



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:** 48 44

4. **No. Of Buildable Lots Proposed:** 48 44

5. **Zoning District:** R-L

6. **Current Owner of Property:** O'Brien Family LTD Partnership

**Address:** 662 Rovalia DR **Phone No:** (608) 848-9573

7. **Contact Person:** Debbie Beaver

**Email:** dbeaver@wmryan.com

**Address:** 5989 Monona Drive **Phone No:** (608) 729-5366

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: Charles O'Brien Charles O'Brien

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:** \_\_\_\_\_

**Ordinance Section No.** \_\_\_\_\_ **Fee Paid:** \_\_\_\_\_

**Permit Request No.** \_\_\_\_\_



November 15, 2019

Ms. Sonja Kruesel  
City Planner / Zoning Administrator  
City of Fitchburg  
Planning / Zoning Department  
5520 Lacy Road  
Fitchburg, WI 53711

Subject: Letter of Transmittal – **Second Addition to Stoner Prairie** Land Division (Final Plat) Application

Dear Ms. Kruesel:

Thank you for your continued assistance and coordination regarding the Stoner Prairie residential development proposal. Please find the following enclosed:

1 – Land Division Application	10 – 22"x30" Final Plat
1 – Final Plat Application Fee	1 – 11"x17" Final Plat

Again, thank you for your efforts, coordination and review of the Second Addition to Stoner Prairie development. If you have any questions or require additional information, please do not hesitate to contact our office.

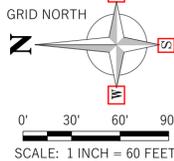
Respectfully,

**WYSER ENGINEERING, LLC**

A handwritten signature in blue ink that reads "Wade P. Wyse".

Wade P. Wyse, P.E.  
Principal – Project Manager

NORTH REFERENCE FOR THIS SURVEY AND PLAT ARE BASED ON THE WISCONSIN COORDINATE REFERENCE SYSTEM, DANE COUNTY, U.S. SURVEY FOOT, NAD 83 (2011). "WISCONSIN DANE" THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 8 BEARS N 88°56'17"E



LINE #	LENGTH	BEARING
L1	3.57'	S1°34'11"W
L2	4.00'	N1°34'11"E
L3	10.00'	S1°34'11"W

CURVE TABLE							
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH	TANGENT IN	TANGENT OUT
C1	23.56'	15.00'	90°00'00"	N46°34'11"E	21.21'	N1°34'11"E	S88°25'49"E
C2	23.56'	15.00'	90°00'00"	S46°34'11"W	21.21'	S1°34'11"W	N88°25'49"W
C3	23.56'	15.00'	90°00'00"	S43°25'49"E	21.21'	S88°25'49"E	S1°34'11"W
C4	208.99'	133.00'	90°01'53"	S43°26'45"E	188.14'	S1°34'11"W	S88°27'42"E
C5	72.21'	133.00'	31°06'26"	S13°59'02"E	71.33'	S1°34'11"W	S29°32'15"E
C6	65.95'	133.00'	28°24'39"	S43°44'35"E	65.28'	S29°32'15"E	S57°56'54"E
C7	65.95'	133.00'	28°24'39"	S72°09'14"E	65.28'	S57°56'54"E	S86°21'33"E
C8	4.88'	133.00'	2°06'09"	S87°24'38"E	4.88'	S86°21'33"E	S88°27'42"E
C9	105.28'	67.00'	90°01'53"	N43°26'45"W	94.78'	N88°27'42"W	N1°34'11"E
C10	23.55'	15.00'	89°58'07"	S46°33'15"W	21.21'	S1°34'11"W	N88°27'42"W
C11	23.57'	15.00'	90°01'53"	S43°26'45"E	21.22'	S1°34'11"W	S88°27'42"E
C12	38.10'	25.00'	87°19'42"	S45°16'26"W	34.52'	S1°36'35"W	S88°56'17"W
C13	3.87'	25.00'	8°51'55"	S6°02'33"W	3.86'	S1°36'35"W	S10°28'31"W
C14	34.24'	25.00'	78°27'47"	S49°42'24"W	31.62'	S10°28'31"W	S88°56'17"W

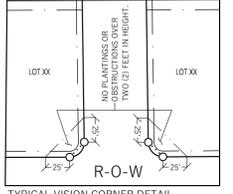
  

CENTER LINE OF RIGHT-OF-WAY CURVE TABLE							
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH	TANGENT IN	TANGENT OUT
C15	157.13'	100.00'	90°01'53"	S43°26'45"E	141.46'	S1°34'11"W	S88°27'42"E

# SECOND ADDITION TO STONER PRAIRIE

OUTLOT 6 AND 7 OF FIRST ADDITION TO STONER PRAIRIE RECORDED ON SEPTEMBER 13, 2018 IN VOLUME 60-099B OF PLATS ON PAGES 555-556 AS DOCUMENT NO. 5441003 BEING A PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWN 6 NORTH, RANGE 9 EAST, ALL IN THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

EASEMENT CURVE TABLE							
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH	TANGENT IN	TANGENT OUT
EC1	7.11'	133.00'	3°03'45"	S0°02'19"W	7.11'	S1°34'11"W	S1°29'34"E
EC2	65.10'	133.00'	28°02'42"	S15°30'54"E	64.45'	S1°29'34"E	S29°32'15"E



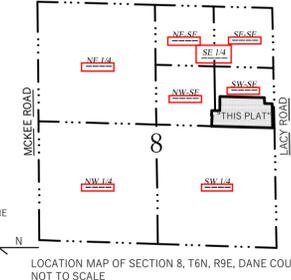
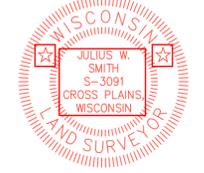
WYSER ENGINEERING  
 SURVEYED BY:  
 WYSER ENGINEERING  
 312 EAST MAIN STREET  
 MOUNT HOREB, WI 53572  
 www.wyserengineering.com

There are no objections to this plat with respect to Secs. 236.15, 236.16, 236.20 and 236.21(1) and (2), Wis. Stats. as provided by s. 236.12, Wis. Stats.

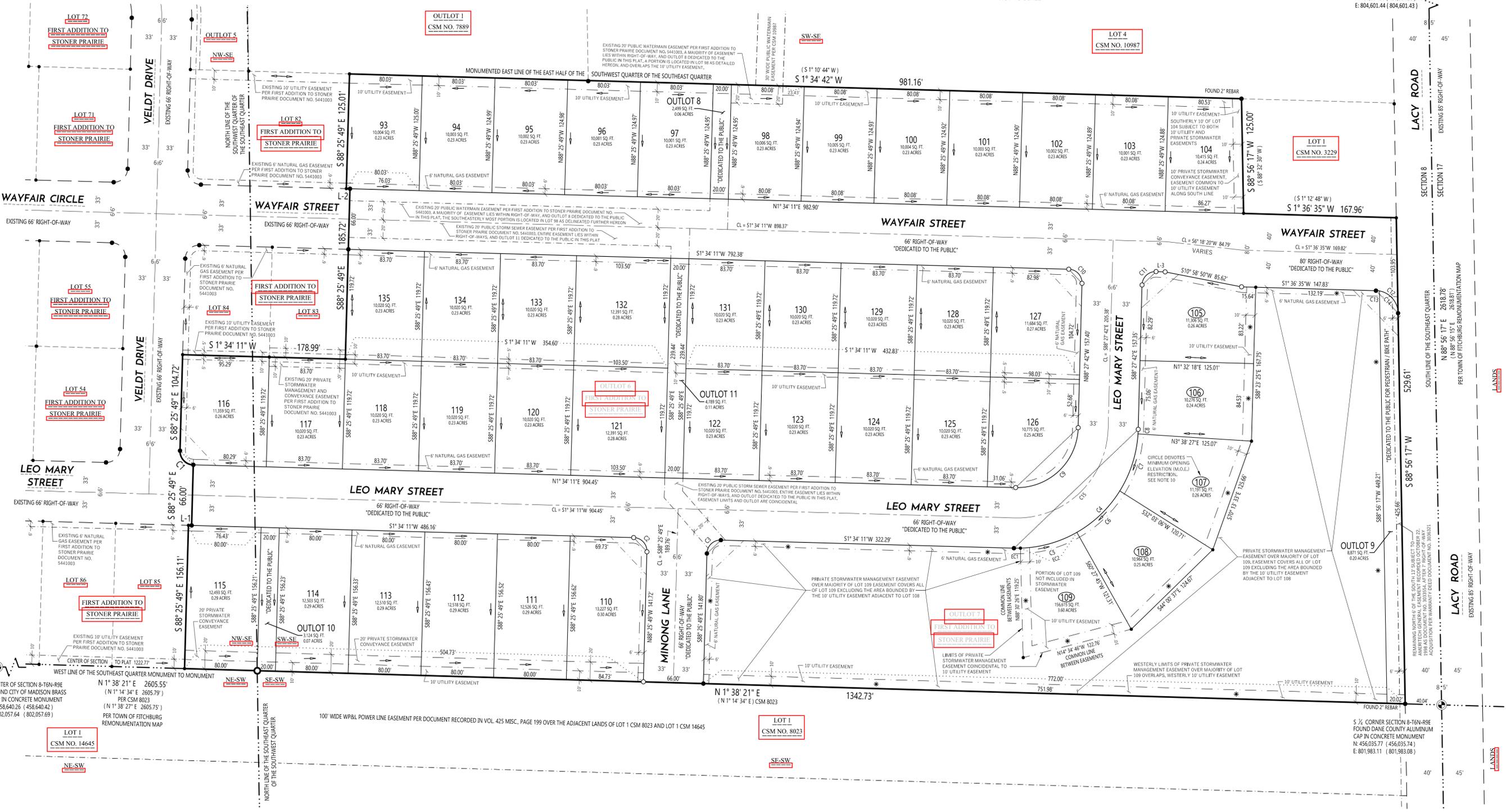
Certified \_\_\_\_\_, 20\_\_\_\_

Department of Administration

LEGEND	FOUND PLSS SECTION MONUMENT TYPE NOTED	FOUND 3/4" REBAR	FOUND 1-1/4" REBAR UNLESS NOTED	FOUND 2" IRON PIPE	SET 1-1/4" X 18" REBAR 4.30 LBS./LIN. FT.	DRAINAGE INDICATORS	RECORDED AS
(Symbol)	FOUND PLSS SECTION MONUMENT TYPE NOTED	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	FOUND 3/4" REBAR	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	FOUND 1-1/4" REBAR UNLESS NOTED	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	FOUND 2" IRON PIPE	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	SET 1-1/4" X 18" REBAR 4.30 LBS./LIN. FT.	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	DRAINAGE INDICATORS	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)
(Symbol)	RECORDED AS	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)	(Symbol)



- ### NOTES
- ALL DIMENSIONS MEASURED AND SHOWN ARE TO THE NEAREST ONE HUNDREDTH OF A FOOT; ALL ANGLES MEASURED TO THE NEAREST THREE SECONDS AND COMPUTED TO THE NEAREST ONE SECOND.
  - ALL INTERIOR LOT AND OUTLOT CORNERS NOT SHOWN, ARE MONUMENTED WITH 3/4" X 18" REBAR = 1.55 LBS./LIN. FT.
  - FINAL DATE OF FIELD WORK PERFORMED BY WYSER ENGINEERING ON NOVEMBER 8TH, 2019
  - DRAINAGE ARROWS INDICATE THE DIRECTION OF SURFACE DRAINAGE AT INDIVIDUAL PROPERTY LINES DRAINAGE SHALL BE GRADED WITH THE CONSTRUCTION OF EACH MAIN STRUCTURE AND MAINTAINED BY THE LOT OWNER UNLESS MODIFIED WITH THE APPROVAL OF THE CITY ENGINEER. FOR LOTS THAT HAVE NO SLOPE ALONG THE LOT LINE AND HAVE A PRIVATE STORMWATER MANAGEMENT AND CONVEYANCE EASEMENT WITHIN THEIR RESPECTIVE BOUNDARIES, AN \* HAS BEEN SHOWN.
  - AREAS DELINEATED AS VISION TRIANGLE AREAS SHALL HAVE NO PLANTINGS OR OBSTRUCTIONS OVER TWO (2) FEET IN HEIGHT, AND SHALL BE LOCATED 25 FEET BEYOND THE POINTS OF CURVATURE.
  - ALL ABOVE GROUND TRANSFORMERS AND PEDESTALS SHALL BE LOCATED ALONG THE REAR LOT LINES.
  - UTILITY EASEMENTS - NO POLES OR BURIED CABLES ARE TO BE PLACED SUCH THAT THE INSTALLATION WOULD DISTURB ANY SURVEY STAKE OR OBSTRUCT VISION ALONG ANY LOT LINE OR STREET LINE. THE DISTURBANCE OF A SURVEY STAKE BY ANYONE IS A VIOLATION OF S. 236.32, WISCONSIN STATUTES. UTILITY EASEMENTS AS HEREIN SET FORTH ARE FOR THE USE OF PUBLIC BODIES AND PRIVATE PUBLIC UTILITIES HAVE THE RIGHT TO SERVE THE AREA. THE FINAL GRADE ABOVE UTILITY EASEMENTS SHOWN HEREON SHALL NOT BE ALTERED BY MORE THAN (6) INCHES WITHOUT WRITTEN CONSENT OF THE UTILITIES INVOLVED.
  - ALL RIGHT-OF-WAYS DEPICTED WITHIN THE PLAT BOUNDARY ARE "DEDICATED TO THE PUBLIC".
  - ALL LOTS AND OUTLOTS SHOWN ARE ZONED R-L FOR THIS PLAT.
  - LOTS CONTAINING A CIRCLED LOT NUMBER DENOTE A RESTRICTION FOR MINIMUM LOWEST OPENING ELEVATION (M.O.E.) - 103.5' BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (12a) ADJUSTMENT (NAV88(12a)). NO BUILDING OPENING TO BE CONSTRUCTED BELOW MINIMUM.



# SECOND ADDITION TO STONER PRAIRIE

OUTLOT 6 AND 7 OF FIRST ADDITION TO STONER PRAIRIE RECORDED ON SEPTEMBER 13, 2018 IN VOLUME 60-099B OF PLATS ON PAGES 555-556 AS DOCUMENT NO. 5441003 BEING A PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWN 6 NORTH, RANGE 9 EAST, ALL IN THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

## CERTIFICATE OF CITY TREASURER

STATE OF WISCONSIN)  
DANE COUNTY) ss.

I, MISTY DODGE, BEING THE DULY ELECTED, QUALIFIED AND ACTING CITY TREASURER OF THE CITY OF FITCHBURG, DO HEREBY CERTIFY THAT IN ACCORDANCE WITH THE RECORDS IN MY OFFICE, THERE ARE NO UNPAID TAXES OR UNPAID SPECIAL ASSESSMENTS AS OF,

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, ON ANY OF THE LANDS INCLUDED IN THE PLAT OF SECOND ADDITION TO STONER PRAIRIE.

DATE \_\_\_\_\_ MISTY DODGE, CITY TREASURER

## CERTIFICATE OF COUNTY TREASURER

STATE OF WISCONSIN)  
DANE COUNTY) ss.

I, ADAM GALLAGHER, BEING THE DULY ELECTED, QUALIFIED AND ACTING COUNTY TREASURER OF DANE COUNTY, DO HEREBY CERTIFY THAT IN ACCORDANCE WITH THE RECORDS IN MY OFFICE, THERE ARE NO UNREDEEMED TAX SALES AND NO UNPAID TAXES OR SPECIAL ASSESSMENTS AS OF,

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, AFFECTING THE LANDS INCLUDED IN THE PLAT OF SECOND ADDITION TO STONER PRAIRIE.

DATE \_\_\_\_\_ ADAM GALLAGHER, COUNTY TREASURER

## CERTIFICATE OF CITY CLERK

STATE OF WISCONSIN)  
DANE COUNTY) ss.

"RESOLVED THAT THIS PLAT KNOWN AS SECOND ADDITION TO STONER PRAIRIE, LOCATED IN THE CITY OF FITCHBURG WAS HEREBY APPROVED BY RESOLUTION NO. \_\_\_\_\_, FILE NUMBER \_\_\_\_\_ ADOPTED ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, AND FURTHER RESOLVED THAT THE CONDITIONS OF SAID APPROVAL WERE FULFILLED ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, AND THAT SAID RESOLUTION FURTHER PROVIDED FOR THE ACCEPTANCE OF THOSE LANDS AND RIGHTS DEDICATED BY SAID STONER PRAIRIE FOR PUBLIC USE.

DATE \_\_\_\_\_ TRACY OLDENBURG, CITY CLERK

## OWNER'S CERTIFICATE OF DEDICATION

HDP STONER PRAIRIE, LLC AS OWNER, WE HEREBY CERTIFY THAT WE CAUSED THE LAND DESCRIBED ON THIS PLAT TO BE SURVEYED, DIVIDED, MAPPED AND DEDICATED AS REPRESENTED ON THE PLAT. WE ALSO CERTIFY THAT THIS PLAT IS REQUIRED BY S.236.10 OR S.236.12 TO BE SUBMITTED TO THE FOLLOWING FOR APPROVAL OR OBJECTION:

DEPARTMENT OF ADMINISTRATION  
COMMON COUNCIL, CITY OF FITCHBURG  
DANE COUNTY ZONING AND NATURAL RESOURCES COMMITTEE

WITNESS THE HAND AND SEAL OF SAID OWNER THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, IN PRESENCE OF:

HDP STONER PRAIRIE LLC  
BY: MANAGING MEMBER

STATE OF \_\_\_\_\_ )  
\_\_\_\_\_ COUNTY) ss.

PERSONALLY CAME BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_,

THE ABOVE NAMED \_\_\_\_\_ MANAGING MEMBER TO ME KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED THE SAME.

NOTARY PUBLIC, \_\_\_\_\_,

STATE OF \_\_\_\_\_

MY COMMISSION EXPIRES \_\_\_\_\_.

## OWNER'S CERTIFICATE OF DEDICATION

O'BRIEN FAMILY LIMITED PARTNERSHIP AS OWNER, WE HEREBY CERTIFY THAT WE CAUSED THE LAND DESCRIBED ON THIS PLAT TO BE SURVEYED, DIVIDED, MAPPED AND DEDICATED AS REPRESENTED ON THE PLAT. WE ALSO CERTIFY THAT THIS PLAT IS REQUIRED BY S.236.10 OR S.236.12 TO BE SUBMITTED TO THE FOLLOWING FOR APPROVAL OR OBJECTION:

DEPARTMENT OF ADMINISTRATION  
COMMON COUNCIL, CITY OF FITCHBURG  
DANE COUNTY ZONING AND NATURAL RESOURCES COMMITTEE

WITNESS THE HAND AND SEAL OF SAID OWNER THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, IN PRESENCE OF:

O'BRIEN FAMILY LIMITED PARTNERSHIP  
BY: MANAGING MEMBER

STATE OF WISCONSIN)  
\_\_\_\_\_ COUNTY) ss.

PERSONALLY CAME BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_,

THE ABOVE NAMED \_\_\_\_\_ MANAGING MEMBER TO ME KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED THE SAME.

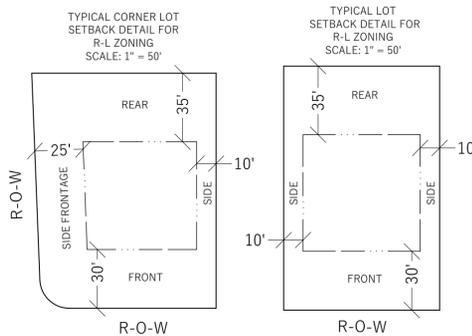
NOTARY PUBLIC, \_\_\_\_\_,

WISCONSIN

MY COMMISSION EXPIRES \_\_\_\_\_.

## PARCEL SETBACKS FOR R-L ZONING

PER CURRENT ZONING STANDARDS. SEE CITY OF FITCHBURG - CODE OF ORDINANCES CHAPTER 22 - ZONING FOR FURTHER DETAILS, MAY BE SUBJECT TO CHANGES NOT TO SCALE



## SURVEYOR'S CERTIFICATE

I, JULIUS W. SMITH, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF CHAPTER 236 OF THE WISCONSIN STATUTES, AND PROVISIONS AS STATED IN CHAPTER 24 - LAND DIVISION OF THE CITY OF FITCHBURG - CODE OF ORDINANCES AND UNDER THE DIRECTION OF WILLIAM RYAN HOMES WISCONSIN, INC., I HAVE SURVEYED, DIVIDED AND MAPPED SECOND ADDITION TO STONER PRAIRIE; THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES AND THE SUBDIVISION OF THE LAND SURVEYED; AND THAT THIS LAND IS LOCATED IN THE NW-1/4 OF THE SE-1/4 AND SW-1/4 OF THE SE-1/4 OF SECTION 8, T8N, R9E, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN, CONTAINING 36.21 ACRES OF LAND AND DESCRIBED AS FOLLOWS:

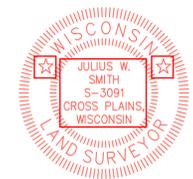
OUTLOTS 6 AND 7 OF FIRST ADDITION TO STONER PRAIRIE RECORDED ON SEPTEMBER 13, 2018 IN VOLUME 60-099B OF PLATS ON PAGES 555-556 AS DOCUMENT NO. 5441003 BEING A PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWN 6 NORTH, RANGE 9 EAST, ALL IN THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

SAID PARCEL CONTAINS 795,908 SQUARE FEET OR 18.27 ACRES

DATED THIS 14TH DAY OF NOVEMBER, 2019.

JULIUS W. SMITH, S-3091  
WISCONSIN PROFESSIONAL LAND SURVEYOR

REVISED THIS XXTH DAY OF XXXXXX, 2019.



PREPARED FOR:  
WILLIAM RYAN HOMES WISCONSIN, INC.  
5989 MONONA DRIVE  
MONONA, WI 53716



SURVEYED BY:  
WYSER ENGINEERING  
312 EAST MAIN STREET  
MOUNT HOREB, WI 53572  
www.wyserengineering.com

There are no objections to this plat with respect to Secs. 236.15, 236.16, 236.20 and 236.21(1) and (2), Wis. Stats. as provided by s. 236.12, Wis. Stats.

Certified \_\_\_\_\_, 20\_\_\_\_

Department of Administration 

OFFICE OF THE REGISTER OF DEEDS  
\_\_\_\_\_ COUNTY, WISCONSIN  
RECEIVED FOR RECORD \_\_\_\_\_  
20\_\_\_\_ AT \_\_\_\_\_ O'CLOCK \_\_\_\_\_ M AS  
DOCUMENT # \_\_\_\_\_  
IN VOL. \_\_\_\_\_ OF PLATS,  
ON PAGE(S) \_\_\_\_\_  
REGISTER OF DEEDS









File: W:\2014\140200\_Lionshare Group - O'Brien Farms\Phase III Design\14-0200\_Overall Plans\_Phase III.dwg Layout: Utility Plan User: WYSER - Z240 - WTD Plotted: Nov 14, 2019 - 2:22pm

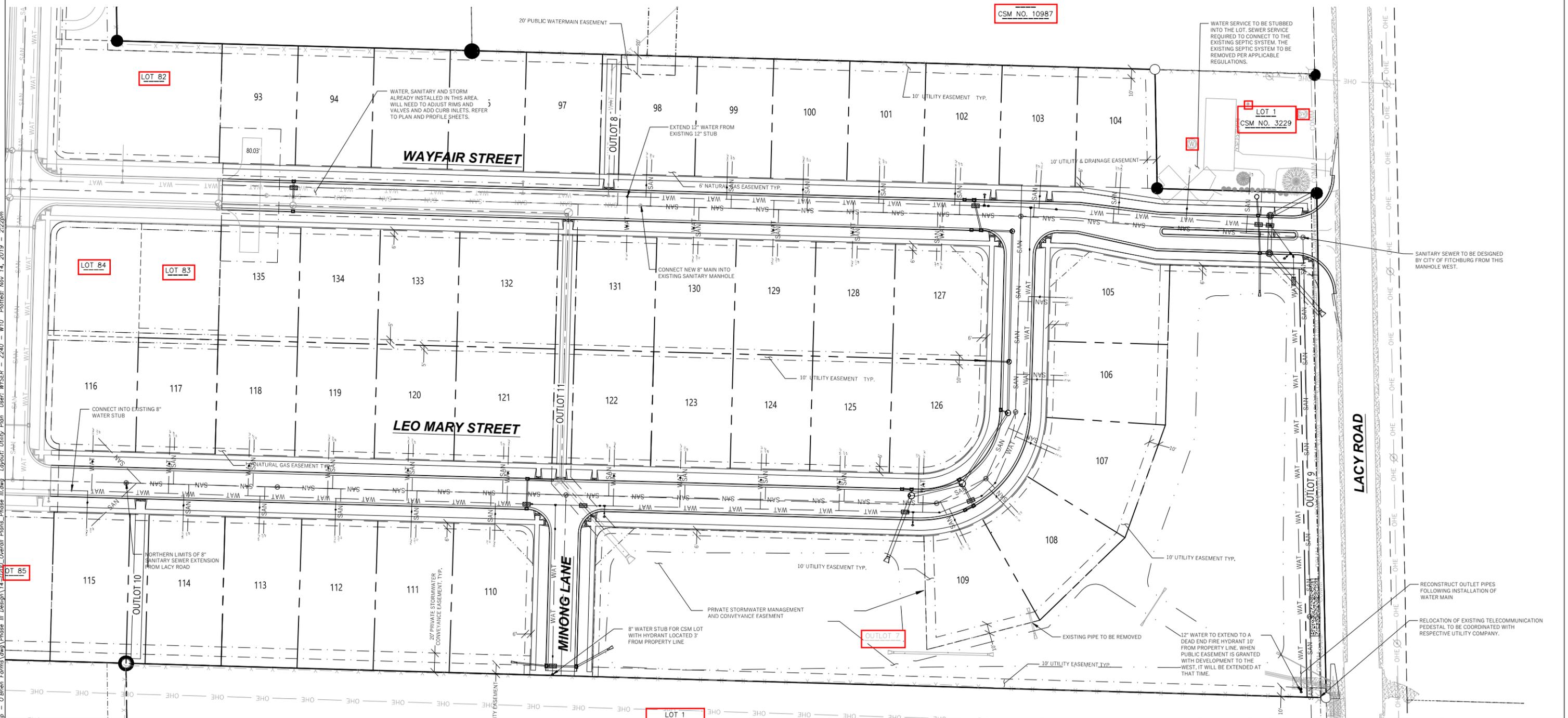
**UTILITY NOTES**

ALL WATER LATERALS ARE (1") UNLESS OTHERWISE NOTED.  
 ALL SANITARY SEWER LATERALS ARE (4") UNLESS OTHERWISE NOTED.  
 ALL HYDRANT LEADS ARE (6"). PLACE THE HYDRANT GATE VALVE WITHIN THE TERRACE.  
 ALL STORM SEWER IS TO BE REINFORCED CONCRETE PIPE.  
 SANITARY LATERALS TO HAVE A 2.0% SLOPE.  
 MANHOLE RIM ELEVATIONS ARE REFERENCED TO FINISHED SURFACE GRADE.  
 INLET RIM ELEVATIONS ARE REFERENCED TO GUTTER FLOW LINE.  
 ENDWALL SECTIONS ARE SHOWN TO GRAPHICALLY CORRECT LOCATION. STORM SEWER PIPE LENGTHS DO NOT INCLUDE ENDWALL SECTIONS.  
 ALL CATCH BASINS ARE 4' DIAMETER UNLESS NOTED OTHERWISE. INLET CASTINGS SHALL BE NEEVAH #R-3067-7004-L (DUMP NO WASTE, DRAINS TO LAKE) UNLESS NOTED OTHERWISE. THESE ARE A SPECIAL ORDER ITEM THAT THE CONTRACTOR SHOULD ORDER WELL IN ADVANCE TO ENSURE THAT THE CASTINGS CAN BE SUPPLIED AND DELIVERED ON TIME.

**LEGEND (SAME FOR PROFILE DRAWINGS)**

- PROPOSED PROPERTY BOUNDARY
- - - EASEMENT
- ==== CURB AND GUTTER
- ===== ASPHALT PAVEMENT
- ===== CONCRETE SIDEWALK
- WAT WATER MAIN
- SAN SANITARY SEWER
- STORM SEWER
- STORMWATER TREATMENT FACILITY
- LIGHT POLE
- ▨ PIPE INSULATION

- ⊕ FIRE HYDRANT
- ⊕ WATER TEE
- ⊕ WATER VALVE
- ⊕ WATER BEND
- ⊕ SANITARY MANHOLE
- ⊕ STORM MANHOLE / INLET
- ⊕ STORM ENDWALL



**STONER PRAIRIE PHASE III -  
 A WALK TO SCHOOL NEIGHBORHOOD**  
 CITY OF FITCHBURG, DANE COUNTY, WI



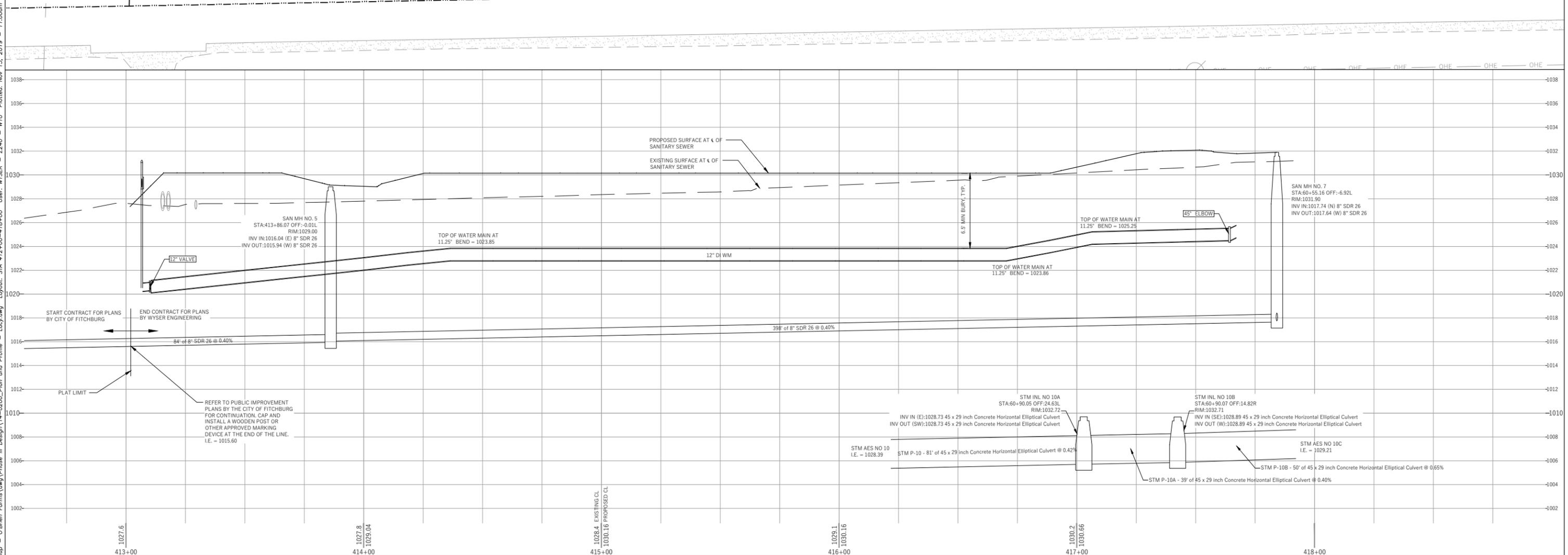
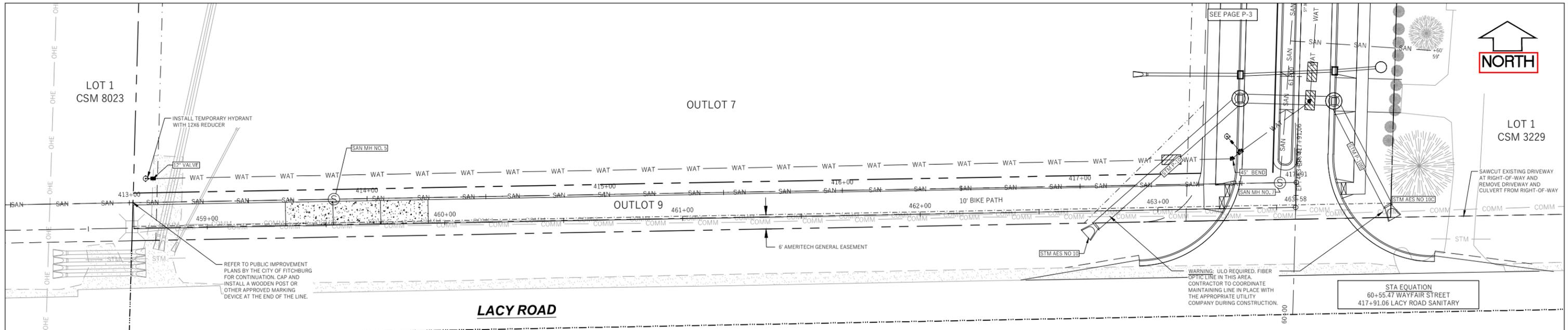
Sheet Title:  
**UTILITY PLAN**  
 LACY ROAD  
 FITCHBURG, WI 53711

**DIGGERS HOTLINE**  
 Toll Free (800) 242-8511 or- 811  
 Hearing Impaired TDD (800) 542-2289  
[www.DiggersHotline.com](http://www.DiggersHotline.com)

Graphic Scale	0'	25'	50'	75'
	1" = 100'			
	No.	Date	Description	

Wyser Number	14-0200
Set Type	FINAL PLAT
Date Issued	11/15/2019
Sheet Number	0-5

File: W:\2014\140200\_Lincolnshire\_Group - O'Brien Forms\Phase III Design\14-0200\_Plan and Profile - Lacy.dwg Layout: STA 412+00-418+00 User: WYSER - Z240 - W10 Plotted: Nov 13, 2019 - 11:00am



**WYSER ENGINEERING**

STONER PRAIRIE PHASE III -  
A WALK TO SCHOOL NEIGHBORHOOD  
CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title:  
 PLAN AND PROFILE  
 LACY ROAD UTILITIES  
 STA 412+75 TO END

S. SEMINOLE HIGHWAY AND LACY ROAD  
 FITCHBURG, WI 53711

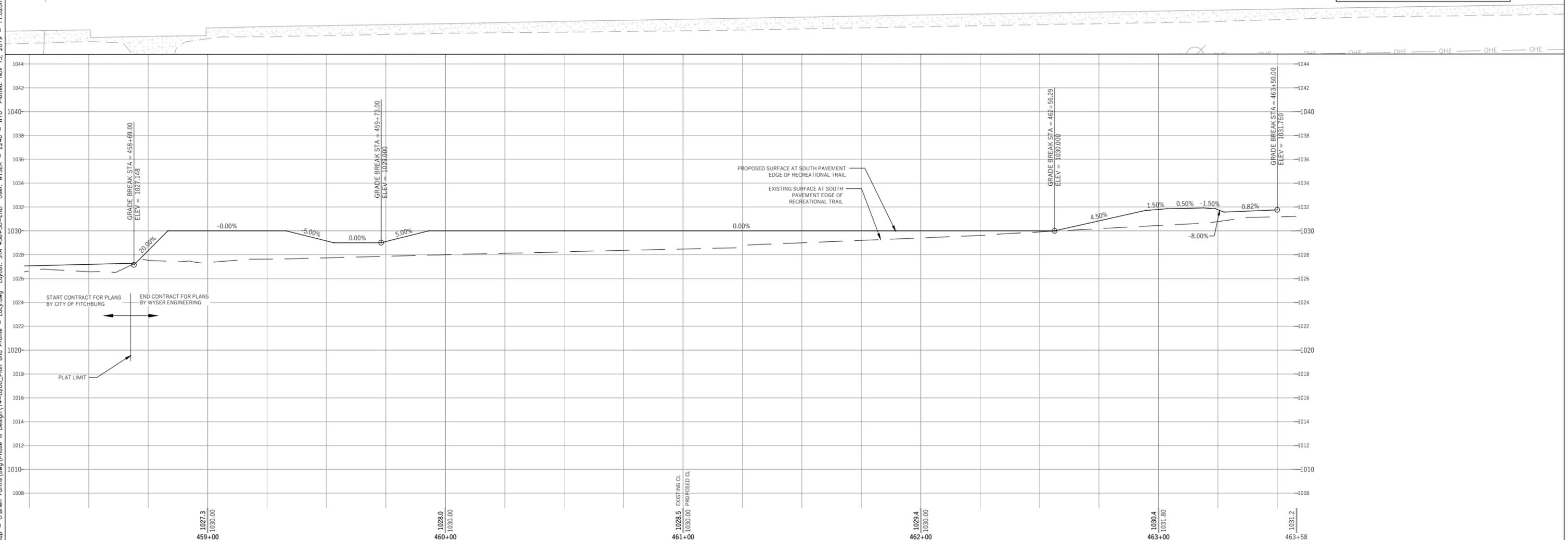
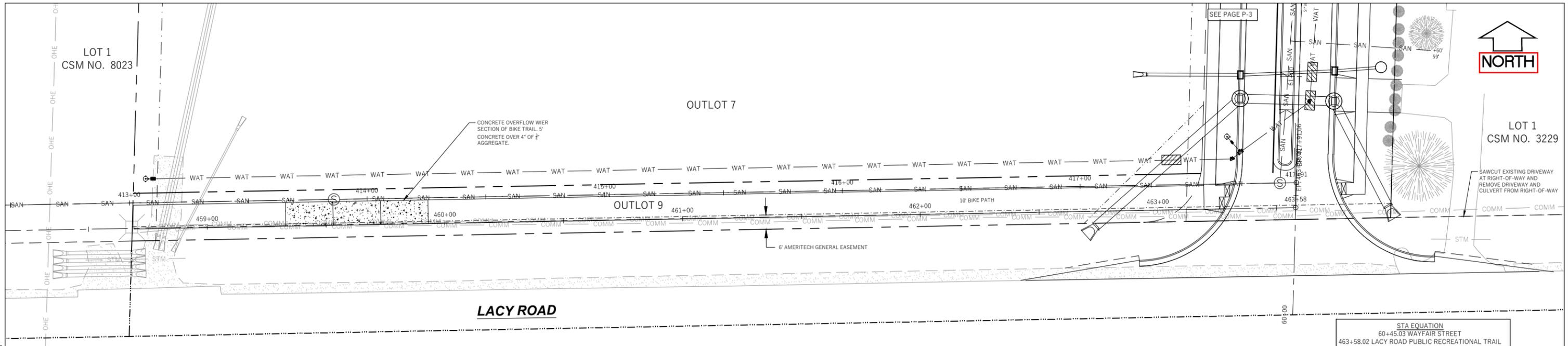
**DIGGERS HOTLINE**

Toll Free (800) 242-8511  
 Hearing Impaired TDD (800) 642-2288  
 www.DiggersHotline.com

Graphic Scale	Revisions:
0" = 5'	No. _____
1" = 10'	Date _____
1" = 20'	Description _____
1" = 40'	

Wysers Number	14-0200
Set Type	FINAL PLAT
Date Issued	11/15/2019
Sheet Number	P-1

File: W:\2014\140200\_Lincolnshire\_Group - O'Brien Forms\Phase III Design\14-0200\_Plan and Profile - Lacy.dwg Layout: STA 458+50-END User: WYSER - Z240 - W10 Plotted: Nov 13, 2019 - 11:02am



**WYSER ENGINEERING**

STONER PRAIRIE PHASE III -  
A WALK TO SCHOOL NEIGHBORHOOD  
CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title:  
PLAN AND PROFILE  
LACY ROAD PUBLIC RECREATIONAL TRAIL  
STA 458+50 TO END

S. SEMINOLE HIGHWAY AND LACY ROAD  
FITCHBURG, WI 53711

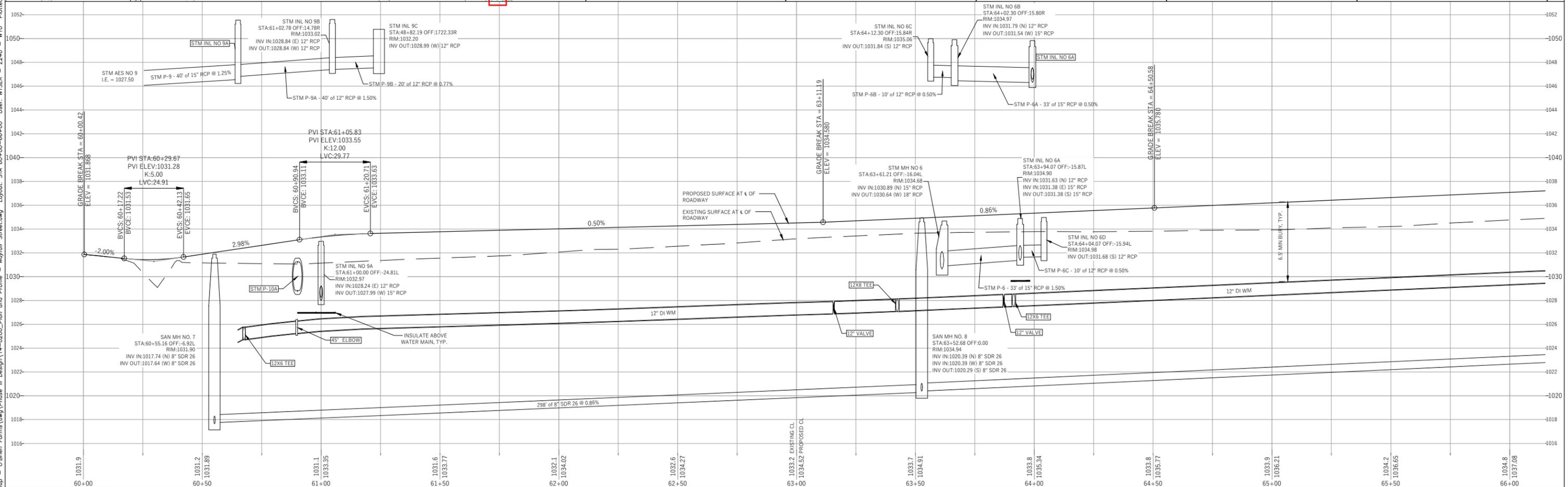
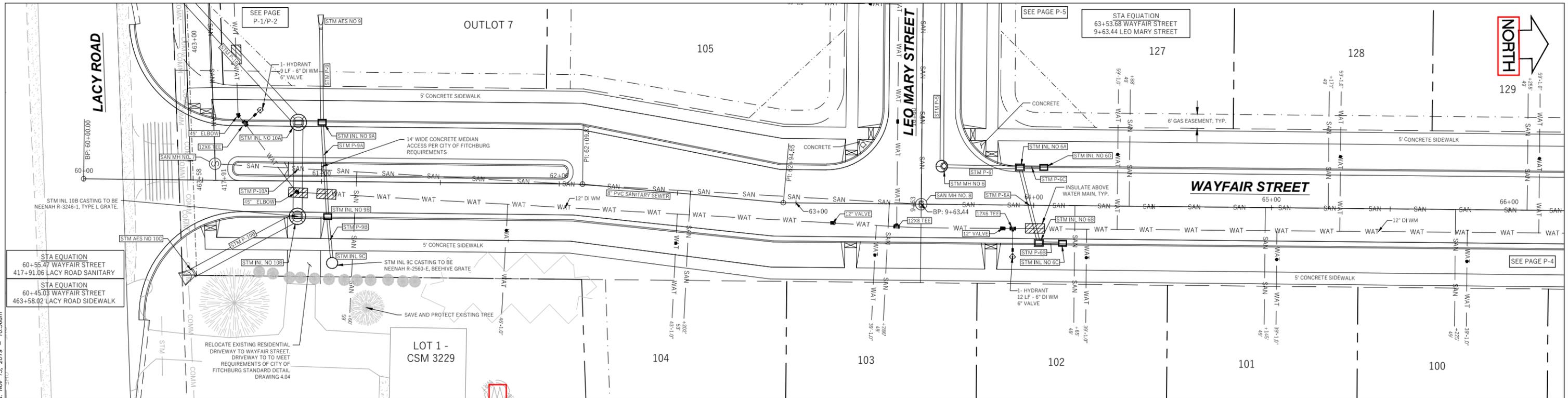
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Sheet Number	P-2

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**STONER PRAIRIE PHASE III -  
A WALK TO SCHOOL NEIGHBORHOOD**  
CITY OF FITCHBURG, DANE COUNTY, WI



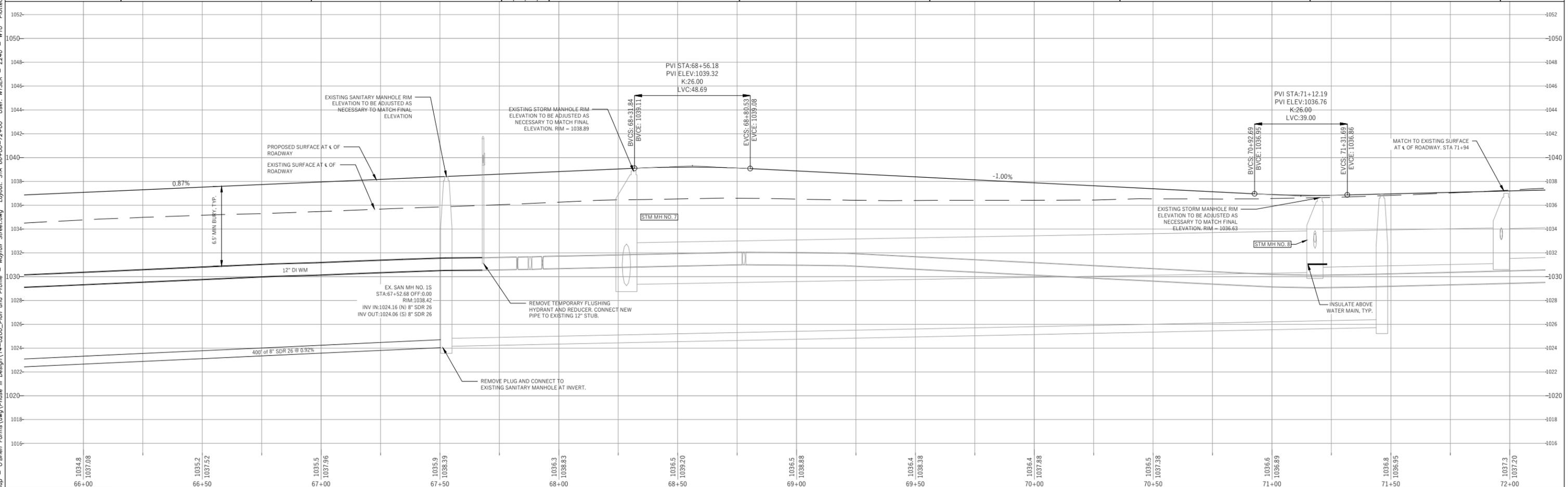
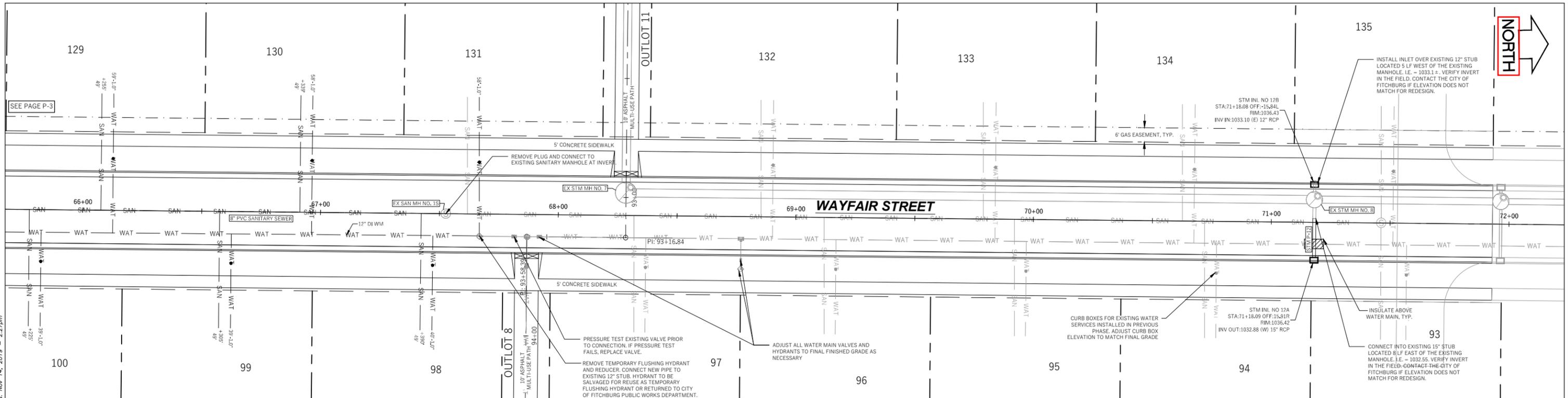
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STA 60+00 TO 66+00

**LACY ROAD**  
FITCHBURG, WI 53711



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Sheet Number				P-3

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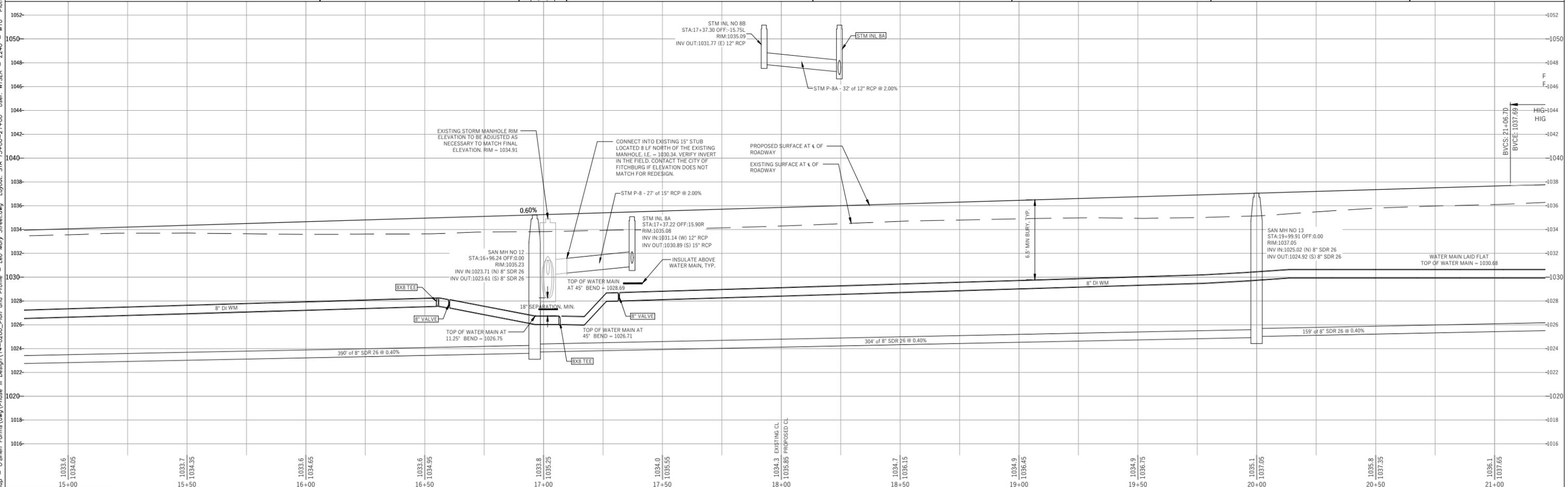
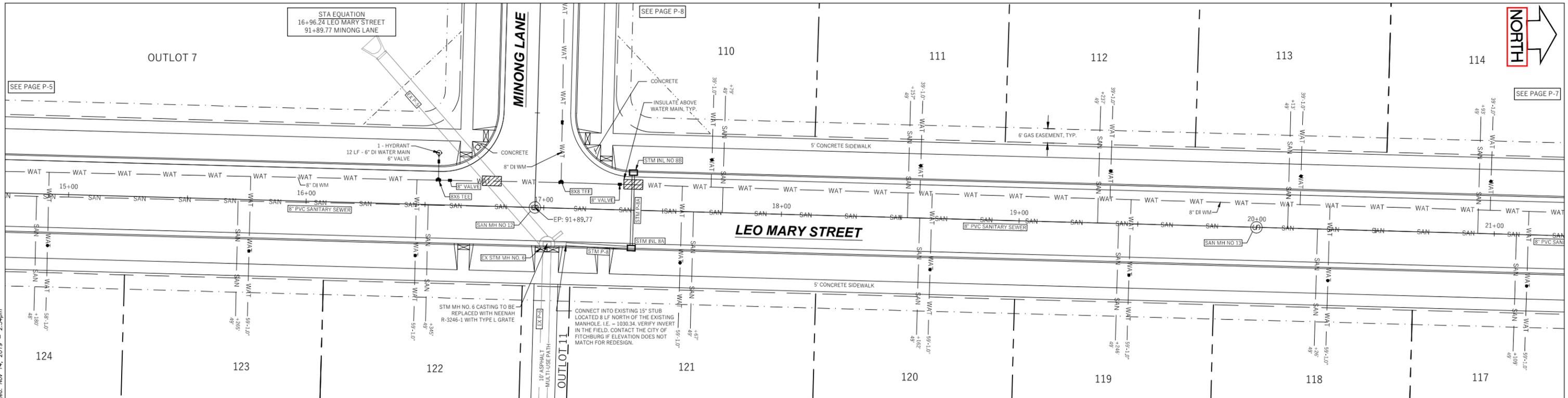
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CITY OF FITCHBURG, DANE COUNTY, WI



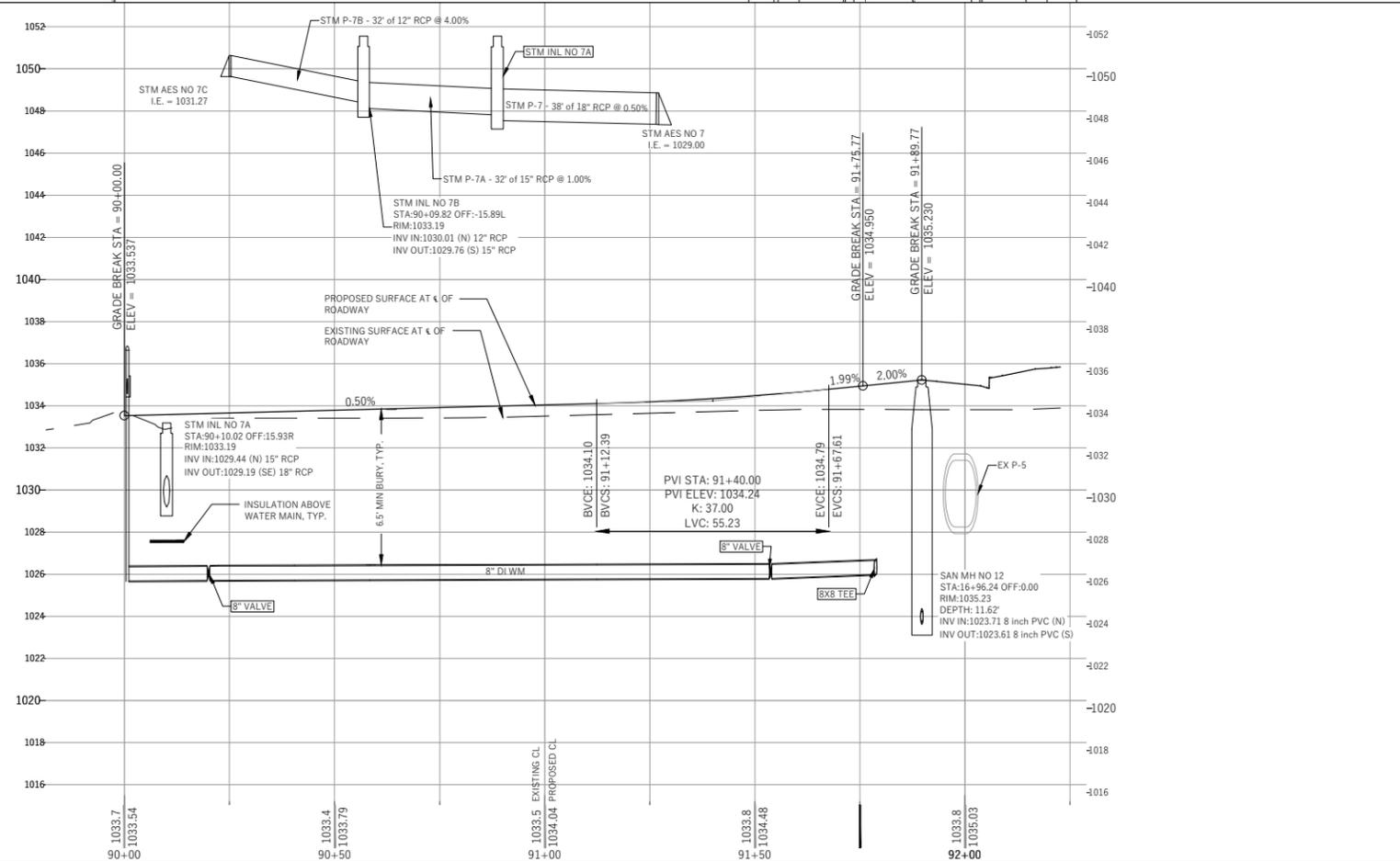
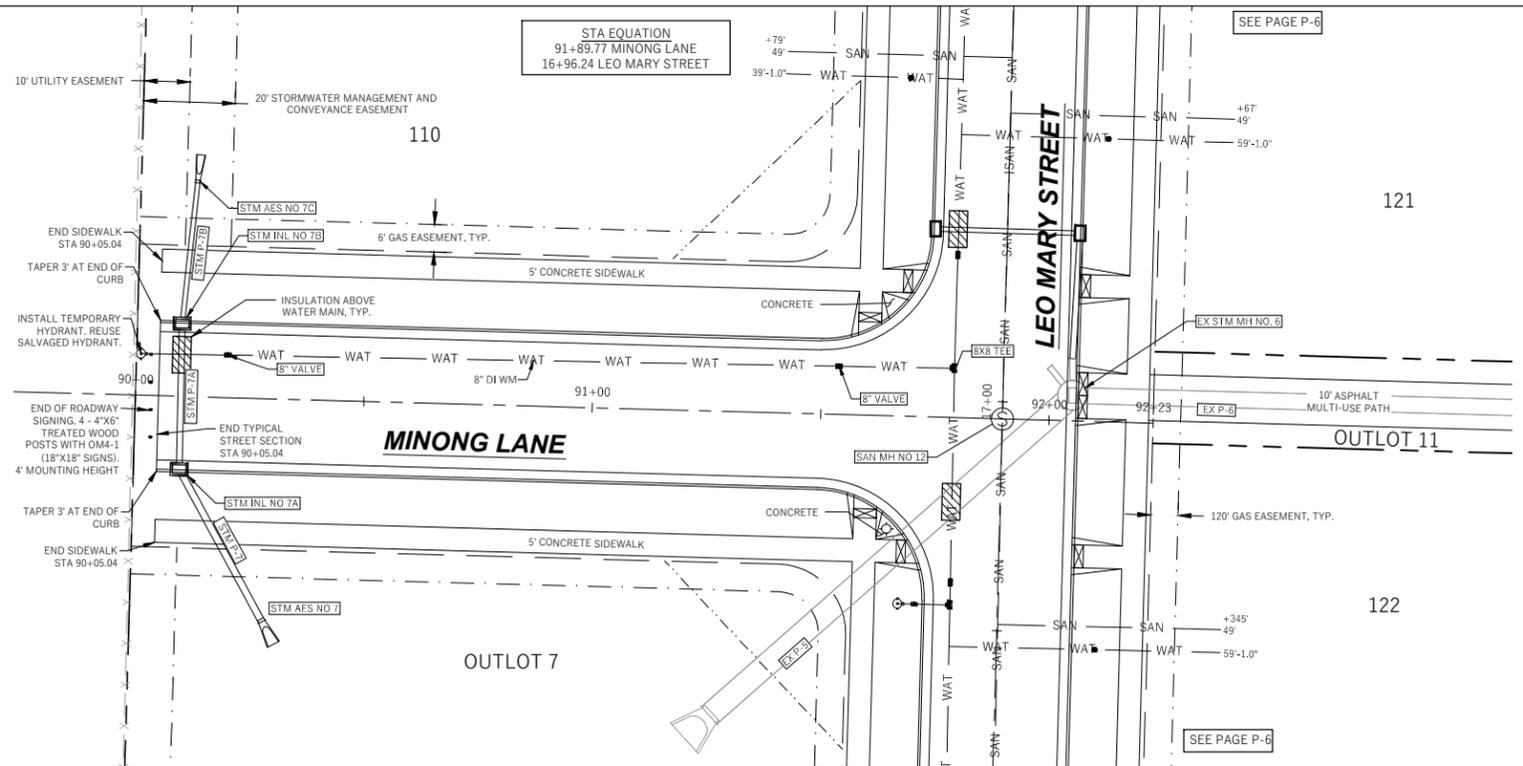
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LACY ROAD  
 FITCHBURG, WI 53711



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A WALK TO SCHOOL NEIGHBORHOOD  
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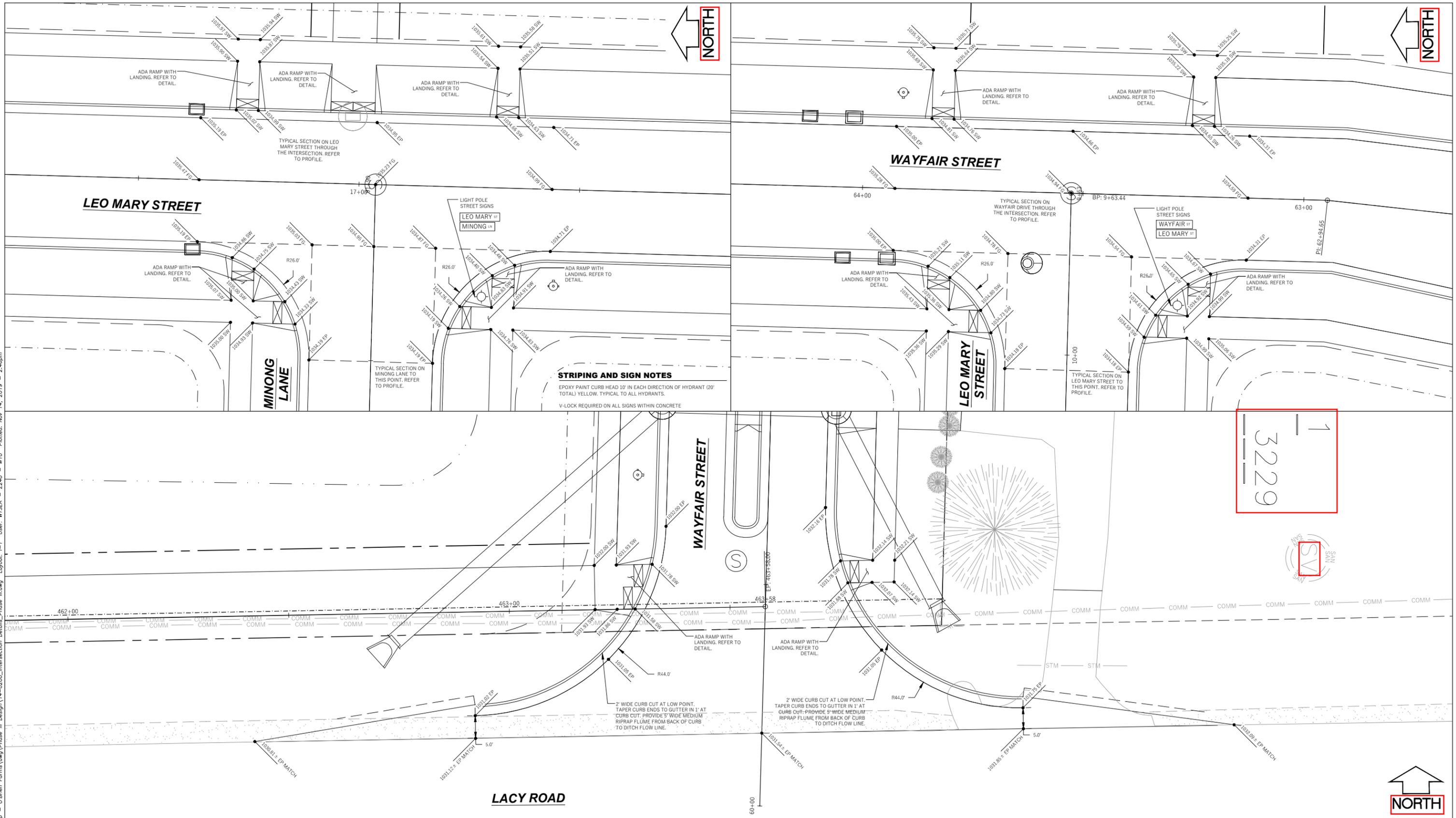
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MINONG LANE  
STA 90+00 TO END

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FITCHBURG, WI 53711

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**STRIPING AND SIGN NOTES**  
 EPOXY PAINT CURB HEAD 10" IN EACH DIRECTION OF HYDRANT (20" TOTAL) YELLOW. TYPICAL TO ALL HYDRANTS.  
 V-LOCK REQUIRED ON ALL SIGNS WITHIN CONCRETE

1  
 3229



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STONER PRAIRIE PHASE III -  
 A WALK TO SCHOOL NEIGHBORHOOD  
 CITY OF FITCHBURG, DANE COUNTY, WI

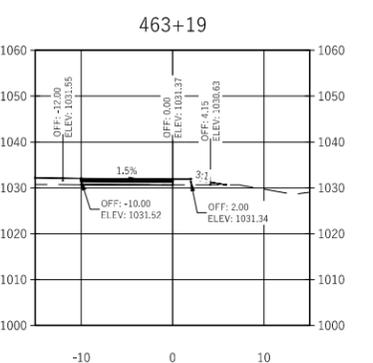
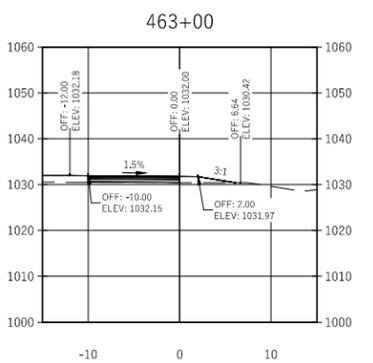
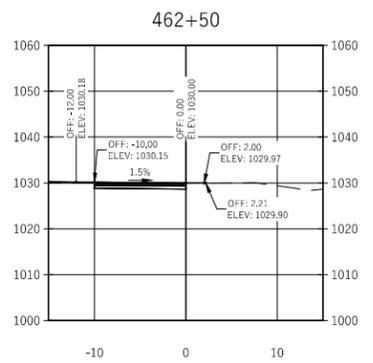
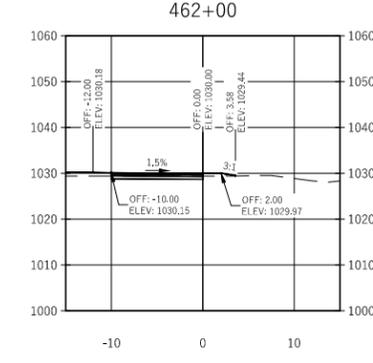
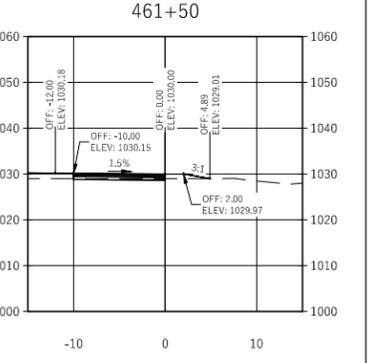
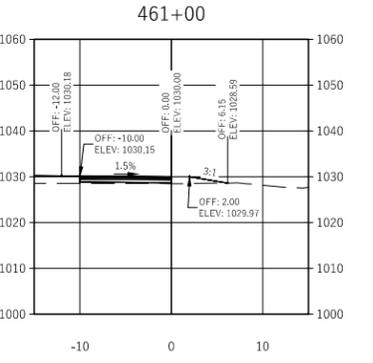
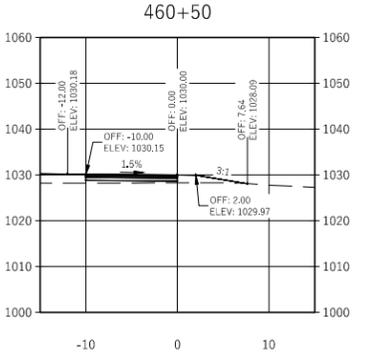
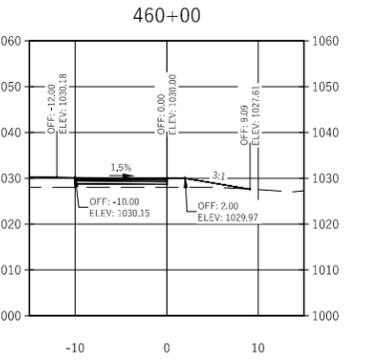
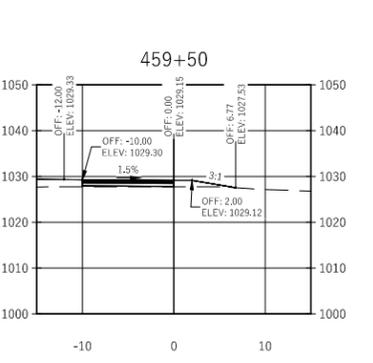
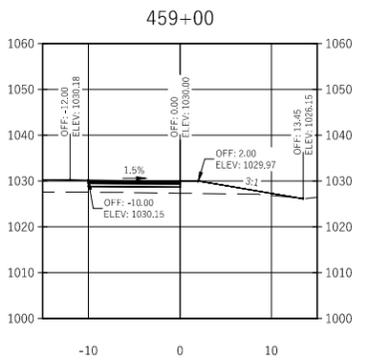
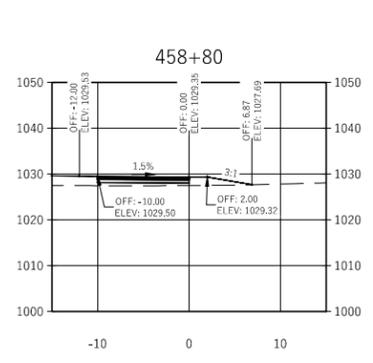
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LACY ROAD	FITCHBURG, WI 53711

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0" 5" 10" 15" 1" = 20'	No. Date Description:

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A WALK TO SCHOOL NEIGHBORHOOD  
CITY OF FITCHBURG, DANE COUNTY, WI

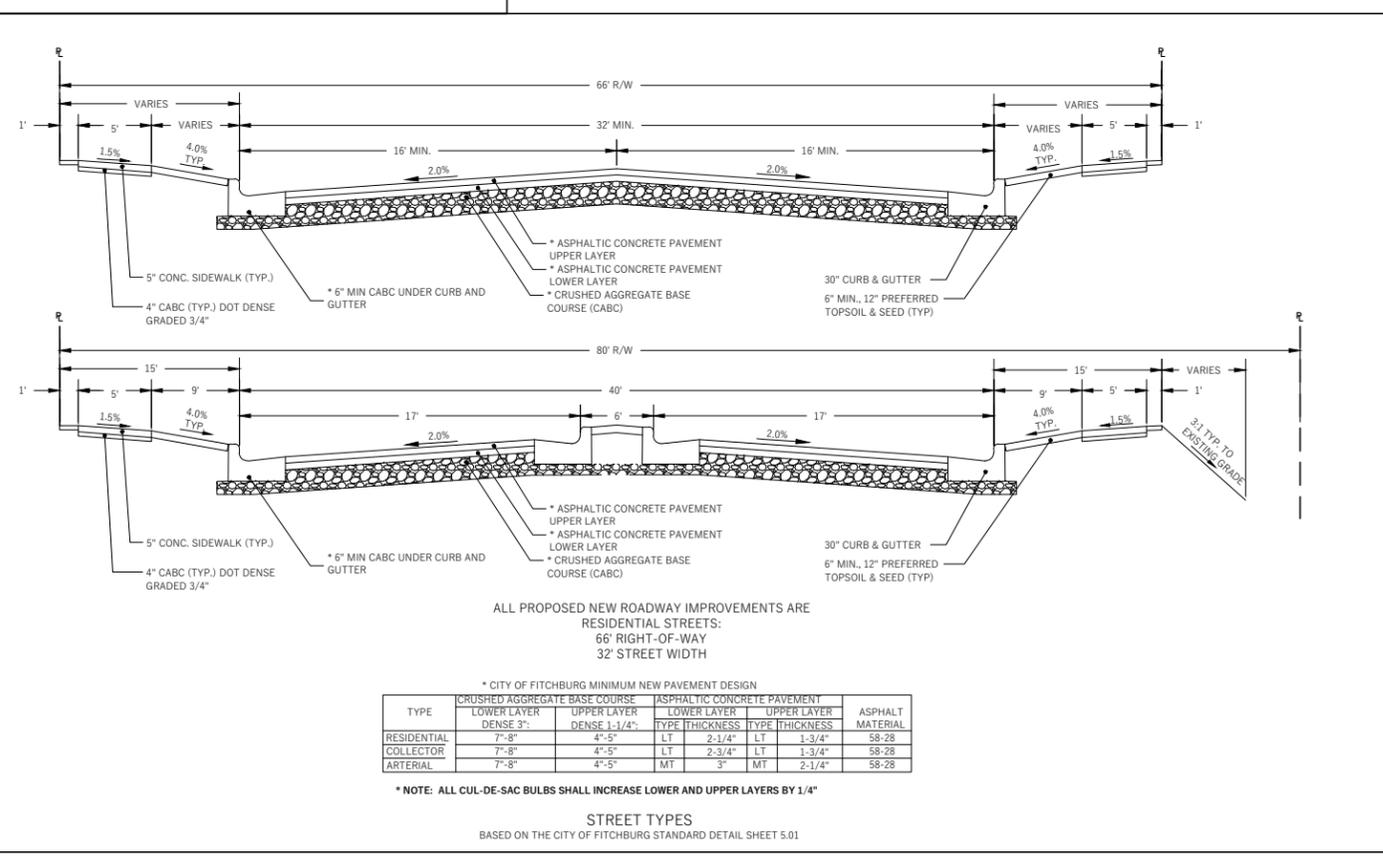
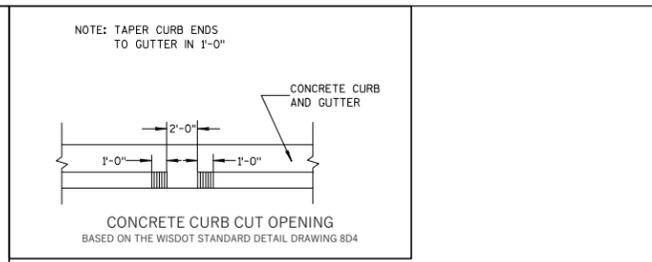
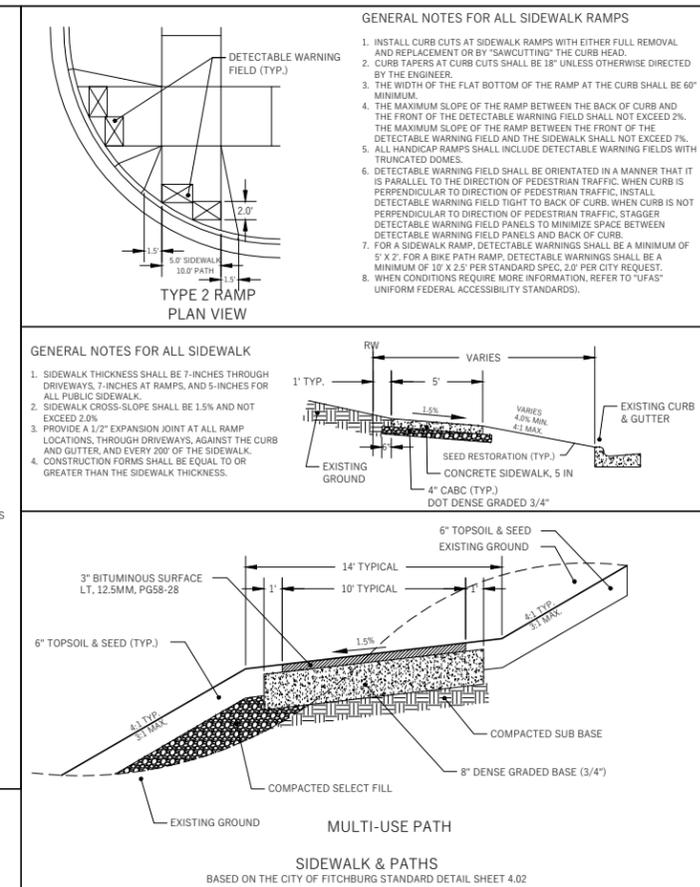
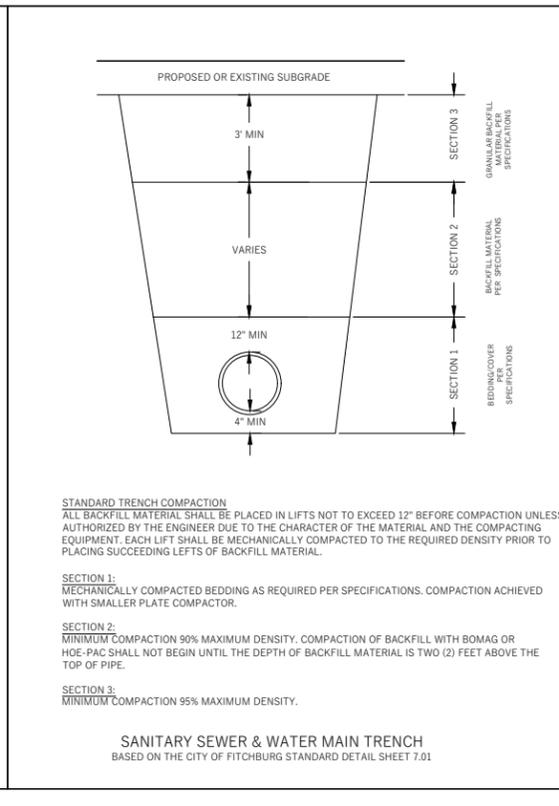
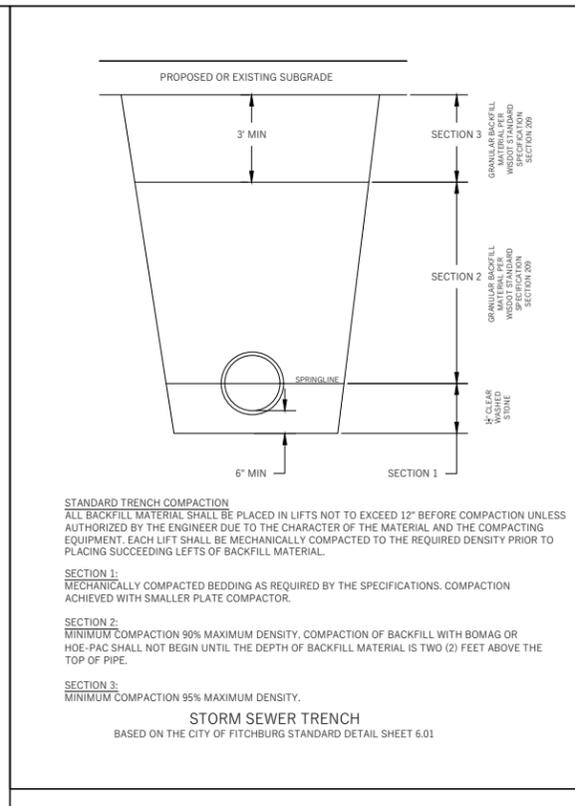
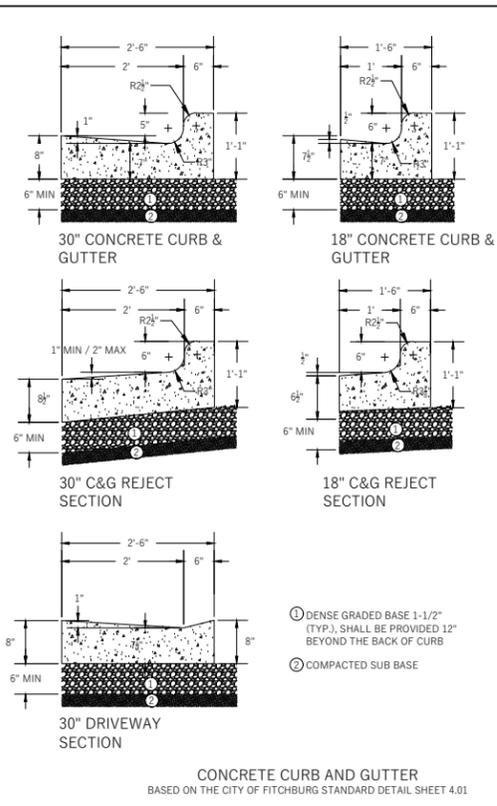


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PUBLIC RECREATIONAL TRAIL CROSS SECTIONS  
  
LACY ROAD  
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**STONER PRAIRIE PHASE III - A WALK TO SCHOOL NEIGHBORHOOD**  
 CITY OF FITCHBURG, DANE COUNTY, WI

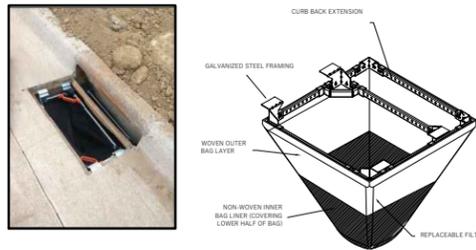
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 STREET DETAILS / TYPICAL SECTIONS

**LACY ROAD**  
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Date Issued	11/15/2019										
Sheet Number	D-1										

FLEXSTORM INLET FILTERS TO MEET DANE COUNTY EROSION CONTROL STANDARDS



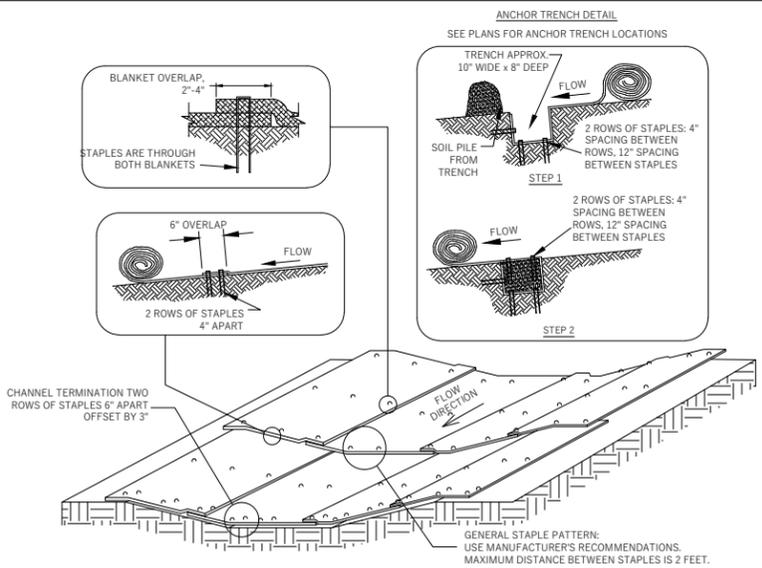
**(HB) HYBRID FILTER BAG SPECIFICATIONS:**

PROPERTY	TEST METHOD	MINIMUM DENSITY	MINIMUM STRENGTH
DENSITY	ASTM D1545	100 LBS/CSY	100 LBS
TENSILE STRENGTH	ASTM D4832	100 LBS/CSY	100 LBS
ELONGATION	ASTM D4832	200% MIN	100%
TEAR RESISTANCE	ASTM D4832	100 LBS	100 LBS
UV RESISTANCE	ASTM D4832	90%	90%
PERMEABILITY (AQD)	ASTM D4832	90% STD DEV	90% STD DEV
PERMEABILITY (WV)	ASTM D4832	1.5 INCHES	1.5 INCHES
WATER FLOW RATE	ASTM D4832	200 GPM/100 SQ FT	200 GPM/100 SQ FT
MINIMUM FILTER BAG VOLUME		2 CUBIC FT	

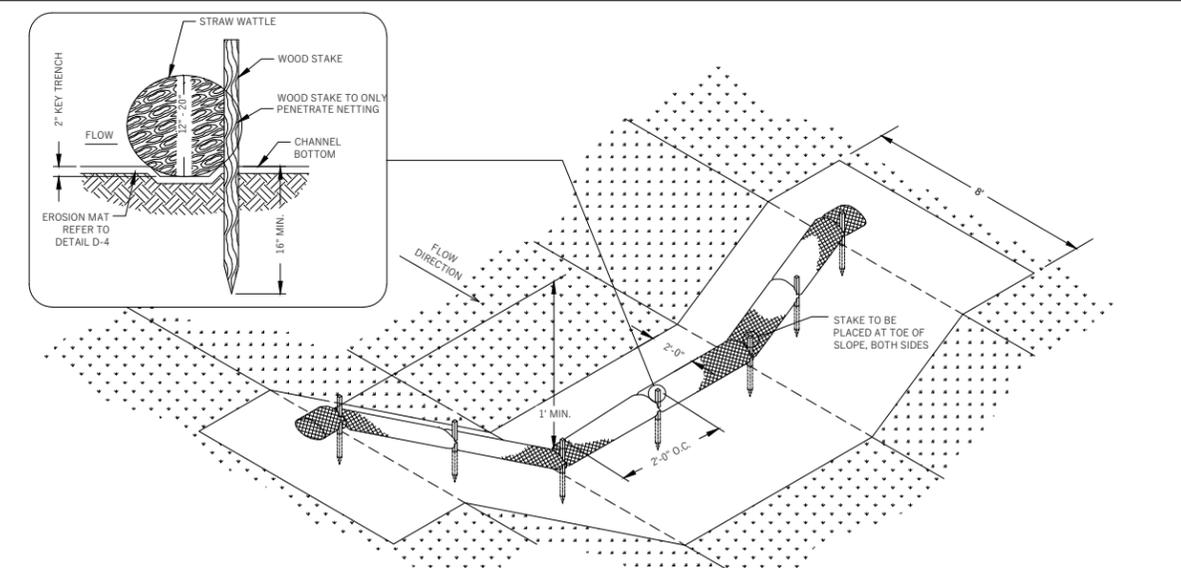
**CATCH-IT INLET FILTER (Temporary Inlet Protection)**

Neenah Casting	Inlet Type	Grate Size	Opening Size	Bag Cap (ft <sup>2</sup> )	Flow Ratings (CFS)	ADS P/N	
					HB (Hybrid Bag)	Bypass	
3067	Curb Box	35.25 x 17.75	33.0 x 15.0	4.4	2.0	5.8	62LCBEXTHB
3246A	Curb Box	35.75 x 23.875	33.5 x 21.0	4.2	1.1	3.3	62LCB924HB
3030	Square/Rect (SQ)	23 x 16	20.5 x 13.5	1.6	0.7	2.2	62NCB2316HB
3067-C	Square/Rect (SQ)	35.25 x 17.75	33 x 15	3.2	1.0	5.2	62LSC3618HB
R-2501	Round (RD)	~26	~24	2.3	0.8	5.2	62MRD26HB
R-1772/2500	Round (RD)	22.25 x 23.5	20.5 x 21	1.5	0.6	4.0	62MRD22HB

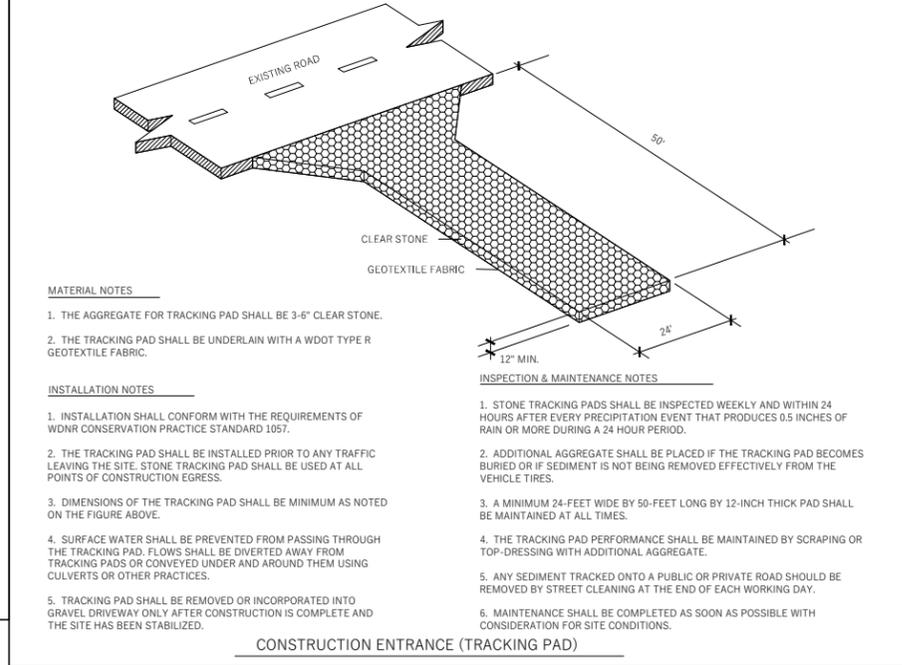
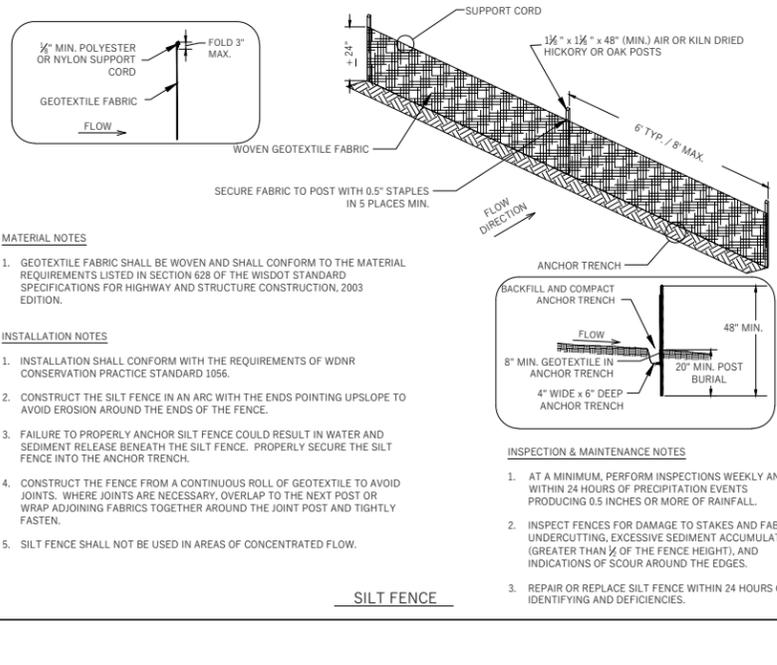
- Installation Instructions:**
- Remove grate from the drainage structure
  - Clean stone and dirt from ledge (lip) of drainage structure
  - Drop the inlet filter through the clear opening such that the hangers rest firmly on the lip of the structure
  - Replace the grate and confirm it is not elevated more than 1/8"
- Maintenance Guidelines:**
- Empty the sediment bag if more than half filled with sediment and debris
  - Remove the grate, engage the lifting points, and lift filter from the drainage structure
  - Dispose of sediment and debris as directed by the Engineer or Maintenance Contract
  - Alternatively, an industrial vacuum can be used to collect sediment from filter bag



- MATERIAL NOTES**
- ONLY PRODUCTS LISTED IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL) ARE ACCEPTABLE FOR USE.
    - CLASS I, URBAN TYPE A (EXCEL SR-1 ALL NATURAL OR APPROVED EQUAL)
    - CLASS II, TYPE C (ROLANKA'S BioD-MAT OR APPROVED EQUAL)
  - ALL EROSION MAT SHALL BE SECURED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR THE FOLLOWING, WHICHEVER IS MORE RESTRICTIVE.
    - 2.1. EROSION MAT FOR NON-CHANNEL AREAS SHALL BE SECURED WITH A BIODEGRADABLE PLASTIC EROSION MAT STAKES A MINIMUM OF FOUR (4") INCHES IN LENGTH WITH A BARBED HEAD.
    - 2.2. CLASS I, URBAN TYPE A EROSION MAT SHALL BE SECURED WITH A MINIMUM 1.75 STAPLES PER SQUARE YARD. SPACING OF ANY SINGLE STAPLE SHALL NOT BE MORE THAN THREE FEET (3') FROM AN ADJOINING STAPLE.
    - 2.3. STAPLES USED FOR CLASS II TYPES C MATS SHALL BE SECURED A MINIMUM OF 3.5 STAPLES PER SQUARE YARD. SPACING SHALL NOT BE MORE THAN TWO FEET (2') FROM AN ADJOINING STAPLE.
    - 2.4. EROSION MAT FOR CHANNEL AREAS SHALL BE SECURED USING ROUNDTOP METAL STAPLE WITH A MINIMUM OF EIGHT (8") INCHES IN LENGTH AND 11 GA.
- INSPECTION & MAINTENANCE NOTES**
- INSTALL ADDITIONAL ANCHORING IN AREAS OF OBSERVED RILLING AND CONCENTRATED FLOW BENEATH THE EROSION MAT. IF RILLING IS SEVERE ENOUGH TO PREVENT VEGETATION ESTABLISHMENT, REMOVE EROSION MAT, REGRADE, COMPACT, RE-SEED, AND REPLACE THE SECTION OF MAT.
  - ALL MAINTENANCE ACTIVITIES SHOULD OCCUR AS SOON AS POSSIBLE WITH CONSIDERATION OF SITE CONDITIONS.
- INSTALLATION NOTES**
- EROSION CONTROL REVEGETATIVE MATS (ECRM) SHALL BE INSTALLED AFTER TOPSOIL AND SEED HAVE BEEN PLACED.
  - EROSION CONTROL MAT IS NECESSARY FOR ALL SLOPES STEEPER THAN 5:1 WITH CLASS OF MAT SPECIFIED BY ENGINEER.
  - INSTALLATION OF ECRM SHOULD BE COORDINATED WITH PERMANENT RESTORATION PRACTICES.
  - INSTALLATION SHALL CONFORM WITH WDNR CONSERVATION PRACTICE STANDARD 1053 AND CITY OF FITCHBURG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
  - ALL PRODUCTS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. THIS STANDARD DETAIL IS AN EXAMPLE OF TYPICAL INSTALLATION GUIDANCE.
  - MATS SHALL BE IN FIRM AND CONTINUOUS CONTACT WITH THE SOIL.
  - IF SECTIONS OF ECRM NEED TO BE OVERLAPPED, ENSURE THAT THE OVERLAP IS FACING DOWNSTREAM TO PREVENT WATER FROM FLOWING BENEATH THE ECRM.



- MATERIAL NOTES**
- DITCH CHECKS SHALL BE CONSTRUCTED OF APPROVED MATERIALS LISTED IN WISCONSIN DEPARTMENT OF TRANSPORTATION EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL) FOR TEMPORARY DITCH CHECKS.
  - EROSION MAT SHALL BE SELECTED AND INSTALLED PER THE REQUIREMENTS LISTED IN DETAIL D-7.
  - WOOD STAKES SHALL MEET THE FOLLOWING REQUIREMENTS:
    - FOR 12" SEDIMENT LOGS: 1 1/2" x 1 1/2" x 30" AIR OR KILN DRIED HICKORY OR OAK STAKES
    - FOR 20" SEDIMENT LOGS: 1 1/2" x 1 1/2" x 48" AIR OR KILN DRIED HICKORY OR OAK STAKES
- INSPECTION & MAINTENANCE NOTES**
- DITCH CHECKS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD.
  - WHEN OBSERVING CONDITIONS OF DITCH CHECKS, PAY SPECIAL CONSIDERATION TO THE PRESENCE OF INDICATORS THAT WATER IS ERODING AROUND THE ENDS, UNDERCUTTING THE DITCH CHECK, OR SIGNIFICANT EROSION IS OCCURRING DOWNSTREAM OF THE DITCH CHECK. THESE ITEMS MAY INDICATE THE NEED FOR CLOSER SPACING ON DITCH CHECKS OR USE OF A DIFFERENT EROSION MAT.
  - SEDIMENT SHALL BE REMOVED FROM BEHIND THE DITCH CHECK WHEN IT REACHES 1/2 THE HEIGHT OF THE LOWEST ELEVATION OF THE DITCH CHECK.
  - DITCH CHECKS SHALL BE REMOVED ONCE CHANNEL IS STABILIZED WITH VEGETATION UNLESS PART OF A PERMANENT STORMWATER MANAGEMENT PLAN.
  - MAINTENANCE SHALL BE COMPLETED AS SOON AS POSSIBLE WITH CONSIDERATION FOR SITE CONDITIONS.
- INSTALLATION NOTES**
- INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WDNR CONSERVATION PRACTICE STANDARD 1062.
  - PROPRIETARY DITCH CHECKS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
  - DITCH CHECK SHALL BE INSTALLED SUCH THAT ENDS ARE HIGHER THAN THE CENTER CREATING A STABLE OVERFLOW POINT. ENDS SHOULD BE A MINIMUM OF 6" HIGHER THAN THE EXPECTED DESIGN WATER LEVEL.
  - DITCH CHECKS SHOULD BE INSTALLED SUCH THAT ADJOINING PROPERTY IS NOT NEGATIVELY IMPACTED.
  - DITCH CHECKS SHOULD BE USED IN CONJUNCTION WITH OTHER PERMANENT RESTORATION PRACTICES.



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**LACY ROAD**  
FITCHBURG, WI 53711

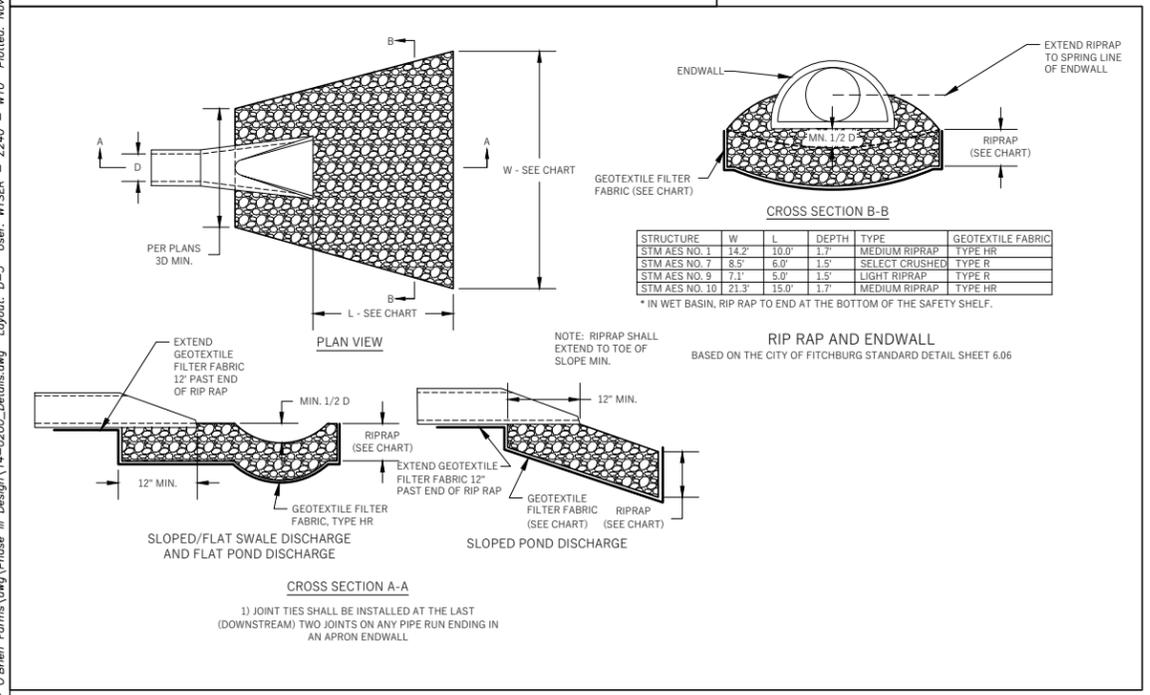
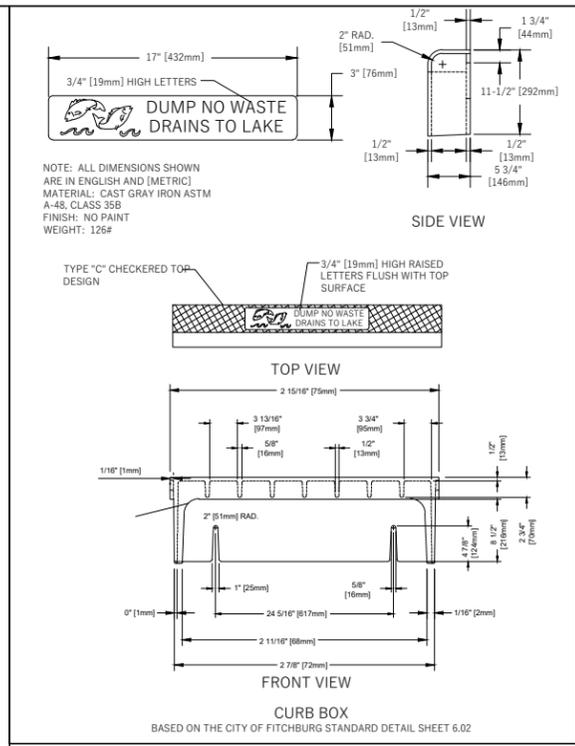
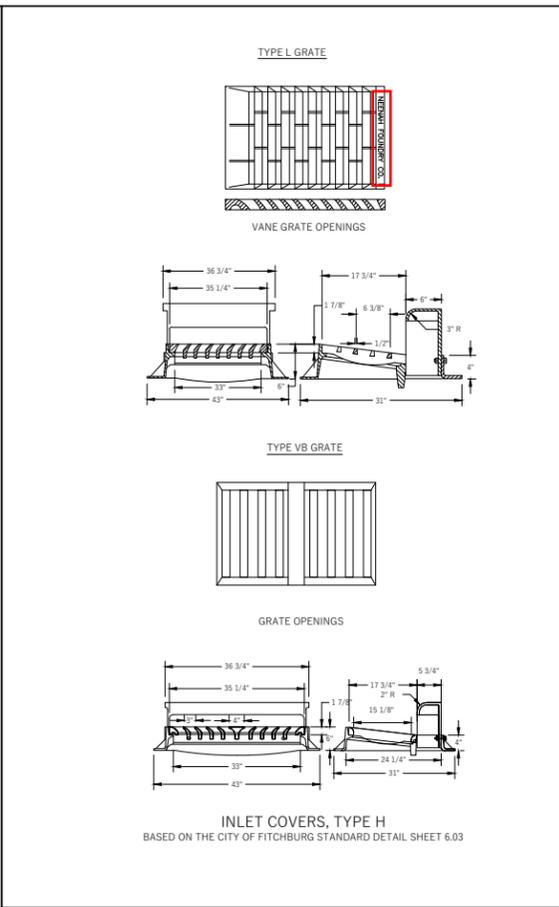
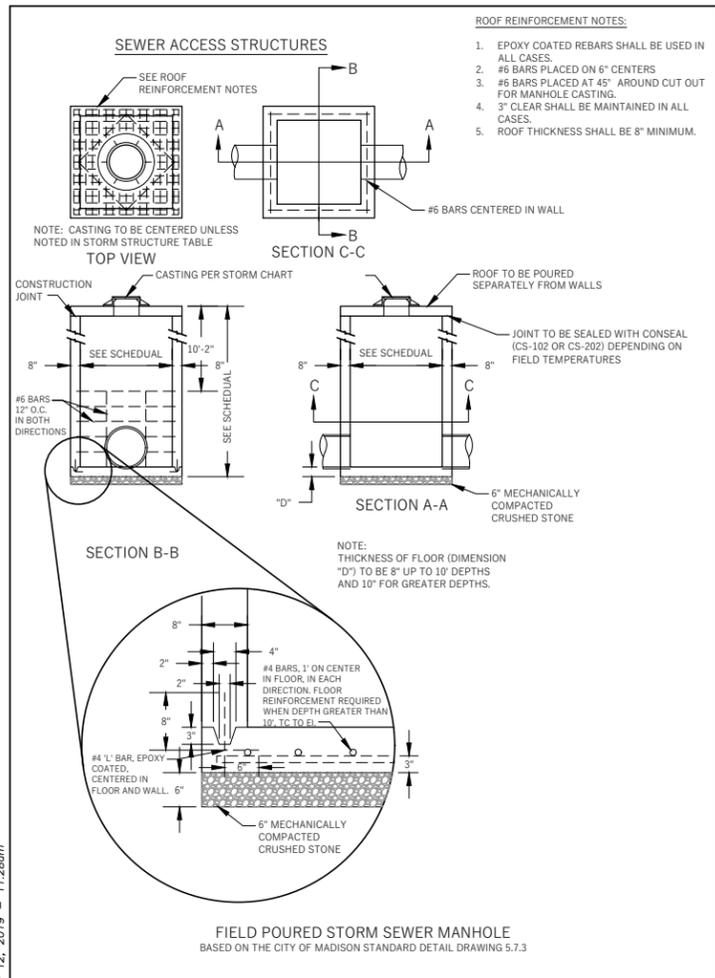
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CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title:  
**STORM SEWER DETAILS**

**LACY ROAD**  
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# Stoner Prairie Neighborhood – Phase 3

## Erosion Control Narrative

Prepared by: Wyser Engineering, LLC

Last Revised: November 15, 2019

### Introduction

This narrative summarizes how the erosion control measures associated with the construction of the proposed second phase of the Stoner Prairie Neighborhood meets the City of Fitchburg's erosion control requirements.

### Narrative Explaining Erosion Control Plan

The following information is provided to demonstrate that this project is designed and will be maintained to meet the Erosion Control Performance Standards set forth in Chapter 30 of Fitchburg's Municipal Code (Erosion Control and Stormwater Management Ordinance). This narrative does not include information for stormwater management requirements, which has been provided on a regional plat basis in a separate document as prepared by Montgomery Associates. However, it shall be noted that the construction plans associated with this narrative has been designed to be consistent with the regional stormwater plan, including watershed drainage areas reflected in mass grading conditions, impervious area related to public improvements/private development and land use within the watershed drainage areas.

The letters below correspond to Article II of Chapter 30:

#### **1. Property lines, lot dimensions, and limits of disturbed area**

The project includes a residential plat. The plat shows the proposed property lines and lot dimensions for the entire project area as shown in **Appendix A**. The limits of disturbance for the project are shown on the overall erosion control plan O-3 within **Appendix B**.

#### **2. Limits of impervious area**

The public improvements that will create impervious area, sidewalks, bike paths and roadways, can be seen on the overall plan sheets found within **Appendix B**.

#### **3. All Natural and artificial water features.**

No natural or artificial water features are located within the limits of Phase 3.

**4. All erosion control measures to be installed.**

The overall erosion control plan can be found within **Appendix B** as sheet O-3. The associated details can also be found within **Appendix B** on sheet D-2. Measures include erosion matting, rip-rap, ditch checks, inlet protection, silt fence, construction entrance, temporary seeding and any other measures that become necessary due to unforeseen construction activities. All erosion control measures will be installed to WDNR Technical Standards.

**5. Cross sections and profiles of road ditches and channels.**

Calculations have been performed for the proposed central swale between Wayfair Drive and Leo May Street, along the west plat line north of Minong Drive and along the southeast corner of the plat adjacent to the existing home. Calculations were completed using HydroCAD and the concepts within HEC-15. The output, including cross sections and profile information can be found in **Appendix C**.

**6. Storm sewer pipes and/or culvert sizes.**

Storm sewer pipes can be found on the plan and profile sheets and sheet O-4, all within **Appendix B**. An overall utility plan can also be found in **Appendix B** as sheet O-5.

**7. Direction of runoff flow.**

The overall grading plan can be found as sheet O-4 within **Appendix B**.

**8. Watershed size for each contributing drainage area.**

The watershed map for the storm sewer system can be found within **Appendix C**. The associated sizes can be found within the pipe sizing spreadsheet also located within **Appendix C**.

**9. Design discharge for ditches and structural measures.**

Storm sewer sizing and inlet sizing can be found within **Appendix C**. The flow to each inlet has been based on the rational method.

In general, the runoff coefficient used for the right-of-way was 0.70 and the future residential areas was 0.30. This is consistent with a low to medium residential land use with a type B soil and 2-6 percent slope within the FDM 13-10 Attachment 5.2. Areas of open space generally was assumed to have 0.10 runoff coefficient. The right-of-way assumed a typical cross section, 33' of roadway and 10' of sidewalk within a 66' ROW. Assuming 0.98 for the paved area and 0.15 for

the terrace, the typical section for the right-of-way has a CN of 0.69, which was rounded up to 0.70 for these calculations. Offsite runoff for the Lacy Road swale and culvert system has been based on the same assumptions for the residential areas. However, the school has been assumed to be open space (0.10 runoff coefficient) to account for the attenuation provided by the stormwater basin.

Time of concentration is based on a minimum of 5-minutes. Where flow within the pipe and watershed exceeded 5-minutes, the time of concentration was increased and rainfall intensity lowered accordingly.

Rainfall intensity is based on the NOAA Atlas 14 estimate for the area as defined by Latitude 43.0049° and Longitude -89.4558°. For typical inlets and pipes, a 10-year design storm event was used. Where inlets were located in sag conditions and 100-year overflow within the roadway was not available, the 100-year design storm was used. This includes the pipes and inlets associated with the sag points at STA 12+75 on Leo Mary Street to the outflow, the pipes associated with the Minong Drive Crossing preventing overflow onto the adjacent lands and the pipes at the intersection of Wayfair Drive and Lacy Road preventing overflow into Lacy Drive.

Pipe flow is based on the Manning's equation. A typical n value of 0.13 was used for all concrete pipes. A minimum cover (to the top of the pipe including pipe thickness) of 2.0' was held for all inlets and manholes within the public streets with the exceptions of STM MH No. 3 at the low point of the roadway which has 1.89' of cover and inlets 10A and 10B which have 1.03' and 1.18' of cover respectively. Note that the Wayfair Drive pavement section includes 7-8" of gravel and 4-5" of asphalt for a total thickness of 11-13". That puts the top of the pipe right at the bottom of the gravel. This is the best solution possible using a single elliptical pipe for the crossing due to the shallow depth of the swale and lack of slope on the swale.

Inlet sizing for in-sag and on-grade situations was computed based on HEC No. 12 and the inlet information based on the published data found on the Neenah Enterprises, Inc. website for the specific grate types. Multiple inlets were installed where a single inlet did not have the required drainage capacity. The potential flow from the grate opening on the vertical face of the casting was ignored for these calculations. Note that the two inlets required at inlet 8A are covered by inlet 8A and the existing manhole labeled as STM MH No. 6 within the Phase II plans.

## **10. Runoff velocities in channels.**

Runoff velocities have been calculated for the proposed central swale between Wayfair Drive and Leo May Street, along the west plat line north of Minong Drive and along the southeast corner of the plat adjacent to the existing home. Calculations were completed using HydroCAD and the concepts within HEC-15. The output can be found in **Appendix C**.

**11. Fertilizer and seeding rates.**

See the seeding notes on sheet O-3 within **Appendix B**.

**12. Detailed description and proposed completion schedule of each element of the erosion control plan.**

The planned construction schedule for this phase is detailed below. The current anticipated construction start date is January 15<sup>th</sup> of 2020 with construction completion in the Spring of 2020. The overall project USLE for the watershed draining into the wet pond has been extended until May 15<sup>th</sup> of 2021 to allow for cover establishment. Additional USLE calculations have been completed for construction of the wet pond. Refer to **Appendix D** for the project USLEs.

1. 01/15/2020 – Initial land disturbing. Install all perimeter erosion control devices including stone tracking pad, silt fence and inlet protection of existing inlets, including inlets within the adjacent public streets.
2. 01/20/2020 – Site mass grading activities including bringing fill onto the site.
3. 01/25/2020 – Begin sanitary and water utility construction on the site.
4. 03/15/2020 – Continue project site mass grading activities. Start storm sewer installation.
5. 10/01/2020 – Complete substantial grading and topsoil respread. Pave the streets with binder course.
6. 10/15/2020 – Site stabilization.
7. 05/15/2021 – Final site stabilization where needed – all pervious lot areas disturbed during construction will be restored with a minimum of 6" of topsoil, fertilizer, seed. City right-of-way restored as required by City specifications.

**13. Show steps and calculations demonstrating the erosion control performance standards will be met.**

Refer to **Appendix D** for the project USLE. Additional information can be found within the notes on sheet O-3 within **Appendix B**.

**14. Provisions to prevent mud-tracking off-site onto public thoroughfares during the construction period.**

A construction entrance can be found off of Leo Mary Street and Lacy Road on sheet O-3 and D-2 within **Appendix B**.

**15. Provisions to disconnect impervious surfaces, where feasible.**

The proposed infiltration basin will provide disconnection for the entire plat drainage area for small rain events. Refer to the stormwater management plan for additional details on the system.

**16. Provisions to prevent sediment delivery to, and accumulation in, any proposed or existing stormwater conveyance systems.**

The inlets within the development as well as the initial existing inlets downstream of the development will have inlet protection installed. See sheets O-3 and D-2 within **Appendix B**. Additional erosion control measures on the site will minimize the sediment runoff before getting into the public stormwater system.

**17. Copy of permits or approvals by other agencies.**

The WDNR NOI has been submitted concurrently with this permit and the stormwater management permit. Once the WDNR NOI has been approved, a copy will be provided to the City.

**18. Existing and proposed elevations and contours.**

The grading plan can found on sheets O-3 and O-4 within **Appendix B**.

**19. Itemized estimated cost for installation of all elements of the erosion control plan.**

The cost estimate for the erosion control elements of the plan, including fertilizer, seed and mulch, can be found within **Appendix E**.

**20. Any other information necessary to reasonably determine the location, nature, and condition of any physical or environmental features of the site.**

Refer to the plan set for specific details applicable to the erosion control for this site. Most specifically, see sheets O-3 and D-2 within **Appendix B**. Please also refer to **Appendix C** for endwall rip-rap sizing calculations based on HEC 14 – Equation 10.4 calculating average rip-rap size, apron length and apron depth.

## **APPENDIX A**

Plat

# SECOND ADDITION TO STONER PRAIRIE

OUTLOT 6 AND 7 OF FIRST ADDITION TO STONER PRAIRIE RECORDED ON SEPTEMBER 13, 2018 IN VOLUME 60-099B OF PLATS ON PAGES 555-556 AS DOCUMENT NO. 5441003 BEING A PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWN 6 NORTH, RANGE 9 EAST, ALL IN THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.



## NOTES

- ALL DIMENSIONS MEASURED AND SHOWN ARE TO THE NEAREST ONE HUNDREDTH OF A FOOT; ALL ANGLES MEASURED TO THE NEAREST THREE SECONDS AND COMPUTED TO THE NEAREST ONE SECOND.
- ALL INTERIOR LOT AND OUTLOT CORNERS NOT SHOWN, ARE MONUMENTED WITH 3/4" X 1/8" REBAR - 1.55 LBS./LIN. FT.
- FINAL DATE OF FIELD WORK PERFORMED BY WYSER ENGINEERING ON NOVEMBER 8TH, 2019
- DRAINAGE ARROWS INDICATE THE DIRECTION OF SURFACE DRAINAGE AT INDIVIDUAL PROPERTY LINES DRAINAGE SHALL BE GRADED WITH THE CONSTRUCTION OF EACH MAIN STRUCTURE AND MAINTAINED BY THE LOT OWNER UNLESS MODIFIED WITH THE APPROVAL OF THE CITY ENGINEER. FOR LOTS THAT HAVE NO SLOPE ALONG THE LOT LINE AND HAVE A PRIVATE STORMWATER MANAGEMENT AND CONVEYANCE EASEMENT WITHIN THEIR RESPECTIVE BOUNDARIES, AN \* HAS BEEN SHOWN.
- OUTLOTS 8, 9, 10 AND 11 ARE "DEDICATED TO THE PUBLIC FOR PUBLIC PATHS"
- AREAS DELINEATED AS VISION TRIANGLE AREAS SHALL HAVE NO PLANTINGS OR OBSTRUCTIONS OVER TWO FEET IN HEIGHT, AND SHALL BE LOCATED 25 FEET BEYOND THE POINTS OF CURVATURE.
- ALL ABOVE GROUND TRANSFORMERS AND PEDESTALS SHALL BE LOCATED ALONG THE REAR LOT LINES.
- UTILITY EASEMENTS - NO POLES OR BURIED CABLES ARE TO BE PLACED SUCH THAT THE INSTALLATION WOULD DISTURB ANY SURVEY STAKE OR OBSTRUCT VISION ALONG ANY LOT LINE OR STREET LINE. THE DISTURBANCE OF A SURVEY STAKE BY ANYONE IS A VIOLATION OF S. 236.32, WISCONSIN STATUTES. UTILITY EASEMENTS AS HEREIN SET FORTH ARE FOR THE USE OF PUBLIC BODIES AND PRIVATE PUBLIC UTILITIES HAVE THE RIGHT TO SERVE THE AREA. THE FINAL GRADE ABOVE UTILITY EASEMENTS SHOWN HEREON SHALL NOT BE ALTERED BY MORE THAN 10 INCHES WITHOUT WRITTEN CONSENT OF THE UTILITIES INVOLVED.
- ALL RIGHT-OF-WAYS DEPICTED WITHIN THE PLAT BOUNDARY ARE "DEDICATED TO THE PUBLIC".
- ALL LOTS AND OUTLOTS SHOWN ARE ZONED R-L FOR THIS PLAT.
- LOTS CONTAINING A CIRCLED LOT NUMBER DENOTE A RESTRICTION FOR MINIMUM LOWEST OPENING ELEVATION (M.L.O.E.) - 1033.5' BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAD83) ADJUSTMENT (BAYD88) NO BUILDING OPENING TO BE CONSTRUCTED BELOW MINIMUM.

NORTH REFERENCE FOR THIS SURVEY AND PLAT ARE BASED ON THE WISCONSIN COORDINATE REFERENCE SYSTEM, DANE COUNTY, U.S. SURVEY FOOT, NAD 83 (111). WISCONSIN DANE COUNTY, THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 8 BEARS N 88°56' 17" E



SCALE: 1 INCH = 60 FEET

LINE #	LENGTH	BEARING
L1	3.57'	S1°34'11"W
L2	4.00'	N1°34'11"E
L3	10.00'	S1°34'11"W

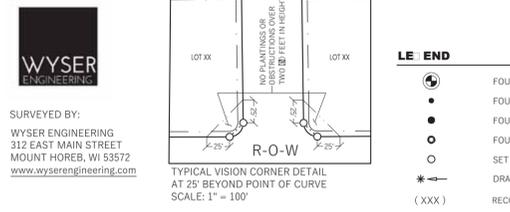
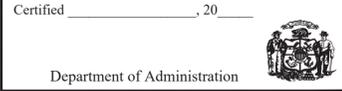
CURVE TABLE							
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH	TANGENT IN	TANGENT OUT
C1	23.56	15.00'	90°00'00"	N46°34'11"E	21.21'	N1°34'11"E	S88°25'49"E
C2	23.56	15.00'	90°00'00"	S46°34'11"W	21.21'	S1°34'11"W	N88°25'49"W
C3	23.56	15.00'	90°00'00"	S43°25'49"E	21.21'	S88°25'49"E	S1°34'11"W
C4	208.99'	133.00'	90°01'53"	S43°26'45"E	188.14'	S1°34'11"W	S88°27'42"E
C5	72.21'	133.00'	31°06'26"	S13°59'02"E	71.33'	S1°34'11"W	S29°32'15"E
C6	65.95'	133.00'	28°24'39"	S43°44'35"E	65.28'	S29°32'15"E	S57°56'54"E
C7	65.95'	133.00'	28°24'39"	S72°09'14"E	65.28'	S57°56'54"E	S86°21'33"E
C8	4.88'	133.00'	2°06'09"	S87°24'38"E	4.88'	S86°21'33"E	S88°27'42"E
C9	105.28'	67.00'	90°01'53"	N43°26'45"W	94.78'	N88°27'42"W	N1°34'11"E
C10	23.55'	15.00'	89°58'07"	S46°33'15"W	21.21'	S1°34'11"W	N88°27'42"W
C11	23.57'	15.00'	90°01'53"	S43°26'45"E	21.22'	S1°34'11"W	S88°27'42"E
C12	38.10'	25.00'	87°19'42"	S45°16'26"W	34.52'	S1°36'35"W	S88°56'17"W
C13	3.87'	25.00'	8°51'55"	S6°02'33"W	3.86'	S1°36'35"W	S10°28'31"W
C14	34.24'	25.00'	78°27'47"	S49°42'24"W	31.62'	S10°28'31"W	S88°56'17"W

CENTER LINE OF RIGHT-OF-WAY CURVE TABLE							
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH	TANGENT IN	TANGENT OUT
C15	157.13'	100.00'	90°01'53"	S43°26'45"E	141.46'	S1°34'11"W	S88°27'42"E

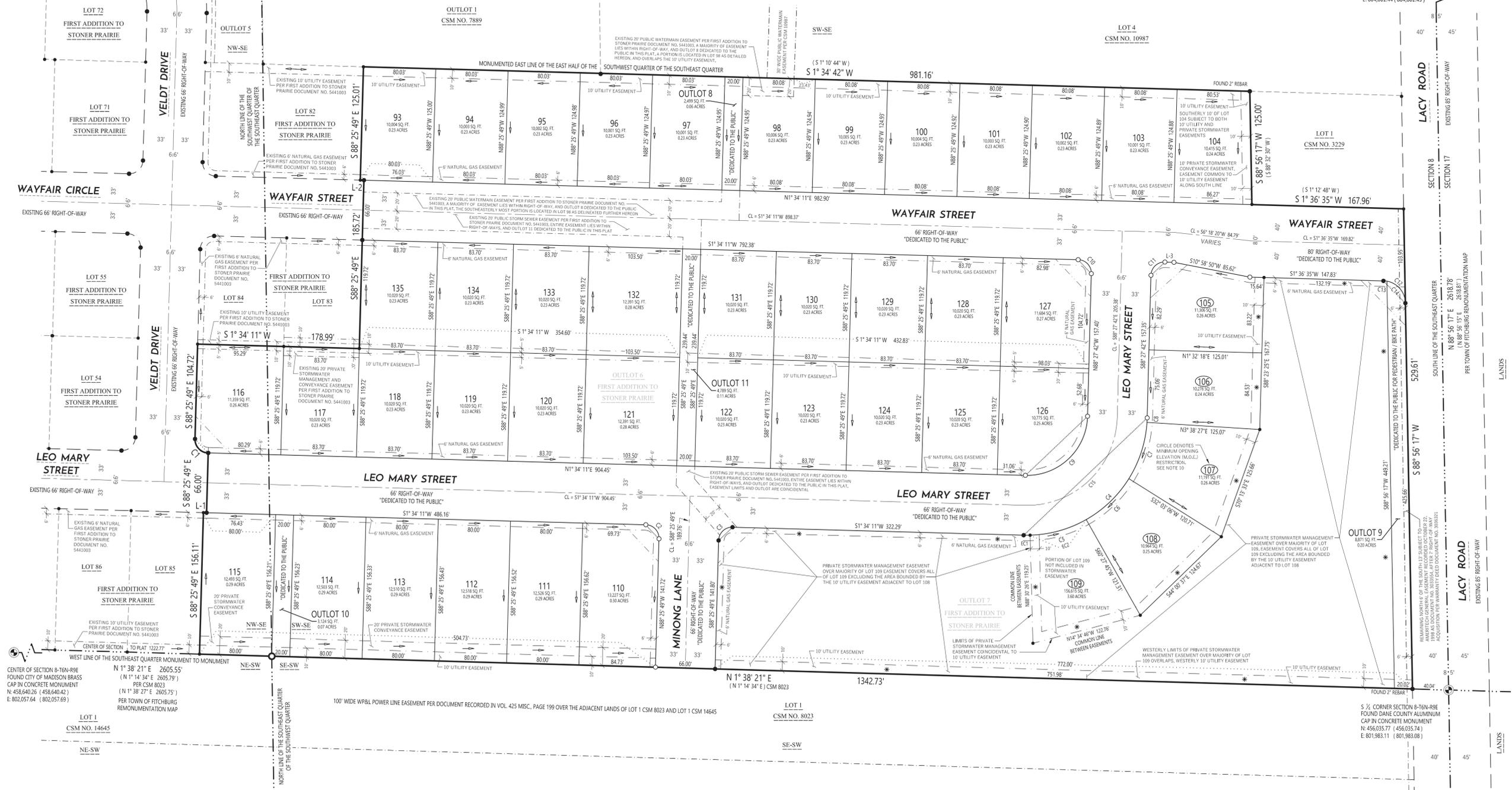
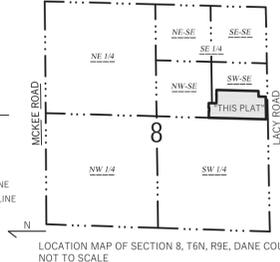
EASEMENT CURVE TABLE							
CURVE #	CURVE LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH	TANGENT IN	TANGENT OUT
EC1	7.11'	133.00'	3°03'45"	S0°02'19"W	7.11'	S1°34'11"W	S1°29'34"E
EC2	65.10'	133.00'	28°02'42"	S15°30'54"E	64.45'	S1°29'34"E	S29°32'15"E

There are no objections to this plat with respect to Secs. 236.15, 236.16, 236.20 and 236.21(1) and (2), Wis. Stats. as provided by s. 236.12, Wis. Stats.



SURVEYED BY:  
WYSER ENGINEERING  
312 EAST MAIN STREET  
MOUNT HOREB, WI 53572  
www.wyserengineering.com

- FOUND PLSS SECTION MONUMENT TYPE NOTED
- FOUND 3/4" REBAR
  - FOUND 1-1/4" REBAR UNLESS NOTED
  - FOUND 2" IRON PIPE
  - SET 1-1/4" X 1/8" REBAR 4.30 LBS./LIN. FT.
  - DRAINAGE INDICATORS
  - RECORDED AS
- PLAT BOUNDARY  
PLATTED LINE  
RIGHT-OF-WAY LINE  
CENTERLINE  
SECTION/QUARTER LINE  
EXISTING EASEMENT LINE  
EASEMENT LINE  
VISION LINE



# SECOND ADDITION TO STONER PRAIRIE

OUTLOT 6 AND 7 OF FIRST ADDITION TO STONER PRAIRIE RECORDED ON SEPTEMBER 13, 2018 IN VOLUME 60-099B OF PLATS ON PAGES 555-556 AS DOCUMENT NO. 5441003 BEING A PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWN 6 NORTH, RANGE 9 EAST, ALL IN THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

## CERTIFICATE OF CITY TREASURER

STATE OF WISCONSIN)  
DANE COUNTY) ss.

I, MISTY DODGE, BEING THE DULY ELECTED, QUALIFIED AND ACTING CITY TREASURER OF THE CITY OF FITCHBURG, DO HEREBY CERTIFY THAT IN ACCORDANCE WITH THE RECORDS IN MY OFFICE, THERE ARE NO UNPAID TAXES OR UNPAID SPECIAL ASSESSMENTS AS OF:

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, ON ANY OF THE LANDS INCLUDED IN THE PLAT OF SECOND ADDITION TO STONER PRAIRIE.

DATE \_\_\_\_\_ MISTY DODGE, CITY TREASURER

## CERTIFICATE OF COUNTY TREASURER

STATE OF WISCONSIN)  
DANE COUNTY) ss.

I, ADAM GALLAGHER, BEING THE DULY ELECTED, QUALIFIED AND ACTING COUNTY TREASURER OF DANE COUNTY, DO HEREBY CERTIFY THAT IN ACCORDANCE WITH THE RECORDS IN MY OFFICE, THERE ARE NO UNREDEEMED TAX SALES AND NO UNPAID TAXES OR SPECIAL ASSESSMENTS AS OF:

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, AFFECTING THE LANDS INCLUDED IN THE PLAT OF SECOND ADDITION TO STONER PRAIRIE.

DATE \_\_\_\_\_ ADAM GALLAGHER, COUNTY TREASURER

## CERTIFICATE OF CITY CLERK

STATE OF WISCONSIN)  
DANE COUNTY) ss.

\*RESOLVED THAT THIS PLAT KNOWN AS SECOND ADDITION TO STONER PRAIRIE, LOCATED IN THE CITY OF FITCHBURG WAS HEREBY APPROVED BY RESOLUTION NO. \_\_\_\_\_, FILE NUMBER \_\_\_\_\_ ADOPTED ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, AND FURTHER RESOLVED THAT THE CONDITIONS OF SAID APPROVAL WERE FULFILLED ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, AND THAT SAID RESOLUTION FURTHER PROVIDED FOR THE ACCEPTANCE OF THOSE LANDS AND RIGHTS DEDICATED BY SAID STONER PRAIRIE FOR PUBLIC USE.

DATE \_\_\_\_\_ TRACY OLDENBURG, CITY CLERK

## OWNER'S CERTIFICATE OF DEDICATION

HDP STONER PRAIRIE, LLC AS OWNER, WE HEREBY CERTIFY THAT WE CAUSED THE LAND DESCRIBED ON THIS PLAT TO BE SURVEYED, DIVIDED, MAPPED AND DEDICATED AS REPRESENTED ON THE PLAT. WE ALSO CERTIFY THAT THIS PLAT IS REQUIRED BY S.236.10 OR S.236.12 TO BE SUBMITTED TO THE FOLLOWING FOR APPROVAL OR OBJECTION:

DEPARTMENT OF ADMINISTRATION  
COMMON COUNCIL, CITY OF FITCHBURG  
DANE COUNTY ZONING AND NATURAL RESOURCES COMMITTEE

WITNESS THE HAND AND SEAL OF SAID OWNER THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, IN PRESENCE OF:

HDP STONER PRAIRIE LLC  
BY: MANAGING MEMBER

STATE OF \_\_\_\_\_ )  
\_\_\_\_\_ COUNTY) ss.

PERSONALLY CAME BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_,

THE ABOVE NAMED \_\_\_\_\_ MANAGING MEMBER TO ME KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED THE SAME.

NOTARY PUBLIC, \_\_\_\_\_,

STATE OF \_\_\_\_\_

MY COMMISSION EXPIRES \_\_\_\_\_

## OWNER'S CERTIFICATE OF DEDICATION

O'BRIEN FAMILY LIMITED PARTNERSHIP AS OWNER, WE HEREBY CERTIFY THAT WE CAUSED THE LAND DESCRIBED ON THIS PLAT TO BE SURVEYED, DIVIDED, MAPPED AND DEDICATED AS REPRESENTED ON THE PLAT. WE ALSO CERTIFY THAT THIS PLAT IS REQUIRED BY S.236.10 OR S.236.12 TO BE SUBMITTED TO THE FOLLOWING FOR APPROVAL OR OBJECTION:

DEPARTMENT OF ADMINISTRATION  
COMMON COUNCIL, CITY OF FITCHBURG  
DANE COUNTY ZONING AND NATURAL RESOURCES COMMITTEE

WITNESS THE HAND AND SEAL OF SAID OWNER THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, IN PRESENCE OF:

O'BRIEN FAMILY LIMITED PARTNERSHIP  
BY: MANAGING MEMBER

STATE OF WISCONSIN)  
\_\_\_\_\_ COUNTY) ss.

PERSONALLY CAME BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_,

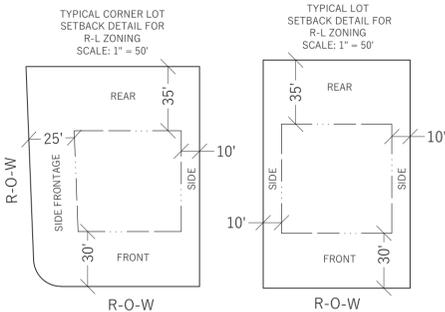
THE ABOVE NAMED \_\_\_\_\_ MANAGING MEMBER TO ME KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED THE SAME.

NOTARY PUBLIC, \_\_\_\_\_,  
WISCONSIN

MY COMMISSION EXPIRES \_\_\_\_\_

## PARCEL SETBACKS FOR R-L ZONING

PER CURRENT ZONING STANDARDS. SEE CITY OF FITCHBURG - CODE OF ORDINANCES CHAPTER 22 - ZONING FOR FURTHER DETAILS. MAY BE SUBJECT TO CHANGES NOT TO SCALE



## SURVEYOR'S CERTIFICATE

I, JULIUS W. SMITH, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY: THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF CHAPTER 236 OF THE WISCONSIN STATUTES, AND PROVISIONS AS STATED IN CHAPTER 24 - LAND DIVISION OF THE CITY OF FITCHBURG - CODE OF ORDINANCES AND UNDER THE DIRECTION OF WILLIAM RYAN HOMES WISCONSIN, INC., I HAVE SURVEYED, DIVIDED AND MAPPED SECOND ADDITION TO STONER PRAIRIE; THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES AND THE SUBDIVISION OF THE LAND SURVEYED; AND THAT THIS LAND IS LOCATED IN THE NW-1/4 OF THE SE-1/4 AND SW-1/4 OF THE SE-1/4 OF SECTION 8, T6N, R9E, CITY OF FITCHBURG, DANE, COUNTY, WISCONSIN, CONTAINING 36.21 ACRES OF LAND AND DESCRIBED AS FOLLOWS:

OUTLOTS 6 AND 7 OF FIRST ADDITION TO STONER PRAIRIE RECORDED ON SEPTEMBER 13, 2018 IN VOLUME 60-099B OF PLATS ON PAGES 555-556 AS DOCUMENT NO. 5441003 BEING A PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER AND THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWN 6 NORTH, RANGE 9 EAST, ALL IN THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

SAID PARCEL CONTAINS 795,908 SQUARE FEET OR 18.27 ACRES

DATED THIS 14TH DAY OF NOVEMBER, 2019.

JULIUS W. SMITH, S-3091  
WISCONSIN PROFESSIONAL LAND SURVEYOR

REVISED THIS XXTH DAY OF XXXXX, 2019.



## OFFICE OF THE REGISTER OF DEEDS

\_\_\_\_\_ COUNTY, WISCONSIN

RECEIVED FOR RECORD \_\_\_\_\_

20\_\_ AT \_\_\_\_\_ O'CLOCK \_\_\_\_\_ M AS

DOCUMENT # \_\_\_\_\_

IN VOL. \_\_\_\_\_ OF PLATS.

ON PAGE(S) \_\_\_\_\_

REGISTER OF DEEDS

There are no objections to this plat with respect to Secs. 236.15, 236.16, 236.20 and 236.21(1) and (2), Wis. Stats. as provided by s. 236.12, Wis. Stats.  
Certified \_\_\_\_\_, 20\_\_\_\_  
Department of Administration



PREPARED FOR:  
WILLIAM RYAN HOMES WISCONSIN, INC.  
5989 MONONA DRIVE  
MONONA, WI 53716



SURVEYED BY:  
WYSER ENGINEERING  
312 EAST MAIN STREET  
MOUNT HOREB, WI 53572  
www.wyserengineering.com



## **APPENDIX B**

Proposed Construction Plans





**LEGEND (SAME FOR PROFILE DRAWINGS)**

- PROPERTY BOUNDARY
- - - LIMITS OF DISTURBANCE
- 1039— PROPOSED MAJOR CONTOUR
- 1040— PROPOSED MINOR CONTOUR
- PROPOSED STORM SEWER
- SILT FENCE
- ▨ EROSION MATTING
- ▨ HYDROSEEDED (PUBLIC AREAS)
- ▨ INLET PROTECTION
- ▨ DITCH CHECK



**UTILITY NOTES**

CONTRACTOR TO PROVIDE SOLID LID OR METAL PLATE ON ALL OPEN MANHOLES DURING CONSTRUCTION TO MINIMIZE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.

INSTALL FRAMED INLET PROTECTION IN ALL CATCH BASINS AND INLETS THAT MAY RECEIVE RUNOFF FROM AREAS UNDER CONSTRUCTION, INCLUDING INLETS INSTALLED AS PART OF THIS PROJECT.

**GRADING NOTES**

SEDIMENT CONTROL ITEMS SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS AND BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF EROSION CONTROL ITEMS UNTIL FINAL ACCEPTANCE OF THE SITE BY THE CITY.

ALL DISTURBED AREAS WILL RECEIVE INTERIM SEEDING & MULCH WITHIN 7 DAYS OF GRADING.

INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.

PROPOSED CONTOURS REPRESENT FINAL DESIGN GRADES AT THE SURFACE.

ADD BERRING, ROCK CHECK DAMS, WEEPERS AND SILT FENCE TO PROTECT THE SITE AS IS WARRANTED BY CONSTRUCTION PRACTICES TO PROTECT THE SITE IN ACCORDANCE WITH WHAT IS SHOWN ON THE PLANS.

ALL DITCHES AND SWALES TO BE LINED WITH EROSION MAT, CLASS II, TYPE C (ROLANKA'S BIOD-MAT 70 OR APPROVED EQUAL).

ALL SLOPES EXCEEDING 5:1 (20%) SHALL BE STABILIZED WITH CLASS I, URBAN, TYPE A (EXCEL SR-1 ALL NATURAL OR APPROVED EQUAL) EROSION MATTING OR APPLICATION OF A WISDOT APPROVED POLYMER SOIL STABILIZATION TREATMENT OR A COMBINATION THEREOF.

**GENERAL GRADING AND EROSION CONTROL NOTES**

THE PROJECT HAS BEEN DESIGNED AND MUST BE CONSTRUCTED IN COMPLIANCE WITH ALL OF THE WDNR GENERAL PERMIT APPLICATION ELIGIBILITY STANDARDS AND CITY OF FITCHBURG REQUIREMENTS.

ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT DEPARTMENT OF NATURAL RESOURCES EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS.

TRACKED SOIL FROM THE SITE TO STREETS SHALL BE COLLECTED AT THE END OF EACH WORK DAY OR AS DIRECTED BY THE CITY/STATE INSPECTORS OR ENGINEER

THE SITE DOWNSTREAM OF THE CONSTRUCTION AREAS SHALL HAVE SILT FENCE OR INTERIM MANUFACTURED PERIMETER EROSION CONTROL PRODUCT INSTALLED UNTIL ALL CONSTRUCTION IS COMPLETED AND STABILIZED AND THE SITE HAS BEEN ACCEPTED BY THE CITY.

EROSION CONTROL MEASURES SHOWN ON THE PLAN SHALL BE CONSIDERED MINIMUMS. ADDITIONAL EROSION CONTROL ITEMS MAY BE REQUIRED BY STATE INSPECTORS, CITY INSPECTORS AND/OR ENGINEER TO CONTROL SITE CONDITIONS. THESE ITEMS SHALL BE INSTALLED WITHIN 48 HOURS OF REQUEST.

EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL EVENT EXCEEDING 0.5 INCHES WITHIN 24 HOURS. REPAIR OF EROSION CONTROL MEASURES SHALL OCCUR WITHIN 24 HOURS OF INSPECTION. CONTRACTOR SHALL MAINTAIN AN ON-SITE WRITTEN REPORT OF ALL INSPECTIONS FOR THE DURATION OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING COPIES OF ALL REQUIRED PERMITTRACK INSPECTION REPORTS UNTIL THE SITE IS ESTABLISHED.

STONE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION.

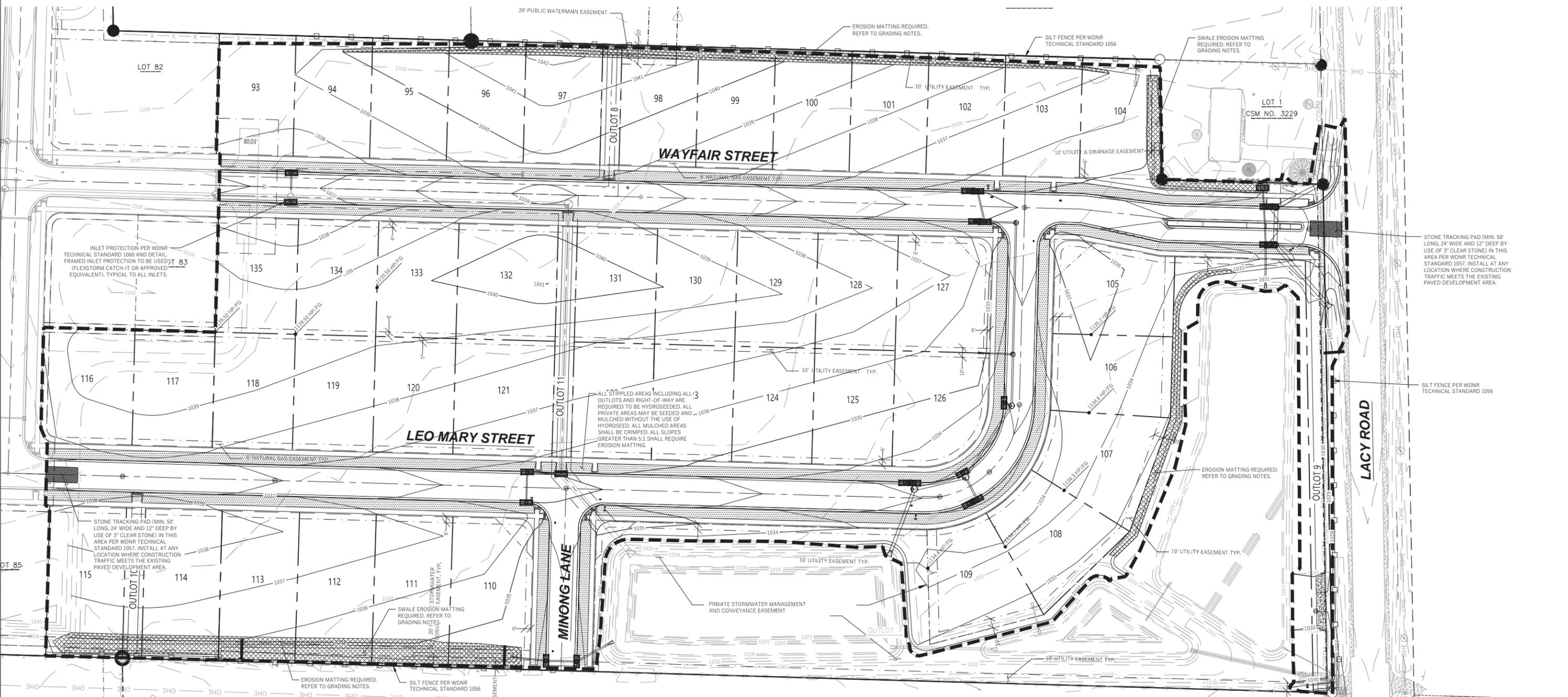
ALL CONSTRUCTION TRAFFIC MUST USE STONE TRACKING PAD.

STONE TRACKING PAD SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT.

NO CONSTRUCTION ACCESS IS ALLOWED FROM WAYFAIR DRIVE OR LEO MARY STREET. ALL CONSTRUCTION TRAFFIC SHOULD ACCESS THE SITE FROM LACY ROAD.

**SEEDING NOTES**

1. AFTER COMPLETION OF ROUGH GRADING, AREAS AT FINAL GRADES SHALL BE VEGETATED BY SEEDING WITH EARTH CARPET MADISON PARKS APPLIED AT A RATE OF 5 POUNDS/1,000 SF. WINTER VEGETATION SHALL BE BY DORMANT SEEDING.
2. ALL AREAS THAT SHALL BE PERMANENTLY VEGETATED SHALL BE COVERED WITH 6" TOPSOIL AND STABILIZED USING ONE OF THE FOLLOWING METHODS:
  - 2.1. SLOPES EXCEEDING 5:1 (20%) SHALL BE STABILIZED WITH CLASS I, URBAN, TYPE A MAT. SEE GRADING NOTES.
  - 2.2. ON PRIVATE PROPERTY ALL NON CHANNELLED SLOPES Milder THAN 5:1 (20%) MAY BE STABILIZED WITH MULCH APPLIED AT A RATE OF 3 TONS/ACRE AND CRIMPED IN PLACE OR BY HYDROMULCHING TO EQUIVALENT STANDARD AS APPROVED BY ENGINEER. HYDROMULCHING IS REQUIRED IN PUBLIC RIGHT OF WAY.
  - 2.3. ALL DITCHES AND SWALES SHALL BE LINED WITH CLASS II, TYPE C EROSION MAT. SEE GRADING NOTES.
3. SEED MIXTURE WDOT 40 SHALL BE USED TO RESTORE DITCHES AND LOT AREAS. TERRACES AND PARKLAND SHALL BE SEEDING WITH EARTH CARPET MADISON PARKS. MIXES SHALL BE APPLIED AT A RATE OF 5 POUNDS/1,000 SF.
4. THE LOWER TIER OF THE WET DETENTION BASIN, NORMAL WATER LEVEL TO TWO FEET ABOVE NORMAL WATER LEVEL, SHALL BE SEEDING WITH AGRECOL SEDGE MEADOW OR APPROVED EQUIVALENT AND AGRECOL SHORT GRASS PRAIRIE FOR MEDIUM SOILS OR APPROVED EQUIVALENT FOR THE REMAINDER OF THE BASIN BOTH AT A RATE OF 6 POUNDS / ACRE.



































## **APPENDIX C**

Storm Sewer & Swale Sizing / Inlet Capacity Calculations / RipRap Sizing





Location Structure			TOTAL AREA	Open Space	Residential Watershed Area	ROW	Travel Time Flow Time				Rainfall-Runoff						Flow in Pipe				Vertical Control				PIPE WIDTH	COVER			
Upstream	Downstream	Number	Area A Acres	Runoff Coeff. C	Equiv. Area for 100% Runoff delta CA Acres	Area for Runoff Sum CA Acres	Inlet Time Min.	Street Min.	Pipe Min.	Time of Concentration Min.	Ave. Rainfall Intensity 10-year in/hr	Ave. Rainfall Intensity 100-year	Direct Runoff 10-year cfs	Direct Runoff 100-year cfs	Design Runoff cfs	Slope of Sewer ft/ft	Pipe Size in	Capacity flowing full cfs	Mean velocity flowing full fps	Length of pipe ft	fall of pipe ft	Invert Elv. upper ft	Invert Elv. lower ft	Top of structure upper ft	Top of structure lower ft				
STM MH NO. 2	AES NO. 1	P - 1				2.60		0.2	5.0		-	11.0	-	28.68	28.68	0.0050	30	29.00	OK	5.91	68.81	0.34	1028.09	1027.75	1032.87	-	2.29	2.48 OK	
		INL 2A	50677	0	37720	12957	1.16	0.40	0.47										OK	7.86	6.68	0.20	1029.29	1029.09	1032.66	1032.87	1.17	2.20 OK	
STM MH NO. 3	STM MH NO. 2	P - 2				2.13		0.2	5.0		-	11.0	-	23.53	23.53	0.0040	30	25.94	OK	5.28	53.75	0.21	1028.31	1028.09	1032.49	1032.87	2.29	1.89 WARNING	
		INL 3A	12413	0	7893	4520	0.28	0.45	0.13										OK	4.54	5.20	0.05	1029.36	1029.31	1032.55	1032.49	1.17	2.02 OK	
		INL 3B	38386	0	14386	24000	0.88	0.55	0.48										OK	3.76	26.45	0.11	1028.91	1028.81	1032.64	1032.55	1.71	2.02 OK	
STM MH NO. 4	STM MH NO. 3	P - 3				1.52		0.3	5.0		-	11.0	-	16.79	16.79	0.0055	24	16.78	OK	5.34	91.88	0.51	1028.81	1028.31	1033.09	1032.49	2.25	2.03 OK	
		INL 4A	13586	0	9072	4514	0.31	0.43	0.14										OK	4.54	7.85	0.08	1029.89	1029.81	1033.06	1033.09	1.17	2.00 OK	
STM MH NO. 5	STM MH NO. 4	P - 4				1.39		0.2	5.0		7.3	-	10.11	-	10.11	0.0070	21	13.26	OK	5.51	50.72	0.36	1029.42	1029.06	1033.46	1032.64	1.98	2.06 OK	
		AES 5A	54725	0	54725	0	1.26	0.30	0.38										OK	17.57	30.86	4.63	1034.80	1030.17	-	1033.46	1.17	- OK	
STM MH NO. 6	STM MH NO. 5	P - 5				1.01		0.5	5.0		7.3	-	7.36	-	7.36	0.0070	18	8.79	OK	4.97	137.02	0.96	1030.63	1029.67	1034.68	1033.06	1.71	2.34 OK	
STM INL 6A	STM MH NO. 6	P - 6				1.01		1.0	5.0		7.3	-	7.36	-	7.36	0.0150	15	7.91	OK	6.45	32.86	0.49	1031.37	1030.88	1034.90	1034.68	1.44	2.09 OK	
		INL 6A	40349	0	25273	15076	0.93	0.45	0.42										-	-	-	-	-	-	-	-	-	-	-
STM INL 6B	STM INL 6A	P - 6A				0.59		1.0	5.0		7.3	-	4.33	-	4.33	0.0050	15	4.57	OK	3.72	25.40	0.13	1031.50	1031.37	1034.97	1034.90	1.44	2.03 OK	
		INL 6B	66681	0	51903	14778	1.53	0.39	0.59										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 7A	AES NO. 7	P - 7				0.65		0.2	5.0		-	11.0	-	7.19	7.19	0.0050	18	7.43	OK	4.20	37.83	0.19	1029.19	1029.00	1033.19	-	1.71	2.29 OK	
		INL 7A	5575	0	0	5575	0.13	0.70	0.09										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 7B	STM INL NO. 7A	P - 7A				0.56		0.1	5.0		-	11.0	-	6.20	6.20	0.0100	15	6.46	OK	5.26	31.81	0.32	1029.76	1029.44	1033.19	1033.19	1.44	2.00 WARNING	
		INL 7B	11905	0	5434	6471	0.27	0.52	0.14										-	-	-	-	-	-	-	-	-	-	-
AES NO. 7C	STM INL NO. 7B	P - 7B				0.42		0.1	5.0		-	11.0	-	4.65	4.65	0.0400	12	7.13	OK	9.07	31.50	1.26	1031.27	1030.01	-	1033.19	1.17	- OK	
		AES 7C	61203	0	61203	0	1.41	0.30	0.42										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 8A	STM MH NO. 6	P - 8				0.81		0.1	5.0		7.3	-	5.89	-	5.89	0.0200	15	9.14	OK	7.44	27.42	0.55	1030.89	1030.34	1035.08	-	1.44	2.75 OK	
		INL 8A	58445	0	44074	14371	1.34	0.40	0.53										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 8B	STM INL NO. 8A	P - 8A				0.27		0.1	5.0		7.3	-	2.00	-	2.00	0.0200	12	5.04	OK	6.42	31.65	0.63	1031.77	1031.14	1035.09	1035.08	1.17	2.15 OK	
		INL 8B	21657	0	7972	13685	0.50	0.55	0.27										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 9A	AES NO. 9	P - 9				0.53		0.1	5.0		-	11.0	-	5.85	5.85	0.0125	15	7.22	OK	5.89	39.55	0.49	1027.99	1027.50	1032.82	-	1.44	3.39 OK	
		INL 9A	10286	0	1989	8297	0.24	0.62	0.15										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 9B	STM INL NO. 9A	P - 9A				0.38		0.1	5.0		-	11.0	-	4.23	4.23	0.0150	12	4.36	OK	5.56	39.67	0.60	1028.84	1028.24	1032.82	1032.82	1.17	2.81 OK	
		INL 9B	26493	0	16370	10123	0.61	0.45	0.28										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 9C	STM INL NO. 9B	P - 9B				0.11		0.1	5.0		7.3	-	0.79	-	0.79	0.0075	12	3.09	OK	3.93	20.00	0.15	1028.99	1028.84	1032.20	1032.82	1.17	2.04 OK	
		INL 9C	15745	0	15745	0	0.36	0.30	0.11										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 10A	AES NO. 10	P - 10				6.93		0.2	9.5		5.6	-	39.06	-	39.06	0.0040	36	42.18	OK	5.97	84.20	0.34	1028.73	1028.39	1032.66	-	2.75	1.18 WARNING	
		INL 10A	418	0	0	418	0.01	0.70	0.01										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 10B	STM INL NO. 10A	P - 10A				6.92		0.1	9.2		5.7	-	39.44	-	39.44	0.0040	36	42.18	OK	5.97	39.52	0.16	1028.88	1028.73	1032.66	1032.66	2.75	1.03 WARNING	
		INL 10B	357	0	0	357	0.01	0.70	0.01										-	-	-	-	-	-	-	-	-	-	-
AES NO. 10C	STM INL NO. 10B	P - 10B				6.91		0.1	9.1		5.7	-	39.41	-	39.41	0.0060	36	51.66	OK	7.31	53.79	0.32	1029.21	1028.88	-	1032.66	2.83	-	
		AES 10C	1821545	1226545	595000	0	41.82	0.17	6.91										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 12A	EX. P - 7A	P - 12				0.50		0.0	5.0		7.3	-	3.65	-	3.65	0.0200	15	9.14	OK	7.44	16.59	0.33	1032.88	1032.55	1036.43	-	1.44	2.11 OK	
		INL 12A	57499	0	46053	11446	1.32	0.38	0.50										-	-	-	-	-	-	-	-	-	-	-
STM INL NO. 12B	EX. P - 7B	-				-		0.0	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		INL 12B	38258	0	26875	11383	0.88	0.42	0.37										OK	9.07	0.01	0.00	1033.10	1033.10	1036.43	-	1.17	2.16 OK	

Structure No.	Casting Type	Area Peak Flow Qp (cfs)	Carryover From Upstream Inlet q (cfs)	Total Flow Q (cfs)	Clogging Factor Adj. Flow Qc (cfs)	Length of Inlet Opening L (ft)	Area of Inlet Opening A (sq. ft.)	Flow Depth d (ft)	Type of Flow	Maximum Allowable Depth D (ft)	Maximum Grate Capacity Qmax (ft)	No. Inlets Required	Inlet Bypass (Qc - Qmax) q (cfs)	Maximum Allowable Depth D (ft)	Transverse Slope Z (ft/ft)	Longitudinal Slope S (ft/ft)	Roughness Coefficient N	Maximum Flow in Street Q (cfs)	Grate Coefficient K	Maximum Grate Capacity Qmax (ft)	No. Inlets Required	Inlet Bypass (Qc - Qmax) q (cfs)
1	2	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
INL 2A	R-3067 (L)	5.16	0.00	5.16	5.16	5.90	2.10	0.440	Weir Flow	-	-	-	-	0.33	0.02	0.006	0.016	7.05	12.84	4.044	2	1.11
INL 3A	R-3067 (VB)	1.40	1.11	2.51	2.51	5.80	2.70	0.275	Weir Flow	0.33	3.628	1	0.00	-	-	-	-	-	-	-	-	0.00
INL 3B	R-3067 (L)	5.34	0.00	5.34	5.34	5.90	2.10	0.450	Weir Flow	0.33	7.382	2	0.00	-	-	-	-	-	-	-	-	0.00
INL 4A	R-3067 (L)	1.49	0.00	1.49	1.49	5.90	2.10	0.192	Weir Flow	-	-	-	-	0.33	0.02	0.0074	0.016	7.83	14.016	2.2068	1	0.00
INL 6A	R-3067 (L)	3.03	0.00	3.03	3.03	5.90	2.10	0.308	Weir Flow	-	-	-	-	0.33	0.02	0.0086	0.016	8.44	15.024	4.7304	2	0.00
INL 6B	R-3067 (L)	4.33	0.00	4.33	4.33	5.90	2.10	0.391	Weir Flow	-	-	-	-	0.33	0.02	0.0086	0.016	8.44	15.024	4.7304	2	0.00
INL 7A	R-3067 (L)	0.99	0.00	0.99	0.99	5.90	2.10	0.146	Weir Flow	-	-	-	-	0.33	0.02	0.005	0.016	6.44	12	1.89	1	0.00
INL 7B	R-3067 (L)	1.56	0.00	1.56	1.56	5.90	2.10	0.198	Weir Flow	-	-	-	-	0.33	0.02	0.005	0.016	6.44	12	1.89	1	0.00
INL 8A	R-3067 (L)	3.89	0.00	3.89	3.89	5.90	2.10	0.364	Weir Flow	-	-	-	-	0.33	0.02	0.006	0.016	7.05	12.84	4.044	2	0.00
INL 8B	R-3067 (L)	2.00	0.00	2.00	2.00	5.90	2.10	0.234	Weir Flow	-	-	-	-	0.33	0.02	0.006	0.016	7.05	12.84	2.022	1	0.00
INL 9A	R-3067 (L)	1.62	0.00	1.62	1.62	5.90	2.10	0.203	Weir Flow	-	-	-	-	0.33	0.02	0.03	0.016	15.76	33	5.19	1	0.00
INL 9B	R-3067 (L)	3.04	0.00	3.04	3.04	5.90	2.10	0.309	Weir Flow	-	-	-	-	0.33	0.02	0.03	0.016	15.76	33	5.19	1	0.00
INL 9C	R-2560-E	0.79	0.00	0.79	0.79	6.00	1.20	0.125	Weir Flow	0.50	4.083	1	0.00	-	-	-	-	-	-	-	-	0.00
INL 10A	R-3067 (L)	0.05	0.00	0.05	0.05	5.90	2.10	0.020	Weir Flow	-	-	-	-	0.33	0.02	0.035	0.016	17.03	37.2	5.85	1	0.00
INL 10B	R-3067 (L)	0.04	0.00	0.04	0.04	5.90	2.10	0.018	Weir Flow	-	-	-	-	0.33	0.02	0.035	0.016	17.03	37.2	5.85	1	0.00
INL 12A	R-3067 (L)	3.65	0.00	3.65	3.65	5.90	2.10	0.349	Weir Flow	0.33	3.691	1	0.00	-	-	-	-	-	-	-	-	0.00
INL 12B	R-3067 (L)	2.68	0.00	2.68	2.68	5.90	2.10	0.284	Weir Flow	0.33	3.691	1	0.00	-	-	-	-	-	-	-	-	0.00

Inlet Information				
Inlet Type	Inlet Perimeter P (ft)	Grated Open Area A (sf)	Inlet Inlet Clogging Factor (%)	Comments
R-3067 (VB)	5.800	2.700	100	IN-SAG CONDITIONS
R-3067 (L)	5.900	2.100	100	ON GRADE FLOW CONDITIONS
R-2560-E	6.000	1.200	100	IN-SAG CONDITIONS

Inlet information must appear in an alpha-numeric ascending order or spreadsheet will lookup incorrect values. The Inlet Clogging Factor indicates percent of flow allowed. Gutter flow is calculated assuming a normal gutter section. In normal conditions the addition of a curb box to a grate on grade has negligible flow additions and are thus ignored. The curb opening, however has a positive effect on clogging and should be reflected in the clogging factor. For Grate Types use the following: 1 = degree tilt bar, 2 = 45 degree tilt bar, 3 = curved vane, 4 = P-1-1/8, 5 = P-1-7/8, 6 = P-1-7/8-4, and 7 = reticuline.

$$IF((3*M13*(Q13^1.5)) > (0.67*N13*((2*32.16*Q13)^0.5)), (0.67*N13*((2*32.16*Q13)^0.5)), (3*M13*(Q13^1.5)))$$

**Calculations and Equations are Based On:**  
Drainage of Highway Pavements, HEC No. 12  
 By: Frank L. Johnson and Fred F.M. Chang  
 Prepared for: Federal Highway Administration  
 Report Date: March 1984

Inlet Information (On Grade Flow Conditions) - 0.25 ft depth					
Inlet Type	Transverse Slope Z (ft/ft)	Longitudinal Slope S (ft/ft)	Grate Coefficient Factor* K	Grate Capacity Qmax (cfs)	Comments
R-3067 (L)	0.020	0.005	12	1.19	Grate Capacity calculation based upon Neenah Foundry Calculator
	0.020	0.010	16.2	1.61	
	0.020	0.015	18.2	1.81	
	0.020	0.020	20.2	2.00	
	0.020	0.025	21.7	2.15	
	0.020	0.030	23	2.28	
	0.020	0.040	26	2.58	
	0.020	0.050	28.2	2.80	
0.020	0.060	31.5	3.13		

\* From Neenah Foundry K-Chart

Inlet Information (On Grade Flow Conditions) - 0.33 ft depth					
Inlet Type	Transverse Slope Z (ft/ft)	Longitudinal Slope S (ft/ft)	Grate Coefficient Factor* K	Grate Capacity Qmax (cfs)	Comments
R-3067 (L)	0.020	0.005	12	1.89	Grate Capacity calculation based upon Neenah Foundry Calculator
	0.020	0.010	16.2	2.55	
	0.020	0.015	18.2	2.87	
	0.020	0.020	20.2	3.18	
	0.020	0.025	21.7	3.42	
	0.020	0.030	23	3.62	
	0.020	0.040	26	4.10	
	0.020	0.050	28.2	4.44	
0.020	0.060	31.5	4.96		

\* From Neenah Foundry K-Chart



Central Swale



To AES 5A



West Swale



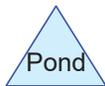
To AES 7B



Central Swale



To Inl 9C



## Swale Sizingt

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### Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.058	98	35% Impervious on SF Lots, HSG B (21S, 24S, 48S)
1.965	61	65% Impervious on SF Lots, HSG B (21S, 24S, 48S)
<b>3.023</b>	<b>74</b>	<b>TOTAL AREA</b>

## Swale Sizingt

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### Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.023	HSG B	21S, 24S, 48S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
<b>3.023</b>		<b>TOTAL AREA</b>

# Swale Sizingt

## Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.058	0.000	0.000	0.000	1.058	35% Impervious on SF Lots	21S, 24S, 48S
0.000	1.965	0.000	0.000	0.000	1.965	65% Impervious on SF Lots	21S, 24S, 48S
<b>0.000</b>	<b>3.023</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>3.023</b>	<b>TOTAL AREA</b>	

## Swale Sizing

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MSE 24-hr 4 25-Year Rainfall=5.01"

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Time span=0.00-60.00 hrs, dt=0.05 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 21S: West Swale**      Runoff Area=61,203 sf   35.00% Impervious   Runoff Depth=2.56"  
Tc=6.0 min   CN=WQ   Runoff=4.97 cfs   0.300 af

**Subcatchment 24S: Central Swale**      Runoff Area=15,745 sf   35.00% Impervious   Runoff Depth=2.56"  
Tc=6.0 min   CN=WQ   Runoff=1.28 cfs   0.077 af

**Subcatchment 48S: Central Swale**      Runoff Area=54,720 sf   35.00% Impervious   Runoff Depth=2.56"  
Tc=6.0 min   CN=WQ   Runoff=4.45 cfs   0.268 af

**Reach 20R: To AES 5A**      Avg. Flow Depth=0.35'   Max Vel=1.74 fps   Inflow=4.45 cfs   0.268 af  
n=0.025   L=200.0'   S=0.0050 '/'   Capacity=8.52 cfs   Outflow=4.05 cfs   0.268 af

**Reach 23R: To AES 7B**      Avg. Flow Depth=0.43'   Max Vel=2.02 fps   Inflow=4.97 cfs   0.300 af  
n=0.025   L=200.0'   S=0.0050 '/'   Capacity=24.01 cfs   Outflow=4.53 cfs   0.300 af

**Reach 25R: To Inl 9C**      Avg. Flow Depth=0.18'   Max Vel=1.27 fps   Inflow=1.28 cfs   0.077 af  
n=0.025   L=150.0'   S=0.0053 '/'   Capacity=3.66 cfs   Outflow=1.17 cfs   0.077 af

**Total Runoff Area = 3.023 ac   Runoff Volume = 0.646 af   Average Runoff Depth = 2.56"**  
**65.00% Pervious = 1.965 ac   35.00% Impervious = 1.058 ac**

**Swale Sizing**

MSE 24-hr 4 25-Year Rainfall=5.01"

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**Summary for Subcatchment 21S: West Swale**

Runoff = 4.97 cfs @ 12.13 hrs, Volume= 0.300 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
MSE 24-hr 4 25-Year Rainfall=5.01"

	Area (sf)	CN	Description
*	21,421	98	35% Impervious on SF Lots, HSG B
*	39,782	61	65% Impervious on SF Lots, HSG B
	61,203		Weighted Average
	39,782		65.00% Pervious Area
	21,421		35.00% Impervious Area

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

**Summary for Subcatchment 24S: Central Swale**

Runoff = 1.28 cfs @ 12.13 hrs, Volume= 0.077 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
MSE 24-hr 4 25-Year Rainfall=5.01"

	Area (sf)	CN	Description
*	5,511	98	35% Impervious on SF Lots, HSG B
*	10,234	61	65% Impervious on SF Lots, HSG B
	15,745		Weighted Average
	10,234		65.00% Pervious Area
	5,511		35.00% Impervious Area

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

**Summary for Subcatchment 48S: Central Swale**

Runoff = 4.45 cfs @ 12.13 hrs, Volume= 0.268 af, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
MSE 24-hr 4 25-Year Rainfall=5.01"

	Area (sf)	CN	Description
*	19,150	98	35% Impervious on SF Lots, HSG B
*	35,570	61	65% Impervious on SF Lots, HSG B
	54,720		Weighted Average
	35,570		65.00% Pervious Area
	19,150		35.00% Impervious Area

## Swale Sizing

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MSE 24-hr 4 25-Year Rainfall=5.01"

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

### Summary for Reach 20R: To AES 5A

Inflow Area = 1.256 ac, 35.00% Impervious, Inflow Depth = 2.56" for 25-Year event  
Inflow = 4.45 cfs @ 12.13 hrs, Volume= 0.268 af  
Outflow = 4.05 cfs @ 12.19 hrs, Volume= 0.268 af, Atten= 9%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
Max. Velocity= 1.74 fps, Min. Travel Time= 1.9 min  
Avg. Velocity = 0.39 fps, Avg. Travel Time= 8.5 min

Peak Storage= 490 cf @ 12.15 hrs  
Average Depth at Peak Storage= 0.35'  
Bank-Full Depth= 0.50' Flow Area= 4.0 sf, Capacity= 8.52 cfs

5.00' x 0.50' deep channel, n= 0.025 Earth, clean & straight  
Side Slope Z-value= 6.0 ' / ' Top Width= 11.00'  
Length= 200.0' Slope= 0.0050 ' / '  
Inlet Invert= 1,037.00', Outlet Invert= 1,036.00'



### Summary for Reach 23R: To AES 7B

Inflow Area = 1.405 ac, 35.00% Impervious, Inflow Depth = 2.56" for 25-Year event  
Inflow = 4.97 cfs @ 12.13 hrs, Volume= 0.300 af  
Outflow = 4.53 cfs @ 12.18 hrs, Volume= 0.300 af, Atten= 9%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
Max. Velocity= 2.02 fps, Min. Travel Time= 1.7 min  
Avg. Velocity = 0.47 fps, Avg. Travel Time= 7.1 min

Peak Storage= 476 cf @ 12.15 hrs  
Average Depth at Peak Storage= 0.43'  
Bank-Full Depth= 1.00' Flow Area= 7.5 sf, Capacity= 24.01 cfs

4.00' x 1.00' deep channel, n= 0.025 Earth, clean & straight  
Side Slope Z-value= 3.0 4.0 ' / ' Top Width= 11.00'  
Length= 200.0' Slope= 0.0050 ' / '  
Inlet Invert= 1,033.00', Outlet Invert= 1,032.00'

# Swale Sizing

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MSE 24-hr 4 25-Year Rainfall=5.01"

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## Summary for Reach 25R: To Inl 9C

Inflow Area = 0.361 ac, 35.00% Impervious, Inflow Depth = 2.56" for 25-Year event  
Inflow = 1.28 cfs @ 12.13 hrs, Volume= 0.077 af  
Outflow = 1.17 cfs @ 12.19 hrs, Volume= 0.077 af, Atten= 8%, Lag= 3.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
Max. Velocity= 1.27 fps, Min. Travel Time= 2.0 min  
Avg. Velocity = 0.26 fps, Avg. Travel Time= 9.7 min

Peak Storage= 145 cf @ 12.15 hrs  
Average Depth at Peak Storage= 0.18'  
Bank-Full Depth= 0.33' Flow Area= 2.0 sf, Capacity= 3.66 cfs

5.00' x 0.33' deep channel, n= 0.025 Earth, clean & straight  
Side Slope Z-value= 3.0 ' / ' Top Width= 6.98'  
Length= 150.0' Slope= 0.0053 ' / '  
Inlet Invert= 1,033.00', Outlet Invert= 1,032.20'



## Swale Sizing

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MSE 24-hr 4 100-Year\_2 Rainfall=6.66" x 2

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Time span=0.00-60.00 hrs, dt=0.05 hrs, 1201 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 21S: West Swale**      Runoff Area=61,203 sf   35.00% Impervious   Runoff Depth=9.69"  
Tc=6.0 min   CN=WQ   Runoff=10.50 cfs   1.135 af

**Subcatchment 24S: Central Swale**      Runoff Area=15,745 sf   35.00% Impervious   Runoff Depth=9.69"  
Tc=6.0 min   CN=WQ   Runoff=2.70 cfs   0.292 af

**Subcatchment 48S: Central Swale**      Runoff Area=54,720 sf   35.00% Impervious   Runoff Depth=9.69"  
Tc=6.0 min   CN=WQ   Runoff=9.39 cfs   1.014 af

**Reach 20R: To AES 5A**      Avg. Flow Depth=0.52'   Max Vel=2.17 fps   Inflow=9.39 cfs   1.014 af  
n=0.025   L=200.0'   S=0.0050 '/'   Capacity=8.52 cfs   Outflow=8.62 cfs   1.014 af

**Reach 23R: To AES 7B**      Avg. Flow Depth=0.65'   Max Vel=2.53 fps   Inflow=10.50 cfs   1.135 af  
n=0.025   L=200.0'   S=0.0050 '/'   Capacity=24.01 cfs   Outflow=9.75 cfs   1.135 af

**Reach 25R: To Inl 9C**      Avg. Flow Depth=0.27'   Max Vel=1.66 fps   Inflow=2.70 cfs   0.292 af  
n=0.025   L=150.0'   S=0.0053 '/'   Capacity=3.66 cfs   Outflow=2.49 cfs   0.292 af

**Total Runoff Area = 3.023 ac   Runoff Volume = 2.441 af   Average Runoff Depth = 9.69"**  
**65.00% Pervious = 1.965 ac   35.00% Impervious = 1.058 ac**

**Swale Sizing**

MSE 24-hr 4 100-Year\_2 Rainfall=6.66" x 2

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**Summary for Subcatchment 21S: West Swale**

Runoff = 10.50 cfs @ 36.13 hrs, Volume= 1.135 af, Depth= 9.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
MSE 24-hr 4 100-Year\_2 Rainfall=6.66" x 2

	Area (sf)	CN	Description
*	21,421	98	35% Impervious on SF Lots, HSG B
*	39,782	61	65% Impervious on SF Lots, HSG B
	61,203		Weighted Average
	39,782		65.00% Pervious Area
	21,421		35.00% Impervious Area

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

**Summary for Subcatchment 24S: Central Swale**

Runoff = 2.70 cfs @ 36.13 hrs, Volume= 0.292 af, Depth= 9.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
MSE 24-hr 4 100-Year\_2 Rainfall=6.66" x 2

	Area (sf)	CN	Description
*	5,511	98	35% Impervious on SF Lots, HSG B
*	10,234	61	65% Impervious on SF Lots, HSG B
	15,745		Weighted Average
	10,234		65.00% Pervious Area
	5,511		35.00% Impervious Area

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

**Summary for Subcatchment 48S: Central Swale**

Runoff = 9.39 cfs @ 36.13 hrs, Volume= 1.014 af, Depth= 9.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
MSE 24-hr 4 100-Year\_2 Rainfall=6.66" x 2

	Area (sf)	CN	Description
*	19,150	98	35% Impervious on SF Lots, HSG B
*	35,570	61	65% Impervious on SF Lots, HSG B
	54,720		Weighted Average
	35,570		65.00% Pervious Area
	19,150		35.00% Impervious Area

## Swale Sizing

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MSE 24-hr 4 100-Year\_2 Rainfall=6.66" x 2

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

### Summary for Reach 20R: To AES 5A

[91] Warning: Storage range exceeded by 0.02'

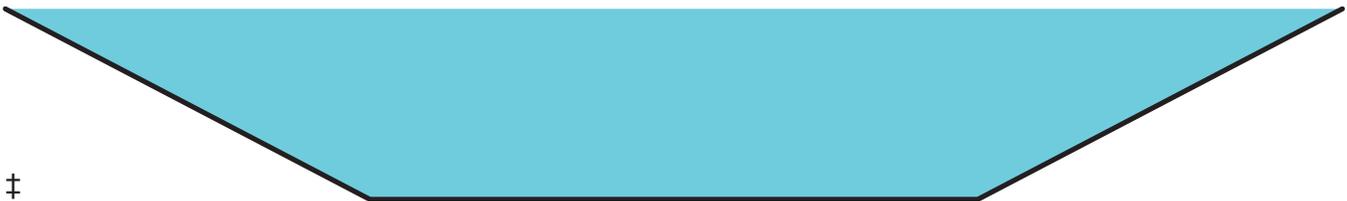
[55] Hint: Peak inflow is 110% of Manning's capacity

Inflow Area = 1.256 ac, 35.00% Impervious, Inflow Depth = 9.69" for 100-Year\_2 event  
Inflow = 9.39 cfs @ 36.13 hrs, Volume= 1.014 af  
Outflow = 8.62 cfs @ 36.17 hrs, Volume= 1.014 af, Atten= 8%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
Max. Velocity= 2.17 fps, Min. Travel Time= 1.5 min  
Avg. Velocity = 0.51 fps, Avg. Travel Time= 6.5 min

Peak Storage= 842 cf @ 36.14 hrs  
Average Depth at Peak Storage= 0.52'  
Bank-Full Depth= 0.50' Flow Area= 4.0 sf, Capacity= 8.52 cfs

5.00' x 0.50' deep channel, n= 0.025 Earth, clean & straight  
Side Slope Z-value= 6.0 '/' Top Width= 11.00'  
Length= 200.0' Slope= 0.0050 '/'  
Inlet Invert= 1,037.00', Outlet Invert= 1,036.00'



### Summary for Reach 23R: To AES 7B

Inflow Area = 1.405 ac, 35.00% Impervious, Inflow Depth = 9.69" for 100-Year\_2 event  
Inflow = 10.50 cfs @ 36.13 hrs, Volume= 1.135 af  
Outflow = 9.75 cfs @ 36.16 hrs, Volume= 1.135 af, Atten= 7%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
Max. Velocity= 2.53 fps, Min. Travel Time= 1.3 min  
Avg. Velocity = 0.60 fps, Avg. Travel Time= 5.6 min

Peak Storage= 816 cf @ 36.14 hrs  
Average Depth at Peak Storage= 0.65'  
Bank-Full Depth= 1.00' Flow Area= 7.5 sf, Capacity= 24.01 cfs

4.00' x 1.00' deep channel, n= 0.025 Earth, clean & straight  
Side Slope Z-value= 3.0 4.0 '/' Top Width= 11.00'  
Length= 200.0' Slope= 0.0050 '/'  
Inlet Invert= 1,033.00', Outlet Invert= 1,032.00'

# Swale Sizing

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MSE 24-hr 4 100-Year\_2 Rainfall=6.66" x 2

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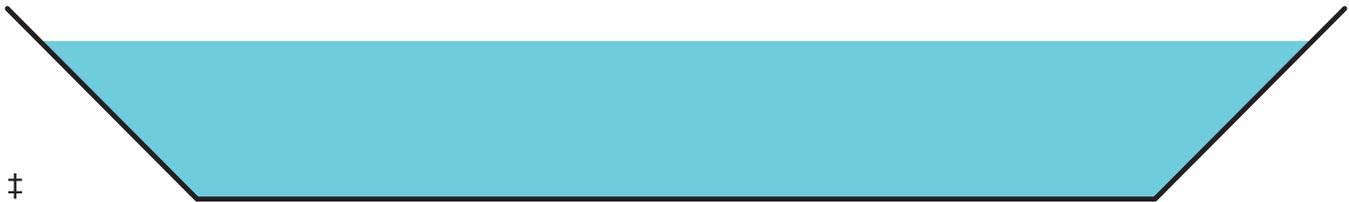
## Summary for Reach 25R: To Inl 9C

Inflow Area = 0.361 ac, 35.00% Impervious, Inflow Depth = 9.69" for 100-Year\_2 event  
Inflow = 2.70 cfs @ 36.13 hrs, Volume= 0.292 af  
Outflow = 2.49 cfs @ 36.17 hrs, Volume= 0.292 af, Atten= 8%, Lag= 2.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.05 hrs  
Max. Velocity= 1.66 fps, Min. Travel Time= 1.5 min  
Avg. Velocity = 0.34 fps, Avg. Travel Time= 7.4 min

Peak Storage= 239 cf @ 36.14 hrs  
Average Depth at Peak Storage= 0.27'  
Bank-Full Depth= 0.33' Flow Area= 2.0 sf, Capacity= 3.66 cfs

5.00' x 0.33' deep channel, n= 0.025 Earth, clean & straight  
Side Slope Z-value= 3.0 ' / ' Top Width= 6.98'  
Length= 150.0' Slope= 0.0053 ' / '  
Inlet Invert= 1,033.00', Outlet Invert= 1,032.20'



### Shear Stress Calculations - Southeast Swale

Variable	Variable Description (Associated Equation Reference)	Equation	Value	Units
$S_o =$	Channel Slope		0.0050	ft/ft
$Q_{10} =$	Flow in Channel (See HydroCAD-25-year storm)		1.28	cfs
	Velocity in Channel		1.27	fps
	Side Slope		0.33	ft/ft
	bottom width		5.0	ft
$T =$	Channel Top Width		6.1	ft
	Max Channel Depth		0.3	ft
$d_i =$	Channel Depth (See HydroCAD)		0.18	ft
$\gamma_w =$	Specific Weight (water)		62.4	lf/ft <sup>3</sup>
$\tau_s =$	Shear Stress on sides of channel	$K_1\tau_d$	0.0	Pa
$\tau_d =$	Shear Stress in channel at maximum depth	$\gamma_w d S_o$	0.1	Pa
$K_1 =$	ratio of channel side to bottom sheer stress (3.4)	$0.066Z + .67$	0.9	-
$Z =$	horizontal dimension 1:Z		3.0	ft

Seed with Properly anchored mulch

\* Based on HEC-15

### Shear Stress Calculations - West Swale

Variable	Variable Description (Associated Equation Reference)	Equation	Value	Units
$S_o$	Channel Slope		0.0050	ft/ft
$Q_{10}$	Flow in Channel (See HydroCAD-25-year storm)		4.97	cfs
	Velocity in Channel		2.02	fps
	Side Slope		0.33	ft/ft
	bottom width		4.0	ft
T =	Channel Top Width		6.6	ft
	Max Channel Depth		1.0	ft
$d_i$	Channel Depth (See HydroCAD)		0.43	ft
$\gamma_w$	Specific Weight (water)		62.4	lf/ft <sup>3</sup>
$\tau_s$	Shear Stress on sides of channel	$K_1\tau_d$	0.1	Pa
$\tau_d$	Shear Stress in channel at maximum depth	$\gamma_w d S_o$	0.1	Pa
$K_1$	ratio of channel side to bottom sheer stress (3.4)	$0.066Z + .67$	0.9	-
Z =	horizontal dimension 1:Z		3.0	ft

Seed with Properly anchored mulch

\* Based on HEC-15

### Shear Stress Calculations - Central Swale

Variable	Variable Description (Associated Equation Reference)	Equation	Value	Units
$S_o =$	Channel Slope		0.0050	ft/ft
$Q_{10} =$	Flow in Channel (See HydroCAD-25-year storm)		4.45	cfs
	Velocity in Channel		1.74	fps
	Side Slope		0.20	ft/ft
	bottom width		5.0	ft
$T =$	Channel Top Width		7.1	ft
	Max Channel Depth		0.5	ft
$d_i =$	Channel Depth (See HydroCAD)		0.35	ft
$\gamma_w =$	Specific Weight (water)		62.4	lf/ft <sup>3</sup>
$\tau_s =$	Shear Stress on sides of channel	$K_1\tau_d$	0.1	Pa
$\tau_d =$	Shear Stress in channel at maximum depth	$\gamma_w d S_o$	0.1	Pa
$K_1 =$	ratio of channel side to bottom sheer stress (3.4)	$0.066Z + .67$	0.9	-
$Z =$	horizontal dimension 1:Z		3.0	ft

Seed with Properly anchored mulch

\* Based on HEC-15

# ENDWALL RIPRAP SIZING

Project: Stoner Prairie - Phase III  
 Wyser Project #: 14-0200  
 Designed By: DOS  
 Date: 11/11/2019

**Table 10.1. Example Riprap Classes and Apron Dimensions**

Class	D <sub>50</sub> (mm)	D <sub>50</sub> (in)	Apron Length <sup>1</sup>	Apron Depth
1	125	5	4D	3.5D <sub>50</sub>
2	150	6	4D	3.3D <sub>50</sub>
3	250	10	5D	2.4D <sub>50</sub>
4	350	14	6D	2.2D <sub>50</sub>
5	500	20	7D	2.0D <sub>50</sub>
6	550	22	8D	2.0D <sub>50</sub>

<sup>1</sup>D is the culvert rise.

g HEC14 - EQUATION 10.4  
 $D50 = 0.2D(Q/(vg \cdot D^{2.5}))^{4/3} \cdot (D/TW)$   
 acceleration due to gravity 32.2 ft/sec<sup>2</sup>  
 TW Tailwater Depth (Assumed) 0.4\*D ft  
 \* Assumed Full Pipe Capacity  
 STA Structure

	Pipe Diameter D (ft)	Design Flow* Q (cfs)	Tailwater Depth TW (ft)	Riprap size D50 (in)	Riprap class (See Table 10.1)		Apron Dimensions (See Table 10.1)				
					Type	D <sub>50</sub>	WisDOT*	Length	Depth	Width @ End	Width @ Pipe
AES NO. 1	3	29.00	1	6.227606192	2	6	Medium Riprap	10	1.7	14.2	7.5
AES NO. 7	2	7.43	0.6	3.335590053	1	5	Select Crushed Material	6	1.5	8.5	4.5
AES NO. 9	1	7.22	0.5	4.916872318	1	5	Light Riprap	5	1.5	7.1	3.75
AES NO. 10	3.75	42.18	0.966666667	6.182764393	2	6	Medium Riprap	15	1.7	21.3	11.25

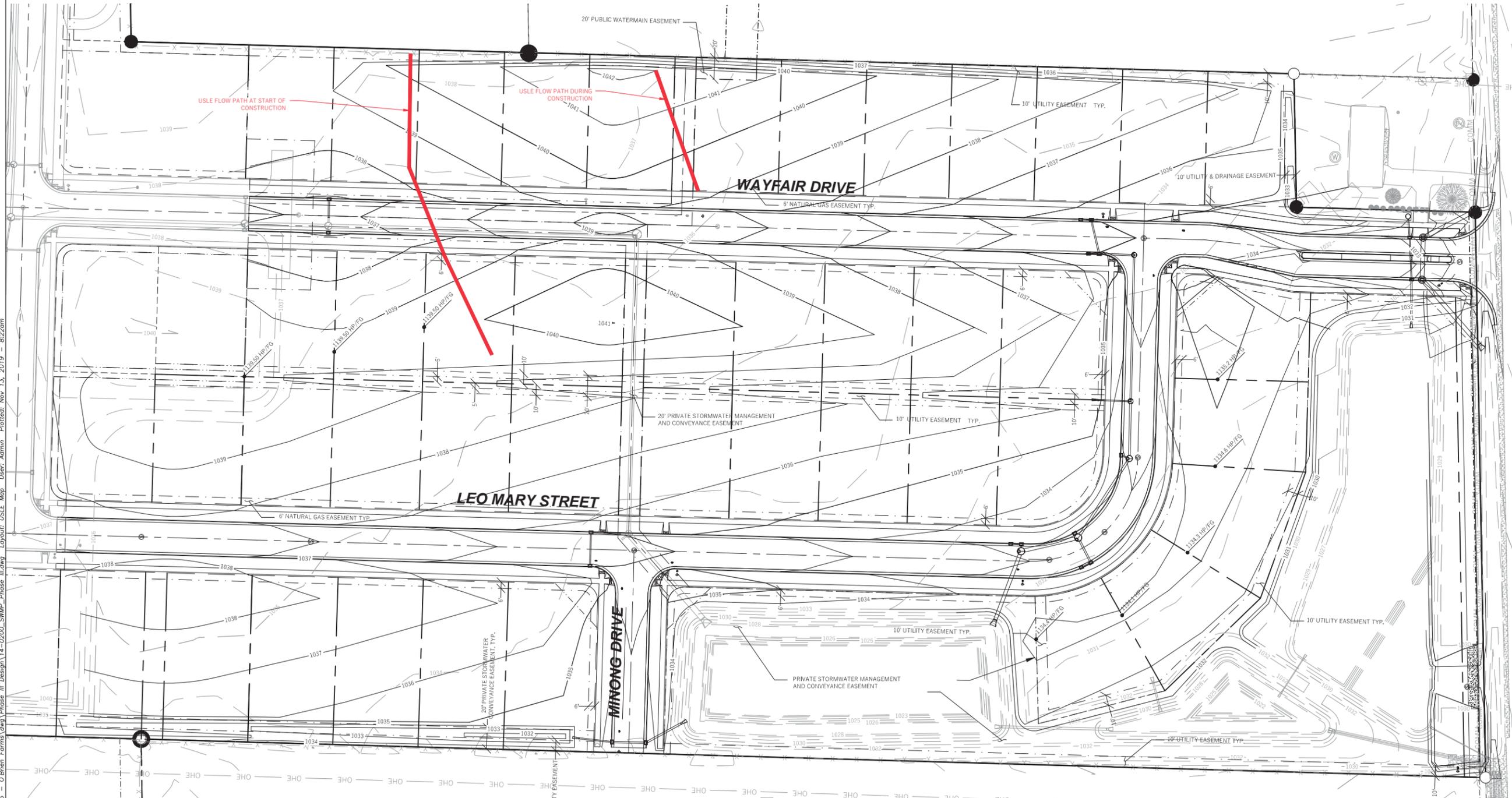
\*Refer to Section 606 and 312 for material type.  
 Select Crushed Material and Light Riprap require Type R geotextile Fabric  
 Medium, Heavy and Extra-Heavy Riprap require Type HR geotextile Fabric



## **APPENDIX D**

Soil Loss Calculations

- PROPERTY BOUNDARY
- - - EASEMENT
- ==== CURB AND GUTTER
- ===== ASPHALT PAVEMENT
- ===== CONCRETE PAVEMENT
- 1039 PROPOSED MAJOR CONTOUR
- 1040 PROPOSED MINOR CONTOUR
- ===== PROPOSED STORM SEWER



LACY ROAD

WAYFAIR DRIVE

LEO MARY STREET

MINONG DRIVE

File: W:\2014\140200\_Lionshare Group - O'Brien Farms\Phase III Design\14-0200\_SWMP\_Phase III.dwg Layout: USLE Map User: Admin Plotted: Nov 13, 2019 - 8:22am

**WYSER ENGINEERING**  
 STONER PRAIRIE PHASE III -  
 A WALK TO SCHOOL NEIGHBORHOOD  
 CITY OF FITCHBURG, DANE COUNTY, WI

Sheet Title:	USLE MAP
LACY ROAD	FITCHBURG, WI 53711

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Graphic Scale	0' 25' 50' 75' 100'
1" = 100'	
Revisions:	
No.	Date:
Description:	

Wyser Number	14-0200
Set Type	REVIEW
Date Issued	10/25/2019
Sheet Number	SW2



# Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)



YEAR 1

Developer: William Ryan Homes  
 Project: Stoner Prairie - Phase III  
 Date: 11/13/19  
 County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	01/01/20	01/25/20	0.0%	150	Clay	0.32	1.0%	300	0.18	1.00	0.0	0.690	Sediment Basin	0.0
Bare Ground	01/25/20	10/15/20	94.2%	150	Clay	0.32	2.4%	120	0.25	1.00	11.1	1.255	Sediment Basin	2.8
Seed with Mulch or Er	10/15/20	12/30/20	5.8%	150	Clay	0.32	2.4%	120	0.25	0.10	0.1	1.255	Sediment Basin	0.0
End	12/30/20	-----	-----	-----	-----	-----	2.4%	120	0.25	-----	-----	0.000	Sediment Basin	0.0
		-----	-----	-----	-----	-----			-----	-----	-----	0.000		0.0
		-----	-----	-----	-----	-----			-----	-----	-----	0.000		0.0
<b>TOTAL</b>											<b>11.2</b>		<b>TOTAL</b>	<b>2.8</b>
													<b>% Reduction Required</b>	<b>NONE</b>

**Notes:**

See Help Page for further descriptions of variables and items in drop-down boxes.  
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.  
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

**Recommended Permanent Seeding Dates:**

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes  
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	DOS
Date	11/12/2019



# Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin



WDNR Version 2.0 (06-29-2017)

**YEAR 2**

Developer: William Ryan Homes  
 Project: Stoner Prairie - Phase III  
 Date: 11/13/2019  
 County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	07/16/20	10/15/20	40.9%	150	Clay	0.32	2.4%	120	0.25	1.00	4.8	1.255	Sediment Basin	1.2
Seed with Mulch or Er	10/15/20	02/15/21	6.9%	150	Clay	0.32	2.4%	120	0.25	0.10	0.1	1.255	Sediment Basin	0.0
Bare Ground	02/15/21	05/15/21	13.3%	150	Clay	0.32	2.4%	120	0.25	1.00	1.6	1.255	Sediment Basin	0.4
Seed with Mulch or Er	05/15/21	07/15/21	38.3%	150	Clay	0.32	2.4%	120	0.25	0.10	0.5	1.255	Sediment Basin	0.1
End	07/15/21	-----	-----	-----	-----	-----	2.4%	0	-----	-----	-----	0.000	Sediment Basin	0.0
		-----	-----	-----	-----	-----	0.0%	0	-----	-----	-----	0.000		0.0
<b>TOTAL</b>											<b>6.9</b>		<b>TOTAL</b>	<b>1.7</b>
													<b>% Reduction Required</b>	<b>NONE</b>

**Notes:**

See Help Page for further descriptions of variables and items in drop-down boxes.  
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.  
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

**Recommended Permanent Seeding Dates:**

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes  
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	DOS
Date	11/13/2019



## **APPENDIX E**

Erosion Control Best Management Practice

Preliminary Opinion of Probable Construction Costs



**Erosion Control Best Management Practice  
Preliminary Opinion of Probable  
Construction Costs**

<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total</b>
Tracking Control Pad	2	EA	\$ 750.00	\$ 1,500.00
Silt Fence	1870	LF	\$ 2.50	\$ 4,675.00
Erosion Mat	3,050	SY	\$ 1.75	\$ 5,337.50
Fertilizer, Seed & Mulch	63125	SY	\$ 1.50	\$ 94,687.50
Ditch Check	5	EA	\$ 300.00	\$ 1,500.00
Inlet Protection	22	EA	\$ 500.00	\$ 11,000.00
				\$ 118,700.00