

KINGSBURY CREEK SEDIMENT REMOVAL AND BANK STABILIZATION ESTIMATE OF QUANTITIES				
No.	Item #	Item Description	Unit	Estimated Quantity
1	2021.501	MOBILIZATION	LS	1
2	2101.502	CLEARING	EACH	2
3	2101.507	GRUBBING	EACH	2
4	2105.501	COMMON EXCAVATION	CY	270
5	2105.511	COMMON CHANNEL EXCAVATION	CY	4145
6	2105.525	TOPSOIL BORROW (CV)	CY	1900
7	2123.501	COMMON LABORERS	HR	10
8	2563.601	TRAFFIC CONTROL	LS	1
9	2572.501	TEMPORARY FENCE	LF	1400
10	2573.502	SILT FENCE	LF	450
11	2573.505	FLOATING SILT CURTAIN TYPE FLOWING WATER	LF	120
12	2573.540	FILTER LOG TYPE WOOD FIBER BIOROLL	LF	1582
13	2575.502	SEED MIXTURE 260	LB	226
14	2575.523	EROSION CONTROL BLANKET CATEGORY 3 (NATURAL NETTING AND STITCHING)	SY	10940
15	2575.532	FERTILIZER TYPE 3, 22-5-10 ANALYSIS	LB	226
16	SP-6	HAND REMOVAL OF SEDIMENT	CY	105
17	SP-10	REMOVE SOLID WASTE	CY	9
19	SP-12	SALVAGE BOULDERS	EACH	50
18	SP-17	WATER HANDLING/DEWATERING	LS	1
20	SP-18	ON SITE EQUIPMENT	HR	10
21	SP-19	TEMPORARY ROCK CONSTRUCTION ENTRANCE	EACH	1
22	SP-23	PERMANENT SEEDING (SEED MIXTURE 260 AND HYDRAULIC SOIL STABILIZER TYPE 6)	AC	3
23	SP-25	SITE ACCESS	LS	1

MISSION CREEK DEBRIS REMOVAL AND BANK STABILIZATION ESTIMATE OF QUANTITIES				
No.	Item #	Item Description	UNIT	Estimated Quantity
1	2021.501	MOBILIZATION	LS	1
2	2101.502	CLEARING	EACH	100
3	2104.521	SALVAGE & REINSTALL CHAIN LINK FENCE	LF	200
4	2123.501	COMMON LABORERS	HR	40
5	2563.601	TRAFFIC CONTROL	LS	1
6	2573.502	SILT FENCE	LF	1000
7	2573.540	FILTER LOG TYPE WOOD FIBER BIOROLL (6" DIAMETER)	LF	2933
8	2575.502	SEED MIXTURE 150	LB	300
9	2575.523	FERTILIZER TYPE 3, 22-5-10 ANALYSIS	LB	156
10	2575.532	EROSION CONTROL BLANKET CATEGORY 3 (NATURAL NETTING AND STITCHING)	SY	7563
11	2577.501	WATTLING	LF	1082
12	2577.505	LIVE STAKES	EACH	31000
13	SP-7	SALVAGE AND INSTALL ROOTWAD	EACH	91
14	SP-8	REMOVE WOODY DEBRIS	CY	1290
15	SP-10	REMOVE SOLID WASTE	CY	55
16	SP-11	SALVAGE PRECAST CONCRETE BARRIERS	EACH	13
17	SP-13	SALVAGE AND INSTALL ROCK	CY	280
18	SP-15	BANK STABILIZATION B	LF	541
19	SP-16	BANK STABILIZATION C	LF	2392
20	SP-18	ON SITE EQUIPMENT	HR	40
21	SP-19	TEMPORARY ROCK CONSTRUCTION ENTRANCE	EACH	6
22	SP-21	HYDROSEEDING (STOCKPILE AREA)	AC	2.5
23	SP-23	PERMANENT SEEDING (SEED MIXTURE 305 AND HYDRAULIC SOIL STABILIZER TYPE 6)	AC	3
24	SP-25	SITE ACCESS	LS	1

GENERAL NOTES

1. ALL CONSTRUCTION WORK SHALL FOLLOW THE SWPPP THAT HAS BEEN PREPARED FOR THIS PROJECT AND IS INCLUDED IN THE SPECIFICATIONS. EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO WORK IN EACH AREA.
2. CARE SHALL BE TAKEN TO MINIMIZE DISTURBANCE TO EACH STREAM.
3. ALL EXPOSED WORK AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN 24 HOURS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS CEASED.
4. THE CONTRACTOR SHALL MAINTAIN A 10 PERCENT STOCKPILE OF EROSION CONTROL DEVICES AT EACH SITE AT ALL TIMES FOR IMMEDIATE USAGE.

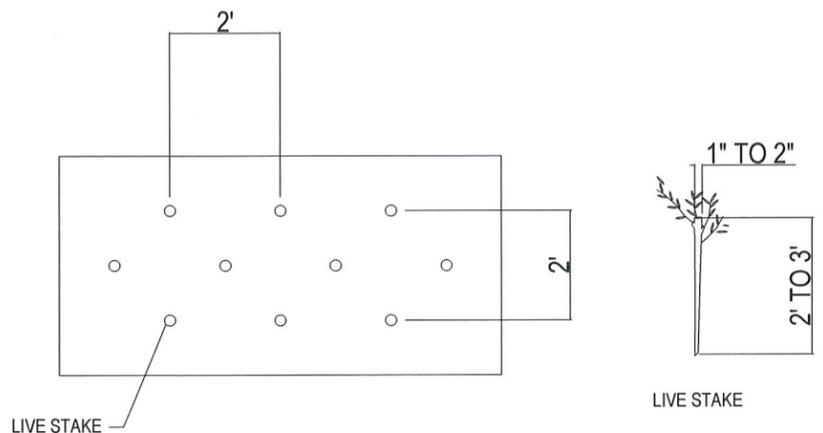
KINGSBURY CREEK NOTES

1. 6 INCHES OF TOPSOIL IS REQUIRED IN AREAS THAT ARE TO BE SEEDED.
2. UPPER POND - BOULDERS GREATER THAN 3 FT DIAMETER DO NOT NEED TO BE REMOVED.

GENERAL NOTES

1. WOOD FIBER BIOROLL SHALL BE PLACED AROUND WORK AREAS IN ORDER TO MINIMIZE SEDIMENTATION INTO THE STREAM.
2. EXCESS SOIL FROM BANK STABILIZATION C CAN BE STOCKPILED IN THE STOCKPILE AREA.
3. THE STOCKPILE AREA SHALL BE HYDROSEEDED UPON COMPLETION OF THE PROJECT AND NO LATER THAN 7 DAYS AFTER THE AREA IS NOT ACTIVELY BEING USED. THIS INCLUDES ANY STOCKPILED MATERIAL THAT IS TO REMAIN AT THE SITE.
4. WORK WILL REQUIRE CROSSING THE STREAM. USE OF WOODY DEBRIS FOR STREAM CROSSINGS IS ENCOURAGED TO MINIMIZE DISTURBANCE TO THE STREAM. STREAM CROSSING LOCATIONS SHALL BE APPROVED BY THE ENGINEER IN THE FIELD.

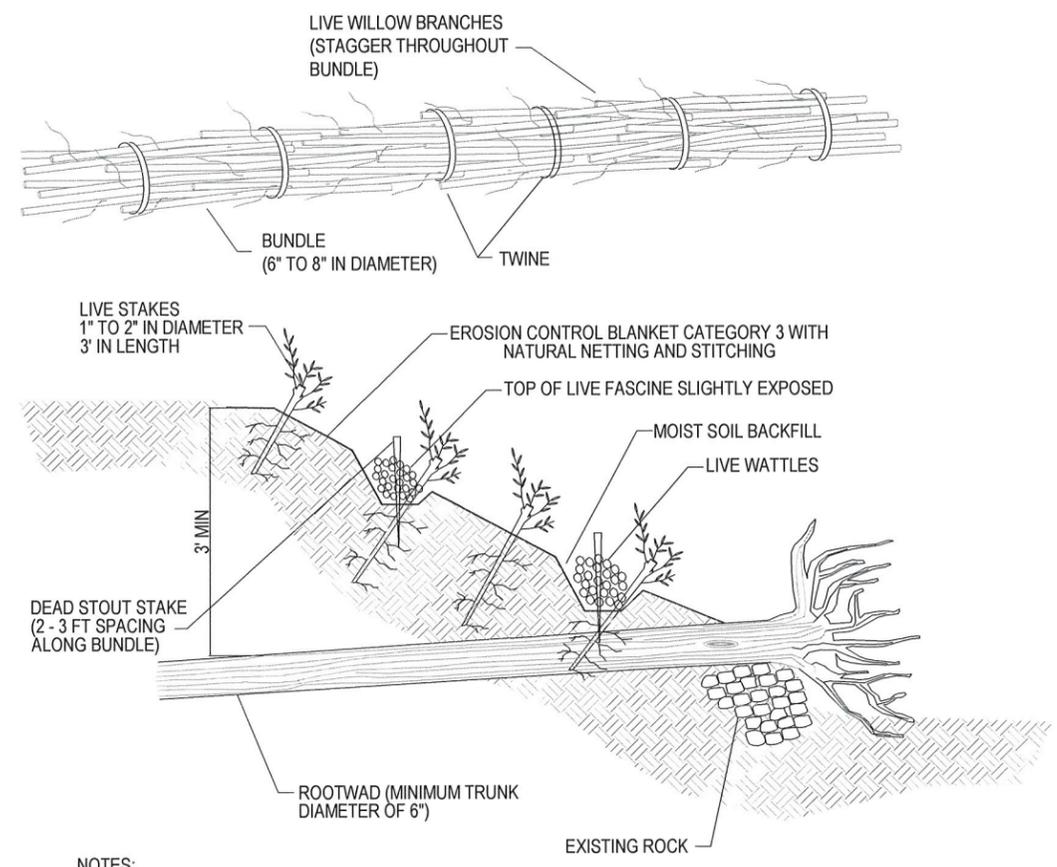
 <p>Water Environment Scientists Engineers</p> <p>7300 HUDSON BLVD STE 295 OAKDALE, MN 55128 PHONE: (651) 330-6038</p>	<p>I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p>JEREMY WALGRAVE, P.E.</p> <p><i>Jeremy Walgrave</i> SIGNATURE</p> <p>9/30/13 DATE 43131 LIC. NO.</p>	<p>KINGSBURY & MISSION CREEK</p>		<p>2</p>								
		<p>REVISIONS</p> <table border="1"> <tr> <th>DATE</th> <th>BY</th> </tr> <tr> <td>09/30/13</td> <td>JW</td> </tr> </table>	DATE		BY	09/30/13	JW	<p>GENERAL NOTES</p> <table border="1"> <tr> <td>PROJECT MANAGER: JW</td> <td>DRAFTING: GZ</td> </tr> <tr> <td>DESIGN: MZ</td> <td>CHECKED BY: NG</td> </tr> <tr> <td colspan="2">DATE: September 30, 2013</td> </tr> </table>		PROJECT MANAGER: JW	DRAFTING: GZ	DESIGN: MZ
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NOTES:

- BANK STABILIZATION A AS INDICATED ON THE PLANS CONSISTS OF INSTALLING LIVE STAKES AS INDICATED IN THE DRAWINGS AND STANDARD SPECIFICATIONS. NO DIRECT COMPENSATION WILL BE MADE FOR BANK STABILIZATION A. PAYMENT FOR THIS WORK IS INCLUDED UNDER ITEM # 2577.505 LIVE STAKES.

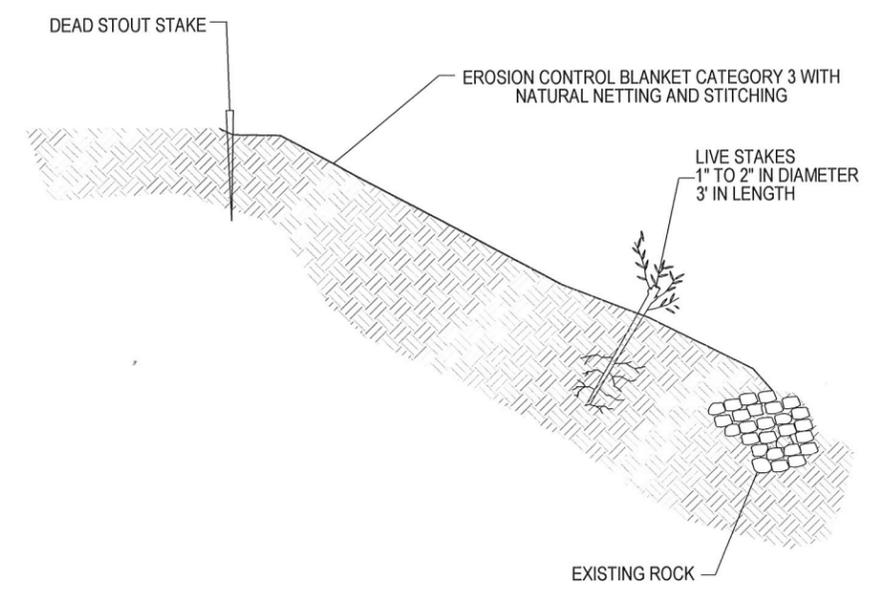
**BANK STABILIZATION A DETAIL
(PLAN VIEW)
N.T.S.**



NOTES:

- ROOTWADS SHALL HAVE A MINIMUM TRUNK DIAMETER OF 6". ROOTWADS SHALL BE A MINIMUM OF 20' LENGTH. ROOTWADS MAY REQUIRE CUTTING IN ORDER TO ELIMINATE EXCAVATION DURING PLACEMENT.
- SEE MNDOT STANDARD SPECIFICATION 2577 FOR ADDITIONAL DETAILS ON LIVE STAKE AND WATTLE INSTALLATION
- TEMPORARY MNDOT SEED MIX 150 (100 LBS/AC)
- PERMANENT SEEDING TO BE COMPLETED IN SPRING 2014 IN ACCORDANCE WITH THE SPECIAL PROVISIONS
- MNDOT FERTILIZER TYPE 3 (22-5-10) (100 LBS/AC)

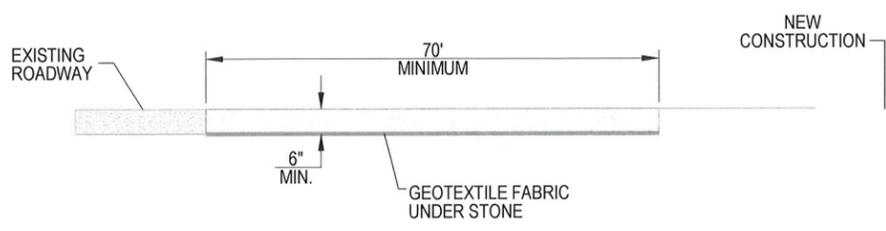
**BANK STABILIZATION B DETAIL
(SECTION VIEW)
N.T.S.**



NOTES:

- BANK GRADING OF STREAM BANKS IS REQUIRED. 1:3 MAXIMUM SLOPES WHERE ACHIEVABLE WITHOUT REMOVAL OF TREES. BLEND SLOPES IF 1:3 IS NOT ACHIEVABLE
- TEMPORARY MNDOT SEED MIX 150 (100 LBS/AC)
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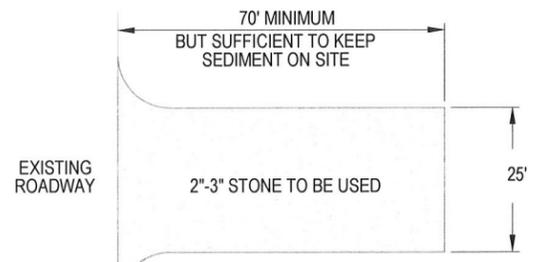
**BANK STABILIZATION C DETAIL
(SECTION VIEW)
N.T.S.**



**ROCK CONSTRUCTION ENTRANCE
DETAIL
(CROSS SECTION VIEW)
N.T.S.**

NOTES:

- INSTALL SILT FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED.
- STONE SHALL BE WASHED ROCK.



**ROCK CONSTRUCTION ENTRANCE
DETAIL
(PLAN VIEW)
N.T.S.**

NOTES

- INSTALL CONSTRUCTION ENTRANCE AND SILT FENCE PRIOR TO LAND DISTURBING ACTIVITY
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 24 HOURS
- CONTRACTOR TO PROTECT TREES FROM DAMAGE

<p>Water Environment Scientists Engineers</p> <p>7300 HUDSON BLVD STE 295 OAKDALE, MN 55128 PHONE: (651) 330-6038</p>	<p>I HEREBY CERTIFY THAT THIS PLAN 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.</p> <p>JEREMY WALGRAVE, P.E. <i>Jeremy Walgrave</i> SIGNATURE</p> <p>9/30/13 DATE</p> <p>43131 LIC. NO.</p>	<p>KINGSBURY & MISSION CREEK</p>		<p>EROSION AND SEDIMENT CONTROL DETAILS 2</p>	<p>4</p>	
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LEGEND

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-  SOLID WASTE DEBRIS REMOVAL
-  STOCKPILE AND STAGING AREA
-  STORM SEWER INLET
-  STRUCTURE
-  WOODY DEBRIS REMOVAL

NOTES

1. CONTOURS ARE FROM FALL 2012 POST-FLOOD LIDAR FLIGHT.
2. A PRE AND POST CONSTRUCTION WALK THROUGH SHALL BE CONDUCTED WITH THE CITY AND/OR THE CITY'S REPRESENTATIVE IN ORDER TO DOCUMENT THE EXISTING CONDITION OF INFRASTRUCTURE, FACILITIES, AND TURF WITHIN THE PROJECT AREA.
3. LOCATION OF DEBRIS ARE APPROXIMATE AND MAY HAVE CHANGED AS THE RESULT OF FLOW EVENTS.

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 Water | Scientists | Engineers
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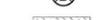
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REVISIONS		MISSION CREEK		PANEL
DATE	BY	DEBRIS REMOVAL AND BANK STABILIZATION 1		
09/30/13	JW	PROJECT MANAGER: JW	DRAFTING: GZ	MC1
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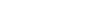
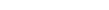
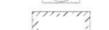
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REVISIONS		MISSION CREEK		PANEL
DATE	BY	DEBRIS REMOVAL AND BANK STABILIZATION 2		MC2
09/30/13	JW	PROJECT MANAGER: JW	DRAFTING: GZ	17
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DEBRIS REMOVAL AND BANK STABILIZATION 3		PANEL
PROJECT MANAGER: JW	DRAFTING: GZ	MC3
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DATE: September 30, 2013		



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09/30/13	JW	PROJECT MANAGER: JW	DRAFTING: GZ	MC5 20
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09/30/13	JW			MC7
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-  GAS LINE
-  OVERHEAD POWER
-  PARCEL BOUNDARY
-  ROAD
-  SANITARY LINE
-  STORM SEWER PIPE
-  STREAM CENTERLINE
-  TRAIL
-  WATER LINE
-  BANK STABILIZATION A
-  BANK STABILIZATION B
-  BANK STABILIZATION C
-  SALVAGE BARRIER
-  BRIDGE
-  PIPE INLET/OUTLET
-  ROCK SALVAGE AREA
-  SOLID WASTE DEBRIS REMOVAL
-  STOCKPILE AND STAGING AREA
-  STORM SEWER INLET
-  STRUCTURE
-  WOODY DEBRIS REMOVAL

NOTES

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3. LOCATION OF DEBRIS ARE APPROXIMATE AND MAY HAVE CHANGED AS THE RESULT OF FLOW EVENTS.

LimnoTech
 Water Environment | Scientists Engineers

7300 HUDSON BLVD STE 295
 OAKDALE, MN 55128
 PHONE: (651) 330-6038

I HEREBY CERTIFY THAT THIS PLAN 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.

JEREMY WALGRAVE, P.E.
Jeremy Walgrave
 SIGNATURE
 9/30/13 DATE
 43131 LIC. NO.

REVISIONS		MISSION CREEK		PANEL
DATE	BY	DEBRIS REMOVAL AND BANK STABILIZATION 8		
09/30/13	JW	PROJECT MANAGER: JW	DRAFTING: GZ	MC8
		DESIGN: MZ	CHECKED BY: NG	
		DATE: September 30, 2013		



LEGEND

- CABLE LINE
- CONTOUR
- FENCE
- GAS LINE
- OVERHEAD POWER
- PARCEL BOUNDARY
- ROAD
- SANITARY LINE
- STORM SEWER PIPE
- STREAM CENTERLINE
- TRAIL
- WATER LINE
- BANK STABILIZATION A
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DATE	BY	DEBRIS REMOVAL AND BANK STABILIZATION 9		
09/30/13	JW	PROJECT MANAGER: JW	DRAFTING: GZ	MC9
		DESIGN: MZ	CHECKED BY: NG	
		DATE: September 30, 2013		



LEGEND

-  CABLE LINE
-  CONTOUR
-  FENCE
-  GAS LINE
-  OVERHEAD POWER
-  PARCEL BOUNDARY
-  ROAD
-  SANITARY LINE
-  STORM SEWER PIPE
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DATE	BY	DEBRIS REMOVAL AND BANK STABILIZATION 10		
09/30/13	JW	PROJECT MANAGER: JW	DRAFTING: GZ	MC10
		DESIGN: MZ	CHECKED BY: NG	
		DATE: September 30, 2013		25



LEGEND

- CABLE LINE
- CONTOUR
- FENCE
- GAS LINE
- OVERHEAD POWER
- PARCEL BOUNDARY
- ROAD
- SANITARY LINE
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		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>REVISIONS</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td> </td> <td>09/30/13</td> <td>JW</td> </tr> </table>	REVISIONS		DATE	BY		09/30/13	JW
REVISIONS	DATE	BY							
	09/30/13	JW							
PROJECT MANAGER: JW DRAFTING: GZ DESIGN: MZ CHECKED BY: NG DATE: September 30, 2013									



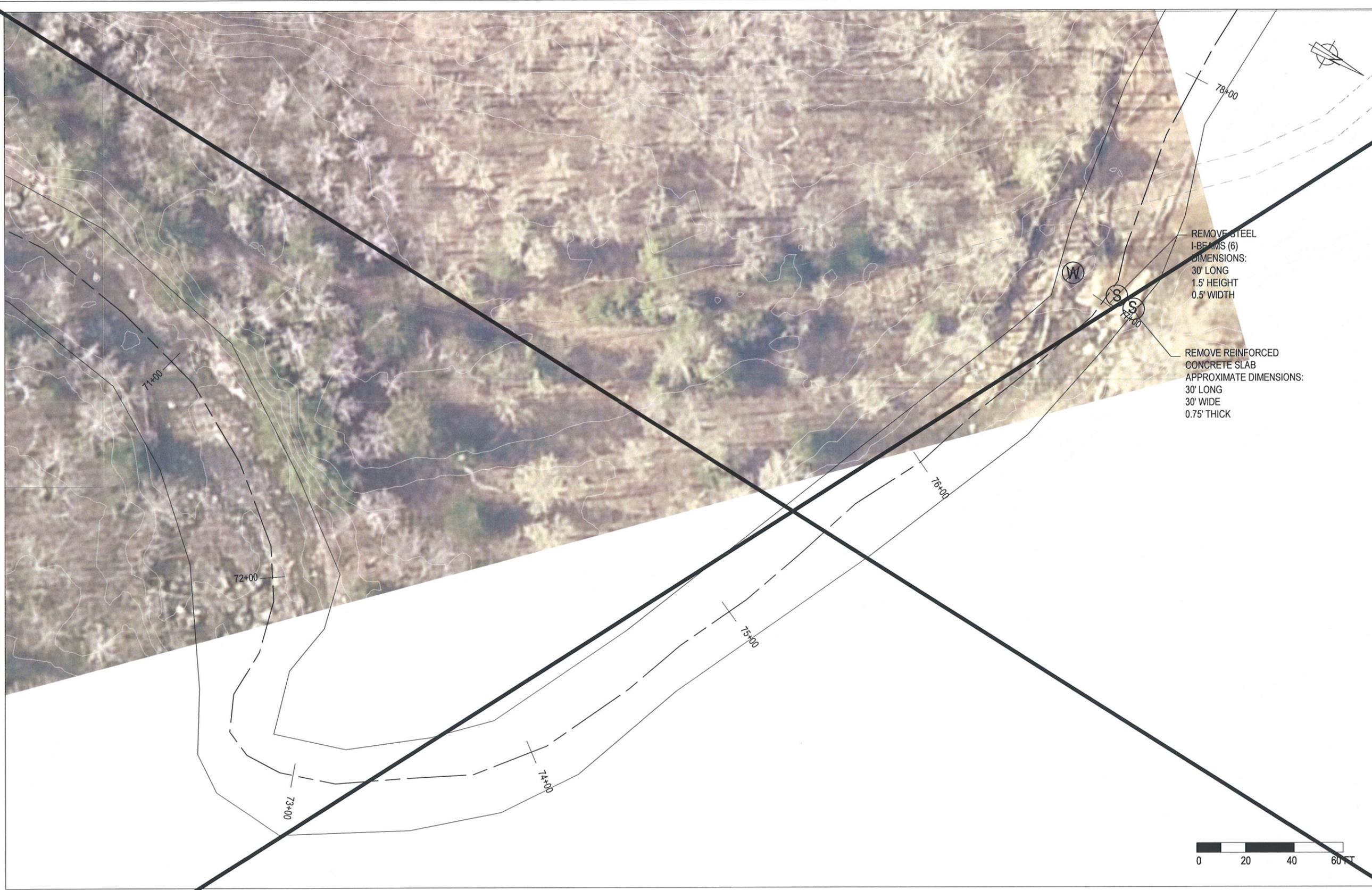
LEGEND

-  CABLE LINE
-  CONTOUR
-  FENCE
-  GAS LINE
-  OVERHEAD POWER
-  PARCEL BOUNDARY
-  ROAD
-  SANITARY LINE
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 <p style="font-size: small;">Water Environment Scientists Engineers</p> <p style="font-size: x-small;">7300 HUDSON BLVD STE 295 OAKDALE, MN 55128 PHONE: (651) 330-6038</p>	<p style="font-size: x-small;">I HEREBY CERTIFY THAT THIS PLAN 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.</p> <p style="text-align: center; font-size: x-small;">JEREMY WALGRAVE, P.E.</p> <p style="text-align: center;"><i>Jeremy Walgrave</i> SIGNATURE</p> <p style="text-align: center;">9/30/13 43131 DATE LIC. NO.</p>	<p>MISSION CREEK</p>		<p>PANEL</p> <p>MC12</p>					
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="font-size: x-small;">REVISIONS</th> <th style="font-size: x-small;">DATE</th> <th style="font-size: x-small;">BY</th> </tr> <tr> <td style="font-size: x-small;"> </td> <td style="font-size: x-small;">09/30/13</td> <td style="font-size: x-small;">JW</td> </tr> </table>	REVISIONS		DATE	BY		09/30/13	JW
REVISIONS	DATE	BY							
	09/30/13	JW							
<p>PROJECT MANAGER: JW DRAFTING: GZ</p> <p>DESIGN: MZ CHECKED BY: NG</p> <p>DATE: September 30, 2013</p>									



LEGEND

	CABLE LINE
	CONTOUR
	FENCE
	GAS LINE
	OVERHEAD POWER
	PARCEL BOUNDARY
	ROAD
	SANITARY LINE
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		<table border="1"> <tr><th colspan="2">REVISIONS</th></tr> <tr><th>DATE</th><th>BY</th></tr> <tr><td>09/30/13</td><td>JW</td></tr> </table>	REVISIONS		DATE	BY	09/30/13	JW	<p>DEBRIS REMOVAL AND BANK STABILIZATION 13</p> <p>PROJECT MANAGER: JW DRAFTING: GZ</p> <p>DESIGN: MZ CHECKED BY: NG</p> <p>DATE: September 30, 2013</p>
REVISIONS									
DATE	BY								
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