

# LOWER MINNESOTA RIVER WATERSHED DISTRICT

# **Executive Summary for Action**

Lower Minnesota River Watershed District Board of Managers Meeting Wednesday, July 16, 2025

## Agenda Item Item 7. H - Spring Creek Stabilization Sites 1 and 2 Final Payment Request

Prepared By Linda Loomis, Administrator

### Summary

In November 2024, the LMRWD completed a project to stabilize certain areas of Spring Creek in the City of Carver, MN. Vegetation was finished in the Spring of 2025 and the LMRWD now wishes to close-out the project and make final payment to the contractor.

A report prepared by Young Environmental Consulting Group is attached with the project details. Appendix D, the As-built Plans can be accessed separately from the report by using the link below.

The Board should authorize final payment to the contractor, Sunram Construction, Inc., authorize sending letters to the landowners regarding vegetation maintenance and authorize execution of the compliance certification for the US Army Corps of Engineers Permit.

## Attachments

Technical Memorandum – Spring Creek Stabilization Sites 1 and 2 Final Payment Request dated July 9, 2025

Appendix D: As-built Plans

## **Recommended Action**

Motion to authorize final payment to Sunram Construction, Inc. for \$30,697.11, authorize execution of the compliance certification for the USACE to close out any remaining permitting items and the authorize sending landowners letters regarding vegetation maintenance and expectations.



# **Technical Memorandum**

То:	Linda Loomis, Administrator Will Lytle, Administrator Lower Minnesota River Watershed District (LRMWD)
From:	Emma Henefield, Water Resources Intern Ben Schiltz, Water Resources Intern Erica Bock, Staff Water Resources Scientist II
CC:	Bailey Bocchino, Water Resources Engineer Jacob Rishmiller, Surface Water Group Leader ISG, Inc.
Date:	July 9, 2025
Re:	Spring Creek Stabilization Sites 1 and 2 Final Payment Request

# Background

The Spring Creek Stabilization project's main goal was to implement erosion controls that would stabilize the creek both along the banks and to reduce the speed at which the creek was gaining depth due to soil erosion on the creek bed. The project focused on two sites in Carver, MN: 112 5th Street West (Site 1) and 404 Broadway Street (Site 2), which appeared to be impacted from the creek erosion. Landowners were specifically concerned with the stabilization of structures on the property. ISG, Inc. (ISG) was awarded to oversee and design the project in June 2023.

The project did not disturb more than one acre of land; did not propose any impervious surfaces; is not within a public water floodplain, High Value Resource Area (HVRA), or Steep Slope Overlay District (SSOD); and, therefore, did not require a permit from the LRMWD. A Wetland Conservation Act (WCA) Notice of Decision (NOD) from the City of Carver was received in November 2023, and no additional city permitting was required. The LMRWD was authorized by the Habitat Improvement Regional General Permit (Regulatory File No. MVP-2023-01098-JST) issued by the United States Army Corps of Engineers (USACE) in April 2024. **The remaining condition of the permit is that the permittee must complete and return the enclosed compliance certification form when the project is completed (Attachment 1).** The Regional General Permit can be available upon request.

After the permitting, plans, and designs for the project were completed, ISG released the project bid on October 1, 2024, which received seven bid responses. Sunram Construction was ultimately chosen as the contractor with Landbridge Ecological as their designated subcontractor. The base bid was \$91,443.00 and the engineer's estimate was \$107,035.75.

The construction contract went into effect at the end of October 2024 and construction began in November 2024 with grading, soil lifts, coir logs, and riprap as outlined in the site plans. At this time

dormant seed was laid and erosion prevention best management practices (BMPs) were put in place. In December 2024 a change order for \$990.00 was approved for additional areas that were disturbed during construction where seeding restoration was necessary.

In April 2025, Landbridge Ecological installed live stakes to hold the coir logs and rip rap in place, and in May of 2025 they returned to plant shrubs and perennials throughout the site. The contract's date of substantial completion for the stabilization project is May 21, 2025. As of June 23, 2025, the only outstanding items remaining include (1) lack of consistent vegetation to meet the 70% vegetative cover requirement and (2) the remainder of a few sediment logs on the site, that were removed by the contractor on June 26, 2025.

# **Final Payment Request**

A Final Acceptance Report for the Spring Creek Stabilization project was received from ISG (Attachment 2). The final contract price with the \$990.00 change order was \$92,433.00, which is lower than the engineer's initial construction cost estimation at \$107,035.75.

Construction on the site is complete, but pending final vegetation establishment greater than 70%, and ISG has completed and distributed the as-built plans for the project as was required by their contract (see Appendix D of Attachment 2). As of this date, the contractor has been paid \$61,735.89 and has filed a final payment application of \$30,697.11, which includes payment for any remaining quantities required by the project as well as the retainage held by the contract. The final pay request can be found in Appendix B of Attachment 2.

# Site Visit and Maintenance Plan

ISG and Young Environmental coordinated on project close-out activities, with ISG directly overseeing the contractor. To ensure completion of the project, as outlined in the contract, Young Environmental completed a site visit on June 23, 2025. During the site visit, field staff compared construction on the properties to the final project plans, specifications, pre-construction photos, and project maintenance plan.

Based on Young Environmental staff's review of the close-out report, as-builts, and site visit, the project has been constructed as proposed and site stabilization has been completed. However, there were remaining sediment logs and a coir log that had been displaced and was in Spring Creek. Site visit and project photos are included in the close-out report, Attachment 2 and Attachment 3.

After the site visit, Young Environmental contacted ISG to inquire about the responsibilities of maintenance, removal of temporary BMPs, and final vegetation establishment. ISG provided an update that Sunram Construction will be collecting the sediment control logs and restaking the coir log securely into place. The sediment logs were picked up by Sunram on June 26, 2025, and the coir log was restaked on July 3, 2025.

Warranty information is under Section 7.17 of the contract. The warranty covers defective work. Exclusions from the warranty include normal wear and tear or naturally occurring changes. The maintenance period is part of the performance bond and starts at final acceptance and continues for 364 days. The warranty bond kicks in after that and continues for an additional three years.

The contractor is responsible for maintaining the plants for three months after substantial completion then maintenance responsibilities shift. Long-term maintenance responsibility will then become the landowners. ISG has provided a recommended maintenance guide that can be shared with landowners (Attachment 4). Actions expected by landowners mainly include mowing, weeding, and managing invasive species. There is additional warranty information in the project manual for Spring Creek specific to the plants in Section 32 9300 Plants specification under 1.13 Warranty and can be made available upon request.

The project has been seeded with a mix of native grass and wildflowers, perennials have been planted along the creek bank throughout the site, and live stakes have been implemented to stabilize the permanent coir logs and the rip rap along the bank.

# **Recommendations**

Based on Young Environmental's review, staff recommend the final payment of \$30,697.11 to Sunram Construction for completion of contractual obligations. Additionally, we recommend sending the landowner letters (Attachment 4) regarding vegetation maintenance and expectations provided by ISG.

Finally, Young Environmental recommends the project owner (LMRWD) sign the compliance certification for the USACE Permit (Attachment 1) to close out any remaining permitting items.

# Attachments

- Attachment 1: Compliance Certification for USACE Permit
- Attachment 2: Final Acceptance Report Spring Creek Stabilization
- Attachment 3: Construction and Site Visit Photos
- Attachment 4: Vegetation Maintenance and Expectations for Landowners



# US Army Corps of Engineers ®

St. Paul District

# **COMPLIANCE CERTIFICATION**

Regulatory File Number:	MVP-2023-01098-JST
Name of Permittee:	Lower Minnesota River Watershed District
County/State:	<u>Carver, Minnesota</u>
Date of Issuance:	April 12, 2024

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the Corps contact identified in your verification letter within 30 days.

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

By signing below, the permittee is certifying that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

# Final Acceptance Report Spring Creek Stream Stabilization

Site 1 and Site 2 Carver, Minnesota

Date: June 6, 2025

ISG Project No.: 23-29507



Architecture Engineering Environmental Planning ISGInc.com

## REPORT FOR: Lower Minnesota River Watershed District Board of Managers Linda Loomis District Administrator 112 East 5<sup>th</sup> Street #102 Chaska, MN 55318 763.545.4659 naiadconsulting@gmail.com

FROM:

ISG Jacob Rischmiller., PE Surface Water Group Leader 6465 Wayzata Blvd #970 St. Louis Park, MN 55426 952.426.0699 Jacob.Rischmiller@ISGInc.com

# SIGNATURE SHEET

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

- Rim Signature:

Printed Name: Jacob Rischmiller

Date: 6/6/2025

License Number: 58670

ISG 6465 Wayzata Blvd #970 St. Louis Park, MN 55426

Project Name Spring Creek Stream Stabilization Site 1 and Site 2

#### Carver, Minnesota

Engineer's Project Number: 23-29507

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# **EXECUTIVE SUMMARY**

The design report for Spring Creek Stream Stabilization for Site 1 and Site 2 was approved by the Lower Minnesota River Watershed District Board of Managers in August 2024. ISG prepared the bid documents and advertised for bid with letting on October 1, 2024. A total of 7 bids were received and the project was awarded to the lowest responsible bidder, Sunram Construction form Corcoran, Minnesota. Landbridge Ecological was slated as a subcontractor for the project to install coil logs, erosion control blanket, live stakes, plants, and complete seeding for the project.

Construction began at the end of November 2024. Mass grading, soil lifts, coir log, and riprap bid items were completed at this time. The project implemented erosion control BMPs as designed and was dormant seeded prior to demobilization from the site. Landbridge Ecological, the subcontractor, returned to the site in April 2025 to install live stakes and again in May 2025 to install shrubs and perennials.

ISG has inspected the site and found the project was constructed to the engineer's design and specifications. The seeding had good establishment and cover meeting 70% establishment specification.

# **CONSTRUCTION CONTRACT**

The Engineer's Estimated cost for construction was \$107,035.75. The original contract price based on Engineer's Estimated quantities was \$91,443.00. There were no change orders for the project. There were additional areas that were disturbed during construction in which seeding restoration was necessary. The seeding and erosion control blanket quantity was overrun by \$990.00. The final contract price was \$92,433.00.

# **FINAL PAY REQUEST**

The final pay request from the contractor is in the amount of \$30,697.11. The final pay application includes payment for remaining quantities on the project and retainage held on the contract. To date the contractor has been paid \$61,735.89. The final pay request can be found in Appendix B of this report. Sunram Construction has provided all the required submittals including IC-134 Withholdings Affidavits, Warranty Bond and Consent of Surety which can be found in Appendix C.

# **AS BUILTS**

ISG has completed the As Built condition of the project, that will serve as the corrected record of the project. The complete as built is located in Appendix D of this report.

# Appendix A: Construction Photos

Architecture + Engineering + Environmental + Planning

Appendix **A** 

Site 2







Site 1





# Appendix B: Final Pay Request

Architecture + Engineering + Environmental + Planning

Appendix  ${\boldsymbol{\mathsf{B}}}$ 

			Contractor's Applicati	on for Payment No	. 2
ISG		Application Period:	4/4/2025 - 5/23/2025	Application Date:	6/2/2025
То	Lower Minnesota River Watershed District	From	Sunram Construction Inc.	Via	ISG
(Owner):	112 E. 4th St Suite 102	(Contractor):	20010 75th Ave	(Engineer):	Bailey Bocchino
	Chaska, MN 55318		Corcoran, MN 55340		6465 Wayzata Blvd, Suite 970
					St. Louis Park, MN 55426
Project:	Spring Creek	Contract:			
	Stabilization				
Owner's C	Contract No.	Contractor's Project No.		Engineer's Project No.	29507

#### Application For Payment Change Order Summary

Approved Change Orders							
Number	Additions	Deductions					
TOTALS							
NET CHANGE BY							
CHANGE ORDERS		,					

1. ORIGINAL CONTRA	ACT PRICE (En	gineer's Estima	ted Qtys)	\$	91,443.00
2. Net change by Cha	ange Orders			\$	-
3. Net change Actua	l Installed Q	uantites (Col	umm M on Completed Items + Column N Change Orders)	\$	990.00
4. Current Contract I	Price (Line 1 ± 2	± 3)		\$	92,433.00
5. Completed Bid Iter	ms (Column J to	tal on Complet	ed Items)	\$	92,433.00
6. Completed Change	\$	-			
7. Temporary Withho	\$	-			
8. Stored Materials (	\$	-			
9. TOTAL COMPLETED	\$	92,433.00			
10. RETAINAGE:					
a.	х	\$	92,433.00 Work Completed (Line 5+6+7)	\$	-
b.	х	\$	- Stored Material (Line 8)	\$	-
c. Total Retainage (Line 10.a + Line 10.b)					
11. AMOUNT ELIGIB	\$	92,433.00			
12 LESS PREVIOUS PAYMENTS (Line 11 from prior Application)					
13. AMOUNT DUE THIS APPLICATION (Line 11 - Line 12)					
14. BALANCE TO FINI	SH, PLUS RET	AINAGE			
(Column L total on Com	pleted Items + (	Column M Tota	l Change Order Items +	\$	-
Column L on Temporary	Withholdings +	Line 10.c abov	e)		

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By: Fyp M. Surram Date: 6/5/25	

Column L on Temporary Withholdings + Line	10.c above)	
Payment of:	\$30,697.11	
	(Line 8 or other - attach explanation of the other amount)	
is recommended by:	Baily Bolling	6-10-2025 (Date)
Payment of:		
	(Line 8 or other - attach explanation of the other amount)	
is approved by:		
	(Owner)	(Date)
Approved by:	· · · ·	

Funding or Financing Entity (if applicable)

(Date)

EJCDC® C-620 Contractor's Application for Payment © 2013 National Society of Professional Engineers for EJCDC. All rights reserved. Page 1 of 1

#### **Completed Bid Items**



#### Spring Creek Stabilization

Lower Minnesota River Watershed District

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A	B	C	D	E	F	G		Η			J	K	Contraction of the second		M
id Item Number		Unit	Quantitiy	Unit Price	Total Amount	Quantity This Pay Request		nt This Pay equest	Quantity To Date	Amo	unt To Date	Quantity Remaining	Amount Remaining		/Unde imate
1	MOBILIZATION	LS	1.00	\$ 9,165,40	\$ 9,165.40	0.25	¢	2,291.35	1,00	Ś	0.4.55.48				mate
2	PUSSY WILLOW (Salix discolor)	EA	2.00	\$ 178.50		The restance of the second sec	S	357.00	2,00	\$	9,165.40	0.00	\$ -	\$	
3	PAGODA DOGWOOD (Cornus alternifolia)	EA	6.00	\$ 102.00			2	612.00	6.00	\$	357.00	0.00	\$ -	\$	
4	CHOKECHERRY (Prunus virginiana)	EA	6.00	\$ 77.00			Ś	462.00	6.00	\$	612.00	0.00	\$ -	\$	1917 (
5	NANNYBERRY (Viburnum lentago)	EA	6.00	\$ 82.00			Ś	492.00		\$	462.00	0.00	\$	\$	
6	DOWNY ARROWWOOD (Viburnum rafinesquianum)	EA	5.00	\$ 109.00		A AUP-122 CONSISTER	ş S	545.00	6.00	\$	492.00	0.00	\$ -	\$	hang
7	NINEBARK (Physocarpus opulifolius)	EA	5.00	\$ 102.00			2 5		5.00	\$	545.00	0.00	\$	\$	
8	BLACK RASPBERRY (Rubus occidentalis)	EA	18.00	\$ 41.00			ş S	510.00	5.00	\$	510.00	0.00	<u>\$</u>	\$	laighe i
9	SPOTTED JOE PYE WEED (Eutrochium maculatum)	EA	24.00	\$ 25.00			> <	738.00	18.00	\$	738.00	0.00	\$ -	\$	
10	SPOTTED GERANIUM (Geranium maculatum)	EA	64.00	\$ 33.00	and the second sec		2 2 2 2 G/(F3), 52-C	600.00	24.00	\$	600.00	0.00	\$	\$	ter i c
11	VIRGINA CREEPER (Parthenocissus guinguefolia)	EA	75.00	\$ 33.00			\$	2,112.00	64.00	\$	2,112.00	0.00	\$-	\$	
12	OBEDIENT PLANT (Physostegia virginiana)	EA	37.00	\$ 31.00		and an and an and an an an an an and an	\$	3,075.00	75.00	\$	3,075.00	0.00	\$ -	\$	No.
13	SOLOMON'S SEAL (Polygonatum biflorum)	EA	15.00	\$ 35.00		37.00	\$	1,147.00	37.00	\$	1,147.00	0.00	\$ -	\$	-
14	GOLDENROD (Solidago canadensis)	EA	57.00	1			\$	525.00	15.00	\$	525.00	0.00	\$ -	\$	Eritgen
15	SPRENGEL'S SEDGE (Carex Sprengelii)	-		\$ 30.00		57.00	\$	1,710.00	57.00	\$	1,710.00	0.00	\$ -	\$	
16	HEAVY VEGETATIVE CLEARING WITH TREE REMOVAL	EA	76.00	\$ 30.00		76.00	\$	2,280.00	76.00	\$	2,280.00	0.00	\$	Ś	
17	INSTALL SILT FENCE	AC	0.15	\$ 45,000.00	\$ 6,750.00	0.00	\$	-	0.15	\$	6,750.00	0.00	\$ -	ŝ	<u></u>
18	INSTALL SEDIMENT CONTROL LOG	LF	140.00	\$ 5.00		0.00	\$	- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	140.00	\$	700.00	0.00	Ś.	ŝ	
19	12-INCH COIR LOG		213.00	\$ 5.00	\$ 1,065.00	213.00	\$	1,065.00	213.00	\$	1,065.00	0.00	\$ -	\$	-
20	16-INCH COIR LOG	LF	46.00	\$ 15.00		46.00	\$	690.00	46.00	\$	690.00	0.00	\$ _	\$	
20		LF	325.00	\$ 27.00	\$ 8,775.00	75.00	\$	2,025.00	325.00	Ś	8,775.00	0.00	ć	\$	aagapr
22	RIPARIAN SOUTH AND WEST MNDOT SEED MIX 34-261 WITH CATEGORY 20	SF	2856.00	\$ 1.10		0.00	\$	San Street Lake	3756.00	Ś	4,131.60	0.00	- \$1000000000000000000000000000000000000	\$	9
23	TURF SEED - MNDOT SEED MIX 25-131 WITH CATEGORY 20 EROSION CONTROL LIVE STAKES	SF	3049.00	\$ 0.50		0.00	\$	-	3049.00	Ś	1,524.50	0.00	\$ \$	<u>\$</u> \$	9
24		SY	246.00	\$ 25.25	\$ 6,211.50	246.00	\$	6,211.50	246.00	i c	6,211.50	0.00		*	
24	REMOVE & DISPOSE BROKEN HEADWALL	EA	2.00	\$ 975.00	\$ 1,950.00	0.00	\$	-	2.00	Ś	1,950.00	0.00		\$	652764
25	REMOVE TREE OBSTRUCTIONS	EA	13.00	\$ 450.00	\$ 5,850.00	0.00	\$	uter in Line	13.00	Ś	5,850.00	0.00		\$	
	CLASS III RIPRAP WITH GEOTEXTILE FABRIC	CY	155.00	\$ 155.00	\$ 24,025.00	0.00	Ś	-	155.00	¢.	24,025.00	0.00		\$	ana a
27	COMMON EXCAVATION	CY	40.00	\$ 48.00	\$ 1,920.00	0.00	Ś	100000-04000	40.00	Ś	1,920.00	0.00	<u>&gt;</u>	\$	
28	MISC. GRADING & REMOVE LANDSCAPING FABRIC	LS	1.00	\$ 2,575.00		0.00	Ś		1.00	ې د	2,575.00	10 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<u>&gt;</u>	<u>Ş</u>	网络行
29	COMMON BORROW	CY	45.00	\$ 43.00		0.00	5	alifestics and	45.00	د د		0.00	<u>&gt;</u> -	\$	
					\$ 91,443.00	0,00	¢	27,447.85	43.00	\$ }	1,935.00	0.00	<u>\$</u>	\$	86900 1
						1	Ş	27,447.85		Ş	92,433.00		\$ -	\$	99

 Pay Request
 2

 4/4/2025
 To
 5/23/2025

# Appendix C: IC-134 & Warranty Bond

Architecture + Engineering + Environmental + Planning

Appendix C

# DEPARTMENT OF REVENUE

## **Contractor Affidavit Submitted**

Thank you, your Contractor Affidavit has been approved.

#### **Confirmation Summary**

Confirmation Number:	0-113-901-280
Submitted Date and Time:	6-Jun-2025 10:59:09 AM
Legal Name:	SUNRAM CONSTRUCTION INC
Federal Employer ID:	41-1728948
User Who Submitted:	Sunram
Type of Request Submitted:	Contractor Affidavit

## **Affidavit Summary**

Affidavit Number:	188821504
Minnesota ID:	1870470
Project Owner:	LOWER MN RIVER WATERSHED DISTRICT
Project Number:	ISG #29507
Project Begin Date:	05-Dec-2024
Project End Date:	23-May-2025
Project Location:	SPRING CREEK STABILIZATION
Project Amount:	\$92,433.00

## **Subcontractor Summary**

Name	ID	Affidavit Number
LANDBRIDGE ECOLOGICAL INC	1542318	1260007424

#### **Important Messages**

A copy of this page must be provided to the contractor or government agency that hired you.

#### Contact Us

If you need further assistance, contact our Withholding Tax Division at 651-282-9999, (toll-free) 800-657-3594, or (email) withholding.tax@state.mn.us. Business hours are Monday through Friday 8:00 a.m. to 4:30 p.m. Central Time.

Please print this page for your records using the print or save functionality built into your browser.

# DEPARTMENT OF REVENUE

#### **Contractor Affidavit Submitted**

Thank you, your Contractor Affidavit has been approved.

#### **Confirmation Summary**

Confirmation Number:	0-924-942-048
Submitted Date and Time:	6-Jun-2025 8:45:13 AM
Legal Name:	LANDBRIDGE ECOLOGICAL INC
Federal Employer ID:	27-2058011
User Who Submitted:	headwatersdesign
Type of Request Submitted:	Contractor Affidavit

## **Affidavit Summary**

Affidavit Number:	1260007424
Minnesota ID:	1542318
Project Owner:	LOWER MINNESOTA RIVER WATERSHED DISTRICT
Project Number:	C-24-045
Project Begin Date:	06-Dec-2024
Project End Date:	30-May-2025
Project Location:	CARVER COUNTY
Project Amount:	\$30,777.86
Subcontractors:	No Subcontractors

#### **Important Messages**

A copy of this page must be provided to the contractor or government agency that hired you.

#### **Contact Us**

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Please print this page for your records using the print or save functionality built into your browser.

Bond No. 54260214



# WARRANTY BOND

Contractor	Surety
Name: Sunram Construction, Inc.	Name: United Fire & Casualty Company
Address (principal place of business): 20010 75th Avenue North	Address (principal place of business): 118 2nd Ave SE
Corcoran, MN 55340	Cedar Rapids, IA 52407
Owner	Construction Contract
Name: Lower Minnesota River Watershed District	Description (name and location):
Address (principal place of business): 112 5th Street East, Suite 102 Chaska, MN 55318	Spring Creek Stabilization
Gliaska, WIN 33310	Contract Price: Ninety-Two Thousand Four Hundred Thirty-Three Dollars (\$92,433.00)
	Effective Date of Contract: October 22nd, 2024
	Contract's Date of Substantial
	Completion: May 21st, 2025
Bond	
Bond Amount:         Ninety-Two Thousand Four Hundred           Thirty-Three Dollars (\$92,433.00)	Bond Period: Commencing 364 days after Final Acceptance of the Work under the Construction
Date of Bond: June 18th, 2025	Contract, and continuing until <b>three</b> years after
	such Final Acceptance.
Modifications to this Bond form: Image: Mone Image See Paragraph 9	
Surety and Contractor, intending to be legally bound	hereby, subject to the terms set forth herein, do
each cause this Warranty Bond to be duly executed l	
Contractor as Principal	Surety
Sunram Construction, Inc.	United Fire & Casualty Company
(Full formal name of Contractor)	(Full formal name of Surety) (corporate seal)
By: from M. Simon	By:
(Signature)	(Signature) (Attach Power of Attorney)
Name: <u>Yan M. Sunnam</u> (Printed or typed)	Name: Nicole M. Coty (Printed or typed)
Title: President	Title: Attorney-in-Fact
A second second	1 2000 0
Attest: <u>(Sianature)</u>	Attest: <u>Suma M Quord</u> (Signature)
Name: Notrany	Name: Sierra McQuoid
(Printed or typed)	(Printed or typed)
Title:	Title: Witness
Notes: (1) Provide supplemental execution by any additional part Contractor, Surety, Owner, or other party is considered plural wh	

EJCDC<sup>®</sup> C-612, Warranty Bond.

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Page 1 of 2

- 1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract's Correction Period Obligations. The Construction Contract is incorporated herein by reference.
- 2. If the Contractor performs the Correction Period Obligations, the Surety and the Contractor shall have no obligation under this Warranty Bond.
- 3. If Owner gives written notice to Contractor and Surety during the Bond Period of Contractor's obligation under the Correction Period Obligations, and Contractor does not fulfill such obligation, then Surety shall be responsible for fulfillment of such Correction Period Obligations. Surety shall either fulfill the Correction Period Obligations itself, through its agents or contractors, or, in the alternative, Surety may waive the right to fulfill the Correction Period Obligations itself, and reimburse the Owner for all resulting costs incurred by Owner in performing Contractor's Correction Period Obligations, including but not limited to correction, removal, replacement, and repair costs.
- 4. The Surety's liability is limited to the amount of this Warranty Bond. Renewal or continuation of the Warranty Bond will not modify such amount, unless expressly agreed to by Surety in writing.
- 5. The Surety shall have no liability under this Warranty Bond for obligations of the Contractor that are unrelated to the Construction Contract. No right of action will accrue on this Warranty Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
- 6. Any proceeding, legal or equitable, under this Warranty Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and must be instituted within two years after the Surety refuses or fails to perform its obligations under this Warranty Bond.
- 7. Written notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown in this Warranty Bond.
- 8. Definitions
  - 8.1. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page of this Warranty Bond, including all Contract Documents and changes made to the agreement and the Contract Documents.
  - 8.2. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
  - 8.3. Correction Period Obligations—The duties, responsibilities, commitments, and obligations of the Contractor with respect to correction or replacement of defective Work, as set forth in the Construction Contract's Correction Period clause, EJCDC<sup>®</sup> C-700, Standard General Conditions of the Construction Contract (2018), Paragraph 15.08, as duly modified.
  - 8.4. Substantial Completion—As defined in the Construction Contract.
  - 8.5. Work-As defined in the Construction Contract.
- 9. Modifications to this Bond are as follows: [Describe modification or enter "None"]

#### EJCDC<sup>®</sup> C-612, Warranty Bond.

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Page 2 of 2

#### **ARTICLE 6 – BONDS AND INSURANCE**

6.01 Performance, Payment, and Other Bonds

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC<sup>®</sup> C 610, Performance Bond (2010, 2013, or 2018 edition).

2. Required Payment Bond Form: The payment bond that Contractor furnishes will be in the form of EJCDC® C 615, Payment Bond (2010, 2013, or 2018 edition).

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.B:

1. After Final Acceptance, Contractor shall furnish a warranty bond issued in the form of EJCDC® C 612, Warranty Bond (2018). Contractor shall deliver the fully executed warranty bond to Owner after Final Acceptance of the agricultural tile Work under the Contract, and in no event later than 30 calendar days after Final Acceptance of the agricultural tile Work under the Contract. The warranty bond must be in a bond amount of 10 percent of the final Contract Price.

2. The correction period specified as one year after the date of Substantial Completion in Paragraph 15.08.A of the General Conditions is hereby revised to be 3 years after the final acceptance hearing, unless specified in the apprioration section.

3. The warranty bond must be issued by the same surety that issues the performance bond required under Paragraph 6.01.A of the General Conditions.

6.02 Insurance—General Provisions

SC-6.02 Amend the first sentence of Paragraph 6.02.N to read as follows:

All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least **30 days** prior written notice has been given to the purchasing policyholder.

SC-6.02 Add the following paragraphs immediately after Paragraph 6.02.N:

O. Prior to commencement of this agreement, the Contractor shall obtain certificates of all insurance required on a form approved by the Owner, signed by an authorized representative of the insurance carrier and stating that all provisions of the specified requirements are satisfied. The certificates shall be submitted directly to the Owner for review and approval with a record copy only to the Engineer for their files. The Contractor shall not begin any work until the Owner has reviewed and approved the insurance certificates and has so notified the Contractor directly in writing. Any notice to proceed that is issued shall be subject to such approval by the Owner.

P. The insurance policy shall be a standard form policy provided for by a carrier approved by the State of Minnesota and shall not contain any exclusions that will restrict coverage on any operations performed by the Contractor or any subcontractor hereof.

Q. The insurance policy shall provide full insurance to cover the Contractor's operating exposures including the picking up of materials, the operation of vehicles, the operation of collection and processing sites, explosion, remote borrow site activities, collapse,

underground hazards, and contractual liability as required in Articles 7.17 and 7.18. R. It is a condition of the Contract that the policy waives any or all governmental immunity as a defense in any action brought against the insured or any other party to the Contract. S. Approval of the insurance by the Owner shall not in any way relieve or decrease the liability of the Contractor hereunder, and it is expressly understood that the Owner or Engineer does not in any way represent that the specified insurance or limits of liabilities are sufficient or adequate to protect the Contractor's interest or liabilities.

T. liabilities are sufficient or adequate to protect the Contractor's interest or liabilities.

#### CORPORATE ACKNOWLEDGMENT

## STATE OF MINNESOTA COUNTY OF HENNEPIN

On the <u>18</u> day of <u>JUNE</u> <u>2025</u>. before me personally appeared, <u>RYAN SUNRAM</u> to me, who being duly sworn, did depose and say: that s/he resides in <u>MINNESOTA</u> that s/he is the <u>PRESIPENT</u> of the <u>Sunram Construction, Inc.</u> the corporation described in and which executed the foregoing instrument; that s/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation; and that s/he signed her/his name thereto by like order.



meter Shierts

#### ACKNOWLEDGMENT OF CORPORATE SURETY

STATE OF MINNESOTA COUNTY OF Dakota

On the	18th	day of	June	2025 before
me personally ap	opeared,	Nicole M. Coty		to me known, who being
duly sworn, d	id say:	that s/he resides	s in Minnesota tha	at s/he is the aforesaid
officer or attorne	ey in fac	t of United Fir	e & Casualty Company	

a corporation, that the seal affixed to the foregoing instrument is the corporate seal of said corporation; and that said instrument as signed and sealed on behalf of said corporation by the aforesaid officer, by authority of its board of directors; and the aforesaid officer acknowledged said instrument to be the free act afid deed of said corporation





UNITED FIRE & CASUALTY COMPANY, CEDAR RAPIDS, IA UNITED FIRE & INDEMNITY COMPANY, WEBSTER, TX FINANCIAL PACIFIC INSURANCE COMPANY, LOS ANGELES, CA CERTIFIED COPY OF POWER OF ATTORNEY (original on file at Home Office of Company – See Certification)

KNOW ALL PERSONS BY THESE PRESENTS, That United Fire & Casualty Company, a corporation duly organized and existing under the laws of the State of Iowa; United Fire & Indemnity Company, a corporation duly organized and existing under the laws of the State of Texas; and Financial Pacific Insurance Company, a corporation duly organized and existing under the laws of the State of California (herein collectively called the Companies), and having their corporate headquarters in Cedar Rapids, State of Iowa, does make, constitute and appoint

NICOLE M. COTY, ERIN J. POHLMAN, JESSICA A. OLSON, DEAN SHAVER, MARLENA POPE, SIERRA MCQUOID, DREW BOEHNE, TAMARA AMOS, MARK HAYFORD, EACH INDIVIDUALLY

their true and lawful Attomey(s)-in-Fact with power and authority hereby conferred to sign, seal and execute in its behalf all lawful bonds, undertakings and other obligatory instruments of similar nature provided that no single obligation shall exceed \$50,000,000.00 and to bind the Companies thereby as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Companies and all of the acts of said Attorney, pursuant to the authority hereby given and hereby ratified and confirmed.

The Authority hereby granted shall expire the 11th day of November, 2026 unless sooner revoked by United Fire & Casualty Company, United Fire & Indemnity Company, and Financial Pacific Insurance Company.

This Power of Attorney is made and executed pursuant to and by authority of the following bylaw duly adopted by the Boards of Directors of United Fire & Casualty Company, United Fire & Indemnity Company, and Financial Pacific Insurance Company.

#### "Article VI – Surety Bonds and Undertakings"

Section 2, Appointment of Attomey-in-Fact. "The President or any Vice President, or any other officer of the Companies may, from time to time, appoint by written certificates attomeys-in-fact to act in behalf of the Companies in the execution of policies of insurance, bonds, undertakings and other obligatory instruments of like nature. The signature of any officer authorized hereby, and the Corporate seal, may be affixed by facsimile to any power of attomey or special power of attomey or certification of either authorized hereby; such signature and seal, when so used, being adopted by the Companies as the original signature of such officer and the original seal of the Companies, to be valid and binding upon the Companies with the same force and effect as though manually affixed. Such attomeys-in-fact, subject to the limitations set of forth in their respective certificates of authority shall have full power to bind the Companies by their signature and execution of any such instruments and to attach the seal the Companies thereto. The President or any Vice President, the Board of Directors or any other officer of the Companies may at any time revoke all power and authority previously given to any attomey-in-fact.

IN WITNESS WHEREOF, the COMPANIES have each caused these presents to be signed by its vice president and its corporate seal to be hereto affixed this 11th day of November, 2024

UNITED FIRE & CASUALTY COMPANY UNITED FIRE & INDEMNITY COMPANY FINANCIAL PACIFIC INSURANCE COMPANY

By: Lyan CSe Vice President

On 11th day of November, 2024, before me personally came Kyanna M. Saylor to me known, who being by me duly sworn, did depose and say; that she resides in Cedar Rapids, State of Iowa; that she is a Vice President of United Fire & Casualty Company, a Vice President of United Fire & Indemnity Company, and a Vice President of Financial Pacific Insurance Company the corporations described in and which executed the above instrument; that she knows the seal of said corporations; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporations and that she signed her name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporations.



Hati Wall Notary Public

My commission expires: 10/26/2025

I, Mary A. Bertsch, Assistant Secretary of United Fire & Casualty Company and Assistant Secretary of United Fire & Indemnity Company, and Assistant Secretary of Financial Pacific Insurance Company, do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Section of the bylaws and resolutions of said Corporations as set forth in said Power of Attorney, with the ORIGINALS ON FILE IN THE HOME OFFICE OF SAID CORPORATIONS, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

In testimony whereof I have hereunto subscribed my name and affixed the corporate seal of the said Corporations

this <u>18th</u> day of <u>June</u>, 20 <u>25</u>



By: Mary A Bertsch

Assistant Secretary, UF&C & UF&I & FPIC

mm C INSI CORPORATI CORPORAT JULY 22 1986 SEAL SEAL ALIFOR RAPIT

State of Iowa, County of Linn, ss:

	Bond No. 54260214			
CONSENT OF SURETY TO FINAL PAYMENT		OWNER ARCHITECT		
AlA Document G707		CONTRACTOR SURETY		
(Instructions on reverse side)		OTHER		
TO OWNER: (Name and address)	ARCHITECT'S PROJECT	NO.:		
Lower Minnesota River Watershed District 112 5th Street East, Suite 102 Chaska, MN 55318	CONTRACT FOR:			
PROJECT: (Name and address)	CONTRACT DATED: Oct	ober 22, 2024		
Spring Creek Stabilization				
In accordance with the provisions of the Contract between the Own	er and the Contractor as indicat	od aboves the		
(Insert name and address of Surety)	er and the contractor as indicat	ed above, the		
United Fire & Casualty Company 118 2nd Ave. SE				
Cedar Rapids, IA 52407			CI IDPPE	
on bond of		,	SURETY,	
Insert name and address of Contractor)				
Sunram Construction, Inc. 20010 75th Avenue North				
Corcoran, MN 55340				
nereby approves of the final payment to the Contractor, and agrees iny of its obligations to <i>Insert name and address of Owner</i> )	that final payment to the Contr		RACTOR, Surety of	
Lower Minnesota River Watershed District 112 5th Street East, Suite 102 Chaska, MN 55318				
is set forth in said Surety's bond.		,	OWNER,	
N WITNESS WHEREOF, the Surety has hereunto set its hand on this Insert in writing the month followed by the numeric date and year.)	sdate: June 10, 2025			
	United Fire & Casualty	Company		
	1 Leola Ma	2		
	(Signature of autborized representati	ire)		
seal): Suerra MQuorel	Nicole M. Coty (Printed name and title)	Attorney-in-	fact	
AIA CAUTION: You should sign an original AIA original assures that changes will not be obso See Instruction Sheet for Limited License for F	cured as may occur when	documents are repro	ed. An duced.	

AIA DOCUMENT G707 • CONSENT OF SURETY TO FINAL PAYMENT • 1994 EDITION • 'AIA ©1994 • THE AMERICAN INSTITUTE OF ARCHITECTS, 1735 NEW YORK AVENUE, NW, WASH-INGTON, D.C. 20006-5292 • WARNING: Unlicensed photocopying violates U.S. copyright laws and will subject the violator to legal prosecution.

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# **INSTRUCTION SHEET**

#### FOR AIA DOCUMENT G707, CONSENT OF SURETY TO FINAL PAYMENT

#### A. GENERAL INFORMATION

#### 1. Purpose

This document is intended for use as a companion to AIA Document G706. Contractor's Affadavit of Payment of Debts and Claims, on construction projects where the Contractor is required to furnish a bond. By obtaining the Surety's approval of final payment to the Contractor and its agreement that final payment will not relieve the Surety of any of its obligations, the Owner may preserve its rights under the bond.

#### 2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. As noted above, this is a companion document to AIA Document G706.

#### 3. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents List to determine the current edition of each document.

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#### B. CHANGES FROM THE PREVIOUS EDITION

Changes in the location of various items of information were made, without revision to the substance of the document.

#### C. COMPLETING THE G707 FORM

GENERAL: The bond form is the usual source of required information such as the contract date and the names and addresses of the Surety. Owner, Contractor and Project.

ARCHITECT'S PROJECT NO.: This information is typically supplied by the Architect and entered on the form by the Contractor.

CONTRACT FOR: This refers to the scope of the contract, such as "General Construction" or "Mechanical Work".

#### D. EXECUTION OF THE DOCUMENT

The  $G^{-}0^{-}$  form requires both the Surety's seal and the signature of the Surety's authorized representative.



#### UNITED FIRE & CASUALTY COMPANY, CEDAR RAPIDS, IA UNITED FIRE & INDEMNITY COMPANY, WEBSTER, TX FINANCIAL PACIFIC INSURANCE COMPANY, LOS ANGELES, CA CERTIFIED COPY OF POWER OF ATTORNEY (original on file at Home Office of Company – See Certification)

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their true and lawful Attorney(s)-in-Fact with power and authority hereby conferred to sign, seal and execute in its behalf all lawful bonds, undertakings and other obligatory instruments of similar nature provided that no single obligation shall exceed \$50,000,000.00 and to bind the Companies thereby as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Companies and all of the acts of said Attorney, pursuant to the authority hereby given and hereby ratified and confirmed.

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UNITED FIRE & CASUALTY COMPANY UNITED FIRE & INDEMNITY COMPANY FINANCIAL PACIFIC INSURANCE COMPANY

By: Lyan De Vice President

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Patti Waddell Iowa Notarial Seal Commission number 713274 My Commission Expires 10/26/2025

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Hati Wall Notary Public

My commission expires: 10/26/2025

I, Mary A. Bertsch, Assistant Secretary of United Fire & Casualty Company and Assistant Secretary of United Fire & Indemnity Company, and Assistant Secretary of Financial Pacific Insurance Company, do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Section of the bylaws and resolutions of said Corporations as set forth in said Power of Attorney, with the ORIGINALS ON FILE IN THE HOME OFFICE OF SAID CORPORATIONS, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect.

In testimony whereof I have hereunto subscribed my name and affixed the corporate seal of the said Corporations

this <u>10th</u> day of <u>June</u>, 20<u>25</u>.



By: Mary A Bertsch

Assistant Secretary, UF&C & UF&I & FPIC

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State of Iowa, County of Linn, ss:

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# Spring Creek Site Visit Photos

June 23, 2025



# Remaining BMPs to be removed by Sunram







# Remaining BMPs to be removed by Sunram



# Vegetation status









# Vegetation status







# Pre-construction









# Pre-construction







# Pre-construction







Site Access Post Construction







To:	Landowners
From:	William Stencel, ISG Plant Ecologist
Contact:	507.995.0632
Date:	April 17, 2025

# STREAMBANK VEGETATION INSTALLATION AND MAINTENANCE

This document has been created to provide landowners with clear expectations for the upcoming streambank stabilization project on their property. It outlines how erosion control products, seed mixes, and live (potted) plants are expected to perform during the first three years and beyond. The goal is to provide transparency regarding the installation timeline and performance expectations. Seed and erosion control blankets were installed in November 2024 and potted plants expected to be planted in mid-May or early June, 2025. Additionally, there will be a three-year warranty on all live plants, covering any that fail to establish or perform adequately during this period.

#### Seed Establishment

This section outlines the composition of the seed mix, which includes a variety of native grasses, sedges, and forbs suited to streambank conditions. These species have deep root systems that will enhance soil stability over time. In addition to the seed mix, potted plants will be added to accelerate vegetation cover in erosion prone areas.

Landowners can support the establishment of this buffer by choosing to monitor plant growth, manage invasive species, and informing the contractor of any damage to erosion control blankets or live plantings. Proper management during the first few years will ensure long-term erosion protection and good native species cover.



Flowering species included in the 34-261 Riparian South and West Seed Mix. For a complete list of species, please refer to the final page.

# Streambank Vegetation Installation And Maintenance

## Seed Mix Expectations: 34-261 Riparian South and West Seed Mix

The best long-term solution for controlling erosion along streambanks is the establishment of a thick, vegetated buffer. The root systems of native plants stabilize the soil, reduce erosion, capture excess nutrients, and dissipate the energy of water flowing downstream. To support this process, erosion control blankets will be installed to provide immediate stabilization, allowing the seed mix to establish with minimal disturbance.

The 34-261 Riparian South and West MnDOT Seed Mix has been selected for this project to establish a diverse and resilient plant community suited to streambank conditions. In the first few years after construction, early establishing species such as Virginia wild rye and riverbank wild rye will take root quickly, stabilizing the soil. Other species, including tall coneflower, blue vervain, ironweed, and spotted touch-me-nots, will thrive in part-shade areas along small streams. The seed mix is designed to grow beneath other plantings, forming a complex root system that secures the soil and reduces erosion.

In wetter, sunnier areas, you can expect to see species like sneezeweed, giant sunflower, lobelia, Joe-Pye weed, spotted touchme-nots, and marsh milkweed during the early years. By year three, the mix will mature into a rich blend of sedges, flowering perennials, and grasses.

## Year 1: Early Growth and Weed Control

Plant Development:

Most native species will remain short and discreet during the first year. You may notice agricultural weeds such as ragweed, barnyard grass, or foxtail barley. While these weeds are common, they are not typically a cause for concern at this stage.

Weed Management:

To manage weed growth, mow weedy species to about 6 inches throughout June-August. This will prevent them from going to seed, while also allowing sunlight to reach the seedlings of the native seed mix.

## Year 2: Establishment of Native Species and Weed Control

Plant Development:

By the second year, native species should be well-established. The most prominent species will likely include rye grass, bluegrass, and prairie cord grass. You may also see flowering plants such as swamp milkweed, boneset, sneezeweed, great blue lobelia, spotted touch-me-not, cut-leaf coneflower, blue vervain, and ironweed. This year is still an important time to monitor invasive species, as early detection is crucial.

Flowering Period:

The peak flowering season for many of the listed species is from early July to late August, with some stragglers blooming before or after this period.

## Year 3: Maturation and Long-Term Stability

Plant Development:

By the third year, perennials will have reached full maturity, and the plant community will be more resistant to invasive species. This is when plants achieve their flowering potential, and the most successful species will persist long-term.

<u>Monitoring:</u>

Although the community will be more stable, it is important to continue monitoring invasive species and take appropriate action to prevent any threats to the habitat.

#### Live Plant Establishment

To reestablish native vegetation along the banks of Spring Creek, a wide variety of native potted plants will be planted. The selection of these plants is based on research into the natural vegetation typically found within this habitat type, ensuring that the restoration efforts effectively mimic local ecosystems. These species were chosen not only for their ecological value in stabilizing the streambank and enhancing biodiversity but also for their aesthetic qualities, which will improve the visual appeal of the area. This dual focus on ecological function and beauty aims to create a vibrant and sustainable habitat that benefits both wildlife and erosion control.

Here is a comprehensive list of the key species that will be planted:

Chokecherry	Nannyberry	Downy Viburnum	Ninebark	Black Raspberry	Spotted Joe Pye
Spotted Geranium	Virginia Creeper	Obedient Plant	Solomon's Seal	Goldenrod	Sprengel's Sedge



From left to right starting on the top row, Obedient plant, Goldenrod, Spotted Geranium, Solomon's Seal, Spotted Joe-Pye, and Sprengel's Sedge.

# Streambank Vegetation Installation And Maintenance

#### **Invasive Species Management**

In the first one to two years following construction, effective management of invasive species is essential to ensure the success of the restoration project. This habitat faces significant threats from aggressive invaders such as buckthorn, Canada thistle, reed canary grass, Tatarian honeysuckle, and garlic mustard. While there are many other potential invaders, these species pose the greatest risk to newly established plantings. Invasive species can exacerbate erosion by creating "dead zones" underneath their dense growth, where native plants are unable to thrive. In contrast, diversity in native species contributes to erosion control by establishing robust root systems that hold soil in place. Early detection and prompt action against invasive species is critical. Addressing these invaders at the onset can prevent more extensive issues down the line and safeguard the health of the landscape.

#### Buckthorn (Rhamnus cathartica and Frangula alnus)

- Description: Buckthorn is a small tree or shrub adapted to shaded environments. It produces chemical compounds that suppress the growth of native species.
- Origin: Originally from Europe, it was brought to North America as a hedge plant and has since escaped cultivation.
- Management: Remove saplings promptly if spotted early. For older specimens, apply a trunk treatment to effectively kill the plant.





#### Canada Thistle (Cirsium arvense)

- **Description:** Canada thistle is an herbaceous, fastgrowing plant that can reach heights of 3 to 4 feet and features sharp spines.
- Origin: Native to Europe, it was accidentally introduced to North America through the seed trade in the 1700s and has become a problematic pest in agricultural and urban areas.
- Management: Spot spray with a broadleaf herbicide while the plant is in flower, followed by a fall application (preferably August to September). If chemicals cannot be used, hand-pull the plants during the same time frame. It is crucial to eliminate the plant as soon as it is spotted, as established populations can be nearly impossible to control.

ISG



#### Tatarian Honeysuckle (Lonicera tatarica)

- **Description:** Tatarian honeysuckle is an Asian introduction that can disrupt native plant communities. It releases chemicals into the soil like buckthorn, harming native species. This multi-stem shrub can reach heights of up to 10 feet, with fragrant flowers in spring and red berries in fall that are spread by birds.
- Management: Seedlings can be hand-pulled. Larger plants should be treated with a stump herbicide treatment.

#### Reed Canary Grass (Phalaris arundinacea)

- Description: Reed canary grass is known for its aggressive growth, rapidly overtaking landscapes and forming dense mats that inhibit the growth of other species. It primarily thrives in wet areas and tends to not invade dry upland sites.
- Management: Hand-pulling or digging out the plant with a shovel can be effective for small infestations. For larger populations, repeated mowing can set back growth and allow native species to regenerate. Herbicidal control, such as glyphosate, can be used to systemically kill all parts of the plant if applied in the late fall.



Garlic Mustard (Alliaria petiolata)

**Description**: Garlic mustard is an herbaceous plant that was introduced to North America in the 1800s for culinary use. It produces tiny seeds that can stick to mud and form thick mats that outcompete native plants.

**Management:** This plant is primarily noticeable in the early part of the growing season. It is relatively easy to remove if caught early, but several years of pulling may be necessary for eradication.





Description: 34-261 Riparian South & West Mix

Seeding Rate: 31.5 lb/acre (198.8 seeds/square foot)

Notes: Native riparian and floodplain plantings for wetland mitigation, ecological restoration, or general permanent cover after culvert or bridge work. Tolerates partial shade.

Common Name	Scientific Name	% of Mix	Seeds/ft <sup>2</sup>	Total	
Grasses					
American Sloughgrass	Beckmannia syzigachne	4.32%	25.0	1.360 PLS lb	
Riverbank Wild Rye	Elymus riparius	1.59%	0.5	0.500 PLS lb	
Virginia Wild Rye	Elymus virginicus	5.56%	2.7	1.750 PLS lb	
American Manna Grass	Glyceria grandis	0.79%	6.4	0.250 PLS lb	
Fowl Manna Grass	Glyceria striata	0.29%	5.3	0.090 PLS Ib	
Rice Cut Grass	Leersia oryzoides	0.51%	2.0	0.160 PLS lb	
Fowl Bluegrass	Poa palustris	2.67%	40.1	0.840 PLS lb	
Prairie Cord Grass	Spartina pectinata	0.95%	0.7	0.300 PLS lb	
Sedges & Rushes					
Pointed-broom Sedge	Carex scoparia	0.19%	1.9	0.060 PLS Ib	
Tussock Sedge	Carex stricta	0.13%	0.8	0.040 PLS Ib	
Brown Fox Sedge	Carex vulpinoidea	0.63%	7.3	0.200 PLS Ib	
Path Rush	Juncus tenuis	0.10%	11.0	0.030 PLS lb	
Dark Green Bulrush	Scirpus atrovirens	0.38%	20.3	0.120 PLS lb	
Woolgrass	Scirpus cyperinus	0.16%	31.2	0.050 PLS lb	
Forbs					
Swamp Milkweed	Asclepias incarnata	0.38%	0.2	0.120 PLS lb	
Boneset	Eupatorium perfoliatum	0.10%	1.8	0.030 PLS lb	
Joe Pye Weed	Eutrochium maculatum	0.19%	2.1	0.060 PLS lb	
Sneezeweed	Helenium autumnale	0.16%	2.4	0.050 PLS Ib	
Giant Sunflower	Helianthus giganteus	0.22%	0.3	0.070 PLS lb	
Spotted Touch-me-not	Impatiens capensis	0.16%	0.1	0.050 PLS lb	
Great Blue Lobelia	Lobelia siphilitica	0.10%	5.5	0.030 PLS lb	
Monkey Flower	Mimulus ringens	0.03%	8.4	0.010 PLS lb	
Virginia Mountain Mint	Pycnanthemum virginianum	0.16%	4.0	0.050 PLS lb	
Cutleaf Coneflower	Rudbeckia laciniata	0.16%	0.3	0.050 PLS lb	
Giant Goldenrod	Solidago gigantea	0.06%	1.8	0.020 PLS lb	
Blue Vervain	Verbena hastata	0.48%	5.1	0.150 PLS lb	
Common Ironweed	Vernonia fasciculata	0.19%	0.5	0.060 PLS lb	
Cover Crop					
Oats/Winter Wheat	Avena sativa/Triticum aestivum	79.37%	11.0	25.000 PLS lb	

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Here is an example list of species that will be planted in the 34-261 seed mix under the erosion control blanket for context.