



Pine Creek Habitat Improvement Plan Summary

Stream: Pine Creek - Jacobson/Kopperud Section Date: 8/8/2012 Stream Mile/Reach: Phase 2

Station (GPS)	Bank	Side	Length (ft.)	Rip Rap (yds.)	Flat Rock (yds.)	Structures	Comments
N 43 51 691 W 091 49 561							
1	RB	RB	0-100	26		RR, CR, SS	RipRap point, add Cover Rock, Slope and Seed.
2	LB	RB	100-180	66		RR, CR, SS	RipRap armor bank, add Cover Rock, Slope and Seed.
3	RB	RB	170-270	91	26	RR, CR, SS	Add 5 Sky Hooks, Add Rock Weir at approx. 200, RipRap armor bank.
4	LB	RB	300-400	66		SSH, RW, RR, SS	Install Rock Weir at approx. 370, Cover Rock from 400-450, Add Rock Vein, Slope and Seed bank.
POR			400				POR, Gate at 400, Large Berr Tree at 500
5	LB	RB	550-1000	130		RV, CR, SS	Large straight away near road, add Rock Vein, Cover Rock, Slope and Seed as needed.
6	LB	RB	1150-1200	65	26	SSH, RW, CR, SS	Install Rock Weir, 5 Sky Hooks at approx. 1150, add Cover Rock, Slope and Seed as needed.
7	LB	RB	1200-1500	78		RV, RV, CR, SS	Install Rock Vein at approx. 1225, LB stable by Cedar trees near barn, Install Rock Vein and Cover Rock, Slope and Seed as needed.
8	LB	RB	1500-1600	13		CR, SS	Area used as Cattle crossing, at flat Cover Rock where possible.
9	LB	RB	1700-1750	26		RV, CR, SS	Install Rock Weir, add Cover Rock below stream crossing, Slope and Seed as needed.
10	LB	RB	1750-1900	52		RV, CR, SS	RipRap armor bank, add Cover Rock to thalweg, Slope and Seed as needed.
11	LB	RB	1870	26		RV, CR	Install Rock Vein to push current to RB, use 15 yards of rock for Cover Rock upstream.
12	RB	RB	1900-1960	39	39	RV, CR	Use RipRap to anchor stumps, install Cover Rock, Slope and Seed as needed.
13	LB	RB	1930-1950	13		RR, CR, SS	Install Rock Vein to push current to RB stump.
POR			2100			RV	POR 2100' end of tree lined ditch.
14	LB	RB	2100-2200	78	26	SSH, RW, CR, SS	Install 5 Sky Hooks, Install Rock Weir, add Cover Rock, Slope and Seed as needed.
15	LB	RB	2275-2325	104		RV, RW, CR, SS	Install Rock Weir, Add Cover Rock, RipRap armor bank, Slope and Seed as needed.
16	RB	RB	2350-2450	104		RV, CR, RR, SS	Install Rock Weir at riffle, try and save/large stump, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
17	LB	RB	2400-2650	78	26	SSH, RW, RR, CR, SS	Install 6 Sky Hooks, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
18	RB	RB	2500-2600	26		RR, CR, SS	POR fence line at quarry entrance, RipRap below small cattle crossing, move channel to the middle of the stream, install Cover Rock, Slope and Seed as needed.
19	RB	RB	2600-2670	65		RV or RV, RR, CR, SS	Save RipRap on LB by eq. Field, install Rock Weir or Rock Vein, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
20	LB	RB	2670-2770	130		RV, RW, CR, SS	Install low water Rock Weir and pool below at approx. 2770, add Cover Rock, RipRap armor bank, Slope and Seed as needed.

Key

LB - Left Bank	BR - Breaker Run	RW - Rock Weir	SSH - Rock Sky Hook
RB - Right Bank	CR - Cover Rock	RV - Rock Vein	RLS - Rock Lunken Structure
RR - Rip Rap	LS - Lunken Structure	RD - Rock Deflector	SS - Slope and Seed
FR - Flat Rock	SH - Sky Hook	WD - Woody Debris	SC - Stream Crossing
POR - Point of Reference	SRR - Small Road Rock	SSH - 1/2 Sky Hook	

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N 43 51 691 W 091 49 561							
21	LB	RB	2770-3150	78		RV, RR, CR, SS	Install Rock Vein, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
22	RB	RB	3150-3225	78		RR, CR, SS	Install Rock Point below large tree, move thalweg to middle of the channel, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
23	LB	RB	3225-3300	78		RR, CR, SS	Install Rock Point, Move thalweg to the middle of the channel, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
POR			3200				POR large tile spring on RB at approx. 3200'
24	LB	RB	3300-3325	39		RD, RR, SS	Install low water Rock Deflector, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
25	RB	RB	3325-3375	52		RD, RR, CR, SS	Extend bank out, move thalweg to center, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
26	LB	RB	3375-3450	78		RD, RR, SS	Install Rock Deflector, RipRap armor bank, Slope and Seed as needed.
27	LB	RB	3525-3600	78		RR, CR, SS	Possible frog pond on RB, Add Cover Rock, RipRap armor bank, Slope and Seed as needed.
28	LB	RB	3625-3775	130	26	SSH, RW, CR, RR, SS	Install 5 Sky Hooks, Install Rock Weir, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
29	LB	RB	3775-4050	221		RR, SS	Lower entire inside point, remove woody debris, RipRap armor bank, Slope and Seed.
30	LB	RB	4100-4170	52	26	RV, CR, RR, SS	Install flat rock Rock Weir, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
31	RB	RB	4250-4350	65		RR, SS	Try to save/large woody debris on RB, RipRap armor bank, Slope and Seed as needed.
32	LB	RB	4300-4375	52		RR, SS	Possible frog pond, RipRap armor bank, Slope and Seed as needed.
33	LB	RB	4375-4450	91	13	RR, SS	Install 3 Sky Hooks, Install Rock Weir, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
34	LB	RB	4400-4550	39		SSH, RW, CR, RR, SS	Add Cover Rock, RipRap armor bank, Slope and Seed as needed.
35	RB	RB	4550-4625	52		RR, CR, SS	RipRap armor bank, Slope and Seed as needed.
36	LB	RB	4600-4850	180	39	RR, SS	Install 8 Sky Hooks, Install Rock Weir, add Cover Rock, RipRap armor bank, Slope and Seed as needed.
37	RB	RB	4800-5000	65		RR, CR, SS	Try to save/large stumps, keep bank low, RipRap armor bank, Slope and Seed as needed.
38	LB	RB	4950-5100	78		RR, SS	RipRap armor bank, Slope and Seed as needed.
39	RB	RB	5100-5200	78	26	SSH, RW, CR, SS	Install 6 Sky Hooks, Install Rock Vein to keep thalweg along sky hooks, add Cover Rock, Slope and Seed as needed.
40	LB	RB	5150-5280	91	26	SSH, RW, CR, SS	Install 5 Sky Hooks, Install Rock Weir, add Cover Rock, Slope and Seed as needed.

Pine Creek, Winona County MN Phase 2 Restoration 0' - 5,280'

- 10 Foot Stations
- 100 Foot Stations
- Proposed Restoration Station
- Aquatic Management Easement
- Pine Creek
- Winona County Parcels

1 inch = 300 feet