE SE1/4 OF THE SW1/4 OF SECTION 8, T6N, R8E,
 CITY OF FITCHBURG, DANE COUNTY, WISCONSIN

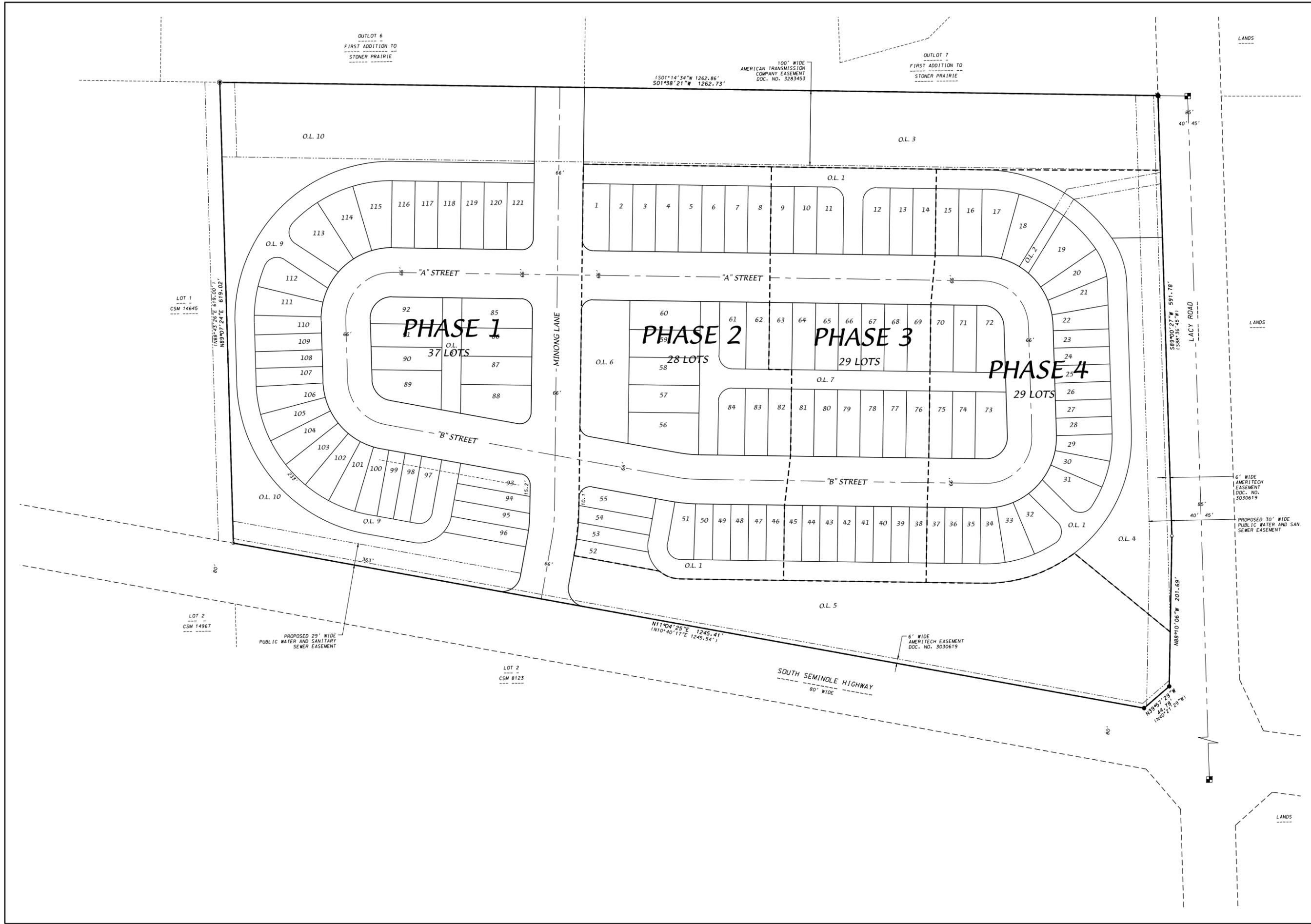
DATE: 07-23-19
 REVISED:

DRAWN BY: KJP

FN: 19-04-106

Sheet Number:

1 of 4



D'ONOFRIO LOTTIE AND ASSOCIATES, INC.
 7550 Westwood Way, Madison, WI 53717
 Phone: 608.833.7550 • Fax: 608.833.1089
YOUR NATURAL RESOURCE PLAN DEVELOPMENT

PRELIMINARY PHASING PLAN
CRESCENT CROSSING

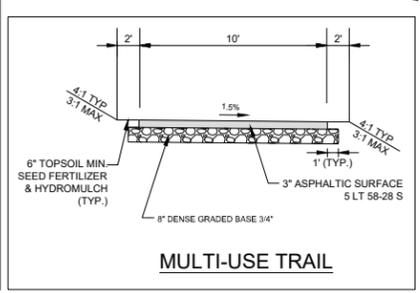
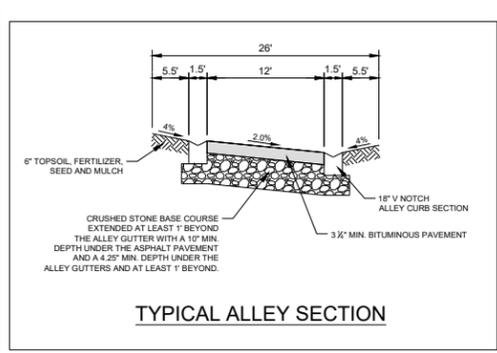
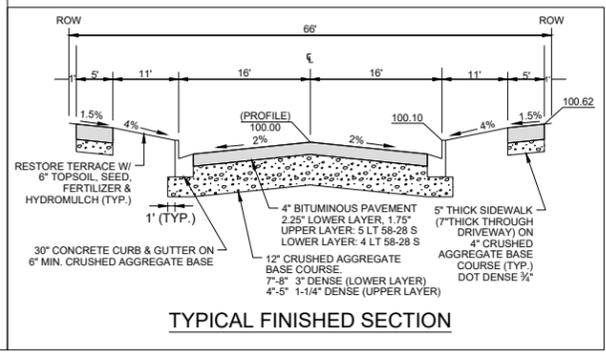
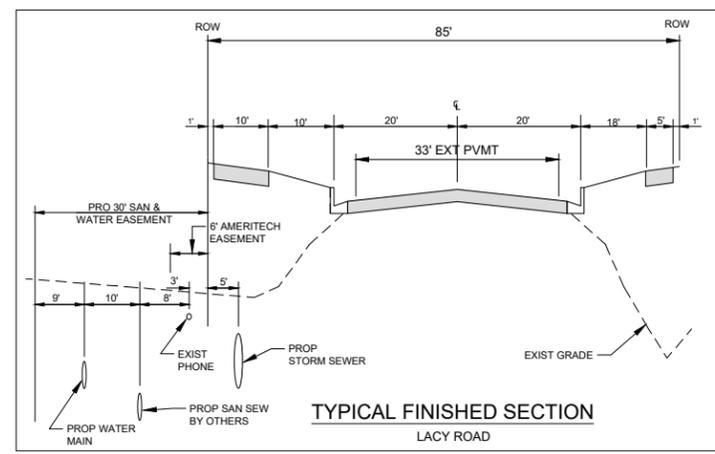
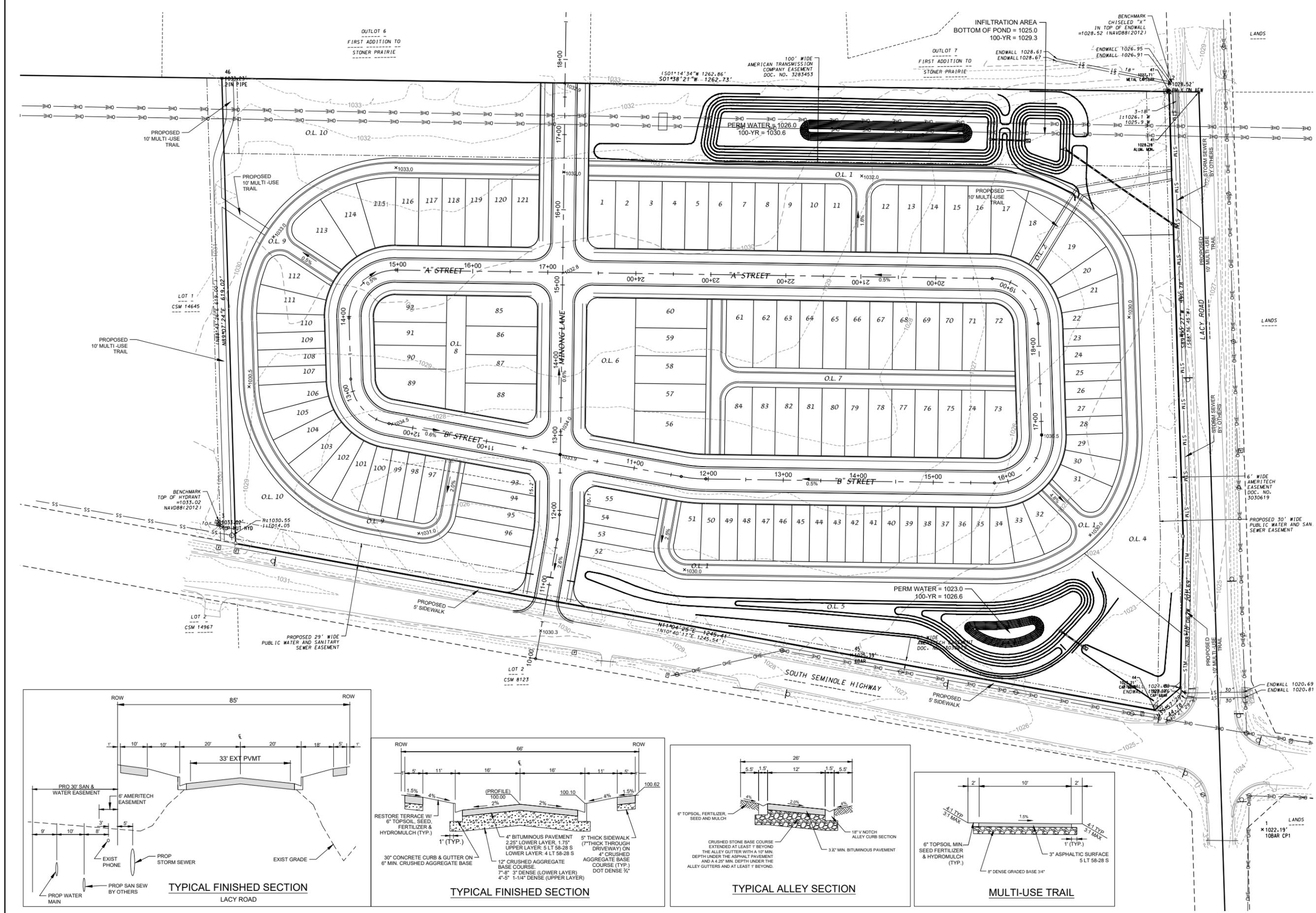
PART OF LOT 1, CERTIFIED SURVEY MAP NO. 8023, LOCATED IN THE SE 1/4 OF THE SW 1/4 OF SECTION 8, T6N, R8E, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN



SCALE: 1" = 60'

DATE: 07-23-19
 REVISED:
 X'

FN: 19-04-106
 Sheet Number:
 2 of 4



D'ONOFRIO LOTTE AND ASSOCIATES, INC.
 7550 Woodward Way, Madison, WI 53717
 Phone: 608.893.7550 • Fax: 608.893.1089
 YOUR NATURAL RESOURCE PLAN DEVELOPMENT

PRELIMINARY STREET GRADES

CRESCENT CROSSING

PART OF LOT 1, CERTIFIED SURVEY MAP NO. 8023, LOCATED IN THE SE 1/4 OF THE SW 1/4 OF SECTION 8, T6N, R8E, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN



SCALE: 1" = 60'

0 60

DATE: 07-23-19
 REVISED:

FN: 19-04-106
 Sheet Number:
 3 of 4

**CRESCENT CROSSING
SEMINOLE HWY & LACY ROAD**

**CITY OF FITCHBURG
DANE COUNTY, WISCONSIN**

DRAFT STORM WATER MANAGEMENT REPORT

OWNER

**VH Acquisitions, LLC
c/o Chris Ehlers
6801 South Towne Drive
Madison, WI 53713**

July 23, 2019

PREPARED BY

**D'Onofrio, Kottke & Associates, Inc.
7530 Westward Way
Madison, Wisconsin 53717
608.833.7530**

FN: 19-04-106

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| Introduction..... | Page 3 |
| Standards & Results..... | Page 4 |
| Storm Water Management Measures | Page 5 |
| Peak Flow Comparison Chart..... | Page 7 |
| Conclusions..... | Page 7 |

EXHIBITS

1. Site Location Map
2. Site Soils Map
3. Drainage Plan
4. Detention/Infiltration Basin Layout
5. Aerial Photo
6. USGS Map
7. Wetland Indicator Map

APPENDICES

- A. Detention Pond & Infiltration Basin Details
- B. Sediment Reduction Calculations
- C. Infiltration Design
- D. Hydrocad Output
- E. Soils Information
- F. Draft Maintenance Agreement

INTRODUCTION

The intent of this report is to provide details on how the proposed “Crescent Crossing” residential plat will be developed so that it is constructed in accordance with applicable storm water management standards.

The proposed development is approximately 20.9 acre residential plat located in the City of Fitchburg. The site is located to the east of Seminole Hwy, and north of Lacy Road in the SE ¼ of the SW 1/4 of Section 8, Township 06N, Range 09E. More specifically parcel numbers 060908395017 City of Fitchburg, Dane County, Wisconsin. A project location map can be found in Exhibit #1.

The existing layout of the site consists mostly of agricultural tilled land, with surface water generally draining from the north to south and eventually out of the southwest side of the plat through existing culverts. Surface water from the site in developed conditions will drain from two proposed drainage areas. These drainage areas will be routed to detention basins for treatment prior to leaving the site. The soil conditions on site consist of hydrologic soil group types B. A site soils map can be found in Exhibit #2.

The proposed future improvements for this plat requires land disturbing activity in excess of one acre and the future cumulative addition of 20,000 square feet of impervious surface area. Therefore according to the City of Fitchburg and State of Wisconsin ordinances, the site requires storm water management approvals and permits.

STANDARDS & RESULTS

The proposed development requires the following storm water management performance standards.

Sediment Control

Standard: Reduce, to the maximum extent practicable, total suspended solids load leaving the site by eighty percent (80%) based on the average annual rainfall.

Design Results: Sediment from the site will be reduced by 80% by routing the developed site runoff through two wet detention basins prior to leaving the site. A minimum of 60% of the sediment will be removed by the wet detention basin prior to entering the infiltration basin. WinSLAMM was used for modeling the sediment load reduction. See appendix B for sediment reduction calculations.

Temperature Control

Standard: For development of sites within thermally sensitive areas, provisions and practices to reduce the temperature of the storm water runoff shall be included.

Design Results: The proposed site does not fall within a defined thermally sensitive area.

Runoff Rate Control

Standard: For new developments, storm water management practices shall be designed and implemented to maintain post-development peak runoff discharge rates at predevelopment rates for the 1, 2, 10, and 100 year-24 hour design storm events.

Design Results: The detention system will maintain the development's existing peak runoff rates for the 1, 2, 10 and 100 year- 24 hour storm events. The peak flow comparison chart for site can be found in the stormwater management measures section of this report and the HydroCAD output can be found within Appendix D. The soil curve number for the post development lawn areas has been dropped by a soil class to weighted 74.

The existing and proposed runoff curve numbers used for this development are as follows:

| Description | CN |
|---|----|
| Existing Type B Soil | 68 |
| Proposed 70% Impervious Residential | 91 |
| Wet Basin Area | 98 |
| Post Development Lawn Areas (Dropped By a Soil Class) | 74 |

The existing offsite stormwater from the east will be routed around the site and maintained by the City ditch along Lacy Road. The existing ditch along Lacy Road will carry stormwater until future City improvements may be put in place to route the stormwater through storm sewer.

Infiltration

Standard: For new developments, design practices to infiltrate sufficient runoff volume so the post-development infiltration volume shall be at least 90% of the predevelopment infiltration volume.

Design Results: The proposed development was designed to meet the 90% stayon requirement for the entire plat through the addition of an infiltration basin located on the east side of the site. The infiltration basin was sized utilizing WinSLAMM modeling software. A minimum of 60% sediment reduction will occur in the proposed wet detention basin cell prior to entering the designed infiltration basin. The infiltration basin was located at the evaluated soil boring 4, which has the best infiltration potential on the site. The basin will be excavated to the 3.6 in/hr soils. The infiltration design calculations can be found in Appendix C.

STORM WATER MANAGEMENT MEASURES

The plat area was modeled as two drainage areas in proposed conditions and drains to the southwest side of the plat in existing and proposed conditions. The proposed drainage areas on the plat include the West and East drainage areas. The stormwater from the site will be treated by routing the stormwater to a wet detention basin at the downstream end of the West Drainage Area and wet detention/infiltration basin system located at the downstream end of the East Drainage Area. Peak flow, sediment reduction, and stayon requirements will be met for the entire plat within this basin system.

After leaving the proposed detention system, the stormwater will ultimately be routed off the plat through two culverts located under Lacy Road. The peak flow comparison for this site was analyzed at the upstream end of the existing culverts. HydroCAD Stormwater Modeling software has been used to analyze the stormwater runoff characteristics for the development. HydroCad uses the TR-55 methodology for determining peak discharge rates. The model shows the runoff from the project leaving in existing and proposed conditions. The site was designed to utilize wet detention basins for sediment and peak flow reduction and an infiltration basin to meet stayon requirements. The peak flow results from the stormwater modeling and basin design are shown in the chart on the next page. The chart shows the proposed results from each individual drainage area along with a comparison of the overall existing and proposed peak flows leaving at the edge of the site. The detention basin system will maintain the combined existing peak runoff rates leaving the plat for the 1, 2, 10, and 100 year- 24 hour storm events. See appendix D for the existing and proposed HydroCad design information.

WinSlamm modeling software was used for sediment load reduction calculations on the site. Sediment from the site will be reduced by 80% by routing the proposed developed site stormwater through 2 wet detention basins. See appendix B for sediment reduction calculations. Infiltration modeling for the site was also calculated using WinSLAMM, and meets the 90% predevelopment standard per the ordinance. The standard was met through a proposed infiltration basin on the east side of the site. The infiltration basin will be implemented when at a minimum 75% of the plat is complete.

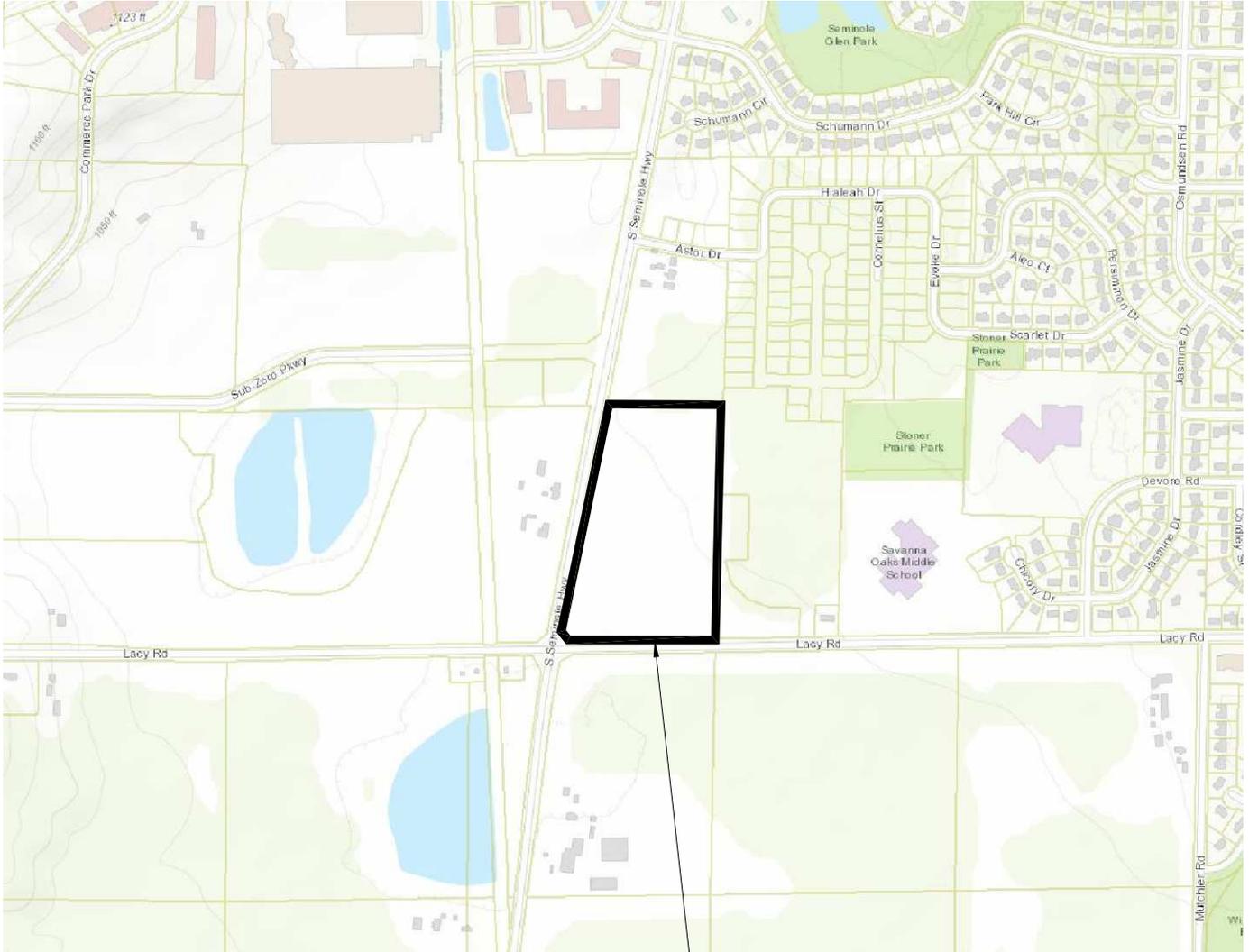
**PEAK FLOW COMPARISON CHART
CRESCENT CROSSING**

| 24-HR STORM EVENT (PEAK FLOW IN CFS)-PEAK FLOW COMPARISON | | | | |
|---|------------|------------|-------------|--------------|
| | 1YR | 2YR | 10YR | 100YR |
| EXISTING TOTAL FLOW | 4.19 | 6.60 | 17.70 | 46.68 |
| PROPOSED TOTAL ROUTED FLOW TREATED | 1.11 | 3.22 | 16.77 | 46.32 |
| PROPOSED TOTAL FLOW UNTREATED | 30.96 | 38.07 | 64.62 | 119.65 |
| WEST BASIN | | | | |
| WET DETENTION BASIN: OUTLET = 1023.0, TOP OF BERM = 1027.0 | | | | |
| ROUTED DETENTION (TO INFILTRATION) | 0.54 | 1.11 | 10.66 | 21.38 |
| ELEVATION | 1024.81 | 1025.15 | 1025.49 | 1026.57 |
| EAST BASIN | | | | |
| WET DETENTION BASIN: OUTLET = 1026.0, TOP OF BERM = 1031.0 | | | | |
| ROUTED DETENTION (TO INFILTRATION) | 0.93 | 2.93 | 19.17 | 28.73 |
| ELEVATION | 1028.25 | 1028.44 | 1028.96 | 1030.63 |
| INFILTRATION BASIN: BOTTOM = 1025.0, OUTLET = 1026.0, TOP OF BERM = 1030.0 | | | | |
| ROUTED INFILTRATION (TO OFFSITE CULVERTS) | 0.58 | 2.15 | 9.48 | 27.66 |
| ELEVATION | 1026.45 | 1026.88 | 1028.48 | 1029.29 |

CONCLUSIONS

As the results indicate, the storm water management system for the proposed development meets the City of Fitchburg and State of Wisconsin Ordinances. The peak flow, sediment control and infiltration requirements have been met for this site.

EXHIBITS



PROJECT LOCATION

LOCATION MAP

CRESCENT CROSSING

CITY OF FITCHBURG, WISCONSIN

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.

7530 Westward Way, Madison, WI 53717
Phone: 608.833.7530 • Fax: 608.833.1089

YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

DRAWN BY: GVP

EXHIBIT I

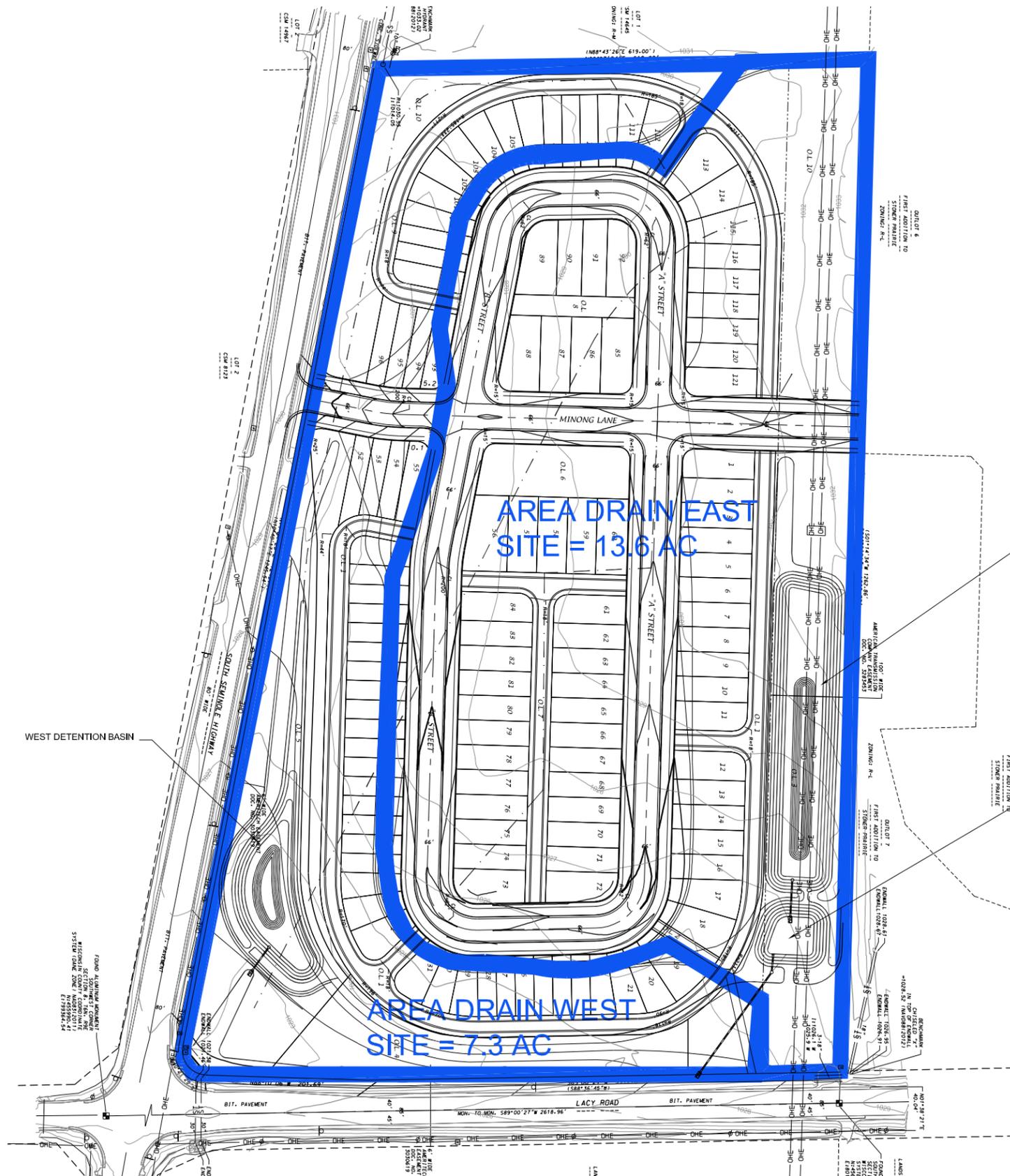



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YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

SOILS MAP
CRESCENT CROSSING
CITY OF FITCHBURG, WISCONSIN

DRAWN BY: GVP

EXHIBIT 2



EXISTING DRAINAGE BASIN INFORMATION

EXISTING DRAINAGE AREA = 20.9 AC
 20.9 AC - EXISTING TYPE B= CN 68

PROPOSED DRAINAGE BASIN INFORMATION

PROPOSED WEST DRAINAGE AREA = 7.3 AC.
 4.1 AC - RES 70% IMP = CN 91
 0.2 AC - WET BASIN AREA = CN 98
 3.0 AC - GREEN AREA = CN 74

PROPOSED EAST DRAINAGE AREA = 13.6 AC.
 10.6 AC - RES 70% IMP = CN 91
 0.4 AC - WET BASIN AREA = CN 98
 2.6 AC - GREEN AREA = CN 74

| 24-HR STORM EVENT (PEAK FLOW IN CFS)-PEAK FLOW COMPARISON | | | | |
|--|---------|---------|---------|---------|
| | 1YR | 2YR | 10YR | 100YR |
| EXISTING TOTAL FLOW | 4.19 | 6.60 | 17.70 | 46.68 |
| PROPOSED TOTAL ROUTED FLOW TREATED | 1.11 | 3.22 | 16.77 | 46.32 |
| PROPOSED TOTAL FLOW UNTREATED | 30.96 | 38.07 | 64.62 | 119.65 |
| WEST BASIN | | | | |
| WET DETENTION BASIN: OUTLET = 1023.0, TOP OF BERM = 1027.0 | | | | |
| ROUTED DETENTION (TO INFILTRATION) | 0.54 | 1.11 | 10.66 | 21.38 |
| ELEVATION | 1024.81 | 1025.15 | 1025.49 | 1026.57 |
| EAST BASIN | | | | |
| WET DETENTION BASIN: OUTLET = 1026.0, TOP OF BERM = 1031.0 | | | | |
| ROUTED DETENTION (TO INFILTRATION) | 0.93 | 2.93 | 19.17 | 28.73 |
| ELEVATION | 1028.25 | 1028.44 | 1028.96 | 1030.63 |
| INFILTRATION BASIN: BOTTOM = 1025.0, OUTLET = 1026.0, TOP OF BERM = 1030.0 | | | | |
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D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
 7530 Westward Way, Madison, WI 53717
 Phone: 608.833.7530 • Fax: 608.833.1089
 YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

DRAINAGE PLAN
CRESCENT CROSSING
LACY ROAD & SEMINOLE HWY
 CITY OF FITCHBURG, WISCONSIN

DATE: 07/16/19
 REVISED:

 DRAWN BY: GVP
 FN: 19-04-106
 Sheet Number:
 Exhibit 3



PROJECT LOCATION

AERIAL MAP

CRESCENT CROSSING

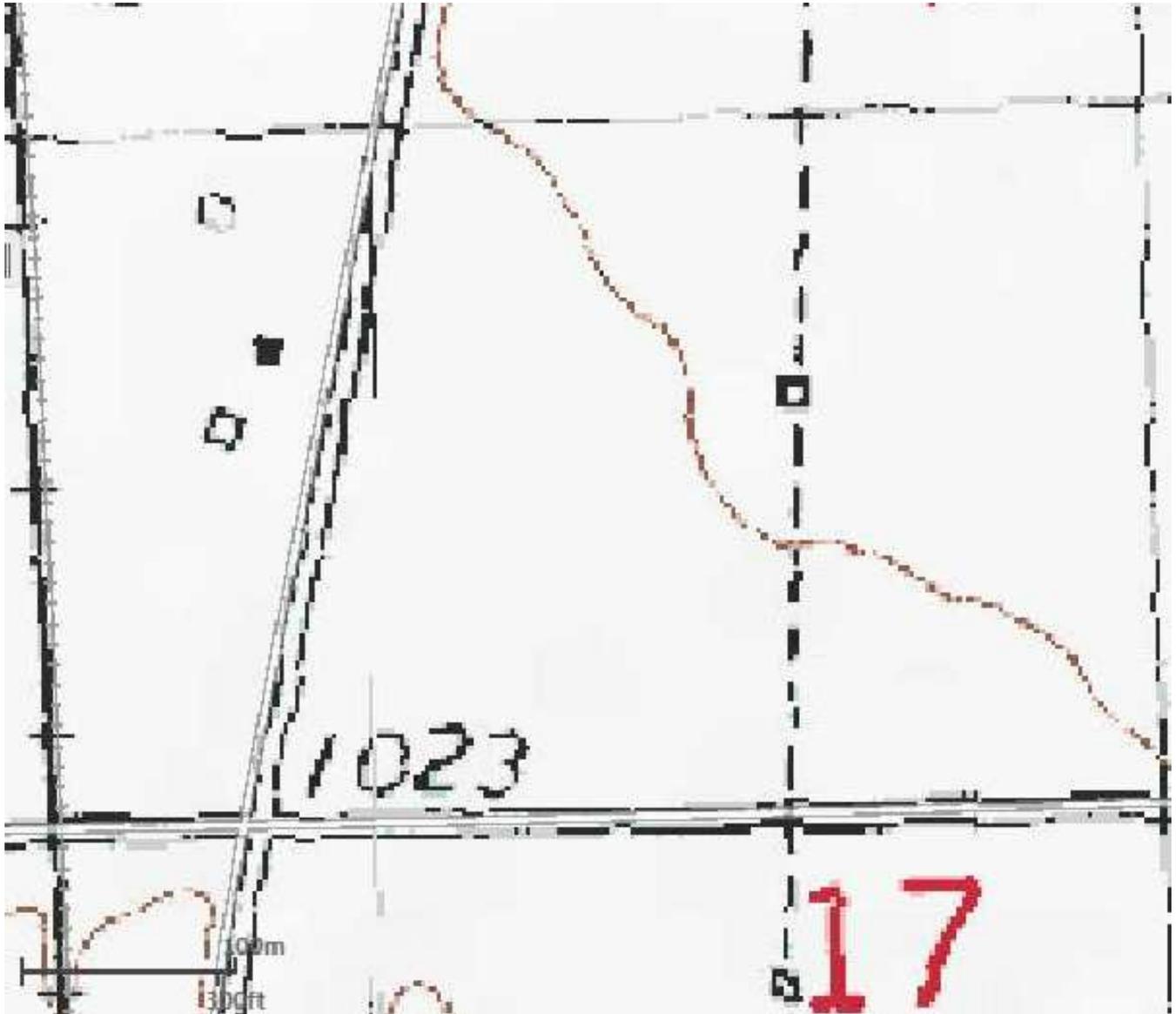
CITY OF FITCHBURG, WISCONSIN

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.

7530 Westward Way, Madison, WI 53717
Phone: 608.833.7530 • Fax: 608.833.1089
YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

DRAWN BY: GVP

EXHIBIT 5



D'ONOFRIO KOTTKE AND ASSOCIATES, INC.

7530 Westward Way, Madison, WI 53717
Phone: 608.833.7530 • Fax: 608.833.1089
YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

USGS MAP

CRESCENT CROSSING

CITY OF FITCHBURG, WISCONSIN

DRAWN BY: GVP

EXHIBIT 6



PROJECT LOCATION

NOTE: NO WETLAND INDICATORS LOCATED ON SITE

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.

7530 Westward Way, Madison, WI 53717
 Phone: 608.833.7530 • Fax: 608.833.1089
 YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

WETLAND INDICATOR MAP

CRESCENT CROSSING

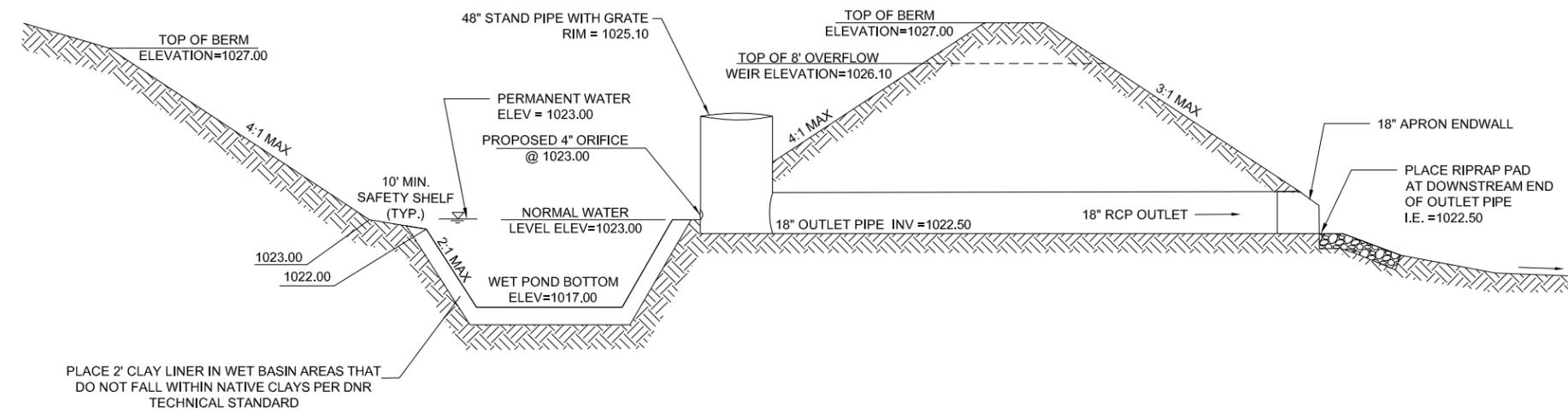
CITY OF FITCHBURG, WISCONSIN

DRAWN BY: GVP

EXHIBIT 7

APPENDIX A

DETENTION POND & INFILTRATION BASIN DETAIL



PROFILE VIEW

**PROPOSED WEST WET DETENTION BASIN
NOT TO SCALE**

D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
 7530 Westward Way, Madison, WI 53717
 Phone: 608.833.7530 • Fax: 608.833.1089
YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

WEST WET DETENTION BASIN
CRESCENT CROSSING
LACY ROAD & SEMINOLE HWY
 CITY OF FITCHBURG, WISCONSIN

DATE: 07/16/19
 REVISED:

 DRAWN BY: GVP
 FN: 19-04-106
 Sheet Number:
 APP A-1

APPENDIX B

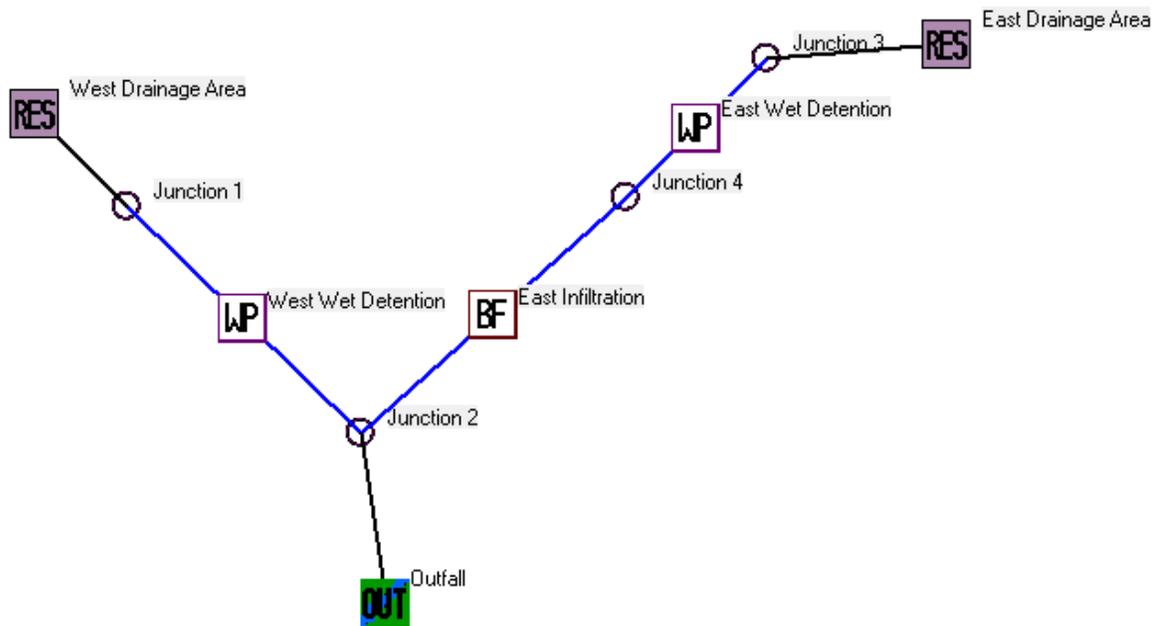
SEDIMENT REDUCTION CALCULATIONS

DETENTION BASIN SEDIMENTATION REDUCTION CALCULATIONS (WINSLAMM)

WinSlamm Design

The following Slamm design shows that 80% of sediment is being removed from the proposed site.

Model Schematic:



Model Input Information:

Data file name: U:\User\1904106\Engineering\SWMP\1904106 Fitch Pro Slamm.mdb
WinSLAMM Version 10.3.2
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:
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 07-16-2019 Time: 13:36:13
Site information:

LU# 1 - Residential: West Drainage Area Total area (ac): 7.300
1 - Roofs 1: 0.950 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
2 - Roofs 2: 0.490 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

- 25 - Driveways 1: 0.630 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 37 - Streets 1: 0.800 ac. Intermediate Street Length = 0.55 curb-mi Street Width (assuming two curb-mi per street mile) = 24 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 45 - Large Landscaped Areas 1: 4.230 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 70 - Water Body Areas: 0.200 ac. Source Area PSD File:

LU# 2 - Residential: East Drainage Area Total area (ac): 13.600

- 1 - Roofs 1: 2.450 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 2 - Roofs 2: 1.260 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 25 - Driveways 1: 1.630 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 37 - Streets 1: 2.080 ac. Intermediate Street Length = 1.43 curb-mi Street Width (assuming two curb-mi per street mile) = 24 ft
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 45 - Large Landscaped Areas 1: 5.780 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
- 70 - Water Body Areas: 0.400 ac. Source Area PSD File:

Control Practice 1: Wet Detention Pond CP# 1 (DS) - West Wet Detention

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.33
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 8
2. Weir crest width (ft): 6
3. Height from datum to bottom of weir opening: 9.1

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 8.1

Pond stage and surface area

| Entry Number | Stage (ft) | Pond Area (acres) | Natural Seepage (in/hr) | Other Outflow (cfs) |
|--------------|------------|-------------------|-------------------------|---------------------|
| 0 | 0.00 | 0.0000 | 0.00 | 0.00 |
| 1 | 0.10 | 0.0200 | 0.00 | 0.00 |
| 2 | 1.00 | 0.0300 | 0.00 | 0.00 |
| 3 | 2.00 | 0.0400 | 0.00 | 0.00 |
| 4 | 3.00 | 0.0500 | 0.00 | 0.00 |
| 5 | 4.00 | 0.0600 | 0.00 | 0.00 |
| 6 | 5.00 | 0.0700 | 0.00 | 0.00 |
| 7 | 6.00 | 0.1800 | 0.00 | 0.00 |
| 8 | 7.00 | 0.2300 | 0.00 | 0.00 |
| 9 | 8.00 | 0.2800 | 0.00 | 0.00 |
| 10 | 9.00 | 0.4200 | 0.00 | 0.00 |
| 11 | 10.00 | 0.4800 | 0.00 | 0.00 |

Control Practice 2: Wet Detention Pond CP# 2 (DS) - East Wet Detention

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.42
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 20
2. Weir crest width (ft): 5
3. Height from datum to bottom of weir opening: 9.75

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 8.3

Pond stage and surface area

| Entry Number | Stage (ft) | Pond Area (acres) | Natural Seepage (in/hr) | Other Outflow (cfs) |
|--------------|------------|-------------------|-------------------------|---------------------|
| 0 | 0.00 | 0.0000 | 0.00 | 0.00 |
| 1 | 0.10 | 0.0200 | 0.00 | 0.00 |
| 2 | 1.00 | 0.0400 | 0.00 | 0.00 |

| | | | | |
|----|-------|--------|------|------|
| 3 | 2.00 | 0.0600 | 0.00 | 0.00 |
| 4 | 3.00 | 0.0900 | 0.00 | 0.00 |
| 5 | 4.00 | 0.1100 | 0.00 | 0.00 |
| 6 | 5.00 | 0.1200 | 0.00 | 0.00 |
| 7 | 6.00 | 0.3700 | 0.00 | 0.00 |
| 8 | 7.00 | 0.4500 | 0.00 | 0.00 |
| 9 | 8.00 | 0.5300 | 0.00 | 0.00 |
| 10 | 9.00 | 0.6000 | 0.00 | 0.00 |
| 11 | 10.00 | 0.6900 | 0.00 | 0.00 |
| 12 | 11.00 | 0.7700 | 0.00 | 0.00 |

Control Practice 3: Biofilter CP# 1 (DS) - East Infiltration

1. Top area (square feet) = 7400
2. Bottom area (square feet) = 2400
3. Depth (ft): 4
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 3.6
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0
12. Engineered soil depth (ft) = 0
13. Engineered soil porosity = 0
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 8
2. Weir crest width (ft): 6
3. Height of datum to bottom of weir opening: 3.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 1.5
2. Pipe invert elevation above datum (ft): 1
3. Number of surface pipe outlets: 1

Output Sediment Reduction:

| | | | | | | | |
|---------------------------------------|-----------------------|--------------------------|---------------------------|--------------------------|---------------------------|---------------------------|------------------------|
| Data File: U:\User\1904106\Eng\mm.mdb | | | | | | | |
| Rain File: WisReg - Madison WI | | | | | | | |
| Date: 07-16-19 Time: 1:37:25 PM | | | | | | | |
| Site Description: | | | | | | | |
| Col. #: | 2 | 4 | 5 | 6 | 7 | 8 | 9 |
| Control Practice No. | Control Practice Type | Total Inflow Volume (cf) | Total Outflow Volume (cf) | Percent Volume Reduction | Total Influent Load (lbs) | Total Effluent Load (lbs) | Percent Load Reduction |
| 1 | Wet Detention Pond | 217803 | 218379 | -0.264 | 1971 | 379.6 | 80.74 |
| 2 | Wet Detention Pond | 518911 | 520329 | -0.273 | 4650 | 848.8 | 81.75 |
| 3 | Biofilter | 520329 | 106699 | 79.49 | 848.8 | 197.8 | 76.70 |

File Name:

U:\User\1904106\Engineering\SWMP\1904106 Fitch Pro Slamm.mdb

Outfall Output Summary

| | Runoff Volume (cu. ft.) | Percent Runoff Reduction | Runoff Coefficient (Rv) | Particulate Solids Conc. (mg/L) | Particulate Solids Yield (lbs) | Percent Particulate Solids Reduction |
|---|----------------------------|-----------------------------|-------------------------------|------------------------------------|-----------------------------------|---|
| Total of All Land Uses without Controls | 736714 | | 0.30 | 144.0 | 6621 | |
| Outfall Total with Controls | 325039 | 55.88 % | 0.13 | 28.46 | 577.5 | 91.28 % |
| Current File Output: Annualized Total After Outfall Controls | 325932 | | Years in Model Run: 1.00 | | 579.1 | |

Print Output
Summary to Text
File

Print Output
Summary to .csv
File

Total Area Modeled (ac)

20.900

Total Control Practice Costs

| | |
|-------------------------------|-----|
| Capital Cost | N/A |
| Land Cost | N/A |
| Annual Maintenance Cost | N/A |
| Present Value of All Costs | N/A |
| Annualized Value of All Costs | N/A |

Perform Outfall
Flow Duration
Curve Calculations

Receiving Water Impacts Due To Stormwater Runoff (CWP Impervious Cover Model)

| | Calculated Rv | Approximate Urban Stream Classification |
|------------------|------------------|---|
| Without Controls | 0.30 | Poor |
| With Controls | 0.13 | Fair |

Total site sediment reduction in developed conditions = 91.28%

APPENDIX C

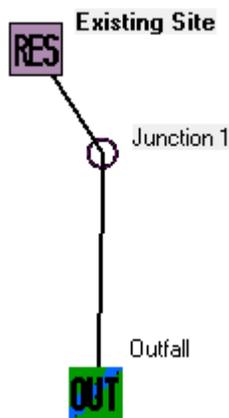
INFILTRATION DESIGN

INFILTRATION SIZING FOR THE PROPOSED DEVELOPMENT AREA

Methodology: To meet infiltration requirements, the following design will show that the infiltration design will meet stayon requirements for the plat. To establish the infiltration requirements for the plat, the area was modeled using WinSLAMM in existing conditions to establish an existing stayon value first. A target stayon value was established as 90% of the existing value per the ordinance. As shown in the following calculations, the site will meet the required stayon performance standard in developed conditions

Existing WinSLAMM Model to Establish Stayon Requirements

Model Schematic:



Model Input Information:

Data file name: U:\User\1904106\Engineering\SWMP\1904106 Ex Slamm.mdb
WinSLAMM Version 10.3.2
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:
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 07-16-2019 Time: 13:47:30
Site information:

LU# 1 - Residential: Existing Site Total area (ac): 20.900
57 - Undeveloped Areas 1: 20.900 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Output Existing Stayon:

| Data File: U:\User\1904106\Engineering\SWMP\1904106 Ex Slamm.mdb | | | | | |
|--|------------|-----------------|--------------------|-------|--------------------|
| Rain File: WisReg - Madison w/ 1981.RAN | | | | | |
| Date: 07-16-19 Time: 1:48:17 PM | | | | | |
| Site Description: | | | | | |
| Runoff Volume Total (cf) at the Outfall | | | | | |
| Rain Number | Start Date | Rain Total (in) | Outfall Total (cf) | Rv | Total Losses (in.) |
| 70 | 08/26/81 | 0.49 | 944.3 | 0.025 | 0.48 |
| 71 | 08/26/81 | 1.63 | 9209 | 0.074 | 1.51 |
| 72 | 08/28/81 | 0.62 | 1496 | 0.032 | 0.60 |
| 73 | 08/28/81 | 0.04 | 0 | 0.000 | 0.04 |
| 74 | 08/31/81 | 0.03 | 0 | 0.000 | 0.03 |
| 75 | 08/31/81 | 1.52 | 6195 | 0.054 | 1.44 |
| 76 | 09/07/81 | 0.89 | 2906 | 0.043 | 0.85 |
| 77 | 09/11/81 | 0.08 | 0 | 0.000 | 0.08 |
| 78 | 09/16/81 | 0.03 | 0 | 0.000 | 0.03 |
| 79 | 09/21/81 | 0.45 | 804.8 | 0.024 | 0.44 |
| 80 | 09/24/81 | 0.90 | 2946 | 0.043 | 0.86 |
| 81 | 09/26/81 | 0.12 | 0 | 0.000 | 0.12 |
| 82 | 09/28/81 | 0.10 | 0 | 0.000 | 0.10 |
| 83 | 09/29/81 | 0.16 | 0 | 0.000 | 0.16 |
| 84 | 09/30/81 | 0.36 | 475.4 | 0.017 | 0.35 |
| 85 | 10/01/81 | 0.01 | 0 | 0.000 | 0.01 |
| 86 | 10/04/81 | 0.15 | 0 | 0.000 | 0.15 |
| 87 | 10/05/81 | 0.04 | 0 | 0.000 | 0.04 |
| 88 | 10/05/81 | 0.02 | 0 | 0.000 | 0.02 |
| 89 | 10/09/81 | 0.14 | 0 | 0.000 | 0.14 |
| 90 | 10/13/81 | 1.20 | 4743 | 0.052 | 1.14 |
| 91 | 10/15/81 | 0.02 | 0 | 0.000 | 0.02 |
| 92 | 10/17/81 | 0.95 | 3146 | 0.044 | 0.91 |
| 93 | 10/18/81 | 0.06 | 0 | 0.000 | 0.06 |
| 94 | 10/21/81 | 0.06 | 0 | 0.000 | 0.06 |
| 95 | 10/21/81 | 0.01 | 0 | 0.000 | 0.01 |
| 96 | 10/24/81 | 0.01 | 0 | 0.000 | 0.01 |
| 97 | 10/31/81 | 0.01 | 0 | 0.000 | 0.01 |
| 98 | 11/05/81 | 0.04 | 0 | 0.000 | 0.04 |
| 99 | 11/15/81 | 0.07 | 0 | 0.000 | 0.07 |
| 100 | 11/18/81 | 0.05 | 0 | 0.000 | 0.05 |
| 101 | 11/19/81 | 0.26 | 132.9 | 0.007 | 0.26 |
| 102 | 11/23/81 | 0.18 | 0 | 0.000 | 0.18 |
| 103 | 11/25/81 | 0.89 | 2906 | 0.043 | 0.85 |
| 104 | 11/30/81 | 0.37 | 518.5 | 0.018 | 0.36 |
| 105 | 12/03/81 | - | - | - | - |
| 106 | 12/14/81 | - | - | - | - |
| 107 | 12/20/81 | - | - | - | - |
| 108 | 12/26/81 | - | - | - | - |
| 109 | 12/31/81 | - | - | - | - |
| Minimum: | | 0.00 | 0 | 0.000 | 0.01 |
| Maximum: | | 2.59 | 39299 | 0.200 | 2.07 |
| Average: | | 0.26 | 1204 | 0.012 | 0.25 |
| Total: | | 28.81 | 131188 | | 27.09 |

The plat has **27.09** inches of stayon in existing conditions. 90% of 27.0 inches = **24.4 inches required** to meet stayon requirements for the development.

Proposed Infiltration Design:

Proposed Infiltration Design:

Total Drainage Area required for Infiltration Design= 20.9 acres

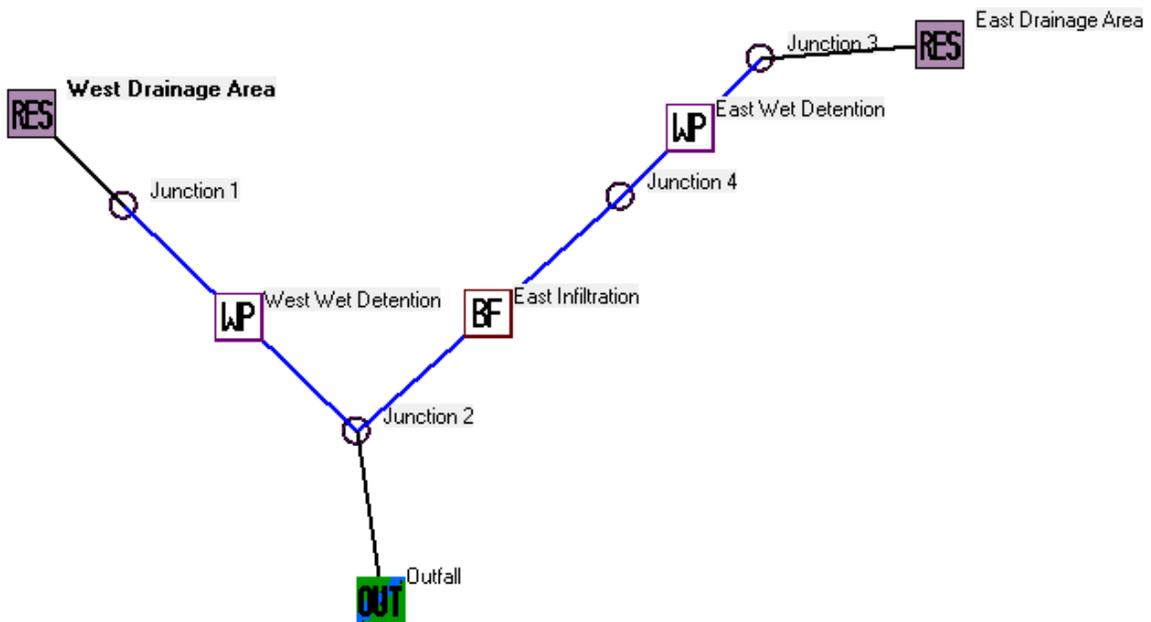
Stayon Required = 24.4 inches

Notes:

- From the soils information, the infiltration rate used was 3.6 in/hr.

WinSlamm Design

Model Schematic:



Model Input Information:

Data file name: U:\User\1904106\Engineering\SWMP\1904106 Fitch Pro Slamm.mdb
 WinSLAMM Version 10.3.2
 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.ppdpx
 Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
 Cost Data file name:
 Seed for random number generator: -42
 Study period starting date: 01/01/81 Study period ending date: 12/31/81
 Start of Winter Season: 12/02 End of Winter Season: 03/12
 Date: 07-16-2019 Time: 13:36:13
 Site information:

LU# 1 - Residential: West Drainage Area Total area (ac): 7.300
 1 - Roofs 1: 0.950 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 2 - Roofs 2: 0.490 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - Driveways 1: 0.630 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - Streets 1: 0.800 ac. Intermediate Street Length = 0.55 curb-mi Street Width (assuming two curb-mi per street mile) = 24 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 45 - Large Landscaped Areas 1: 4.230 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 70 - Water Body Areas: 0.200 ac. Source Area PSD File:

LU# 2 - Residential: East Drainage Area Total area (ac): 13.600
 1 - Roofs 1: 2.450 ac. Pitched Disconnected Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 2 - Roofs 2: 1.260 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - Driveways 1: 1.630 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - Streets 1: 2.080 ac. Intermediate Street Length = 1.43 curb-mi Street Width (assuming two curb-mi per street mile) = 24 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 45 - Large Landscaped Areas 1: 5.780 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 70 - Water Body Areas: 0.400 ac. Source Area PSD File:

Control Practice 1: Wet Detention Pond CP# 1 (DS) - West Wet Detention

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.33
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 8
2. Weir crest width (ft): 6
3. Height from datum to bottom of weir opening: 9.1

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 8.1

Pond stage and surface area

| Entry Number | Stage (ft) | Pond Area (acres) | Natural Seepage (in/hr) | Other Outflow (cfs) |
|--------------|------------|-------------------|-------------------------|---------------------|
| 0 | 0.00 | 0.0000 | 0.00 | 0.00 |
| 1 | 0.10 | 0.0200 | 0.00 | 0.00 |
| 2 | 1.00 | 0.0300 | 0.00 | 0.00 |
| 3 | 2.00 | 0.0400 | 0.00 | 0.00 |
| 4 | 3.00 | 0.0500 | 0.00 | 0.00 |
| 5 | 4.00 | 0.0600 | 0.00 | 0.00 |
| 6 | 5.00 | 0.0700 | 0.00 | 0.00 |
| 7 | 6.00 | 0.1800 | 0.00 | 0.00 |
| 8 | 7.00 | 0.2300 | 0.00 | 0.00 |
| 9 | 8.00 | 0.2800 | 0.00 | 0.00 |

| | | | | |
|----|-------|--------|------|------|
| 10 | 9.00 | 0.4200 | 0.00 | 0.00 |
| 11 | 10.00 | 0.4800 | 0.00 | 0.00 |

Control Practice 2: Wet Detention Pond CP# 2 (DS) - East Wet Detention

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 6

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.42
2. Number of orifices: 1
3. Invert elevation above datum (ft): 6

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 20
2. Weir crest width (ft): 5
3. Height from datum to bottom of weir opening: 9.75

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 8.3

Pond stage and surface area

| Entry Number | Stage (ft) | Pond Area (acres) | Natural Seepage (in/hr) | Other Outflow (cfs) |
|--------------|------------|-------------------|-------------------------|---------------------|
| 0 | 0.00 | 0.0000 | 0.00 | 0.00 |
| 1 | 0.10 | 0.0200 | 0.00 | 0.00 |
| 2 | 1.00 | 0.0400 | 0.00 | 0.00 |
| 3 | 2.00 | 0.0600 | 0.00 | 0.00 |
| 4 | 3.00 | 0.0900 | 0.00 | 0.00 |
| 5 | 4.00 | 0.1100 | 0.00 | 0.00 |
| 6 | 5.00 | 0.1200 | 0.00 | 0.00 |
| 7 | 6.00 | 0.3700 | 0.00 | 0.00 |
| 8 | 7.00 | 0.4500 | 0.00 | 0.00 |
| 9 | 8.00 | 0.5300 | 0.00 | 0.00 |
| 10 | 9.00 | 0.6000 | 0.00 | 0.00 |
| 11 | 10.00 | 0.6900 | 0.00 | 0.00 |
| 12 | 11.00 | 0.7700 | 0.00 | 0.00 |

Control Practice 3: Biofilter CP# 1 (DS) - East Infiltration

1. Top area (square feet) = 7400
2. Bottom area (square feet) = 2400
3. Depth (ft): 4
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 3.6
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.01
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0
12. Engineered soil depth (ft) = 0
13. Engineered soil porosity = 0
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 8
2. Weir crest width (ft): 6
3. Height of datum to bottom of weir opening: 3.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 1.5
2. Pipe invert elevation above datum (ft): 1
3. Number of surface pipe outlets: 1

Proposed Infiltration Design:

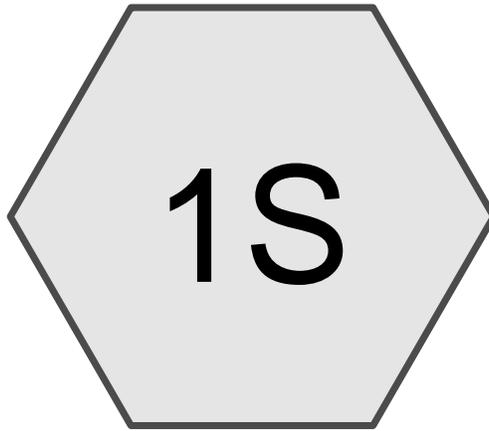
| Data File: U:\User\1904106\Engineering\SWMP\1904106 Fitch Pro Slamm.mdb | | | | | |
|---|------------|-----------------|--------------------|-------|--------------------|
| Rain File: WisReg - Madison WI 1981.RAN | | | | | |
| Date: 07-16-19 Time: 1:52:09 PM | | | | | |
| Site Description: | | | | | |
| Runoff Volume Total (cf) at the Outfall | | | | | |
| Rain Number | Start Date | Rain Total (in) | Outfall Total (cf) | Rv | Total Losses (in.) |
| 70 | 08/26/81 | 0.49 | 3311 | 0.089 | 0.45 |
| 71 | 08/26/81 | 1.63 | 21326 | 0.172 | 1.35 |
| 72 | 08/28/81 | 0.62 | 4428 | 0.094 | 0.56 |
| 73 | 08/28/81 | 0.04 | 165.0 | 0.054 | 0.04 |
| 74 | 08/31/81 | 0.03 | 51.56 | 0.023 | 0.03 |
| 75 | 08/31/81 | 1.52 | 21043 | 0.182 | 1.24 |
| 76 | 09/07/81 | 0.89 | 8694 | 0.129 | 0.78 |
| 77 | 09/11/81 | 0.08 | 352.2 | 0.058 | 0.08 |
| 78 | 09/16/81 | 0.03 | 50.02 | 0.022 | 0.03 |
| 79 | 09/21/81 | 0.45 | 2982 | 0.087 | 0.41 |
| 80 | 09/24/81 | 0.90 | 6857 | 0.100 | 0.81 |
| 81 | 09/26/81 | 0.12 | 605.9 | 0.067 | 0.11 |
| 82 | 09/28/81 | 0.10 | 468.5 | 0.062 | 0.09 |
| 83 | 09/29/81 | 0.16 | 845.8 | 0.070 | 0.15 |
| 84 | 09/30/81 | 0.36 | 2219 | 0.081 | 0.33 |
| 85 | 10/01/81 | 0.01 | 113.4 | 0.150 | 0.01 |
| 86 | 10/04/81 | 0.15 | 782.8 | 0.069 | 0.14 |
| 87 | 10/05/81 | 0.04 | 127.4 | 0.042 | 0.04 |
| 88 | 10/05/81 | 0.02 | 27.00 | 0.018 | 0.02 |
| 89 | 10/09/81 | 0.14 | 722.1 | 0.068 | 0.13 |
| 90 | 10/13/81 | 1.20 | 13759 | 0.151 | 1.02 |
| 91 | 10/15/81 | 0.02 | 27.78 | 0.018 | 0.02 |
| 92 | 10/17/81 | 0.95 | 9325 | 0.129 | 0.83 |
| 93 | 10/18/81 | 0.06 | 608.3 | 0.134 | 0.05 |
| 94 | 10/21/81 | 0.06 | 223.7 | 0.049 | 0.06 |
| 95 | 10/21/81 | 0.01 | 10.52 | 0.014 | 0.01 |
| 96 | 10/24/81 | 0.01 | 10.46 | 0.014 | 0.01 |
| 97 | 10/31/81 | 0.01 | 10.46 | 0.014 | 0.01 |
| 98 | 11/05/81 | 0.04 | 127.2 | 0.042 | 0.04 |
| 99 | 11/15/81 | 0.07 | 280.2 | 0.053 | 0.07 |
| 100 | 11/18/81 | 0.05 | 173.2 | 0.046 | 0.05 |
| 101 | 11/19/81 | 0.26 | 1500 | 0.076 | 0.24 |
| 102 | 11/23/81 | 0.18 | 967.4 | 0.071 | 0.17 |
| 103 | 11/25/81 | 0.89 | 6775 | 0.100 | 0.80 |
| 104 | 11/30/81 | 0.37 | 2332 | 0.083 | 0.34 |
| 105 | 12/03/81 | - | - | - | - |
| 106 | 12/14/81 | - | - | - | - |
| 107 | 12/20/81 | - | - | - | - |
| 108 | 12/26/81 | - | - | - | - |
| 109 | 12/31/81 | - | - | - | - |
| Minimum: | | 0.00 | 0 | 0.014 | 0.01 |
| Maximum: | | 2.59 | 64947 | 0.331 | 1.73 |
| Average: | | 0.26 | 2982 | 0.061 | 0.23 |
| Total: | | 28.81 | 325039 | | 24.54 |

24.54 inches of stayon is attained on the site in proposed conditions. This exceeds the 24.4 inches of stayon required. The proposed site meets infiltration requirements.

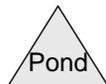
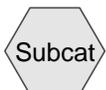
APPENDIX D

HYDROCAD OUTPUT

Existing Hydrocad



Ex Drainage



1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 1yr-24hr Rainfall=2.49"

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Summary for Subcatchment 1S: Ex Drainage

Runoff = 4.19 cfs @ 12.63 hrs, Volume= 0.668 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1yr-24hr Rainfall=2.49"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 20.900 | 68 | Type B |
| 20.900 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 26.5 | 300 | 0.0130 | 0.19 | | Sheet Flow, Sheet |
| | | | | | Range n= 0.130 P2= 2.84" |
| 10.0 | 900 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 36.5 | 1,200 | Total | | | |

1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 2yr-24hr Rainfall=2.84"

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Summary for Subcatchment 1S: Ex Drainage

Runoff = 6.60 cfs @ 12.60 hrs, Volume= 0.951 af, Depth= 0.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2yr-24hr Rainfall=2.84"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 20.900 | 68 | Type B |
| 20.900 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 26.5 | 300 | 0.0130 | 0.19 | | Sheet Flow, Sheet |
| | | | | | Range n= 0.130 P2= 2.84" |
| 10.0 | 900 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 36.5 | 1,200 | Total | | | |

Summary for Subcatchment 1S: Ex Drainage

Runoff = 17.70 cfs @ 12.55 hrs, Volume= 2.199 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10yr-24hr Rainfall=4.09"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 20.900 | 68 | Type B |
| 20.900 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 26.5 | 300 | 0.0130 | 0.19 | | Sheet Flow, Sheet |
| | | | | | Range n= 0.130 P2= 2.84" |
| 10.0 | 900 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 36.5 | 1,200 | Total | | | |

Summary for Subcatchment 1S: Ex Drainage

Runoff = 46.68 cfs @ 12.52 hrs, Volume= 5.464 af, Depth= 3.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100yr-24hr Rainfall=6.66"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 20.900 | 68 | Type B |
| 20.900 | | 100.00% Pervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 26.5 | 300 | 0.0130 | 0.19 | | Sheet Flow, Sheet |
| | | | | | Range n= 0.130 P2= 2.84" |
| 10.0 | 900 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow |
| | | | | | Grassed Waterway Kv= 15.0 fps |
| 36.5 | 1,200 | Total | | | |

Proposed Hydrocad



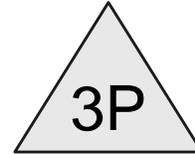
Pro West Drainage



West Wet Det Basin



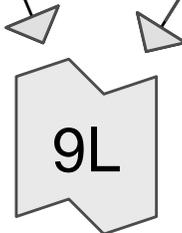
Pro East Drainage



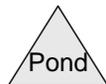
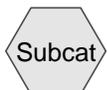
East Wet Det Basin



East Infiltration Basin



Pro Combined



Routing Diagram for 1904106 Fitchburg Seminole Hydrocad
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1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 1yr-24hr Rainfall=2.49"

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Summary for Subcatchment 2S: Pro East Drainage

Runoff = 21.33 cfs @ 12.24 hrs, Volume= 1.556 af, Depth= 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1yr-24hr Rainfall=2.49"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 10.600 | 91 | Type B 70% Developed |
| * 0.400 | 98 | Wet Basin Area |
| * 2.600 | 74 | Landscape Area |
| 13.600 | 88 | Weighted Average |
| 13.200 | | 97.06% Pervious Area |
| 0.400 | | 2.94% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 12.2 | 100 | 0.0100 | 0.14 | | Sheet Flow, Sheet Range n= 0.130 P2= 2.84" |
| 1.1 | 100 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow Grassed Waterway Kv= 15.0 fps |
| 1.7 | 750 | 0.0100 | 7.20 | 22.62 | Pipe Channel, Channel 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 |
| 15.0 | 950 | Total | | | |

Summary for Subcatchment 6S: Pro West Drainage

Runoff = 9.84 cfs @ 12.21 hrs, Volume= 0.674 af, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1yr-24hr Rainfall=2.49"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 4.100 | 91 | Type B 70% Developed |
| * 0.200 | 98 | Wet Basin |
| * 3.000 | 74 | Landscape Area |
| 7.300 | 84 | Weighted Average |
| 7.100 | | 97.26% Pervious Area |
| 0.200 | | 2.74% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 7.0 | 100 | 0.0400 | 0.24 | | Sheet Flow, Sheet Range n= 0.130 P2= 2.84" |
| 2.2 | 200 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow Grassed Waterway Kv= 15.0 fps |
| 3.6 | 700 | 0.0100 | 3.20 | 38.42 | Channel Flow, Channel Area= 12.0 sf Perim= 15.0' r= 0.80' n= 0.040 |
| 12.8 | 1,000 | Total | | | |

1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 1yr-24hr Rainfall=2.49"

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Summary for Pond 3P: East Wet Det Basin

Inflow Area = 13.600 ac, 2.94% Impervious, Inflow Depth = 1.37" for 1yr-24hr event
 Inflow = 21.33 cfs @ 12.24 hrs, Volume= 1.556 af
 Outflow = 0.93 cfs @ 13.68 hrs, Volume= 1.509 af, Atten= 96%, Lag= 86.9 min
 Primary = 0.93 cfs @ 13.68 hrs, Volume= 1.509 af
 Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,028.25' @ 15.18 hrs Surf.Area= 23,748 sf Storage= 44,906 cf

Plug-Flow detention time= 630.8 min calculated for 1.507 af (97% of inflow)
 Center-of-Mass det. time= 615.1 min (1,436.2 - 821.1)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,026.00' | 123,599 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,026.00 | 16,296 | 0 | 0 |
| 1,027.00 | 19,544 | 17,920 | 17,920 |
| 1,028.00 | 22,893 | 21,219 | 39,139 |
| 1,029.00 | 26,352 | 24,623 | 63,761 |
| 1,030.00 | 29,891 | 28,122 | 91,883 |
| 1,031.00 | 33,541 | 31,716 | 123,599 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|---|
| #1 | Primary | 1,025.00' | 24.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,025.00' / 1,025.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf |
| #2 | Device 1 | 1,026.00' | 5.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 1,028.30' | 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads |
| #4 | Secondary | 1,029.75' | 5.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

Primary OutFlow Max=0.93 cfs @ 13.68 hrs HW=1,028.20' TW=1,026.20' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.93 cfs of 18.94 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.93 cfs @ 6.79 fps)
- ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=1,026.00' TW=1,025.00' (Dynamic Tailwater)

- ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 1yr-24hr Rainfall=2.49"

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Summary for Pond 4P: East Infiltration Basin

Inflow Area = 13.600 ac, 2.94% Impervious, Inflow Depth > 1.33" for 1yr-24hr event
 Inflow = 0.93 cfs @ 13.68 hrs, Volume= 1.509 af
 Outflow = 0.88 cfs @ 15.77 hrs, Volume= 1.509 af, Atten= 5%, Lag= 125.0 min
 Discarded = 0.30 cfs @ 15.77 hrs, Volume= 0.792 af
 Primary = 0.58 cfs @ 15.77 hrs, Volume= 0.717 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,026.45' @ 15.77 hrs Surf.Area= 3,603 sf Storage= 4,325 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 102.2 min (1,538.4 - 1,436.2)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,025.00' | 23,499 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,025.00 | 2,400 | 0 | 0 |
| 1,026.00 | 3,200 | 2,800 | 2,800 |
| 1,027.00 | 4,100 | 3,650 | 6,450 |
| 1,028.00 | 5,099 | 4,600 | 11,050 |
| 1,029.00 | 6,200 | 5,650 | 16,699 |
| 1,030.00 | 7,400 | 6,800 | 23,499 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|--|
| #1 | Discarded | 1,025.00' | 3.600 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00' |
| #2 | Primary | 1,026.00' | 18.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,026.00' / 1,025.90' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf |
| #3 | Primary | 1,028.50' | 8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

Discarded OutFlow Max=0.30 cfs @ 15.77 hrs HW=1,026.45' (Free Discharge)
 ↑ **1=Exfiltration** (Controls 0.30 cfs)

Primary OutFlow Max=0.58 cfs @ 15.77 hrs HW=1,026.45' TW=0.00' (Dynamic Tailwater)
 ↑ **2=Culvert** (Barrel Controls 0.58 cfs @ 1.94 fps)
 ↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7P: West Wet Det Basin

Inflow Area = 7.300 ac, 2.74% Impervious, Inflow Depth = 1.11" for 1yr-24hr event
 Inflow = 9.84 cfs @ 12.21 hrs, Volume= 0.674 af
 Outflow = 0.54 cfs @ 14.02 hrs, Volume= 0.666 af, Atten= 95%, Lag= 108.5 min
 Primary = 0.54 cfs @ 14.02 hrs, Volume= 0.666 af
 Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,024.81' @ 14.02 hrs Surf.Area= 11,788 sf Storage= 17,556 cf

Plug-Flow detention time= 426.3 min calculated for 0.666 af (99% of inflow)
 Center-of-Mass det. time= 419.2 min (1,251.5 - 832.2)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,023.00' | 54,474 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,023.00 | 7,800 | 0 | 0 |
| 1,024.00 | 9,845 | 8,823 | 8,823 |
| 1,025.00 | 12,251 | 11,048 | 19,871 |
| 1,026.00 | 18,122 | 15,187 | 35,057 |
| 1,027.00 | 20,711 | 19,417 | 54,474 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|--|
| #1 | Primary | 1,022.50' | 18.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,022.50' / 1,022.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf |
| #2 | Device 1 | 1,023.00' | 4.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 1,025.10' | 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads |
| #4 | Secondary | 1,026.10' | 8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

Primary OutFlow Max=0.54 cfs @ 14.02 hrs HW=1,024.81' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.54 cfs of 8.20 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.54 cfs @ 6.17 fps)
- ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=1,023.00' TW=0.00' (Dynamic Tailwater)

- ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 9L: Pro Combined

Inflow Area = 20.900 ac, 2.87% Impervious, Inflow Depth > 0.79" for 1yr-24hr event
Inflow = 1.11 cfs @ 15.47 hrs, Volume= 1.383 af
Primary = 1.11 cfs @ 15.47 hrs, Volume= 1.383 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 2yr-24hr Rainfall=2.84"

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Summary for Subcatchment 2S: Pro East Drainage

Runoff = 25.99 cfs @ 12.23 hrs, Volume= 1.900 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2yr-24hr Rainfall=2.84"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 10.600 | 91 | Type B 70% Developed |
| * 0.400 | 98 | Wet Basin Area |
| * 2.600 | 74 | Landscape Area |
| 13.600 | 88 | Weighted Average |
| 13.200 | | 97.06% Pervious Area |
| 0.400 | | 2.94% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 12.2 | 100 | 0.0100 | 0.14 | | Sheet Flow, Sheet Range n= 0.130 P2= 2.84" |
| 1.1 | 100 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow Grassed Waterway Kv= 15.0 fps |
| 1.7 | 750 | 0.0100 | 7.20 | 22.62 | Pipe Channel, Channel 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 |
| 15.0 | 950 | Total | | | |

Summary for Subcatchment 6S: Pro West Drainage

Runoff = 12.35 cfs @ 12.21 hrs, Volume= 0.843 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2yr-24hr Rainfall=2.84"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 4.100 | 91 | Type B 70% Developed |
| * 0.200 | 98 | Wet Basin |
| * 3.000 | 74 | Landscape Area |
| 7.300 | 84 | Weighted Average |
| 7.100 | | 97.26% Pervious Area |
| 0.200 | | 2.74% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 7.0 | 100 | 0.0400 | 0.24 | | Sheet Flow, Sheet Range n= 0.130 P2= 2.84" |
| 2.2 | 200 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow Grassed Waterway Kv= 15.0 fps |
| 3.6 | 700 | 0.0100 | 3.20 | 38.42 | Channel Flow, Channel Area= 12.0 sf Perim= 15.0' r= 0.80' n= 0.040 |
| 12.8 | 1,000 | Total | | | |

1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 2yr-24hr Rainfall=2.84"

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Summary for Pond 3P: East Wet Det Basin

Inflow Area = 13.600 ac, 2.94% Impervious, Inflow Depth = 1.68" for 2yr-24hr event
 Inflow = 25.99 cfs @ 12.23 hrs, Volume= 1.900 af
 Outflow = 2.93 cfs @ 13.22 hrs, Volume= 1.849 af, Atten= 89%, Lag= 59.1 min
 Primary = 2.93 cfs @ 13.22 hrs, Volume= 1.849 af
 Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,028.44' @ 13.27 hrs Surf.Area= 24,400 sf Storage= 49,440 cf

Plug-Flow detention time= 572.5 min calculated for 1.849 af (97% of inflow)
 Center-of-Mass det. time= 557.3 min (1,373.7 - 816.4)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,026.00' | 123,599 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,026.00 | 16,296 | 0 | 0 |
| 1,027.00 | 19,544 | 17,920 | 17,920 |
| 1,028.00 | 22,893 | 21,219 | 39,139 |
| 1,029.00 | 26,352 | 24,623 | 63,761 |
| 1,030.00 | 29,891 | 28,122 | 91,883 |
| 1,031.00 | 33,541 | 31,716 | 123,599 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|---|
| #1 | Primary | 1,025.00' | 24.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,025.00' / 1,025.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf |
| #2 | Device 1 | 1,026.00' | 5.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 1,028.30' | 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads |
| #4 | Secondary | 1,029.75' | 5.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

Primary OutFlow Max=2.93 cfs @ 13.22 hrs HW=1,028.44' TW=1,026.63' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 2.93 cfs of 20.34 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.88 cfs @ 6.47 fps)
- ↑ **3=Orifice/Grate** (Weir Controls 2.04 cfs @ 1.20 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=1,026.00' TW=1,025.00' (Dynamic Tailwater)

- ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 4P: East Infiltration Basin

Inflow Area = 13.600 ac, 2.94% Impervious, Inflow Depth > 1.63" for 2yr-24hr event
 Inflow = 2.93 cfs @ 13.22 hrs, Volume= 1.849 af
 Outflow = 2.48 cfs @ 13.67 hrs, Volume= 1.849 af, Atten= 15%, Lag= 27.0 min
 Discarded = 0.33 cfs @ 13.67 hrs, Volume= 0.829 af
 Primary = 2.15 cfs @ 13.67 hrs, Volume= 1.019 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,026.88' @ 13.67 hrs Surf.Area= 3,994 sf Storage= 5,975 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 90.6 min (1,464.3 - 1,373.7)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,025.00' | 23,499 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,025.00 | 2,400 | 0 | 0 |
| 1,026.00 | 3,200 | 2,800 | 2,800 |
| 1,027.00 | 4,100 | 3,650 | 6,450 |
| 1,028.00 | 5,099 | 4,600 | 11,050 |
| 1,029.00 | 6,200 | 5,650 | 16,699 |
| 1,030.00 | 7,400 | 6,800 | 23,499 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|--|
| #1 | Discarded | 1,025.00' | 3.600 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00' |
| #2 | Primary | 1,026.00' | 18.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,026.00' / 1,025.90' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf |
| #3 | Primary | 1,028.50' | 8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

Discarded OutFlow Max=0.33 cfs @ 13.67 hrs HW=1,026.88' (Free Discharge)
 ↑ **1=Exfiltration** (Controls 0.33 cfs)

Primary OutFlow Max=2.15 cfs @ 13.67 hrs HW=1,026.88' TW=0.00' (Dynamic Tailwater)
 ↑ **2=Culvert** (Barrel Controls 2.15 cfs @ 2.86 fps)
 ↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 7P: West Wet Det Basin

Inflow Area = 7.300 ac, 2.74% Impervious, Inflow Depth = 1.39" for 2yr-24hr event
 Inflow = 12.35 cfs @ 12.21 hrs, Volume= 0.843 af
 Outflow = 1.11 cfs @ 13.51 hrs, Volume= 0.834 af, Atten= 91%, Lag= 78.0 min
 Primary = 1.11 cfs @ 13.51 hrs, Volume= 0.834 af
 Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,025.15' @ 13.51 hrs Surf.Area= 13,154 sf Storage= 21,825 cf

Plug-Flow detention time= 448.0 min calculated for 0.834 af (99% of inflow)
 Center-of-Mass det. time= 441.5 min (1,268.3 - 826.8)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,023.00' | 54,474 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,023.00 | 7,800 | 0 | 0 |
| 1,024.00 | 9,845 | 8,823 | 8,823 |
| 1,025.00 | 12,251 | 11,048 | 19,871 |
| 1,026.00 | 18,122 | 15,187 | 35,057 |
| 1,027.00 | 20,711 | 19,417 | 54,474 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|--|
| #1 | Primary | 1,022.50' | 18.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,022.50' / 1,022.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf |
| #2 | Device 1 | 1,023.00' | 4.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 1,025.10' | 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads |
| #4 | Secondary | 1,026.10' | 8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

Primary OutFlow Max=1.10 cfs @ 13.51 hrs HW=1,025.15' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 1.10 cfs of 9.80 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.59 cfs @ 6.79 fps)
- ↑ **3=Orifice/Grate** (Weir Controls 0.51 cfs @ 0.76 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=1,023.00' TW=0.00' (Dynamic Tailwater)

- ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 9L: Pro Combined

Inflow Area = 20.900 ac, 2.87% Impervious, Inflow Depth > 1.06" for 2yr-24hr event
Inflow = 3.22 cfs @ 13.61 hrs, Volume= 1.853 af
Primary = 3.22 cfs @ 13.61 hrs, Volume= 1.853 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 10yr-24hr Rainfall=4.09"

Prepared by {enter your company name here}

Printed 7/17/2019

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Summary for Subcatchment 2S: Pro East Drainage

Runoff = 42.98 cfs @ 12.23 hrs, Volume= 3.188 af, Depth= 2.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10yr-24hr Rainfall=4.09"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 10.600 | 91 | Type B 70% Developed |
| * 0.400 | 98 | Wet Basin Area |
| * 2.600 | 74 | Landscape Area |
| 13.600 | 88 | Weighted Average |
| 13.200 | | 97.06% Pervious Area |
| 0.400 | | 2.94% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 12.2 | 100 | 0.0100 | 0.14 | | Sheet Flow, Sheet Range n= 0.130 P2= 2.84" |
| 1.1 | 100 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow Grassed Waterway Kv= 15.0 fps |
| 1.7 | 750 | 0.0100 | 7.20 | 22.62 | Pipe Channel, Channel 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 |
| 15.0 | 950 | Total | | | |

Summary for Subcatchment 6S: Pro West Drainage

Runoff = 21.77 cfs @ 12.21 hrs, Volume= 1.491 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10yr-24hr Rainfall=4.09"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 4.100 | 91 | Type B 70% Developed |
| * 0.200 | 98 | Wet Basin |
| * 3.000 | 74 | Landscape Area |
| 7.300 | 84 | Weighted Average |
| 7.100 | | 97.26% Pervious Area |
| 0.200 | | 2.74% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 7.0 | 100 | 0.0400 | 0.24 | | Sheet Flow, Sheet Range n= 0.130 P2= 2.84" |
| 2.2 | 200 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow Grassed Waterway Kv= 15.0 fps |
| 3.6 | 700 | 0.0100 | 3.20 | 38.42 | Channel Flow, Channel Area= 12.0 sf Perim= 15.0' r= 0.80' n= 0.040 |
| 12.8 | 1,000 | Total | | | |

Summary for Pond 3P: East Wet Det Basin

Inflow Area = 13.600 ac, 2.94% Impervious, Inflow Depth = 2.81" for 10yr-24hr event
 Inflow = 42.98 cfs @ 12.23 hrs, Volume= 3.188 af
 Outflow = 19.17 cfs @ 12.40 hrs, Volume= 3.128 af, Atten= 55%, Lag= 10.3 min
 Primary = 19.17 cfs @ 12.40 hrs, Volume= 3.128 af
 Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,028.96' @ 12.61 hrs Surf.Area= 26,221 sf Storage= 62,763 cf

Plug-Flow detention time= 388.1 min calculated for 3.124 af (98% of inflow)
 Center-of-Mass det. time= 378.4 min (1,182.5 - 804.1)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,026.00' | 123,599 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,026.00 | 16,296 | 0 | 0 |
| 1,027.00 | 19,544 | 17,920 | 17,920 |
| 1,028.00 | 22,893 | 21,219 | 39,139 |
| 1,029.00 | 26,352 | 24,623 | 63,761 |
| 1,030.00 | 29,891 | 28,122 | 91,883 |
| 1,031.00 | 33,541 | 31,716 | 123,599 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|---|
| #1 | Primary | 1,025.00' | 24.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,025.00' / 1,025.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf |
| #2 | Device 1 | 1,026.00' | 5.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 1,028.30' | 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads |
| #4 | Secondary | 1,029.75' | 5.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

Primary OutFlow Max=19.24 cfs @ 12.40 hrs HW=1,028.89' TW=1,027.26' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 19.24 cfs of 19.26 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.84 cfs @ 6.13 fps)
- ↑ **3=Orifice/Grate** (Weir Controls 18.40 cfs @ 2.50 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=1,026.00' TW=1,025.00' (Dynamic Tailwater)

- ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 4P: East Infiltration Basin

Inflow Area = 13.600 ac, 2.94% Impervious, Inflow Depth > 2.76" for 10yr-24hr event
 Inflow = 19.17 cfs @ 12.40 hrs, Volume= 3.128 af
 Outflow = 9.95 cfs @ 12.82 hrs, Volume= 3.123 af, Atten= 48%, Lag= 25.0 min
 Discarded = 0.47 cfs @ 12.82 hrs, Volume= 0.905 af
 Primary = 9.48 cfs @ 12.82 hrs, Volume= 2.218 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,028.48' @ 12.82 hrs Surf.Area= 5,626 sf Storage= 13,618 cf

Plug-Flow detention time= 63.9 min calculated for 3.123 af (100% of inflow)
 Center-of-Mass det. time= 61.5 min (1,244.1 - 1,182.5)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,025.00' | 23,499 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,025.00 | 2,400 | 0 | 0 |
| 1,026.00 | 3,200 | 2,800 | 2,800 |
| 1,027.00 | 4,100 | 3,650 | 6,450 |
| 1,028.00 | 5,099 | 4,600 | 11,050 |
| 1,029.00 | 6,200 | 5,650 | 16,699 |
| 1,030.00 | 7,400 | 6,800 | 23,499 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|--|
| #1 | Discarded | 1,025.00' | 3.600 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00' |
| #2 | Primary | 1,026.00' | 18.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,026.00' / 1,025.90' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf |
| #3 | Primary | 1,028.50' | 8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

Discarded OutFlow Max=0.47 cfs @ 12.82 hrs HW=1,028.48' (Free Discharge)
 ↑1=Exfiltration (Controls 0.47 cfs)

Primary OutFlow Max=9.47 cfs @ 12.82 hrs HW=1,028.48' TW=0.00' (Dynamic Tailwater)
 ↑2=Culvert (Barrel Controls 9.47 cfs @ 5.36 fps)
 ↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 7P: West Wet Det Basin

Inflow Area = 7.300 ac, 2.74% Impervious, Inflow Depth = 2.45" for 10yr-24hr event
 Inflow = 21.77 cfs @ 12.21 hrs, Volume= 1.491 af
 Outflow = 10.66 cfs @ 12.41 hrs, Volume= 1.480 af, Atten= 51%, Lag= 12.0 min
 Primary = 10.66 cfs @ 12.41 hrs, Volume= 1.480 af
 Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,025.49' @ 12.41 hrs Surf.Area= 15,130 sf Storage= 26,584 cf

Plug-Flow detention time= 304.4 min calculated for 1.480 af (99% of inflow)
 Center-of-Mass det. time= 300.1 min (1,113.4 - 813.3)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,023.00' | 54,474 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,023.00 | 7,800 | 0 | 0 |
| 1,024.00 | 9,845 | 8,823 | 8,823 |
| 1,025.00 | 12,251 | 11,048 | 19,871 |
| 1,026.00 | 18,122 | 15,187 | 35,057 |
| 1,027.00 | 20,711 | 19,417 | 54,474 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|--|
| #1 | Primary | 1,022.50' | 18.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,022.50' / 1,022.50' S= 0.0000 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf |
| #2 | Device 1 | 1,023.00' | 4.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 1,025.10' | 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads |
| #4 | Secondary | 1,026.10' | 8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

Primary OutFlow Max=10.58 cfs @ 12.41 hrs HW=1,025.49' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 10.58 cfs of 11.13 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.64 cfs @ 7.34 fps)
- ↑ **3=Orifice/Grate** (Weir Controls 9.94 cfs @ 2.04 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=1,023.00' TW=0.00' (Dynamic Tailwater)

- ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link 9L: Pro Combined

Inflow Area = 20.900 ac, 2.87% Impervious, Inflow Depth > 2.12" for 10yr-24hr event

Inflow = 16.77 cfs @ 12.53 hrs, Volume= 3.698 af

Primary = 16.77 cfs @ 12.53 hrs, Volume= 3.698 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

1904106 Fitchburg Seminole Hydrocad

MSE 24-hr 4 100yr-24hr Rainfall=6.66"

Prepared by {enter your company name here}

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Summary for Subcatchment 2S: Pro East Drainage

Runoff = 78.08 cfs @ 12.23 hrs, Volume= 5.965 af, Depth= 5.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100yr-24hr Rainfall=6.66"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 10.600 | 91 | Type B 70% Developed |
| * 0.400 | 98 | Wet Basin Area |
| * 2.600 | 74 | Landscape Area |
| 13.600 | 88 | Weighted Average |
| 13.200 | | 97.06% Pervious Area |
| 0.400 | | 2.94% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|---|
| 12.2 | 100 | 0.0100 | 0.14 | | Sheet Flow, Sheet Range n= 0.130 P2= 2.84" |
| 1.1 | 100 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow Grassed Waterway Kv= 15.0 fps |
| 1.7 | 750 | 0.0100 | 7.20 | 22.62 | Pipe Channel, Channel 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 |
| 15.0 | 950 | Total | | | |

Summary for Subcatchment 6S: Pro West Drainage

Runoff = 41.80 cfs @ 12.21 hrs, Volume= 2.931 af, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100yr-24hr Rainfall=6.66"

| Area (ac) | CN | Description |
|-----------|----|-----------------------|
| * 4.100 | 91 | Type B 70% Developed |
| * 0.200 | 98 | Wet Basin |
| * 3.000 | 74 | Landscape Area |
| 7.300 | 84 | Weighted Average |
| 7.100 | | 97.26% Pervious Area |
| 0.200 | | 2.74% Impervious Area |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
|----------|---------------|---------------|-------------------|----------------|--|
| 7.0 | 100 | 0.0400 | 0.24 | | Sheet Flow, Sheet Range n= 0.130 P2= 2.84" |
| 2.2 | 200 | 0.0100 | 1.50 | | Shallow Concentrated Flow, Shallow Grassed Waterway Kv= 15.0 fps |
| 3.6 | 700 | 0.0100 | 3.20 | 38.42 | Channel Flow, Channel Area= 12.0 sf Perim= 15.0' r= 0.80' n= 0.040 |
| 12.8 | 1,000 | Total | | | |

Summary for Pond 3P: East Wet Det Basin

Inflow Area = 13.600 ac, 2.94% Impervious, Inflow Depth = 5.26" for 100yr-24hr event
 Inflow = 78.08 cfs @ 12.23 hrs, Volume= 5.965 af
 Outflow = 28.73 cfs @ 12.50 hrs, Volume= 5.897 af, Atten= 63%, Lag= 16.6 min
 Primary = 20.05 cfs @ 12.12 hrs, Volume= 5.393 af
 Secondary = 11.11 cfs @ 12.52 hrs, Volume= 0.503 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,030.63' @ 12.52 hrs Surf.Area= 32,196 sf Storage= 111,487 cf

Plug-Flow detention time= 250.1 min calculated for 5.897 af (99% of inflow)
 Center-of-Mass det. time= 243.1 min (1,032.6 - 789.5)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,026.00' | 123,599 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,026.00 | 16,296 | 0 | 0 |
| 1,027.00 | 19,544 | 17,920 | 17,920 |
| 1,028.00 | 22,893 | 21,219 | 39,139 |
| 1,029.00 | 26,352 | 24,623 | 63,761 |
| 1,030.00 | 29,891 | 28,122 | 91,883 |
| 1,031.00 | 33,541 | 31,716 | 123,599 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|---|
| #1 | Primary | 1,025.00' | 24.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,025.00' / 1,025.00' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf |
| #2 | Device 1 | 1,026.00' | 5.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 1,028.30' | 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads |
| #4 | Secondary | 1,029.75' | 5.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64 |

Primary OutFlow Max=19.13 cfs @ 12.12 hrs HW=1,028.98' TW=1,027.38' (Dynamic Tailwater)

- ↑ **1=Culvert** (Inlet Controls 19.13 cfs @ 6.09 fps)
- ↑ **2=Orifice/Grate** (Passes < 0.83 cfs potential flow)
- ↑ **3=Orifice/Grate** (Passes < 23.16 cfs potential flow)

Secondary OutFlow Max=11.05 cfs @ 12.52 hrs HW=1,030.63' TW=1,029.28' (Dynamic Tailwater)

- ↑ **4=Broad-Crested Rectangular Weir** (Weir Controls 11.05 cfs @ 2.52 fps)

Summary for Pond 4P: East Infiltration Basin

Inflow Area = 13.600 ac, 2.94% Impervious, Inflow Depth > 5.20" for 100yr-24hr event
 Inflow = 28.73 cfs @ 12.50 hrs, Volume= 5.897 af
 Outflow = 28.21 cfs @ 12.58 hrs, Volume= 5.875 af, Atten= 2%, Lag= 4.3 min
 Discarded = 0.55 cfs @ 12.58 hrs, Volume= 0.991 af
 Primary = 27.66 cfs @ 12.58 hrs, Volume= 4.884 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,029.29' @ 12.58 hrs Surf.Area= 6,550 sf Storage= 18,558 cf

Plug-Flow detention time= 40.9 min calculated for 5.868 af (100% of inflow)
 Center-of-Mass det. time= 34.4 min (1,067.1 - 1,032.6)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,025.00' | 23,499 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,025.00 | 2,400 | 0 | 0 |
| 1,026.00 | 3,200 | 2,800 | 2,800 |
| 1,027.00 | 4,100 | 3,650 | 6,450 |
| 1,028.00 | 5,099 | 4,600 | 11,050 |
| 1,029.00 | 6,200 | 5,650 | 16,699 |
| 1,030.00 | 7,400 | 6,800 | 23,499 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|--|
| #1 | Discarded | 1,025.00' | 3.600 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 0.00' |
| #2 | Primary | 1,026.00' | 18.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,026.00' / 1,025.90' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf |
| #3 | Primary | 1,028.50' | 8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

Discarded OutFlow Max=0.55 cfs @ 12.58 hrs HW=1,029.29' (Free Discharge)
 ↑1=Exfiltration (Controls 0.55 cfs)

Primary OutFlow Max=27.60 cfs @ 12.58 hrs HW=1,029.29' TW=0.00' (Dynamic Tailwater)
 ↑2=Culvert (Barrel Controls 12.55 cfs @ 7.10 fps)
 ↑3=Broad-Crested Rectangular Weir (Weir Controls 15.05 cfs @ 2.38 fps)

Summary for Pond 7P: West Wet Det Basin

Inflow Area = 7.300 ac, 2.74% Impervious, Inflow Depth = 4.82" for 100yr-24hr event
 Inflow = 41.80 cfs @ 12.21 hrs, Volume= 2.931 af
 Outflow = 21.38 cfs @ 12.39 hrs, Volume= 2.919 af, Atten= 49%, Lag= 10.9 min
 Primary = 14.64 cfs @ 12.39 hrs, Volume= 2.750 af
 Secondary = 6.73 cfs @ 12.39 hrs, Volume= 0.169 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 1,026.57' @ 12.39 hrs Surf.Area= 19,608 sf Storage= 45,884 cf

Plug-Flow detention time= 191.2 min calculated for 2.916 af (99% of inflow)
 Center-of-Mass det. time= 189.9 min (987.2 - 797.3)

| Volume | Invert | Avail.Storage | Storage Description |
|------------------|-------------------|------------------------|--|
| #1 | 1,023.00' | 54,474 cf | Custom Stage Data (Prismatic) Listed below (Recalc) |
| Elevation (feet) | Surf.Area (sq-ft) | Inc.Store (cubic-feet) | Cum.Store (cubic-feet) |
| 1,023.00 | 7,800 | 0 | 0 |
| 1,024.00 | 9,845 | 8,823 | 8,823 |
| 1,025.00 | 12,251 | 11,048 | 19,871 |
| 1,026.00 | 18,122 | 15,187 | 35,057 |
| 1,027.00 | 20,711 | 19,417 | 54,474 |

| Device | Routing | Invert | Outlet Devices |
|--------|-----------|-----------|--|
| #1 | Primary | 1,022.50' | 18.0" Round Culvert L= 50.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,022.50' / 1,022.50' S= 0.0000 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf |
| #2 | Device 1 | 1,023.00' | 4.0" Vert. Orifice/Grate C= 0.600 |
| #3 | Device 1 | 1,025.10' | 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads |
| #4 | Secondary | 1,026.10' | 8.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83 |

Primary OutFlow Max=14.63 cfs @ 12.39 hrs HW=1,026.57' TW=0.00' (Dynamic Tailwater)
 ↑ **1=Culvert** (Barrel Controls 14.63 cfs @ 8.28 fps)
 ↑ **2=Orifice/Grate** (Passes < 0.78 cfs potential flow)
 ↑ **3=Orifice/Grate** (Passes < 73.27 cfs potential flow)

Secondary OutFlow Max=6.65 cfs @ 12.39 hrs HW=1,026.57' TW=0.00' (Dynamic Tailwater)
 ↑ **4=Broad-Crested Rectangular Weir** (Weir Controls 6.65 cfs @ 1.77 fps)

Summary for Link 9L: Pro Combined

Inflow Area = 20.900 ac, 2.87% Impervious, Inflow Depth > 4.48" for 100yr-24hr event
Inflow = 46.32 cfs @ 12.50 hrs, Volume= 7.803 af
Primary = 46.32 cfs @ 12.50 hrs, Volume= 7.803 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 1.00-48.00 hrs, dt= 0.05 hrs

APPENDIX E

SOILS INFORMATION



LOG OF TEST BORING

Project **Proposed Residential Development**
S. Seminole Hwy & Lacy Road
 Location **Fitchburg, WI**

Boring No. **SB-1**
 Surface Elevation (ft) **1023.1**
 Job No. **C17195**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

| SAMPLE | | | | | VISUAL CLASSIFICATION and Remarks | SOIL PROPERTIES | | | | |
|--------|--------------|-------|----|---------------|---|---------------------|---|----|----|----|
| No. | Rec (in.) | Moist | N | Depth (ft) | | qu (qa) (tsf) | W | LL | PL | LI |
| | | | | | 12 in. ± TOPSOIL (OL) | | | | | |
| 1 | 12 | M | 4 | | Medium Stiff, Gray/Brown (Mottled) Lean CLAY, Trace Sand (CL) USDA: 10YR 5/2 Silty Clay Loam (Redox: C2D 7.5YR 5/6) | (1.0) | | | | |
| 2 | 14 | M/W | 10 | | Loose to Medium Dense, Dark Brown Clayey Fine SAND, Trace Gravel, Scattered Clay Seams (SC) USDA: 10YR 3/3 Sandy Clay Loam with Silty Clay Loam Seams | (0.5) | | | | |
| 3 | 12 | M | 19 | | Medium Dense, Light Brown Fine to Coarse SAND, Some Gravel, Trace to Little Silt (SP/SP-SM) USDA: 7.5YR 7/3 Gravelly Sand | | | | | |
| 4 | 6 | M | 22 | | Scattered Thin Silt (Silt Loam) Seams Near 10 ft | | | | | |
| 5 | 14 | M | 12 | | Medium Dense, Light Brown Fine to Medium SAND, Trace to Little Silt and Gravel, Scattered Thin Fine Sand and Silt Seams (SP/SP-SM) USDA: 10YR 6/3 Sand with Fine Sand and Silt Loam Seams | | | | | |
| 6 | 14 | M | 11 | | P200 (Samples 5 & 6): 8.3% | | | | | |
| | | | | | Silty Fine Sand (Fine Sandy Loam) Layer Near 15 ft | | | | | |
| | | | | | End Boring at 15 ft | | | | | |
| | | | | | Backfilled with Bentonite Chips | | | | | |

| WATER LEVEL OBSERVATIONS | | | | | GENERAL NOTES | | | | |
|---|---|----|-----------------------------|----|---------------|------------------------|--------|---------|------------------|
| While Drilling | ∇ | NW | Upon Completion of Drilling | NW | Start | 5/23/17 | End | 5/23/17 | |
| Time After Drilling | | | | | Driller | BSD | Chief | DB | Rig DB-50 |
| Depth to Water | | | | | Logger | CD | Editor | DAS | |
| Depth to Cave in | | | | | Drill Method | 2-1/4" HSA; Autohammer | | | |
| The stratification lines represent the approximate boundary between soil types and the transition may be gradual. | | | | | | | | | |



LOG OF TEST BORING

Project **Proposed Residential Development**
S. Seminole Hwy & Lacy Road
 Location **Fitchburg, WI**

Boring No. **SB-2**
 Surface Elevation (ft) **1024.6**
 Job No. **C17195**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

| SAMPLE | | | | | VISUAL CLASSIFICATION and Remarks | SOIL PROPERTIES | | | | | |
|--|------|--------------|-------|----|--------------------------------------|--|---------------------|---|----|----|----|
| No. | TYPE | Rec (in.) | Moist | N | | Depth (ft) | qu (qa) (tsf) | W | LL | PL | LI |
| | | | | | 0 | 12 in. ± TOPSOIL (OL) | | | | | |
| 1 | █ | 10 | M | 6 | 1 | Medium Stiff to Stiff, Brown/Gray (Lightly Mottled) Lean Clay, Trace Sand (CL) USDA: 10YR 5/4 Silty Clay Loam (Redox: C2F 10YR 5/2) | (1.5) | | | | |
| 2 | █ | 12 | M | 9 | 2 | Increasing Sand Content with Depth | (0.5-1.0) | | | | |
| 3 | █ | 12 | M | 35 | 5 | Medium Dense, Light Brown Fine to Coarse SAND, Some Gravel, Trace to Little Silt (SP/SP-SM) USDA: 7.5YR 7/3 Gravelly Sand | | | | | |
| 4 | █ | 12 | M | 39 | 10 | | | | | | |
| 5 | █ | 14 | M | 36 | 15 | Medium Dense to Dense, Light Brown Fine to Medium SAND, Trace to Little Silt and Gravel, Scattered Thin Fine Sand Seams (SP/SP-SM) USDA: 10YR 6/3 Sand with Fine Sand Seams | | | | | |
| 6 | █ | 14 | M | 24 | 20 | | | | | | |
| End Boring at 15 ft Backfilled with Bentonite Chips | | | | | | | | | | | |

| WATER LEVEL OBSERVATIONS | GENERAL NOTES |
|--|--|
| While Drilling ∇ <u>NW</u> Upon Completion of Drilling <u>NW</u> Time After Drilling _____ Depth to Water _____ Depth to Cave in _____ | Start <u>5/23/17</u> End <u>5/23/17</u> Driller <u>BSD</u> Chief <u>DB</u> Rig <u>DB-50</u> Logger <u>CD</u> Editor <u>DAS</u> Drill Method <u>2-1/4" HSA; Autohammer</u> |
| The stratification lines represent the approximate boundary between soil types and the transition may be gradual. | |



LOG OF TEST BORING

Project Proposed Residential Development
S. Seminole Hwy & Lacy Road
 Location Fitchburg, WI

Boring No. SB-3
 Surface Elevation (ft) 1025.6
 Job No. C17195
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

| SAMPLE | | | | | VISUAL CLASSIFICATION and Remarks | SOIL PROPERTIES | | | | | |
|--------|------|--------------|-------|----|--------------------------------------|---|---------------------|---|----|----|----|
| No. | TYPE | Rec (in.) | Moist | N | | Depth (ft) | qu (qa) (tsf) | W | LL | PL | LI |
| | | | | | 0 | 12 in. ± TOPSOIL (OL) | | | | | |
| 1 | █ | 12 | M | 8 | 1 | Stiff, Brown/Gray (Lightly Mottled) Lean Clay, Trace Sand (CL) USDA: 10YR 4/4 Silty Clay Loam (Redox: C2F 10YR 5/2) | (1.5) | | | | |
| 2 | █ | 14 | M | 5 | 5 | Increasing Sand Content with Depth | (1.0) | | | | |
| 3 | █ | 14 | M | 25 | 5 | Medium Dense to Dense, Light Brown Fine to Coarse SAND, Some Gravel, Trace to Little Silt (SP/SP-SM) USDA: 7.5YR 7/3 Gravelly Sand | | | | | |
| 4 | █ | 12 | M | 37 | 10 | | | | | | |
| 5 | █ | 12 | M | 25 | 10 | Medium Dense, Light Brown Fine to Medium SAND, Trace to Little Silt and Gravel, Scattered Thin Fine Sand Seams (SP/SP-SM) USDA: 10YR 6/3 Sand with Fine Sand Seams | | | | | |
| 6 | █ | 14 | M | 23 | 15 | | | | | | |
| | | | | | 15 | End Boring at 15 ft Backfilled with Bentonite Chips | | | | | |
| | | | | | 20 | | | | | | |

| WATER LEVEL OBSERVATIONS | GENERAL NOTES |
|--|--|
| While Drilling <input checked="" type="checkbox"/> <u>NW</u> Upon Completion of Drilling <input type="checkbox"/> <u>NW</u> Time After Drilling _____ Depth to Water _____ Depth to Cave in _____ | Start <u>5/23/17</u> End <u>5/23/17</u> Driller <u>BSD</u> Chief <u>DB</u> Rig <u>DB-50</u> Logger <u>CD</u> Editor <u>DAS</u> Drill Method <u>2-1/4" HSA; Autohammer</u> |
| The stratification lines represent the approximate boundary between soil types and the transition may be gradual. | |



LOG OF TEST BORING

Project **Proposed Residential Development**
S. Seminole Hwy & Lacy Road
 Location **Fitchburg, WI**

Boring No. **SB-4**
 Surface Elevation (ft) **1028.3**
 Job No. **C17195**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

| SAMPLE | | | | | VISUAL CLASSIFICATION and Remarks | SOIL PROPERTIES | | | | | |
|--------|------|--------------|-------|----|--------------------------------------|---|---------------------|---|----|----|----|
| No. | TYPE | Rec (in.) | Moist | N | | Depth (ft) | qu (qa) (tsf) | W | LL | PL | LI |
| | | | | | 0 | 12 in. ± TOPSOIL (OL) | | | | | |
| 1 | H | 8 | M | 5 | 1 | Medium Stiff to Stiff, Brown/Gray (Lightly Mottled) Lean Clay, Trace Sand (CL) USDA: 10YR 5/4 Silty Clay Loam (Redox: C2F 10YR 5/2) | (1.0-1.5) | | | | |
| 2 | H | 12 | M | 4 | 4 | | (0.5-1.0) | | | | |
| 3 | H | 12 | M | 22 | 5 | Medium Dense, Brown Fine to Coarse SAND, Some Gravel, Trace to Little Silt (SP/SP-SM) USDA: 10YR 5/4 Gravelly Sand | | | | | |
| 4 | H | 10 | M | 10 | 10 | P200 (Samples 3 and 4): 10.4% | | | | | |
| 5 | H | 12 | M | 9 | 10 | | | | | | |
| 6 | H | 14 | M | 12 | 15 | | | | | | |
| | | | | | 15 | End Boring at 15 ft Backfilled with Bentonite Chips Boring offset 40 ft west due to overhead power lines | | | | | |
| | | | | | 20 | | | | | | |

| WATER LEVEL OBSERVATIONS | | | | | GENERAL NOTES | | | | | |
|---|---|----|-----------------------------|----|---------------|------------------------|--------|---------|-----|-------|
| While Drilling | ∇ | NW | Upon Completion of Drilling | NW | Start | 5/23/17 | End | 5/23/17 | | |
| Time After Drilling | | | | | Driller | BSD | Chief | DB | Rig | DB-50 |
| Depth to Water | | | | | Logger | CD | Editor | DAS | | |
| Depth to Cave in | | | | | Drill Method | 2-1/4" HSA; Autohammer | | | | |
| The stratification lines represent the approximate boundary between soil types and the transition may be gradual. | | | | | | | | | | |



LOG OF TEST BORING

Project **Proposed Residential Development**
S. Seminole Hwy & Lacy Road
 Location **Fitchburg, WI**

Boring No. **SB-5**
 Surface Elevation (ft) **1031.6**
 Job No. **C17195**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

| SAMPLE | | | | | VISUAL CLASSIFICATION and Remarks | SOIL PROPERTIES | | | | |
|--------|---------------|--------------|-------|----|---|-----------------|---------------------|---|----|----|
| No. | DEPTH (ft) | Rec (in.) | Moist | N | | Depth (ft) | qu (qa) (tsf) | W | LL | PL |
| | | | | | 12 in. ± TOPSOIL (OL) | | | | | |
| 1 | | 12 | M | 6 | Stiff, Brown/Gray (Lightly Mottled) Lean Clay, Trace Sand (CL) USDA: 10YR 5/4 Silty Clay Loam (Redox: C2F 10YR 5/2) | (1.5) | | | | |
| 2 | | 14 | M | 17 | Medium Dense, Dark Brown Clayey Fine SAND, Trace Gravel, Scattered Clay Seams (SC) USDA: 10YR 3/3 Sandy Clay Loam with Silty Clay Loam Seams | | | | | |
| 3 | | 10 | M | 65 | Medium Dense to Very Dense, Light Brown Fine to Coarse SAND, Some Gravel, Trace to Little Silt (SP/SP-SM) USDA: 10YR 6/4 Gravelly Sand | | | | | |
| 4 | | 14 | M | 46 | Scattered Fine Sand Seams Near 10 ft | | | | | |
| 5 | | 14 | M | 19 | Medium Dense, Light Brown Fine to Medium SAND, Trace to Little Silt and Gravel, Scattered Thin Fine Sand Seams (SP/SP-SM) USDA: 10YR 6/3 Sand with Fine Sand Seams | | | | | |
| 6 | | 12 | M | 19 | | | | | | |
| | | | | | End Boring at 15 ft | | | | | |
| | | | | | Backfilled with Bentonite Chips | | | | | |
| | | | | | Boring offset 40 ft west due to overhead power lines | | | | | |

| WATER LEVEL OBSERVATIONS | | | | | GENERAL NOTES | | | | |
|--|---|----|-----------------------------|----|---------------|------------------------|--------|---------|-----------|
| While Drilling | ∇ | NW | Upon Completion of Drilling | NW | Start | 5/23/17 | End | 5/23/17 | |
| Time After Drilling | | | | | Driller | BSD | Chief | DB | Rig DB-50 |
| Depth to Water | | | | | Logger | CD | Editor | DAS | |
| Depth to Cave in | | | | | Drill Method | 2-1/4" HSA; Autohammer | | | |
| <small>The stratification lines represent the approximate boundary between soil types and the transition may be gradual.</small> | | | | | | | | | |

SOIL EVALUATION - STORM

in accordance with Comm 82.365 & 85, Wis. Adm. Code

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road.

Please print all information.

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

| | |
|-------------|--------------|
| County | Dane |
| Parcel I.D. | 060908395017 |
| Review by | Date |

| | |
|---|---|
| Property Owner Payne & Dolan | Property Location Govt. Lot SE 1/4 SW 1/4 S 08 T 06 N R 09 E |
| Property Owner's Mailing Address PO Box 781 | Lot # 1 Block # Subd. Name or CSM# CSM 08023 |
| City State Zip Code Phone Number Waukesha WI 53187 | <input checked="" type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Town Nearest Road Fitchburg Lacy Rd & S. Seminole Hwy |

| | |
|---|---|
| Drainage area _____ sq. ft. _____ acres Optional: Test Site Suitable for (check all that apply) <input type="checkbox"/> Irrigation <input type="checkbox"/> Bioretention trench <input type="checkbox"/> Trench(es) <input type="checkbox"/> Rain Garden <input type="checkbox"/> Grassed Swale <input type="checkbox"/> Reuse <input type="checkbox"/> Infiltration trench <input type="checkbox"/> SDS (>15' wide) <input type="checkbox"/> Other _____ | Hydraulic Application Test Method <input checked="" type="checkbox"/> Morphological Evaluation <input type="checkbox"/> Double-Ring Infiltrometer <input type="checkbox"/> Other (Specify) _____ |
|---|---|

1 Obs. # Boring Pit Ground Surface Elev. 1023.1 ft Depth to limiting factor 12⁽⁴⁾ in.

| Horizon | Depth in. | Dominant Color Munsell | Redox Description Qu. Sz. Cont. Color | Texture | Structure Gr. Sz. Sh. | Consistence | Boundary | % Rock Frag. | Hydraulic App. Rate |
|---------|-----------|------------------------|---------------------------------------|-----------------------------|-----------------------|-------------|----------|--------------|-------------------------|
| | | | | | | | | | Inches/Hr |
| 1 | 0 - 12 | | Topsoil - No Sample Collected | | | | as | | |
| 2 | 12 - 42 | 10 YR 5/2 | C2D 7.5 YR 5/6 | SiCL | 1msbk | mvfr | gs | <5 | 0.04 |
| 3 | 42 - 72 | 10 YR 3/3 | None | SCL/SiCL | 0m | mvfr | gs | <5 | 0.11 |
| 4 | 72 - 132 | 7.5 YR 7/3 | None | GRS; SiL Seams Near 120 in. | 0sg | ml | gs | 15 - 35 | 0.13-3.6 ⁽¹⁾ |
| 5 | 132 - 180 | 10 YR 6/3 | None | S/FS/SiL | 0sg | ml | | 5 - 10 | 0.13-3.6 ⁽²⁾ |

(1) Silt loam seams will limit infiltration rate to about 0.13 in./hr; infiltration rate can likely be improved to 3.6 in./hr if soil deep tilled/mixed to break up silt loam seams.

(2) Silt loam and fine sand seams will limit infiltration rate to about 0.13 in./hr; infiltration rate can likely be improved to 1.6 to 3.6 in./hr if soil deep tilled/mixed to break up silt loam seams.

(4) Redox is likely from periodic saturation from infiltrating surface water.

2 Obs. # Boring Pit Ground Surface Elev. 1024.6 ft Depth to limiting factor 12⁽⁴⁾ in.

| Horizon | Depth in. | Dominant Color Munsell | Redox Description Qu. Sz. Cont. Color | Texture | Structure Gr. Sz. Sh. | Consistence | Boundary | % Rock Frag. | Hydraulic App. Rate |
|---------|-----------|------------------------|---------------------------------------|---------|-----------------------|-------------|----------|--------------|------------------------|
| | | | | | | | | | Inches/Hr |
| 1 | 0 - 12 | | Topsoil - No Sample Collected | | | | as | | |
| 2 | 12 - 60 | 10 YR 5/4 | C2F 10 YR 5/2 | SiCL | 1msbk/0m | mvfr | gs | <5 | 0.04 |
| 3 | 60 - 132 | 7.5 YR 7/3 | None | GRS | 0sg | ml | gs | 15 - 35 | 3.6 |
| 4 | 132 - 180 | 10 YR 6/3 | None | S/FS | 0sg | ml | | 5 - 10 | 0.5-3.6 ⁽³⁾ |

(3) Fine sand seams will limit infiltration rate to about 0.5 in./hr; infiltration rate can likely be improved to about 3.6 in./hr if soil deep tilled/mixed to break up fine sand seams.

(4) Redox is likely from periodic saturation from infiltrating surface water.

| | | |
|--|---|----------------------------------|
| CST/PSS Name (Please Print) DAVID A STAAB | Signature  | CST/PSS Number 1042602 |
| Address 641 PIPER DRIVE, MADISON, WI | Date Evaluation Conducted 5/24/2017 | Telephone Number 608/279-4530 |

3 Obs. # Boring Pit Ground Surface Elev. 1025.6 ft Depth to limiting factor 12⁽⁴⁾ in.

| Horizon | Depth in. | Dominant Color Munsell | Redox Description Qu. Sz. Cont. Color | Texture | Structure Gr. Sz. Sh. | Consistence | Boundary | % Rock Frag. | Hydraulic App. Rate |
|---------|-----------|------------------------|---------------------------------------|---------|-----------------------|-------------|----------|--------------|------------------------|
| | | | | | | | | | Inches/Hr |
| 1 | 0 - 12 | | Topsoil - No Sample Collected | | | | as | | |
| 2 | 12 - 60 | 10 YR 4/4 | C2F 10 YR 5/2 | SiCL | 1msbk | mvfr | gs | <5 | 0.04 |
| 3 | 60 - 132 | 7.5 YR 7/3 | None | GRS | 0sg | ml | gs | 15 - 35 | 3.6 |
| 4 | 132 - 180 | 10 YR 6/3 | None | S/FS | 0sg | ml | | 5 - 10 | 0.5-3.6 ⁽³⁾ |

(3) Fine sand seams will limit infiltration rate to about 0.5 in./hr; infiltration rate can likely be improved to about 3.6 in./hr if soil deep tilled/mixed to break up fine sand seams.
 (4) Redox is likely from periodic saturation from infiltrating surface water.

4 Obs. # Boring Pit Ground Surface Elev. 1028.3 ft Depth to limiting factor 12⁽⁴⁾ in.

| Horizon | Depth in. | Dominant Color Munsell | Redox Description Qu. Sz. Cont. Color | Texture | Structure Gr. Sz. Sh. | Consistence | Boundary | % Rock Frag. | Hydraulic App. Rate |
|---------|-----------|------------------------|---------------------------------------|---------|-----------------------|-------------|----------|--------------|---------------------|
| | | | | | | | | | Inches/Hr |
| 1 | 0 - 12 | | Topsoil - No Sample Collected | | | | as | | |
| 2 | 12 - 72 | 10 YR 5/4 | C2F 10 YR 5/2 | SiCL | 1msbk/0m | mvfr | gs | <5 | 0.04 |
| 3 | 72 - 132 | 10 YR 5/4 | None | GRS | 0sg | ml | gs | 15 - 35 | 3.6 |

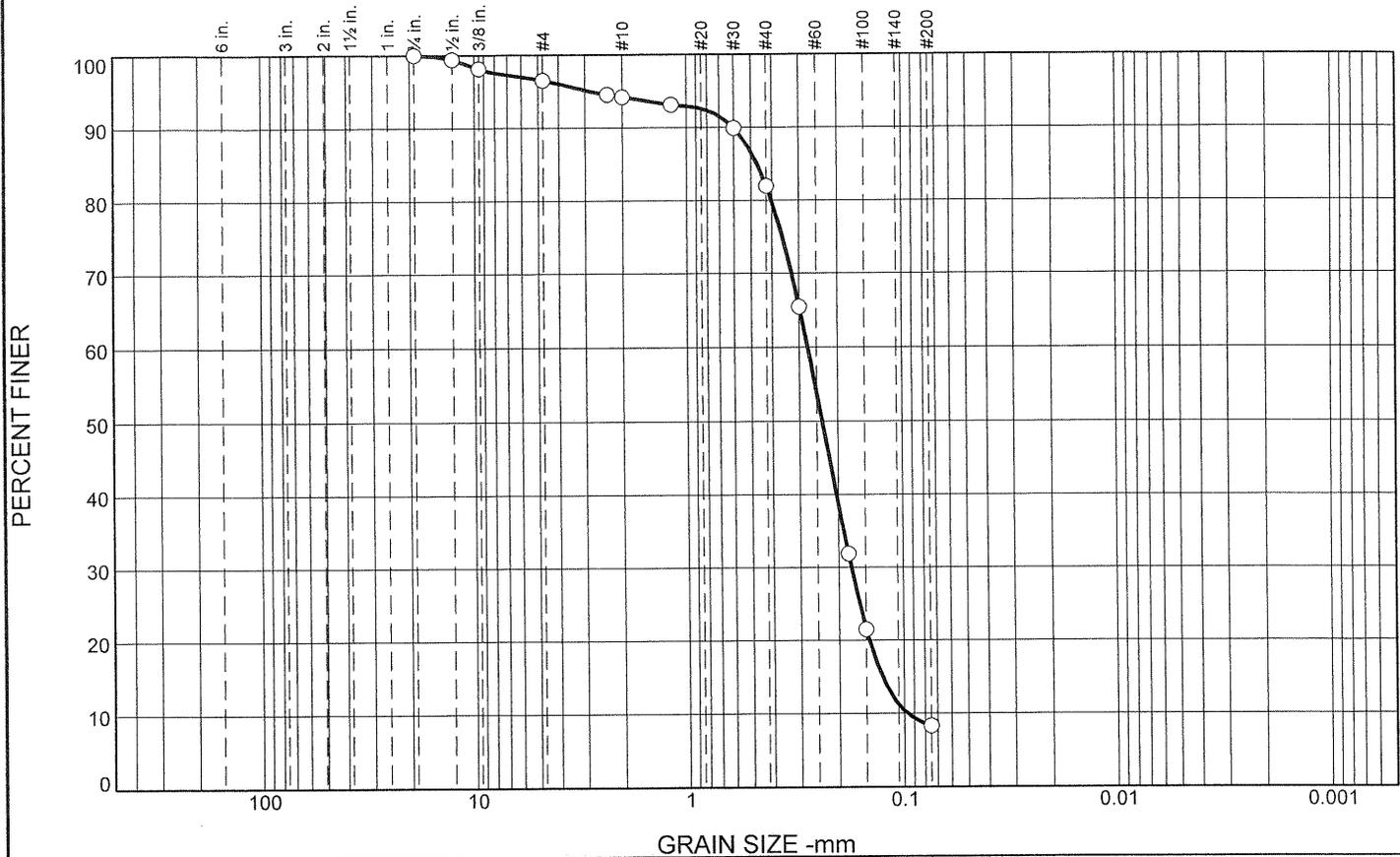
(4) Redox is likely from periodic saturation from infiltrating surface water.

5 Obs. # Boring Pit Ground Surface Elev. 1031.6 ft Depth to limiting factor 12⁽⁴⁾ in.

| Horizon | Depth in. | Dominant Color Munsell | Redox Description Qu. Sz. Cont. Color | Texture | Structure Gr. Sz. Sh. | Consistence | Boundary | % Rock Frag. | Hydraulic App. Rate |
|---------|-----------|------------------------|---------------------------------------|----------------------------|-----------------------|-------------|----------|--------------|------------------------|
| | | | | | | | | | Inches/Hr |
| 1 | 0 - 12 | | Topsoil - No Sample Collected | | | | as | | |
| 2 | 12 - 42 | 10 YR 5/4 | C2F 10 YR 5/2 | SiCL | 1msbk | mvfr | gs | <5 | 0.04 |
| 3 | 42 - 72 | 10 YR 3/3 | None | SCL/SiCL | 0m | mvfr | gs | <5 | 0.11 |
| 4 | 72 - 132 | 10 YR 6/4 | None | GRS; FS Seams Near 120 in. | 0sg | ml | gs | 15 - 35 | 0.5-3.6 ⁽³⁾ |
| 5 | 132 - 180 | 10 YR 6/3 | None | S/FS | 0sg | ml | | 5 - 10 | 0.5-3.6 ⁽²⁾ |

(3) Fine sand seams will limit infiltration rate to about 0.5 in./hr; infiltration rate can likely be improved to about 3.6 in./hr if soil deep tilled/mixed to break up fine sand seams.
 (4) Redox is likely from periodic saturation from infiltrating surface water.

Particle Size Distribution Report



| % +3" | % Gravel | | % Sand | | | % Fines | |
|-------|----------|------|--------|--------|------|---------|------|
| | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| 0.0 | 0.0 | 3.5 | 2.3 | 12.3 | 73.6 | 8.3 | |

| SIEVE SIZE | PERCENT FINER | SPEC.* PERCENT | PASS? (X=NO) |
|------------|---------------|----------------|--------------|
| 3/4 | 100.0 | | |
| 1/2 | 99.4 | | |
| 3/8 | 98.2 | | |
| #4 | 96.5 | | |
| #8 | 94.5 | | |
| #10 | 94.2 | | |
| #16 | 93.1 | | |
| #30 | 89.9 | | |
| #40 | 81.9 | | |
| #50 | 65.5 | | |
| #80 | 31.9 | | |
| #100 | 21.5 | | |
| #200 | 8.3 | | |

Material Description

Brown Fine to Medium Sand, Little Silt, Trace Gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 0.6041 D₈₅= 0.4692 D₆₀= 0.2745
D₅₀= 0.2359 D₃₀= 0.1746 D₁₅= 0.1265
D₁₀= 0.0971 C_u= 2.83 C_c= 1.14

Classification

USCS= SP-SM AASHTO=

Remarks

Natural Moisture = 10.3%

* (no specification provided)

Sample Number: SB-1: S-5 + S-6

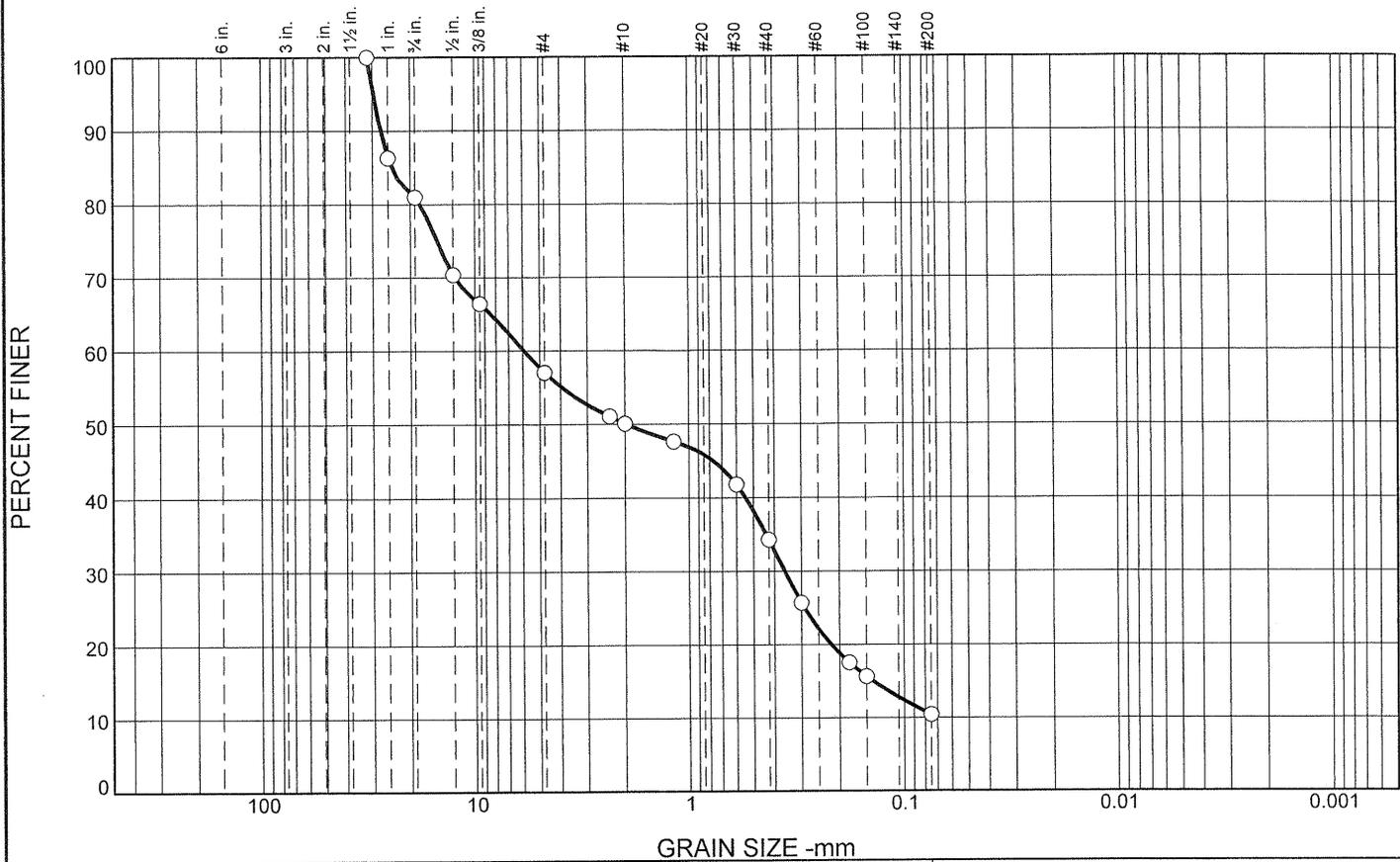
Date: 5/31/17

| | |
|----------------------|--|
| | <p>Client: Ehlers Development</p> <p>Project: Fitchburg Residential Development</p> <p>Project No: C17195</p> |
| <p>Figure</p> | |

Tested By: DRW

Checked By: DAS

Particle Size Distribution Report



GRAIN SIZE -mm

| % +3" | % Gravel | | % Sand | | | % Fines | |
|-------|----------|------|--------|--------|------|---------|------|
| | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| 0.0 | 19.0 | 24.0 | 6.9 | 15.8 | 23.9 | 10.4 | |

| SIEVE SIZE | PERCENT FINER | SPEC.* PERCENT | PASS? (X=NO) |
|------------|---------------|----------------|--------------|
| 1.25 | 100.0 | | |
| 1 | 86.3 | | |
| 3/4 | 81.0 | | |
| 1/2 | 70.4 | | |
| 3/8 | 66.5 | | |
| #4 | 57.0 | | |
| #8 | 51.1 | | |
| #10 | 50.1 | | |
| #16 | 47.6 | | |
| #30 | 41.8 | | |
| #40 | 34.3 | | |
| #50 | 25.7 | | |
| #80 | 17.5 | | |
| #100 | 15.7 | | |
| #200 | 10.4 | | |

Material Description

Brown Gravelly Fine to Coarse Sand, Little Silt

Atterberg Limits

PL= LL= PI=

Coefficients

D₉₀= 27.3587 D₈₅= 24.4614 D₆₀= 5.9162
D₅₀= 1.9769 D₃₀= 0.3588 D₁₅= 0.1395
D₁₀= C_u= C_c=

Classification

USCS= SP-SM AASHTO=

Remarks

Natural Moisture = 6.2%

* (no specification provided)

Sample Number: SB-4: S-3 + S-4

Date: 5/31/17

| | | |
|--|--|----------------------|
| | <p>Client: Ehlers Development</p> <p>Project: Fitchburg Residential Development</p> <p>Project No: C17195</p> | <p>Figure</p> |
|--|--|----------------------|

Tested By: DRW

Checked By: DAS

APPENDIX G

DRAFT MAINTENANCE AGREEMENT

EXHIBIT A

TAX PARCEL NUMBERS: 060908395017
City of Fitchburg, Dane County, Wisconsin

Maintenance provisions:

Detention Basin

Visual inspection of the detention basin and outlet structure shall be performed, at a minimum annually. The inspections shall include checking for potential problems such as: subsidence, erosion, tree growth in and around the embankment and outfall structure, sediment accumulation, clogging of outfall structure, and damage to the emergency spillway. Problems identified by the inspections shall be repaired as soon as practicable.

Sediment accumulations shall be removed by dredging when two (2) foot of siltation has occurred or as directed by the City of Fitchburg. The dredged material shall be removed and disposed of in accordance with NR 347.

The detention basin shall be mowed a minimum of twice per year. Mowing shall maintain a minimum grass height of 6 to 8 inches. Areas of sparse vegetation shall be reseeded. Additional fertilizer shall be applied as needed, per the results of a soil test.

Separate and distinct records shall be maintained by the owner to record the specific activities and costs thereof for the maintenance plan implementation. The records shall include the dates of maintenance visits and the specific work performed. Records shall be kept as required by local, state or federal law.

Infiltration Basin

Visual Inspection of the Infiltration Basin shall be performed, at a minimum, annually.

Maintenance shall be required when system shows standing water beyond 24 hours of rain event. Cleaning shall consist of removal of sediment, two (2) foot undercut, undercut replacement with material consisting of 15-30% compost and 70-85% sand and restoration in-kind.

Restoration of plant material shall be with native plugs or seed mixture tolerant of fluctuating water conditions. If a seed mixture is used steps shall be taken to assure vegetation establishes.

Document No.

**CRESCENT CROSSING
DECLARATION OF PROTECTIVE COVENANTS,
CONDITIONS AND RESTRICTIONS**

CITY OF FITCHBURG, DANE COUNTY, WI.

PREAMBLE

Drafted by and return to:
Chris Ehlers
Veridian Homes
6801 South Towne Drive
Madison, WI53713

See Exhibit "B"
(Parcel Identification Numbers)

This Declaration of Protective Covenants, Conditions and Restrictions (the "**Declaration**") is made this ___ day of _____, 20__ by _____, LLC, a Wisconsin Limited Liability Company (hereinafter referred to as the "**Declarant**") and/or its successors and assigns.

WHEREAS, Declarant is the owner of certain real property located in the plat of Crescent Crossing (the "Plat") located in the City of Fitchburg, Dane County, Wisconsin, more particularly described and depicted in Exhibit "A" attached hereto and incorporated herein by reference, and desires to build thereon a planned development with housing units and shared common property (the "Development"; and

WHEREAS, Declarant desires to provide for the maintenance and enhancement of property values and amenities in said Development, and for the preservation of the properties and improvements thereon, as well as, for the preservation of said Development's distinctive style, and to prevent the erection, or maintenance of poorly designed or constructed improvements; and

WHEREAS, to the above end, Declarant desires to subject the Development to the covenants, restrictions, easements, charges and liens hereinafter set forth, each and all of which is and are for the benefit of said property and each owner thereof; and

WHEREAS, Declarant has thought it desirable for the efficient maintenance and preservation of the values of said Development to create an Association to which should be delegated and assigned the powers of owning, maintaining and administering the Common Property and facilities, as set forth below,

and administering and enforcing the covenants and restrictions, and collecting and disbursing the Assessments and charges as hereinafter or in the future created or established, and promoting the health, welfare and recreation of the Development's residents. Declarant has incorporated the Crescent Crossing Homeowners Association, Inc. a non-profit, non-stock corporation, under the laws of the State of Wisconsin (the "**Association**") for such purposes; and

NOW, THEREFORE, the Declarant declares that the real property constituting the Development will and shall be sold, transferred and conveyed subject to the easements, covenants, restrictions, assessments, charges and liens hereinafter set forth.

PART A
ASSOCIATION MATTERS

A-1) Definitions.

A) "Association" shall mean and refer to the Crescent Crossing Homeowners Association, Inc., and its successors and assigns.

B) "Common Property" includes all those areas located in the Development which are not contained within a Lot and which are intended for common use or are necessary or convenient to the existence, maintenance or safety of the Development. Common Property may also include any additions thereto designated by the Declarant or the Association in any subsequent amendment to this Declaration, and all improvements located on said property, which are intended to be devoted to the common use and enjoyment of members, Owners and Occupants. Common Property shall further include all public or private alleys (if any), access ways, traffic calming measures, plantings, landscaping islands or boulevards, which the City of Fitchburg is not obligated to maintain. Declarant may, by subsequent amendment or easement, designate parts of certain private lands within the Development as Common Property, rendering the Association responsible for maintenance thereof, without subjecting the same to the ownership provisions contained in Section A-3, below.

C) "Declarant" shall mean and refer to _____, LLC, a Wisconsin Limited Liability Company, and/or its successors and assigns.

D) "Lot" shall mean and refer to the individual subdivided single family lots in Crescent Crossing as described and depicted in Exhibit "A", now owned by Declarant, but which Declarant in the future intends to convey to purchasers who shall thereupon become members of the Association. The term "Property" or "Properties" shall be synonymous with the term Lot.

E) "Owner" shall mean and refer to the record owner, whether one or more persons or entities, of the fee simple title to any of the Properties described in Exhibit "A". A purchaser of any of said Properties by land contract shall be referred to as "Owner" instead of the land contract vendor.

F) "Occupant" shall mean and refer to the occupant of any of the Properties who shall either be an Owner or a lessee who holds a written lease having an initial term of twelve months or more.

G) "Subdivision" shall refer to the lands described in Exhibit "A". The term "Subdivision" is synonymous with the term "Development".

H) "City" shall refer to the City of Fitchburg, a Wisconsin Municipal Corporation.

A-2) Membership and Voting Rights.

A) **Members.** Declarant has incorporated the Association. Each Owner of a Lot shall automatically become a member of the Association. By acceptance of the Deed or other instrument of conveyance, the Owner(s) of each Lot consent to such Owner's membership in the Association whether or not specified on the deed to the Owner. Membership in the Association is appurtenant to each Lot. Each Owner of a Lot shall automatically be entitled to the benefits and subject to the burdens relating to such membership in the Association. The Association shall have authority to manage the Common Property. Persons or entities, including a land contract vendor, who hold an interest merely as security for the performance of an obligation, shall not be members of the Association. Tenants of Properties who are not Owners shall not be members of the Association. To the extent that Declarant owns any Lot, Declarant shall be a member of the Association until such ownership terminates.

B) Voting Rights.

1) Each member shall be entitled to one vote for each Lot owned except as set forth in A-2(B) (2) below.

2) When there is more than one Owner of a Lot, said Owners shall only be entitled to one collective vote for each Lot. There shall be no fractional votes or voting. When there is more than one Owner of any Lot, the vote attributable to such ownership must be cast unanimously by all the Owners of that Lot, or it shall not be considered for any purpose.

C) **Proxies.** Any Member may vote by proxy. All proxies shall be in writing and signed by the Owner or in cases where there is more than one Owner, by all Owners of the Lot.

D) **Articles of Incorporation and By-Laws.** The purposes and powers of the Association and the rights and obligations with respect to the members thereof, shall be governed by the Articles of Incorporation and By-Laws of the Association; provided, however, that such Articles of Incorporation and By-Laws shall be subject to, and shall not contravene, the terms, conditions, benefits and burdens set forth in this Declaration.

E) **First Year's Operating Expenses.** Commencing on the date established for the payment of assessments under Section A-4(C)(1), Declarant shall pay to the Association an amount equal to the estimated operating expenses of the Association for a period of one (1) year, less assessments on Lots owned by Declarant actually paid to the Association for the one (1) year period of time. Said payment may be made in a lump sum or in twelve (12) monthly installments, at Declarant's option. Prior to said date, Declarant shall be solely responsible for payment of all maintenance expenses.

A-3) Description.

A) **Responsibility for Assessments.** The following table describes the number of assessment units (an "Assessment Unit"), which are assigned to various Lots in the Development based upon their intended use at the present time. The number of Assessment Units for a particular Lot will be divided by the total number of Assessment Units in the Development to arrive at a particular Lot's percentage share ("**Percentage Interest**") of assessments for common area maintenance and other expenses, which the Association is permitted to assess to members under the Declaration. The Declarant shall be responsible for payment of assessments attributable to all Lots owned by Declarant, whether in a phase of the Development that has been developed, is currently being developed, or will be

developed in the future. For the purposes of the following table, a single family residence shall be deemed a Dwelling Unit.

| <u>Use</u> | <u>Number of Assessment Units</u> |
|---|--|
| 1) Single Family: | One (1) per Dwelling Unit. |
| 2) Twin Homes (2 unit attached residential) | One (1) per Dwelling Unit (each side defined as a dwelling unit) |

B) Percentage Interest for Condemnation or Insurance Proceeds. For the purposes of establishing an Owner's percentage of insurance proceeds or condemnation awards in the event any portion of the Common Property is completely destroyed or taken by eminent domain and is not reconstructed, each Owner shall have a percentage interest in the insurance or condemnation proceeds equal to the Percentage Interest of such Owner under paragraph A-3(A) above. Any insurance proceeds or condemnation awards subject to this section shall be paid to the Association and held by the Association for the purpose of defraying General and Special Assessments and other costs and expenses incurred by the Association.

C) Conveyance, Lease or Encumbrance of Percentage Interest. Any deed, mortgage, lease or other instrument purporting to convey, encumber or lease for a period of time in excess of one (1) year (a "**Lease**") any Lot shall be deemed to include the Owner's Percentage Interest in the Common Property and in the insurance proceeds or condemnation awards even though such interest is not expressly described or referred to therein. The conveyance, encumbrance or Lease of an Owner's Percentage Interest in the Common Property independent of the appurtenant Lot and the conveyance, encumbrance or Lease of an appurtenant Lot independent of the Owner's Percentage Interest in the Common Property shall be prohibited.

D) Ownership.

1) The Common Property shall be initially owned by the Declarant until conveyed as provided below.

2) At the time of purchase, legal title to a percentage interest in the Common Property shall be deemed conveyed with each lot to an Owner, whether or not specified on the deed to the Owner. Legal title to the percentage interest in the Common Property shall be deemed conveyed with any subsequent conveyance of a Lot whether or not specifically stated. Taxes, assessments or other charges on the Common Property may be divided according to each Owner's Percentage Interest by the taxing authority or may be an assessment by the Association against each of the Lots in an amount equal to the Percentage Interest attributable to such Lot.

3) The Common Property shall be conveyed to the Association by the Declarant. The Association shall be responsible for the payment of any and all present and future general taxes, assessments or other charges against any portion of the Common Property owned by the Association. General property taxes, assessments and other charges shall be prorated between the Declarant and the Association based on the date of conveyance by the Declarant to the Association.

E) Damage or Destruction of Common Property by Owner. In the event any Common Property is damaged or destroyed by an Owner or any of his guests, lessees, tenants, licensees, agents or member(s) of his family, including pets, said Owner does hereby irrevocably authorize the

Association to repair said damage. The Association shall repair and restore any damaged area to its former condition. The amount necessary for said repair shall become a special assessment upon the Property of said Owner.

A-4) Maintenance of Common Property

A) Maintenance Requirements.

1) **Responsible Party.** Declarant shall initially provide for the care, operation, management, maintenance and repair of the Common Property, until the Common Property is conveyed as provided herein. After such time, the Association shall provide for the care, operation, management, maintenance and repair of the Common Property and shall keep the Common Property maintained in good and safe condition, and in compliance with the terms of the Agreement.

2) **General Responsibilities.** Maintenance shall include, but not be limited to, responsibility for landscaping and lawn care, trash removal in the alleyways, snow removal including shoveling with particular attention being paid to cross walk ramps and islands, improvements to common areas, upkeep of stormwater management facilities which may include detention basins and drainage swales, common property lighting and/or other common property utility charges and any special street design features or traffic calming features.

3) **Specific Responsibilities.** Certain streets within the Property may include special traffic islands and traffic calming measures within the public right-of-way. The Association shall be responsible, at the Association's sole cost and expense, for the maintenance and upkeep of such physical traffic measures. Such maintenance and upkeep shall be performed at the discretion of the Association except to the extent required by the City, and shall include landscaping, snow and ice removal. If the special street design features or landscaping are not maintained, the City will give notice to the Association that it is not being maintained. If the Association does not respond to the notice within sixty (60) days, the City may modify the physical traffic measures to minimize maintenance needs; including replacing landscaped surfaces with asphalt. The Association and persons involved with the maintenance and upkeep of the special traffic measures shall indemnify and hold harmless the City and its boards and commissions, and their officers, agents and employees from and against all claims, demands, loss or liability of any kind, type or description, related to the maintenance and upkeep of the special traffic measures.

4) In order to carry out its maintenance obligations, the Association may enter into a long-term contract (i.e., no less than ten (10) years) with a reputable property management company ("**Management Company**"), pursuant to which contract the Management Company shall assume the maintenance obligations of the Association as provided herein.

5) Any and all expenses incurred by the Management Company, on behalf of and pursuant to its contract with the Association, in connection with the management and maintenance of the Common Property and administration of the Association shall be deemed to be common expenses ("**Common Expenses**"), including, without limitation, expenses incurred for: landscaping and lawn care; snow shoveling and plowing; trash removal in alleyways; improvements to the Common Property; common grounds security lighting; municipal utility services for Common Property enforcement of this Declaration (including attorneys' fees); and maintenance and management salaries and wages.

B) Maintenance and Conditions of Private Alleys

1) All maintenance, replacement and repairs for Outlots 1 and 7-9 shall be the responsibility and obligation of the Declarant until conveyed to the Association, at which time the Association shall assume responsibility.

The obligation for maintenance, replacement and repairs of the aforesaid Outlots shall include, without limitation:

- a) Maintaining the alleyways in good order and repair, with the type of surfacing materials originally installed or such substitute as shall in all respects be equal in quality, use and durability; and
- b) Removing all litter, ice and snow, mud and sand, debris and refuse, and sweeping the surfaces to the extent reasonably necessary to keep the surfaces in a reasonably clean condition; and
- c) Paying for the real estate taxes and assessments and other governmental impositions related to the easements, and procuring and paying for such insurance for the easements as required herein.
- d) Complying with all terms, covenants and conditions of the Agreement, including but not limited to maintaining the insurance required under said Agreement. All terms, covenants and conditions of the Agreement are incorporated in this Declaration by reference as if fully set forth herein.

C) **Assessments.**

1) The Association, or the Management Company, on its behalf, shall levy annual general assessments (“**General Assessments**”) against each Lot beginning January 1 of every year for the purpose of maintaining a fund from which Common Expenses may be paid. The General Assessments against each Lot shall be assessed according to their Percentage Interests in the Common Property. General Assessments shall be due in advance on the first day of each year, or in such other manner as the Association may set forth in the Bylaws. Any General Assessment not paid when due shall bear annual interest at a rate of ten percent (10%) until paid and, together with interest, collection costs, and reasonable attorneys’ fees, shall constitute a lien on the Lot on which it is assessed.

2) The Association, or the Management Company, on behalf of and pursuant to its contract with the Association, may, whenever necessary or appropriate, levy special assessments (“**Special Assessments**”) against the Lots for deficiencies in the case of destruction or condemnation, for defraying the cost of improvements to the Common Property or for any other purpose for which the Association and/or the Management Company may determine a Special Assessment is necessary or appropriate for the improvement or benefit of the Subdivision. Special Assessments shall be paid at such time and in such manner as the Association or the Management Company may determine. Any Special Assessment or installment not paid when due shall bear annual interest at a rate of ten percent (10%) until paid and, together with the interest, collection costs and reasonable attorneys' fees, shall constitute a lien on the Lot on which it is assessed.

3) The Association, or the Management Company, on behalf of and pursuant to its contract with the Association, shall have the right to collect all General and Special Assessments and such sums shall constitute a lien on such Lot. The Owner of a Lot, or any portion thereof, shall be

personally obligated to pay such charges which were assessed or accrued upon the land owned during the period of Ownership. The Association or the Management Company, on behalf of and pursuant to its contract with the Association, may commence an action against any Owner personally obligated to pay the charges or to foreclose the lien for such charge against any Lots. Any such foreclosure action may be brought at the Association election, either in the same manner as an action to foreclose a real estate mortgage, or as a proceeding to enforce a statutory maintenance lien as provided in Section 779.70, Wis. Stats., to the extent said Section is applicable. Any lien in favor of the Association/Management Company securing unpaid charges arising by virtue of this Declaration shall be subject and subordinate to the lien of any mortgage whether the mortgage is executed or recorded prior to or after the creation of such lien.

D) Subordination of the Lien to Mortgages. The lien of the assessments provided for herein shall be subordinate to the lien of any first mortgage. Sale or transfer of any Property shall not release the assessment lien. However, the sale or transfer of any Property pursuant to mortgage foreclosure or any proceeding in lieu thereof shall extinguish the lien of such assessment(s) as to payments which become due prior to such sale or transfer. No sale or transfer pursuant to foreclosure or proceedings in lieu thereof shall relieve such Property from liability from any assessments thereafter becoming due or from the lien thereof.

E) Joint and Several Liabilities of Grantor and Grantee. Upon a voluntary conveyance, the grantee of a Property shall be jointly and severally liable with the grantor for all unpaid assessments against the grantor as provided in this Declaration up to the time of conveyance, without prejudice to the grantee's right to recover from the grantor the amount paid by the grantee therefore. However, any such grantee shall be entitled to a statement from the Association setting forth the amount of such unpaid assessment and any such grantee shall not be liable for, nor shall the Property conveyed be subject to a lien for, any unpaid assessments against the grantor pursuant to this Declaration in excess of the amount therein set forth.

PART B
CONDITIONS, COVENANTS AND RESTRICTIONS

B-1) Applicability. The following provisions in this Part B shall apply to all Lots as described in Exhibit "A" and such other Lots as may, in the future, be acquired by Declarant and subjected to this Declaration, as the same may be amended from time to time, by Declarant in the sole exercise of Declarant's discretion.

B-2) Land Use And Building Type. Only the following designated uses for Lots shall be permitted:

A) Lots 1-19, 56-92 and 113-121 shall be used for single family residential purposes. No building shall be erected, altered, placed or permitted to remain on any Lot other than one detached single family dwelling unit not to exceed two and one-half stories in height. Each dwelling unit shall have an attached or detached garage of a size to be approved by the Committee, as that term is defined below. The size of a dwelling unit to be constructed on specific Lots shall not be less than the minimum size to be established hereinafter.

B) Lots 20-55 and 93-112 shall be used as 2-unit attached residential.

- C) Outlots 1 and 7-9 shall be used for private Alley and utility easement purposes for the benefit of lots 1-121. Private alley shall be maintained by the Association.
- D) Outlot 2 is proposed public pedestrian path and water main easement located in Outlot 3 and proposed to be dedicated to the public for pedestrian path and water main purposes adjacent to Lots 18 and 19.
- E) Outlots 4, 6 and 10 shall be dedicated to private open space.
- F) Outlots 3 and 5 shall be dedicated to the public for stormwater management purposes.

Uses, other than the uses set forth in this section B-2, shall not be permitted on the Lots, as applicable, without the prior written approval of the Declarant and Committee (defined in Section B-3 below), as appropriate. After Declarant control of the Association has terminated, approval from the Association and the Committee shall be required.

Except as otherwise provided herein, no buildings, signs or other structures incidental to the use of any Outlot, which have been approved in advance by the Committee, may be constructed on any Outlot.

All rights-of-way noted on the Plat shall be dedicated as permanent public streets and rights-of-way and shall be improved in accordance with agreements entered into between the Declarant and the municipality in which the Development is located.

B-3) Architectural Control. No building shall be erected, placed or altered on any Lot until the construction plans and specifications and a plan showing the location of the structure have been approved by a majority of the Architectural Control Committee (the “Committee”) as to quality of workmanship and materials, harmony of external design with existing structures, and as to location with respect to topography and finish grade elevation. There shall be a variation in building elevations on adjacent Lots. Approval shall be as provided below.

B-4) Dwellings and Landscaping. The landscaping to be installed on all Lots must meet or exceed the minimum number of points for foundation planting and cumulative total landscaping points, including foundation planting points as set forth hereafter as described in Exhibit “C”, attached hereto and incorporated herein by reference. The number of points attributable to various elements of the landscaping to be installed shall be determined by reference to Exhibit “D”, attached hereto and incorporated herein by reference and further referenced in the Design Guidelines. The structure and the minimum landscaping requirements shall be completed within nine (9) months after issuance of a building permit. Landscaping installed by the Declarant may or may not meet the minimum number of required points. All driveways shall be of concrete and shall be installed within nine (9) months after substantial completion of the structure. No outbuilding or accessory building of any nature shall be erected on any Lot with the exception of detached garages approved by the Committee in advance of construction. No above-ground swimming pools shall be permitted. All Lot areas not used as a building site, or under cultivation as a family garden, shall be planted with grass seed or shall be sodded, and shall be maintained on a regular seasonal basis, including mowing of a frequency of not less than once every fourteen (14) days during the lawn growing season. Maintenance of all improvements on a Lot shall be performed by the Owner. Maintenance shall include, but not be limited to, watering, pruning and routine fertilizing and mulching of all plantings and plant beds, replacement of dead, dying and/or diseased trees and shrubs, prompt removal of weeds, trash and debris from plant beds and areas adjacent to shrubs and trees so as to keep said landscaping in a healthy, attractive and neat condition.

If the Owner of any Lot, after reasonable notice, fails or refuses to install landscaping as described herein, or maintain it as required above, the Committee, through its duly authorized agents or employees, shall have the right to enter upon said Lot at reasonable hours to perform said landscaping and/or maintenance. The costs of the materials and labor to perform such landscaping and/or maintenance shall be assessed against said Lot in accordance with the terms of Section A-4 (B)(2) above, which assessment may be foreclosed or collected in accordance with the terms hereof or collected as provided herein.

B-5) Vehicle and/or Equipment Storage. No inoperable, dilapidated or junk vehicles of any nature may be kept upon any Lot except in a fully enclosed garage. The exterior storage of boats, trailers, travel trailers, campers, motorcycles, recreational vehicles, automobiles or trucks, portable moving and storage containers, mini storage or on-site storage containers (collectively, without limitation by reason of enumeration “**Equipment**”), of any nature is prohibited whether or not screened from public view. No Equipment shall be parked or stored on lawns. The temporary storage of vehicles in a drive area for the purpose of loading or unloading for a period not to exceed twelve (12) hours is permitted. No commercial vehicles, including trucks, semi-trailers, trailers, may be stored or parked overnight on or in front of said Lots except in an enclosed garage

B-6) Construction On Adjoining Lots. Nothing contained herein shall be construed to prohibit the construction of a residential dwelling or private garage partially on one Lot and partially on an adjoining Lot without regard to side yards between adjoining Lots, provided that all such Lots are owned by the same person or persons.

B-7) Easements.

A) No structure, planting, or other materials shall be placed or permitted to remain within any easement of record (an “**Easement**”) if any, which may damage or interfere with the installation and maintenance of utilities, or which may change, obstruct or retard the flow of water or the direction of such flow through the Easement or through such other drainage channels or swales that may have been created by the Plat or otherwise. The Easements located on each Lot and all improvements therein shall be maintained continuously by the owner of the Lot, except for those improvements for which a public authority or utility company is responsible.

B) The Intra-block drainage Easement shall be graded with the construction of each principal structure in accordance with the approved Stormwater Drainage Plan on file with the City Engineer and the Zoning Administration, as amended in accordance with the Fitchburg General Ordinances.

C) Public utility easements as set forth on the Plat are for the use of public and private utilities having the right-of-way to serve the area.

D) **Establishment of Easements.** The Agreement grants for the benefit of each owner of a Lot, a perpetual, non-exclusive right, privilege and easement, in common with other Owners, appurtenant to the Lot to a private alleyway having a width of twenty-four (24’) feet, as shown on the Plat, for pedestrian and vehicular ingress and egress purposes to and from the Lots identified in the table below:

Benefitted Lots
Lots 1-55

Outlots Providing Alley Access to Benefitted Lots
Outlot 1

| | |
|-------------|----------|
| Lots 56-84 | Outlot 7 |
| Lots 85-92 | Outlot 8 |
| Lots 93-121 | Outlot 9 |

The foregoing easements are for the use of each such owner of Lots within the Plat, and their successors and assigns, and their employees, agents, visitors, guests, licensees, tenants and invitees. The aforesaid easements are subject to any utility, stormwater or other easements shown on the Plat, or referred to in the notes thereon. No Lot owner shall impede, obstruct or interfere with the use thereof by any other person or entity authorized to use such easements. No building shall be erected upon or placed on such easements. Outlots 1 and 7-9 may be herein referred to as the "**Outlots**".

E) Temporary Construction Easement. Each Lot which has been made subject to this Declaration (for the purposes of this paragraph each Lot described herein shall be referred to as the "**Primary Lot**") is hereby made subject to a temporary, non-exclusive easement over, under, upon, across and through so much of the side yards of the Primary Lot as may be necessary for the safe and code compliant construction of a basement, including but not limited to footings, foundation and basement walls, on the adjoining Lot (the "**Adjoining Lot**"). The purpose of this Temporary Construction Easement is to permit Declarant to adequately slope and provide lateral support to the walls of the basement excavation in question so as to protect against cave-ins and loss of lateral support, and it shall be broadly construed to effectuate such purpose. This Temporary Construction Easement shall remain in effect for so long as it is needed to permit construction of the basement on the Adjoining Lot in a safe and code compliant manner. After completion, Declarant shall backfill the excavated area, compact such backfill in accordance with good construction practices, and restore the area affected by this easement to the condition existing immediately preceding the excavation, including replacement of sod, trees, shrubs and other landscaping, at no expense to the Owner of the Adjoining Lot (collectively "**Restoration**"). This Temporary Construction Easement shall, without further notice, terminate upon completion of said Restoration." This Temporary Construction Easement shall, without further notice, terminate upon completion of said Restoration.

F) Multi-User Mailboxes Easement. Based on new, recently adopted requirements of the United States Postal Service, this neighborhood will receive mail by using CBU's (cluster box units) instead of curb side mailboxes on newly constructed homesites. These new requirements will phase out curb side mailboxes nationwide solely at the Postal Service's discretion. Certain Lots will feature CBU's and will be determined by phase as constructed and will be noted in the Neighborhood Disclosure Addendum A to be received by Buyer at the time a Sales Contract is signed. There will be a recorded Multi-User Mailbox Easement for such Lots. All maintenance (concrete pad repair and replacement, CBU and snow removal around the CBU) shall be the sole responsibility of the Association.

G) Outlots 4-5 and a portion of Outlot 10 shall have a six foot (6') wide Ameritech Easement.

H) Outlots 3 and 10 shall have a one hundred foot (100') wide American Transmission Company (ATC) easement. We advise all property owners to familiarize themselves with the poles and voltage by reviewing information at www.atcllc.com.

D) Outlot 4 shall have a thirty foot (30') wide public water and sanitary sewer easement.

J) A portion of Outlot 10 shall have a twenty foot (20') wide public pedestrian and bike path easement.

B-8) Slope and Swale Areas.

A) The graded slopes and swales as established by Declarant shall remain as permanent. Within these slopes and swales, no structure, planting or other material shall be placed or permitted to remain, or other activities undertaken which may damage or interfere with established slope and swale ratios, create erosion or sliding problems or which may change the direction of flow of drainage channels or obstruct or retard the flow of water through drainage channels. The slopes and swales of each Lot and all improvements in them shall be maintained continuously by the Owner of a Lot, at the Owner's sole expense, except for those improvements for which a public authority or utility company is responsible.

B) In order to control run off, all down spouts and down spout extenders are to drain into a permeable area such as grass or a planting bed.

C) Declarant and the City have agreed to a certain Storm Water Management Plan. In the event of conflict between any plans and such Storm Water Management Plan, the Storm Water Management Plan shall control. Declarant and the Association shall each have the right to enter upon any Lot at any time for the purpose of inspection, maintenance or correction of any drainage condition and the Lot Owner shall be responsible for the cost thereof.

D) Any disputes relating to drainage swales, drainage or other surface water issues, shall be resolved by the Board of Directors of the Association, which may seek the advice of the City Engineer of the City. The Association shall establish procedures by which such decisions can be heard by the Board of Directors and decided by said Board.

B-9) Nuisances. No noxious or offensive activity shall be carried on upon any Lot, nor shall anything be done thereon which may be or may become an annoyance or nuisance to the neighborhood or which may have a detrimental effect on the value of other Lots and/or improvements.

B-10) Temporary Structures. No structure of a temporary character, trailer, basement, tent, shack, garage, barn or other outbuilding shall be used on any Lot at any time as a residence, either temporarily or permanently.

B-11) Signs. No sign of any kind shall be displayed to the public view on any Lot except, one professional sign of not more than one square foot, one sign of not more than six square feet advertising the property for sale or rent or signs without regard to size used by the Declarant, a builder or licensed real estate broker to advertise the property during the construction and sales period or to identify the subdivision and/or its Declarant. No signs will be located in the Outlots.

B-12) Animals. No animals, livestock or poultry of any kind shall be raised, bred or kept on any Lot, except that dogs, cats or other household pets may be kept, provided that they are not kept, bred or maintained for any commercial purpose. No animal enclosure, house, pen or fences or similar device shall be placed on any Lot without the prior written approval of the Committee which may require special landscaping and screening.

B-13) Garbage and Refuse Disposal. No Lot shall be used or maintained as a dumping ground for rubbish. Trash, garbage or other waste shall not be kept except in sanitary containers. No

incinerators shall be permitted. Other equipment for the storage or disposal of such material shall be kept in a clean and sanitary condition. No trash, building materials, debris, leaves, lawn clippings, rocks or earth shall be placed in any Outlot.

B-14) Sight Distance at Intersections. No fence, wall, hedge or shrub planting which obstructs sight lines at elevations between 30” and 72” above the roadways shall be placed or permitted to remain on any corner Lot within the triangular area formed by the street property lines and a line connecting them at points twenty five (25) feet from the intersection of the street lines, or in the case of a rounded property corner, from the intersection of the street property lines extended. The same sight-line limitations shall apply on any Lot within ten (10) feet from the intersection of a street property line with the edge of a driveway or alley pavement. No tree shall be permitted to remain within such distances of such intersections unless the foliage line is maintained at sufficient height to prevent obstruction of such sight lines.

B-15) Telephone (Land Line Service). Due to updated FCC government regulations, telephone communication providers are no longer required to provide land line service to new phases. As a result, Declarant cannot guarantee that all new phases will have access to traditional land line phones. However, most of the cable company service providers have the ability to bundle in those services.

B-16) Notices to Owners. The following information is being put of record in order to give record notice to all Owners, mortgagees and other persons and entities having an interest in the Property:

A) Outlots 1 and 7-9 are alleyways intended to serve adjoining Lots for access and other lawful purposes. Restrictions on Outlots 1 and 7-9 are summarized as follows:

1) There will be no public trash, leaf or recycled material pick-up service in said Outlots, but instead, there will be one or more trash pick-up collection points designated by the Declarant to be used by Owners of a Lot bordering the Outlot in question. Trash pick-up may initially be provided by the Association and charged as an expense of the Association, but such arrangement may be changed to provide for public or some other method of trash pick-up at a future time as determined by the Declarant or the Association. All trash receptacles to include recycling receptacles must be removed from the Outlots within 24 hours after trash or recycled material pick-up.

2) Snow removal, repair and replacement of Outlots will be the responsibility of the Association.

3) Homes with garage access to an Outlot are required to have two (2) “coach” lights on each side of the garage door, which will be wired to a photo electric eye for automatic use from dusk to dawn. The lights have been pre-selected by Declarant. There are four (4) selections available. It is the Buyer’s responsibility to maintain the lights so that they are always operational.

B) Plantings, flower beds, and entry signs (including utility installations connected therewith) constructed and installed by Declarant, if any, shall be deemed a part of the Common Area. The Association is obligated to maintain any entry feature; maintenance shall include electrical charges (if any), sign repair and maintenance of the landscaping including mowing of all lawns and grass areas. The cost of maintenance of said Common Property shall be an assessment against all of the Property in the subdivision in accordance with the Declaration, for so long as such maintenance is necessary or required adversely affects the natural flow of surface or underground waters within the area permitted.

B-17) Improvements Within Easements. Any improvements (for example, fences, dog kennels, landscaping) located within any part of a Lot which is subject to a utility easement is subject to removal at the Owner's expense for utility maintenance and other reasons as determined by the party benefitted by the easement. Reinstallation of any improvement would be at the Owner's cost and would also be subject to the discretion of the party benefitted by the easement and is subject to terms and conditions as set forth on the final plat.

B-18) Lots 20-55 and 93-112 shall be subject to a Declaration of Party Wall Agreement. The Lots described are proposed twin homes which are two homes that share a party wall and roof with each other.

B-19) Lease of Units. Each Unit or any part thereof may be rented by written lease, provided that:

A) The term of any such lease shall not be less than thirty (30) days;

B) The Unit Owner has obtained the prior written approval of the Association to the proposed tenant and the terms of the proposed lease;

C) The lease contains a statement obligating all tenants to abide by this Declaration, the Articles, the Bylaws, and the Rules and Regulations, providing that the lease is subject and subordinate to the same; and

D) The lease provides that any default arising out of the tenant's failure to abide by the Declaration, the Articles, the Bylaws, and the Rules and Regulations shall be enforceable by the Association as a third-party beneficiary to the lease and that the Association shall have, in addition to all rights and remedies provided under the Declaration, the Articles, the Bylaws and the Rules and Regulations, the right to evict the tenant and/or terminate the lease should any such violation continue for a period of ten (10) days following delivery of written notice to the tenant specifying the violation.

The Association may withhold approval on any reasonable basis, including, but not limited to: the failure of the lease terms to comply with all provisions of this Declaration, the Articles, the Bylaws, and the Rules and Regulations; the past failure of the tenant or its guests to abide by all provisions of this Declaration, the Articles, the Bylaws, and the Rules and Regulations; and the past use by the tenant or its invitees or guests of any part of the Property in a manner offensive or objectionable to the Association or other occupants of the Property by reason of noise, odors, vibrations, or nuisance.

During the term of any lease of all or any part of a Unit, each Unit Owner of such Unit shall remain liable for the compliance of the Unit, such Unit Owner and all tenants of the Unit with all provisions of this Declaration, the Bylaws, and the Rules and Regulations of the Association, and shall be responsible for securing such compliance from the tenants of the Unit. The Association may require that a copy of each lease of all or any part of a Unit be filed with the Association."

PART C **ARCHITECTURAL CONTROL COMMITTEE**

C-1) Membership. Declarant shall establish an Architectural Control Committee (the "Committee") consisting of three (3) members. So long as Declarant has title to any Lot subject to this

Declaration, the Committee shall be appointed by Declarant. After Declarant no longer has title to any Lot within the Development or at such earlier time as determined by the Declarant, the initial members of the Committee shall resign and the Association shall elect three (3) Owners to serve on the Committee. At any time, Declarant may elect to surrender the selection of the members of the Committee to the Association.

A majority of the Committee may designate a representative to act for it. In the event of the death or resignation of any member of the Committee, the remaining members shall have full authority to designate a successor.

The Committee appointed hereunder shall serve for the time period specified in paragraph C-10, below. Any Committee member may resign prior to said date. Such resignation shall be effective upon receipt. If a resignation shall occur, prior to turning over control of the Committee, then the remaining members of the Committee may appoint a replacement.

C-2) Architectural Control. No structure, whether residence, accessory building, tennis or sport court, swimming pool, decks, patios, antenna (whether located on a structure or on a Lot), flag pole, wall, fence, landscaping, recreational equipment or other improvements, including exterior colors and materials to be applied to said improvements, shall be constructed, maintained or performed upon any Lot and no alteration or repainting of the exterior of a structure shall be made unless complete Architectural Review Application (“**Application**”). Plans, specification and plot plans therefore shall have been submitted to and approved in writing by a majority of the Committee. Approval shall also be required for location of improvements with respect to topography and finish grade elevation. Said Application, plans, specifications and plot plans shall show the exterior design, height, building materials and color scheme thereof, the location of the structure plotted horizontally and vertically, the location and size of driveways, the plans for required landscaping, and the grading plan. A copy of such Application, plan specifications and plot plans as finally approved shall be deposited with the Committee. The Application can be found on the Veridian Homes website www.veridianhomes.com. Select Homeowner Resources (located on the top toolbar), select Architectural Control Committee and select the appropriate application for your request.

C-3) Plan Review. The Committee shall review said Application, plans and specifications as to quality of workmanship and materials, harmony of external design with existing or proposed structures and as to location with respect to topography and finish grade elevation. The Committee shall use the guidelines set forth in this Declaration as an aid in exercising its architectural control responsibilities hereunder, but nothing contained herein or therein shall limit the Committee’s discretion to grant variances from or make changes to, the guidelines, as they shall determine in the sole exercise of their discretion.

C-4) Procedure.

A) Neither the members of the Committee nor its designated representative shall be entitled to any compensation for services performed pursuant to this covenant for the initial approval of a residential structure. Thereafter, said Committee may charge a “request for action” or “approval” fee not to exceed Fifty and no/100 Dollars (\$50.00) for each such request or approval. The Committee’s approval or disapproval, as required in these Covenants, shall be in writing. In the event the Committee fails to provide, in writing, approval or disapproval within thirty (30) days after application, plans and specifications or any other matters requiring approval have been submitted to it, the request shall be deemed denied.

B) A submission will not be complete, and the thirty (30)-day approval time, as applicable, set forth above shall not commence until all documents required herein have been submitted. All such submissions shall be made to the Committee at the address set forth in this Declaration or to such other address that the Committee may designate.

C) The Committee shall have the sole right to reject any Application and plans which, in the judgment and sole opinion of a majority of its members are not in conformity with this Declaration; or are not desirable for aesthetic reasons; or are not in harmony with buildings located on the surrounding Lots; or are not in conformity with the general purposes of this Declaration.

D) The Committee shall exercise its sole approval authority and discretion in good faith and each Owner, by acceptance of a deed to, or any other interest in, a Lot, agrees to hold the Committee harmless from any perceived discrepancies in the Committee's good-faith performance of its duties. Refusal of approval of plans by the Committee may be based on any grounds, including purely aesthetic grounds, which in the sole discretion of the Committee shall be deemed sufficient.

E) The Committee may set its own operating procedures consistent with this Declaration and any limitations hereafter imposed by the Association. The costs of operating the Committee shall be assessed by the Association as Common Property expenses, except as permitted below. The Committee may engage consultants (e.g., architects, engineers or attorneys) either on a general or on a case-by-case basis, and the costs thereof may be charged to an applicant. The members of the Committee shall not draw any compensation for serving thereon but may be reimbursed for expenses incurred in performing their duties. All funds relating to the Committee shall be handled by the Association.

C-5) Separate City Approval. Matters which require approval of the Committee may also require approval of the City. Obtaining approval from the Committee and the City is solely the responsibility of the Owner desiring approval. Approval of Plans by the Committee shall not be deemed approval by the City and approval by the City shall not be deemed approval by the Committee.

C-6) Records. Until such time as a replacement Committee is designated, all plans, applications and requests shall be submitted to said Committee at the following address:

Crescent Crossing Homeowners Association, Inc.
Architectural Control Committee
6801 South Towne Drive
Madison, Wisconsin 53713
acc@veridianhomes.com

C-7) Committee Liability. Neither the Committee nor any member thereof shall be liable for damages to any person submitting request for approval or to any Owner of any Lot by reason of any action, failure to act, approval, disapproval or failure to approve or disapprove with regard to such requests. The Committee is not responsible for ensuring that the application and plans submitted by an Owner are in compliance with applicable laws, rules, regulations, ordinances or customary and typical building practices. The Committee does not review plans for structural design.

C-8) Indemnification. Each member or former member of the Committee, together with the personal representatives and heirs of each such person, shall be indemnified by the Association against all loss, costs, damages and expenses, including reasonable attorney's fees, asserted against, incurred by or imposed in connection with or resulting from any claim, action, suit or proceeding, including criminal

proceedings, to which such person is made or threatened to be made a party by reason of service as a member thereof, except as to matters resulting in a final determination of gross negligence or willful misconduct on the part of such member. In the event of settlement of such proceeding, indemnification shall be provided only in connection with such matters covered by the settlement as to which the Association is advised by counsel that the person to be indemnified has not been guilty of gross negligence or willful misconduct in the performance of such person as a member in the matter involved. This right of indemnification shall be in addition to all other rights and defenses. All liabilities, losses, damages, costs and expenses incurred or suffered by the Association in connection with this indemnification shall be a Common Property expense. Nothing in this Section C-8 shall be deemed an indemnification of such person with respect to such person's status as an Owner, occupant or otherwise.

C-9) Variance. The Committee shall have the power and absolute discretion to authorize a variance from any of the requirements of this Declaration if it finds that the strict application thereof would, in its sole discretion and opinion, result in difficulties or undue hardship to the Lot owner or in the event the architecture of the proposed Lot improvement is such as to present, in its opinion, a particularly pleasing appearance compatible with other houses in the development.

C-10) Successor to Committee. Declarant may turn over control of the Committee to the Members of the Association at any time, and shall turn over control when Declarant no longer has any ownership interest in the Property. At such time as Declarant turns over Committee control, the Association's Board of Directors shall designate not less than three (3) or more than five (5) Members of the Association to serve and act as the Committee for all purposes hereunder.

PART D
DESIGN GUIDELINES

D-1) Single Family Dwelling Units / Twin Home Dwelling Units.

A) Dwelling unit siting, form and construction shall be in accordance with PDD documents approved by City of Fitchburg as applicable to this development.

B) **Architectural Character.** Architecture within the Development will be developed with a variety of American vernacular architectural styles in mind. These architectural styles, while not a comprehensive list, will offer a unique mixture of styles for the development, and will be applied with proportions and character in mind. The overall character of the development will be created so that the architectural styles are compatible and the overall cohesion of styles will help foster a unique setting without stifling the architectural creativity on the individual building level, creating a varied but integrated community. The following examples of styles are permitted:

| | | | | |
|---------|-----------|------------------------|-----------|----------------------|
| Cottage | Craftsman | Four Square | Farmhouse | Modern |
| Prairie | Classical | Traditional Shingle | Victorian | Southern Traditional |

The requirements as itemized in the following section will be used as applicable to the context of the specific architectural style. Declarant reserves the right to grant variances in its sole discretion. Where city zoning is more restrictive, such requirements will govern.

C) **Front Porch.** Front porches are encouraged as both visual and functional design elements with style consistent with the overall architectural style of the home. Minimum standard porch design details include the following; porch posts or alternate per plan, porch balustrades, when provided,

of nominal 2" x 2" square wood at a maximum of six inches (6") on center; and newel posts that are compatible with the design of the column posts. Porch columns and railings shall be painted to match the trim color of the house.

D) Garage.

1) Garages shall be provided in accordance with PDD documents and specific unit plans.

2) The garage door shall be a raised panel design painted to match the siding on the home. The use of windows in the door, appropriate to the architectural style, is encouraged. The maximum single garage door size is 8' x 18".

E) Ornamental Design Elements.

1) Ornamental design elements, such as dormers, shutters, window wrap window grids, gable vents, pilasters, pediments, etc., shall be used in a manner consistent with the overall architectural style of the home and with emphasis on elevations exposed to public space.

2) Window wrap or shutters and window grids are required on front and other primary elevations facing a public space. Gable vents, 5" horizontal vinyl trim, and/or eyebrow roofs are required on front elevation gables greater than 14'-0" in width and are encouraged on other gables as deemed appropriate by the Architectural Control Committee.

3) The shutters shall be wood or polystyrene with colors as approved by the Architectural Control Committee or of other material or color as deemed acceptable by the Architectural Control Committee. Panel or louver design shutters shall be used as appropriate to home materials & style.

4) The window wrap and corner trim shall be minimum 3½" vinyl or composite material as approved by the Architectural Control Committee and used with box outs or when part of the standard plan.

F) Roof/Facias/Soffits/Eaves.

1. Roof Standards:

a) Roof design must be consistent with the overall architectural style of the home. Roof forms and pitches as established on individual styles may not be altered without approval by the Architectural Control Committee.

b) Roof material shall be Owens Corning Oakridge 30 architectural shingle or equal and in colors as approved by the Architectural Control Committee. Rubber roofing is allowed on flat roof areas and metal roofing is allowed on feature elements.

c) Use of an eyebrow roof or projecting gable is required at brick walls not extending into a gable and are encouraged, as appropriate, at double gable returns and porch column caps.

d) Hip roof design, porches or other elements deemed appropriate by the Architectural Control Committee may be used in lieu of specific gable requirements.

2. Fascia, Soffit and Eave Standards:

- a) Facia shall be 6” minimum aluminum with colors as approved by the Architectural Control Committee, wood or composite material may be used when appropriate to the architectural style.
- b) Aluminum soffit and eave color shall match facia.
- c) A minimum 12” overhang is required at typical eaves and gable ends. However, 6” is allowable with projections less than 6’-0” in width, such as the fireplace chase, dormers and small bay windows. Larger overhangs may be required as appropriate to the architectural style.

G) Exterior Wall Surfaces.

1) Siding material shall be premium vinyl or composite material as approved by the Architectural Control Committee. Shingle or vertical board and batten siding is encouraged for accent areas appropriate to the style of the home. Colors shall be approved by the Architectural Control Committee.

2) Windows may be vinyl; vinyl clad, aluminum clad or wood with colors as approved by the Architectural Control Committee.

3) Variation of wall planes on primary elevations is encouraged as appropriate to architectural style and building scale. A front porch per item © may also be used to provide front elevation articulation as appropriate..

4) Any elevations facing public streets or spaces shall have a minimum of three (3) windows with window grills and wrap trim or shutters and gable trim detail as appropriate. Front door and garage windows may be included per specific building design.

5) The use of brick or stone is encouraged as appropriate to architectural style. When brick is used, it shall be on full wall surfaces from foundation to eaves or on a two-story elevation at least to the second floor windowsill line. When brick is used, soldier course window heads and rowlock sills are required. Additional details (i.e. projecting belt course and projecting corner accents) are encouraged as appropriate. Stone may be used as full wall surfaces or as a base course to first floor sill line. Brick or stone facing must return a minimum of 2’-4” when terminated at an outside corner.

6) Brick or stone material and color selections shall be as approved by the Committee and harmonious with overall neighborhood palette, as well as with the specific home design and be used consistently on all elevations.

7) **Colors.** The Declarant or the Architectural Control Committee, whichever is then applicable shall approve the trim, siding and roofing colors to assure the most aesthetic combination for a particular house as well as for the other Lots in the Plat. Any subsequent changes in such colors shall be approved by the Declarant or Committee, whichever is then applicable.

8) **Chimneys, facia and soffits.** All chimneys and exterior flues shall be enclosed using brick, stone, stucco or siding material.

D-2) Other Improvements.

A) Fences All fencing must receive prior written approval of the Committee and shall comply with any requirements set out below. The Committee may also require the installation and maintenance of landscape materials for screening and aesthetic purposes. All fence material shall be constructed of vinyl. Zoning approval and/or building permit from the City may be required to construct fencing. Committee approval does not supercede the need for any municipal approvals or permits.

- 1) The fence style required is the PlyGem Stratford Vinyl, Exhibit “E”.
 - a) All fencing shall be erected finish side out (i.e. pickets on the outside of the rail facing the street or neighboring lot).
 - b) Posts shall be spaced a minimum of 72” and a maximum of 96” on center. Rails shall be discontinuous and abut into the posts.
 - c) Gates are permitted and shall be consistent with the fencing style. All gates shall open into the lot. Gates may be required for access to utility easements.
 - d) Fencing color by PlyGem Fence/Railing of Sandstone is the only color permitted.
- 2) Appropriate uses of fencing:
 - a) Fencing shall be limited to rear and side yards only.
 - b) Fencing shall meet up with the corners of the home or garage and may not project past the front face of home or garage.
 - c) Only one fence is permitted along adjoining properties. Corners of adjoining properties fencing shall intersect at common corners.
 - d) Fencing at side yards of corner lots shall be placed a minimum of 6 inches from the property line (approximately 1 foot from sidewalk) for all zoning classifications.
- 3) Inappropriate use of fencing:
 - a) Fencing in front yards shall not be permitted.
 - b) Fencing shall not occur in freestanding segments or be placed arbitrarily.
 - c) Fencing shall not meet porch or deck corners.
 - d) Fencing shall not interfere with utility equipment. Your utility

companies shall be consulted for current requirements and the most restrictive shall apply.

B) Decks. All decks must receive prior written approval of the Committee and shall comply with any requirements set out below. The Committee may also require the installation and maintenance of landscape materials for screening and aesthetic purposes. A zoning approval or building permit from the City may be required to construct a deck. Committee approval does not supersede the need for any municipal approvals or permits.

- 1) Appropriate deck design shall incorporate the following criteria:
 - a) Deck(s) shall be proportionate in size to the footprint of the dwelling
 - b) Deck(s) shall be proportionate in length and width
 - c) Deck(s) shall not project past the rear or side yard setbacks
 - d) Deck(s) at side yards of corner lots may not project past the corner of the home or garage for that side facing the street.
 - e) Deck(s) must be stained or painted
- 2) Inappropriate deck design:
 - a) Deck(s) in front yards shall not be permitted.
 - b) Deck(s) shall not occur in freestanding segments or be placed arbitrarily on the lot.
 - c) Deck(s) shall not interfere with utility equipment. Your utility companies shall be consulted for current requirements and the most restrictive shall apply.

C) Kennels/Runs. All dog kennels or dog runs must receive prior written approval of the Committee and shall comply with any requirements set out below. The Committee may also require the installation and maintenance of landscape materials for screening and aesthetic purposes. Zoning approval and/or building permit from the City may be required to construct kennels/runs and fencing. Committee approval does not supersede the need for any municipal approvals or permits.

- 1) Fencing surrounding a kennel or run must consist of vinyl. The fence style required is the PlyGem Stratford Vinyl, Exhibit "E".
 - a) All fencing shall be erected finish side out, i.e. pickets on the outside of the rail facing the street or neighboring lot.
 - b) Posts shall be spaced a minimum of 72" and a maximum of 96" on center. Rails shall be discontinuous and abut into the posts.
 - c) Gates are permitted and shall be consistent with the fencing style. All gates shall open out from the kennel or run.
 - d) Fencing color by PlyGem Fence/Railing of Sandstone is the only color permitted.

- 2) Appropriate placement of kennels or runs:
 - a) Kennel or run shall be limited to rear yard only and shall be adjacent to the home.
 - b) Kennel or run shall meet up with the corners of the home or garage and may not project past the face of home or garage.
 - c) Only one kennel or run is permitted per Lot.
 - d) Kennels must be oriented with the long side parallel to home.
- 3) Inappropriate placement of kennels or runs:
 - a) Kennel or run in front or side yards shall not be permitted.
 - b) Kennel or run shall not occur in freestanding segments or be placed arbitrarily on the lot.
 - c) Kennel or run shall not meet porch or deck corners.
 - d) Fencing shall not interfere with utility equipment. Your utility companies shall be consulted for current requirements and the most restrictive shall apply.

D) Outbuildings. No outbuilding, shed or accessory building of any nature shall be erected on any Lot, with the exception of a detached garage that is the only garage on the lot and is approved by the Committee prior to construction. Secondary units (granny flats) above detached garages may be allowed with prior written approval from the ACC.

E) Antennae/Wind Powered Electric Generators. No wind powered electric generators, exterior television, radio receiving or transmission antennae, satellite signal receiving station or dish shall be placed or maintained upon any portion of a Lot without prior written approval of the Committee.

- 1) Appropriate antennae or satellite dish placement:
 - a) Only one antennae or satellite dish shall be allowed per lot.
 - b) The location of the satellite dish can be any of the following and shall not be visible from the curb directly in front of the home:
 - i. On a pole in the backyard and located close to the home.
 - ii. Attached to the deck.
 - iii. On the rear roof line of the home.
 1. A satellite dish shall not project past the uppermost roof ridgeline. This method is not recommended by the Committee as you may have water infiltration issues if the dish is not properly installed and roof repairs may not be covered under the applicable roof

warranty.

- 2) Inappropriate antennae or satellite dish placement:
 - a) Antennae or satellite dish in front or side yards shall not be permitted.
 - b) Antennae or satellite dish shall not interfere with utility equipment.

F) Firewood Storage. No firewood or woodpile shall be kept on any lot unless it is neatly stacked, placed in the rear yard and screened from street view by plantings or a fence first approved in writing by the Committee.

G) Solar Collectors. No active solar collector or apparatus may be installed on any Lot unless such installation is first approved in writing by the Committee, which shall consider the aesthetic and sun reflection effects on neighboring structures. Solar collectors or apparatus installed flat against or parallel to the plane of the roof shall be preferred.

H) Lighting. Exterior lighting installed on any Lot shall either by indirect or of such controlled focus and intensity that such lighting will not disturb the residents of adjacent Lots.

I) Landscaping Requirements. Pursuant to Section B-4 of the Declaration of Conditions, Covenants and Restrictions, Developer hereby imposes upon all Lots described in Exhibit "A", attached hereto and incorporated herein by reference, the requirement that the Owners thereof install landscaping on such Lots which meets or exceeds the minimum number of points for landscaping set forth in Exhibit "C". The number of points attributable to various elements of the landscaping to be installed shall be determined by reference to Exhibit "D", attached hereto and incorporated herein by reference. All terms, covenants and conditions of Section B-4 of the Declaration of Conditions, Covenants and Restrictions, as amended herein, shall be applicable to the landscaping to be installed pursuant to the terms of this paragraph. Landscape installed by the Declarant may or may not meet the minimum number required.

PART E **GENERAL PROVISIONS**

E-1) Term. This Declaration shall run with the property described on Exhibit "A" attached hereto, and shall be binding on Declarant and all Owners and their successors and assigns, and all persons claiming under them for a period of twenty-five (25) years from the date recorded, after which time said Declaration shall be extended automatically for successive periods of five (5) years each unless an instrument signed by a majority of the Owners agreeing to change said Covenants in whole or in part or to terminate the same.

E-2) Enforcement. The Declarant (or either one of them if more than one), Architectural Control Committee or any Owner shall have the right to enforce by any proceedings at law or in equity all restrictions, conditions and covenants created or imposed herein, against any person or persons violating or attempting to violate any covenant, by any action to either restrain violation or to recover damages, or both including reasonable attorney fees. Failure to enforce any covenant, condition or restriction herein shall in no event be deemed a waiver of the right to do so thereafter. In the event of a violation of this Declaration the Committee shall have the right to assess and collect from the violating party a fine for such violation equal to the greater of (i) the actual damages suffered on account of the

violation, or (ii) the sum of \$100.00 per day for each day the violation remains outstanding plus (iii) all costs of collection and enforcement, including actual attorney fees.

E-3) Severability. Invalidation of any one of these covenants by judgment or court order shall in no way affect any of the other provisions which shall remain in full force and effect.

E-4) Model Homes. So long as Declarant shall own any Lot in the Development, Declarant shall be permitted to maintain model homes in the Development, including therein a sales office for the purpose of sales and marketing of its homes.

E-5) Parade of Homes and/or Condominiums. So long as Developer shall own any Lots in the Development, or condominium units in any condominium located within the Development (collectively a "Lot/Unit"). Developer reserves the right to submit some or all of said Lots/Units as a site for the Parade of Home and/or the Parade of Condominiums of the Madison Area Builders Association (the "Parade"). In the event that some or all of said Lots/Units are selected as a site for a Parade, this Declaration of Protective Covenants, Conditions and Restrictions shall, as to the Lots/Units enrolled in the Parade, for a limited period of time ending 48 hours after the conclusion of the Parade, be deemed temporarily altered and modified, to the extent necessary, to permit the Madison Area Builders Association to hold its Parade in this Development pursuant to the then current Parade Rules and Checklist of the Madison Area Builders Association. All purchasers of Lots/Units, and/or their successors and assigns, shall take title subject to this specific reservation by the Developer and shall waive all rights to object to violations of this Declaration of Protective Covenants, Conditions and Restrictions by the Developer, the Madison Area Builders Association, or any of the builders or participants in the Parade for the period of the Parade as set forth above, including the closing of any public or private streets in the Parade area. All Lot/Unit owners appoint the Developer their attorney-in-fact to execute all necessary petitions; applications and consents to facilitate said street closings for the Parade.

E-6) Governing Law. This Declaration shall be construed and enforced in accordance with the terms of the laws of the State of Wisconsin. The terms of this Declaration are not intended to replace or affect any applicable laws, ordinances, rules or regulations of the City.

E-7) Notices.

A) Notices to Declarant shall be given to Declarant at the following address: 6801 South Towne Drive, Madison, WI53713.

B) Notices to an Owner of any Lot within the Development shall be given in care of the street address of the Lot.

C) Any party may change its address by written notice given to the other parties. Party, its successors and/or assigns, may change said addresses by notice properly given hereunder.

E-8) Amendment and Release. At any time until Declarant conveys all of the Lots as described on Exhibit "A" attached hereto, or turns control of the Association over to its Members, whichever occurs first, Declarant may modify or amend this Declaration or alter or grant variances to the terms hereto, without the consent of any Member, Owner or Occupant, their Mortgagees or any other party, including the Association and its Board of Directors. These restrictions or any part thereof may be cancelled, released or amended in writing as to all of the Lots or any part thereof by the Declarant at any time until Declarant conveys all of the Lots or until the Declarant turns over control to the Committee, whichever comes first. After the Declarant has sold all of the Lots or otherwise released or assigned its

right to enforce this Declaration, then this Declaration or any part thereof may be released, cancelled, amended or waived hereof in accordance with the provisions of Section E-1, above.

E-9) No Waiver. Whenever a waiver, consent or approval is required or permitted herein, it must be express and in writing; no waiver, consent or approval shall be implied. Failure to enforce any provision of this Declaration shall not operate as a waiver of any such provision or any other provision of this Declaration.

E-10) Number and Gender. Whenever used herein, unless the context shall otherwise provide, the singular shall include the plural, the plural shall include the singular, and the use of any gender shall include all genders.

E-11) Including. Whenever used herein, the term “including” preceding a list of one or more items shall indicate that the list contains examples of a general principle and is not intended as an exhaustive listing.

E-12) Captions. The captions and article and section headings in this Declaration are intended for convenience and reference only and in no way define or limit the scope or intent of the various provisions hereof.

E-13) Remedies. All remedies herein are cumulative.

DRAFT

IN WITNESS WHEREOF, the said _____, LLC, a Wisconsin Limited Liability Company has caused these presents to be signed and sealed this ____ day of _____, 20__.

_____, LLC
By: VH Holdings, LLC, Its Sole Member

By: _____
Chris Ehlers, Authorized Signatory

STATE OF WISCONSIN)
) ss
COUNTY OF DANE)

Personally came before me this ____ day of _____, 20__, Chris Ehlers the Authorized Signatory of _____, LLC a Wisconsin Limited Liability Company, to me know to be such persons and officers who executed the foregoing instrument and acknowledged that they executed the same as such officers, by its authority for the purposes therein contained.

Notary Public
Dane County, Wisconsin
My Commission Expires: _____, 20__

DRAFT

CONSENT OF MORTGAGEE

The undersigned, _____, hereby consents to the forgoing Declaration of Conditions, Covenants and Restrictions for the plat of Crescent Crossing. This consent does not limit, restrict or affect in any way Mortgagee's rights, interest and remedies regarding Mortgagee's interest in the Property.

Dated this ____ day of _____, 20__.

By: _____

Print Name: _____

Print Title: _____

STATE OF WISCONSIN)
) SS.
COUNTY OF DANE)

Personally came before me this ____ day of _____, 20__, the above-named _____, to me known to be the person who executed the foregoing instrument and acknowledged that they executed the same for the purposes therein contained.

Notary Public, Dane County, WI
My Commission Expires:

Exhibit "A"
Legal Description

**Lots 1-121 and Outlots 1-10, Crescent Crossing, located in the City of Fitchburg, Dane
County, Wisconsin**

DRAFT

Exhibit “B”

DRAFT

EXHIBIT "C"

Total Minimum Points for Landscaping

| Lot(s) | Minimum Points for Foundation Plantings | Total Minimum Points for Landscaping |
|------------------------------|--|---|
| 1-19, 56-92, 113-121 | 350 | 500 |
| 20-55, 93-112 (twins) | 300 | 425 |

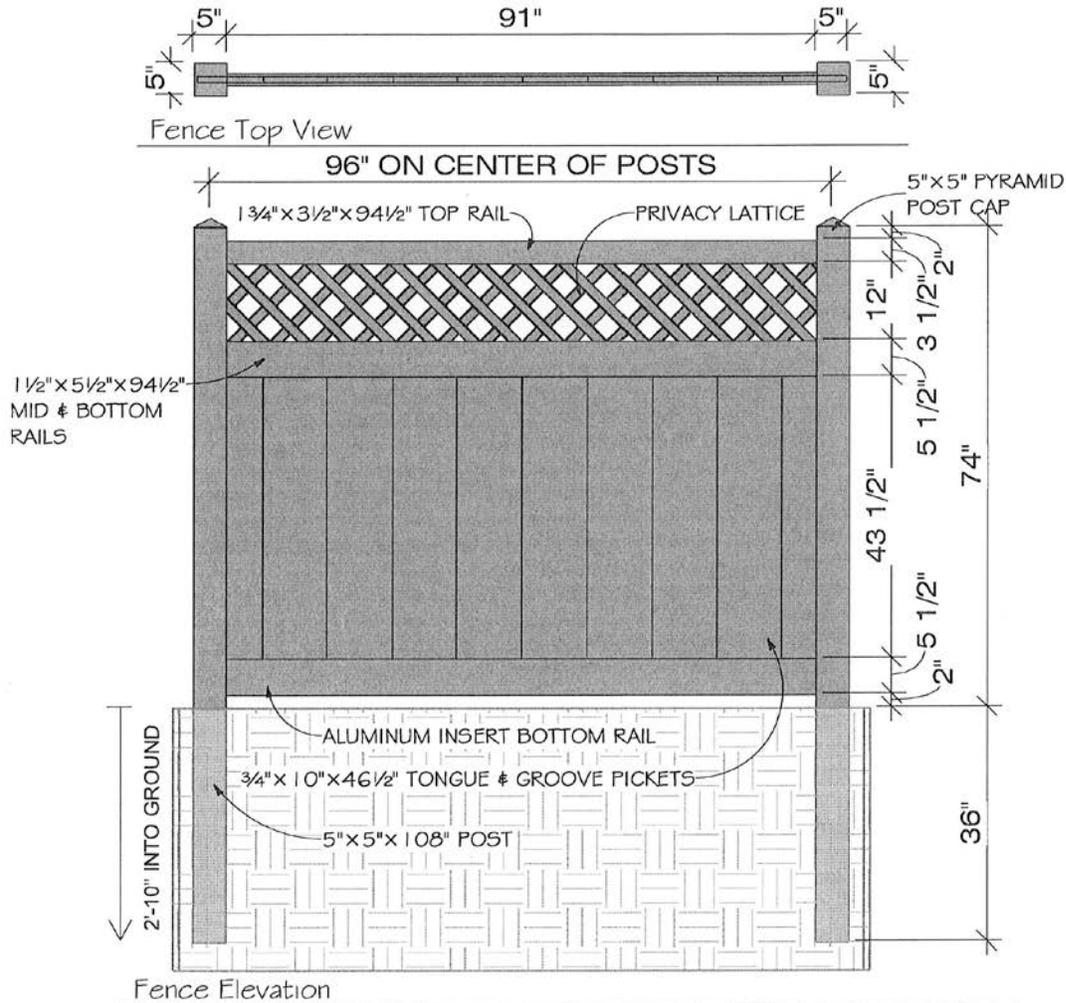
DRAFT

EXHIBIT "D"
Landscaping Elements

| Elements | Point Schedule |
|--|-----------------------|
| A) <i>Small Shade Trees (balled and burlaped)</i> (1.5"-2" caliper at 6" from the roots) | 50 |
| B) <i>Medium Shade Trees (balled and burlaped)</i> (2"-3" caliper at 6" from the roots) | 100 |
| C) <i>Large Shade Trees (balled and burlaped)</i> (3"-4" caliper at 6" from the roots) | 150 |
| D) <i>Extra-Large Shade Trees (balled and burlaped)</i> (4" + caliper at 6" from the roots) | 200 |
| E) <i>Ornamental Trees (balled and burlaped)</i> (1.5"-2" caliper at 6" from the roots) | 50 |
| F) <i>Small Evergreen Trees</i> (3' to 4.5' when planted) | 25 |
| G) <i>Medium Evergree Trees</i> (5' to 6.5' when planted) | 50 |
| H) <i>Large Evergreen Trees</i> (7' + when planted) | 100 |
| I) <i>Evergreen Shrubs</i> (18" minimum diameter) | 20 |
| J) <i>Small Deciduous Shrubs</i> (18" to 35" in diameter) | 10 |
| K) <i>Medium Deciduous Shrubs</i> (35" to 60" in diameter) | 15 |
| L) <i>Large Deciduous Shrubs (balled and burlaped)</i> (60" or greater in diameter) | 25 |
| M) <i>Decorative Retaining Walls</i> (Points are per face foot. Boulders, timbers, and stones only – no concrete walls included.) | 10 |
| N) <i>Paver Stone Walks, Paths or Patios</i> (Points per square foot – no driveways included.) | 1 |
| O) <i>Planting Beds</i> (Points per square foot – must be decorative stone or mulch.) | 1 |

The final point totals must consist of a balanced variety of the listed elements acceptable to the Architectural Control Committee. Existing vegetation, trees and shrubs may be included in the point totals if they are properly protected and maintained during the construction process and located as such on the landscape plans submitted to the Architectural Control Committee for approval.

EXHIBIT E (ALLEY REAR)



NOTE:
MANDATORY REQUIREMENTS (NO VARIANCE WILL BE ALLOWED)

- FENCE MUST BE VINYL
- VINYL COLOR: "SANDSTONE"
- FENCE STYLE IS A PLYGEM PRODUCT (PRIVACY WITH LATTICE)

- CUSTOM BUILT ON THE JOBSITE
- INSTALLED WITH METAL BRACKETS THAT ATTACH TO POST AND SCREW INTO STRINGERS



6801 South Towne Drive
 Madison, WI 53713
 Phone 608.226.3100
 Fax 608.226.0600

Viewers are advised to ignore the illegible text on this map. It is presented to show spatial relationships only.