

Sparta Phosphorus Trading Documentation Report

**City of Sparta
Sparta, Wisconsin**

September 2014

Prepared by:

**Cedar Corporation
2820 Walton Commons West
Suite 142
Madison, WI 53718**



engineers • architects • planners • environmental specialists
land surveyors • landscape architects

2820 Walton Commons West, Suite 142
Madison, WI 53718

608-354-0037
800-472-7372
Fax • 608-249-5824
www.cedarcorp.com

September 29, 2014

Wisconsin Department of Natural Resources
ATTN: Julia Stephenson
West Central Region – La Crosse
3550 Mormon Coulee Road
La Crosse, WI 54601

Dear Ms. Stephenson

RE: City of Sparta – Phosphorus Trading Documentation Report

On behalf of the City of Sparta, we are submitting the Phosphorus Trading Documentation Report requested in the conditional approval from Mike Vollrath dated, June 11, 2014, for the City's water quality trading plan. The stream bank stabilization project along Farmers Valley Creek in Sparta was completed in June 2014. We are requesting your review and approval of this information to allow the City to receive official recognition of the phosphorus credits at the wastewater treatment facility.

I am also sending a complete submittal to Mike Vollrath and Amanda Minks to help coordinate the approval process. Please call me with any questions you may have at 608-354-0037.

Sincerely,

David K. Sauer, P.E.
Cedar Corporation

CC: Mark Flock, City of Sparta
Mike Vollrath, WDNR Western District Head Quarters
✓ Amanda Minks, WDNR Madison Office

RECEIVED

OCT - 6 2014

WT/3 - WY/3 - OGL/3

Sparta Phosphorus Trading Documentation Report

Distribution

<u>No. of Copies</u>	<u>Sent To</u>
1	Julie Stephenson Wisconsin Department of Natural Resources West Central Region – La Crosse 3550 Mormon Coulee Road La Crosse, WI 54601
1	Mike Vollrath WDNR 1300 West Clairemont Avenue Eau Claire, WI 54701
1	Amanda Minks WDNR 101 S Webster Street Madison, WI 53703
1	Mark Flock City of Sparta WW Plant Manager 201 W. Oak Street Sparta, WI 54656
1	Lynn Jerome City of Sparta 201 W. Oak Street Sparta, WI 54656
1	Todd Fahning City of Sparta 201 W. Oak Street Sparta, WI 54656
1	Mark Sund City of Sparta 201 W. Oak Street Sparta, WI 54656

1

Bob Micheel
Monroe County Land Conservation Dept.
820 Industrial Drive, Suite 3
Sparta, WI 54656

Sparta Phosphorus Trading Documentation Report

Project ID: S3680-0006

Prepared for
City of Sparta

204 W. Oak Street
Sparta, WI 54656

Prepared by
Cedar Corporation

September 2014



David K. Sauer

Copyright©, Cedar Corporation 2014

2820 Walton Commons West, Suite 142, Madison, WI 53718 • www.cedarcorp.com
Phone: (608) 354-0037 • Fax: (608) 249-5824

REUSE OF DOCUMENTS

This document has been developed for a specific application and not for general use; therefore, it may not be used without the written approval of Cedar Corporation. Unapproved use is at the sole responsibility of the unauthorized user.

Contents

	Page
1 Operation and Maintenance Plan.....	2
2 Water Quality Trading Agreement.....	3
3 Phosphorus Credit Documentation.....	4
4 Photo Documentation.....	5

Appendix

Appendix 1 – Phosphorus Soil Test Lab Results from June 23, 2014

Appendix 2 – As-Built Documentation Report from Monroe County Land Conservation District

Appendix 3 – Trade Ratio for Farmers Valley Creek from Trading Plan Dated June 2014

1 Operation and Maintenance Plan

Operation and Maintenance Plan Streambank and Shoreline Protection

Cooperator: City of Sparta Date: 9-11-14
By: Mark Flock Title: WWTF Superintendent
Project Location: Farmers Valley Creek between East Avenue and La Crosse River

I agree to the following for the next years (Perpetual)

1. Check the riprap, plantings, and/or tree revetments at least once each year and immediately after severe floods. Rock removed or displaced shall be replaced as needed. Replant any dead or damaged tree plantings. Repair or replace any damaged or missing revetments. Repair work shall take place during periods of low stream flow.
2. Logs, trees, driftwood, and other debris lodged in or near the riprap shall be removed.
3. Check for sloughing, erosion, or damage to vegetative cover. Damaged areas shall be graded, shaped, and re-vegetated as soon as possible.
4. If fences are installed, they shall be maintained to prevent unauthorized human or livestock access.
5. Immediately repair any vandalism, vehicle or livestock damage.
6. Eliminate access of foot traffic to the streambank within the buffer area with the exception of any designated pathway areas.
7. Eliminate all burrowing rodents and repair damage caused by them.
8. Additional Recommendations:

Cooperator's signature: Mark A Flock Date: 9/11/14

I have discussed the maintenance guidelines with the above cooperator.

Conservationist's signature: Bob McDaniel Date: 9/11/14

2 Water Quality Trading Agreement

Appendix F. Example Trade Agreement for Point to Nonpoint Source Trades

Notice

This is an example agreement and should be amended to meet the needs and conditions of the specific agreement. The Department does not require final trade agreements to be submitted with the trading plan. However, these documents must be presented upon request by the Department.

Permittee Information

Credit User Name (Permittee) City of Sparta	Permit Number WI-0020737-09-01
------------------------------------------------	-----------------------------------

Credit User Address 805 Richgruber Road, Sparta, WI 54656

Permittee/Broker/Exchange Name (if applicable) City of Sparta	Trade Agreement Number
------------------------------------------------------------------	------------------------

Permittee/Broker/Exchange Address (if applicable)			
Street Address 201 W. Oak Street	City Sparta	State WI	ZIP Code 54656

Project Name Farmers Valley Creek Stream Bank Stabilization Project

Name of Credit Generator (Landowner/Operator) (Last, First, M.I.) City of Sparta

Street Address 201 W. Oak Street	City Sparta	State WI	ZIP Code 54656
-------------------------------------	----------------	-------------	-------------------

Property Information

Name of Landowner(s) (if not Operator) (Last, First, M.I.)			
Street Address	City	State	ZIP Code

Legal Description of Property - Contiguous sites under the same ownership: (add additional sheets if necessary)
660 linear feet of stream bank on Farmers Valley Creek located between East Avenue Bridge and La Crosse River, all located with Sparta City Park

Parcel ID(s): 281001820000

Site Locator for Construction Projects					
County	Township	Range	E / W	Section	Quarter/Quarter (e.g., NW ¼ of the NE ¼)
Monroe	17 N	4W		24	NE 1/4 of the NW 1/4
	N				
	N				
	N				

Agreement

The property described above is enrolled in a Water Quality Trade Agreement. Funds are provided to the landowner/ operator in return for the installation, operation and maintenance of best management practices (BMPs) designed to enhance water quality. This agreement commits the landowner/operator, their heirs, successors and assigns to fulfill the trade agreement until a satisfaction or release is filed by the grantee.

Addenda which describe the BMPs, costs, installation schedule, and conditions are hereby incorporated into this agreement and are on file with the grantee and may be given to Wisconsin DNR upon request by the Department.

Landowner/Operator

Signed this 26th day of September, 2014.

[Signature]
Signature of Landowner/Operator

[Signature]
Signature of Landowner/Operator

MARK D. SUNI
Typed Name of Landowner/Operator

[Signature]
Typed Name of Landowner/Operator

STATE OF WISCONSIN
Monroe County

Personally came before me this 26th day of September, 2014.
) ss. The above named Mark D. Suni to me known to be
the person(s) who executed the foregoing instrument and acknowledge the same.

[Signature] JULIE A. HANSON
Signature of Notary Public Typed Name of Notary Public

Notary Public Monroe County, Wisconsin

My commission (is permanent) (expires 3-25-17).

Landowners (if not operator)

If the landowner section is not completed, check (X) one or both of the following that apply
 Landowner is also operator
 Trade agreement contains only high residue management, nutrient management, pesticide management, cropland protection cover (green manure)

Signed this _____ day of _____, 20_____.

Signature of Landowner (if not operator)

Signature of Landowner (if not operator)

Typed Name of Landowner (if not operator)

Typed Name of Landowner (if not operator)

STATE OF WISCONSIN
_____ County

Personally came before me this _____ day of _____, 20_____.
) ss. The above named _____ to me known to be
the person(s) who executed the foregoing instrument and acknowledge the same.

Signature of Notary Public Typed Name of Notary Public

Notary Public _____ County, Wisconsin

My commission (is permanent) (expires _____).

Credit user/broker/exchange

Signed this 26 day of September, 2014.

Mark A. Flock
Signature of credit user/broker/exchange

Mark A. Flock
Typed Name of credit user/broker/exchange

STATE OF WISCONSIN
Monroe County

Personally came before me this 26th day of September, 2014.
) ss. The above named Mark A. Flock to me known to be
the person(s) who executed the foregoing instrument and acknowledge the same.

[Signature]
Signature of Notary Public

Notary Public Monroe County, Wisconsin

My commission (is permanent) (expires 3-25-17).

Other Signer- Specify title or relationship: Engineer Responsible for Trade

Signed this 25th day of Sept., 2014.

David K. Sauer
Signature

David K. Sauer, P. E. Cedar Corp
Typed Name

David K. Sauer
Signature

David K. Sauer
Typed Name

STATE OF WISCONSIN
Dane County

) Personally came before me this 25th day of September, 2014.
)
) ss. The above named David K. Sauer to me known to be
) the person(s) who executed the foregoing instrument and acknowledge the same.

Donna E. Weber
Signature of Notary Public

Donna E. Weber
Typed Name of Notary Public

Notary Public Dane County, Wisconsin

My commission (is permanent) (expires August 18, 2017).

Other Signer- Specify title or relationship: _____

Signed this _____ day of _____, 20____.

Signature

Signature

Typed Name

Typed Name

STATE OF WISCONSIN
_____ County

) Personally came before me this _____ day of _____, 20____.
)
) ss. The above named _____ to me known to be
) the person(s) who executed the foregoing instrument and acknowledge the same.

Signature of Notary Public

Typed Name of Notary Public

Notary Public _____ County, Wisconsin

My commission (is permanent) (expires _____).

Other Signer- Specify title or relationship: _____

Signed this _____ day of _____, 20____.

Signature

Signature

Typed Name

Typed Name

STATE OF WISCONSIN
_____ County

) Personally came before me this _____ day of _____, 20____.
)
) ss. The above named _____ to me known to be
) the person(s) who executed the foregoing instrument and acknowledge the same.

Signature of Notary Public

Typed Name of Notary Public

Notary Public _____ County, Wisconsin

My commission (is permanent) (expires _____).

Check this box if this page is purposely left blank.

Section A – General Requirements

Example:

A 1. *This agreement may be amended by mutual agreement of either party, so long as the agreement has not yet expired.*

A 2. *If a significant archeological or historical site is found, construction is to cease immediately and the BMP will be relocated, redesigned, or deleted to prevent damage to the archeological or historical site. The BMP may be deleted only if approved in writing by the Department of Natural Resources.*

Section B – Landowner/Operator Shall:

Example:

B 1. *Design, install, operate and maintain BMPs listed in Addendum 2 of this agreement.*

B 2. *Allow access to the installed BMP by the grantee, or an authorized representative of the grantee for site inspection of the BMP for installation, operation and maintenance.*

Section C – Grantee Shall:

Example:

C 1. *Provide cost sharing to the landowner/operator consistent with Addendum 2.*

C 2. *Make cost-share payments to the landowner/operator after payment is requested and evidence of contractor payment by the landowner/operator has been received, and the grantee verifies proper BMP installation.*

TA Number	Typed Name of Landowner/Operator	Initials of Landowner/Operator	Date
	City of Sparta	<i>MS</i>	<i>9/26/14</i>

The cost-share recipient shall implement and maintain all best management practices listed in this Addendum, unless otherwise amended in accordance with this agreement.

Field #	DNR BMP Code	Practice Name	Quantity	Unit	Unit Cost	Estimated Total Cost	Installation Period				
							From (MM/YY) 06/14	Estimated Cost-Share Amt.	To (MM/YY) 07/14	Cost-Share Amt. From Other Programs*	Estimated Year to be Installed
		Stream Bank Stabilization	660	LF	22.40	14,786.85	52	7,720.31	7,066.54	2014	
						TOTALS	14,786.85	52	7,720.31	7,066.54	2014
* Identify Program Names: <u>Sec Attached</u>											
CSA Number		Typed Name of Landowner/Operator City of Sparta				Initials of Landowner/Operator <i>MS</i>			Date 9/26/14		



City of Sparta, Farmers Valley Creek, Stream Bank Improvements



0.2 0 0.08 0.2 Miles

1: 4,943



DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legat/>

NAD_1983_HARN_Wisconsin_TM
© Latitude Geographics Group Ltd.



Legend

- Township
- Section
- Quarter-Quarter
- 2010 Air Photos (WROC)

Project Location

Notes

3 Phosphorus Credit Documenation

Farmers Valley Creek – Sparta
 Verification Information for Existing Stream Bank Heights
 September 2014

North Side of Stream Bank – 330 LF

<u>Description</u>	<u>Length (ft.)</u>	<u>Height (ft.)</u>
La Crosse R to East ¹	140	5
East ¹ to East ²	30	7
East ² to East ³	30	9
East ³ to East ⁴	40	7
East ⁴ to East ⁵	70	8
East ⁵ to East Ave. Bridge	20	10

Weighted average bank height – 6.7 ft

South Side of Stream – 330 LF

<u>Description</u>	<u>Length (ft.)</u>	<u>Height (ft.)</u>
La Crosse R to East ¹	120	3
East ¹ to East Ave. Bridge	210	4

Weighted average bank height – 3.6 ft.

Average stream bank height = $\frac{6.7 + 3.6}{2} = 5.15$ ft.

Additional Information

- A. This information was documented on a site visit on June 13, 2014 by Dave Sauer, Cedar Corporation.
- B. Construction began June 12, 2014 and was completed by June 27, 2014.
- C. Soil samples were taken by Bob Micheel, Monroe County LCD on approximately June 13, 2014 by taking a number of individual grab samples and combining them into one large composite soil sample. This large soil sample was taken for lab testing.

Farmers Valley Creek – Sparta
Calculation of Soil Loss, Phosphorus Loss, Phosphorus Credit
September 2014

A. Reference Information:

1. DNR formula stream bank loss in tons/year = length x height x annual lateral recession
20
2. Soil and Plant Analysis Lab Test – June 23, 2014 sample
Total Phosphorus – 0.03% (based on 2 tests from one sample)
3. Calculated trade ratio = 2:1

B. Calculation(s)

$$\text{Soil loss} = \frac{660 \times 5.15 \times 0.5}{20} = 1699.5 \text{ tons/year (assumes 100 lbs/CF for soil)}$$

$$\text{Phosphorus Loss} = 1699.5 \times 0.03 = 51 \text{ lb/year}$$

$$\text{Phosphorus Loss per 100 LF} = 7.7 \text{ lb}$$

$$\text{Phosphorus Point Credit at WWTF} = \frac{51}{2} = 25.5 \text{ lb/year}$$

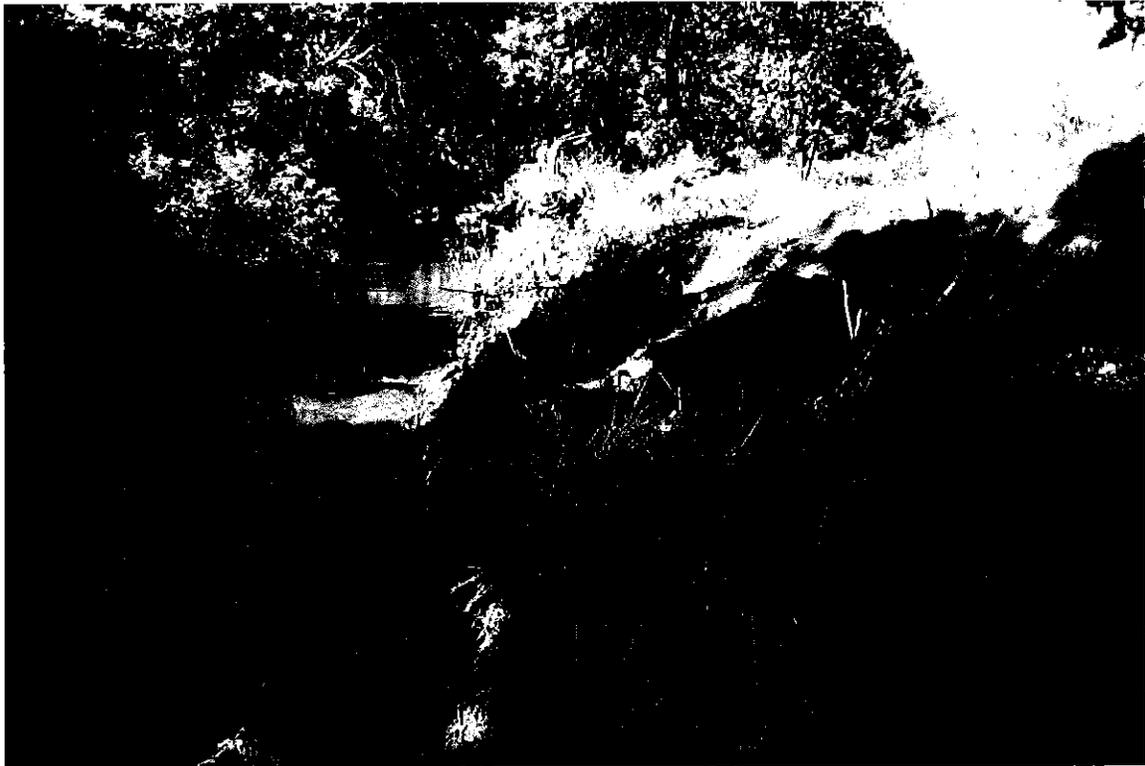
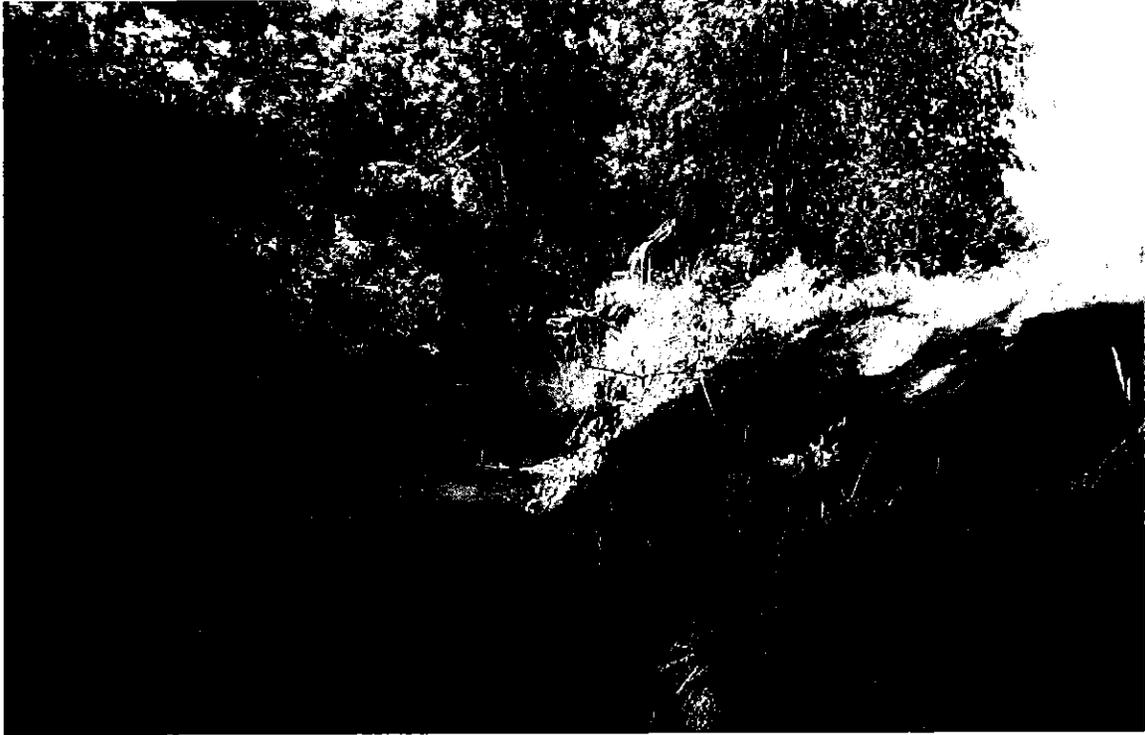
4 Photo Documentation

Sparta, WI
Farmers Valley Creek
Existing North Stream Bank
6-13-14



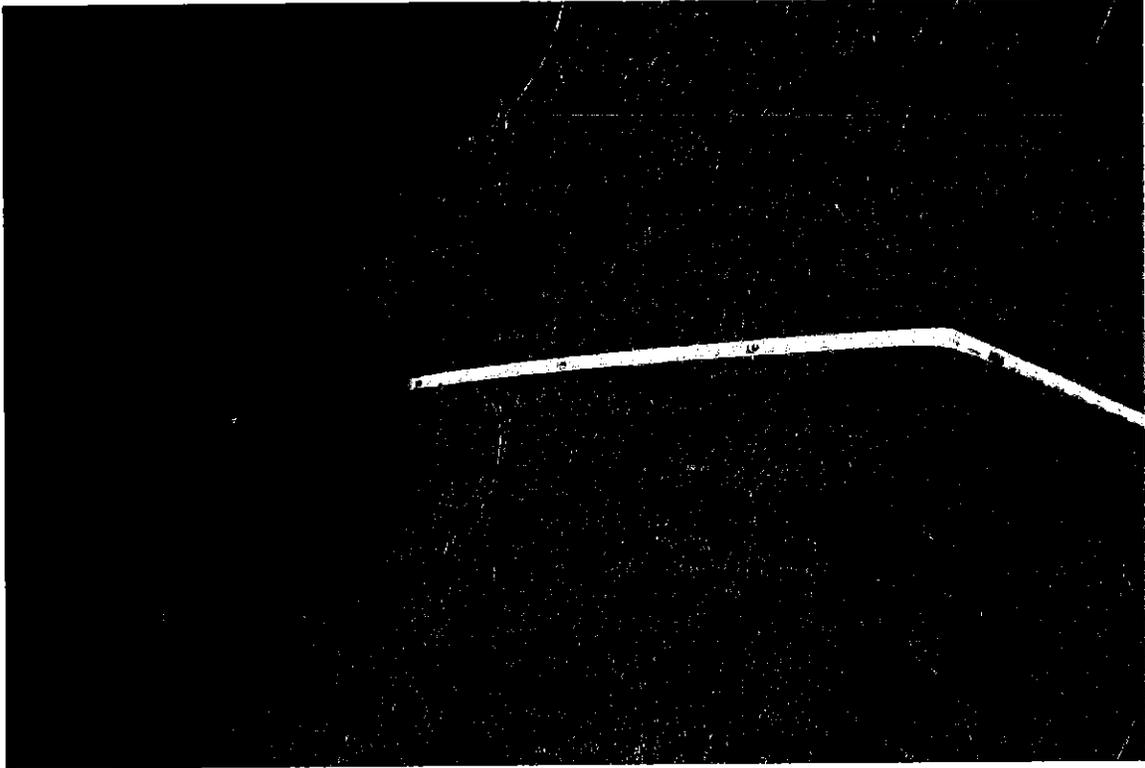
Sparta, WI
Farmers Valley Creek
Existing Typical Vegetation
6-13-14

Sparta, WI
Farmers Valley Creek
Existing North Stream Bank
6-13-14



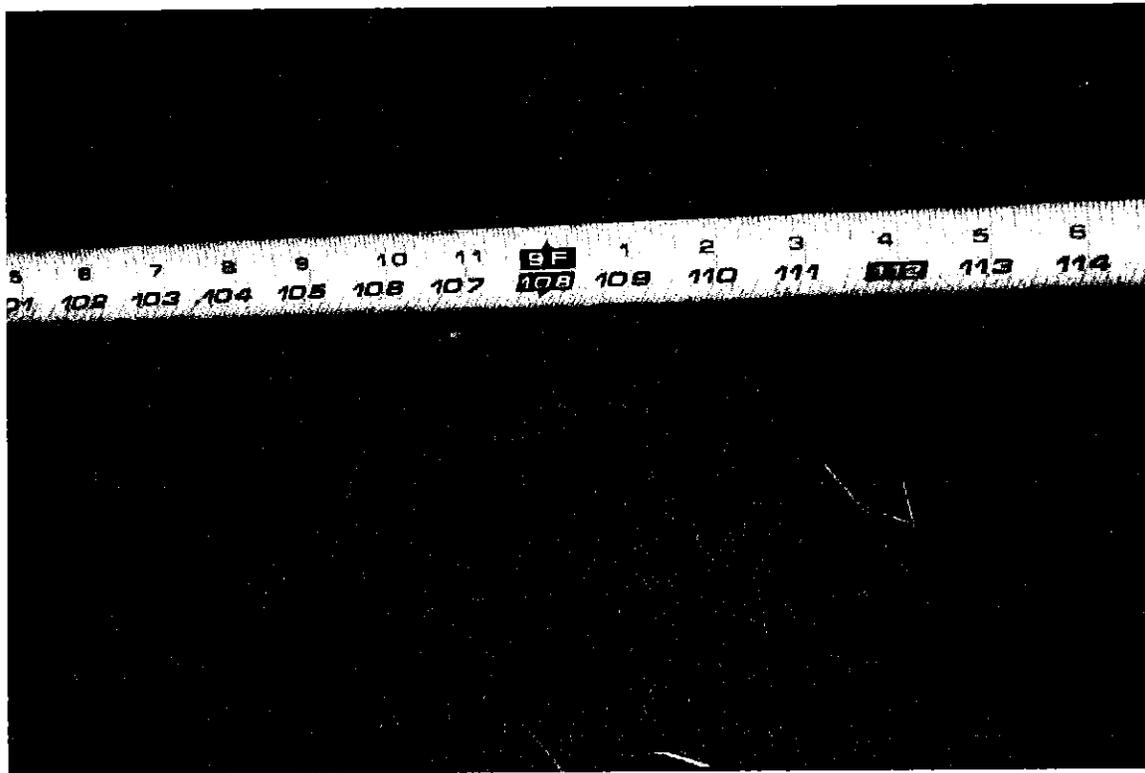
Sparta, WI
Farmers Valley Creek
Existing North Stream Bank
6-13-14

Sparta, WI
Existing North Stream Bank, 9' Height
6-13-14



Sparta, WI
Existing North Stream Bank
6-13-14

Sparta, WI
Farmers Valley Creek
Existing North Stream Bank
6-13-14



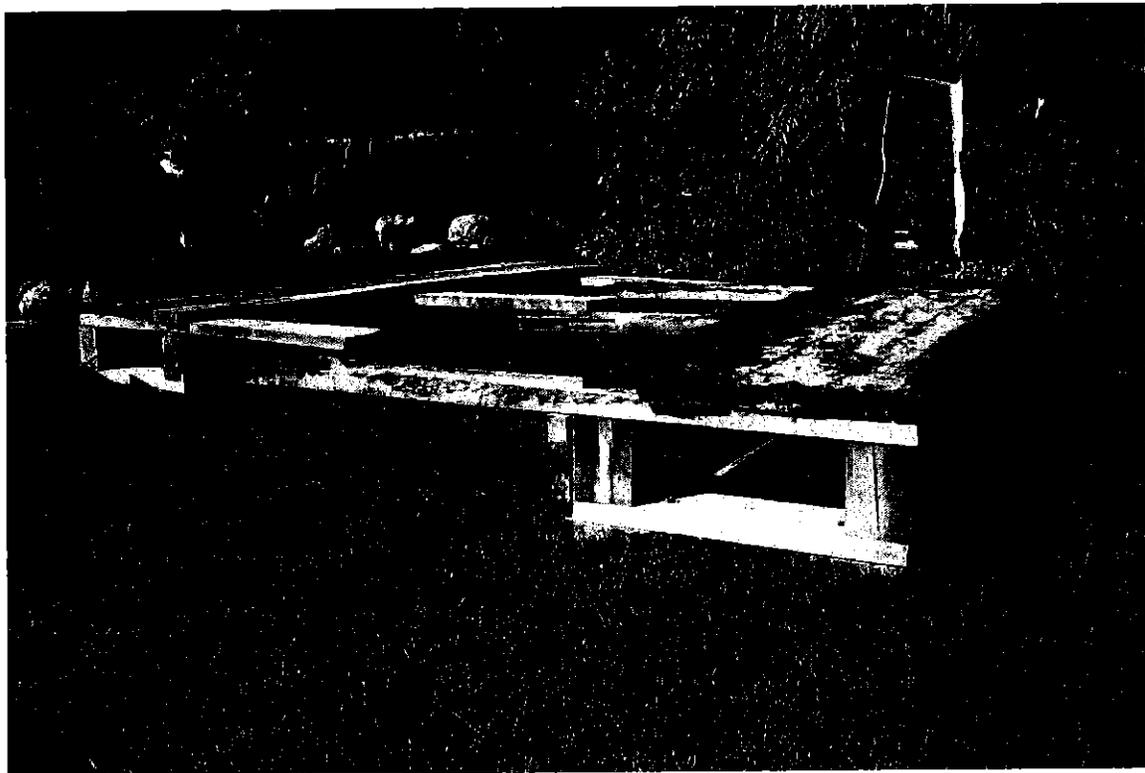
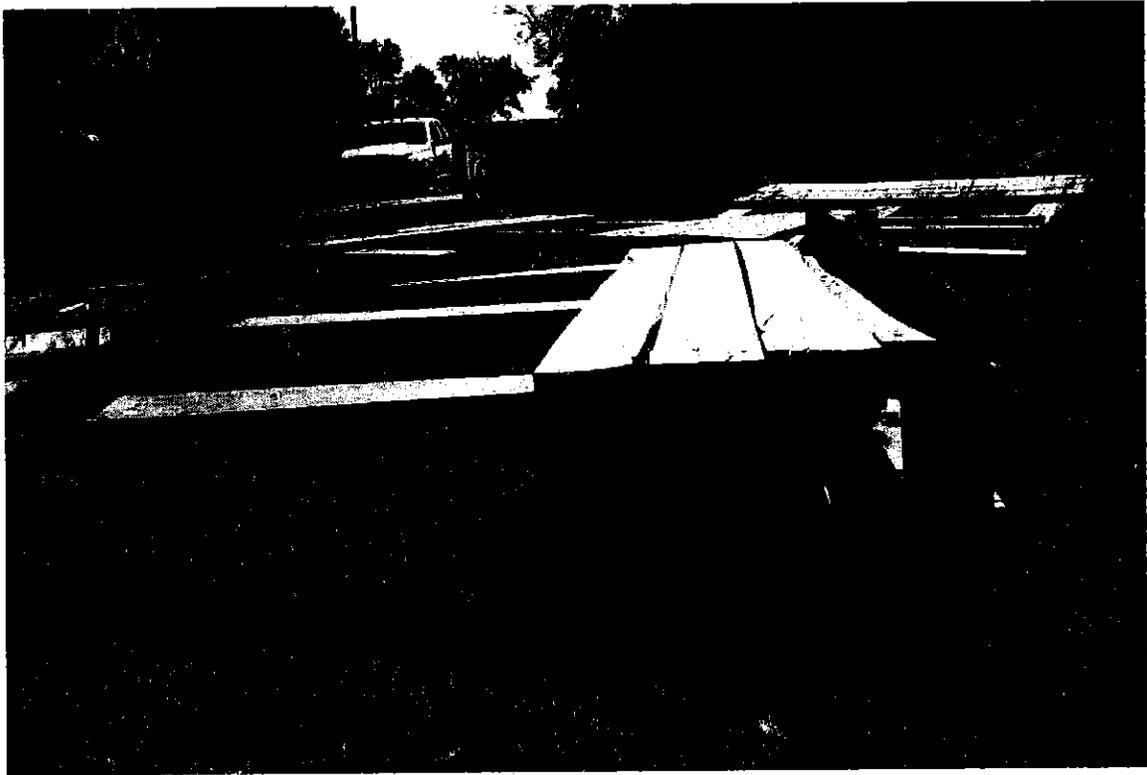
Sparta, WI
Farmers Valley Creek
Existing North Stream Bank
6-13-14

Sparta, WI
Farmers Valley Creek
Typical Stabilized/Finished Stream Bank
6-13-14



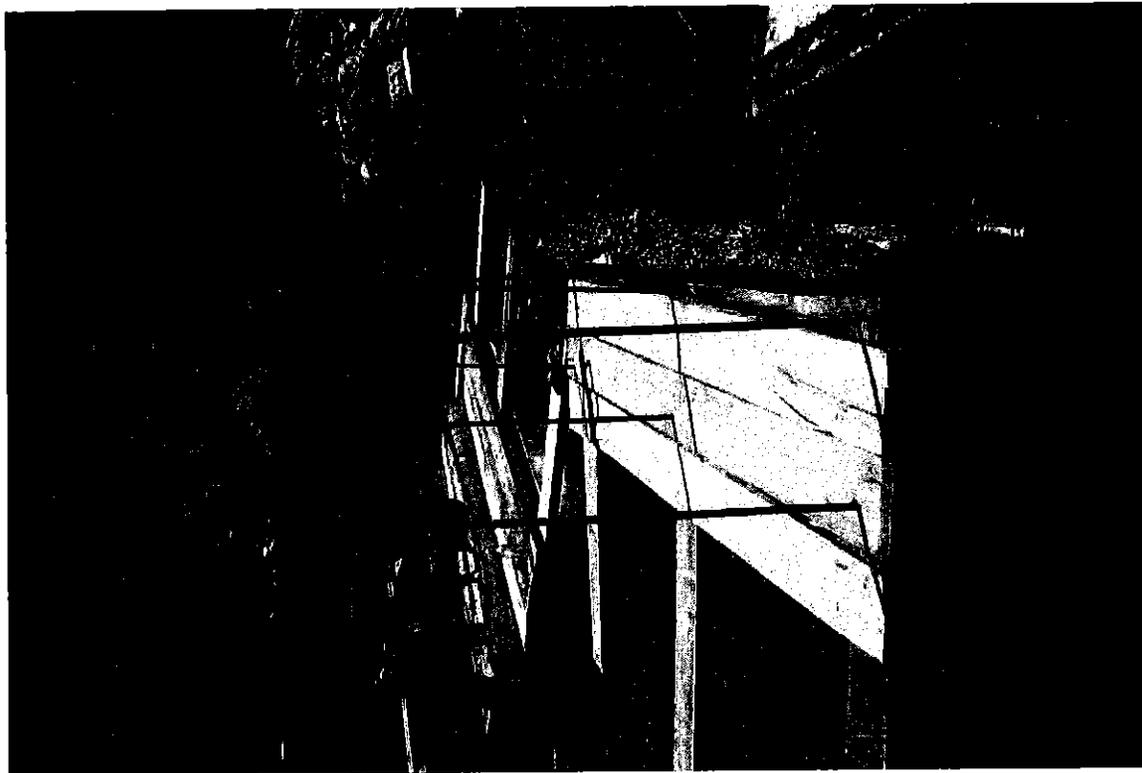
Sparta, WI
Farmers Valley Creek
Existing North Stream Bank
6-13-14

Sparta, WI
Farmers Valley Creek
Lunker Structure To Be Installed Along Upgrade
6-13-14



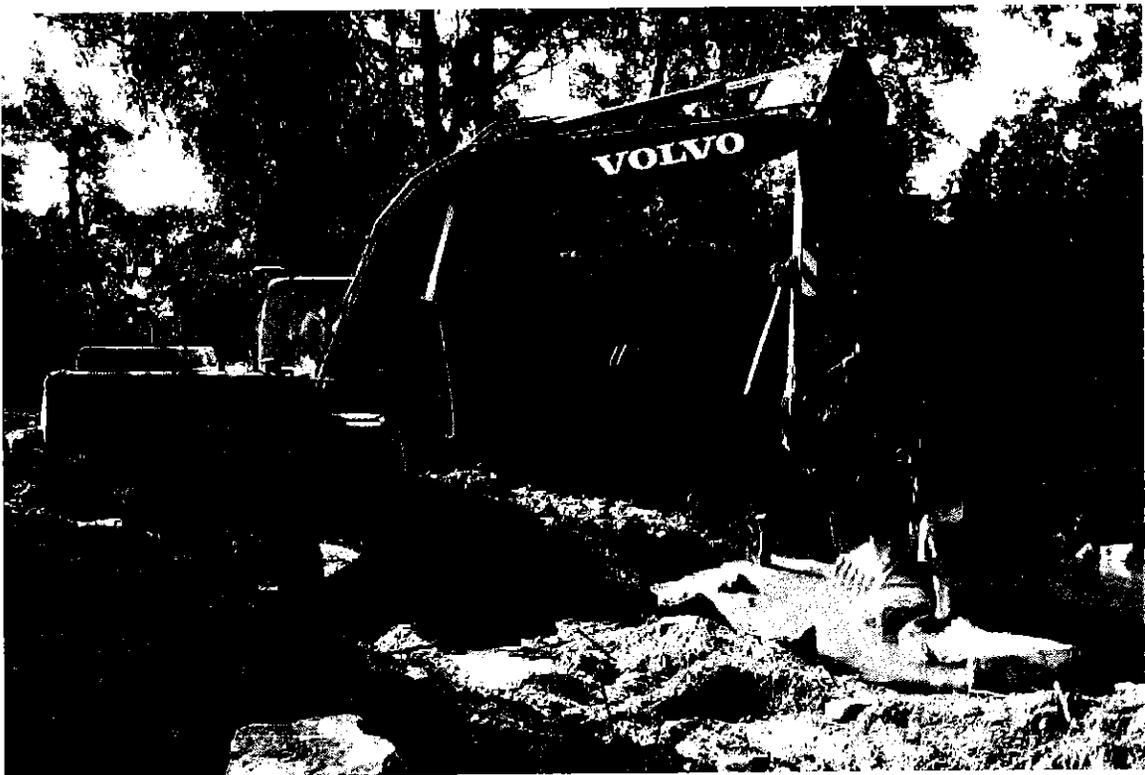
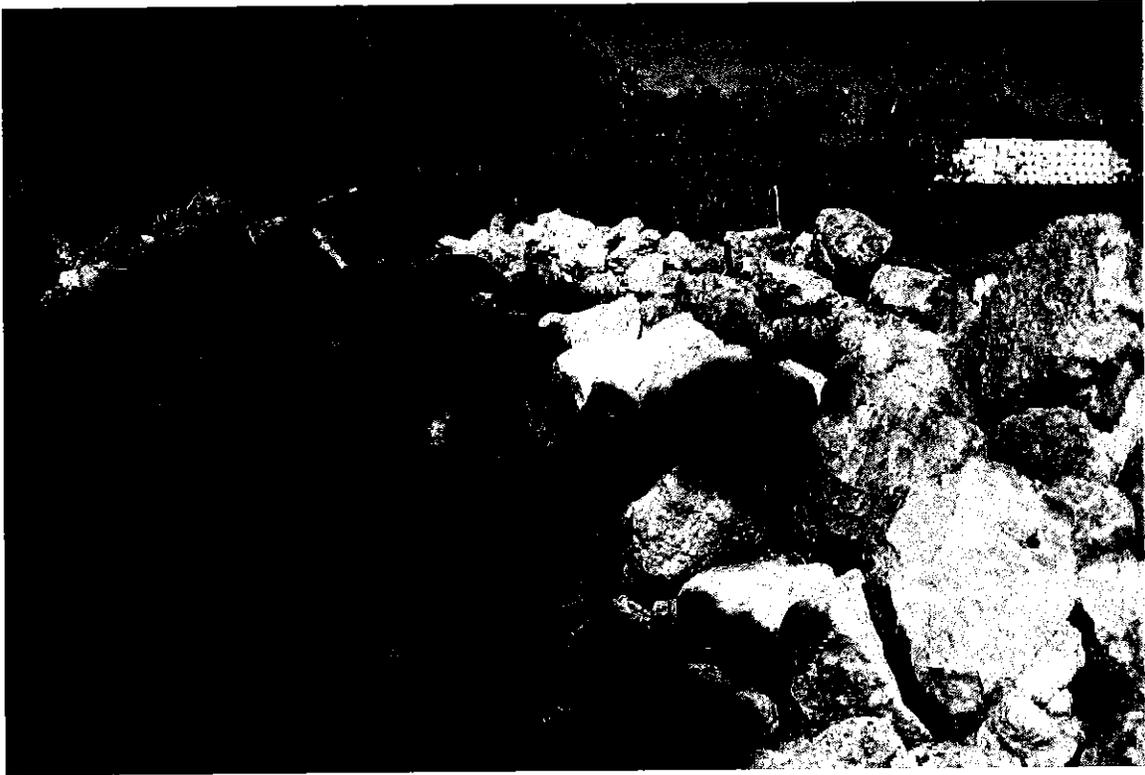
Sparta, WI
Farmers Valley Creek
Lunker Structure To Be Installed Along Upgrade
6-13-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Downstream)
6-13-14



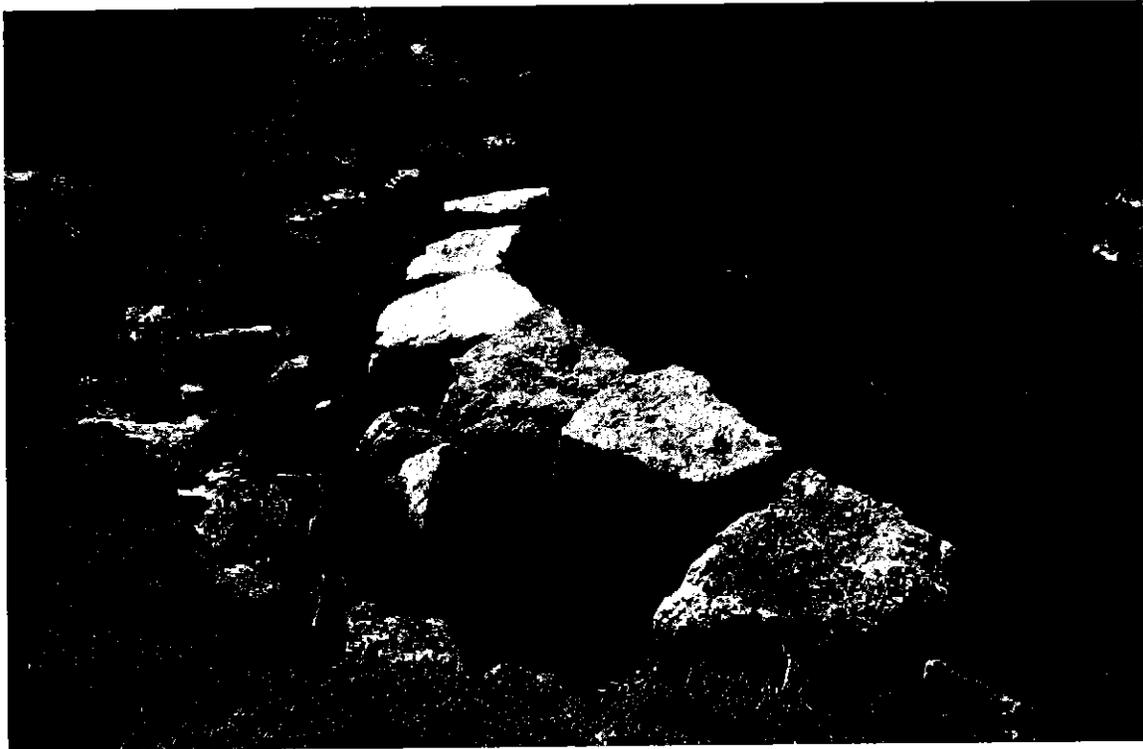
Sparta, WI
Farmers Valley Creek
Typical Lunger Installation
6-13-14

Sparta, WI
Farmers Valley Creek
Limestone Material Supply
6-13-14



Sparta, WI
Farmers Valley Creek
Lunker, Limestone Construction Practice
6-13-14

Sparta, WI
Farmers Valley Creek
Lunker, Flat Limestone Construction Practice
6-13-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Downstream, At Where Creek Enters The La Crosse
River)
6-13-14

Sparta, WI
Farmers Valley Creek
Typical Lunker Under Flat Limestone Bank Improvement
6-13-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking From North Bank to South Bank)
6-13-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Upstream)
6-13-14



Sparta, WI
Farmers Valley Creek
Typical Lunker Under Flat Limestone Bank Improvement
6-13-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Upstream Lunker on Left Side of Stream Bank)
6-13-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Upstream at North Bank, Lunker Under Flat Limestone at Streambank)
6-13-14

Sparta, WI
Farmers Valley Creek
Limestone Rock Supply
6-13-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Downstream 50' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Across Stream 50' From La Crosse River)
6-16-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Upstream 50' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking At North & South Banks 50' From La Crosse River)
6-16-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Downstream 100' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Upstream 100' From La Crosse River)
6-16-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Across Stream 100' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking At North Bank 100' From La Crosse River)
6-16-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Across Stream, 150' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Downstream, 150' From La Crosse River)
6-16-14



Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Upstream, 150' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Across Stream, 150' From La Crosse River)
6-16-14



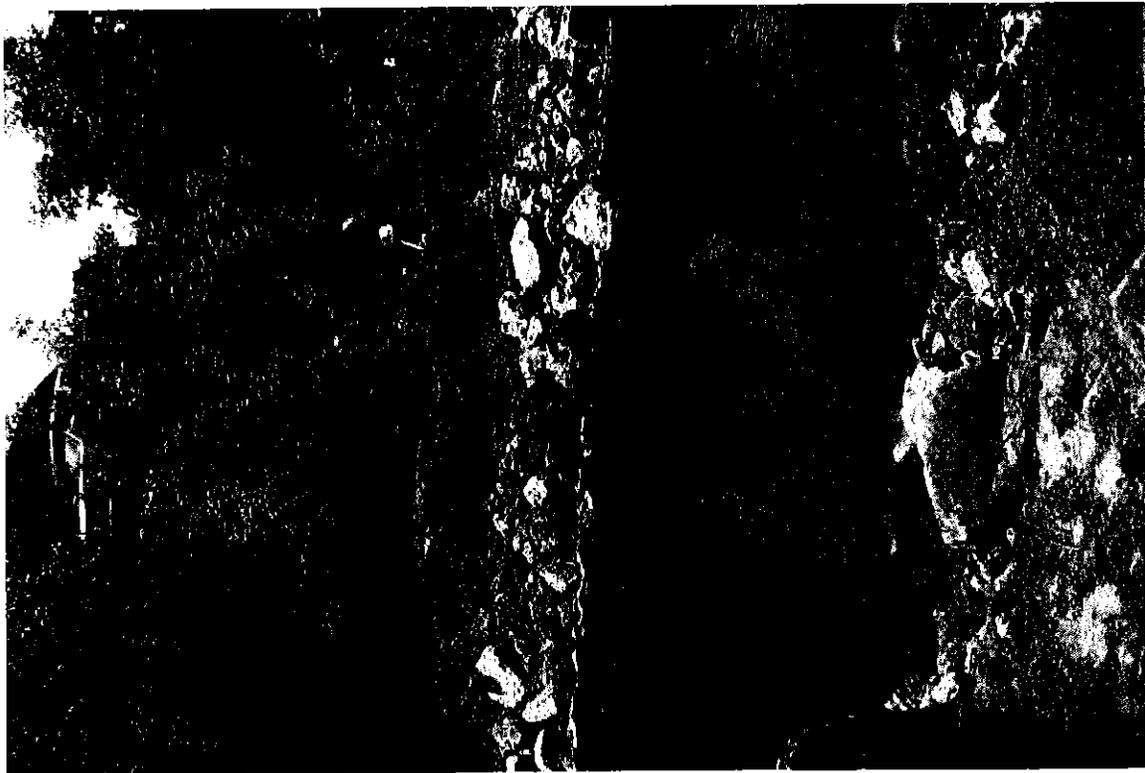
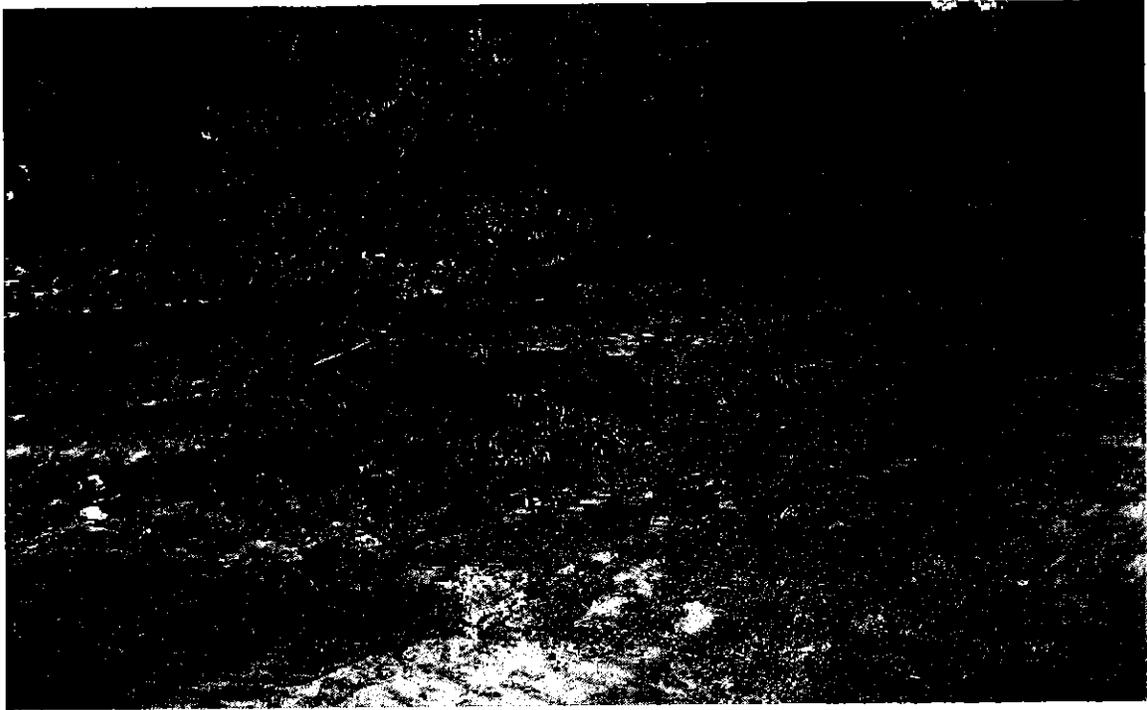
Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Downstream, 200' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stream Bank Under Construction (Looking South Across Stream, 200' From La Crosse River)
6-16-14



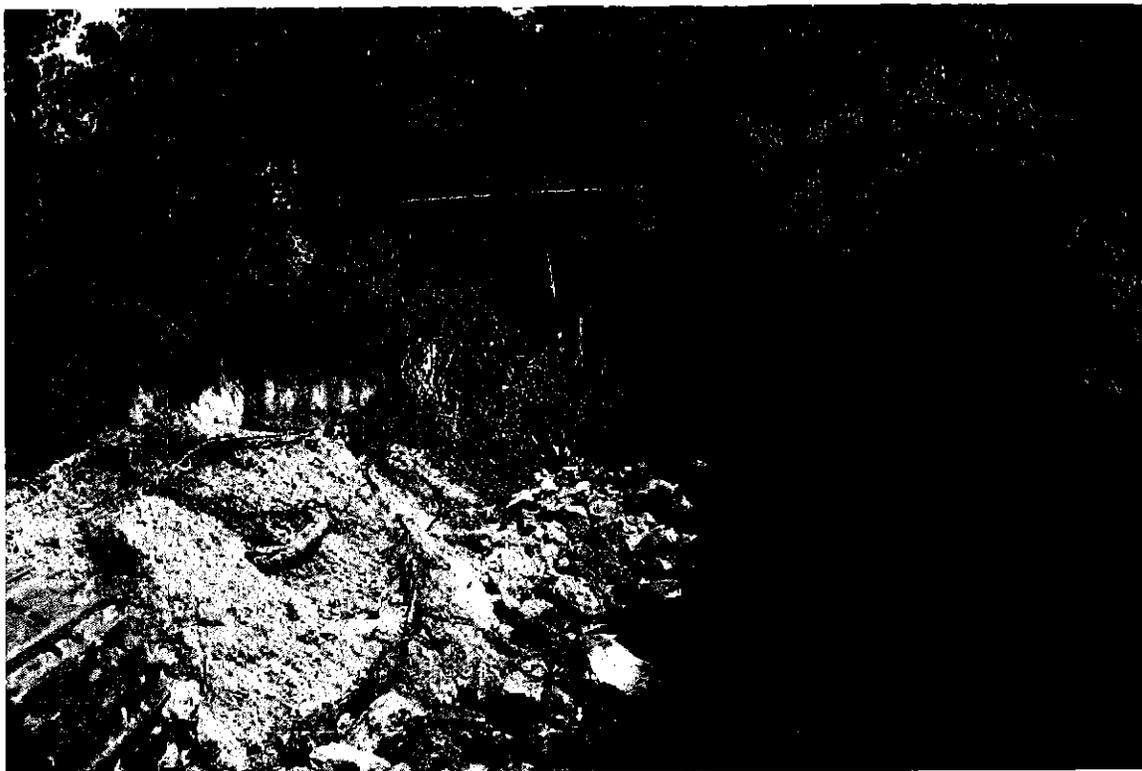
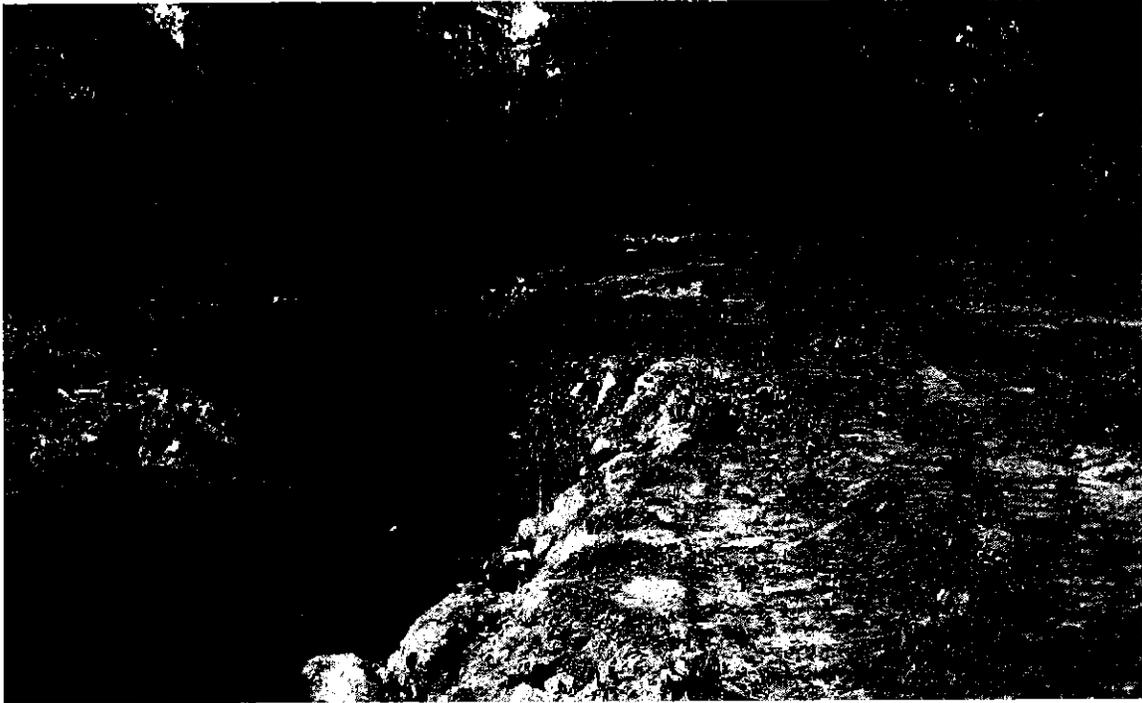
Sparta, WI
Farmers Valley Creek
Stream Bank Under Construction (Looking Upstream, 200' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking South, 200' From La Crosse River)
6-16-14



Sparta, WI
Farmers Valley Creek
Stream Bank Under Construction (Looking Across Stream, 225' From La Crosse River)
6-16-14

Sparta, WI
Farmers Valley Creek
Stabilized/Finished Section (Looking Downstream, 225' From La Crosse River)
6-16-14



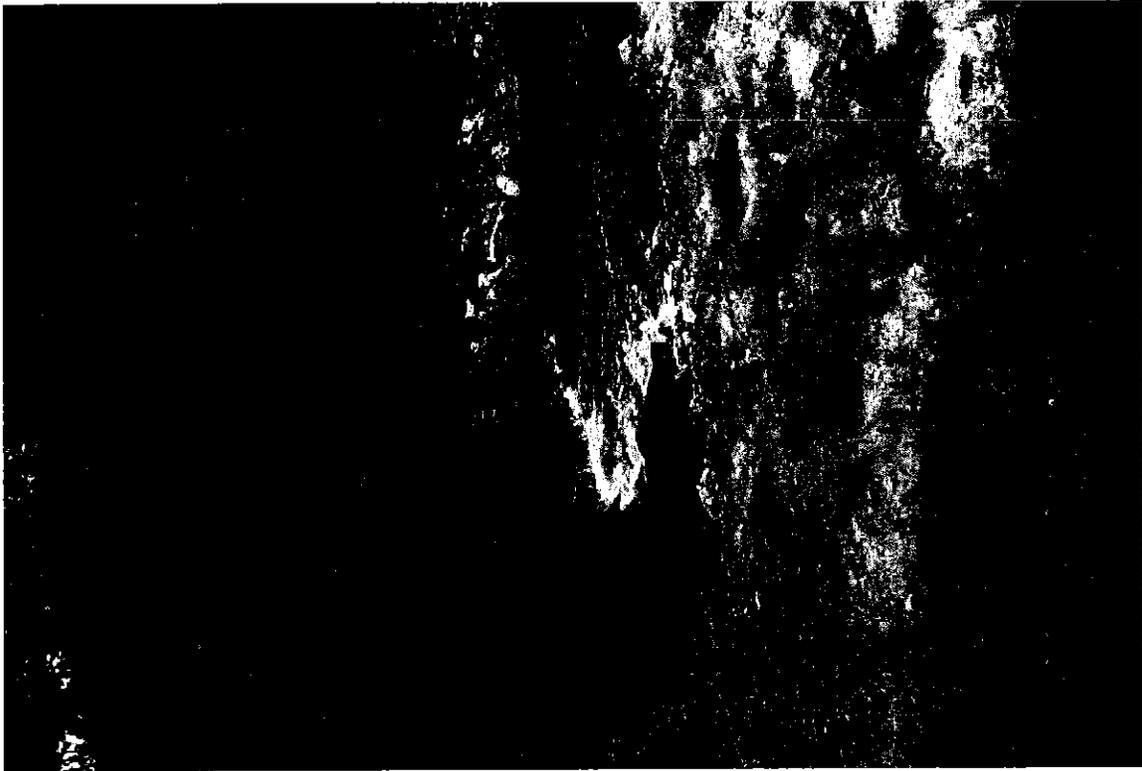
Sparta, WI
Farmers Valley Creek
Stream Bank Under Construction (Looking Upstream, 225' From La Crosse River)
6-16-14

City of Sparta
Farmers Valley Creek
July 2014



Downstream Looking For East Avenue Bridge

City of Sparta
Farmers Valley Creek
July 2014



Looking South Or Cross Section From Where Project Work Started



Looking Downstream 50' From Where Project Work Started

City of Sparta
Farmers Valley Creek
July 2014



Looking Upstream 50' From Where Project Work Start Point

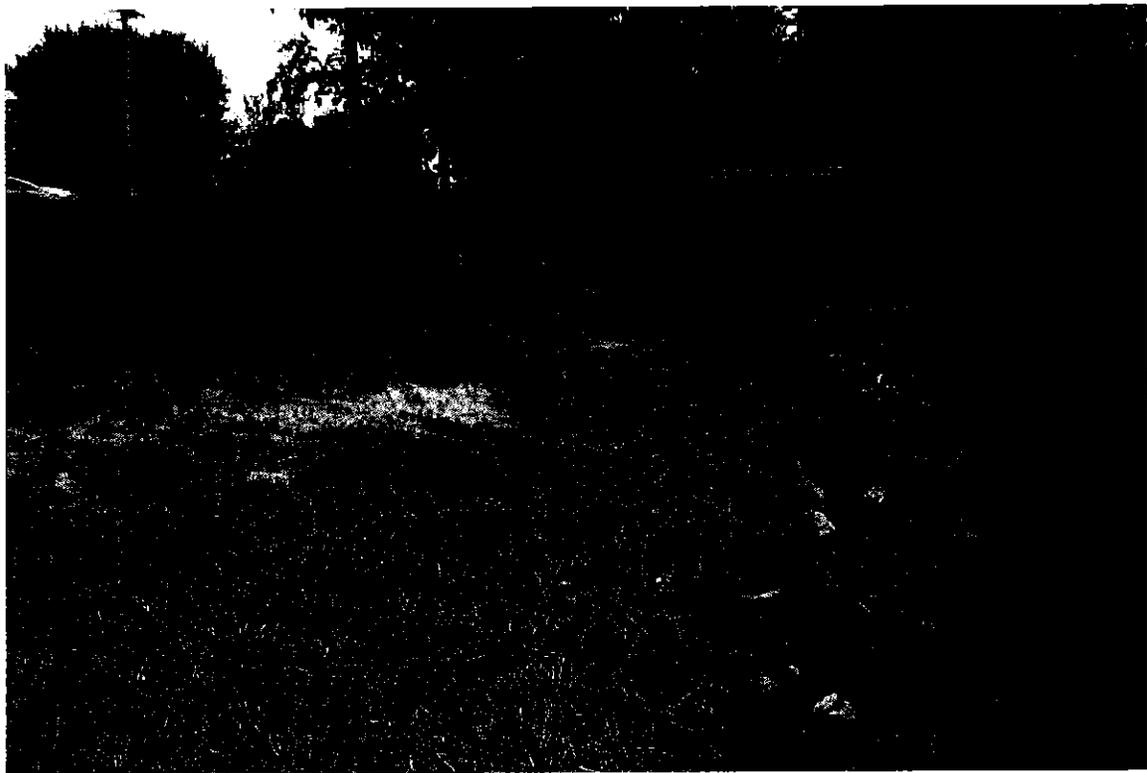


Looking South Or Cross Section 50' From Where Project Work Started

City of Sparta
Farmers Valley Creek
July 2014

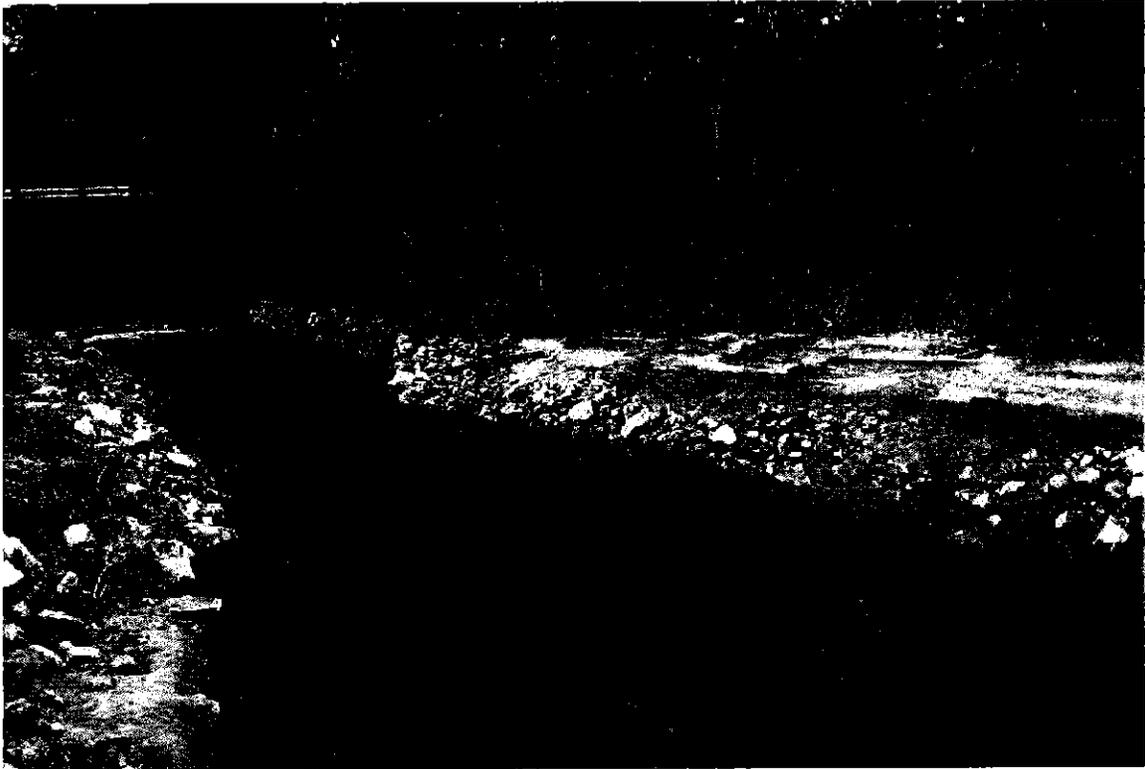


Lunker Structure Along South Bank At Project Start Location



Looking Upstream 100' From Project Work Start Point

City of Sparta
Farmers Valley Creek
July 2014



Looking Upstream 100' From Project Work Start Point

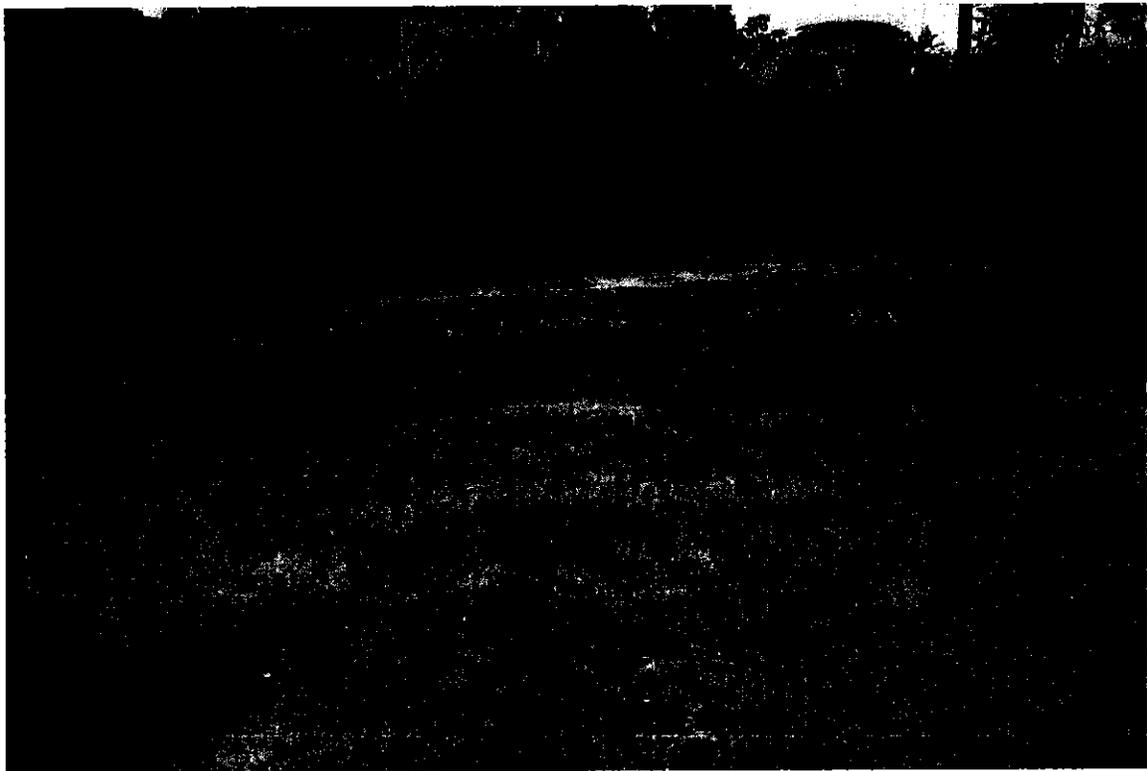


Looking Downstream 100' From Project Work Start Point

City of Sparta
Farmers Valley Creek
July 2014



Looking Downstream 100' From Project Work Start Point

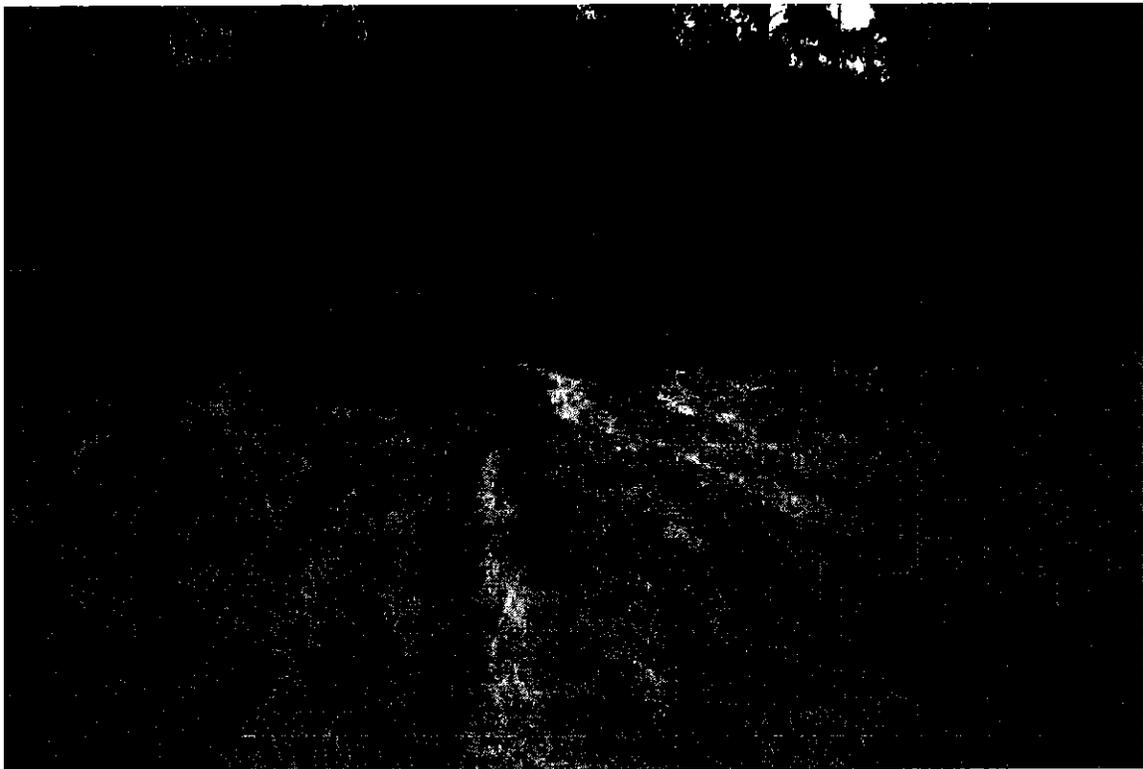


Looking South (Cross Section) 100' From Project Start Point

City of Sparta
Farmers Valley Creek
July 2014

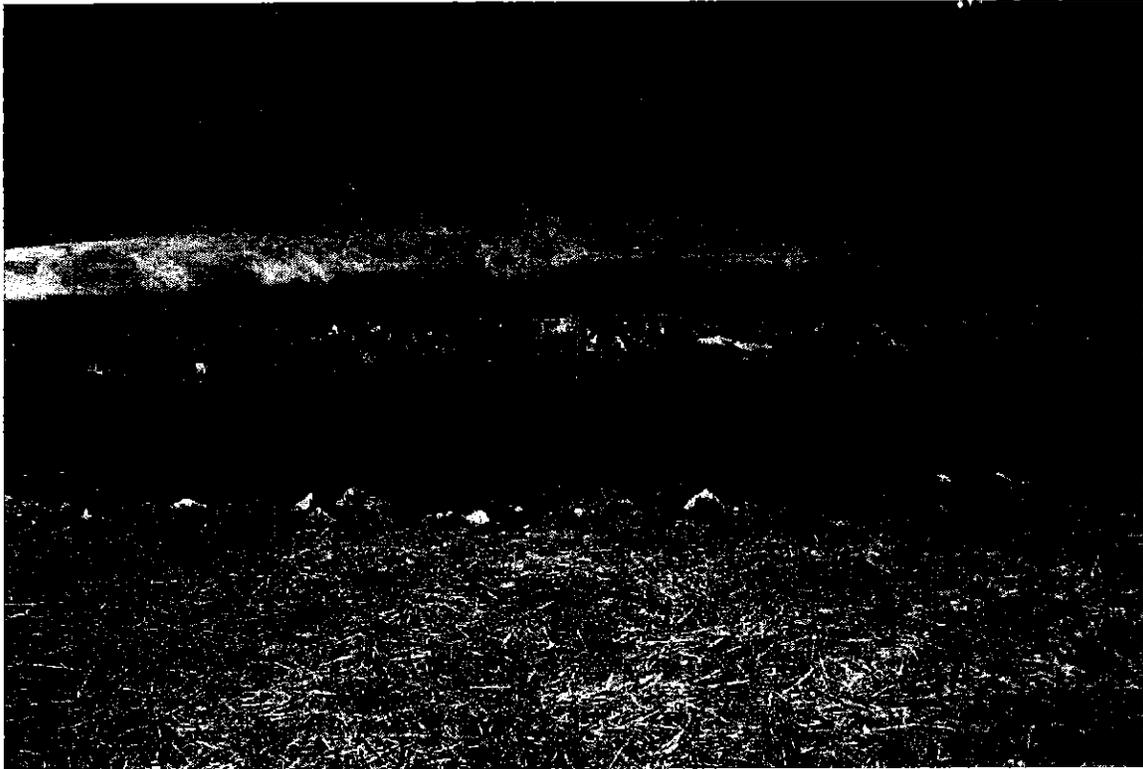


Looking South (Cross Section) 100' From Project Start Point



Looking South (Cross Section) 100' From Project Start Point

City of Sparta
Farmers Valley Creek
July 2014

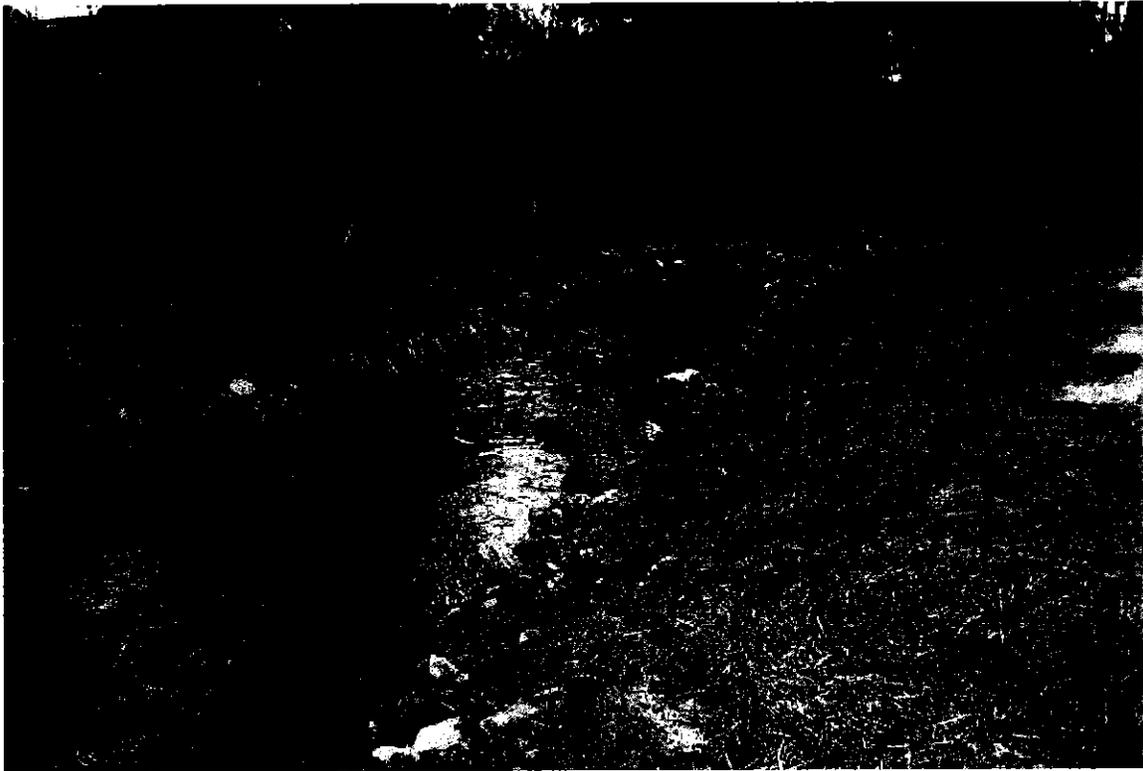


Looking South (Cross Section) 150' From Project Start Point



Looking Upstream 150' From Project Start Point

City of Sparta
Farmers Valley Creek
July 2014



Looking Downstream 150' From Project Start Point



Looking Upstream 200' From Project Start Point

City of Sparta
Farmers Valley Creek
July 2014



Looking Downstream 200' From Project Start Point



Looking South (Cross Section) 200' From Project Start Point

City of Sparta
Farmers Valley Creek
July 2014



Looking Upstream 250' From Project Start Point



Looking Downstream 250' From Project Start Point

City of Sparta
Farmers Valley Creek
July 2014

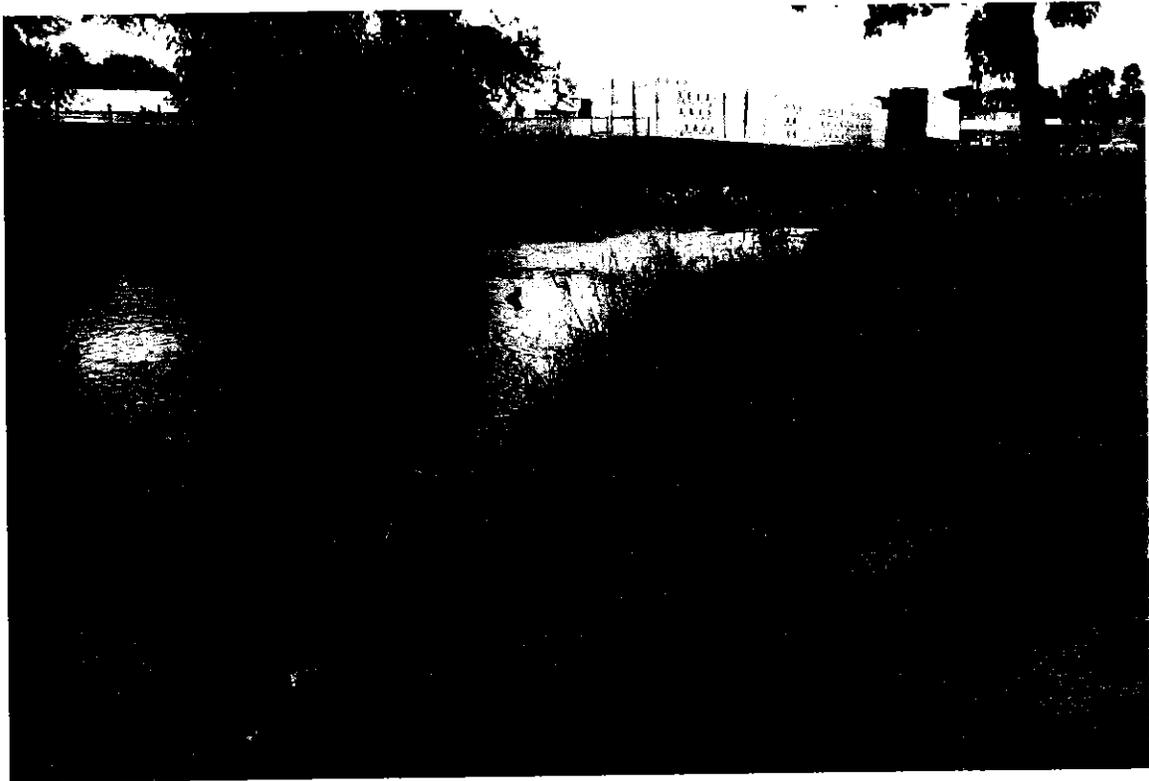


Looking South (Cross Section) 250' From Project Start Point

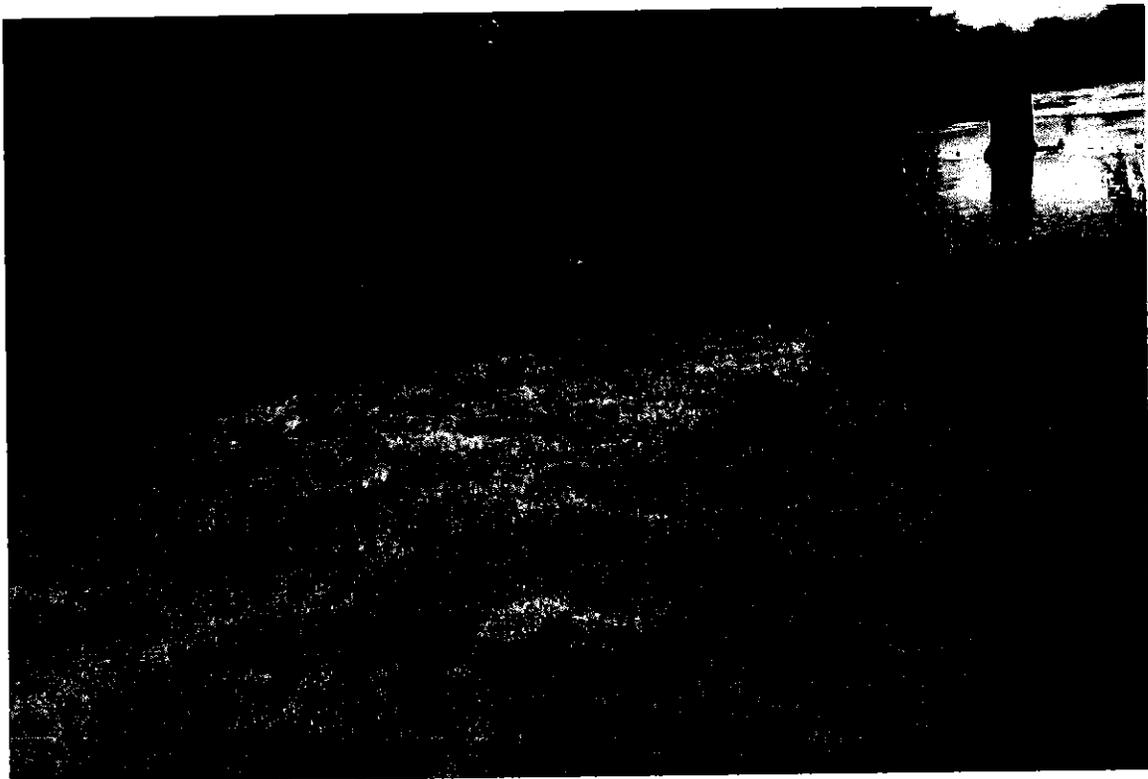


Looking Upstream 300' From Project Start Point

City of Sparta
Farmers Valley Creek
July 2014



Looking Downstream 300' From Project Start Point
(Entry Into La Crosse River)



Looking South (Cross Section) 300' From Project Start Point

Appendix 1 – Phosphorus Soil Test Lab Results from June 23, 2014

Dave Sauer

From: UW Soil and Plant Analysis Lab <soil-lab@mailplus.wisc.edu>
Sent: Monday, June 23, 2014 12:10 PM
To: Dave Sauer
Subject: Sample Confirmation

*** This is an automated message, replies will not be answered. Please call us at (608) 262-4364 if you need additional information. ***

This message is to notify you that we have received the 2 sample(s) you have submitted for analysis. For your reference, the lab number for your sample set is 6452.

Based on the analyses you have requested and the current volume of samples in our queue, we expect your results to be delivered on 7/2/14, plus or minus two business days. If your results are not delivered on time, please contact our Lab Manager with your questions at (608)262-4364 ext. 1112.

You can check the status of your samples and view reports as they become available by clicking or copying the following URL into your web browser: <http://uwlab.soils.wisc.edu/test-status/?loc=A&lab=6452&labyear=2014&key=umzloBdhisvmCZ1b9ZpMQrWKWBraNrx9>

Sincerely,

University of Wisconsin Soil and Plant Analysis Laboratory Staff

Lab No. **6452**

Acct. No. 559532

Client- Dave Sauer, Cedar Corp

Re: 2 samples run from 1 original soil sample, received June 23, 2014
Results emailed: June 27, 2014

Results reported on a 'dry weight' basis. Unit: 1,000 ppb = ppm = mg/kg = mg/liter. 1% = 10,000 ppm.

The UW Soil & Plant Analysis Lab Standard Operation Procedures of ICP-OES/MS are available from the following links:
<http://uwlab.soils.wisc.edu/files/procedures/ICPOES.pdf> <http://uwlab.soils.wisc.edu/files/procedures/ICPMS.pdf>
http://uwlab.soils.wisc.edu/files/procedures/soil_icp.pdf http://uwlab.soils.wisc.edu/files/procedures/plant_icp.pdf
http://uwlab.soils.wisc.edu/files/procedures/animal_icp.pdf

ELEMENTAL ANALYSIS- TOTAL MINERALS

Sample ID	P %	K %	Ca %	Mg %	S %	Zn ppm	B ppm	Mn ppm	Fe ppm	Cu ppm	Al ppm	Na ppm
1	0.03	0.07	0.12	0.09	0.01	26.28	5.80	190.54	5882.4	4.09	4813.3	34.6
2	0.03	0.07	0.11	0.08	0.01	25.87	4.86	167.15	5421.7	2.06	4285.9	26.2

**Appendix 2 – As-Built Documentation Report for Monroe County
Land Conservation District**

Dave Sauer

From: Bob Micheel <Bob.Micheel@co.monroe.wi.us>
Sent: Tuesday, July 29, 2014 12:05 PM
To: Dave Sauer
Subject: FW:
Attachments: 20140729112738490.pdf

Dave,

Attached the city of Sparta As-Build approval cover sheet for the Farmers Valley Creek project.

Let me know if you need anything else.

Bob

CONFIDENTIALITY NOTICE: This message and any included attachments are from Monroe County, Wisconsin and are for the sole use of the intended recipient(s). This message may contain confidential and privileged information. Unauthorized review, use, disclosure or distribution is strictly prohibited and may be unlawful. If you are not the intended recipient, please promptly delete this message and notify the sender of the delivery error by e-mail or you may call Monroe County at (608) 269-8696.

(Farmers Valley Creek)
 (Cost-Share Payment Schedule)

Landowner: **City of Sparta**
 Date: **7/29/2014**

Project:	Cost
1.) Riprap (Gerke)	\$ 2,891.65
2.) Riprap (Antony's)	\$ 2,941.50
3.) Installation (Holtz)	\$ 8,878.81
4.) quarter Logs (Larson)	\$ 48.00
5.) Bolts	\$ 26.89
Total Cost = \$ 14,786.85	

Partner Contribution

Group	Cost
1.) USFW	\$ 2,891.65
2.) LCD	\$ 74.89
3.) Oak Brook TU	\$ 3,600.00
4.) Coulee Chapter TU	\$ 500.000
5.)	
Total = \$ 7,066.54	

Unit Cost

Project:	Cost	Installed	Rate/Ft.
1.) Stream Restoration	\$ 14,786.85	660'	\$ 22.40
2.) -	\$ -	18%	\$ -
3.) -	\$ -	15%	\$ -
4.) -	\$ -	0%	\$ -
5.)		0%	
Total =			

Total Amount Cost Shared

Funding Source:	Amount Paid:
Partners	\$ 7,066.54
City of Sparta	\$ 7,720.31
	\$ -
Total = \$ 14,786.85	

CONSTRUCTION PLAN

PRACTICE Stream Restoration
 LANDOWNER City of Sparta
 ADDRESS 1000 E. Montgomery St., Sparta, WI 54656
 LANDOWNER PHONE NO. 608.269.6322 COUNTY Monroe
 TOWNSHIP Sparta T 17 N, R 4 E/W Sec. 24
 FIELD OFFICE Sparta TELEPHONE NO. 608.269.8975

DIGGERS HOTLINE

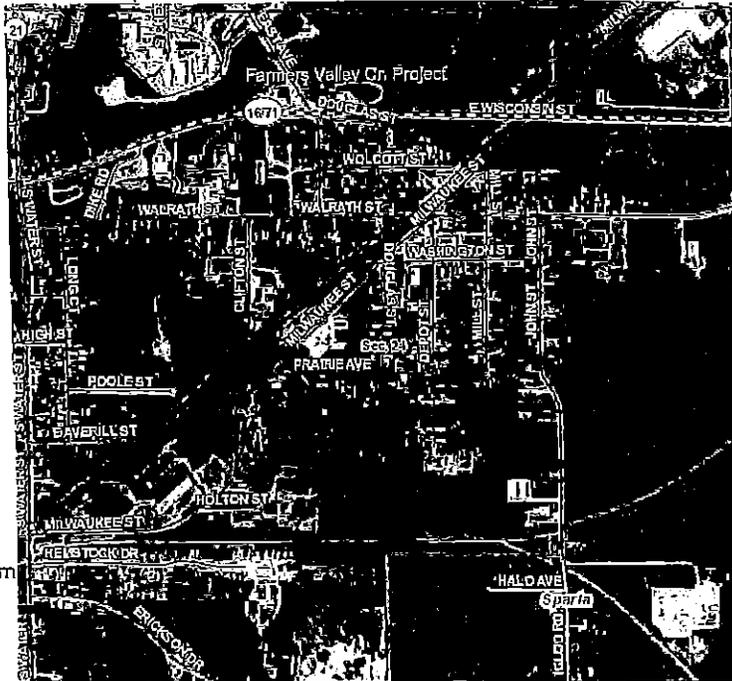
Call 3 Work Days
Before You Dig!

Nationwide
811

Toll Free
1-800-242-8511

TDD
1-800-542-2289

Website
www.diggershotline.com



Not to
Scale

LOCATION MAP

NOTICE TO LANDOWNERS AND EXCAVATORS

Any representation made by the USDA, Natural Resources Conservation Service, or the Monroe County LCD, as to the approximate location or nonexistence of above or under ground hazards does not relieve the owner of the property or the excavator that is hired to complete construction, from notifying Diggers Hotline of the pending construction. You will be liable for damages resulting from construction activities.
 Call Diggers Hotline! Ticket Number _____

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I have reviewed and understand the construction plans and specifications and agree to complete the work accordingly. Failure to meet these plans and specifications may jeopardize any continued NRCS technical assistance or program cost sharing applied for. I understand that it is my responsibility to secure all necessary permits and licenses, and to complete the work in accordance with all local, state, and federal laws. Modification of these construction plans or specifications must be approved by the NRCS before installation. I assume all responsibility for negotiations and contract agreements with the construction contractors.

Signed:	<u>[Signature]</u>	Date:	<u>7-27-13</u>
Designed by:	<u>Bob Micheal</u>	Date:	<u>7/22/13</u>
Checked by:	<u>Dan Gunderson</u>	Date:	<u>7/24/13</u>
Approved by:	<u>[Signature]</u>	Date:	<u>7/24/13</u>

The installed practices comply with applicable NRCS technical standards and specifications. The "redlined" construction plans (as-built drawings) reflect changes made during construction.

Construction Approved by: [Signature] Date: 7/26/13

Job Approval Class III Sheet 1 of 9

**Appendix 3 – Trade Ratio for Farmers Valley Creek from Trading
Plan Dated June 2014**

Sparta Water Quality Trading Plan

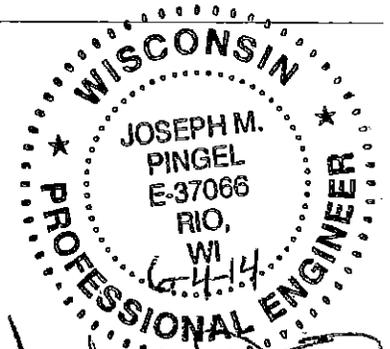
Project ID: S3680-0006

Prepared for
City of Sparta

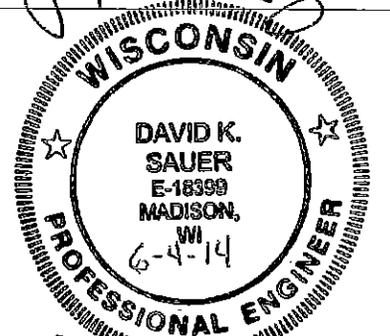
204 W. Oak Street
Sparta, WI 54656

Prepared by
Cedar Corporation

June 2014



A handwritten signature in black ink that reads "Joseph M. Pingel".



A handwritten signature in black ink that reads "David K. Sauer".

Copyright©, Cedar Corporation 2014

2820 Walton Commons West, Suite 142, Madison, WI 53718 • www.cedarcorp.com
Phone: (608) 354-0037 • Fax: (608) 249-5824

RECEIVED

OCT - 6 2014

WV/3 - WV/3 - OCL/3

REUSE OF DOCUMENTS

This document has been developed for a specific application and not for general use; therefore, it may not be used without the written approval of Cedar Corporation. Unapproved use is at the sole responsibility of the unauthorized user.

4 Trade Ratios for Proposed Projects

4.1 Stream Bank Stabilization Projects

It is understood that trade ratios will need to be calculated for each proposed stream bank stabilization project. The trade ratio calculation takes in several factors as outlined in the WDNR Water Quality Trading Guidance Document dated August 2013. For Sparta, the basis of the trading ratio is to meet non-TMDL WQBELs. The trade ratio = (Delivery + Downstream + Equivalency + Uncertainty – Habitat Adjustment): 1.

Table 1 shows the proposed list of stream bank stabilization projects for Sparta. Table 1 also lists a proposed time line for the projects. The projects of particular interest are the ones planned to be completed in 2014. Trade ratios for the 2014 projects follow. It is planned that trade ratios for the remaining stream bank stabilization projects will be submitted for approval when those projects are more clearly defined.

For the Farmers Valley Creek stream bank improvements, the trade ratio is dependent upon the “Delivery Factor” since it is located in an upstream HUC 12 and the “Uncertainty Factor”. Refer to Figure 2 and Figure 3 for the HUC 12 watersheds. Using the SPARROW delivery fraction for this area of 1.01 and using the Delivery Factor formula of $\text{Delivery Factor} = (1/\text{SPARROW delivery fraction}) - 1$, the Delivery Factor is 0. For the “Uncertainty Factor”, reference is made to Table 4 in the WDNR Guidance Document for stream bank stabilization with aquatic habitat restoration. This table lists the Uncertainty Factor as 2. Since this improvement is upstream from the WWTF discharge, the downstream factor is 0. The Equivalency Factor for phosphorus is also 0. The calculated trade ratio for this project location is therefore 2:1. Reference is made to Appendix 5 for the SPARROW information used for this project.

For the La Crosse River stream bank improvements along the golf course, the trade ratio simplifies by using a SPARROW delivery fraction of 1.01 to account for the lake between the credit generator and the credit user and an Uncertainty Factor of 2 from Table 4 in the WDNR Guidance Document. The calculated trade ratio for this project is therefore 2:1.

4.2 Silt Trap Dredging of Perch Lake

Since the proposed location of the project is upstream from the WWTF discharge to the La Crosse River, the trade ratio appears to simplify to using the “Uncertainty Factor” from Table 4 in the WDNR Guidance Document. The Uncertainty Factor for this project is 2. The trade ratio is therefore 2:1.

