WATER QUALITY TRADE UPDATE

Prepared for:



Prepared by: FOX - WOLF
WATERSHED ALHANCE

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WATER QUALITY TRADE UPDATE

Date	Action							
9/13/16	HOV Commission approved exploration of WQT, with a budget up to \$40,000 upon approval of a WQT plan that met the facilities needs for 5 year TSS compliance.							
9/30/16	1st Draft of WQT Plan submitted by FWWA on behalf of HOV to WDNR for review - plan was to install a sediment basin with enhanced wetland vegetation on land owned by HOV to drain upland farm fields. 1st draft had HOV utilizing credits already in 2017 and generating over 1000 credits/year for the first five years with the practice.							
10/25/16	Meeting with WDNR. WDNR moved timeline for compliance for HOV to allow more time to advance WQT. Credits would not be needed to be used until Spring 2018. Minor modifications to the plan were requested. WDNR announced they were working on a credit generating threshold (WQT guidance states credit threshold must be met in order to generate credits, for the draft plan we assumed TMDL % reduction from current state as credit generating threshold).							
12/01/16	nd Draft of WQT Plan submitted by FWWA on behalf of HOV to WDNR for review—plan included requested modifications and occupant of the complex compliance period, now 2018-2022.							
03/06/17	WDNR provides comments via email and include the new TMDL baseline and threshold numbers for agricultural acres in the Plum Creek sub watershed.							
3/20/17— 4/10/17	FWWA recalculates the credits possibly generated by the sediment basin using the new threshold. Using the new threshold, there were many years were our fields did not generate credits even though reductions were high. We talked with WDNR multiple times for better understanding of threshold and worked with county land conservation on scenarios to increase credits generated. Most favorable scenario is to take the 3. 6 acres owned by HOV out of production at the end of 2017 and put it into prairie.							
04/13/17	Met with HOV Staff to discuss new credit generation threshold and the impact on the trading plan. It was decided to run the numbers to determine if enough credits could be generated by taking the 3.6 acres out of production. Current rental agreement ends at the end of 2017.							
04/17/17 - 05/04/17	FWWA worked with County Land Conservation Departments (LCD) to rerun SNAP Plus model, generated new numbers for credits generated by field out of production and field draining to sediment basin and worked with WDNR to obtain initial agreement for calculation process.							
	WDNR requested justification for 80% reduction from sediment basin, which Outagamie County (OC) LCD is compiling. They will also need to complete another thorough review of the modeling and credit calculation, prior to official approval but preliminary numbers, (attached) show a significant number of credits being able to be generated with the lowest credit generating year (2018) over the five year period generating 1517 credits.							
	We can also anticipate a minimum of 141.6 TSS credits annual long term from these practices should be they be maintained.							
Next Steps	Once WDNR approves the credit generation spreadsheets, FWWA and OC LCD will update the WQT Plan to incorporate the new practice and the additional information requested by WDNR. OC LCD will move forward with the construction of the project in the coming month. (Remember HOV will not be responsible for any cost if the WQT does not go through, then the basin will be a grant funded research project)							
	Things for HOV Commission to consider: The updated plan includes the Sediment Basin as originally designed. The costs remain the same even though the system does not generate as many credits as anticipated. We will still be conducting monitoring on the practice to determine it's potential for Phosphorus reductions for HOV in the future. This could be a valuable long term investment for the district but it is uncertain at this time. An additional cost to HOV will be the loss of rental income from the 3.6 acres that will be taken out of production. HOV will also be responsible for the seed necessary to meet the requirements of permanent vegetative cover, NRCS Standard 327. While this is anticipated to be minimal it is an additional cost.							

Field 2 (W HOV - 7 oaks) 3.6 Acre Field				Field 1 (W hoelze	I)			·
Credits generated from going Vegetative Cover consistent				Credits being	generated from (in enhanced with			ith drainage entering a
	Minimum Nonpoint Trade Ratio Trade Ratio: 1.2:1 (further justification in plan)				Trade Ratio:	2:1	•	ntrol Basin (further plan)
Annual Soil Loss				Annual Soil Loss				
Conventional Farming		tns/ac/yr	3082 lbs/ac/yr	Conventional Farr	•		tns/ac/yr	1162 lbs/ac/yr
10% Delivery Factor	0.1541	tns/ac/yr	308.2 lbs/ac/yr	10% Delivery Fact 80% Reduction	tor	0.0581	tns/ac/yr	116.2 lbs/ac/yr
Annual Soil Loss Prairie	0.004	tns/ac/yr	8 lbs/ac/yr	(captured in Sedin	nent Basin)	0.04648	tns/ac/yr	92.96 lbs/ac/yr
10% Delivery Factor	0.0004	tns/ac/yr	0.8 lbs/ac/yr	Sediment loss afte	er practice	0.01162	tns/ac/yr	23.24 lbs/ac/yr
Plum Creek TMDL Threshold	0.024	tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDI	L Threshold	0.024	tns/ac/yr	48 lbs/ac/yr
Does loss after practice meet				Does loss after pr	actice meet			
TMDL Threshold	Υ	es		TMDL Threshold		Ye	es	
Sediment delive (annual soil loss convent - annual soil loss	tional farmir	ng with 10%	delivery factor		tal sediment del soil loss conventi - Sedime	•	g with 10% o	
·	•	tns/ac/yr	307.4 lbs/ac/yr				tns/ac/yr	92.96 lbs/ac/yr
Total Reductions (*3.6 acres)	0.55332		1106.64 lbs/yr	Total Reductions	(*12.8 acres)	0.594944		1189.888 lbs/yr
Reductions that o (soil delivery reduced al Plum Cr - annual soil loss	bove and be	eyond TMDL Threshold	threshold) =	(soil del	eductions that q livery reduced ab Plum Cre annual soil loss p	ove and be ek TMDL T	yond TMDL hreshold	threshold) =
	0.0236	tns/ac/yr	47.2 lbs/ac/yr			0.01238	tns/ac/yr	24.76 lbs/ac/yr
Total Reductions (*3.6 acres)	0.08496	tns/yr	169.92 lbs/yr	Total Reductions	(*12.8 acres)	0.158464	tns/yr	316.928 lbs/yr
	Trade P	Ratio 1.2:1	141.6 credits			Trade	Ratio 2:1	158.464 credits
Reductions that qualify for Interim credits (soil delivery reduced to bring acre to TMDL threshold) = Sediment deliver reduced from practice - Reductions that qualify for long term credits 0.1301 tns/ac/yr 260.2 lbs/ac/yr			nreshold) = ice	Reductions that qualify for Interim credits (soil delivery reduced to bring acre to TMDL threshold) = Sediment delivery reduced from practice - Reductions that qualify for long term credits 0.0341 tns/ac/yr 68.2 lbs/ac/				reshold) = ce
Total Reductions (*3.6 acres)	0.46836	tns/yr	936.72 lbs/yr	Total Reductions	(*12.8 acres)	0.43648	tns/yr	872.96 lbs/yr
	Trade R	Ratio 1.2:1	780.6 credits			Trade F	Ratio 1.2:1	436.48 credits
NOV.	active from the	ic vice and line	2018 2022\	Laver		school design	a varra II ra	~ 2018 2022)
HOV can utilize interim cr 2018 TS	ealts for in S Credits		m 2018 - 2022) credits	HOV CAN L	itilize interim cre 2018 TS		594.944	

Total 2018 TSS Credits available:

1517

Field 2 (W HOV - 7 oaks) 3.6 Acre Field			Field 1 (W hoelzel) 12.8 Acre Field				
Credits generated from going Vegetative Cover consistent		Credits being generated from Conventional Farming with drainage entering Sediment Basin enhanced with Wetland Vegetation					
Trade Ratio:	Minimum Poir 1.2:1 (further justific	nt to Nonpoint Trade Ratio cation in plan)	Trade Ratio:	2:1	Sediment Cor justification in	ntrol Basin (further plan)	
Annual Soil Loss			Annual Soil Loss				
Conventional Farming	4.708 tns/ac/yr	9416 lbs/ac/yr	Conventional Farming		tns/ac/yr	654 lbs/ac/yr	
10% Delivery Factor	0.4708 tns/ac/yr	941.6 lbs/ac/yr	10% Delivery Factor 80% Reduction	0.0327	' tns/ac/yr	65.4 lbs/ac/yr	
Annual Soil Loss Prairie	0.004 tns/ac/yr	8 lbs/ac/yr	(captured in Sediment Basin)	0.02616	tns/ac/yr	52.32 lbs/ac/yr	
10% Delivery Factor	0.0004 tns/ac/yr	0.8 lbs/ac/yr	Sediment loss after practice	0.00654	tns/ac/yr	13.08 lbs/ac/yr	
Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDL Threshold	0.024	tns/ac/yr	48 lbs/ac/yr	
Does loss after practice meet			Does loss after practice meet				
TMDL Threshold	Yes		TMDL Threshold	Y	es		
(annual soil loss convent	ery reduced from practional farming with 10% praire with 10% delivery 0.4704 tns/ac/yr 1.69344 tns/yr	delivery factor	Total sediment delivery reduced from practice = (annual soil loss conventional farming with 10% delivery factor - Sediment loss after practice) 0.02616 tns/ac/yr 52.32 lbs/ Total Reductions (*12.8 acres) 0.334848 tns/yr 669.696 lbs/				
(soil delivery reduced a Plum Cr	qualify for Long Term bove and beyond TMDL eek TMDL Threshold prairie with 10% deliver 0.0236 tns/ac/yr	_ threshold) =	Reductions that qualify for Long Term credits (soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold - annual soil loss prairie with 10% delivery factor 0.01746 tns/ac/yr 34.92 lbs/ac/y				
Total Reductions (*3.6 acres)	0.08496 tns/yr	169.92 lbs/yr	Total Reductions (*12.8 acres)	0.223488	tns/yr	446.976 lbs/yr	
	Trade Ratio 1.2:1	141.6 credits		Trad	e Ratio 2:1	223.488 credits	
(soil delivery reduced Sediment del - Reductions tha	t qualify for Interim control to bring acre to TMDL to iver reduced from pract at qualify for long term conductors.	Reductions that qualify for Interim credits (soil delivery reduced to bring acre to TMDL threshold) = Sediment delivery reduced from practice - Reductions that qualify for long term credits 0.0087 tns/ac/yr 17.4 lbs/ac/y					
Total Reductions (*3.6 acres)	1.60848 tns/yr	3216.96 lbs/yr	Total Reductions (*12.8 acres)	0.11136		222.72 lbs/yr	
	Trade Ratio 1.2:1	2680.8 credits		Trade I	Ratio 1.2:1	111.36 credits	
HOV can utilize interim cr	edits for five years (fro		HOV can utilize interim cr		e years (from		

Total 2019 TSS Credits available:

2822.4 credits

2019 TSS Credits

3157

2019 TSS Credits 334.848 credits

Year 2020							
Field 2 (W HOV - 7 oaks)			Field 1 (W hoelzel)				
3.6 Acre Field			12.8 Acre Field				
Credits generated from going Vegetative Cover consistent			Credits being generated from (Sediment Basin enhanced with		ith drainage entering a		
Minimum Point to Nonpoint Trade Ratio Trade Ratio: 1.2:1 (further justification in plan)			Trade Ratio:	Sediment Cor 2:1 justification in	ntrol Basin (further plan)		
Annual Soil Loss			Annual Soil Loss				
Conventional Farming	4.19 tns/ac/yr	8380 lbs/ac/yr	Conventional Farming	0.239 tns/ac/yr	478 lbs/ac/yr		
10% Delivery Factor	0.419 tns/ac/yr	838 lbs/ac/yr	10% Delivery Factor 80% Reduction	0.0239 tns/ac/yr	47.8 lbs/ac/yr		
Annual Soil Loss Prairie	0.004 tns/ac/yr	8 lbs/ac/yr	(captured in Sediment Basin)	0.01912 tns/ac/yr	38.24 lbs/ac/yr		
10% Delivery Factor	0.0004 tns/ac/yr	0.8 lbs/ac/yr	Sediment loss after practice	0.00478 tns/ac/yr	9.56 lbs/ac/yr		
Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr		
Does loss after practice meet			Does loss after practice meet				
TMDL Threshold	Yes		TMDL Threshold	Yes			
Sediment delivery reduced from practice = (annual soil loss conventional farming with 10% delivery factor - annual soil loss praire with 10% delivery factor) 0.4186 tns/ac/yr 837.2 lbs/ac/yr			Total sediment delivery reduced from practice = (annual soil loss conventional farming with 10% delivery factor - Sediment loss after practice) 0.01912 tns/ac/yr 38.24 lbs/ac/yr				
Total Reductions (*3.6 acres)	1.50696 tns/yr	3013.92 lbs/yr	Total Reductions (*12.8 acres)	0.244736 tns/yr	489.472 lbs/yr		
(soil delivery reduced al Plum Cr	qualify for Long Term of bove and beyond TMDL reek TMDL Threshold prairie with 10% delivery 0.0236 tns/ac/yr 0.08496 tns/yr	threshold) =	(soil delivery reduced ab Plum Cre	qualify for Long Term of bove and beyond TMDL eek TMDL Threshold brairie with 10% delivery 0.01912 tns/ac/yr 0.244736 tns/yr	threshold) =		
	Trade Ratio 1.2:1	141.6 credits		Trade Ratio 2:1	244.736 credits		
(soil delivery reduced Sediment del - Reductions tha	to bring acre to TMDL the liver reduced from practical qualify for long term or 0.395 tns/ac/yr	nreshold) = ce redits 790 lbs/ac/yr	Reductions that qualify for Interim credits (soil delivery reduced to bring acre to TMDL threshold) = Sediment delivery reduced from practice - Reductions that qualify for long term credits 0 tns/ac/yr 0 lbs/ac/y				
Total Reductions (*3.6 acres)	1.422 tns/yr	2844 lbs/yr	Total Reductions (*12.8 acres)	0 tns/yr	0 lbs/yr		
	Trade Ratio 1.2:1	2370 credits		Trade Ratio 1.2:1	0 credits		
HOV can utilize interim cr 2020 TS	redits for five years (fro		HOV can utilize interim cre 2020 TS	edits for five years (fror SS Credits 244.736			

Total 2020 TSS Credits available:

2756

Year 2021						
Field 2 (W HOV - 7 oaks)			Field 1 (W hoelzel)			
3.6 Acre Field			12.8 Acre Field			
Credits generated from going Vegetative Cover consistent			Credits being generated from C Sediment Basin enhanced with		th drainage entering a	
Trade Ratio:	Minimum Point 1.2:1 (further justification)	t to Nonpoint Trade Ratio ation in plan)	Trade Ratio:	Sediment Con 2:1 justification in	trol Basin (further plan)	
Annual Soil Loss			Annual Soil Loss			
Conventional Farming	4.128 tns/ac/yr	8256 lbs/ac/yr	Conventional Farming	4.86 tns/ac/yr	9720 lbs/ac/yr	
10% Delivery Factor	0.4128 tns/ac/yr	825.6 lbs/ac/yr	10% Delivery Factor 80% Reduction	0.486 tns/ac/yr	972 lbs/ac/yr	
Annual Soil Loss Prairie	0.004 tns/ac/yr	8 lbs/ac/yr	(captured in Sediment Basin)	0.3888 tns/ac/yr	777.6 lbs/ac/yr	
10% Delivery Factor	0.0004 tns/ac/yr	0.8 lbs/ac/yr	Sediment loss after practice	0.0972 tns/ac/yr	194.4 lbs/ac/yr	
Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr	
Does loss after practice meet			Does loss after practice meet			
TMDL Threshold	Yes		TMDL Threshold	No		
(annual soil loss convent - annual soil loss Total Reductions (*3.6 acres)	praire with 10% delivery 0.4124 tns/ac/yr 1.48464 tns/yr		(annual soil loss convention - Sedimer Total Reductions (*12.8 acres)	nt loss after practice) 0.3888 tns/ac/yr 4.97664 tns/yr	777.6 lbs/ac/yr 9953.28 lbs/yr	
(soil delivery reduced a Plum Cr	qualify for Long Term of bove and beyond TMDL reek TMDL Threshold prairie with 10% delivery	threshold) = / factor	(soil delivery reduced abo Plum Cre	ek TMDL Threshold rairie with 10% delivery	:hreshold) = factor	
	0.0236 tns/ac/yr	47.2 lbs/ac/yr		0 tns/ac/yr	0 lbs/ac/yr	
Total Reductions (*3.6 acres)	0.08496 tns/yr	169.92 lbs/yr	Total Reductions (*12.8 acres)	0 tns/yr	0 lbs/yr	
	Trade Ratio 1.2:1	141.6 credits		Trade Ratio 2:1	0 credits	
Reductions that qualify for Interim credits (soil delivery reduced to bring acre to TMDL threshold) = Sediment deliver reduced from practice - Reductions that qualify for long term credits 0.3888 tns/ac/yr 777.6 lbs/ac/yr			Reductions that qualify for Interim credits (soil delivery reduced to bring acre to TMDL threshold) = Sediment delivery reduced from practice - Reductions that qualify for long term credits 0 tns/ac/yr 0 lbs/ac/y			
Total Reductions (*3.6 acres)	1.39968 tns/yr	2799.36 lbs/yr	Total Reductions (*12.8 acres)	0 tns/yr	0 lbs/yr	
	Trade Ratio 1.2:1	2332.8 credits		Trade Ratio 1.2:1	0 credits	
					MANINES OF STATE OF S	
HOV can utilize interim cr 2021 TS	redits for five years (from SC Credits 2474.4 o		HOV can utilize interim cre 2021 TS		n 2018 - 2022) credits	

Total 2021 TSS Credits available:

Year 2022							
Field 2 (W HOV - 7 oaks)			Field 1 (W hoelzel)				
3.6 Acre Field			12.8 Acre Field				
Credits generated from going Vegetative Cover consistent			Credits being generated from C Sediment Basin enhanced with		ith drainage entering a		
Trade Ratio:		to Nonpoint Trade Ratio ation in plan)	Trade Ratio:	Sediment Con 2:1 justification in	ntrol Basin (further plan)		
Annual Soil Loss			Annual Soil Loss Conventional Farming				
Conventional Farming	3.834 tns/ac/yr	7668 lbs/ac/yr	•	7.048 tns/ac/yr	14096 lbs/ac/yr		
10% Delivery Factor	0.3834 tns/ac/yr	766.8 lbs/ac/yr	10% Delivery Factor 80% Reduction	0.7048 tns/ac/yr	1409.6 lbs/ac/yr		
Annual Soil Loss Prairie	0.004 tns/ac/yr	8 lbs/ac/yr	(captured in Sediment Basin)	0.56384 tns/ac/yr	1127.68 lbs/ac/yr		
10% Delivery Factor	0.0004 tns/ac/yr	0.8 lbs/ac/yr	Sediment loss after practice	0.14096 tns/ac/yr	281.92 lbs/ac/yr		
Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr		
Does loss after practice meet			Does loss after practice meet				
TMDL Threshold	Yes		TMDL Threshold	No			
(annual soil loss convent	Sediment delivery reduced from practice = (annual soil loss conventional farming with 10% delivery factor - annual soil loss praire with 10% delivery factor) 0.383 tns/ac/yr 766 lbs/ac/yr otal Reductions (*3.6 acres) 1.3788 tns/yr 2757.6 lbs/yr Total sediment delivery reduced from proctice (annual soil loss conventional farming with 10% - Sediment delivery reduced from proctice (annual soil loss conventional farming with 10% - Sediment delivery reduced from proctice (annual soil loss conventional farming with 10% - Sediment delivery reduced from proctice (annual soil loss conventional farming with 10% - Sediment delivery reduced from proctice (annual soil loss conventional farming with 10% - Sediment loss after practice) - Total Reductions (*12.8 acres) - Total Reductions (*12.8 acres) - Total sediment delivery reduced from proctice (annual soil loss conventional farming with 10% - Sediment loss after practice) - Total Reductions (*12.8 acres)						
(soil delivery reduced a Plum Cr	qualify for Long Term of bove and beyond TMDL eek TMDL Threshold prairie with 10% delivery 0.0236 tns/ac/yr 0.08496 tns/yr	threshold) =	(soil delivery reduced ab Plum Cre	Reductions that qualify for Long Term credits (soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold - annual soil loss prairie with 10% delivery factor 0 tns/ac/yr 0 lbs/ac			
Total Reductions (*5.6 acres)	Trade Ratio 1.2:1	141.6 credits	Total Neductions (12.8 acres)	0 tns/yr Trade Ratio 2:1	0 lbs/yr 0 credits		
Reductions that qualify for Interim credits (soil delivery reduced to bring acre to TMDL threshold) = Sediment deliver reduced from practice - Reductions that qualify for long term credits 0.3594 tns/ac/yr 718.8 lbs/ac/yr			Reductions that qualify for Interim credits (soil delivery reduced to bring acre to TMDL threshold) = Sediment delivery reduced from practice - Reductions that qualify for long term credits 0 tns/ac/yr 0 lbs/ac/				
Total Reductions (*3.6 acres)	1.29384 tns/yr	2587.68 lbs/yr	Total Reductions (*12.8 acres)	0 tns/yr	0 lbs/yr		
	Trade Ratio 1.2:1	2156.4 credits		Trade Ratio 1.2:1	0 credits		
		-					
HOV can utilize interim cr 2022 TS		m 2018 - 2022) credits	HOV can utilize interim cre 2022 TS		n 2018 - 2022) credits		

Total 2022 TSS Credits available:

2298

Field 2 (W HOV - 7 oaks)			Field 1 (W hoelzel)				
3.6 Acre Field			12.8 Acre Field				
Credits generated from going from Conventional Farming to Permanent Vegetative Cover consistent with NRCS Standard 327 Minimum Point to Nonpoint			Credits being generated from Conventional Farming with drainage entering a Sediment Basin enhanced with Wetland Vegetation				
	Trade Ratio	1	~ 4		Control Basin (further		
Trade Ratio:	: 1.2:1 (further justi	tification in plan)	Trade Ratio:	2:1	justification	in plan)	
Annual Soil Loss			Annual Soil Loss				
Conventional Farming	1.379 tns/ac/yr	2758 lbs/ac/yr	Conventional Farming	3.923	tns/ac/yr	7846 lbs/ac/yr	
10% Delivery Factor	0.1379 tns/ac/yr	275.8 lbs/ac/yr	10% Delivery Factor 80% Reduction	0.3923	tns/ac/yr	784.6 lbs/ac/yr	
Annual Soil Loss Prairie	0.004 tns/ac/yr	8 lbs/ac/yr	(captured in Sediment Basin)	0.31384	tns/ac/yr	627.68 lbs/ac/yr	
10% Delivery Factor	0.0004 tns/ac/yr	0.8 lbs/ac/yr	Sediment loss after practice	0.07846	tns/ac/yr	156.92 lbs/ac/yr	
Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDL Threshold	0.024	tns/ac/yr	48 lbs/ac/yr	
Does loss after practice meet			Does loss after practice meet			İ	
TMDL Threshold	Yes	İ	TMDL Threshold No				
(annual soil loss convent	rery reduced from practi tional farming with 10% o praire with 10% delivery	delivery factor	Total sediment delivery reduced from practice = (annual soil loss conventional farming with 10% delivery factor - Sediment loss after practice)				
	0.1375 tns/ac/yr	275 lbs/ac/yr	1	0	tns/ac/yr	0 lbs/ac/yr	
Total Reductions (*3.6 acres)	0.495 tns/yr	990 lbs/yr	Total Reductions (*12.8 acres)	0	tns/yr	0 lbs/yr	
(soil delivery reduced at Plum Cre	qualify for Long Term of bove and beyond TMDL reek TMDL Threshold prairie with 10% delivery	. threshold) =	Reductions that qualify for Long Term credits (soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold - annual soil loss prairie with 10% delivery factor				
	0.0236 tns/ac/yr	47.2 lbs/ac/yr	İ	0	tns/ac/yr	0 lbs/ac/yr	
Total Reductions (*3.6 acres)	0.08496 tns/yr	169.92 lbs/yr	Total Reductions (*12.8 acres)		tns/yr	0 lbs/yr	
	Trade Ratio 1.2:1	141.6 credits		Trade	e Ratio 2:1	0 credits	
2002 75	SS Credits 141.6 (credits	2022 TS	S Credits		credits	
ZUZ 18				े लासगा ठ	•	ed (crolling)	
	Total 2023 T	rss Credits availab	ole: 141.6				

Field 2 (W HOV - 7 oaks)			Field 1 (W hoelzel)					
3.6 Acre Field			12.8 Acre Field					
Credits generated from going Vegetative Cover consistent	with NRCS Standard 327		Credits being generated from Conventional Farming with drainage entering a Sediment Basin enhanced with Wetland Vegetation					
	Trade Ratio	·			diment Control Basin (further			
Trade Ratio: 1.2:1 (further justification in plan)			Trade Ratio:	2:1 justification	in plan)			
Annual Soil Loss			Annual Soil Loss					
Conventional Farming	0.874 tns/ac/yr	1748 lbs/ac/yr	Conventional Farming	1.279 tns/ac/yr	2558 lbs/ac/yr			
10% Delivery Factor	0.0874 tns/ac/yr	174.8 lbs/ac/yr	10% Delivery Factor 80% Reduction	0.1279 tns/ac/yr	255.8 lbs/ac/yr			
Annual Soil Loss Prairie	0.004 tns/ac/yr	8 lbs/ac/yr	(captured in Sediment Basin)	0.10232 tns/ac/yr	204.64 lbs/ac/yr			
10% Delivery Factor	0.0004 tns/ac/yr	0.8 lbs/ac/yr	Sediment loss after practice	0.02558 tns/ac/yr	51.16 lbs/ac/yr			
Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr			
Does loss after practice meet			Does loss after practice meet					
TMDL Threshold	Yes		TMDL Threshold	No				
Sediment deliv (annual soil loss convent	ery reduced from practi		Total sediment deli (annual soil loss convention	ivery reduced from prac				
	praire with 10% delivery		- Sediment loss after practice)					
	0.087 tns/ac/yr	174 lbs/ac/yr		0 tns/ac/yr	0 lbs/ac/yr			
Total Reductions (*3.6 acres)	0.3132 tns/yr	626.4 lbs/yr	Total Reductions (*12.8 acres)	0 tns/yr	0 lbs/yr			
Reductions that qualify for Long Term credits (soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold			Reductions that qualify for Long Term credits (soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold					
- annual soil loss	prairie with 10% delivery	1	- annual soil loss p	rairie with 10% delivery f				
	0.0236 tns/ac/yr	47.2 lbs/ac/yr		0 tns/ac/yr	0 lbs/ac/yr			
Total Reductions (*3.6 acres)	0.08496 tns/yr	169.92 lbs/yr	Total Reductions (*12.8 acres)	0 tns/yr	0 lbs/yr			
	Trade Ratio 1.2:1	141.6 credits		Trade Ratio 2:1	0 credits			
2024 TS	S Credits 141.6 o	redits	2024 TS	S Credits 0 o	credits			
	T	OO Our dita availab	444.0					

Total 2024 TSS Credits available:

Field 2 (W HOV - 7 oaks)				Field 1 (W hoelzel)	
3.6 Acre Field				12.8 Acre Field	
Credits generated from going Vegetative Cover consistent v		Standard 32	7 pint to Nonpoint	Credits being generated from one Sediment Basin enhanced with	
Trade Ratio:	1.2:1	(further justi	fication in plan)	Trade Ratio:	2
Annual Soil Loss				Annual Soil Loss	
Conventional Farming	0.607	tns/ac/yr	1214 lbs/ac/yr	Conventional Farming	
10% Delivery Factor	0.0607	tns/ac/yr	121.4 lbs/ac/yr	10% Delivery Factor 80% Reduction	(
Annual Soil Loss Prairie	0.004	tns/ac/yr	8 lbs/ac/yr	(captured in Sediment Basin)	0.
10% Delivery Factor	0.0004	tns/ac/yr	0.8 lbs/ac/yr	Sediment loss after practice	0.
Plum Creek TMDL Threshold	0.024	tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDL Threshold	
Does loss after practice meet				Does loss after practice meet	
TMDL Threshold	Y	es		TMDL Threshold	
Sediment delive	onal farmir	ng with 10% o	delivery factor	Total sediment de (annual soil loss convent	ional f
- annual soil loss p				- Sedime	nt IOS .0.
Total Reductions (*3.6 acres)	0.0603	tns/ac/yr tns/yr	120.6 lbs/ac/yr 434.16 lbs/yr	Total Reductions (*12.8 acres)	0.9
Reductions that q	ove and be ek TMDL rairie with	eyond TMDL Threshold	threshold) =	Reductions that of the control of th	oove a
Total Reductions (*3.6 acres)	0.08496		169.92 lbs/yr	Total Reductions (*12.8 acres)	0.0
Total neductions (3.0 acres)		Ratio 1.2:1	141.6 credits	Total Neudelions (12.0 deles)	
2025 TS	S Credits	141.6	credits	2025 TS	252.(6).

ventional Farming with drainage entering a tland Vegetation Sediment Control Basin (further 2:1 justification in plan) 0.903 tns/ac/yr 1806 lbs/ac/yr 180.6 lbs/ac/yr 0.0903 tns/ac/yr 0.07224 tns/ac/yr 144.48 lbs/ac/yr 0.01806 tns/ac/yr 36.12 lbs/ac/yr 0.024 tns/ac/yr 48 lbs/ac/yr Yes y reduced from practice = farming with 10% delivery factor ss after practice) 144.48 lbs/ac/yr 0.07224 tns/ac/yr 924672 tns/yr 1849.344 lbs/yr fy for Long Term credits and beyond TMDL threshold) = TMDL Threshold ie with 10% delivery factor 0.00594 tns/ac/yr 11.88 lbs/ac/yr 076032 tns/yr 152.064 lbs/yr 76.032 credits **Trade Ratio 2:1**

2025 TSS Credits 76.032 credits

Total 2025 TSS Credits available: 217.6

Field 2 (W HOV - 7 oaks)

3.6 Acre Field

Credits generated from going from Conventional Farming to Permanent Vegetative Cover consistent with NRCS Standard 327

Minimum Point to Nonpoint

Trade Ratio

Trade Ratio: 1.2:1 (further justification in plan)

Annual Soil Loss

Conventional Farming 2.894 tns/ac/vr 5788 lbs/ac/vr 10% Delivery Factor 0.2894 tns/ac/yr 578.8 lbs/ac/yr

Annual Soil Loss Prairie 0.004 tns/ac/yr 8 lbs/ac/yr 10% Delivery Factor 0.0004 tns/ac/vr 0.8 lbs/ac/vr

Plum Creek TMDL Threshold 0.024 tns/ac/yr 48 lbs/ac/yr

Does loss after practice meet

TMDL Threshold Yes

Sediment delivery reduced from practice =

(annual soil loss conventional farming with 10% delivery factor

- annual soil loss praire with 10% delivery factor)

0.289 tns/ac/vr

578 lbs/ac/vr

Total Reductions (*3.6 acres)

1.0404 tns/yr

2080.8 lbs/yr

Reductions that qualify for Long Term credits

(soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold

- annual soil loss prairie with 10% delivery factor

0.0236 tns/ac/yr

47.2 lbs/ac/vr

Total Reductions (*3.6 acres)

0.08496 tns/yr

169.92 lbs/yr

Trade Ratio 1.2:1

141.6 credits

2026 TSS Credits

141.6 credits

Field 1 (W hoelzel)

12.8 Acre Field

Credits being generated from Conventional Farming with drainage entering a Sediment Basin enhanced with Wetland Vegetation

Sediment Control Basin (further

Trade Ratio: 2:1 justification in plan)

Annual Soil Loss

Conventional Farming 0.582 tns/ac/vr 1164 lbs/ac/vr 116.4 lbs/ac/yr 10% Delivery Factor 0.0582 tns/ac/vr

80% Reduction

(captured in Sediment Basin) 0.04656 tns/ac/yr 93.12 lbs/ac/vr Sediment loss after practice 0.01164 tns/ac/vr 23.28 lbs/ac/yr

Plum Creek TMDL Threshold 0.024 tns/ac/yr 48 lbs/ac/yr

Does loss after practice meet

TMDL Threshold Yes

Total sediment delivery reduced from practice =

(annual soil loss conventional farming with 10% delivery factor

- Sediment loss after practice)

0.04656 tns/ac/yr

93.12 lbs/ac/yr

Total Reductions (*12.8 acres)

0.595968 tns/vr

1191.936 lbs/yr

Reductions that qualify for Long Term credits

(soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold

- annual soil loss prairie with 10% delivery factor

0.01236 tns/ac/vr

24.72 lbs/ac/vr

Total Reductions (*12.8 acres)

0.158208 tns/yr 316.416 lbs/yr

Trade Ratio 2:1

158.208 credits

2026 TSS Credits 158,208 credits

Total 2026 TSS Credits available:

Field 2 (W HOV - 7 oaks)							
3.6 Acre Field							
Credits generated from going from Conventional Farming to Permanent Vegetative Cover consistent with NRCS Standard 327 Minimum Point to Nonpoint Trade Ratio							
Trade Ratio:	1.2:1	(further just	ification in plan)				
Annual Soil Loss							
Conventional Farming		tns/ac/yr	10698 lbs/ac/yr				
10% Delivery Factor	0.5349	tns/ac/yr	1069.8 lbs/ac/yr				
Annual Soil Loss Prairie	0.004	tns/ac/yr	8 lbs/ac/yr				
10% Delivery Factor	0.0004	tns/ac/yr	0.8 lbs/ac/yr				
Plum Creek TMDL Threshold	0.024	tns/ac/yr	48 lbs/ac/yr				
Does loss after practice meet							
TMDL Threshold	Y	es					
Sediment delive l (annual soil loss conventio - annual soil loss pi	nal farmin	g with 10%	delivery factor factor)				
	0.5345	tns/ac/yr	1069 lbs/ac/yr				
Total Reductions (*3.6 acres)	1.9242	tns/yr	3848.4 lbs/yr				
Reductions that qualify for Long Term credits (soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold - annual soil loss prairie with 10% delivery factor							
	0.0236	tns/ac/yr	47.2 lbs/ac/yr				
Total Reductions (*3.6 acres)	0.08496		169.92 lbs/yr				
	Trade R	atio 1.2:1	141.6 credits				
			_				
2027 TSS	Credits	141.6	credits				

tns/ac/yr 52.32 tns/yr 669.696 ong Term credits rond TMDL threshold) hreshold 0% delivery factor	= ! lbs/ac/yr
tns/ac/yr 52.32 tns/yr 669.696 ong Term credits rond TMDL threshold) hreshold 0% delivery factor	=
tns/ac/yr 52.32 tns/yr 669.696 ong Term credits rond TMDL threshold) hreshold	
tns/ac/yr 52.32 tns/yr 669.696 ong Term credits rond TMDL threshold)	
tns/ac/yr 52.32 tns/yr 669.696 ong Term credits	
tns/ac/yr 52.32 tns/yr 669.696	lbs/yr
tns/ac/yr 52.32	lbs/yr
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tns/ac/yr 48	B lbs/ac/yı
tns/ac/yr 13.08	lbs/ac/yr
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	-
<u>₹</u>	l lbs/ac/yr
tns/ac/yr 654	lbs/ac/yr
justification in plan)	an (Turtner
egetation	·
'ε	al Farming with drainage egetation Sediment Control Bas justification in plan)

2027 TSS Credits 223.488 credits

Total 2027 TSS Credits available:

Field 2 (W HOV - 7 oaks)			Field 1 (W hoelzel)						
3.6 Acre Field			12.8 Acre Field						
Credits generated from going Vegetative Cover consistent	with NRCS Standard 32		Credits being generated from Sediment Basin enhanced with			th drainage entering a			
	Trade Ratio			Sediment C	Control Basin (further				
Trade Ratio:	1.2:1 (further just	ification in plan)	Trade Ratio:	2:1	justification	in plan)			
Annual Soil Loss			Annual Soil Loss						
Conventional Farming	4.237 tns/ac/yr	8474 lbs/ac/yr	Conventional Farming	0.292	tns/ac/yr	584 lbs/ac/yr			
10% Delivery Factor	0.4237 tns/ac/yr	847.4 lbs/ac/yr	10% Delivery Factor		tns/ac/yr	58.4 lbs/ac/yr			
•	•	-	80% Reduction		•	-			
Annual Soil Loss Prairie	0.004 tns/ac/yr	8 lbs/ac/yr	(captured in Sediment Basin)	0.02336	tns/ac/yr	46.72 lbs/ac/yr			
10% Delivery Factor	0.0004 tns/ac/yr	0.8 lbs/ac/yr	Sediment loss after practice	0.00584	tns/ac/yr	11.68 lbs/ac/yr			
Plum Creek TMDL Threshold	0.024 tns/ac/yr	48 lbs/ac/yr	Plum Creek TMDL Threshold	0.024	tns/ac/yr	48 lbs/ac/yr			
Does loss after practice meet			Does loss after practice meet		•				
TMDL Threshold	Yes		TMDL Threshold	Yes					
•	ery reduced from pract		Total sediment delivery reduced from practice =						
(annual soil loss convent	praire with 10% delivery			(annual soil loss conventional farming with 10% delivery factor - Sediment loss after practice)					
- dililudi 5011 1055	0.4233 tns/ac/yr	846.6 lbs/ac/yr							
Tatal Badristians (*2 6 acres)	• • •		Total Badications (*12 9 perce)			46.72 lbs/ac/yr			
Total Reductions (*3.6 acres)	1.52388 tns/yr	3047.76 lbs/yr	Total Reductions (*12.8 acres)	0.299008	ths/yr	598.016 lbs/yr			
Doductions that		4:4-	Paduations that	alife, for 1	Tarm a				
	qualify for Long Term bove and beyond TMDL		Reductions that						
	eek TMDL Threshold	tilleshold) –	· ·	(soil delivery reduced above and beyond TMDL threshold) = Plum Creek TMDL Threshold					
	prairie with 10% delivery	/ factor	- annual soil loss			factor			
armaar con rocc	0.0236 tns/ac/yr	47.2 lbs/ac/yr	<u> </u>		tns/ac/yr	36.32 lbs/ac/yr			
Total Reductions (*3.6 acres)	0.08496 tns/yr	169.92 lbs/yr	Total Reductions (*12.8 acres)	0.232448		464.896 lbs/yr			
Total reductions (5.6 deles)	Trade Ratio 1.2:1	141.6 credits	Total Neddelions (1210 deles)			232.448 credits			
2028 TS	S Credits 141.6	credits	2028 T	SS Credits	232.448	credits			
Consideration and a significant of the constant Total 2029 T	- SS Credits availal	ble: 374.0			and have not a foreign of the foreign and in the following the foreign and the foreign and the following the follo				
	10tai 2020 i	33 Credits availa	ble. 3/4.U						

Field 2 (W HOV - 7 oaks)

3.6 Acre Field

Credits generated from going from Conventional Farming to Permanent Vegetative Cover consistent with NRCS Standard 327

Minimum Point to Nonpoint

Trade Ratio

Trade Ratio: 1.2:1 (further justification in plan)

Annual Soil Loss

Conventional Farming 4.126 tns/ac/vr 8252 lbs/ac/vr 10% Delivery Factor 0.4126 tns/ac/yr 825.2 lbs/ac/yr

Annual Soil Loss Prairie 0.004 tns/ac/yr 8 lbs/ac/yr 0.8 lbs/ac/vr 10% Delivery Factor 0.0004 tns/ac/yr

Plum Creek TMDL Threshold 0.024 tns/ac/vr 48 lbs/ac/vr

Does loss after practice meet

TMDL Threshold Yes

Sediment delivery reduced from practice =

(annual soil loss conventional farming with 10% delivery factor

- annual soil loss praire with 10% delivery factor)

0.4122 tns/ac/yr

824.4 lbs/ac/vr

Total Reductions (*3.6 acres)

1.48392 tns/vr

2967.84 lbs/yr

Reductions that qualify for Long Term credits

(soil delivery reduced above and beyond TMDL threshold) =

Plum Creek TMDL Threshold

- annual soil loss prairie with 10% delivery factor

0.0236 tns/ac/yr

47.2 lbs/ac/yr

Total Reductions (*3.6 acres)

0.08496 tns/yr

169.92 lbs/yr

Trade Ratio 1.2:1

141.6 credits

2029 TSS Credits

141.6 credits

Field 1 (W hoelzel)

12.8 Acre Field

Credits being generated from Conventional Farming with drainage entering a Sediment Basin enhanced with Wetland Vegetation

Sediment Control Basin (further

Trade Ratio: 2:1 justification in plan)

Annual Soil Loss

Conventional Farming 5.134 tns/ac/yr 10268 lbs/ac/yr 10% Delivery Factor 0.5134 tns/ac/yr 1026.8 lbs/ac/vr

80% Reduction

(captured in Sediment Basin) 0.41072 tns/ac/yr 821.44 lbs/ac/vr Sediment loss after practice 0.10268 tns/ac/yr 205.36 lbs/ac/yr

Plum Creek TMDL Threshold 0.024 tns/ac/yr 48 lbs/ac/yr

Does loss after practice meet

TMDL Threshold No

Total sediment delivery reduced from practice =

(annual soil loss conventional farming with 10% delivery factor

- Sediment loss after practice)

0.41072 tns/ac/vr

821.44 lbs/ac/vr

Total Reductions (*12.8 acres)

5.257216 tns/yr

10514.43 lbs/yr

Reductions that qualify for Long Term credits

(soil delivery reduced above and beyond TMDL threshold) =

Plum Creek TMDL Threshold

- annual soil loss prairie with 10% delivery factor

0 tns/ac/yr

0 lbs/ac/vr

Total Reductions (*12.8 acres)

0 tns/yr

0 lbs/yr

Trade Ratio 2:1

0 credits

2029 TSS Credits

0 credits

Total 2029 TSS Credits available: