1. Agenda

   Documents: BPW_2015.07.06_AG.PDF

2. Complete Packet

   Documents: BPW_2015.07.06_PK.PDF

City of Fitchburg
5520 Lacy Road
Fitchburg, WI 53711-5318
Phone: (608) 270-4200 Fax (608) 270-4275
www.fitchburgwi.gov

AGENDA
BOARD OF PUBLIC WORKS
July 6, 2015
5:30 P.M.
CITY HALL

NOTICE IS HEREBY GIVEN that the Board of Public Works will meet at 5:30 P.M. on Monday, July 6, 2015 in the **Council Chambers** at City Hall, 5520 Lacy Road to consider and act on the following:

(*Note: Full coverage of this meeting is available through FACTv and Streaming Video, accessible on the city web site at* http://factv.city.fitchburg.wi.us/Cablecast/Public/Main.aspx?ChannelID=3)

1. **Call to Order**
2. **Public Appearances – Non Agenda Items**
3. **Approval of June 1, 2015 Minutes**
4. **Approval of June 11, 2015 Minutes (Joint Meeting with TTC)**
5. **Approval of June 22, 2015 Minutes (Joint Meeting with Finance)**
6. **Review of May 2015 Utility Bills**
7. **Review of June 2015 Utility Bills**
8. **Report of Director of Public Works**
9. **6:00 p.m. – Public Hearing** – Fitchrona Road and Lacy Road Water Main Assessments
10. **2014 Yahara WINs Annual Report**
11. **Announcements**
    a. Next Board of Public Works Meeting- July 20, 2015 at 5:30
12. **Adjournment**

Note: It is possible that members of and possibly a quorum of members of other government bodies of the municipality may be in attendance at the above stated meeting to gather information. No action will be taken by any governmental body at the above stated meeting other than the governmental body specifically referred to above in this notice. Please note that, upon reasonable notice, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, contact Fitchburg City Hall, 5520 Lacy Road, Fitchburg WI 53711, (608) 270-4200

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MINUTES
BOARD OF PUBLIC WORKS
June 1, 2015
5:30 P.M.
CITY HALL

NOTICE IS HEREBY GIVEN that the Board of Public Works will meet at 5:30 P.M. on Monday, June 1, 2015 in the **Council Chambers** at City Hall, 5520 Lacy Road to consider and act on the following:

(*Note: Full coverage of this meeting is available through FACTv and Streaming Video, accessible on the city web site at* http://factv.city.fitchburg.wi.us/Cablecast/Public/Main.aspx?ChannelID=3)

Board of Public Works Members Present: Steve Arnold, Dorothy Krause, Michael Gernetzke, Dave Willborn and Dave Herbst (arrived at 5:41)

Others Present: Cory Horton, Director of Public Works, Patrick Cheney, 5211 Kittycrest, Phil Sveum, 5500 E. Cheryl Parkway

1. **Call to Order-** The meeting of the Board of Public Works was called to order by Arnold at 5:34

2. **Public Appearances – Non Agenda Items**- None

3. **Approval of May 18, 2015 Minutes** (video time 2:23)
   a. Motion to approve made by Gernetzke
   b. Seconded by Willborn
   c. Motion carried, minutes approved

4. **Report of Director of Public Works** (video time 2:28)
   a. Horton provided project/construction updates, schedules of current projects, upcoming bids and staff updates. Board asked questions, discussed

5. **Resolution R-60-15 –** Approving Contract with Mead & Hunt for the Design of Lacy Road from the Community Center to S. Syene Road (video time 7:05)
   a. Motion to approve made by Willborn
   b. Seconded by Gernetzke
   c. Horton discussed details of the project, board asked questions and discussed
   d. Motion carried, resolution approved

6. **<u>Resolution R-61-15</u> -** Approving Revised Agreement with Wisconsin Department of Transportation for the Reconstruction of Verona Road from CTH PD North to Raymond Road (video time 29:28)
   a. Motion to approve made by Krause
   b. Seconded by Gernetzke
   c. Horton discussed details of the project, board asked questions and discussed
   d. Motion to approve with these amendments; DOT responsible for ponds for first 3 years once construction is complete, City involvement in the design, and right of final acceptance for the project
   e. Motion made by Gernetzke
   f. Seconded by Herbst
   g. Amendments approved, resolution approved

7. **<u>Resolution R-64-15</u> -** Approving Agreement for Subdivision Improvements in the Plat of Quarry Vista (video time 45:28)
   a. Motion to approve made by Herbst
   b. Seconded by Willborn
   c. Horton discussed details of the project, board asked questions and discussed
   d. Motion to approve with this amendment; should the letter of credit be drawn upon, any impact fees paid after the letter of credit is drawn upon, should be refunded to the developer
   e. Motion to amend made by Herbst
   f. Seconded by Gernetzke
   g. Amendment approved
   h. Phil Sveum asked questions about building permits, Horton responded
   i. Amended resolution approved

8. **Announcements**
   a. Next Joint Board of Public Works/Transportation & Transit Commission Meeting – June 11, 2015
   b. Joint Board of Public Works/Finance Meeting-June 15, 2015 will have to be rescheduled

9. **Adjournment-** Adjournment at 6:31
   a. Motion to adjourn made by Willborn
   b. Seconded by Herbst
   c. Motion carried

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MINUTES
JOINT
MEETING
BOARD OF PUBLIC WORKS
AND
TRANSPORTATION AND
TRANSIT COMMISSION
June 11, 2015
5:30 P.M.
CITY HALL

NOTICE IS HEREBY GIVEN that the Joint Transportation and Transit Commission/Board of public Works will meet at 5:30 P.M. on Thursday, June 11, 2015 in the **Council Chambers** at City Hall, 5520 Lacy Road to consider and act on the following:

(*Note: Full coverage of this meeting is available through FACTv and Streaming Video, accessible on the city web site at* http://factv.city.fitchburg.wi.us/Cablecast/Public/Main.aspx?ChannelID=3)

Board of Public Works Members Present: Dorothy Krause, Michael Gernetzke, Ryan Fralish and Dave Herbst

Transportation and Transit Commission Members Present: Kim Lobdell, Rich Tate, Michael Gernetzke, Troy Klein, Jason Gonzalez and Darren Blankenship

Others Present: Ahnaray Bizjak - Transportation Project Engineer, Cory Horton - Director of Public Works

1. **Call to Order-** The meeting of the joint Board of Public Works/Transportation and Transit Commission called to order by Lobdell at 5:32 P.M.

2. **Public Appearances – Non Agenda Items**- None

3. **Report of Director of Public Works** (video time 0:38)
   a. Horton provided a brief overview of the McKee Road-Phase II Corridor Study.

4. **Report of Transportation Project Engineer** (video time 1:09)
   a. Bizjak provided an update of the Madison MPO Regional Transportation Board looking to update the bicycle plan for the region. Bizjak will send out a link to the information
   b. Bizjak provided an update for the Route 59 changes. It will be an agenda item at the next Transit and Parking Commission with the City of Madison. If approved, changes would be implemented in August.
   c. Bizjak provided an update for the Lacy Road Reconstruction Project. Kick Off meeting scheduled for Thursday, June 25, 2015 at 6:30-8:30 at Quarry Hill Park.

5. **Presentation by Josh Straka of Strand Associates of the McKee Road Corridor Study** (video time 6:30)
    a. Board members asked questions, Straka, Horton & Bizjak discussed.

6. **Announcements**
    a. Joint Board of Public Works/Finance Meeting – June 22, 2015
    b. Next Transportation and Transit Commission Meeting – July 9, 2015

7. **Adjournment-** Adjournment at 6:40
    a. Motion to adjourn made by Gernetzke
    b. Seconded by Tate
    c. Motion carried

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Draft
MINUTES
JOINT
MEETING
BOARD OF PUBLIC WORKS
And
FINANCE
June 22, 2015
5:30 P.M.
CITY HALL

NOTICE IS HEREBY GIVEN that the Joint Board of Public Works/Finance will meet at 5:30 P.M. on Monday, June 22, 2015 in the **Council Chambers** at City Hall, 5520 Lacy Road to consider and act on the following:

(*Note: Full coverage of this meeting is available through FACTv and Streaming Video, accessible on the city web site at* http://factv.city.fitchburg.wi.us/Cablecast/Public/Main.aspx?ChannelID=3)

Board of Public Works Members Present: Mayor Steve Arnold, Alder Dorothy Krause, Michael Gernetzke, Ryan Fralish and Dave Herbst

Finance Members Present: Alder Dan Carpenter, Alder Patrick Stern and Alder Julia Arata-Fratta

Others Present: Misty Dodge-Finance Director, Cory Horton-Director of Public Works, Alder Carol Poole, Alder Tony Hartmann, Alder Jake Johnson

1. **Call to Order-** The meeting of the joint Finance/Board of Public Works by Stern at 5:34 p.m.

2. **Public Appearances – Non Agenda Items**- Mayor Arnold introduced Ryan Fralish as a new member of the Board of Public Works

3. **Report of Director of Public Works** (video time 0:57)
   a. Horton provided project/construction updates. Board asked questions, discussed.

4. **Presentation of Department Heads** (video time 5:23)
   a. Mayor presented overview, department heads presented projects
   b. Board, Council and Committee Members asked questions and made requests regarding projects

      – Parks, Rec & Forestry – Scott Endl
      – EMS – Cindy Diedrich
      – Senior Center – Jill McHone
      – FACTv – Jeremy Crosby
      – Fire – Chad Grossen

Stern called for a unanimous recess. Members objected and suggested after Library presentation.

– Library – Wendy Rawson

Stern called for unanimous recess. No objections. 15 minute recess at 7:45 p.m.
Stern called the meeting back to order at 8:00 p.m.

– Technology – Matt Prough
– Public Works – Cory Horton
– Police – Thomas Blatter
– General Government – Thomas Hovel

Moved by Arata-Fratta, seconded by Carpenter to extend the meeting by 15 minutes

– Recap – Misty Dodge

c. Schedule for CIP is as follows: Tuesday 6/23 Public Hearing, Wednesday 6/24 Committee of the Whole (to discuss financial plan with Ehlers), 7/6 Amendments Due, 7/14 Public Hearing, 7/28 Adoption

5. **Resolution R-62-15- Adopting Capital Improvement Program – 2016-2020**
(video time 5:26:04)
   a. Motion by Herbst for BPW to approve the CIP with all projects that Horton reviewed. Gernetzke requested CIP Project 3468 be separated: no objection
   b. Seconded by Krause
   c. Motion carried without objection

Motion by Krause, second by Gernetzke to extend meeting by 5 minutes

   d. Motion by Gernetzke to recommend removal of project 3468 Lacy Road from the CIP
   e. Seconded by Herbst
   f. Motion passed on a 3-2 vote
   g. Motion by Arata-Fratta for Finance Committee to approve the CIP with the exception of the new Police Department facility. Motion carried.

Motion by Carpenter, second by Fralish to extend meeting by 5 minutes

6. **Announcements**
   a. Next Board of Public Works Meeting - July 6, 2015
   b. Next Finance Committee Meeting – June 23, 2015

7. **Adjournment-** Adjournment at 11:20 p.m.
   a. Motion to adjourn made by Carpenter
   b. Seconded by Gernetzke
   c. Motion carried

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Report Criteria:
Report type: GL detail
Invoice Detail.GL account = "60010700"-"6015933300"

GL Period	Check Number	Payee	Description	GL Account	Check Amount
05/06/2015					
05/15	110804	BADGER WELDING	CO2 GAS	6005675100	16.38
05/15	110811	CDW GOVERNMENT INC	UTILITY	6005921101	39.35
05/15	110830	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005926100	13.49
05/15	110830	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005854200	13.50
05/15	110833	GORSUCH, ROBERT	CREDIT PER MMSD	60022320	66.14
05/15	110836	HAMM FAM LANDS LLC	CREDIT PER MMSD	60022320	802.65
05/15	110838	HAWKINS INC	CHEMICALS	6005641100	1,129.98
05/15	110842	JENSEN, WINFRED OR J	CREDIT PER MMSD	60022320	30.57
05/15	110846	LW ALLEN INC	WELL 4/TOWER C MAINTENANCE	6005633100	1,671.22
05/15	110848	MARTELLE WATER TREA	CHEMICALS	6005641100	2,495.78
05/15	110854	MONROE TRUCK EQUIP	TRUCK 33 DOOR LATCH	6005932100	60.95
05/15	110854	MONROE TRUCK EQUIP	TRUCK 33 DOOR LATCH	6005828200	60.94
05/15	110856	ROTO-ROOTER	TELEVISE MAIN 6000 CONSERVANCY	6005831200	390.00
05/15	110857	RUEDEBUSCH DEVELOP	CREDIT PER MMSD	60022320	1,768.28
05/15	110864	USPS	ON ACCT - PERMIT #2295	6005905100	800.00
05/15	110864	USPS	ON ACCT - PERMIT #2295	6005840200	800.00
05/15	110864	USPS	ON ACCT - PERMIT #2295	6015903300	800.00
Total 05/06/2015:					10,959.23
05/13/2015					
05/15	110872	APRISON, ROBERT & MA	2015 TOILET REBATE	6005856200	100.00
05/15	110876	BAKER TILLY VIRCHOW	PROFESSIONAL SERVICES THRU 4/24/15	6005923100	900.00
05/15	110876	BAKER TILLY VIRCHOW	PROFESSIONAL SERVICES THRU 4/24/15	6005852200	899.00
05/15	110876	BAKER TILLY VIRCHOW	PROFESSIONAL SERVICES THRU 4/24/15	6015923300	899.00
05/15	110893	DORN TRUE VALUE	ELEC. TAPE	6005665100	10.47
05/15	110896	FELICIANO, ANDRE B	2015 TOILET REBATE	6005856200	100.00
05/15	110912	LABERGE, ANTHONY D	2015 TOILET REBATE	6005856200	100.00
05/15	110914	LIQUI-SYSTEMS INC	CHEMICAL PUMP MAINTENANCE	6005652100	468.00

M = Manual Check, V = Void Check

GL Period	Check Number	Payee	Description	GL Account	Check Amount
05/15	110915	LW ALLEN INC	WELL#1 MAINT - TOUCHSCREEN	6005633100	317.48
05/15	110916	M3 INSURANCE SOLUTI	WORKER COMP - 1ST QTR - WATER	6005925100	1,150.28
05/15	110916	M3 INSURANCE SOLUTI	WORKER COMP - 1ST QTR - SEWER	6005853200	1,737.63
05/15	110916	M3 INSURANCE SOLUTI	LIAB/AUTO/PD/LINE/DATA/UMB/CRIME - 1STQTR -	6005925100	2,831.18
05/15	110916	M3 INSURANCE SOLUTI	LIAB/AUTO/PD/LINE/DATA/UMB/CRIME - 1STQTR -	6005853200	2,586.81
05/15	110916	M3 INSURANCE SOLUTI	LIAB/AUTO/PD/LINE/DATA/UMB/CRIME - 1STQTR -	6015924300	1,397.63
05/15	110916	M3 INSURANCE SOLUTI	WORKER COMP - 1ST QTR - STORM	6015924300	1,279.59
05/15	110916	M3 INSURANCE SOLUTI	WORKER COMP - 2ND QTR - WATER	6005925100	1,150.26
05/15	110916	M3 INSURANCE SOLUTI	WORKER COMP - 2ND QTR - SEWER	6005853200	1,737.61
05/15	110916	M3 INSURANCE SOLUTI	WORKER COMP - 2ND QTR - STORM	6015924300	1,279.57
05/15	110916	M3 INSURANCE SOLUTI	LIAB/AUTO/PD/LINE/DATA/UMB/CRIME-2ND QTR-W	6005925100	2,830.29
05/15	110916	M3 INSURANCE SOLUTI	LIAB/AUTO/PD/LINE/DATA/UMB/CRIME-2ND QTR-S	6005853200	2,586.00
05/15	110916	M3 INSURANCE SOLUTI	LIAB/AUTO/PD/LINE/DATA/UMB/CRIME-2ND QTR-S	6015924300	1,397.19
05/15	110918	MADISON GAS & ELECT	APRIL BILLS	6005623100	19,704.42
05/15	110933	SANTNER II, WILLIAM G	2015 TOILET REBATE	6005856200	100.00
05/15	110943	U S CELLULAR	SEWER PORTION	6005851200	3.18
05/15	110943	U S CELLULAR	WATER PORTION	6005921100	3.17
05/15	110944	VERIZON WIRELESS	MODEM SERVICE THRU 4/23/15	6005921100	58.32
05/15	110944	VERIZON WIRELESS	MODEM SERVICE THRU 4/23/15	6005851200	58.31
05/15	110944	VERIZON WIRELESS	WATER	6015921300	51.43
05/15	110944	VERIZON WIRELESS	AMI	60010722	18.79
Total 05/13/2015:					45,755.61
05/14/2015					
05/15	110949	MADISON METRO SEWE	4TH QTR - SERVICE	6005827200	400,612.58
05/15	110949	MADISON METRO SEWE	CITRUS SYSTEMS - LABS	60011422	620.01
05/15	110949	MADISON METRO SEWE	ECOSTAR - LABS	60011422	647.54
Total 05/14/2015:					401,880.13
05/20/2015					
05/15	110951	A T & T MOBILITY	UTILITY TABLET - 608-556-8176	6005921100	34.80
05/15	110951	A T & T MOBILITY	UTILITY TABLET 608-609-8735	6005921100	34.79

M = Manual Check, V = Void Check

GL Period	Check Number	Payee	Description	GL Account	Check Amount
05/15	110956	BADGERLAND EXCAVATI	PAY RQST 3 HARLAN HILLS DREDGING	60110724	11,444.00
05/15	110956	BADGERLAND EXCAVATI	CHG ORDR #1 HARLAN HILLS	60110724	1,000.00
05/15	110956	BADGERLAND EXCAVATI	PAY RQST 2 - ASHBOURNE DREDGING	60110725	7,052.00
05/15	110964	CAPITAL NEWSPAPERS	ADS FOR BIDS - WATER MAIN EXT 2015 (4/22&4/29	6005921100	63.96
05/15	110965	CARQUEST AUTO PART	TRUCK REPAIRS	6005932100	33.77
05/15	110965	CARQUEST AUTO PART	TRUCK REPAIRS	6005828200	33.76
05/15	110966	CITY TREASURER - MADI	FLAT RATE WATER	6005602100	77.50
05/15	110966	CITY TREASURER - MADI	WATER CONSUMPTION	6005602100	417.41
05/15	110974	DORN TRUE VALUE	PUMP HOSES	6005631100	29.95
05/15	110974	DORN TRUE VALUE	MOWER PARTS	6005631100	5.99
05/15	110974	DORN TRUE VALUE	ELEC. TAPE	6005665100	23.70
05/15	110974	DORN TRUE VALUE	MORTOR FOR INLET REPAIR	6015601306	61.93
05/15	110974	DORN TRUE VALUE	MORTAR FOR INLET REPAIR	6015601306	2.00
05/15	110980	FIELD & STREAM RESTO	VEGETATION MGMT -PRESCRIBED BURN @ BIG B	6015923303	1,149.54
05/15	110980	FIELD & STREAM RESTO	VEGETATION MGMT - PRESCIRBED BURN AT NOR	6015923303	1,239.90
05/15	110980	FIELD & STREAM RESTO	VEGETATION MGMT - PRESCRIBED BURN AT APA	6015923303	2,400.00
05/15	110984	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005854200	41.58
05/15	110984	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005926100	41.57
05/15	110984	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005926100	23.12
05/15	110984	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005854200	23.13
05/15	110992	HAMMERSLEY STONE C	MAINT OF MAINS	6005673100	168.63
05/15	110994	HAWKINS INC	CHEMICALS	6005641100	1,538.16
05/15	111003	MENARDS CASHWAY LU	MISC SUPPLIES	6005665100	31.27
05/15	111030	SPRINT PRINT	ENVELOPES	6005905100	293.30
05/15	111030	SPRINT PRINT	ENVELOPES	6005851200	293.30
05/15	111030	SPRINT PRINT	ENVELOPES	6015921300	293.30
05/15	111042	WI DEPT OF JUSTICE	BACKGROUND CHECKS - UTILITY	6005930100	7.00
05/15	111043	WI STATE LABORATORY	WATER TESTING	6005642100	80.00
05/15	111045	WINGRA REDI-MIX INC	FLOWABLE FILL FOR CONCERVANCY WAY	6015601304	575.00
05/15	111046	WOODWARD COMMUNIT	FITCHBURG CITY AD - APR15 - STORMWATER	6015930302	350.00
Total 05/20/2015:					28,864.36

M = Manual Check, V = Void Check

GL Period	Check Number	Payee	Description	GL Account	Check Amount
05/27/2015					
05/15	111062	COUNTY MATERIALS CO	CONCRETE CULVERT FOR WHALEN RD	6015601304	2,965.52
05/15	111076	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005926100	9.17
05/15	111076	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005854200	9.18
05/15	111088	IWATER INC	IWATER ANNUAL SUPPORT	6005921100	2,000.00
05/15	111102	OCCUPATIONAL HEALTH	5/8/15 RANDOM DRUG - MANION -UTILITY	6005930100	79.00
05/15	111118	STRAND ASSOCIATES	VERONA RD - UTILITY RELOCATIONS DESIGN	60010727	7,696.14
05/15	111122	UNITED RENTALS (NORT	PACKER RENTAL FOR WHALEN RD CULVERT	6015601304	412.29
05/15	111126	VISA - 2659	SPRING 2015 APWA CONF MAY 13-15	6015930300	112.50
05/15	111126	VISA - 2659	VOYAGER CANOE EVENT 5/13	6015930300	30.00
05/15	111126	VISA - 2659	AWPA CONFERENCE 5/13-5/14	6015930300	131.99
05/15	111127	VISA - 7422	MYLAR PAPER 50 SHEETS	6005921100	63.79
05/15	111127	VISA - 7422	MYLAR PAPER 50 SHEETS	6005851200	63.79
05/15	111127	VISA - 7422	MYLAR PAPER 50 SHEETS	6015921300	63.78
05/15	111128	WISCONSIN INDEPENDE	STORM UD	6015930301	4.83
05/15	111128	WISCONSIN INDEPENDE	UTILITY WATER	6005921101	9.66
05/15	111128	WISCONSIN INDEPENDE	UTILITY SEWER	6005851201	4.83
Total 05/27/2015:					13,656.47
Grand Totals:					501,115.80

Summary by General Ledger Account Number

GL Account	Debit	Credit	Proof
600-10722	18.79	.00	18.79
600-10727	7,696.14	.00	7,696.14
600-11422	1,267.55	.00	1,267.55
600-21100	.00	464,722.81-	464,722.81-
600-22320	2,667.64	.00	2,667.64
600-5602-100	494.91	.00	494.91

M = Manual Check, V = Void Check

GL Account	Debit	Credit	Proof
600-5623-100	19,704.42	.00	19,704.42
600-5631-100	35.94	.00	35.94
600-5633-100	1,988.70	.00	1,988.70
600-5641-100	5,163.92	.00	5,163.92
600-5642-100	80.00	.00	80.00
600-5652-100	468.00	.00	468.00
600-5665-100	65.44	.00	65.44
600-5673-100	168.63	.00	168.63
600-5675-100	16.38	.00	16.38
600-5827-200	400,612.58	.00	400,612.58
600-5828-200	94.70	.00	94.70
600-5831-200	390.00	.00	390.00
600-5840-200	800.00	.00	800.00
600-5851-200	418.58	.00	418.58
600-5851-201	4.83	.00	4.83
600-5852-200	899.00	.00	899.00
600-5853-200	8,648.05	.00	8,648.05
600-5854-200	87.39	.00	87.39
600-5856-200	400.00	.00	400.00
600-5905-100	1,093.30	.00	1,093.30
600-5921-100	2,258.83	.00	2,258.83
600-5921-101	49.01	.00	49.01
600-5923-100	900.00	.00	900.00
600-5925-100	7,962.01	.00	7,962.01
600-5926-100	87.35	.00	87.35
600-5930-100	86.00	.00	86.00
600-5932-100	94.72	.00	94.72
601-10724	12,444.00	.00	12,444.00
601-10725	7,052.00	.00	7,052.00
601-21100	.00	36,392.99-	36,392.99-
601-5601-304	3,952.81	.00	3,952.81
601-5601-306	63.93	.00	63.93
601-5903-300	800.00	.00	800.00
601-5921-300	408.51	.00	408.51
601-5923-300	899.00	.00	899.00

M = Manual Check, V = Void Check

GL Account	Debit	Credit	Proof
601-5923-303	4,789.44	.00	4,789.44
601-5924-300	5,353.98	.00	5,353.98
601-5930-300	274.49	.00	274.49
601-5930-301	4.83	.00	4.83
601-5930-302	350.00	.00	350.00
Grand Totals:	501,115.80	501,115.80-	.00

Report Criteria:
Report type: GL detail
Invoice Detail.GL account = "60010700"-"6015933300"

Report Criteria:
Report type: GL detail
Invoice Detail.GL account = "60010700"-"6015933300"

GL Period	Check Number	Payee	Description	GL Account	Check Amount
06/03/2015					
06/15	111151	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005926100	19.13
06/15	111151	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005854200	19.14
06/15	111153	GENERAL COMMUNICAT	ANTENNA FOR NEW SWEEPER	60113400	40.00
06/15	111167	LENZ, BERNARD	RCC ANNUAL EVENT - SPEAKER EXPENSES	6015930302	186.00
06/15	111170	MENARDS CASHWAY LU	18V4 1/2 " GRINDER	6005665100	89.98
06/15	111170	MENARDS CASHWAY LU	POST HOLE DIGGER	6005665100	39.98
06/15	111170	MENARDS CASHWAY LU	25# LANDSCAPER MIX	6005665100	47.98
06/15	111170	MENARDS CASHWAY LU	18V 1/2" DRILL KIT	6005665100	169.00
06/15	111170	MENARDS CASHWAY LU	MISC SUPPLIES	6005665100	26.87
06/15	111178	PAYNE AND DOLAN INC	3.10 TON OF BLACKTOP TO PATCH CONSERVANC	6015601302	165.08
06/15	111183	R.N.O.W. INC	2015 SCHWARZE A9 MONSOON	60113400	236,630.50
06/15	111183	R.N.O.W. INC	TRADE IN 2008 SCHWARZE A7000	60113400	68,000.00-
06/15	111183	R.N.O.W. INC	MOTOR VEH REG FEE	6015932300	74.50
Total 06/03/2015:					169,508.16
06/11/2015					
06/15	111207	AMERICAN LEAK DETEC	WTR MAIN BRK - LONGFORD TER	6005673100	575.00
06/15	111219	COUNTY MATERIALS CO	CONCRETE CULVERT FOR IRISH LN	6015601304	1,861.40
06/15	111224	DIAMOND VOGEL PAINT	PAINT & SUPPLIES	6005677100	125.48
06/15	111224	DIAMOND VOGEL PAINT	PAINT BRUSH	6005677100	10.32
06/15	111224	DIAMOND VOGEL PAINT	RETURN MERCHANDISE	6005677100	19.96-
06/15	111227	ENGELHART	MISC PARTS	6005665100	77.46
06/15	111229	FIELD & STREAM RESTO	VEGETATION MANAGEMENT - RED ARROW POND	6015923303	910.70
06/15	111229	FIELD & STREAM RESTO	VEGISTATION MANAGEMENT - PINNACLE POND	6015923303	389.05
06/15	111229	FIELD & STREAM RESTO	VEGETATION MANAGEMENT - VALLEY VIEW PON	6015923303	604.25
06/15	111229	FIELD & STREAM RESTO	VEGETATION MANAGEMENT - BOSSHARD POND	6015923303	239.55
06/15	111230	FIRST SUPPLY MADISON	MAINT OF MAINS	6005673100	1,292.16
06/15	111230	FIRST SUPPLY MADISON	MAINT OF MAINS	6005673100	138.00

M = Manual Check, V = Void Check

GL Period	Check Number	Payee	Description	GL Account	Check Amount
06/15	111230	FIRST SUPPLY MADISON	MAINT OF MAINS	6005673100	210.00
06/15	111235	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005926100	15.38
06/15	111235	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005854200	15.38
06/15	111237	GENERAL COMMUNICAT	PAGER SERVICE-ANNUAL	6005672100	95.88
06/15	111238	GRAINGER	WELL 11 - MAINT	6005631100	187.00
06/15	111240	HACH COMPANY	CHEMICALS	6005641100	276.99
06/15	111241	HAMMERSLEY STONE C	190.58 TON 3/4 INCH WHALEN CULVERT	6015601304	1,238.78
06/15	111241	HAMMERSLEY STONE C	54.28 TON 7/8" FOR WHALEN CULVERT	6015601304	542.80
06/15	111241	HAMMERSLEY STONE C	35.90 3" FOR WHALEN CULVERT	6015601304	233.35
06/15	111243	HAWKINS INC	CHEMICALS	6005641100	867.80
06/15	111243	HAWKINS INC	CHEMICALS	6005641100	1,737.40
06/15	111254	MADISON GAS & ELECT	MAY BILLING	6005623100	17,614.40
06/15	111274	SPRINT PRINT	ENVELOPES	6005905100	316.35
06/15	111274	SPRINT PRINT	ENVELOPES	6005851200	316.35
06/15	111274	SPRINT PRINT	ENVELOPES	6015921300	316.34
06/15	111278	TDS	UTILITY PORTION - WATER	6005921100	55.79
06/15	111278	TDS	UTILITY PORTION - SEWER	6005851200	31.38
06/15	111281	U S CELLULAR	SEWER - CELL	6005851200	5.83
06/15	111281	U S CELLULAR	WATER - CELL	6005921100	5.83
06/15	111284	VERIZON WIRELESS	WATER	6015921300	51.43
06/15	111284	VERIZON WIRELESS	MODEM SERVICE THRU 5/23/15	6005921100	55.11
06/15	111284	VERIZON WIRELESS	MODEM SERVICE THRU 5/23/15	6005851200	55.11
06/15	111284	VERIZON WIRELESS	AMI	60010722	15.41
06/15	111286	VITAL SIGNS	DECALS FOR NEW STREET SWEEPER	60113400	110.00
06/15	111289	WIN-911 SOFTWARE	SCADA DIALER ANNUAL SUPPORT & MAINTENAN	6005624100	395.00
06/15	111290	WISCONSIN DNR	WATER USE FEES	6005930100	125.00
06/15	111291	WISCONSIN DNR-ENVIR	STORMWATER FEES	6015930300	4,000.00
06/15	111292	WISCONSIN INDEPENDE	STORM UD	6015930301	4.83
06/15	111292	WISCONSIN INDEPENDE	UTILITY WATER	6005921101	9.66
06/15	111292	WISCONSIN INDEPENDE	UTILITY SEWER	6005851201	4.83
06/15	111292	WISCONSIN INDEPENDE	STORM UD	6015930301	4.83
06/15	111292	WISCONSIN INDEPENDE	UTILITY WATER	6005921101	9.66
06/15	111292	WISCONSIN INDEPENDE	UTILITY SEWER	6005851201	4.83
06/15	111293	WOODWARD COMMUNIT	FITCHBURG CITY AD MAY 2015 - STORMWATER R	6015930302	350.00

M = Manual Check, V = Void Check

GL Period	Check Number	Payee	Description	GL Account	Check Amount
Total 06/11/2015:					35,482.14
06/17/2015					
06/15	111298	ALERE TOXICOLOGY SE	RANDOM ALCOHOL TESTING - MANION	6005930100	62.75
06/15	111299	BAJEK, THOMAS	2015 TOILET REBATE	6005856200	99.00
06/15	111315	FIRST SUPPLY MADISON	ELBOWS TO FILL WHALEN CULVERT	6015601304	154.00
06/15	111320	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005926100	15.28
06/15	111320	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005854200	15.28
06/15	111321	GANTZ, DIANA	2015 TOILET REBATE (5690 MONTICELLO WAY)	6005856200	100.00
06/15	111325	HENSHUE, PHYLLIS	2015 TOILET REBATE	6005856200	100.00
06/15	111333	MCKINLEY, GARY W	2015 TOILET REBATE	6005856200	100.00
06/15	111340	NEUMANN, CHAD	2015 TOILET REBATE	6005856200	100.00
06/15	111358	STECK, ROBERT	2015 TOILET REBATE	6005856200	100.00
06/15	111366	WOLFE, JOE & LINDA	2015 TOILET REBATE	6005856200	100.00
Total 06/17/2015:					946.31
06/24/2015					
06/15	111369	A T & T MOBILITY	UTILITY TABLET 608-556-8176	6005921100	34.80
06/15	111369	A T & T MOBILITY	UTILITY TABLET 608-609-8735	6005921100	34.79
06/15	111381	CITY TREASURER - MADI	FLAT RATE WATER	6005602100	77.50
06/15	111381	CITY TREASURER - MADI	WATER CONSUMPTION	6005602100	435.81
06/15	111383	CONNEY SAFETY PROD	SAFETY EQUIPMENT	6005665100	359.04
06/15	111389	DORN TRUE VALUE	MISC TOOLS	6005643100	29.96
06/15	111392	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005926100	14.06
06/15	111392	G & K SERVICES	UNIFORMS RENTAL - UTILITY	6005854200	14.06
06/15	111397	HAMMERSLEY STONE C	18.4 TON 3/4" FOR IRISH CULVERT	6015601304	119.60
06/15	111397	HAMMERSLEY STONE C	26.61 TON 5/8" FOR IRISH CULVERT	6015601304	266.10
06/15	111397	HAMMERSLEY STONE C	20.42 3" FOR IRISH CULVERT	6015601304	132.73
06/15	111400	HAWKINS INC	CHEMICALS	6005641100	1,219.83
06/15	111404	INLAND POWER GROUP	WELL 5 - GENERATOR INSPECTION	6005633100	337.00
06/15	111404	INLAND POWER GROUP	PORTABLE GENERATOR INSPECTION	6005633100	337.00
06/15	111445	TOWN & COUNTRY ENGI	WELL 10 MICROBE INVESTIGATION	6005923100	2,951.25

GL Period	Check Number	Payee	Description	GL Account	Check Amount
06/15	111445	TOWN & COUNTRY ENGI	WELL 10 MICROBE INVESTIGATION	6005923100	290.00
06/15	111453	WI STATE LABORATORY	WATER TESTING	6005642100	40.00
Total 06/24/2015:					6,693.53
Grand Totals:					212,630.14

Summary by General Ledger Account Number

GL Account	Debit	Credit	Proof
600-10722	15.41	.00	15.41
600-21100	19.96	32,024.28-	32,004.32-
600-5602-100	513.31	.00	513.31
600-5623-100	17,614.40	.00	17,614.40
600-5624-100	395.00	.00	395.00
600-5631-100	187.00	.00	187.00
600-5633-100	674.00	.00	674.00
600-5641-100	4,102.02	.00	4,102.02
600-5642-100	40.00	.00	40.00
600-5643-100	29.96	.00	29.96
600-5665-100	810.31	.00	810.31
600-5672-100	95.88	.00	95.88
600-5673-100	2,215.16	.00	2,215.16
600-5677-100	135.80	19.96-	115.84
600-5851-200	408.67	.00	408.67
600-5851-201	9.66	.00	9.66
600-5854-200	63.86	.00	63.86
600-5856-200	699.00	.00	699.00
600-5905-100	316.35	.00	316.35
600-5921-100	186.32	.00	186.32
600-5921-101	19.32	.00	19.32

M = Manual Check, V = Void Check

GL Account	Debit	Credit	Proof
600-5923-100	3,241.25	.00	3,241.25
600-5926-100	63.85	.00	63.85
600-5930-100	187.75	.00	187.75
601-13400	236,780.50	68,000.00-	168,780.50
601-21100	68,000.00	248,625.82-	180,625.82-
601-5601-302	165.08	.00	165.08
601-5601-304	4,548.76	.00	4,548.76
601-5921-300	367.77	.00	367.77
601-5923-303	2,143.55	.00	2,143.55
601-5930-300	4,000.00	.00	4,000.00
601-5930-301	9.66	.00	9.66
601-5930-302	536.00	.00	536.00
601-5932-300	74.50	.00	74.50
Grand Totals:	348,670.06	348,670.06-	.00

Report Criteria:
Report type: GL detail
Invoice Detail.GL account = "60010700"-"6015933300"

City of Fitchburg
Committee or Commission Referral

Direct Referral Initiated by:
Direct Referral Approved by:

Date Referred**: May 12, 2015** Ordinance Number:
Date to Report Back**: May 26, 2015** Resolution Number: R-58-15

Sponsored by: Mayor Drafted by: Public Works

TITLE: **PRELIMINARY ASSESSMENT RESOLUTION FOR WATER MAIN IMPROVEMENTS ON FITCHRONA AND LACY ROAD**

Background: Water main will be installed on Fitchrona Road between Nesbitt Road and Lacy Road and on Lacy Road starting at Fitchrona Road and extending approximately 500 feet to the east. The cost of the water main improvements is an assessable cost based on the City Assessment policy. This resolution is the first part of the assessment process.

Order	Referred To	Staff Contact	Place on Agenda For	Action Taken On Referral
1	Board of Public Works	Horton	May 18, 2015	Approved
2	Finance	Roach	May 26, 2015	
3				
4				

Amendments:

2015
WATER MAIN IMPROVEMENTS ON FITCHRONA AND LACY ROAD
PRELIMINARY ASSESSMENT REPORT

City of Fitchburg
Department of Public Works
5520 Lacy Road
Fitchburg, Wisconsin 53711
Dane County
Wisconsin

Introduction

This report is required by the Common Council of the City of Fitchburg as per Resolution Number R-58-15, declaring Intent to Exercise Special Assessment Powers. It is submitted to the Common Council as a Preliminary Assessment Report for the construction of the water main improvements on Fitchrona and Lacy Road.

This report contains the following:

1) Statement of Benefits
2) Opinion of Project Costs ..... Table 1
3) Preliminary Assessments for the Subject Properties with List of Property Owners .. Exhibit A
4) "Approved Preliminary Resolution Declaring Intent" ..... Appendix A
5) Assessment District Boundary Map and Description .....Appendix B

I. Statement of Benefits

The water main construction will provide benefit to the properties within the proposed assessment district as shown and described in Appendices A and B, respectively.

Consequently, the following benefits will accrue to the properties where the improvements are made:

A. Water Main
   1) Public potable water supply.
   2) Increased fire protection.
   3) Allow future development of vacant properties fronting the main.

II. Opinion of Costs

The opinion of project costs shown in Tables 1 and 2 contains the estimated construction cost, engineering and administrative costs, plus contingencies.

The Utility will be paying for the additional costs to install 12" water main verses 10" water main. These costs are not included in the Tables 1 and 2.

TABLE 1
OPINION OF PROJECT COSTS
Fitchrona Road Water Main Extension

Construction Cost:	$514,849.60
Engineering, Administrative Services, and Contingencies 20%:	$102,969.92
Total Assessable Project Cost:	$617,819.52

TABLE 2
OPINION OF PROJECT COSTS
Lacy Road Water Main Extension

Construction Cost:	$31,359.50
Engineering, Administrative Services, and Contingencies 20%:	$6,271.90
Total Assessable Project Cost:	$37,631.40

PRELIMINARY ASSESSMENTS

For the Fitchrona Road water main assessments, the front footage method is used to calculate assessments for each existing property that it will service. The front footage method assures that each property owner pays for the actual cost to extend the water main adjacent to their property. Per the current assessment policy, existing residential properties who have not petitioned for water service are charged the lesser of the following two assessment calculations:

1. Assessment determined by multiplying the actual front footage rate, calculated by dividing half the Total Assessable Project Cost by the total length of front footage adjacent to the Fitchrona Road water main, then multiplied by each property's total front footage. For this project, the preliminary actual front footage water main assessment rate is $141.96.
2. Assessment determined by multiplying the 2015 plant value water main linear foot rate, based on a prorated 10 year linear regression of the plant value water system costs, by each property's total front footage (maximum 100'). For this project, the preliminary linear foot plant value water main assessment rate is $63.68/lf.

For this assessment the preliminary 2015 plant value water main assessment rate provides lower preliminary assessments than the actual front footage rate and was therefore used to determine preliminary assessments for the residential properties along Fitchrona Road. For all other assessable properties along Fitchrona Road, the actual front footage rate was used to calculate preliminary assessments.

For the Lacy Road assessments, the front footage method plus the actual cost for each parcel's water service is used to calculate the preliminary water assessments for the existing properties along Lacy Road. The front footage method assures that each property owner pays for the actual cost to extend water

main adjacent to their property. The water main assessment rate is determined by dividing the Total Assessable Project Cost by the total length of front footage serviced by the Lacy Road water main. For this assessment, the water main assessment rate is $37.79/lf. The total water assessments are calculated by adding the water main assessment, water main assessment rate multiplied by assessable front footage, to the Water Service Assessment Rate for each parcel.

The preliminary assessments for each parcel are shown in Exhibit A.

EXHIBIT A - Revised
Fitchrona and Lacy Road Water Main Extension

Table 1: Fitchrona Road Water Main Preliminary Assessments

Map Ref. No.	Parcel Address	Property Owner	Parcel No.	Plat/CSM Desc.	Lot #	Front Footage (ft)	Assessable Front Footage (ft)	Water Main Assessment Rate ($/LF)	Total Current Water Main Assessment	Total Deferred Water Main Assessment
1	2740 Fitchrona Road (1) (5)	City of Fitchburg	060907382005	CSM 00457		277.75				
2	2744 Fitchrona Road (1) (5)	City of Fitchburg	060907391504	CSM 02513	Lot 2	81.65				
3	2740 Fitchrona Road (1) (5)	City of Fitchburg	060907391602	CSM 02513	Lot 1	118.35				
4	6292 Lacy Road (2)	Hamm Fam Land LLC	060918286002	CSM 11159	Lot 3	83.87	83.87	$141.96	$11,906.37	
5	2726 Fitchrona Road (3)	John H Ellinger	060907391906	Metes and Bounds		128.30	100	$63.68		$6,368.00
6	2720 Fitchrona Road	John H Ellinger	060907392003	Metes and Bounds		128.30	100	$63.68		$6,368.00
7	2712 Fitchrona Road	Brad D Anderson	060907392209	Metes and Bounds		128.30	100	$63.68		$6,368.00
8	2706 Fitchrona Road	Corey L Dintelman	060907392307	Metes and Bounds		114.30	100	$63.68		$6,368.00
9	2700 Fitchrona Road	Pringle Living Tr	060907392405	Metes and Bounds		123.60	100	$63.68		$6,368.00
TOTAL:						**1184.42**			**$11,906.37**	**$31,840.00**

Table 2: Lacy Road Water Main Preliminary Assessments

Map Ref. No.	Parcel Address	Property Owner	Parcel No.	Plat/CSM Desc.	Lot #	Front Footage (ft)	Assessable Front Footage (ft)	Water Main Assessment Rate ($/LF)	Water Main Assessment ($)	Water Service Assessment Rate ($/LF)	Total Current Water Assessment	Total Deferred Water Assessment
4	6292 Lacy Road (2) (6)	Hamm Fam Land LLC	060918286002	CSM 11159	Lot 3	1439.02	187.48	$37.79	$7,085.03		*$7,085.03*	
10	6310 Lacy Road (2) (6)	Hamm Fam Land LLC	060918285602	CSM 11159	Lot 1	116.35	116.35	$37.79	$4,396.97	$3,625.20	*$8,022.17*	
11	6302 Lacy Road (2) (6)	Hamm Fam Land LLC	060918285802	CSM 11159	Lot 2	194.06	194.06	$37.79	$7,333.70		*$7,333.70*	
12	6311 Lacy Road (4)	Diane H Remeika	060918286901	CSM 04506	Lot 1	189.25	189.25	$37.79	$7,151.92	$2,472.00	$9,623.92	
13	6303 Lacy Road (4)	Diane H Remeika	060918286858	CSM 00407		308.64	308.64	$37.79	$11,663.78	$2,472.00	$14,135.78	
TOTAL:							995.78		**$37,631.40**		**$46,200.60**	

Notes:
(1) Billing Address: City of Fitchburg, 5520 Lacy Road, Fitchburg, WI 53711
(2) Billing Address: Keith Hammersly, 6244 Oak Hollow Drive, Oregon, WI 53575
(3) Billing Address: John H Ellinger, 2720 Fitchrona Road, Fitchburg, WI 53719
(4) Billing Address: Diane H Remeika, 1321 Morrison Street, Madison, WI 53713
(5) Parcel is not being assessed. Parcel is owned by the City of Fitchburg.
(6) Property is not being assessed. Cost to install water main will be paid directly by parcel owner to contractor.

APPENDIX A

Steve Arnold, Mayor Introduced By	Public Works Prepared by
Board of Public Works/Finance Referred to	May 12, 2015 Date

RESOLUTION R-58-15
PRELIMINARY ASSESSMENT RESOLUTION
FOR WATER MAIN IMPROVEMENTS
ON FITCHRONA AND LACY ROAD

Preliminary Resolution Declaring Intent to Exercise Special Assessment Police Powers Under Municipal Police Powers pursuant to §66.0701 Wisconsin Statues, and Fitchburg Code of Ordinances Sections 10-213 to 10-216 for the cost of water main improvements on Fitchrona and Lacy Road in the City of Fitchburg.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Common Council of the City of Fitchburg, Dane County, Wisconsin that

1. The Common Council hereby declares its intention to exercise its police power under Sec. §66.0703 Wis. Stats. as incorporated in Section 10-215 of the Fitchburg Ordinances, to levy special assessments upon property in the assessment district hereafter described for benefits conferred upon such property by installation of water main.

2. The properties to be assessed lie within the following described assessment district:

ASSESSMENT DISTRICT

Properties adjacent to the east side of Fitchrona Road between Nesbitt Road and Lacy Road, and all properties adjacent to Lacy Road between Fitchrona Road and approximately 500 feet to the east.

3. The City Council hereby determines that the improvements constitute an exercise of the police power for the health, safety and welfare of the public.

4. The total amount assessed against the properties in the defined assessment district shall not exceed 100% of the City's direct and indirect costs of the improvements including, but not limited to, actual construction costs and related costs of engineering and legal services, administrative expense and borrowing costs related to the project.

5. The assessment against any parcel may be paid in cash or equal annual installments in accordance with schedule below, with interest on the unpaid balance at one percent (1%) over the City's borrowing rate. If the installment method is selected the remaining balance is due at time of transfer or sale of ownership of parcel.

Assessment Schedule:

a. If the assessment is less than $500.00, the assessment shall be paid in one (1) annual installment.

b. If the assessment is at least $500.00 but less than $999.00, the assessment shall be paid in three (3) annual installments.
c. If the assessment is at least $1000.00 but less than $4,999.00, the assessment shall be paid in five (5) annual installments.
d. If the assessment is greater than $5000.00, the assessment shall be paid in seven (7) or more annual installments.

6. The City Engineer shall prepare a Preliminary Assessment Report which shall consist of:

   a. Plans and specifications for the improvements.
   b. An estimate of the entire direct and indirect cost of the improvements.
   c. A schedule of the proposed assessments as to each parcel of property within the defined assessment district.
   d. A statement that the respective properties against which the assessments are proposed are benefitted.

7. When the Preliminary Assessment Report is completed, the City Engineer shall file a copy of the Report with the City Clerk for public inspection.

8. Upon receiving the report of the City Engineer, the Clerk shall cause notice to be given pursuant to § 66.0703(7) Wisconsin Statutes, stating the nature of the proposed improvement, the general boundary lines of the proposed assessment district, the time and place at which the report may be inspected, and the time and place of the public hearing on the matter contained in the Preliminary Resolution and the Report. The notice shall be published as a Class 1 notice under Wis. Stat. Ch. 985 and a copy shall be mailed at least ten (10) days before the hearing, to every interested person whose post office address is known or can be ascertained with reasonable diligence.

9. The hearing shall be held before the Board of Public Works at a time set by the City Clerk in accordance with § 66.0703(7) Wis. Stats.

Adopted this 26th day of May, 2015.

Approved By: Stephen L. Arnold
Stephen L. Arnold, Mayor

Attested By: Patti Anderson
Patti Anderson, City Clerk

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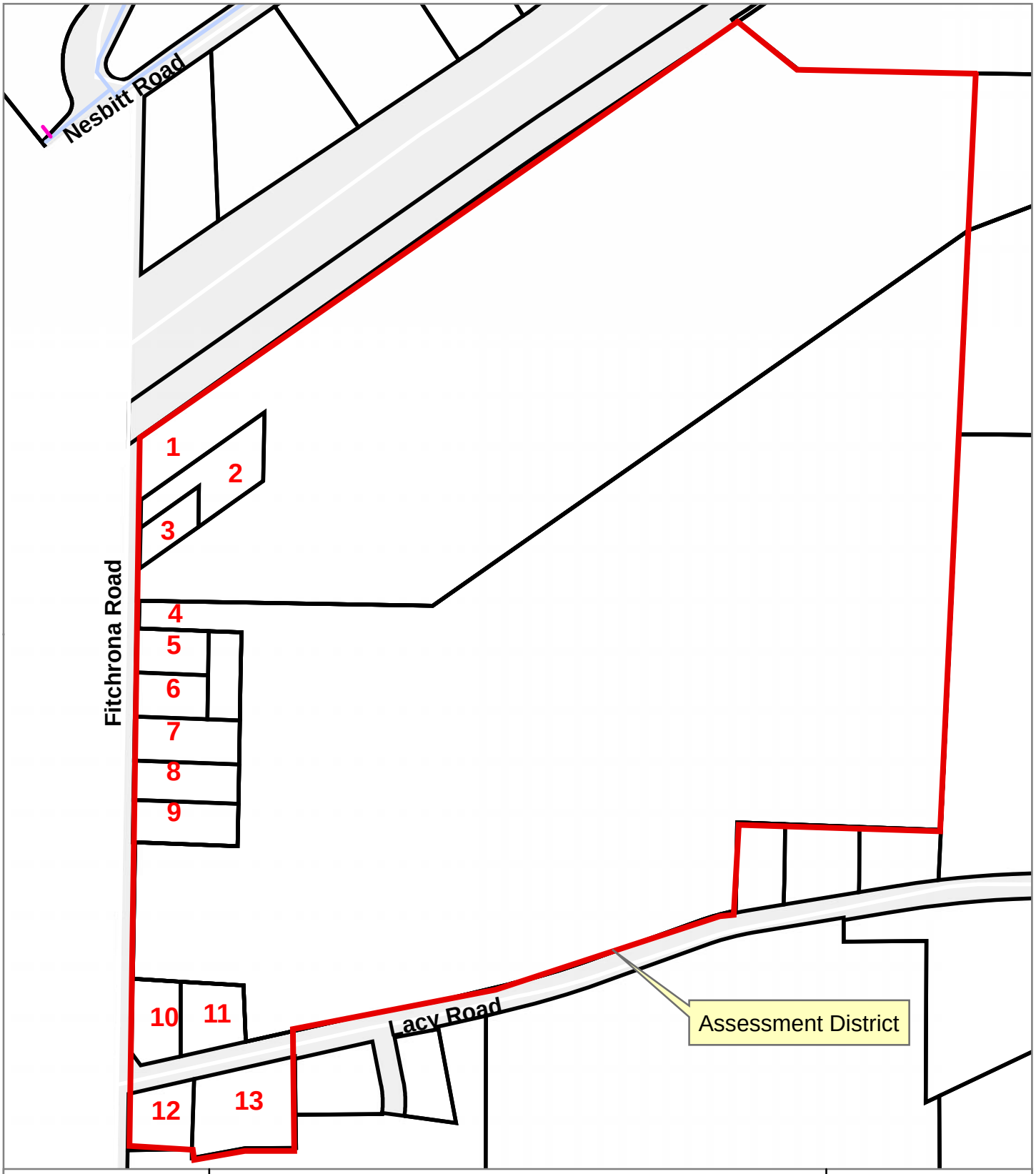

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APPENDIX B
Assessment District
Boundary Map

Steve Arnold, Mayor
Introduced By

Public Works
Prepared by

Board of Public Works/Finance
Referred to

May 12, 2015
Date

RESOLUTION R-58-15
PRELIMINARY ASSESSMENT RESOLUTION
FOR WATER MAIN IMPROVEMENTS
ON FITCHRONA AND LACY ROAD

Preliminary Resolution Declaring Intent to Exercise Special Assessment Police Powers Under Municipal Police Powers pursuant to §66.0701 Wisconsin Statues, and Fitchburg Code of Ordinances Sections 10-213 to 10-216 for the cost of water main improvements on Fitchrona and Lacy Road in the City of Fitchburg.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Common Council of the City of Fitchburg, Dane County, Wisconsin that

1. The Common Council hereby declares its intention to exercise its police power under Sec. §66.0703 Wis. Stats. as incorporated in Section 10-215 of the Fitchburg Ordinances, to levy special assessments upon property in the assessment district hereafter described for benefits conferred upon such property by installation of water main.

2. The properties to be assessed lie within the following described assessment district:

ASSESSMENT DISTRICT

Properties adjacent to the east side of Fitchrona Road between Nesbitt Road and Lacy Road, and all properties adjacent to Lacy Road between Fitchrona Road and approximately 500 feet to the east.

3. The City Council hereby determines that the improvements constitute an exercise of the police power for the health, safety and welfare of the public.

4. The total amount assessed against the properties in the defined assessment district shall not exceed 100% of the City's direct and indirect costs of the improvements including, but not limited to, actual construction costs and related costs of engineering and legal services, administrative expense and borrowing costs related to the project.

5. The assessment against any parcel may be paid in cash or equal annual installments in accordance with schedule below, with interest on the unpaid balance at one percent (1%) over the City's borrowing rate. If the installment method is selected the remaining balance is due at time of transfer or sale of ownership of parcel.

Assessment Schedule:

a. If the assessment is less than $500.00, the assessment shall be paid in one (1) annual installment.

b. If the assessment is at least $500.00 but less than $999.00, the assessment shall be paid in three (3) annual installments.
c. If the assessment is at least $1000.00 but less than $4,999.00, the assessment shall be paid in five (5) annual installments.
d. If the assessment is greater than $5000.00, the assessment shall be paid in seven (7) or more annual installments.

6. The City Engineer shall prepare a Preliminary Assessment Report which shall consist of:

a. Plans and specifications for the improvements.
b. An estimate of the entire direct and indirect cost of the improvements.
c. A schedule of the proposed assessments as to each parcel of property within the defined assessment district.
d. A statement that the respective properties against which the assessments are proposed are benefitted.

7. When the Preliminary Assessment Report is completed, the City Engineer shall file a copy of the Report with the City Clerk for public inspection.

8. Upon receiving the report of the City Engineer, the Clerk shall cause notice to be given pursuant to § 66.0703(7) Wisconsin Statutes, stating the nature of the proposed improvement, the general boundary lines of the proposed assessment district, the time and place at which the report may be inspected, and the time and place of the public hearing on the matter contained in the Preliminary Resolution and the Report. The notice shall be published as a Class 1 notice under Wis. Stat. Ch. 985 and a copy shall be mailed at least ten (10) days before the hearing, to every interested person whose post office address is known or can be ascertained with reasonable diligence.

9. The hearing shall be held before the Board of Public Works at a time set by the City Clerk in accordance with § 66.0703(7) Wis. Stats.

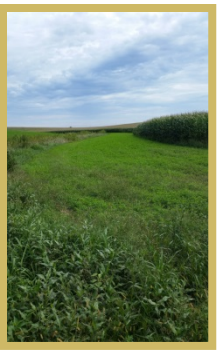
Adopted this 26th day of May, 2015.

Approved By:_____
Stephen L. Arnold, Mayor

Attested By:_____
Patti Anderson, City Clerk

Executive Summary

Yahara WINs 2014 Annual Report



The *Yahara WINs* Pilot Project is testing a new, innovative, and collaborative compliance approach, called watershed adaptive management, to meet regulatory requirements for phosphorus and sediment (TSS) reduction in the Yahara River Watershed. Thirty entities are participating in the pilot project including wastewater treatment plants, industry, cities, villages, towns, and numerous other partners.

Early pilot project efforts focused on implementing a robust water quality monitoring program and evaluating baseline conditions related to phosphorus in the pilot project area. Over the course of the pilot, the project's focus and activities have evolved to start paving the way for a full-scale watershed adaptive management project. By its completion in 2015, the pilot project will provide the data needed to help *Yahara WINs* participants make informed decisions relating to the use of adaptive management to meet the Rock River TMDL phosphorus and sediment (TSS) reduction requirements.

Important accomplishments that aid in moving toward a full-scale adaptive management program in the Yahara River Watershed:

- A Memorandum of Understanding (MOU) between the Madison Metropolitan Sewerage District and the Wisconsin Department of Natural Resources (WDNR) was signed that provides **certainty** to the District and its adaptive management partners in several key areas related to adaptive management implementation and its use as a compliance strategy.
- A more robust and refined model was developed to improve **cost estimates** for full-scale adaptive management.
- Refining the cost model and developing the MOU with WDNR have already helped contribute to some of these key areas needed in a **full-scale adaptive management plan** that will be submitted to WDNR for review and approval.
- Growing interest in watershed-based projects that address pollution at its source, presents opportunities to secure **supplemental funding**, such as the $1.6 million Regional Conservation Partnership Program (RCPP) grant that was awarded to Dane County Land Conservation Division (LCD). The diversity of the public-private partnerships in the grant, as well as the established relationships and past successes among partners, were integral to the RCPP proposal's success.
- Through *Yahara WINs* funding, the Rock River Coalition continues the **growth of the volunteer monitoring program**, which also lays the groundwork for expansion to full-scale adaptive management.

Yahara WINs Pilot Project implementation efforts:

- Phosphorus reduction practices and agricultural inventories were expanded.
    - 78% of agricultural land in the pilot watershed has been inventoried for current practices and baseline phosphorus index (PI) values.
    - 37 new conservation practices were implemented by Dane County LCD.
    - A total of 4,842 pounds of phosphorus per year was reduced from the pilot project area.
    - A 79% reduction in phosphorus loadings was achieved in one of the pilot watersheds.
    - The harvestable buffer program began this year and will reduce phosphorus loads by 399 pounds per year for each of the next five years.
    - Yahara Pride Farms (YPF) continued their promotion and demonstrations of phosphorus reduction practices and reduced phosphorus loadings by an estimated 1,923 pounds through YPF cost-share program and 7,388 pounds through additional practices installed by Yahara Pride Farmers.
    - There was increased participation in the *Yahara WINs* grant program, which enabled the execution of a mix of projects that deliver 5,244 pounds per year of phosphorus reductions at a low cost per pound.
    - Dane County LCD evaluated how cropping practices are changing over time for the seven TMDL reaches, so that informed decisions can be made on approaches to conservation practice implementation and subsequent phosphorus reductions.
    - Phosphorus index (PI) values for agricultural land located in the Waunakee Marsh, Pheasant Branch, and Sixmile Creek Watersheds have been evaluated and will help prioritize conservation efforts and the allocation of resources.
- Other ongoing projects include a leaf management study by USGS/UW, the evaluation of legacy sediments by Dane County LCD, SnapPlus improvements by UW to take into account frozen ground and exercise areas, and adjacent research opportunities through Water Sustainability and Climate Change and a Department of Energy grant to promote biofuels/grassland.
- Water quality monitoring efforts during the past year have been extended and continue to enhance our understanding of the flows and loads of phosphorus in the Yahara River Watershed, which is important for full-scale project planning and compliance.
- New staff have been hired or are in the process of being hired at MMSD and Dane County LCD to prepare for the transition to full-scale adaptive management.
- Underlying all these efforts was the continued participation and support of *Yahara WINs* partners. This high degree of collaboration has been a theme throughout the pilot project, demonstrating an encouraging willingness of various sectors to come together around improving water quality.

***Yahara WINs* Pilot Project Participants**			
Towns	Villages	Cities	Other
Blooming Grove	Cottage Grove	Fitchburg	Clean Lakes Alliance
Bristol	DeForest	Madison	Clean Wisconsin
Burke	Maple Bluff	Middleton	Dane County
Cottage Grove	McFarland	Monona	MG&E
Dunn	Oregon	Stoughton	MMSD
Westport	Shorewood Hills		Sand County Foundation
Windsor	Waunakee		Stoughton Utilities
Middleton			USGS
			Yahara Pride Farms
			Wisconsin DNR
***Yahara WINs* Interested Parties**			
Capital Area Regional Planning Commission			
Friends of Badfish Creek			
River Alliance of Wisconsin			
Rock River Coalition			
US Environmental Protection Agency			
USDA/NRCS			
Wisconsin Department of Agriculture, Trade and Consumer Protection			
Yahara Lakes Association			

What to Expect Moving Forward

The success of the pilot project is the driving force behind the efforts to plan for a full-scale adaptive management program in the Yahara River Watershed. As we move forward into 2015, work on key items needed for full-scale adaptive management has begun, including the refinement of the adaptive management cost model, the development of a more formal organizational structure for the *Yahara WINs* partners, and the development of the Adaptive Management Plan. It is essential that *Yahara WINs* partners make progress on the key items listed below, as 2015 will be a critical year.

Key items for *Yahara WINs* Partners to Accomplish in 2015
MS4s should revisit their modeling results to determine how much phosphorus and sediment (TSS) are needed to meet their requirements under the TMDL. These calculations will need to follow WDNR guidance and take into account existing drainage areas and management controls. When complete, these results will be input into the cost model so that all partners can have a more accurate estimate of their cost to participate in a full-scale adaptive management program. Credit can then be given in those cases where the current level of phosphorus and sediment control results in loads that are less than the baseline loads used in the TMDL.
All partners with TMDL allocations should review all their compliance options (facility upgrades, etc.), so that they are prepared to make the decision whether to participate in a full-scale adaptive management program.
Inform your decision leaders, boards, consultants, etc. of the advancement of a full-scale adaptive management program.
Maintain your pilot project payment allocation in your 2016 budget so that the phosphorus reducing practices and associated activities (including water quality monitoring) can be continued during a 2016 transition year before the full-scale adaptive management program begins.

Tentative Adaptive Management Timeline

2015

- Complete pilot project
- Continued funding of phosphorus reducing practices
- Partners evaluate compliance options
- Adaptive management plan developed
- Intergovernmental agreement to support a full-scale adaptive management project is developed

2016

- Transition year
- Continued funding of phosphorus reducing practices
- Adaptive management plan submitted to WDNR for approval
- Organizational structure to support full -scale project in place
- Continued financial support of WINS by participating partners at pilot project levels

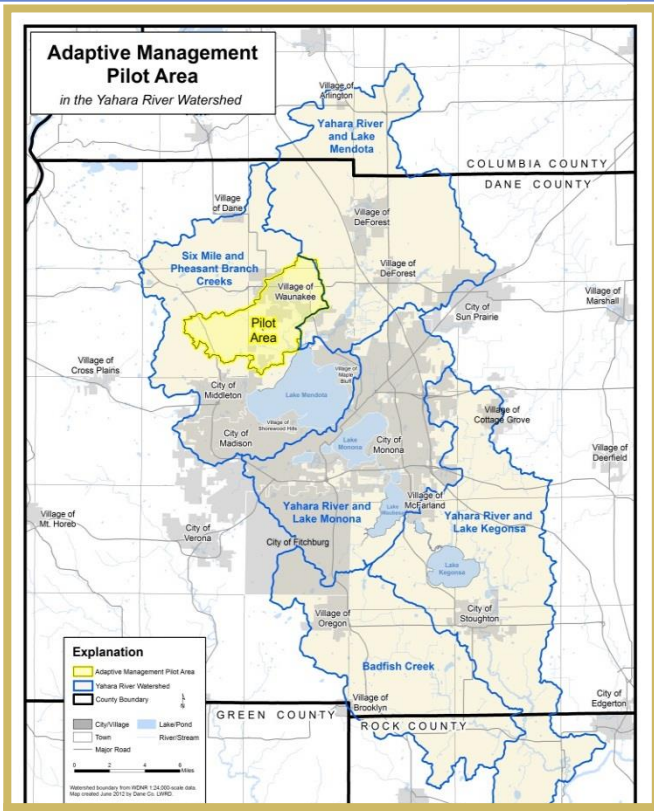
2017

- Start of full -scale adaptive management project
- Expanded funding of phosphorus reducing practices and supporting activities

Additional information on *Yahara WINs* can be found at:

http://www.madsewer.org/Programs-Initiatives/Yahara-WINs

Yahara WINs 2014 Annual Report



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YAHARA WINS KEY ACCOMPLISHMENTS 2014

Important accomplishments that aid in moving toward a full-scale adaptive management program in the Yahara River Watershed:

- A Memorandum of Understanding (MOU) between the Madison Metropolitan Sewerage District (District) and the Wisconsin Department of Natural Resources (WDNR) was signed that provides **certainty** to the District and its adaptive management partners in several key areas related to adaptive management implementation and its use as a compliance strategy.
- A more robust and refined model was developed to improve **cost estimates** for full-scale adaptive management.
- Refining the cost model and developing the MOU with WDNR have already helped contribute to some of these key areas needed in a **full-scale adaptive management plan** that will be submitted to WDNR for review and approval.
- Growing interest in watershed-based projects that address pollution at its source, presents opportunities to secure **supplemental funding**, such as the $1.6 million Regional Conservation Partnership Program (RCPP) grant that was awarded to Dane County Land Conservation Division (LCD). The diversity of the public-private partnerships in the grant, as well as the established relationships and past successes among partners, were integral to the RCPP proposal's success.
- Through *Yahara WINs* funding, the Rock River Coalition continues the **growth of the volunteer monitoring program**, which also lays the groundwork for expansion to full-scale adaptive management.

***Yahara WINs* Pilot Project implementation efforts**:

- Phosphorus reduction practices and agricultural inventories were expanded.
    - 78% of agricultural land in the pilot watershed has been inventoried for current practices and baseline phosphorus index (PI) values.
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    - Dane County LCD evaluated how cropping practices are changing over time for the seven TMDL reaches, so that informed decisions can be made on approaches to conservation practice implementation and subsequent phosphorus reductions.

  - Phosphorus index (PI) values for agricultural land located in the Waunakee Marsh, Pheasant Branch, and Sixmile Creek Watersheds have been evaluated and will help prioritize conservation efforts and the allocation of resources.
- Other ongoing projects include a leaf management study by USGS/UW, the evaluation of legacy sediments by Dane County LCD, SnapPlus improvements by UW to take into account frozen ground and exercise areas, and adjacent research opportunities through Water Sustainability and Climate Change and a Department of Energy grant to promote biofuels/grassland.
- Water quality monitoring efforts during the past year have been extended and continue to enhance our understanding of the flows and loads of phosphorus in the Yahara River Watershed, which is important for full-scale project planning and compliance.
- New staff have been hired or are in the process of being hired at the District and Dane County LCD to prepare for the transition to full-scale adaptive management.
- Underlying all these efforts was the continued participation and support of *Yahara WINs* partners. This high degree of collaboration has been a theme throughout the pilot project, demonstrating an encouraging willingness of various sectors to come together around improving water quality.

YAHARA WINS BACKGROUND

The *Yahara WINs* Pilot Project is testing a new, innovative, and collaborative compliance approach, called watershed adaptive management, to meet regulatory requirements for phosphorus and sediment (TSS) reduction in the Yahara River Watershed. Thirty entities are participating in the pilot project including wastewater treatment plants, industry, cities, villages, towns, and numerous other partners, as identified below in Table 1. All partners have participated for the entire duration of the pilot project except for the Village of Arlington, which WDNR determined in 2014 is not a surface water discharger, and therefore, has no allocation in the TMDL.

Table 1 - *Yahara WINs* Pilot Project Participants

Towns	Villages	Cities	Other
Blooming Grove	Cottage Grove	Fitchburg	Clean Lakes Alliance
Bristol	DeForest	Madison	Clean Wisconsin
Burke	Maple Bluff	Middleton	Dane County
Cottage Grove	McFarland	Monona	MG&E
Dunn	Oregon	Stoughton	Madison Metropolitan Sewer District
Westport	Shorewood Hills		Sand County Foundation
Windsor	Waunakee		Stoughton Utilities
Middleton			USGS
			Yahara Pride Farms
			Wisconsin DNR

Yahara WINs Interested Parties

Friends of Badfish Creek	Capital Area Regional Planning Commission
River Alliance of Wisconsin	USDA/NRCS
Rock River Coalition	Wisconsin Department of Agriculture, Trade and Consumer
Yahara Lakes Association	US Environmental Protection Agency Protection

Early pilot project efforts focused on implementing a robust water quality monitoring program and evaluating baseline conditions related to phosphorus in the pilot project area. Over the course of the pilot, the project's focus and activities have evolved to start paving the way for a full-scale watershed adaptive management project. During 2014, *Yahara WINs* funded research related to phosphorus management, continued to support water quality monitoring, funded the installation of phosphorus reducing practices (both urban and rural), further refined costs estimates for a full-scale adaptive management project, and engaged in other initiatives.

By its completion in 2015, the pilot project will provide the data needed to help *Yahara WINs* participants make informed decisions relating to the use of adaptive management to meet the Rock River TMDL phosphorus and sediment (TSS) reduction requirements. This report complements other *Yahara WINs* documents and takes time to recognize what is going on within the watershed. Additional information on *Yahara WINs* can be found at:

http://www.madsewer.org/Programs-Initiatives/Yahara-WINs

Yahara WINs activities in 2014 fit into two general categories:

- **Steps Toward Full-Scale Adaptive Management:** steps to evaluate the transition from the pilot project to a full-scale adaptive management project.
- ***Yahara WINs* Pilot Project:** continued implementation of the pilot project through additional conservation practices, collaboration with project partners and water quality monitoring.

This report is divided into two sections grouping the activities according to these categories.

WHAT TO EXPECT MOVING FORWARD

The success of the pilot project is the driving force behind the efforts to plan for a full-scale adaptive management program in the Yahara River Watershed. As we move forward into 2015, work on key items needed for full-scale adaptive management has begun, including the refinement of the adaptive management cost model, the development of a more formal organizational structure for the Yahara WINs partners, and the development of the Adaptive Management Plan. It is essential that Yahara WINs partners make progress on the key items listed in Table 2, as 2015 will be a critical year. A tentative timeline for the adaptive management efforts is presented in Figure 1.

Table 2 – Key items for *Yahara WINs* Partners to Accomplish in 2015
MS4s should revisit their modeling results to determine how much phosphorus and sediment (TSS) are needed to meet their requirements under the TMDL. These calculations will need to follow WDNR guidance and take into account existing drainage areas and management controls. When complete, these results will be input into the cost model so that all partners can have a more accurate estimate of their cost to participate in a full-scale adaptive management program. Credit can then be given in those cases where the current level of phosphorus and sediment control results in loads that are less than the baseline loads used in the TMDL.
All partners with TMDL allocations should review all their compliance options (facility upgrades, etc.), so that they are prepared to make the decision whether to participate in a full-scale adaptive management program.
Inform your decision leaders, boards, consultants, etc. of the advancement of a full-scale adaptive management program.
Maintain your pilot project payment allocation in your 2016 budget so that the phosphorus reducing practices and associated activities (including water quality monitoring) can be continued during a 2016 transition year before the full-scale adaptive management program begins.

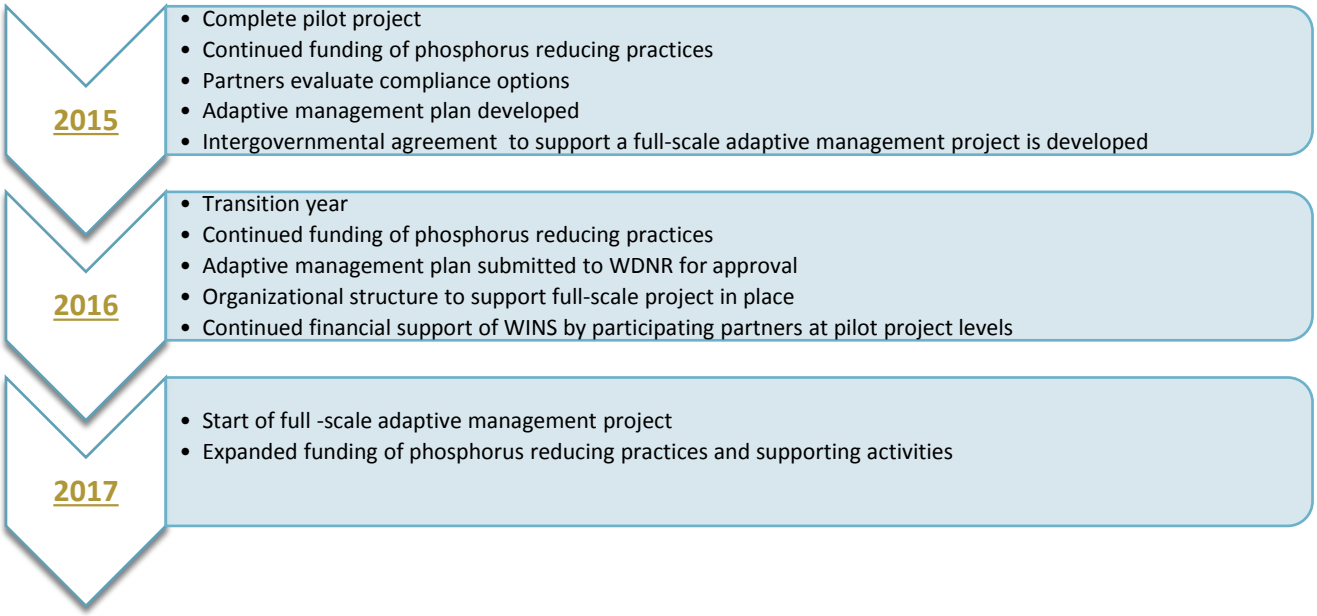

Figure 1 - Tentative Adaptive Management Timeline

2015 MEETING DATES

The *Yahara WINs* Strategic Planning Workgroup and Executive Committee meet quarterly and each meeting covers a variety of topics relating to the *Yahara WINs* Adaptive Management Pilot Project as well as the transition to full-scale adaptive management. The dates and times of the Strategic Planning Workgroup Meetings, which are followed by the Executive Committee Meetings, are listed below. The *Yahara WINs* meetings will be held at either the Lussier Family Heritage Center or the District's Operations Building. The location will be confirmed about one month prior to the meeting. All *Yahara WINs* meetings are open to everyone.

- Thursday, June 11, 2015 at 1 pm
- Thursday, September 10, 2015 at 1 pm
- Thursday, December 10, 2015 at 1 pm

STEPS TOWARD FULL-SCALE ADAPTIVE MANAGEMENT

This section highlights *Yahara WINs* activities over 2014 that helped address key questions related to moving ahead with full-scale adaptive management. Such questions include the cost of the full-scale project and a clear definition of compliance with permit requirements through adaptive management. Through efforts to answer these questions, *Yahara WINs* also started to lay the groundwork for the full-scale adaptive management plan.

MEMORANDUM OF UNDERSTANDING WITH WDNR

Receiving certainty from the Wisconsin Department of Natural Resources (WDNR) in several key areas related to the implementation and use of adaptive management as a TMDL compliance strategy was an important milestone for the District, and potential partners, in a full-scale adaptive management project. The District, as the entity that would formally develop and advance an adaptive management project, initiated discussions with WDNR that led to the development of a Memorandum of Understanding (MOU) between the District and WDNR.

The MOU was finalized and fully executed by the District and WDNR in late 2014. It addresses the following key areas related to implementation of a full-scale adaptive management project in the Yahara River Watershed:

- Development of an adaptive management plan
- Quantifying phosphorus and sediment (TSS) reductions
- Measuring interim progress in meeting phosphorus and sediment (TSS) reduction goals
- Reduction credits for state-funded nonpoint source reductions
- Compliance at the end of the adaptive management period

For further information, please see the MOU, which is posted on the *Yahara WINs* website.
To avoid confusion, note that this new MOU is different from the 2012 MOU between participants in the *Yahara WINs* pilot project. The new 2014 MOU is solely between the District and WDNR to clarify questions of compliance and implementation of the full-scale adaptive management plan, while the 2012 MOU was an informal agreement between pilot project participants. Moving ahead to a full-scale project, a more formal agreement will govern relationships between the District and project partners (see "Development of a More Formal Organizational Structure" below).

REFINEMENT OF COST MODEL FOR FULL-SCALE PROJECT

Significant progress has been made over the past six months to develop a more refined cost model from the preliminary cost model that was developed prior to the start of the pilot project. The cost model estimates the total cost of implementing a full-scale adaptive management project and the cost to each municipal entity. For example, if an entity is responsible for 10% of the total phosphorus reduction in the Yahara River Watershed, that entity would be responsible for 10% of the total adaptive management cost. The refined cost model:

- Applies unit cost information and phosphorus reduction from actual practices installed in the Yahara River Watershed over the six-year period of 2008-2013.
- Uses a longer timeframe than the preliminary cost model.
- Includes a more robust water quality monitoring component.
- Accounts for inflation.
- Includes a mechanism to account for, or otherwise "credit," municipal entities that may already have, or anticipate exceeding, the baseline level of phosphorus control assumed in the Rock River TMDL.

While work on the refined cost model is substantially complete, some fine tuning of model inputs is occurring. For example, many municipal entities are rerunning stormwater models to more accurately assess current levels of phosphorus control. When complete, this information will be inserted into the cost model. More detailed information on the refined cost model will be shared with pilot project participants during the first half of 2015 and can be used to help each entity determine whether full-scale adaptive management continues to be a cost-effective option for achieving phosphorus reductions required under the Rock River TMDL.

DEVELOPMENT OF A MORE FORMAL ORGANIZATIONAL STRUCTURE

Yahara WINs is a collaborative effort involving over 30 partners that will need to operate under a more formal organizational structure in a full-scale adaptive management program. From an organizational standpoint, the pilot project has been able to proceed on a relatively informal basis of operating under an MOU for two reasons: First, and most important, is that the pilot project is not operating as part of an enforceable permit issued by WDNR; Second, the total amount of funds being managed under the pilot project, while significant, is not large. A full-scale adaptive management project will be operating at a larger geographic scale, with significantly larger financial commitments from partners, and with most of the partners operating in a more complex permitting environment. Therefore, preparation of a full-scale plan will include the development of a formal agreement between the District and participating partners.

The majority of the *Yahara WINs* partners are municipal entities, which have specific statutory authority to enter into agreements to jointly exercise any power that they can exercise individually. Such agreements are relatively commonplace and have been used for a variety of intergovernmental purposes including cost sharing. Separate agreements will be needed to engage non-municipal partners. The *Yahara WINS* 2015 budget includes funds for the development of an organizational structure necessary to support a full-scale adaptive management project.

ADAPTIVE MANAGEMENT PLAN DEVELOPMENT

The adaptive management approach is identified in Wis. Admin Code NR 217. Therefore, a formal adaptive management project can only be advanced by a facility like the District (that is, a facility regulated for phosphorus under Wis. Admin Code NR 217). To move *Yahara WINs* forward, the District will develop an adaptive management plan for a full-scale adaptive management project and submit it to WDNR for review and approval. The District will develop this plan according to the WDNR's Adaptive Management Technical Handbook.

According to WDNR, a successful adaptive management plan will need to address nine key areas:

1. Identification of partners
2. Description of the watershed and set load reduction goals
3. A watershed inventory
4. Identification of where reductions will occur
5. Description of management measures
6. Load reduction estimates by permit term
7. Methods for measuring success
8. Financial capacity to support actions
9. Implementation, including a schedule with milestones

Significant progress has already been made on addressing many of the above areas and the District will continue working on plan development in 2015.

WATER QUALITY MONITORING NETWORK

A comprehensive water quality monitoring network for the Yahara Watershed will be needed to support a full-scale adaptive management project. A group *of Yahara WINs* partners is developing a comprehensive map showing all the water quality monitoring in the watershed so that monitoring gaps can be identified. *Yahara WINs* has also been steadily expanding water quality monitoring efforts throughout the Yahara River Watershed. In the past year, *Yahara WINs* began funding water quality samples at the U.S. Geological Survey (USGS) monitoring station on the lower Yahara River near Fulton. In addition, *Yahara WINs* has helped the Rock River Coalition expand citizen water quality monitoring throughout the watershed. These efforts will help us develop an overall water quality monitoring plan for a full-scale adaptive management project. The plan will focus on both water chemistry and stream biology and will leverage the strengths of our partners.

COMMUNICATIONS AND STAKEHOLDER ENGAGEMENT

Yahara WINs has begun evaluating and revising our strategic communications strategy to effectively engage partners and convey the right information, in the right form, and at the right time for our various audiences. In 2014, a communications sub-committee, made up of members of the strategic planning workgroup, was formed to provide input on the strategic communications strategy. We appreciate specific input and ideas from all interested parties. Please contact Kathy Lake, kathyl@madsewer.org, 608-222-1201, ext. 278 to share any insights you may have regarding messaging, target audiences, etc.

IDENTIFYING AND SECURING SUPPLEMENTAL FUNDING SOURCES

The *Yahara WINS* project is attracting growing interest, which presents opportunities to secure supplemental funding for *Yahara WINS* related efforts in support of a full-scale adaptive management project.

In January 2015, the US Department of Agriculture's Natural Resource Conservation Service (NRCS) awarded $1.6 million to the Dane County Land & Water Resources Department through a new Regional Conservation Partnership Program (RCPP) for their project, titled "Reducing Total Phosphorus and Sediment Loads in the Yahara River Watershed through Wisconsin's Adaptive Management Option." *Yahara WINs* is a partner on the project, along with the District, the Clean Lakes Alliance, Sand County Foundation, and UW-Madison. This project allows *Yahara WINs* partners to expand the geographic scope of the current adaptive management effort and will help build capacity for a full-scale adaptive management project.

The primary goal of this project is to engage the agricultural community in this collaborative, watershed-based approach to meet water quality standards. Alternative conservation innovations will be implemented and tested for their effectiveness, including harvestable buffers, legacy sediment removal, and the planning of community manure processing and storage. This project will allow testing of innovative delivery approaches for phosphorus reducing practices and will facilitate continued collaboration between water, wastewater, and agricultural sectors.

Partners are providing cash and in-kind matches to the $1.6 million from NRCS. The grant process was highly competitive, with 600 proposals submitted nationally, and only 100 awarded across the U.S. The diversity of the public-private partnerships in the Dane County grant, as well as the established relationships and past successes among partners were integral to the proposal's success.

Opportunities also exist to bring investments into the watershed through other projects that would be beneficial to *Yahara WINs* efforts. In one such opportunity, UW-Madison has partnered with the District and others to submit a proposal for $10 million in U.S. Department of Energy funding. This project, titled "Reducing Nutrient Load with Biomass Crops in South-Central Wisconsin's Yahara River Watershed: Catalyzing Landscape Change with a Multi-Stakeholder Design Process," aims to jumpstart the market pull for biomass to catalyze land use and land cover change towards dedicated bioenergy crop production. This project would provide an opportunity to reduce nutrient loads in the Yahara River Watershed through dedicated biomass cropping systems that maintain or improve farmer profitability. A comprehensive environmental monitoring plan, which would assess the effects of biomass harvest of perennial grasslands, cover crops, and crop residues, is included in the proposal.

YAHARA WINS PILOT PROJECT

In addition to preparing for the transition to a full-scale project in 2014, *Yahara WINs* also continued implementation efforts in the pilot project area. These efforts included more on-the-ground conservation practices as well as additional monitoring data to inform future adaptive management planning and implementation. Underlying all these efforts was the continued participation and support of *Yahara WINs* partners. This high degree of collaboration has been a theme throughout the pilot project, demonstrating an encouraging willingness of various sectors to come together around improving water quality.

YAHARA WINS 2014 BUDGET

During 2014, *Yahara WINs* funds were collected from each of the partners to support the continued assessment of adaptive management in the Yahara River Watershed. In addition, the Sand County Foundation contributed $50,000 in additional funds to support water quality monitoring efforts. A detailed breakdown of the 2014 revenues and expenditures is shown in Table 3.

Table 3 - *Yahara WINs* 2014 Budget

Revenue	
Carryover from 2013	$185,577.39
Sand County Foundation additional contribution	$50,000.00
Annual assessment to MOU participants	$430,900.00
Total Revenue	**$666,477.39**
2014 Payments Made Using 2013 Carryover	
2013 reverse auction phosphorus reduction grants	$16,000.00
Dane County LWRD phosphorus management-2013 work	$72,028.98
UW Water Resources Management	$2,453.94
	$90,482.92
2014 Expenditures	
District laboratory for water quality analysis	$30,365.33
Adaptive Management Intern	$783.69
USGS Gaging Station-Installation and O&M	$90,500.00
Yahara WINs Grants	$19,046.50
Grant to Yahara Pride Farms	$75,000.00
Harvestable buffer demonstration projects	$40,540.61
Dane County LWRD phosphorus management-2014 work	$150,003.00
Farmer inventories	$2,000.00
Montgomery Associates Yahara SWAT modeling	$29,737.92
Rock River Coalition-water quality monitoring	$14,000.00
City of Madison construction inspection	$10,000.00
Capital Newspapers	$564.93
Bank fees	$22.62
	$462,564.60
2014 Encumbered Expenditures Payable in 2015	
Grants to Yahara Pride Farms	$7,000.00
Yahara WINs Grants	$45,246.50
Adaptive Management Intern	$4,216.31
Communications support	$5,000.00
	$61,462.81
Total Expenditures	**$614,510.33**
Unencumbered carryover to 2015	**$51,967.06**

YAHARA WINS 2015 BUDGET

In 2015, *Yahara WINs* MOU partners will again contribute their assessment to support pilot project activities. The Sand County Foundation is providing an additional $30,000 to support water quality monitoring activities. The 2015 Budget (Table 4), which also reflects a carryover of unencumbered funds from 2014, was recommended for approval by the Strategic Planning Workgroup and approved by the Executive Committee at their December 2014 meetings. While not reflected in the budget, additional funds are being invested in the Yahara River Watershed to support phosphorus reducing practices.

These sources include Dane County, US Department of Agriculture, Natural Resources Conservations Service's (USDA/NRCS) Mississippi River Basin Initiative, the Yahara Pride Farm Team, Clean Lakes Alliance and other entities.

Table 4 - *Yahara WINs* 2015 Budget*

Anticipated Revenue	
Unencumbered carryover from 2014	$50,714
Sand County Foundation additional contribution	$30,000
Annual assessment to MOU participants	$430,900
Total Revenue	**$511,614**
Proposed Expenditures	
USGS gaging stations-annual cost for gaging stations	$77,500
USGS additional monitoring services	$20,000
Rock River Coalition-water quality monitoring	$23,873
District laboratory services for water quality analysis	$31,000
Legal Services-development of intergovernmental agreement	$8,000
Adaptive Management Intern	$5,000
Farm producer inventory payments	$5,000
Yahara WINs Grants	$60,000
Additional phosphorus reduction practices & management-urban and rural	$100,000
Joint phosphorus reduction initiative with CLA and Dane County-VMI	$10,000
Dane County expense as broker	$150,000
Communications	$5,000
Miscellaneous	$1,500
Contingency and carryover to 2016	$14,741
Total Expenditures	**$511,614**

* Note – Actual unencumbered carryover from 2104 was slightly higher than anticipated

DANE COUNTY LAND CONSERVATION DEPARTMENT 2014 REVIEW

Dane County Land Conservation Division (LCD), as a *Yahara WINs* broker, has the important role of translating Yahara WINs' phosphorus reduction needs into on-the-ground practices that reduce agricultural runoff. In 2014, Dane County LCD continued to work with the District and Yahara WINs partners on furthering the adaptive management effort within the Yahara River Watershed. This was the third year of a four-year pilot project within the Sixmile Creek Watershed that is testing the adaptive management concept. LCD staff continue to plan and assist its partners in the development of tools to support both the decision making process and the transition of adaptive management from the pilot watershed to the much larger Yahara River Watershed.

Dane County LCD adaptive management achievements are listed in Table 5 and include:

- Obtaining baseline phosphorus index (PI) and inventory information on additional agricultural lands, which will help in identifying and prioritizing future conservation activities.
- Expanding conservation practice implementation throughout the entire Yahara River Watershed in addition to the pilot project area.

- Implementation of harvestable buffers (Figure 2), which help capture phosphorus runoff before it reaches waterways.
- Development of a revised cost model for full-scale adaptive management implementation.
- Continued verification and documentation of phosphorus reductions.
- Successful award of project funding under NRCS's Regional Conservation Partnership Program.

Table 5 - Pilot Project Achievements to Date: Agricultural Practices

• **78%** of agricultural land in the pilot watershed inventoried for current practices and baseline phosphorus index (PI) information
• **37** new conservation practices implemented (**23** in Yahara River and Badfish Creek Watersheds, **14** in pilot project area)
• **79%** reduction in phosphorus loadings from TMDL Reach 63.
• **4,842** total pounds of phosphorus per year was reduced from the pilot project area.
• **5** harvestable buffer projects equaling:
  ○ **15.2** acres
  ○ **374** pounds of phosphorus being reduced each year for five years
  ○ **$21.68/lb** of phosphorus reduced per year

Figure 2 – Harvestable Buffer Installation

YAHARA PRIDE FARMS

Yahara WINs has maintained its partnership with Yahara Pride Farms (YPF), a farmer-led group in the Yahara River Watershed dedicated to the implementation of farm practices that improve soil and water health. During 2014, *Yahara WINs* voted to provide $80,000 to fund YPF's continued efforts in promoting the implementation of agricultural conservation programs designed to reduce the movement

of phosphorus to waterways within the Yahara River Watershed. Four incentive programs, which are shown in Figure 3 and described below, were offered within the watershed in 2014.

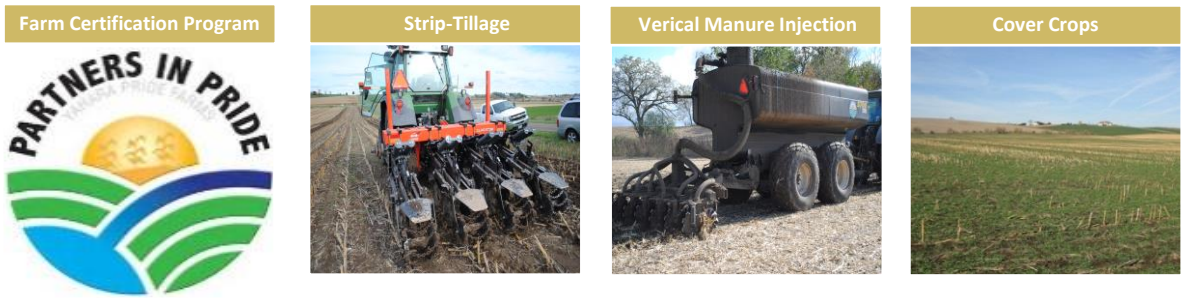

Figure 3 - Yahara Pride Farms Incentive Programs

- **Farm Certification Program**
  - As of January 2015, 17 farms are either Yahara Pride certified or in the process of being certified. The YPF certification process measures field, land, and stream conservation; crop and soil fertility; and assesses facilities to evaluate environmental risks and beneficial practices. Farms can become certified after they earn at least 80% of the available points. The program is designed to recognize good conservation practices already in place, as well as identify where additional or improved practices will benefit the land.
- **Strip-Tillage**
  - Strip-tillage combines the soil drying and warming benefits of conventional tillage with the soil-protecting advantages of no-till by disturbing only the portion of the soil that is to contain the seed row (similar to zone tillage). Strip-till conserves more soil moisture compared to intensive tillage systems. However, compared to no-till, strip-till may in some cases reduce soil moisture and increase the potential for soil loss.
- **Vertical Manure Injection**
  - For many livestock operations in the Yahara River Watershed, manure incorporation (working manure into soil) is a standard practice. Traditional incorporation methods move a great deal of soil and increase the potential for soil erosion. Vertical manure injection is a relatively new farming system that incorporates manure into the soil with minimal soil disturbance. Estimates for reductions in phosphorus loss in 2013 were conducted using crop rotation, tillage practices, and manure application data provided by farmers in the watershed.
- **Cover Crops**
  - The most common cover crops are fall-seeded cereal grains, such as rye or wheat, and fall-seeded annual ryegrass. Based on the data collected by the Yahara Pride Farms during the spring of 2013, cover crops need to be targeted to specific fields and farming systems.

These programs were promoted at several YPF events in 2014, including the Watershed-Wide Conference, a manure workshop, the second annual farm tour hosted by Blue Star Dairy, and the second annual YPF Ag Innovation Days. The 2014 YPF Ag Innovation Days was a two-day event that brought in over 100 YPF partners from all corners of the agriculture industry. Attendees were able to see a manure spill response demonstration, investigate the effects of cover crops on soil health, and check out the

latest conservation equipment. Thirteen exhibitors and field experts were present to discuss best management practices and manure management techniques.

Each incentive program has unique benefits both from a phosphorus reduction standpoint as well as educational and confidence/trust building within the watershed. In January 2015, Yahara Pride Farms prepared a preliminary report that provided an estimate of the number of pounds of phosphorus prevented from entering the Madison lakes in 2014, which is shown Table 6. These estimates were calculated by taking the acres of each practice multiplied by the average phosphorus reduction as calculated in YPF's 2013 report. The 2014 final report, due June 30, 2015, will contain phosphorus reductions numbers as calculated by the SnapPlus software program.

Table 6 - Phosphorus Reductions from Yahara Pride Farms Programs in 2014

Phosphorus Reduction Method	2013 Average Phosphorus Reduction (lbs/acre)	Cost-Shared in 2014					Additional Acres by YPF in 2014	Total Phosphorus Reduction in 2014 (lbs)
		Number of Farms	Acres	Cost	Phosphorus Reduction (lbs)	Cost/lb		
Strip-tillage	1.4	3	52.5	$630	74	$8.57	163.5	302
Vertical Manure Injection	2.9	16	162	$6,050	470	$12.88	683	2451
Cover Crops	1.0	36	1380	$51,840	1380	$37.57	4947	6327
Total		55	1595	$58,520	1923	$30.43	5793.5	9080

YAHARA WINS GRANTS

In 2014, *Yahara WINs* was successful in pursuing a mix of projects that could deliver phosphorus reductions at a low cost per pound through a grant program. This program is an evolution of the 2013 Reverse Auction Grant program and allowed applications from both urban and agricultural sources. Through this program, a total of $64,325 of grants was awarded to *Yahara WINs* partners as shown in Table 7.

Table 7 - *Yahara WINs* Grants

Grant Awardees	Phosphorus Reduction Practice	Requested Funding	Expected Phosphorus Reduction
Town of Westport for Holy Wisdom Monastery	Prairie Restoration	$15,000	1038 lbs/year
Clean Lakes Alliance for the Yahara Pride Farms	Wipperfurth; Vertical Manure Injection Toolbar	$15,000	2800 lbs/year
Clean Lakes Alliance for the Yahara Pride Farms	Uphoff; Vertical Manure Injection Toolbar	$8,125	480 lbs/year
City of Monona	Stormwater Treatment Devices	$10,000	369 lbs/year
City of Fitchburg	Infiltration Basin Conversion	$10,500	104 lbs/year
Dane County	Grasslands Conversion	$5,700	453 lbs/year

This grant program is another aspect of *Yahara WINs* Pilot Project aimed at finding the low-cost mix of practices that will cause in-stream phosphorus reduction. To facilitate this learning, these funded entities will provide *Yahara WINs* with detailed information regarding the success of their initiatives.

These reports will verify phosphorus reduction and include narrative descriptions as well as photographs. This funding program will be continued in 2015.

DANE COUNTY TRANSECTS

To gain an understanding of how cropping practices are changing over time, Dane County evaluated data from the National Agricultural Statistic Service (NASS) as it relates to each of the seven TMDL reaches (Figure 4). The results are fairly consistent across all TMDL reaches, with the percent of cropland acres being used to grow corn increasing from 2003 to 2013 and the percent of cropland acres used for growing soybeans decreasing. This information is helpful in the planning and understanding of how agriculture is changing so that informed decisions can be made on approaches to conservation implementation and subsequent phosphorus reductions.

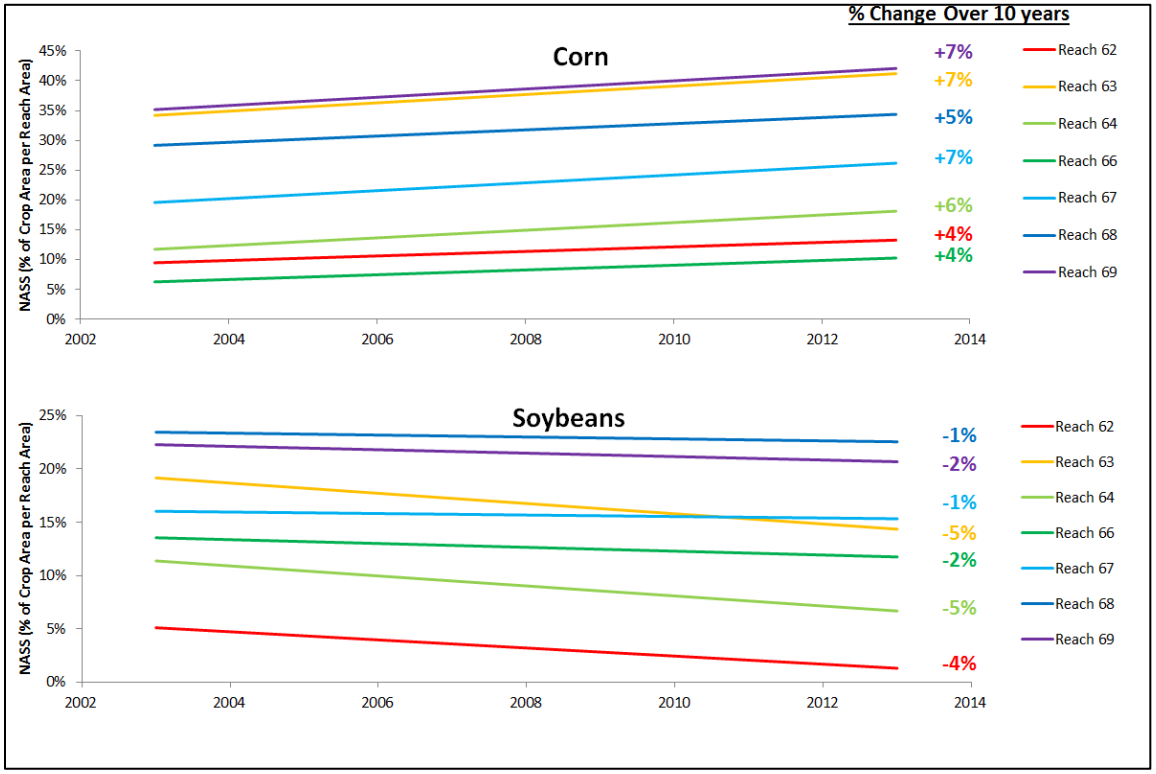

Figure 4 - Crop Trends over TMDL Reaches

MRBI PROJECT REPORT HIGHLIGHTS

Data that will be very valuable in the planning of a full-scale adaptive management project is now available, as 2014 marked the conclusion of a four-year cooperative agreement between NRCS and Dane County as part of the Mississippi River Basin Initiative (MRBI). One of the primary deliverables of the agreement was to evaluate Nutrient Management Plans and corresponding phosphorus index values (PI's) of agricultural land located in the Waunakee Marsh, Pheasant Branch, and Sixmile Creek Watersheds. The PI indicates the likelihood of a given agricultural field contributing phosphorus to nearby waterways. The results of this study indicated that in general, fields in the study watersheds had PIs significantly lower than the state standard of 6. Less than one percent of fields studied had PIs greater than 6.

This information will help prioritize future conservation efforts and allocation of resources, starting with fields with PIs greater than 6, and followed by fields with PIs of 5-6 and then 3-4. Appendix A includes results of this study.

LEAF MANAGEMENT PROJECT

Numerous studies have identified organic matter like leaves and yard waste as sources of phosphorus and sediment entering waterways in urban settings. One way to remove yard waste before it enters our waterways is to implement a city-wide leaf management and street cleaning program. Keeping leaves out of the water is preferable to building treatment, and most communities already conduct some level of leaf collection and street sweeping program. This study is determining the changes in phosphorus removal with minor changes to existing practices. Although data on sources of phosphorus and nitrogen is extensive, few studies have quantified the water-quality benefits of their removal.

Leaf Management project at a glance

Goal: Quantify the impact of leaf management on the phosphorus entering our waterways

Project lead: U.S. Geological Survey (USGS)

Partners: The City of Madison, Dane County, the Fund for Lake Michigan, WDNR, and *Yahara WINs*

Status: Data will be used to determine the value in leaf collection, optimize collection practices, and enhance existing datasets in urban hydrology and water-quality models.

A control year was conducted in 2013, in which there was no active leaf collection and phosphorus concentrations were as much as 10 times greater than what had been measured in previous studies in Madison with an active leaf collection program, Figure 5 (Selbig, 2007).

In the spring of 2014, the City of Madison once again began monthly street cleaning operations in the study basins and resumed their normal leaf collection program in October. The lack of rain in October coupled with the early onset of winter in November of 2014 resulted in too few runoff events to measure a change in the amount of phosphorus through leaf collection. Future efforts in 2015 will once again evaluate the benefits of a street cleaning program in the spring and fall. The role of leaf removal from city streets could prove to be a critical element when addressing phosphorus mitigation in the urban environment.

Figure 5 - City of Madison Leaf Collection

WATER QUALITY MONITORING

Water quality monitoring efforts during the past year have continued to enhance our understanding of the flows and loads of phosphorus in the Yahara River Watershed, which is important for full-scale project planning and compliance. A detailed report of the monitoring results from water year 2014 (October 2013 – September 2014) is provided in Appendix B. Main findings are listed below:

- Precipitation during water year 2014 was near normal, and there were not major winter runoff events until the snowmelt in mid-March.
- Monitoring shows that baseflow total phosphorus concentrations remain above the WDNR standard in the monitored streams.
- 63,000 pounds of phosphorus were delivered to Lake Mendota among the 4 major tributaries (0.9 pounds of phosphorus per acre).
- 60% of phosphorus delivered to Lake Mendota occurred in 12 days during snowmelt, as shown in Figure 6. Both the current and historical data demonstrate that the early part of the calendar year is typically an important period for phosphorus runoff into Lake Mendota. Management practices that target phosphorus-runoff reductions during this period likely have the best chance to significantly reduce phosphorus loads to the lake.

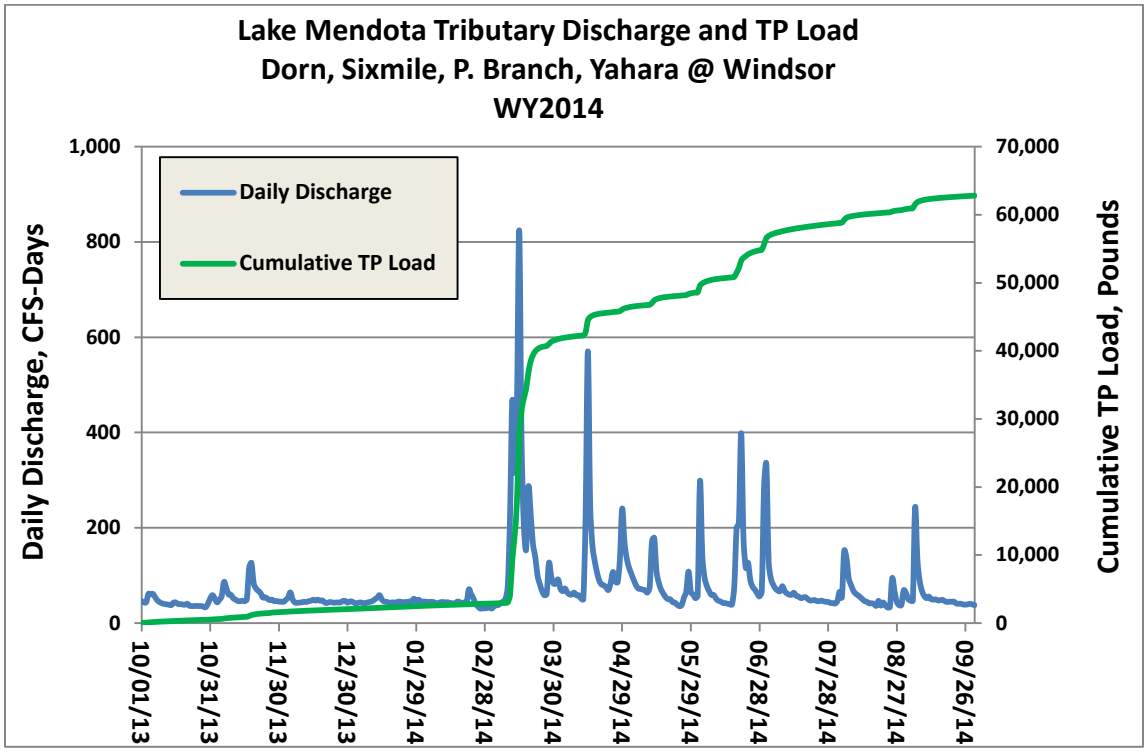

Figure 6 - Daily Flow and Cumulative Total Phosphorus Loading to Lake Mendota WY 2014

CITIZEN WATER QUALITY MONITORING

Yahara WINs provided funding to the Rock River Coalition (RRC) to expand the Citizen Water Quality monitoring network in the Yahara River Basin to augment existing stream monitoring established by the WDNR, the District and USGS, and to lay the groundwork for a full-scale adaptive management project. Begun in 2013, this project has two main goals:

- To determine in-stream water quality conditions (status) for streams previously lacking data.
- To track changes in-stream water quality over time (trends) that may be caused by changing land use and water management practices.

Figure 7 - Citizen Water Quality Monitoring

Including volunteer stream monitors (Figure 7) in the Adaptive Management Program:

- Expands geographical coverage to include more stream stretches while saving on the cost of more expensive monitoring methods.
- Increases the frequency of monitoring.
- Builds greater public awareness of the threats to water quality in the Yahara River Watershed.

Volunteer teams monitored a total of 35 stream sites in 2014 and *Yahara WINs* has approved a proposal to expand the program in 2015 (Figure 8). Volunteer monitoring efforts are summarized in Table 8.

The majority of sites monitored by volunteers were located in three subwatersheds, with 31% of the sites located in the Six Mile Creek Pheasant Branch Watershed, and 29% of the sites located in the Yahara River Lake Mendota Watershed (Figure 9).

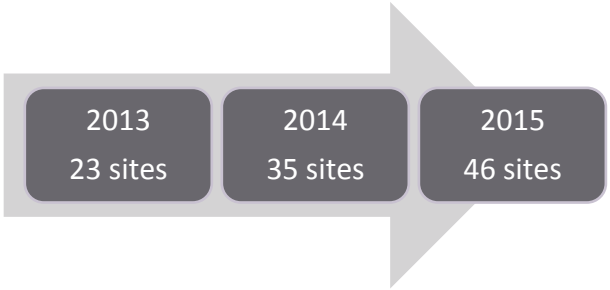

Figure 8 – Number of Stream Sites in the Citizen Monitoring Program by Year

Table 8 - Pilot Project Achievements to Date: Citizen Monitoring
• **35** stream sites monitored • **93%** retention rate of volunteer teams • **433** volunteer hours spent monitoring, representing a value of **$9,418** • **52** volunteers trained at 4 workshops organized by Rock River Coalition

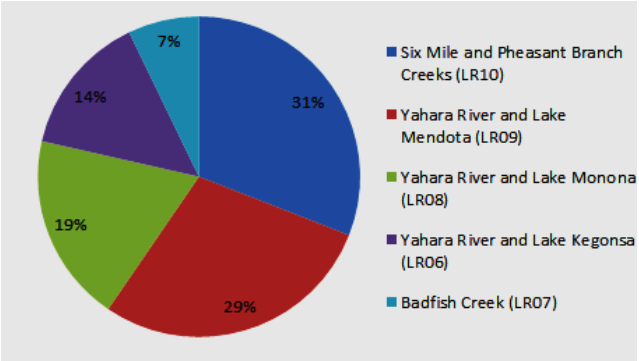

Figure 9 - Distribution of Citizen Monitoring Sites by Watershed 2014

Results from the citizen stream monitoring indicate that the total phosphorus concentrations are above the WDNR standard in the majority of the monitoring sites, as reported in Appendix C.

More information on Citizen Stream Monitoring as well as opportunities to become a volunteer monitor is available at http://rockrivercoalition.org/projects/citizen-stream-monitoring/ or by contacting Nancy Sheehan at nancy@rockrivercoalition.org.

REFERENCES

Selbig, W.R. and Bannerman, R.T., 2007, Evaluation of street sweeping as a stormwater-quality management tool in three residential basins in Madison, Wisconsin, U.S. Geological Survey Scientific Investigations Report 2007-5156, 120 p.

CONTRIBUTORS

Rachel Fossum, Clean Lakes Alliance & Yahara Pride Farms
Kyle Minks, Dane County Land and Water Resources Department
Bill Selbig, U.S. Geological Survey
Nancy Sheehan, Rock River Coalition
Todd Stuntebeck, U.S. Geological Survey

Photo credits:
City of Madison
Clean Lakes Alliance & Yahara Pride Farms
Dane County Land and Water Resources Department
Madison Metropolitan Sewer District
Rock River Coalition
U.S. Geological Survey

APPENDIX A – MRBI PROJECT RESULTS

Results of the MRBI project indicated that Pheasant Branch, Waunakee Marsh, and Sixmile Creek watersheds had area weighted PI averages of 2.7, 3.0, and 3.1 respectively. These values are significantly lower than the state performance standard of 6. Table A.1 provides a breakdown of the acres of land in various PI categories for the three watersheds.

Table A.1 - The number of inventoried acres and proportions within identified Phosphorus Index (PI) categories for Waunakee Marsh, Pheasant Branch, and Sixmile creek watersheds. The area weighted average PI and number of fields inventoried are also presented.

	Watershed (Acres)			
Phosphorus Index (PI)	**Pheasant**	**Waunkee**	**Sixmile**	***Total Inventory**
0 - 2	2,017 (51.7%)	3,604 (40.4%)	2,496 (38.9%)	11,920 (46.2%)
3 - 4	1,445 (37.0%)	3,645 (40.8%)	2,792 (43.5%)	10,172 (39.4%)
5 - 6	427 (10.9%)	1,622 (18.2 %)	1,101 (17.2%)	3,601 (14.0%)
> 6	15 (0.4%)	56 (0.6%)	26 (0.4%)	107 (0.4%)
Area Weighted Average PI	2.7	3.0	3.1	-
Number of Fields	345	650	428	1,750
Total Acres	3,904	8,927	6,415	25,800

*Total Inventory accounts for acres outside the three watersheds as well as those within.

Less than 1% of all the total field acres inventoried in each of the three watersheds had PI values greater than 6. These are areas that will receive the highest priority in the allocation of conservation resources since these locations have the greatest potential phosphorus reductions than any of the other inventoried areas. Once those fields with PI's greater than 6 have been addressed, conservation efforts will be reallocated to areas having PI's of 5-6, which accounts for roughly 3,150 acres. Priority will then be given to those fields with PI's of 3-4.

APPENDIX B – WATER QUALITY MONITORING

WEATHER

Precipitation totals for water year 2014 (Oct. 1, 2013 – Sep. 30, 2014) were near normal for the Yahara River Watershed. The Dane County Regional Airport in Madison receives about 35 inches of precipitation annually (1981-2010 average), and the 2014 water year total was just over 35 inches. This is in stark contrast to 2012, when only 26 inches of precipitation were measured, and 2013, when nearly 48 inches were measured (Figure B.1).

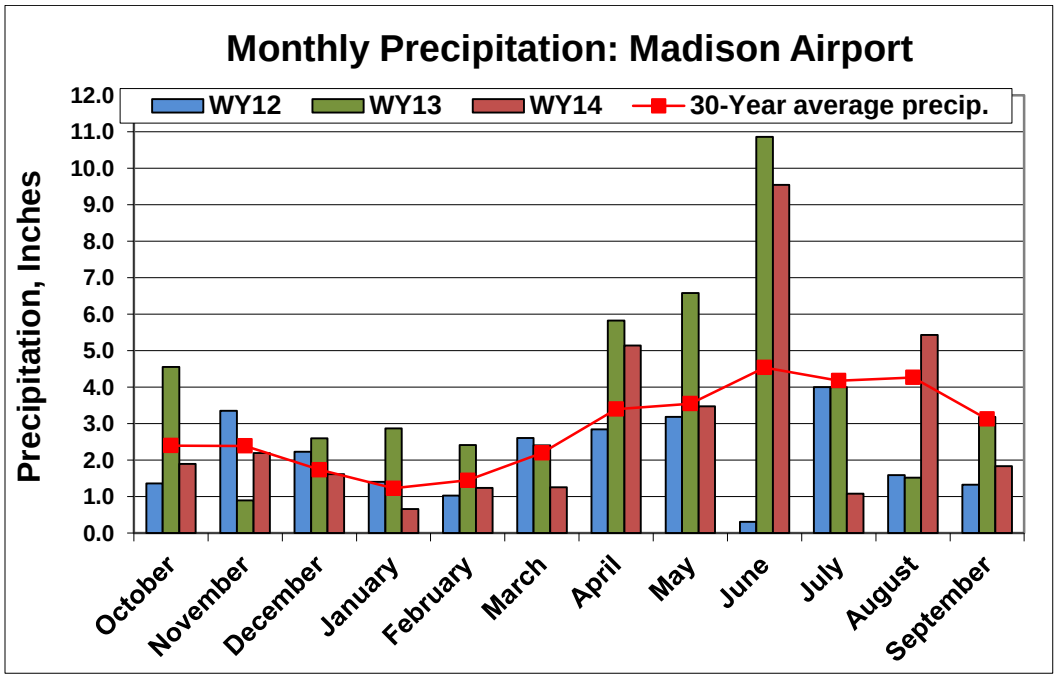

Figure B.1 - Monthly Precipitation Madison WYs 2012-2014

RUNOFF

Figure B.2 shows the sum of the daily discharges entering Lake Mendota among the four major tributaries. Although historical discharge data are not available for all of the stations, data are available for the Yahara River at Windsor dating back to 1990. For this station, water year 2014 had the 8th highest annual runoff total.

The 2014 winter was consistently cold, with no significant warming or rainfall periods to generate runoff. The snowpack created by the 60 inches of snow (Madison's average is about 50 inches) started to melt in mid-March, and overland runoff continued to feed Yahara River Watershed streams until late March. This period generated the largest and longest sustained storm-runoff period for the entire water year. A large rainfall event (3+ inches) occurred in mid-April while fields were still somewhat saturated from the recent snowmelt, causing a peak but relatively short-lived runoff event. Rainy periods in early-, mid-, and late-June generated three small- to moderate-sized runoff periods. Only minor, occasional runoff events occurred for the remainder of the water year.

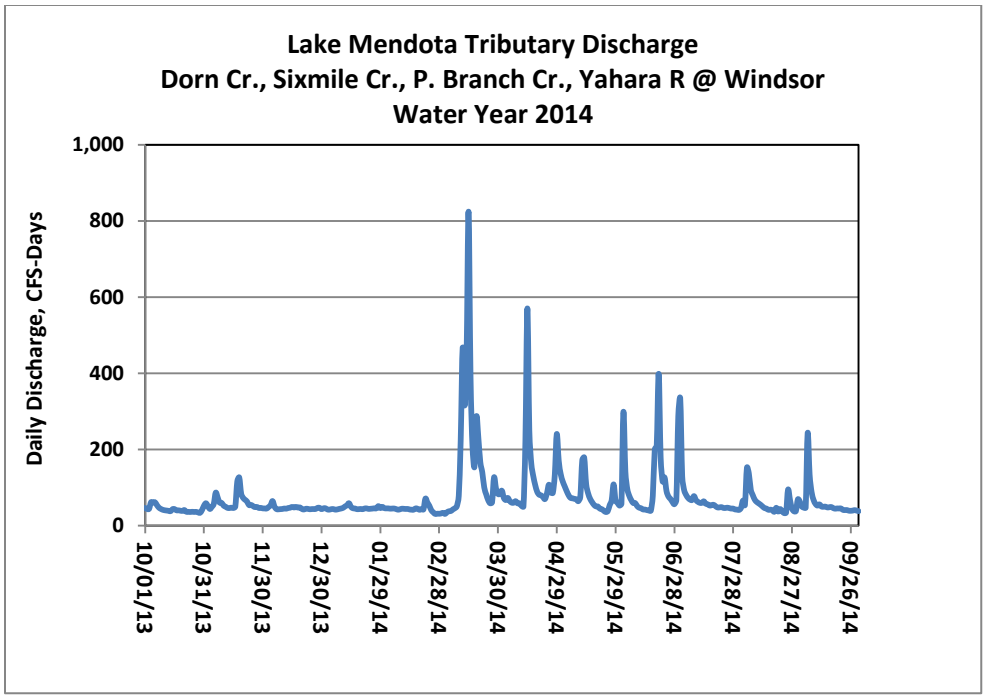

Figure B.2 - Lake Mendota Tributary Discharge WY 2014

SAMPLING

Water samples were collected monthly from the monitored streams in the pilot watershed during baseflow (low-flow) periods and on a variable time-step basis by an autosampler during significant storm-runoff periods. For baseflow periods, one sample per month was analyzed by the District for total phosphorus, dissolved ortho-phosphorus, nitrate plus nitrite, ammonium, total Kjeldahl nitrogen, total suspended solids, and chlorophyll. For storm-runoff periods, 8-12 samples were generally analyzed for each significant runoff period. Among all of the samples collected by the autosampler during storm events, those that appeared to best represent the variability in constituent concentrations throughout the event were selected for submittal.

Starting in January, 2014, samples were collected at the Yahara River at Fulton station, which is the downstream-most station on the Yahara River before its confluence with the Rock River. Samples were collected using an equal-width-increment (EWI) method at roughly three-week intervals and also periodically during stormflow periods.

A total of 435 samples were analyzed in water year 2014 for the four adaptive management pilot stations and the Yahara River at Fulton station.

PHOSPHORUS CONCENTRATIONS

One of the objectives of the adaptive management pilot project is to determine the median concentrations of phosphorus during the months of May – October and compare them to the WDNR standard. According to the WDNR numeric water-quality standards approved by EPA in December 2010, the median concentration of total phosphorus for samples collected during these months should not exceed 0.075 mg/L. This standard is based on previous research indicating that adherence to this value would likely result in higher biotic indices (fish, insects, for example) in the affected streams. Table B.1

shows the median baseflow concentrations for the pilot streams and the Yahara River at Fulton station for the relevant monitored periods to date. The computed values represent the median of daily total phosphorus concentrations from Aug. 1, 2012 – Oct. 31, 2012, May 1, 2013 – Oct. 31, 2013, and May 1, 2014 – Sep. 30 2014. In all of the monitored streams, the median May – October phosphorus concentrations exceeded the state standard.

Table B.1 - Median Total Phosphorus Concentration for Baseline Samples 2012-2014

	Total P Concentration, mg/L	Total P Concentration Goal, mg/L
Dorn Creek @ Hwy Q	0.12	0.075
Dorn Creek @ Hwy M	0.23	0.075
Sixmile Creek @ Hwy 19	0.20	0.075
Sixmile Creek @ Hwy M	0.14	0.075
Yahara River @ Fulton	*0.14	0.10

* For the Yahara River at Fulton, the computed value represents the median of daily total phosphorus concentrations from May 1, 2014 – Sep. 30, 2014.

PILOT PROJECT LOADS

Concentration data from the analyzed samples were combined with continuous discharge data to compute daily loads (in pounds). The daily loading data, when assembled for an entire year, can then be summed and an annual load determined. Monthly and/or seasonal loads can be evaluated as well. These data can then be compared to historic data; used to determine if goals are being met; used as inputs to models; and serve a variety of other useful functions.

Total phosphorus loads were computed for water year 2014 (Figure B.3) for the four adaptive management pilot project stream-monitoring stations. To compensate for differences in loading among stations of different watershed areas, it is common practice to normalize the data by dividing the load by each respective area. The result is a yield (pounds per acre, in this case). Total phosphorus yields were similar among most of the stations for water year 2014 – approximately one pound per acre (Figure B.4).

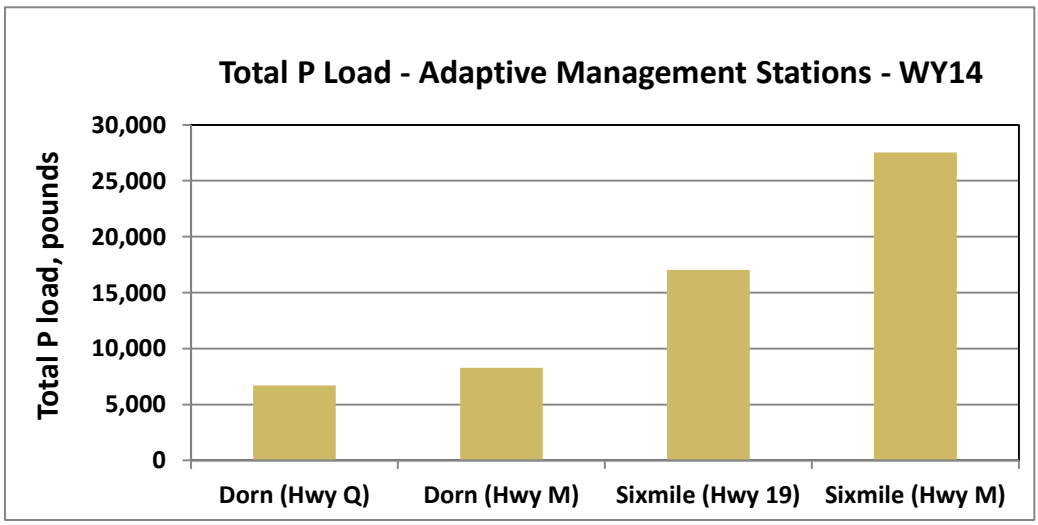

Figure B.3 - Total Phosphorus Load in Pilot Project Area WY 2014

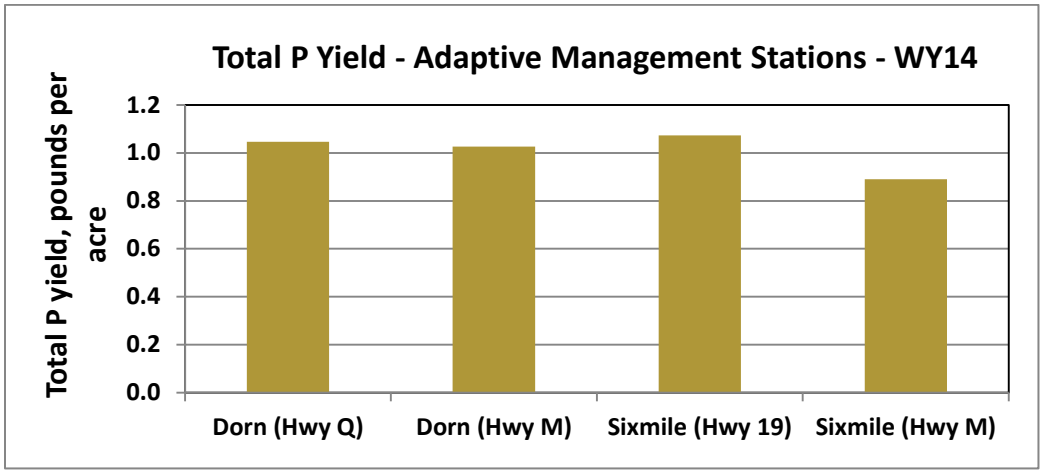

Figure B.4 - Total Phosphorus Yield in Pilot Project Area WY 2014

TRIBUTARY LOADS TO LAKE MENDOTA

Loads for the four major tributaries to Lake Mendota were concurrently measured using the intensive sampling techniques described above. Figure 6 (presented in the Water Quality Monitoring section) shows discharge and the cumulative loading of total phosphorus to Lake Mendota among these four tributaries. Total phosphorus loading to the lake for water year 2014 was about 63,000 pounds. The extended period of phosphorus loading data at the Yahara River at Windsor station allows some historical perspective for this number: compared to all data collected at the Windsor station since 1991, water year 2013 had the 10th highest annual total phosphorus loading.

TIMING OF LOADS TO LAKE MENDOTA

Steep increases in the cumulative phosphorus load in Figure 6 indicate periods when a significant amount of phosphorus was entering the lake among the four tributaries. The largest loading period in water year 2014 was the snowmelt period from mid- to late-March. The sum of the total phosphorus loads for this large runoff period (comprising roughly 15 days) was nearly 38,000 pounds: approximately 60 percent of the total annual phosphorus load.

Figure B.5 shows the timing of phosphorus loadings to Lake Mendota grouped in three-month periods roughly representing the seasons. For water year 2014, the period from January – March contributed more than 60% of the annual phosphorus load to the lake, followed by April – June when an additional 22% was contributed. In total, approximately 85% of the phosphorus load contributed to Lake Mendota among the four major tributaries occurred between January 1 and June 30. This percentage is greater than the average distribution of loads for historical data at the Yahara River at Windsor, where the same months contributed an average (1991-2014) of about 75% of the annual phosphorus load.

Both the current and historical data demonstrate that the early part of the calendar year is typically an important period for phosphorus runoff into Lake Mendota. Management practices that target phosphorus-runoff reductions during this period likely have the best chance to significantly reduce phosphorus loads to the lake.

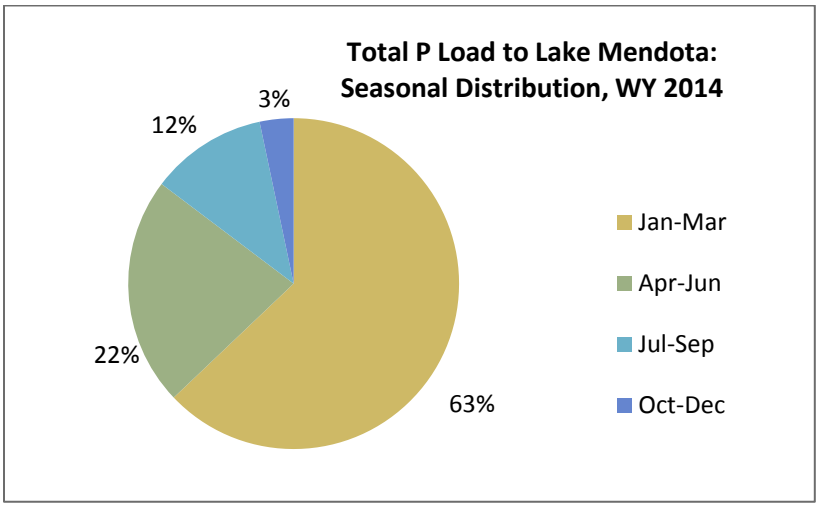

Figure B.5 - Seasonal Lake Mendota Phosphorus Distribution WY 2014

DISTRIBUTION OF LOADS TO LAKE MENDOTA

Among the four major tributaries to Lake Mendota, Sixmile Creek has the largest watershed, comprising approximately 48.3 square miles (about 31,000 acres). The next largest is the Yahara River at Windsor (37 square miles, about 24,000 acres), followed by Pheasant Branch Creek (18.3 square miles, about 12,000 acres), and finally Dorn Creek (12.6 square miles, about 8,000 acres). The percentage of total phosphorus loads contributed by the tributaries to the lake follow this same order (Sixmile, Yahara, Pheasant, Dorn), although the load distribution is somewhat different than the watershed area distribution (Figure B.6). Of the total phosphorus load, about 75% of the phosphorus load was delivered to the lake by the Yahara and Sixmile watersheds in water year 2014.

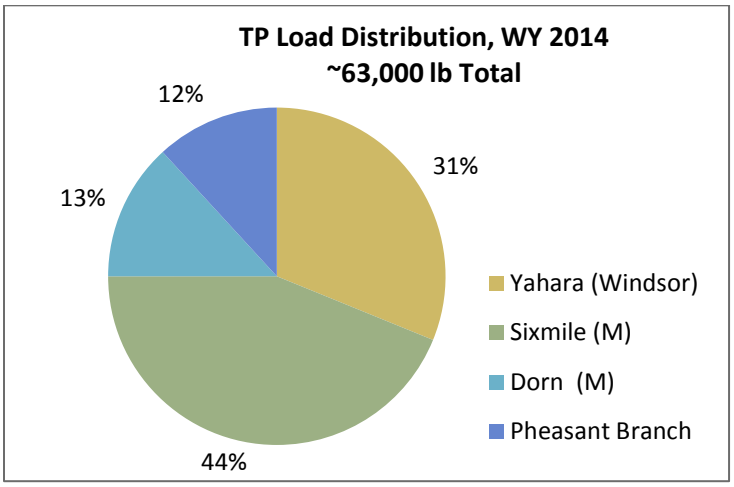

Figure B.6 - Total Phosphorus Distribution to Lake Mendota WY 2014

LOADS FOR THE YAHARA RIVER AT FULTON

Starting in January 2014, samples were collected at the Yahara River at Fulton station using an equal-width-increment (EWI) method at roughly three-week intervals and also periodically during stormflow periods. Loads for Jan. 1, 2014 – Sep. 30, 2014 were computed similarly to those for the other adaptive management stations. Loads for the first three months of the 2014 water year (Oct. 1, 2013 – Dec. 31, 2013) were computed using concentration values estimated from concentration-discharge relations for sampled periods.

Annual discharge at Fulton was about six times greater than the inflow to Lake Mendota among the four major tributaries (Figure B.7). Runoff responses at Fulton roughly matched those for the Mendota inflows, but the durations of storm-runoff periods were more prolonged at Fulton (weeks, rather than days). This is not surprising, since there are four lakes that the water must travel through to reach the Fulton station, and flows are often controlled by a series of control structures. In addition, the contributing drainage area of the Fulton station is roughly four times greater than that of the Mendota inflow streams.

Phosphorus loads at Fulton (about 127,000 pounds) were roughly double those of the Mendota inflows. Since the phosphorus load ratio was not as correspondingly large as the discharge ratio (roughly 6:1), this indicates that phosphorus concentrations at the Fulton station were lower than those for the Mendota inflow tributaries. In addition, the Futon station exhibited a steadier increase in cumulative phosphorus loading throughout the year, unlike the Mendota tributaries where episodic increases in phosphorus loading were more prevalent.

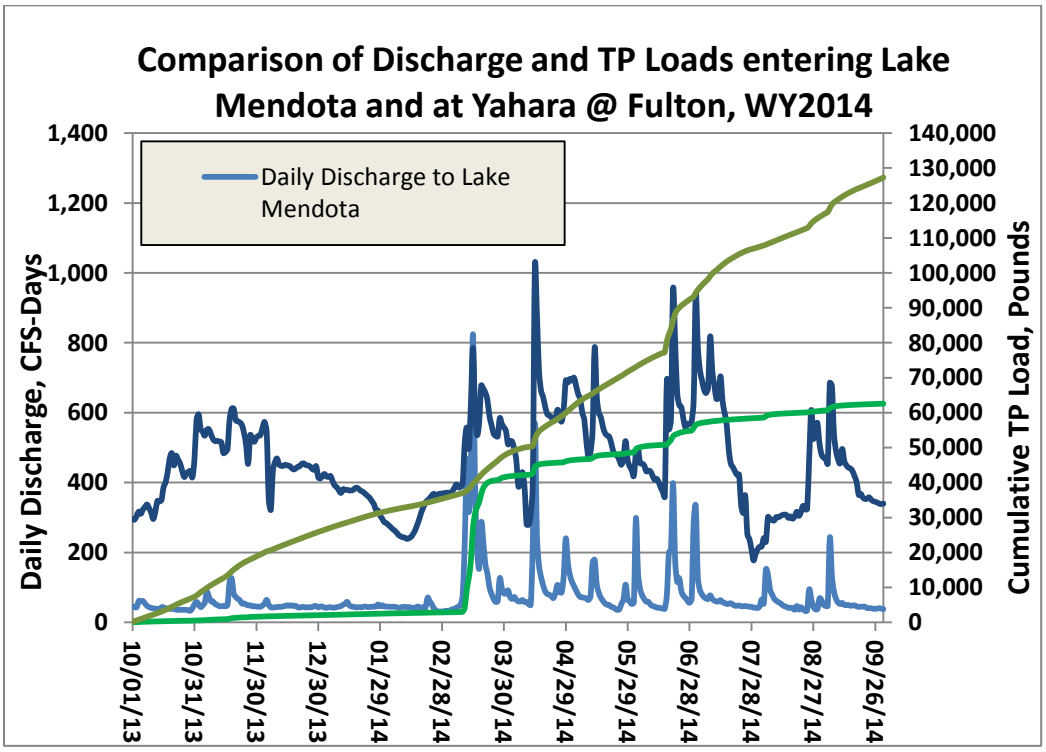

Figure B.7 - Comparison of Discharge and Total Phosphorus Loads entering Lake Mendota and at Yahara at Fulton WY 2014

APPENDIX C – CITIZEN WATER QUALITY MONITORING

Using protocols adapted from the WDNR and UW-Extension's Water Action Volunteers program, Rock River Coalition volunteer teams monitored both chemical and biological parameters including dissolved oxygen (mg/L and %saturation), water temperature (either continuous or instantaneous), transparency, and Biotic Index (Figure C.1). Data were collected on a monthly basis from May to October.

Volunteers also collected water quality nutrient samples once a month, from May to October, at 19 stream sites and at a subset of sites during the winter months. Volunteers delivered these samples to the District's Nine Springs Plant for analysis. A total of 116 samples were analyzed. The majority of nutrient sampling sites were located in the upper Yahara River Watershed with 53% of the sites located in the Yahara River Lake Mendota Watershed and 32% of the sites located in the Six Mile Creek Pheasant Branch Watershed (Figure C.2).

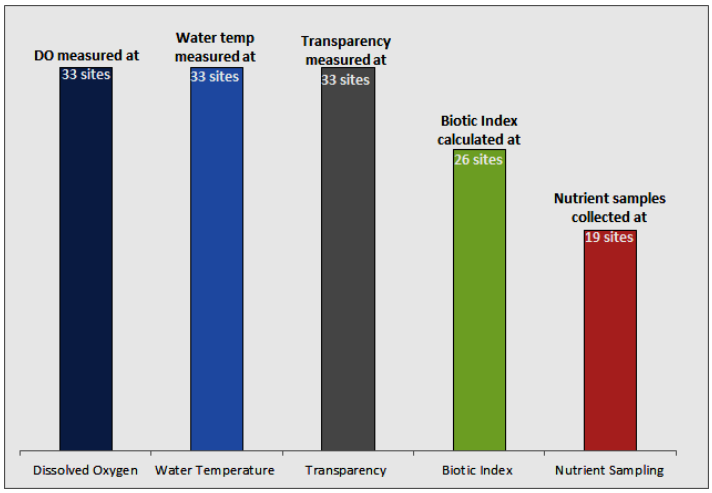

Figure C.1 - Number of Sites where each Chemical and Biological Parameter was monitored by RRC Volunteers 2014

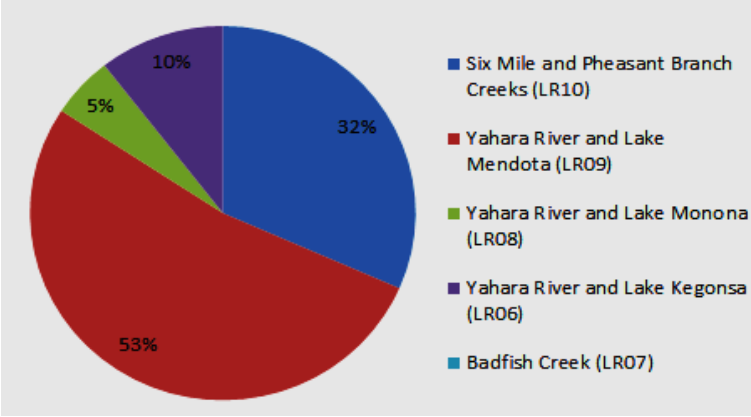

Figure C.2 - Distribution of RRC Nutrient Monitoring Sites by Watershed 2014

The RRC coordinator is currently developing site reports for all volunteer stream monitoring sites included in the nutrient sampling program. These site reports will become available in March 2015.

In addition to the Citizen Monitoring Program, the RRC coordinator supported the Recreational Program Coordinator with the Village of Waunakee to conduct stream monitoring open to various participants. Funding for this support was covered by the *Yahara WINs* grant.