APPENDIX VI

MiRAM Assessment Data and Summary of Categorization and Vegetation List

Wetland MiRAM Score Results and Categorization

Wetland	MiRAM Score	Wetland Type
A	56	Natural wetland
В	53	Natural wetland
С	45	Natural wetland
D	36	Natural wetland
Е	61	Storm water retention basin
F	66	Storm water retention basin
G	12	Natural wetland
H	46	Storm water retention basin
I	39	Mitigated wetland (stormwater)
J	13	Natural wetland

Category *	Description	Range	Total on site
1	low quality	0-29	2
1 or 2 (gray zone)		30-34,9	
modified 2	restorable low	35-44.9	2
. 2	médium quality	45-59.9	4
2 or 3 (gray zone)		60.9	1
3	high quality	65-100	1

^{*} scoring breakpoints for wetland category based on the ORAM

Vegetation List

Natur	ral Wetlands Vegetation	
Common Name	Scientific Name	Indicator Status
buttonbush	Cephalanthus occidentalis	OBL
black willow	Salix nigra	OBL
silky gogwood	Cornus amomun	FACW+
American elm	Ulmus americana	FACW-
eastern cottonwood	Populus deltoides	FAC+
green ash	Fraxinus pennsylvanica	FACW
broad leaved cattail	Thypha latifolia	OBL
tall ironweed	Vernonia altissima	FACU-
willow herb	Epilobium spp	FAC
soft stemmed rush	Juncus effusus	OBL
fringed sedge	Carex crinita	FACW+
silver maple	Acer saccharinum	FACW
red maple	Acer rubrum	FAC
fowl manna grass	Glyceria striata	OBL
purple loosestrife	Lythrum salicaria	OBL
sensitive fern	Onoclea sensibilis	FACW
bullrush spp	Scirpus spp	OBL
blue vervain	Verbena hastate	FACW+
rice cut grass	Leersia oryzoides	OBL.
royal fern	Osmunda regalis	OBL
Common Buckthorn	Rhamnus cathartica	UPL T
sandbar willow	Salix exidua	OBL
red osier dogwood	Cornus stolonifera	FACW
swamp milkweed	Asclepias incarnata	OBL
gray dogwood	Cornus racemosa	FACW-
hop sedge	Carex lupulina	OBL
common elderberry	Sambucus Canadensis	FACW-
white meadowsweet	Spiraea alba	FACW+
common reed	Phragmites australis	FACW+
red canary grass	Phalaris arundinacea	FACW+
indian hemp dogbane	Apocynum cannabinum	FAC
torreys rush	Juncus torreyi	FACW
wool grass	Scirpus cyperinus	OBL
taper leaf water horehound	Lycopus rubellus	OBL
cinnamon fern	Osmunda cinnamomea	FACW

Wetland Indicator Status:

OBL: Obligate wetland plant that occurs almost always, 99% of the time, in wetlands under natural conditions, but which rarely occur in non-wetlands.

FACW: Facultative wetland plant that occurs usually, 67% to 99% of the time, in wetlands, but also occurs 1% to 33% of the time in non-wetlands.

FAC: Facultative plant that occurs in both wetlands and non-wetlands 33% to 67% of the time.

FACU: Plant that occurs sometimes, 1% to 33% of the time, in wetlands but occurs more often, 67% to 99% of the time, in non-wetlands.

	Micuro	ANI D	ADID	Acces	SMENT METHOD FO	n Mirti Al	UDG (MIED A MI)
DE Land ar	nd Water Management Division	AN I	APID		old Form Version 2		IDS (WIIRAWI)
Site Na	ame: Anboy Males VA Evalu	uator:	Vβ	166		Date:	12/27/00
	x. how much of the Wetland was reviewed?	<u>0</u> %			tation within the Welian acted within the past 5	nd been alte	red and/or buffer
Note: T	he Evaluator must be trained in the MiRAM and should	refer to	o the M	iRAM Rat	ng Form and User Manual	when using th	is form.
ií any	y of the following questions are answered yes, the Well			e Ratin s hìgh (und		Quantitative F	Rating is not necessary.
actuall	ny part of the Wetland located within an area y contain habitat suitable for either the Piping	Plove	er or t	he Hine's	Emerald Dragonfly?		☐YES ☐NO
	ed on the MDNR's Endangered Species Asset Vistate-listed Threatened or Endangered plant						YES NO
3. is m	ore than 5 acres or more than 25% of the enti	re We	tland	compris	ed of a Rare Wetland		
5 acres a	unity Type? Check all Rare Wetland Commun and less than 25% of the wetland, the rare community shou	ld be st	ilit off a	ınd evaluat	ed separately		☐ YES ☐ NO
	61 or S2 Natural Community Type Souther ny part of the Wetland within 1000 feet of the				wth/Mature Forested W Mark of any of the Gre		The This
	ng Lake St. Clair?			•			☐ YES \\\ \(\text{YNO}\)
		Juan	titati	ve Rati	ng		
	he appropriate point value(s) and assign the score for e				he subtotal for each metric	and add to de	termine the final score.
5	Metric 1. Wetland Size and Distribution	n (9 t	ots m	ax)			
9 pts max	1a. Select a size class (6 pts max)			1b. Usin	the NWI, select a sca	rcity class (3 pts max)
	6 pts ≥50 acres] [0 to 20% of surrounding		
	5 pts 25 acres to <50 acres 4 pts 10 acres to <25 acres		-	2 pts 1 pt	>20 to 80% of surrounding 2-m		
	3 pts 3 acres to <10 acres		┨ <u>┣</u>	I. <u>1.P1</u>	Troops or dailed having 2 to	120,00 10 17	Diller, I
	2 pts 1/2 acre to <3 acres]				
	0 pt less than ¼ acre]				•
u	Metric 2. Buffers and Intensity of Surr	ound	ing I	and Hea	/12 nte max)		
				_ · · · · · · ·			
12 ple mex	2a. Using an aerial photo, select the most appropriate buffer width (6 pts max)				an aerial photo, select >25% of the total land		
	6 pts Wide: ≥150 ft around perimeter	- · · · · -	1	6 pts	Very Low Intensity Material Wildlife area, other welland, take of	ng forest, natural g	
	4 pts Medium: 75 to <150 ft around perime	ter	1	4 pts	Low Interisity: Shrubland/yo managed parkland, old field, light	ung forest, recent :	
	2 pts Narrow: 25 to <75 ft around the perim	neter		(2.pls	Moderately High Intensity	Residential 8 18	wns/manicured parkland, gol/
	Q of Very Narrow; 0 (no buffer) to <25 ft a	round		1 pt	course, conservation tillage, receil High Intensity; Commercial.	ındus(na), high-dei	nsity residential, heavily grazed
	perimèter		J L		pasture, row crops, multi-lane pay	ed road, constructi	on echarly, parking lot, mining
17.	Metric 3. Hydrology (26 pts max)						
26 pis		·. <u> </u>					
max	3a Select all sources of water for Wetland		3		all wetland connection	ns that app	у
	(1.5 pt.) Precipitation (1.2 pts) Groundwater			2 pts 2 pts	100-year floodplain Between a Stream/Lake/F	ond and Hum	an Land Use
	2 pts Seasonal Intermittent Surface Water			2 pts	Wetland/Upland Complex		
	5 pts Perennial Surface Water			2 pts	Riparian Corridor		
	3c. Select the dominant duration of				ongoing hydrolgic alte		
	inundation/saturation, or select all that co-dominate & average (4 pts max)		ign a	•	ue, or select adjoining weir(s)	options & a	iverage (8 pts max)
	4.pts Permanently inundated	□ tik	es(s)) stormwater inputs 🔲 lillin	ng/grading	other.
	Permanently Saturated to	☐ di)	kes(s)		l channelization ☐ roa logic Alterations Apparent:	id bed/RR grade No significant alli	
	Regularly Inundated		8 pts	alteration is	rarc		
	2 pts Regularly Saturated to Seasonally Inundated	/	.etq 6.	assessment	 G. Significant hydrological alteration and/or ongoing minor hydrological a 	steration is only oc	casional
	1 pt Seasonally Saturated in the Upper 12 Inches of Soil	(4 pts	Recoveri	tg: A single significant hydrological and/or ongoing minor hydrological	alleration occurre alleration is freque	d within 20 years phor to the
	ubtotel Is page		1 pt	Recent o	No Recovery: Multiple signific	cant hydrological a	Herations have occurred in the
CAREE TO THE	.a bañr	\perp		zo years prio	r to the assessment and/or significa	on atteration(5) is c	arguing

_										
14	Metric	4. Hal	oitat Alterati	on and Hab	itat Str	ucture	Devel	opmen	t (20 pts max)	
20 pts max		rafue, or in entation	t or ongoing s select adjoin dredgin plowing intensiv	ing options (g /disking	& averag	ge (4 pts road vehic astruction v	max) le usc		·	
	4 p	ts No S	iubstrate Disturb o minor disturbance i overed: significant	s rare					development, or	etland's habitat structure select adjoining options &
	(3 p	a68@51	sment and/or ongoing	minor substrate dist	lurbance is c	only occasion	nal		average (7 pts m	<u> </u>
	2 p	ts Reco	Vering! A single si essessment, and/or o	gnificant substrate o ngong miner substr	listurbance d ale disturba	occurred with nee is freque	in 20 years nt	nging a	7 pts Excelle 5 pts) Good	nt
	1 p	Rece in the 2	int or No Recove 20 years prior to the s	ery: Multiple signifi ssessment and/or si	cani subsira ignificant dis	ete disturbani ilurbance is c	es have or ingoing	conted	3 pts Fair 1 pt Poor	
	□ barrier □ selecti □ clearo 9 pr 6 pr	road bed/ive culting ulting S No H	RR grade	owing or shrub renarse woody debri ezing Apparent No si habital alteration occ grificant habital atla	noval is removal ignificant alti curred more ration occur	☐ nutrie ☐ herbid ☐ sedim eration and/d than 20 year	ni enricht ide/chem ientalion r ongoing r s prior to th years prior	meni/nuiss nical liteato mmor altera ne assesso lo line asse	ance algae	king It allorations only occasional alteration is frequent
	1.p1	Rece	nt or No Recove	Ty: Multiple signific	cant habitat	alterations h	accriue	ed in the 20	years prior to the assessment a	nd/or habitat alteration is ongoing
10	Metric	5. Spe	cial Situatio	ns (20 pts r	nax)					· ·
20 pts max	5a. Add	10 pts	if any of thes	e situations a	apply	5lo		<u> </u>	Forested Wetland	
			ical Value (see i USFWS design			5			ned canopy cover from a ≥3 in to quality as a free Must	any group(s) of trees be at least 5 agres or 25% of Welland
		Federal/S	State-listed Thre			5c.	Add 5	pts for	Urban/Suburban W	etland
			3 Natural Comr	nunity Type (at t	easi	<u> </u>	ls >50	% of the	iendscape in a 1000-ft r	adius low-permeability surfaces?
	90%	Southern Old-Grow is o: 25% of	Bog (at least 5 acr th / Mature Ford	ested Wetland (5d.	is the t	Wetland ormwale	r trealment pond excava	n-contiguous and either:
10	Metric	6. Veg	etation, Inte	rspersion, a	ınd Hal	bitat Fe	atures	(20 pt	s max)	
20 pts max			over score fo Lassign point			6 b.			total open water and	d assign points (3 pts max)
			Native species	Argh nabw d.versity	3 pls		2 pts i		te: 1.0 acres to <2.5 acre. .25 acre to <1.0 acre.	res
		>25% of Wejund	dominate coverage	moderals to low malive diversity	ž ptu		(P)		<0.25 acres	
	Vegetation	103	PTYSSIVE OF NON- native species	moderate to tron	2 pti	6c.				thly invasive species
	Component is > % acre	 	Native species	moderate to high	1 pi 2 pi:	-			Absent: <1% Aerial Co Absent: <5% Aerial Cov	
	1	<25% o' Welland	deminare consusts	failive diversity fow native diversity	1 pi		-1 pt	Sparse:	5-25% Aerial Coverage te: 25-75% Aerial Cover	
		9103	Myestive or non- native species	moderate native diversity	t pr				re: 25-75% Aerial Covera	
	<u> </u>		dominale coverage	moderale to hon	C pi	6d.				on option (5 pts max)
		>25% of Welland	Native species dominate coverage	native diversity for native diversity	1 pt				gree of Interspersion te Degree of	C C C
	Vegetation Component is <vi acre<="" td=""><td>area</td><td>Invasive or non-native coverage</td><td>species dominale</td><td>0 pi</td><td></td><td>3 pls</td><td>interspe</td><td></td><td>101 101</td></vi>	area	Invasive or non-native coverage	species dominale	0 pi		3 pls	interspe		101 101
		<25% of Wel	lend area		û pi	(<u>1</u> P)	Low Deg	gree of Interspersion	
			orest Overstory Shrub/Sapling C				0 pt	No inter	spersion	NEXCENSE NOTIONS THE
			lerbaceous Cor			I .				eatures in the Wetland
	Motein 7	·	In Dographi	nnal and			f assig		s (12 pts max) Sparse (1 pt) Mode	erate (2 pts) Dense (3 pts)
			ic, Recreation (3 pts max)	onai ano	ļ	- 1	osent (o <1 per acr or 5% of an	ė	1 to 5 peracre or 6 to	erate (2 pts) Dense (3 pts) 10 per acre or > 10 per acre or to 50% of erce > 50% of erae
3 pts	Select all	that appl	y and assign p	oints		ৃত	0 to 3	pts Hu	rnmocks/Tussocks/Tree	Mounds % of area
māx	1 pl	Scenic \	/alue ional Value	···		7. 7.	0 to 3		parse Woody Debris (CW rge Living/Dead Standin	
ļ	1 pt		Historical Value	<u> </u>		1	0 to 3		nphibian Breeding/Nurse	

56

		•											
DEOL Land and	l Water Maπ	ngement Divisi		IICHIGA	AN F	RAPID			MENT METH d Form Vers	OD FOR WETL. sion 2.0	ANDS (N	iiRAM	1)
		or Kues	*	Evalua	ator	780					i 12. /2:	3/09	
			nd was review	red? <u>(()</u>	<u>)</u> %		las veg	geta		• Wetland been a • past 5 years?	ltered an	d/or but	
Note: The	Evaluator m	ust be trained in	the MiRAM and	should r	eler					Manual when using		, 	
					Ma	rratio	e Rat	ina					
If any o	of the followin	g questions are	answered yes, t	he Wellar						se of the Quantitativ	e Rating is	not nece	ssary.
1. Is any	part of the	• Wetland loc	ated within as	ı area d	esig	nated	as Crit	ical	Habitat and d	oes the Wetland	1 "		7 NO
2 Base	contain ha	bitat suitable 가까요's Endan	for either the	Piping :	Plov	er or t	he Hind	e's l	Emerald Drago or site inspect	ontly? ion de			<u> </u>
									ur within the			/ES [] NO
									of a Rare We				
5 acres and	nity Type? Hess than 25'	Check all Ra % of the wetland,	re vveriano Go the rare commun	ommunii iity should	ty I) Ibes	ypes p plit off a	etow. i and evalu	if ihe Jaled	Rare Wetland Co separately.	mmunity is less than		∕ES 💢	ои С
☐ S1	or S2 Natu	ral Community	/ Type 🔲 S	Southern	Bog] Old-G	Frow	th/Mature Fore		ļ		·
	part of the Lake St. 0		hiл 1000 feet (of the O	rdin	ary Hi	gh Wat	er N	lark of any of	the Great Lakes	_Y	∕ES \[Z	ON`[
moraulty	y Lake Oli C	<u> </u>	, . , 										
							ve Rai						
								e ihe	subtotal for eac	h metric and add to	determine	the final :	score.
3]	Metric 1.	Wetland S	ize and Disti	ibution	(9	pts m	ax)						
9 pts	1a. Seiec	a size class	(6 pts max)			7 [1b. Usi	ina 1	the NWI, selec	t a scarcity clas	s (3 pts m	naxì	
max	6 pts			····		1	3 p			ounding 2-mile radio			
	5 pts	25 acres to <	50 acres		,		7 2 p		>20 to 80% of st	mounding 2-mile ra	dius is weti	land	
	4 pls	10 acres to <	25 acres] .L	1 p	pt	>80% of surroun	ding 2-mile radius i	wetland		
	3 pts	3 acres to <1				-							•
	2 pts	1/4 acre to <3 less than 1/4 a											
	10 pt) 1655 triair /4 a	<u></u>						•				
Li	Metric 2.	Buffers an	d Intensity o	f Surro	und	lina L	and Us	se (12 pts max)				
12 pis							·····		·				
max			oto, select the th (6 pts max)	most						o, select the surr tal land use & av			
	6 pts		around perimet	er		1	6 pt	ts N	Very Low Intensi	ly: Maluting forest, natur	<u> </u>		
	4 pts	 	o <150 ft around			1 !	4 pt	, i		mibland/young lotest, rece			
		 		<u> </u>		-	-	- 		field, lighliy grazed pastu Intensity: Residential			
	2 pts		<75 ft around the control of the	'		- 1	2 pt	والإ	course, conservation b	llage, recent clear-cut (<1)	yrs.). (wo lane	e road	
i	0 pt	perimeter	o (no nanci) to	525 It aro	Onu		1 pt			ornmercial, industrial, high lit-lane paved road, consti			
 -	,										· · · · · · · · · · · · · · · · · · ·		
12	Metric 3.	Hydrology	(26 pts max)										
25 pls	2n Colont	11 001110000 01] [-	oh Caia		ul westered ear	nections that a			
wex.	1 g	Precipitation	water for We	Harro		-	2 pts	<u>,</u> _	00-year floodpla		ріу		
Ì	2 pls	Groundwater				┤ ├─	2 pts	_		m/Lake/Pond and H	uman Land	Use	
ļ	2 pls		mittent Surface	Waler			(2 pls		Velland/Upland (
Ī	5 pts	Perennial Surf	ace Water				2 pts	s F	Riparian Corridor				
ŗ	3c. Select	the dominant	duration of	-	34	Check	k nast o	or o	naaina hydrol	gic alterations in	or near	Wetland	
ľ	inundation	/saturation, d	or select all th	at						joining options (
1	co-domina	te & average	(4 pts max)		□ä	itch(s)		Ωv	veir(s)	point-source		dredging	
ļ	4 pts	Permanently In	nundaled		_	ies(s) ikes(s)		=	itormwater inputs francelization	☐ filling/grading ☐ road bed/RR gra		other	
	3 pts	Permanently S			 _	8 pts		drolo	gic Alterations A	pparent: No significant		nd/or angoir	ng minor
	' -	Regularly foun Regularly Satu					Recove			and allowalis and a second	nere ibaa oo		th-
	2 pts	Seasonally inu	ndated			6 pts)				cal alteration(s) occurred d drological alteration is only		ears prior lo	une .
1	1 pl	Seasonally Sat Upper 12 Inche				4 pts	Recove	ering eor e	A single significant	hydrological alteration occurrences of the hydrological alteration is free	oned within 20 ment	years prior	to Ine
10\ Subi	otaí	Oppor 12 mult	70 OI OUII			1 -1			 ·	laple significant hydrologic		ave occurs	ợ in lh∉
this p				l		1 pt				or significant alteration(s)			

112	Metric	4. Hal	bitat Alterati	on and Hab	itat Str	ucture	Devel	opmei	nt (20 t	ots ma			
	L						_		110 (20)		·^/	. · 	 -
20 pts max			or ongoing s					а					
	Doint va		select adjoin			ge (4 pt road vehic							
	sedime	ntation	plawing	/disking	_	struction	enicle us	e					
	☐ filling/gi	No S	intensiv ubstrate Disturb		□ othe No supific		ance andio		T4.	0.1	45 161		*
	4 pts		g minor disturbance i		. , , , , , , , , , , , , , , , , , , ,								itat structure ning options &
	(3 pls		overed: Significant sment and/or ongoing					or to the	ave	rage (7 pts m	ax) .	anig opaons a
	2 pts		vering: A single si					s prior	ŀ		Exceller	nt	
		10 INE 8	essessment, and/or o			· · · · · · ·			Ī	(5 pts)	Good		
	1 pt		in) or No Recove to years prior to the a					ccurred		·····	Fair Poor		
	44 84	. 1		- 1-24									
	barrierh			wing or shrub ren					r select		ning opt redging		rage (9 pts max)
	☐ selective			arse woody debri		==	cide/cher				reognig lling/gradic		ther:
	☐ clearcut		🗀 gri				nentation				lowing/dist	king	
	9 pts	<u> </u>	abital Alteration		·								
	6 pts		vered: Significanti	 									
	3 pts	Reco	vering: A single si	gnificant habitat atter	alion occur	ed within 20) years poo	r to the as:	sessment, a	motor onge	oing minor a	lleration is frequen	ıı
	1 pt	Recei	nt or No Recove	ry: Multiple signific	cant habitot ;	alterations h	ave occum	ed in the 2	0 years pric	r Id (he as	sessment a	ndror habitat attera	lian is ongoing
											·		
10	Metric 5	5. Spe	cial Situatio	ns (20 pts n	nax)							 	
20 pls	Sa. Add	10 ots i	if any of these	situations a	vinge	5t	Add!	ots fo	or Fores	ted W	etland	-	
max		`	ical Value (see l		· · · · · ·	5						any group(s) o	if Irees
			USFWS design				Stem D	BH must b	e ≥3 ın lo q	ualify as a	tree Must I	be at least 5 acres	or 25% of Wellend
		ederal/9	State-listed Thre			50	Add 5	nts fo	r Urbar	/Subu	rban W	etland	
			nal species										meability surfaces?
			3 Natural Committee (1997)	nunity. Type (at it	easl		1,0 . 00		- 12114000	.po 1110	1000-111	par	nousing surfaced:
		Southern	Bog (at least 5 acre			5c						ty Wetland	
			th / Mature Fore	ested Welland (al least 5							n-contiguous a	
		or 25% of 1 Sreat Lak	wenano) kes Coastal Wel	land								eted from upla	nd or lion (See Metric 6c)
							12/14/0	C digit	7070 004	vica oy	11,91,10	radire regelat	1011 (See ment oc)
9	Metric 6	. Vege	etation, Inte	rspersion, a	nd Hat	oitat Fe	atures	(20 p	ts max	r)			
20 pts	Fo Solor	t the e	over score for	roach Voget	ation	Eh	Ectim	ata the	total o	non w	ator one	f applies soi	ints (3 pts max)
max			l assign point			100			2.5 acres			assign po	nts (3 pts max)
	Compon	erit aile	t assign ponn	high native		. [<2.5 ac	res	
			Netwe species	фчесяпу	3 pts		1.pt		0.25 acre				
		>25% of Welland	donizate coverage	moderate to low- native diversity	2 pl:		0 pt)	Absen	t: <0.25	acres			
		6693	MASSIVE OF DOCK	moderate to high native diversity	2 p1s	6c	Estim	ate the	total c	overan	e of hir	hly invasive	e snecies
	Vegetation Component		dominate coverage	low native diversity	361	100	1.pt				Aerial Co		. 500000
	H > X 2016		Notive species	moderate to might native diversity	i pli	(-0 pt)				erial Cov		
		<25% of	domwate toverage	low native diversity	1 p:		-1 pt	, .			Coverage		
		Welland area	myasive or non-	Inoderate native	1 pt						rial Cover		
			native species somnale coverage	low native dynamity	0 p:	Ļ	1-o pts	EXTERS	ive: >75	w Aeria	I Covera	ge	
	1			moderate to high	 	6d	Select	one h	orizont	al inter	spersic	n option (5	pts max)
		>25% of	Nabye species dominate coverage	native diversity	2 pls		5 pts		egree of		ersion	1	(T)
	Vegetation	Weband 'area	Invasive of App-Aalive	tow native diversity	1 pl		3 pts		ate Degr	ee of			
	Component 6 4% acrt		coverage or noteviative	- had the substitute	0 ря			Intersp				ACA	COS TON
		<25% of Web	liono area		Ø pt		[1 pt]	Low De	egree of	Interspe	ırsion	(∌ ∫(6 6
	2 0 10 3		orest Overstor				0 pt	No inte	rspersio	n		Messaga	HON BUTT HER
	0 to 3		Shrub/Sapling C										
	0 to 3	pts H	lerbaceous Cor	nponen!								eatures in t	ne Wetland
									rts (12 p			· ;;-	
1			ic, Recreation	onal and		- <i>f</i>	bsent (0, oprad 1>			e (1 pl) erabre or		erate (2 pts) 10 per acre or	Dense (3 pts) > 10 per acre or
!			(3 pts max)		ì		or 5% of a		5% to 10	% of area		to per acce or to 50% of area	>50% of area
3 pls			y and assign p	oints		Q	0 to 3					Mounds % of	area
max		Scenic \				<u> </u>	0 to 3					VD) # per acre	
i	1 pt		ional Value /Historical Value	<u> </u>		1.2	0 to 3					g Trees (12 in erv Habitat % d	
· ·	3 1 (3)	-cumurali	onskindat valile	•	- 1	r E	1 1/10/5	ms i A	minoriio(A)	i preedi	HOMNUISE	av manuai 🥨 d	st gross

t he <i>©</i>			Michiga	N R	APID	Asses	SMENT METHOD FOR	R WETLAN	NDS (MIRA	(MI)
Land a	∍ and Water Mana	gement Division					ld Form Version 2.			
Site N	lame: A	or Hullo WC	Evalua	ator:	şjh	160		Date:	17-/22/6). }
Appro		of the Wetland was revis	wed? 💯	<u>ુ</u> %			tation within the Wetlar acted within the past 5			
Note:	The Evaluator mo	ust be trained in the MiRAM a	ind should r	efer t		-				_
<u>If a</u>	ny of the following	g questions are answered yes	, the Wella	nd is	rated a	e Ratin	tional value and use of the	Quantitative	Rating is not n	ecessary.
actua	<i>lly</i> contain hal	Wetland located within oltat suitable for either the	ne Piping	Plov	er or t	he Hine's	s Emerald Dragonfly?	Wetland	YES	, MO
		NR's Endangered Speci Threatened or Endanger						12	X YES	□ NO
3. Is i	more than 5 ac	res or more than 25% of	f the entir	e We	tland	comprise	ed of a Rare Wetland			
5 acres	and less than 25%	Check all Rare Wetland (6 of the wetland, the rare common al Community Type	unity should	bes	pilt off s	nd evaluati	he Rare Wetland Community ed separately, owth/Mature Forested Wi		☐ YES	⊠ NO
4. Is a	any part of the	Wetland within 1000 fee							☐ YES	
includ	ling Lake St. C	tair?							11159	<u>`</u> ₩0
Circle ර	7	point value(s) and assign (he Wetland Size and Dis	score for ea	eh m	etric. E			and add to d	elermine the fi	nal scoré.
9 pts max	1a. Select	a size class (6 pts max)] [1b. Using	g the NWI, select a sca	rcity class	(3 pts max)	
	6 pts	≥50 acres			<u> </u>	3 pts	0 to 20% of surrounding			<u> </u>
	5 pts	25 acres to <50 acres		<u>-</u>	-	2 pts		.		
	4 pts	10 acres to <25 acres	· · · · · · · · · · · · · · · · · · ·		- L	1 pt	>80% of surrounding 2-m	ille radius is i	velland	
	3 pts	3 acres to <10 acres 1/4 acre to <3 acres			-					
	2 pts	less than 1/2 acre	·		-{					
12 pts		Buffers and Intensity	· · _ · ·	und			(12 pts max) gan aerial photo, selec	t the surro	unding land	uses that
max		te buffer width (6 pts ma					>25% of the total land	use & ave	rage (6 pts r	nax)
	6 pts	Wide: ≥150 ft around perim	neter] [6 pls	Very Low Intensity: Malun wildlife area, other wetland, take o		grassland, prairie, o	designated
	4 pts	Medium: 75 to <150 ft arou				4 pts	Low Intensity: Shrublandiyo managed parkland, old field, light! Moderately High Intensity	y grazed pasture.	one land road/two	track
	2 pts	Narrow: 25 to <75 ft around]	2 pts	course, conservation triage, recei	it clear-cut (<10 y	rs.). Iwo lane 16ad	
	(0 pt)	Very Narrow: 0 (no buffer) perimeter	to <25 it are	und		(PP)	High Intensity: Commercial pasture row crops, finalli-laire past			
						· · ·	₹ - 		·	
12	Metric 3.	Hydrology (26 pts ma	ix)					· · · · · · · · · · · · · · · · · · ·		
26 pis max		all sources of water for V	Vetland			b. Selec	t all wetland connectio	ns that app	oly	
	(1p)	Precipitation			1	2 pts	100-year floodplain			
	2 pts	Groundwater			- -	2 pts	Between a Stream/Lake/F		nan Land Use	
	2 pts	Seasonal Intermittent Surface	ce Water		-	2 pts	Wetland/Upland Complex			
	5 pts	Perennial Surface Water	·		♪ . L	2 pts	Riparian Comidor			
		the dominant duration o //saturation, or select all					ongoing hydrolgic alte			
	co-domina	te & average (4 pts max)		10	litch(s)] weir(s)	nt-source	□dredg	ing
	4 pts	Permanently Inundated	ŀ		ies(s) likes(s)	-	offer-	ng/grading id bed/RR grad	☐ ofher le	·
	(3 phs	Permanently Saturated to Regularly Inundated			8 pts	No Hydro alteration is	ologic Alterations Apparent:			ngoing minor
	2 pts	Regularly Saturated to Seasonally Inundated		(6 pls		ed : Significant hyprological atterality and/or ongoing minor hydrological at the control of the			nor to line
	1 pt	Seasonally Saturated in the			4 pts	Recoveri	TIG: A single significant hydrologics	al alteration occur	red within 20 years	prior to the
1/	Sublois:	Upper 12 Inches of Soil			<u> </u>		i, and/or engoing minor hydrological if No Recovery: Multiple signifi	-		correg in the
1(0	this page				1 pt		or to the assessment and/or significa			voriou iir țiic

M	etric 4	Habit	at Alterati	ion and Hab	itat Stru	cture	Develo	pment	(20 p	ts ma	x)		:
				substrate/soi				a					
	erosion	10, 01, 01	dredgir			oad vehi							
	sediment	ation	plowing				vehicle use	,					
	filling/grad		intensi		🔲 alhe				-		- 1-		
	4 pts		strate Disturb Inor disturbance	oance Apparent is rare	. No significa	ni disturb	ance and/or		1			d's habitat struc et adjoining opt	
	3 pts			t substrate disturbant g minor substrate dist				rio the			pts max)	vi dejoning op	
	2 pts	Recove	ning: A single s	significant substrate o	isturbance or	сопесі w)	hin 20 years	tonq		7 pts	Excellent		
	Zpia	to the ass	ssment, and/or i	pagoing minor substr	ate disturbane	e is frequ	ent			5 pls	Good		
	1 pt	Recent	or No Recov	ery: Multiple signifi	icant substrat	e disturba	ntes have on	curred		3 pts	Fair		
	I Pt			essessment and/or s				.	'	1 pt	Poor	-	
4b	Check	pasto	ongoing	habitat altera	tion. As	sign a	point va	lue, or s	select	adjoir	ing options	& average (9 p	its max)
		d bed/RR		owing or shrub rer			ent enrichd			e 🗖 d	edging	(aming	
_	selective			oarse woody debr	is removel		icide/chem	ical treatme	ent		ling/grading	dther:	
U)	clearcutin			razing			mentation			D	owing/disking		
	9 pls			Apparent: но s									
	6 pis	Recove	red: Significant	habitat alteration oc	curreo more (han 20 ye	ars prior to It	e assessme	nt and/or	опдоляр г	ninor habitet alterat	ions only octasional	
	3 pts	Recove	ring: Asıngles	ignificant habital alte	ration occurre	d within 2	0 years prior	to the asses	sment. a	ndrot onge	and minot ajtetatroi	n is frequent	
	1 pt	Recent	or No Recov	ery: Mutuple signifi	cant habitat a	lterations	have occume	d in the 20 y	ears prio	r to line as	sessment and/or h	abitat alteration is ongoi	ng
Me	tric 5.	Speci	al Situatio	ons (20 pts r	nax)	_							
Ka.	Add 1) nte if :	ny of thes	e situations	annh	5	b. Add 5	nte for	Fores	tod W	ntland		-
V 4.						- 10		•				roup(s) of trees.	
				Narrative Rating nated Critical Ha		F						ouplis) of frees. ast 5 acres of 25% of W	/elland
				eatened or Enda		-							
		or animal		satemad or Linde	angered	5		•			rban Wetian		
	l⊟s1	, \$2, 53	Natural Com	munity Type (a)	least	1	-, Is >50	% of the i	andsca	pe in a	1000-ft radius	low-permeability s	surfaces?
		or 25% of V			į	[E	d Cuilean	- at df) m			o Occalian Mi	-411	
				res or 25% of Wetlan		1 21					v Quality Wo		
		25% of We		rested Welland	(at least 5	ŀ					e and non-con id excavated fr	tiguous and either	:
			Coastal We	elland	1	ĺ						e vegetation (See M	loine Set
						ļ	12/100	C trion 70	N COM	nea by	III GIII Y TI II E E E E E	, vegetation (deete	isanc sa)
Me	tric 6.	Veget	ation, Inte	rspersion, a	and Hat	itat F	eatures	(20 pts	ma)	:)			
_						Г <u></u> -							·
				or each Veget		61						ign points (3 p	ts max)
~													
Co	проле	n and a	ssign poin	ıts (9 pts max	<u>9</u>	Į		High; 2.					
<u></u>	троле		SSIGN DOIN	high nativit	() 3 ptr		2 pts		e: 1.0	acres lo	<2.5 acres		

		Native вреское	high nativit. diversity	3 ple
	>25% of Welland	dominate coverage	moderate to low retine diversity	Z pts
	erda	Invasive of bon- native appoles	moderate to high native diversity	2 pts
Vegetation :		финица солегара	fow withing disease.	1 p:
e >% acre		Native species	moderaje io hiph naime diversiry	2 pla
	<25% of Wolland	egassvop sterrimch	Now restore deversity	1 55
	Area	myaswe or non-	moderate native drysts#s	1 pt
i		dominate coverage	KNA vatine questy.	U pl
	>25% of	Native species	moderate to high native diversity	2015
	Walland	dominate coverage	low native diversity	1 p
Vepetation Component is <½ ucre	aiea	qwasive or non-native coverage	species dominate	Оря
	<25% of We	dend area		0 pt
0 to	3 pts	Forest Overston	y	
(O to	3 pts 3	Shrub/Sapling C	Component	
1 04-		Herbaceous Cor		

pts .	C	ultura	'. Scenic, Recreational and I Value (3 pts max) that apply and assign points
nax	-I	1 pt	Scenic Value
		1 pt_	Recreational Value
		1 01	Cultural/Historical Value

	⊏5 mn		d assign points (3 pts max)
	3 pts	High: 2.5 acres or more	
1	2 pts	Moderate: 1.0 acres to <2.5 ac	res
!	1_pt_	Low: 0,25 acre to <1.0 acre	
	0 pt/	Absent: <0.25 acres	
6c.	Estim:	ate the total coverage of his	phly invasive species
	1 <u>pt</u>	Virtually Absent: <1% Aerial Co	overage
1	() pt)	Nearly Absent: <5% Aerial Cov	erage
``	-1 pi	Sparse: 5-25% Aerial Coverage	9
	-3 pts	Moderate: 25-75% Aenal Cove	rage
	-5 pts	Extensive: >75% Aerial Covera	ge
6d.	Select	one horizontal interspersion	on option (5 pts max)
	5 pts	High Degree of Interspersion	1000 1000 100
[3 pts	Moderate Degree of Interspersion	NOW YOU
	3 pts		

	tne amount of na oints (12 pts max)	bitat features in ti	ne vvetiand
Absent (0 pt) <1 per acre or 5% of area	Sparse (1 pt) 1 to 5 per acre or 5% to 10% of area	Moderate (2 pts) 6 to 10 per acre or 10% to 50% of area	Dense (3 pts) > 10 per acre or >50% of area
() 0 to 3 pts	Hummocks/Tussoc	ks/Tree Mounds % of	area
[0 to 3 pts	Coarse Woody Deb	ris (CWD) # per acre	
1 0 to 3 pts	Large Living/Dead 5	Standing Trees (12 in	DBH) # per acro
1 0 to 3 pts	Amphibian Breeding	g/Nursery Habitat % «	ol area



Total

DEO.	i Water f	Management I		Місн	IIGAN	RAPI	D As		SMENT MET	HOD FOR WE	TLAN	os (MiR	AM)
Site Nar	ne: 📐	H code	illo VI	Ev	aluato	r: <u>19</u>	$X \int$	GC.			Date:	12/22/	00)
Approx.	how m	uch of the V	Vetland was r	eviewed?	100	%				the Wetland bed the past 5 years			
Note: Th	e Evaluat	tor must be trai	ned in the MiRA	AM and sho	uld refer	to the	MIRAN	/ Ratio	ng Form and U	ser Manual when u	ising (his	s form./	
							ive R						
If any of	of the folio	owing question f the Wetlan	s are answered d located wit	i yes, the W hin an are	/elland it ea desir	s rated unate	as higi d as C	n funci Fritica	tional value and al Habitat and	l use of the Quanti I does the Wetla	itative Ri and		
actually	contain	ı habitat suif	table for eithe	er the Pipi	ing Plo	ver o	the h	line's	Emerald Dra	agonfly?		YES	ON <u>∖</u> Z∐,NO
			idangered Sp ied or Endan									河 YES	□ NO
3. Is mo	re than	5 acres or n	nore than 25°	% of the e	ntire W	etlan	d com	prise	ed of a Rare \	Netland Community is tess			<u> </u>
5 acres an	d less tha	in 25% of the we	etland, the rare of	ommunity si	tould be	split of	fiand ev	/aluate	ed separately.			☐ YES	₩ NO
		Vatural Comm f the Wetland		Sout						orested Wetland of the Great Lat			\
		St. Clair?									,,,,,,	YES	
		•			Qua	ntita	tive F	₹atir	າα				
Circle the	appropr	iale point value	a(s) and assign	the score fo						each metric and ac	id to del	ermine the f	inal score.
3	Metri	ic 1. Wetia	nd Size and	Distribu	tion (9	pts i	max)						
9 pis max	1a. Se	elect a size o	lass (6 pts m	ax)			1b. I	Using	the NW!, se	lect a scarcity of	class (3	pts max)	
Illax		5 pts ≥50 acr	- 				1	3 pig	0 to 20% of s	urrounding 2-mile	radius is	welland	
	- 1	··	s to <50 acres			4		2 pts	+	f surrounding 2-mi			
	. ⊢		s to <25 acres to <10 acres			\dashv		1 pl	>80% of surre	ounding 2-mile rad	ius is we	ena uo	
	. ⊢	··	to <3 acres										
		p less tha	in ¼ acre			_				•		-	
1	Matri	o 2 Buffor	s and Intens	alturat Ci		dina	Land	Den	/17 nte ma	~			
	Metri	CZ. Duller	S and linens	sity or St	ii rouii	umg	Lano	use	(12 pts ma	^)			
12 pts mex			t photo, selec width (6 pts		st				>25% of the	oto, salect the s total land use &	& avera	age (6 pts	max)
	6	pts Wide: ≥	150 ft around p	erimeter				6 pls		DSity: Maluring forest, welland, lake or rive:	natural or	assland, prairie	designated
	4	pts Medium	: 75 to <150 ft	around peri	meter		ŀ	4 pts		Shrublandiyoung fores I, old field, lightly grazed			
	2	! pts Nапоw:	25 to <75 ft are	ound the ps	erimeter			2 pts	Moderately Hi course, conservate	gh Intensity: Reside on Wago recent clear-co	ential & lew ut (<10 yrs.	ms, manicured p .j. two lane imag	parklanc, golf
	10	P. Very Na	rrow: 0 (no buf	ier) to <25 l	t around			pl)	High Intensity	Commensal, industrial, multi-lane paved road)	l, high-deni constructio	sily residential. I	reavily grazeo
		/ pentusic	<i>7</i> 1				-		Thousand, ton propo	Transport of the state of the s	pario de Dorio	, , , , , , , , , , , , , , , , , , , ,	<u>g</u> respectively.
12	Metric	c 3. Hydrol	ogy (26 pts	max)					·-·				
26 pls max		` 	es of water f	or Wetian	d		3b. S	elect	all wetland	connections tha	at apply	y	
	1					-	-	pls	100-year flood	lplain eam/Lake/Pond ar			
		pts Groundv	vater al Intermittent Si	urface Wate		-		pts pts	Wetland/Uplan		10 Huma	an Land Use	· <u> </u>
	├── ┼─	-' · 	al Surface Wate				<u> </u>	pis	Riparian Corri	· · · · · · · · · · · · · · · · · · ·	•		
	3c. Sel	lect the dom	inant duratio	n of	30	. Che	ck pa	st or	ongoing hyd	rolgic alteration	ns in or	r near Wet	land.
			ion, or select rage (4 pts m							adjoining optio			
			ently inundated	197.)		ditch(s) tiles(s)			weir(s) stormwater înpu		ηġ	∏dredg □ othe	, •
		Permane	ently Saturated	to		dikes(s	No		channelization	joad bed/R s Apparent: No sign		rallon(s) and/or	ngahinn etmor
	1/3	Regulari	y inundated			8 pt	alter	alion is r	raie				
	2	Seasona Seasona	y Saturated to illy Inundated			(6 p)				ological alteration(5) occur or hydrological alteration			ericar to Uhe
	1		illy Saturated in Inches of Soil	the		4 pts				ant hydrological atteration or hydrological atteration			prior to the
Sub This	notal page				L.	1 pt	Rec 20 ye	eni or es pro	No Recovery:	Multiple significant hydroandlor significant alterat	ological all lon(s) is on	erations have or going	ocured in the

_													
10	Metric	4. Hal	itat Alterati	on and Habita	t Stru	cture	Devel	pmen	t (20 p	ots ma	ix)		
70 pis max		alue, or n entation		/disking		e (4 pts ad vehicl ruction ve	max) e use						
	4 p	No S	ubstrate Disturb g minor disturbance i vered: significant	ance Apparent: N	o significan	nt disturbar ore than 20	years prio	f to the	dev	elopm/		tland's habitat select adjoinin ax)	
	2 p			golficani substrate distui				prior			Exceller	ni	· · · · · · · · · · · · · · · · · · ·
		Paca		ngoing minor substrate d Pry: Multiple significant						5 pts	Good Fair		
	1 p	in the 2	O years prior to the a	ssessment andlor significant	icant distur	pauce is o	ngolng	a.uireo	L	(pt)	Poor		
	4b. Che	ck past	or ongoing h	abitat alteration									
	⊠ barner □ selecii	/road bed/l		wing or shrub remov arse woody debris re				nenVnuisa ical treatn			redging lling/gradin	famii g Dother:	
	Clearce	utting	<u>□ 90</u>	ezing		_ sedim	entation			□р	lowing/aisl	-	
	9.0			Apparent: No signifi									
	(6 pt			nabitat alteration occurre Dilloant trabitat alteration							 	_ 	onal
	1 pt	<u> </u>		ry: Mulfiple significant							-		s unigoing
5	Metric	5. S pe	cial Situatio	ns (20 pts ma	x)								
20 pls max	5a. Add	10 pts i	f any of these	situations app	aly	5b.	Add 5	pts for	Fores	ted W	etland		
11104	Hig	h Ecolog	ical Value (see l	varrative Rating at ated Critical Habit	bove)		Exhibi Stem Di	ls combi	ned car ≥3 in to oi	opy col	/er from a	any group(s) of tre	es.
				atened or Endange		50		pts for					
			nal species 3 Natural Comp	nunity Type (at least		<u> </u>	_	····				adius low-permea	bility surfaces?
	5 80	res or 25% o	i Welland)	, ,, .		En							
				es or 25% of Welland) ested Wetland (at le	2016	50.						y Wetland r-configuous and	either:
	acre	s or 25% of 1	Welland)	•			1) A st	ormwate	r treatm	eni por	id excava	ited from upland o	D r
		Great Far	es Coastal Wet	IZIIU		<u></u>	2) Mor	e than 78	5% cove	ered by	highly-in\	vasive vegetation	(See Metric 6c)
5	·			spersion, and						·			
20 pts max			over score for Lassign point	r each Vegetations (9 ots max)	on	6b.		te the t				l assign points	(3 pts max)
			1	high haline	pts		2 pts	Modera	te: 1.0	acres to	<2,5 acr	es	
		>25% of	Native species dominate coverage	BAYETSRY	ple		1 pt	Low: 0. Absent:			acre		
	-	Wetland	provisive or non-	moderale to both			(0 pt)				·· · - ·-	· · · · · · · · · · · · · · · · · · ·	
	Vegetation		native species dominate coverage	I I I I I I I I I I I I I I I I I I I	pts	6c.					e of hig Aerial Co	hly invasive s	pecies
	Contronent 6 >% acre		Naiwe species	moderate to high	D11		1.pt 0 pt)	Nearly A					
		<25% c4	dominate opasiste	hater thireisny have relieve decessly his	p;			Sparse:					
		Wettend eres	ENVESIV€ OF MON-	moderale native	ρl			Moderat Extensiv					
	<u> </u>		domininte coverage	fow native diversity 0	pl	<u> </u>							
		>25% 6'	Native species	moderate to high native diversity 2	ρŧε	6d.		one ho High De				n option (5 pts	max)
	Vegetation	Welland	gominate covesade	low native decembly 1	DL			Moderal			3131011		51 ()
	Component 15 (% acre		invasivo or non-naliye _coverage	species dominate 0	C)		3 pts	Interspe	rsion			NOV (6)	165
		<25% of Wel	iend area	0	p1	1	1 7 00	Low Deg	gree of i	nterspe	rsion		
		3 pts F	orest Overstory				0 pt	No Inter	spersio	n		MODERAL MODER	An And
	100	3 pts 5 3 pts F	Shrub/Sapling C Terbaceous Cor	omponent		ا مع	Datava	ine the		nt cs L	obit-t	eatures in the	Notion d
	-, -							ime trie n polnt				eatures in trie	ASURIO
$\supset \Box$			ic, Recreation	onal and			osent (0 <1 per acri			e (1 pt) er scre or			Dense (3 pts) > 10 pai acre or
			(3 pts max)				r 5% of an	ea .	5% to 10	% of area	10%	to 50% of area	>50% of area
3 pis mex — I	/ 1 pt	Scenic \	y and assign p	ointz		P	0 to 3					Mounds % of area	
	/ 1 pt		value ional.Value				0 to 3 p					/D) # persore g Trees (12 in DB	H) #peracre
	1 pt		Historical Value	· · · · · · · · · · · · · · · · · · ·		Ĭ	0 to 3					ry Habitat % of are	
								_					



DEO. Land and Water Manage	i i	MICHIGAN	Rapii		SMENT METHOD Id Form Versio		NDS (MIRAM)
Site Name: FADO	a Head VE	Evaluato	r: 💬	1 /6C		Date:	12/25/60
	the Wetland was revie		″	areas imp	ation within the W acted <u>within the</u> p	ast 5 years?	YES 💢 NO
Note: The Evaluator mus	be trained in the MiRAM a	nd should refer	to the	MiRAM Rali	ng Form and User Ma	inual when using th	nis form.
				ve Ratin			
If any of the following of	ueslions are answered yes	, the Welland is	s rated.	as high func	lional value and use o	Ine Quantitative	Rating is not necessary.
	Vetland located within a at suitable for either th						☐YES ☑NO
	R's Endangered Specie						
	reatened or Endangere						XYES NO
3. Is more than 5 acre	es or more than 25% of	the entire W	etland	comprise	ed of a Rare Wetla	nd	1 /
Community Type? Cit 5 agres and less than 25% o	neck all Rare Wetland C f the wetland, the rare commi	community 1 unity should be	ypes solit off	below. f () and evaluate	ne Rare Wetland Comm ed separately.	unity is less than	☐ YES () NO
S1 or S2 Natural	Community Type	Southern Bo	g [🔲 Old-Gro	wth/Mature Foreste		/ *
	etland within 1000 fee	t of the Ordi	nary H	igh Water	Mark of any of the	Great Lakes,	☐YES ☐NO
ncluding Lake St. Cla	1177			.		<u></u>	
		Qua	ntitat	ive Ratir	na		
Circle the appropriate poi	nt value(s) and assign the s	core for each r	netric.	Determine t	he subtotal for each n	netric and add to de	etermine the final score.
_	Wetland Size and Dis						
		•		,,			
9 pts max 1a. Select a	size class (6 pts max)		-	1b. Using	the NWI, select a	scarcity class	(3 pts max)
6 pts	≥50 acres			3 p)s	0 to 20% of surroun	iding 2-mile radius	is wetland
1	25 acres to <50 acres		_	2 pts	>20 to 80% of surro		
 	10 acres to <25 acres		_	1 pt	>80% of surroundin	g 2-mile radius is v	velland
\ \ \-'-/+ 	3 acres to <10 acres		_				
	4 acre to <3 acres		-				
[0 pi] i	ess than ¼ acre						
Metric 2. E	Suffers and Intensity	of Surroun	ding l	_and Use	(12 pts max)	<u> </u>	
12 pts 2a. Using an	aerial photo, select th	e most	7 1	2b. Usina	an aerial photo, s	elect the surrou	inding land uses that
	buffer width (6 pts max		╛		>25% of the total		
6 pts V	Vide: ≥150 ft around perimi	eter		6 pts	Very Low Intensity: wildlife area, other wetland		grassland, plaine, designated
4 pts) A	ledium: 75 to <150 ft arour	nd perimeter	7	4 pts	Low Intensity: Shoubt	and/young (orasi, recent	selective logging, bay field, lightly
			-{ [managed parkand, old field Moderately High Inte	4. lightly grazed pasture, BDSity (Resulential & te	one lane road/two tract: was? manicured parkiene, golf
	larrow: 25 to <75 ft around		_	2 pts	course, conservation tillagu	r, recent clear-cut (<10 yr	s.). Iwo lane road
	'ery Narrow: 0 (no buffer) to erimeter	o <25 it around	' [j	1 pt	High Intensity: Comm pasitive, row crops, multi-la	nercial, industrial, high-de ine paved road, construct	nsity residential Treavity grazed ion activity, parking lot, mining
				······································			
S Metric 3. H	ydrology (26 pts ma)	c)					
6 pis 3a Caloat all			- ¬ ,				
nax Sa Select all	sources of water for W	etiano	╛┟		all wetland conne	ctions that app	ıy
 	recipitation roundwater		-	2 pts	100-year floodplain Between a Stream/L	oko/Road and Hum	and and the district
h	essonal Intermittent Surface	Mater	-	(2 pts)	Wetland/Upland Con		nan Land Use Taylor
	erennial Surface Water	, Marci	-	2 pts	Riparian Corridor	ilbiex	
<u></u>							
	e dominant duration of aturation, or select all t		. Chec	k past or	ongoing hydrolgic	alterations in c	or near Wetland.
	& average (4 pts max)	1 [sign a			ning options & a □ poli⊪source	average (8 pts max)
	So (4 hrs may)		anch(s) tites(s)	7-		□ point-source □ filling/grading	□ other:
co-dominate	seman antibuliaries de feed			"h .		noad ped/RR grade	
co-dominate	ermanently Inundated		dikes(s)				
co-dominate	ermanently Saturaled to		8 pts	No Hydrol	logic Alterations Appa		Realion(S) and/or ongoing mino:
co-dominate 4 pls Pe	<u> </u>		8 pts	No Hydrol alteration is r	logic Alterations Appa are	arent. No significant all	eration(s) andfor ongoing mino:
co-dominate 4 pls Pr 3 pls Rr 2 pls Rs	ermanently Saturaled to egularly Inundated egularly Saturated to easonally Ihundated		T ***	No Hydrol alteration is r	logic Alterations Appa	RIGHT. No significant all	eration(s) and/or ongoing minor
co-dominate 4 pls Pr 3 pls Rr 2 pts Sr 3 st	ermanently Saturated to egularly Inundated egularly Saturated to easonally Ihundated easonally Saturated in the		8 pts	No Hydrol alteration is r Recovered assessment :	logic Alterations Appa are d: Significant hydrological a and/or ongoing minor hydrologic lg: A single significant hydr	affect. No significant all alteration(s) occurred mos opical alteration is only oc relepical alteration occurre	eration(5) andfor ongoing minor te than 20 years prior to the casional
co-dominate 4 pls Pr 3 pls Rr 2 pls St	ermanently Saturaled to egularly Inundated egularly Saturated to easonally Ihundated		8 pts 6 pts	No Hydrol alteration is r Recovere assessment assessment,	logic Alterations Appa are d. Significant hydrological a and/or ongoing minor hydrologic ig: A single significant hydrol and/or ongoing minor hydrol	afent: No significant all alteration(s) occurred more opical alteration is only oc relegical alteration occurre opical afferation is freque	eration(s) and/or ongoing minor te than 20 years prior to the casional ad within 20 years prior to the

14	Metric	4. Ha	bitat Alterați	on and Hab	itat Str	ucture	Devel	opment	(20 pts	ma	x)		
20 pts max	4a. Ch	eck pas	l or ongoing s select adjoin	substrate/soi	disturi 8 avera	bance. A	Assign	a					
	arosic	n	dredgin	g	Off-	road vehici	le use						
	☐ sedim ☐ filling/		☐ plowing ☐ intensiv		□ cor	nstruction v	ehicle us	e					
	4 p	No S	ubstrate Disturb	ance Apparent			nce andici	-					itat structure
	√3 p		overed; Significant smehl and/or ongoing					or to the			pts ma		ining options &
	2 p		Vering: A single s assessment, and/or o					s prior			Exceller Good	nt	
	1 р	Recein the :	ent or No Recovi	Pry: Multiple signifi ssessment and/or si	cant substra gnificant dis	ate disturbano sturbance is o	es have o	goured.	3	_	Fair Poor	.,	
									select ac	djoin	ing opt		rage (9 pts max)
		/road bed/ ive culling	- =	wing or shrub ren arse woody debri				ment/nuisai nical treatm			edging		arming
	☐ clearc	•	D gr	•	a ICHIUVA	☐ sedim		ncai neam	1811		ing/gradin owing/disk		ither:
	9 p	ls No H	abitat Alteration	Apparent: No si	poileant att	eration and/o	r angoing	ilerelle ronim	on is rare			γ	
	,6 p	S Reco	vered: Significant	habitat alteration occ	wirred more	Іһал 20 уваг	s prior to l	he assessme	ant and/or ong	oing m	inor habitat	alterations only o	ccasional
	(3 ₇₀	e Reco	vering: A single si	gnificant habital alter	ation occur	red within 20	years pro	r lo (ne asses	ssment, andro	or ongo	ng minor a	lleration is treque	ni
	1 p	Rece	nt or No Recove	ry: Multiple signific	cani habitat	afierations ha	ve occum	ed in the 20 y	ears prior to l	lhe ass	essmeni ar	dor habitat allen	ation is ongoing
			<u> </u>										
5	Metric	5. Spe	cial Situatio	ns (20 pts n	nax)		<u> </u>		<u> </u>				
20 pls max			if any of these			5b.	_	pts for					Lienn
		Contains	ical Value (see I USFWS design	ated Critical Ha	bitat		Stem D	BH must be a	eo carropy	Kasa u A coat	er mom a res Must b	iny group(s) o se al least 5 acres	or 25% of Wetland
			State-listed Thre nat species	alened of Enda	ingerea	; 	_	pts for					
		S1, S2, S	3 Natural Comm	nunity Type (at 8	east	5	ls >50	% of the li	andscape	іла 1	1000-ft ra	adius low-per	meability surfaces?
		res or 25% : Southern	of Wetland) 1809 (al least 5 acr	ne or 25% of Micilan	et i	5d.	Subtr	act 10 no	oints for	Low	Qualit	y Wetland	
		Old-Groy	th / Mature For	ested Welland (at least 5							-contiguous	and either.
	açn	s or 25% of	Welland)				1) A s	lormwaler	treatment	l pond	d excava	ted from upla	nd or
		Great Cal	kes Coastal We	lang		J <u>L</u>	[2] Mor	e than 75	% covered	d by h	ighly-inv	asive vegeta	lion (See Meinc 6c)
13	Metric	6. Veg	etation, Inte	spersion, a	nd Hal	bitat Fe	atures	(20 pts	max)				
20 pts max			over score fo			6b.						assign po	ints (3 pts max)
	Compor	ient and	assign point		<u> </u>		3 pts 2 pts	High: 2. Moderate					
	-	1	Nahye species	nigo ne bve cuversity	3 ptr	/	1 of \	Low: 0.2				69	
	i	>25% of Welland	dominate coverage	moderate to low	2 pr		0 oc		<0.25 acr				
		qres	ereasive or nov-	moderate to high neitive diversity	7 pts	50	Estima	to the t	atal cave	arano	of blo	hlv invasiv	n speciet
	Vegetalion Combonent		dainnaic coverage	low native diversity	1 (5)	100.	1 pt		Absent <				e species
	# >% 5G#		Маруи вресия	imbdatate (c neg):	2 016		0 pl		bsent: <5				
		<25% of	dominale coverage	halive diversity Now region diversity	1 04			Sparse:					
		Waliand area	myasive or poh-	moderate naive	1 pt			Moderate					
	[]		native species dominate coverage	diversity Inv native diversity	0 pl	L	-5 pts	Extensive	e: >/5% /	Авлаі	Coverag	je	
				mederate to high	2 pts	6d.	Select					n option (5	pts max)
		>25% of Wellend	Mative species dominate coverage	naive diversity	-		5 pts		ree of Inte		rsion		
	Vepelation	2193	i wasive or non-naiwe	low gative diversity species dominate	1 pr		3 pts		Degree o	of			
	Component is <% acre		COVELAGE		Орг	1 (1		Intersper				1834 0	TOW THE
	<u></u>	<25% of We	lend erea		0 14	li	1 pl	Low Degi	ree of inte	rsper	sion	(🐑 ((E
			orest Överstory				0 pt	No Inters	persion			INCOME	MODERATE INGS
			Shrub/Sapling C			<u> </u>	D-4				. i. i 4 *		Ca Maria
	7.1000	3 pls F	lerbaceous Cor	nbouetit		i						eatures in t	he Wetland
7	Mintrin 7	6	ie Dagrasti		- -7		assig sent (0	n points	Sparse (1			rate /2 etc)	Denso (3 sto)
4			ic, Recreation	onai and	j		<1 per acc	ė	1 to 6 per aci	re or	6 10 1	erate (2 pts) i0 per acre or	Dense (3 pts) > 10 per acre or
			(3 pts max) y and assign p	nints	ŀ		r 5% of ar		5% in 10% of		10% t	o 60% ot erea	>50% of area
3 pts mex		Scenic V		——————————————————————————————————————		구	0 to 3					Mounds % of	\$res
,	(/ 1.pt)		value ional Value	 , .		2	0 to 3					D) # per acre	DRW\ +
	100		Historical Value			 	0 to 3					g Trees (12 in ry Habitat ‰	DBH) # pet acre
L	<u></u>		TOTO IDEE TOTOL			اللبيا	0.00	A10 VIII	MINDING DI	GGUIII	grituise	y Habitat %	th alex

DEO Land an	MICHIO	BAN R	API		SMENT METHOD FOR V	VETLAN	IDS (MIRAM)
Site Na		luator:	973	·····		Date: \	12/20/04
' '	t. how much of the Wetland was reviewed?		- [:	areas imp	tation within the Wetland I acted within the past 5 ye	peen alte ars?	red and/or buffer YES ②NO
Note: Th	ne Evaluator must be trained in the MiRAM and should	d refer to	the !	MIRAM Rat	ing Form and User Manual whe	n using thi	is form.
المما	of the following aventions are provided up. the West	Nari	rativ	ve Ratin	g	4% _ 45 F	N-15 1
∐1. Is ar	of the following questions are answered yes, the Weiry part of the Wetland located within an area	design	ated	as Critic	al Habitat <u>and</u> does the We	etland	TES NO
2. Base	y contain habitat suitable for either the Pipin ed on the MDNR's Endangered Species Asse	g Plove essment	r or t We	the Hine's b site and	Emerald Dragonfly?	-	
federal/	state-listed Threatened or Endangered plant	or anir	nal s	species or	ccur within the Wetland?		XYES □ NO
Commu	ore than 5 acres or more than 25% of the ent inity Type? Check all Rare Wetland Commu- nd less than 25% of the wetland, the rare community sho 1 or S2 Natural Community Type Southe	nity Typ uld be spi	oes k Ilt off_	pelow. If t	he Rare Wetland Community is ≀e		□ YES \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
4. Is an	y part of the Wetland within 1000 feet of the ng Lake St. Clair?	Ordina	ry Hi	gh Water	Mark of any of the Great I	akes,	☐YES ☐NO
meigan						<u> </u> .	
Circle th	e appropriate point value(s) and assign the score for	Quant each mei	itati Iric. I	i ve Rati i Determine t	ng he subtotal for each metric and	add to del	termine the final score
6	Metric 1. Wetland Size and Distribution					<u> </u>	is the life body.
9 p(s	1a. Select a size class (6 pts max)] [1h Using	the NWI, select a scarcif	t clace (3 nte may)
Max	6 pts ≥50 acres			/3 p)s	0 to 20% of surrounding 2-mi		
	5 pts 25 acres to <50 acres			2 pts	>20 to 80% of surrounding 2-	mile radiu	s is welland
	4 pts 10 acres to <25 acres		į	1 p1	>80% of surrounding 2-mile r	adius is w	etland
	3 pts 3 acres to <10 acres						
	2 pts 1/2 acre to <3 acres						
	o pr Tiess war ya dese						
8	Metric 2. Buffers and Intensity of Sur	roundi	ng L	and Use	(12 pts max)	·	
12 pts max	2a. Using an aerial photo, select the most appropriate buffer width (6 pts max)		ſ	2b. Using	an aerial photo, select th	e surrou	nding land uses that
	6 pts Wide: ≥150 ft around perimeter		<u> </u>	6 pts	>25% of the total land use Very Low Intensity: Maturing for	esi natural gr	
	4 pts Medium: 75 to <150 ft around perime	eier		4 pts	wildlife area, other wettand, take or river Low Intensity: Shrubland/young to	rest, recent se	elective logging, hay field . lightly
	2 pts Narrow: 25 to <75 ft around the perin		.	2 pts	managed parkland, old field, lightly graze Moderately High Intensity. Re	ed pasture, o	ne jane road/two track
	Very Nacrow: D (no buffer) to c36 ft a				course, conservation (diags recent clear High Intensity: Commercial indus	r-cul (<10 yrs	j. Iwo lane toad
	0 pt perimeter			1 pt	pasture, row crops, multi-lane paved ros		
12	Metric 3. Hydrology (26 pts max)					·····	
26 pts max	3a Select all sources of water for Wetland		[:	3b. Select	all wetland connections t	hat apply	y
	(1 pt) Precipilation			2 pts	100-year floodplain		
	2 pls Groundwater		[-	2.0L§	Between a Stream/Lake/Pond	end Huma	an Land Use
	27ts Seasonal Intermittent Surface Water 5 pts Perennial Surface Water		-	· · · · · ·	Wetland/Upland Complex		··
			_ L	2 pts	Riparian Corridor		
	3c. Select the dominant duration of inundation/saturation, or select all that				ongoing hydrolgic alterati de, or select adjoining opt		
		1 (4.3)		hourt Agn	ac. ar sejeta abildining ODI	iulis 👁 a'	verage (o pts max) 📋
	co-dominate & average (4 pts max)	dito	h(s)		weir(s) point-so		□dredging .
		ditc	s(s)	10	weir(s) point-so stormwater inputs filling/gra	urce ading	□dredging □ other.
	co-dominate & average (4 pts max) 4 pts Permanently inundated	☐ ditc	s(s) es(s)		weir(s)	urce ading I/RR grade	Olher.
	4 pts Permanently Inundated 3 pts Permanently Saturated to Regularly Inundated	☐ ditc	s(s)	No Hydro	weir(s)	urce ading BRR grade ignificant after	other
	co-dominate & average (4 pts max) 4 pts Permanently inundated 3 pts Permanently Saturated to Regularly Inundated 2 pts Regularly Saturated to Seasonally inundated	illes	s(s) es(s)	No Hydro	weir(s) point-so stormwaler inputs filling/gra channelization road ber logic Alterations Apparent; Nos	urce ading biRR grade ugnificant after	other
	co-dominate & average (4 pts max) 4 pts Permanently Inundated 3 pts Permanently Saturated to Regularly Inundated Regularly Saturated to	i dito	s(s) es(s) d pls	No Hydro eleration is of Recovere assessment.	weir(s) point-so stormwater inputs filling/grace filling/grace formwater inputs filling/grace formwater inputs filling/grace formwater formwat	urce ading WRR grade ugnificant after excurred more on is only occurred	alicut(s) aud/or ongoing minor than 20 years prior to the asional

				_		
14	Metric	4. Hal	oitat Alteratio	on and Habi	itat Str	tructure Development (20 pts max)
20 pts max		alue, or natelion rading	select adjoini ☐ dredging ☐ plowing ☐ intensive	ing options & g Idisking e grazing	k average off-	
	4 pt	s ongoin	g minor disturbance : vered: Significan:	s rare substrate disturbanc	e occuned	d more lhan 20 years prior to the solv occasional development, or select adjoining options & average (7 pts max)
	"	Dece	ment and/or ongoing			contract within 20 years prior 7 pts Excellent
	2 pt	Rece	essessment, and/or or oil or No Recove	ngoing minor substra Ery: Multiple signific	ile distorbai - cant substra	rate disturbances have occurred 3 pts Fair
	, p	in the 2	20 years prior to the s	ssessment and/or sig	anificani dis	isturbance is ongoing 1 pt Poor
	4b. Che barner selectiv clearcu 9 pt 6 pt 3 pt 1 pt	road bed/l re cutling tung s No H g) Reco	RR grade	wing or shrub rem arse woody debrit azing Apparent: No sign abitat allemiton occ philicant habitat allem	noval s removal philicant alto uned more alion occum	Assign a point value, or select adjoining options & average (9 pts max) Inutrient enrichment/nuisance algae dredging tarming Introduction Diffing/grading other: Interaction Diffing/grading other: Interaction and/or ongoing minor alteration is rare
 3	,					
10	Metric	5. Spe	cial Situatio	ns (20 pts n	nax)	
20 pts max	5a. Add	10 pts	f any of these	situations a	pply	5b. Add 5 pts for Forested Wetland
		Contains	ical Value (see f USFWS design State-listed Thre	ated Critical Ha	bitat	Stem DBH most be ≥3 in to qualify as a tree. Must be at least 5 acres or 25% of Wettand
			nal species 3 Natural Come of Welland)	nunity Type (a) le	east	is >50% of the landscape in a 1000-ft radius low-permeability surfaces?
		Southern	Bog (at least 5 acre			5d. Subtract 10 points for Low Quality Wetland Is the Wetland less than 1 acre and non-contiguous and either:
	асте	s or 25% of				1) A stormwater treatment pond excavated from upland or 2) More than 75% covered by highly-invasive vegetation (See Metric 65)
15	Metric (6. Veg	etation, Inter	spersion, a	nd Ha	abitat Features (20 pts max)
20 pts may			over score for assign point			6b. Estimate the total open water and assign points (3 pts max) 3 pts High: 2.5 acres or more
			Natura species	high native diversity	3 pls	2.pis Moderate: 1.0 acres to <2.5 acres (1 pt) Low: 0.25 acre to <1.0 acre
		>25% of Welland	dominato opverage	moderate to low native diversity	\$ pts	0 pt. Absent: <0.25 acres
	Vegetalier	Eseã	invasive of non- halive species	moderate to high naine diversity	2 pls	6c. Estimate the total coverage of highly invasive species
	Companent x > 1/2 acre		gartynalc Coverage	iow native diversity moderate to aigh	2 pis	1 pt Virtually Absent: <1% Aerial Coverage 0 pt Nearly Absent: <5% Aerial Coverage
		<25% of	Malive Species dominate coverage	fative diversity townshive diversity	1 pt	(-1 pl) Sparse: 5-25% Aerial Coverage
		Wetand area	invasive or non-	mederale native diversity	1 pl	-3 pts Moderate: 25-75% Aerial Coverage -5 pts Extensive: >75% Aerial Coverage
			najiye species cominale coverage	low native diversity	0 pl	
		>25% of	Nabyć species	moderate to high native diversity	2 pt;	6d. Select one horizontal interspersion option (5 pts max) 5 pts High Degree of Interspersion
	√egelais;o	Websid area	dominaté coverage	townstrue diversity	1 pl	3 pts Moderate Degree of
	Component is <% acre		coverage coverage	species dominais	0 рх	Interspersion And the second
		<25% of We			0 pt	
			orest Overston Shrub/Sapling C			0 pt No Interspersion Moodule Modelle Modelle
		-	Herbaceous Con			6e. Determine the amount of habitat features in the Wetland and assign points (12 pts max)
7 1	Metric 7	Scen	ic, Recreati	onal and		Absent (0 pt) Sparse (1 pt) Moderate (2 pts) Dense (3 pts)
السلب	Cultural	Value	(3 pts max)			<1 per acre
2 pls			y and assign p	oints		1 0 to 3 pts Hummocks/Tussocks/Tree Mounds % of area
mēx	110/	Scenic '	Value ional Value			3 0 to 3 pts Coarse Woody Debris (CWD) # pcracts 3 0 to 3 pts Large Living/Dead Standing Trees (12 in DBH) # peracts
	1 pt 1 pt		Historical Value			2 0 to 3 pts Large Living/Dead Standing Trees (12 in DBH) #peracre

	t Water Maπa							FI	eld F	orm Ve	ersion			 -	-
Site Nar	ne: MY	£ 15	1360	<u> V 6</u>	Evi	luator:	<u>F(1)</u>	J <u>C</u> J					Date:	12/22	40G
	how much					1.0	a a	reas im	pacted	<u>within</u> !	the pas	t 5 years	<u>\$</u> ? 🗗	red and/d ÝES □	
Note: The	e Evaluator m	ust be	rained in	the MiRAN	l and shou	ild refer I	o the M	RAM Ra	ting Fa	m and Us	er Manu	Jal when u	ising thi	s form.	
						Na	rrativ	e Ratii	na						
	of the followin					etland is	rated as	s high fun	clional					ating is no	necess
	y part of the contain ha												and	☐ YE	s ∭ri
	d on the MI												-) -	/1
ederal/s	state-listed	Threat	ened or	Endang	ered plar	it or an	imal sp	ecies o	occur v	vìthin th	e Wetia	and?		X YE	S 🔲 I
3. Is mo	re than 5 a nity Type?	Chool	r more t	han 25% • Metlan	of the er	itire We	tland (compris	sed of	a Rare V	Vetland	; ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;			4.7
acres and	d less than 25!	% of the	wetland, f	the rare con	nmunity sh	ould be s	plit off a	nd evalua	tne Kar ited sep	e welland i erately.	Commun	iity is less i	than	☐ YES	ا 🔯 د
	or S2 Natu				South										
	/ part of the g Lake St. (ind with	ו טטטר מוו	eet of the	Ordina	ary Hig	in Wate	r Mark	of any	of the (Freat Lai	kes,	☐ YES	₹ <u>₽</u>
, o a a a a a a a a a a a a a a a a a a	g Epito oti t				• • •	 .									-
								re Rati							
	appropriate								the sul	ototal for e	ach mel	ric and ad	ld to det	ermine the	final sc
3	Metric 1.	Wet	and Si	ze and D)istribut	ion (9	ots ma	ax)							
9 pls	ta. Select	f a ciz	- class (6 atc ma	~ 1		7 [th their	or the	ADA/I col	ant a c	onenitu o	loop (2) mtn	4)
max	6 pts			o bra ma	^/		┨ ├	13 pu				ng 2-mile r		pts max	.,
	5 pts	-	res lo <5	i0 acres			1	2 pts	_					is wetland	
	4 pts	- `	res to <2				1	(1 pl				2-mile radi			<u>-</u>
	3 pls	3 acr	es to <10	acres			┨ ┕								
	1 1	1													
	2 pts	_ ¼ ac	re to <3 a	cres			1								
	2 pts		re to <3 a han ¼ ac												
Total society]] 					<u></u>		·, -·	
) less t	han ¼ ac	re	ty of Su	rround	ing La	and Us	e (12	pts max					
12 pis	Metric 2.) less t	han ¼ ac ers and	re i Intensi				· · · · ·	'	•	· · · · ·	ect the s	Heron	nding lan	ud usas
	D D	Buffe an aer	han ¼ ac ers and lal phot	intensi	the mos			b. Usin	g an a	erial pho	oto, sel			nding lan	
	Metric 2.	Buffe an aer te buff	han ½ ac ers and rial phot fer width	intensi	the mos nax)			b. Usin	g an a e >25°	erial pho 6 of the Low inter	oto, sel total la	nd use 8	avera		max)
	Metric 2. 2a. Using appropria 6 pts	Buffe an aer te buff Wide:	ers and	i Intensi to, select n (6 pts m around per	the mos nax) imeter	t .		2b. Usin compris	g an a e >25° Very wilding	erial pho 6 of the Low Inter area other Intensity:	oto, sel total la nsity: Ma welland la Shrubland	nd use 8 sluring forest, Le or river Dyoung forest	natural gra	ige (6 pts assland, prairi alective loggin	max) e, designat g, hay field
	Metric 2. 2a. Using appropria 6 pts 4 pts	Buffe an aer te buff Wide	ers and vial phot fer width 2150 ft	intensio, select r (6 pts maround per	the mos nax) imeter ound perin	t		2b. Usin compris 6 pts 4 pts	g an a e >25° Very wildlift Low mana	erial pho 6 of the Low Inter area other Intensity:	oto, sel total la nsity: Ma welland la Shrubland old field, li	nd use & sluring forest, ke or river lygong forest ighly grazed i	natural gra t. recent so pasture, or	nge (6 pts assland, prairi elective logging ne tane road/to	rnax) e, designat g, hay field we tract:
	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts	Buffe an aer te buff Wide: Medit	ers and rial phot fer width ≥150 ft: um: 75 to w: 25 to	i Intensi io, select n (6 pts m around per n <150 ft arou	the mos nax) imeter ound perin	t neter imeter		2b. Usin compris	g an a e >25° Very wildlis Low mana Mod cours	erial pho of the Low Inter- erea other Intensity: ped parkland, erately High, conservation	oto, sel total la nsity: Ma welland la Shrubland, old field, li gh Intens on bliago, re	nd use 8 sluring forest, ke or river dlyoung forest ghtly grazed stily: Reside ecent clear-cu	natural gradical pasture, or ordinal & law of (<10 yrs.)	nge (6 pts assland, prairi elective loggin ne tane road/to ms. manicured), two lane ro	e, designat g, hay field we tract: I parkland, ad
12 pts max	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts	Buffe an aer te buff Wide: Medit	ers and rial phot fer width ≥ 150 ft; um: 75 to w: 25 to Narrow. €	intensio, select r (6 pts maround per	the mos nax) imeter ound perin	t neter imeter		2b. Usin compris 6 pts 4 pts	g an a e >25° Very wildlis Low mana Mod course	erial pho for the Low Interestive Intensity: Intensity Conservation Intensity Intensity	oto, sel total la nsity: Ma welland la Shrubland old field, li gh Intens on bliago, n	nd use 8 studing forest, ke or river diyoong forest ightly grazed Sity: Reside ecent clear-cu	natural gradient separature, of casture, o	age (6 pts assland, prairi elective loggin ne tane road/to ms. manicured), two lane ro	e, designat g, hay field we tract: I parkland, ad
	Metric 2. 2a. Using appropria 6 pts 4 pts	Buffe an aer te buff Wide: Medit Narro	ers and rial phot fer width ≥ 150 ft; um: 75 to w: 25 to Narrow. €	i Intensi io, select n (6 pts m around per n <150 ft arou	the mos nax) imeter ound perin	t neter imeter		2b. Usin compris 6 pts 4 pts 2 pts	g an a e >25° Very wildlis Low mana Mod course	erial pho for the Low Interestive Intensity: Intensity Conservation Intensity Intensity	oto, sel total la nsity: Ma welland la Shrubland old field, li gh Intens on bliago, n	nd use 8 studing forest, ke or river diyoong forest ightly grazed Sity: Reside ecent clear-cu	natural gradient separature, of casture, o	nge (6 pts assland, prairi elective loggin ne tane road/to ms. manicured), two lane ro	e, designat g, hay field we tract: I parkland, ad
	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt	Buffe an aer te buff Wide: Medit Narro Very I perim	ers and rial photoer width ≥150 ft o um: 75 to w: 25 to Narrow. (eler	i Intensi io, select io (6 pts m around per < 150 ft an < 75 ft arou 0 (no buffer	the mos nax) imeter ound perin and the per r) to <25 ft	t neter imeter		2b. Usin compris 6 pts 4 pts 2 pts	g an a e >25° Very wildlis Low mana Mod course	erial pho for the Low Interestive Intensity: Intensity Conservation Intensity Intensity	oto, sel total la nsity: Ma welland la Shrubland old field, li gh Intens on bliago, n	nd use 8 studing forest, ke or river diyoong forest ightly grazed Sity: Reside ecent clear-cu	natural gradient separature, of casture, o	age (6 pts assland, prairi elective loggin ne tane road/to ms. manicured), two lane ro	e, designat g, hay field we tract: I parkland, ad
mex 2	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts	Buffe an aer te buff Wide: Medit Narro Very I perim	ers and rial photoer width ≥150 ft o um: 75 to w: 25 to Narrow. (eler	i Intensi io, select io (6 pts m around per < 150 ft an < 75 ft arou 0 (no buffer	the mos nax) imeter ound perin and the per r) to <25 ft	t neter imeter		2 pts	g an a e >25° Very widdi Low mana Mod cours High pastin	erial pho 6 of the Low Inter- area, other Intensity: get partant erately High conservation Intensity: e, row crops.	oto, seltotal la nsity: Mi welland le Shrubland old field, li gh Inter- n pliage. " Commerc qualitate	nd use 8 sluning forest, ke of river flyoong forest ghtly grazed i sality: Reside ecent clear-cu tel industrial; paved road; c	L aversimated grant and a second seco	age (6 pts assland, praint plective loggim he tane road/h ms. manicured), two tane, ro sity resionnital in activity, para	e, designat g, hay field we tract: I parkland, ad
ÿ plu	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3.	Buffe an aer te buff Wide: Media Narro Very I perim	ers and rial photoer width ≥150 ft um: 75 to w: 25 to Narrow. (eter	intension, select on (6 pts maround per or <160 ft and or <75 ft around 0 (no buffer	the mosnax) imater ound perin and the per r) to <25 ft	t reter imeter around		2 pts	g an a e >25° Very widdid Low mana. Mod course High postur	erial pho 6 of the Low Inter- area other Intensity: 10 parkand, erately Hip 10 conservation Intensity: 10 row crops,	oto, seltotal la nsily: Mi welland la Shribland, lid field, lid go Inter- control liliago, ri Commen dipilir lane	nd use 8 studing forest, ke or river diyoong forest ightly grazed Sity: Reside ecent clear-cu	L aversimated grant and a second seco	age (6 pts assland, praint plective loggim he tane road/h ms. manicured), two tane, ro sity resionnital in activity, para	e, designat g, hay field we tract: I parkland, ad
mex Gpts	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3.	Buffe an aer te buff Wide: Media Narro Very I perim Hydrall sou	ers and rial photo fer width ≥150 ft and w: 25 to Narrow. (eler close of vilation	intension, select on (6 pts maround per or <160 ft and or <75 ft around 0 (no buffer	the mosnax) imater ound perin and the per r) to <25 ft	t reter imeter around		2b. Usin comprise 6 pts 4 pts 2 pts 1 pt)	g an a e >25° Very widd. Low mana. Mod cours. High pastur et all w	erial pho for the Low Inter area other Intensity: ped parkand, erately High conservation intensity: e. row crops,	oto, sel total la nsity: Ma welland la Shubland, in Shubland, in gh Intens dudit lane (gamera quiti lane	nd use & sluving forest, ke or river divorage forest ghally grazed signify grazed	A average natural gradural gradural gradural gradural control and (<10 areas natural construction and (<10 areas natural gradural gradura	age (6 pts assland, praini plective loggim ne tane road/o ms. manicured), two tane, ro silly resionntal in activity, par	e, designat g, hay field we tract: d parkland, ad , heavily gr king fol) me
g plu	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 1 pt) 2 pts	Buffe an aer te buff Wide: Media Narro Very I perim Hydr all sou Precip Groun	ers and rial phot fer width ≥150 ft um: 75 to w: 25 to Narrow. (eler close of v iltation dwater	intension, selection, selection (6 pts maround per 4150 ft and 475 ft around (no buffer 26 pts mater for	the mosnax) imeter ound perin and the per r) to <25 ft nax) Wetland	t neter imeter around		2b. Usin comprise 6 pts 4 pts 2 pts 1 pt b. Select 2 pts 2 pts 2 pts 2 pts	g an a e >25° Very widdif Low mana. Mod cours. High position t all w 100- Betw	erial pho 6 of the Low Inter Low Intersity; ged parkland, erately Hig. conservator internsity: e. row crops, exetland of year flood, een a Stre	oto, sel total la nsity: Ma welland la Shubland, la Shubland, li gh Inten- n tilian Gagmer quilir lane	nd use & sluving forest, ke or river librory forest ghtly grazed silly: Residenced televicos and industrial industrial pawed road; of control of the control of the control of the control of the control industrial pawed road; of the control of the	A average natural gradural gradural gradural gradural control and (<10 areas natural construction and (<10 areas natural gradural gradura	age (6 pts assland, praint plective loggim he tane road/h ms. manicured), two tane, ro sity resionnital in activity, para	e, designat g, hay field we tract: d parkland, ad , heavily gr king fol) me
mex Gpts	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 2 pts	Buffe an aer te buff Wide: Medit Narro Very I perim Hydr all sou Precip Groun Seaso	ers and rial photo fer width ≥150 ft um: 75 to w: 25 to Narrow. (eler close of viliation dwater mail interm	Intension, selection (6 pts maround per 4150 ft and 475 ft around per 426 pts maround marter for ma	the mosnax) imeter ound perin and the per r) to <25 ft nax) Wetland	t neter imeter around		b. Usin comprise 6 pts 4 pts 2 pts 1 pt b. Select 2 pts 2 pt	g an a e >25° Very wildlift Low mana. Mod cours. Hod position at all w 100- Betw Welli	erial pho 6 of the Low Inter Low Intersity: 10 de partand erately High 10 conservatio 10 intersity: 10 intersi	oto, sel total la nsity: Mi welland la Shrubland, li gh Inten- totiled, li gh Inten- totiled, li gh Inten- totiled la le connec- quili-lane	nd use & sluving forest, ke or river librory forest ghtly grazed silly: Residenced televicos and industrial industrial pawed road; of control of the control of the control of the control of the control industrial pawed road; of the control of the	A average natural gradural gradural gradural gradural control and (<10 areas natural construction and (<10 areas natural gradural gradura	age (6 pts assland, praini plective loggim ne tane road/o ms. manicured), two tane, ro silly resionntal in activity, par	e, designat g, hay field we tract: d parkland, ad , heavily gr king fol) me
G pts	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 2 pts 5 pts	Buffe an aer te buff Wide: Mediu Narro Very I perim Hydr all sou Precip Groun Seaso Pereni	ers and rial phot for width 2150 ft a m: 75 to Narrow. (eler roes of vitation dwater mial Surfa	i Intensi io, select io, select io (6 pts m around per io <150 ft and io (no buffer 26 pts m water for mittent Surface Water	the mosnax) imater ound perin and the per r) to <25 ft max) Wetland	t neter imeter around		2b. Usin comprise 6 pts 4 pts 2 pts 1 pt b. Select 2 pts 2 pts 2 pts 2 pts	g an a e >25° Very wildlift Low mana. Mod cours. Hod position at all w 100- Betw Welli	erial pho 6 of the Low Inter Low Intersity; ged parkland, erately Hig. conservator internsity: e. row crops, exetland of year flood, een a Stre	oto, sel total la nsity: Mi welland la Shrubland, li gh Inten- totiled, li gh Inten- totiled, li gh Inten- totiled la le connec- quili-lane	nd use & sluving forest, ke or river librory forest ghtly grazed silly: Residenced televicos and industrial industrial pawed road; of control of the control of the control of the control of the control industrial pawed road; of the control of the	A average natural gradural gradural gradural gradural control and (<10 areas natural construction and (<10 areas natural gradural gradura	age (6 pts assland, praini plective loggim ne tane road/o ms. manicured), two tane, ro silly resionntal in activity, par	e, designat g, hay field we tract: d parkland, ad , heavily gr king fol) me
mex Gpts	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 1 pt) 2 pts 2 pts 5 pts 3c. Select	Buffe an aer te buff Wide: Media Narro Very I perim Hydr all sou Precip Groun Seaso Peren	ers and rial phot fer width ≥150 ft um: 75 to w: 25 to Narrow. (eler roes of viltation dwater unal Intern nial Surfa	i Intensi io, select io, select io (6 pts m around per < 150 ft and 0 (no buffer 26 pts m water for mittent Surface Water duration	the mosnax) imeter ound perin and the per r) to <25 ft max) Wetland	t meter imeter around	3 Check	b. Usin comprise 6 pts 4 pts 2 pts 1 pt 1 pt 2 pts 2 p	g an a e >25° Very widdid Low mana. Mod cours Mod cours High pastur 100- Betw Wett Ripar	erial pho for the Low Inter area other Intensity: a conservation Inten	oto, sel total la nsity: Ma welland la Shrubland la Gonnec dud field, li Gonnec dud field, li Gonnec dud field, li Gonnec dud field la connec dud	nd use & sluving forest, ke or river dyoung forest, ke or river dyoung forest ghilly grazed signify grazed signify grazed signify grazed signify grazed coefficient coefficien	A average ratural grant ratural grant ratural grant ratural grant ratural grant ratural for second ratural for second ratural for second ratural ratur	age (6 pts assland, praint plective loggim ne tane road/ me, manicured), two lane, ro sity resionntal n activity, pan / an Land Us	e, designate, designat
mex Gpts	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 2 pts 5 pts 3c. Select inundation	Buffe an aer te buff Wide: Media Narro Very I perim Hydr all sou Precip Groun Seaso Peren the do //satur	ers and rial phot for width 2150 ft a m: 75 to Narrow. (eler close of viltation dwater minal Surfa minant ation, of	i Intensitio, select of (6 pts maround per extension) (no buffer e	the mosnax) imeter ound perin and the per r) to <25 ft max) Wetland face Water of	t meter imeter around	3 Checkign a	b. Usin comprise 6 pls 4 pts 2	g an a e >25° Very widdid Low mana. Mod cours Mod pastur t all w 100- Betw Wett Ripar r ongo	erial pho for the Low Inter area other Intensity: adaption Intensity: a conservation Intensity: a conservation Intensity: a row crops retland o rear flood een a Stre and/Uplan ian Corrio ing hydr r select a	oto, sel total la nsity: Ma welland la Shrubland la Godfield, li gh Interes distribution old field, li gh Interes distribution of field, li gh Interes distribution old field, li gh Interes distribution old field la Godfield la Godfiel	nd use & alumn forest, te or river divormer forest ghow grazed silly: Residence the success and an additional pawer road; of the success the success of the	A average ratural grant ratural grant ratural grant ratural grant ratural for the ratural forms and ratural forms	nge (6 pts assland, praini plective loggim ne tane road/ ms. manicured), two lane, ro sity resioential n activity, pan mn Land Us near We verage (8	e, designate, designat
12 pts max	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 5 pts 3c. Select inundation co-domina	Buffe an aer te buff Wide: Media Narro Very I perim Hydr all sou Precip Groun Seaso Perenite & au	ers and rial photo fer width ≥150 ft and width ≥150 ft and width verses of verses minant attors, of verses (intension, select a (6 pts maround per 4 150 ft and 7 150	the mosnax) imeter ound perin and the per r) to <25 ft max) Wetland face Water of	imeter imeter around	3 Check	b. Usin comprise 6 pls 4 pts 2	g an a e >25° Very widdid Low mana. Mod cours High pastur 100- Betw Wett Ripar r ongo	erial pho for the Low Inter area other Intensity: adaption Intensity: a conservation Intensity: a conservation Intensity: a row crops retland o rear flood een a Stre and/Uplan ian Corrio ing hydr r select a	oto, sel total la nsity: Ma welland la shrubland la shrubland la shrubland la shrubland la shrubland la shrubland la connact plain mam/Lak d Compior rolgic a adjoint:	nd use & sluving forest, ke or river dyoung forest, ke or river dyoung forest ghilly grazed signify grazed signify grazed signify grazed signify grazed coefficient coefficien	A avera natural gra t. recent st pasture, of pasture,	age (6 pts assland, praint plective loggim ne tane road/ me, manicured), two lane, ro sity resionntal n activity, pan / an Land Us	e, designate, designat
G pis	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 2 pts 5 pts 3c. Select inundation	Buffe an aer te buff Wide: Media Narro Very I perim Hydr all sou Precip Groun Seaso Pereni the don/satur	ers and rial photo fer width ≥150 ft is with 25 to Narrow. Ceter close of violation dwater minal Surfa minant later ation, of verage (unently Inc	i Intension, selection (6 pts maround per extension) (150 ft around per extension) (160 pts maround extension)	the mosnax) imeter ound perin and the per r) to <25 ft max) Wetland face Water of	imeter around 3d. Ass	Checkign a lich(s)	b. Usin comprise 6 pts 4 pts 2	g an a e >25° Very wildlift Low mana. Mod cours) High pastur 100- Betw Well: Ripar r ongo	erial pho 6 of the Low Inter Low Inter Low Intersity, 10 de partand erately High conservation Intensity; 10 de partand crately High conservation Intensity; 10 de partand conservation Intensity; 10 de partand conservation retland co rear lood een a Stre and/Uplan ian Corrio ing hydi r select a i) water input letzalion	oto, sel total la nsity: Mi welland la Shrubland la Shrubland, lott field, li gh Intens tot field, li gh utlender fruiti-lane connect plain aam/Lak d Comp ior rolgic a adjoinli s	nd use & slump forest, ke or river bylogon process, and udustnat paved roady of the process, and udustnat paved roady or roady or respectively. The process of th	A avera natural gra to recent st pasture, of pasture,	inge (6 pts assland, prairi plective loggim ne tane road/h ms. manicurec), two tane ro sity resionntal n activity, pan / m Land Us near Wa verage (8	e, designate, designat
C G pts	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 5 pts 3c. Select inundation co-domina	Buffe an aer te buff Wide: Medit Narro Very I perim Hydr all sou Precip Groun Seaso Peren the do //satur te & ar	ers and clai phote for width ≥150 ft ≥150 ft w: 25 to Narrow. Ceter clogy () roes of bitation dwater minant of attion, of verage (mently In. mently Sa	i Intension, select on (6 pts maround per 4/150 ft around per 4/150 ft around (no buffer per 4/150 ft around per 4/150 ft arou	the mosnax) imeter ound perin and the per r) to <25 ft max) Wetland face Water of	imeter around 3d. Ass	Checkign a lich(s) es(s)	b. Usin tompris 6 pts 4 pts 2	g an a e >25° Very wildlift Low mana. Mod course High position Betw Welli Ripar r ongo	erial pho 6 of the Low Inter Low Inter Low Intersity, 10 de partand erately High conservation Intensity; 10 de partand crately High conservation Intensity; 10 de partand conservation Intensity; 10 de partand conservation retland co rear lood een a Stre and/Uplan ian Corrio ing hydi r select a i) water input letzalion	oto, sel total la nsity: Mi welland la Shrubland la Shrubland, lott field, li gh Intens tot field, li gh utlender fruiti-lane connect plain aam/Lak d Comp ior rolgic a adjoinli s	nd use & slump forest, ke or river bylogon process, and udustnat paved roady of the process, and udustnat paved roady or roady or respectively. The process of th	A avera natural gra to recent st pasture, of pasture,	nge (6 pts assland, praini plective loggim ne tane road/o me, manicured), two lane, ro sity resionnital n activity, para / nn Land Us near We yerage (8	e, designate, designat
G pis	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 2 pts 5 pts 3c. Select inundation co-domina 4 pts 3 pts	Buffe an aer te buff Wide: Media Narro Very I perim Hydr all sou Precip Groun Seaso Peren the do //satur te & au Perma Regula	ers and rial photo fer width ≥150 ft is with 25 to Narrow. Ceter close of violation dwater minal Surfa minant later ation, of verage (unently Inc	Intension, select on (6 pts maround per 150 ft and 150 ft and 150 ft and 150 (no buffer per 150 ft and 150 ft	the mosnax) imeter ound perin and the per r) to <25 ft max) Wetland face Water of	imeter around 3d. Ass	Checkign a lich(s) es(s) kes(s) 8 pls	b. Usin comprise 6 pts 4 pts 2	g an a e > 25° Very wildlift Low mana. Mod course High position Betw Welli Ripar r ongo	erial pho for the Low Intersity, sed partland, conservation Intersity; sed partland, crately High conservation Intersity; e. row crops, retland of real of rea	oto, sel total la nsily: Ma welland la Shrubland la Shrubland, la Shrubland, old field, li gh Intercontilla ne tillagamera fuulir lane connecciplain earn/Lak d Complior adjoinl: s	nd use & suning forest, ke or river light on the control of the co	A average ratural grant at apply ad Human S in or nes & an nes & a	nge {6 pts assland, praini plective loggim ne tane road/o ms. manicured), two tane, ro sility (estomital n activity, pan / mear Wa verage (8	e, designate g, hay field we tract: d parkland, ad heavily gride for the field of t
G pis	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 5 pts 5 pts 3c. Select inundation co-domina 4 pts	Buffe an aer te buff Wide: Media Narro Very I perim Hydr Groun Seaso Peren the do //satur te & ar Perma Regula Regula Seaso	ers and rial phot fer width 2150 ft is um: 75 to w: 25 to Narrow. Ceter ology (: rees of viltation dwater minal Intern mial Surfa minant is ation, of verage (unently Inund arity Saturn milly Inund milly Inund milly Inund	i Intensi io, select io, select io (6 pts m around per io <150 ft and io (no buffer 26 pts m water for mittent Surface Water duration r select a 4 pts ma undated ated to idated	the mosnax) imeter ound perin and the per r) to <25 ft wetland face Water of dl that x)	imeter around 3d. Ass	Checkign a lich(s) es(s) kes(s)	b. Usin comprise 6 pls 4 pts 2	g an a e >25° Very widdiff Low hans Mod cours	erial pho for the Low Inter area other Intensity: ped parkand, erately High conservation Intensity: ped parkand, erately High conservation Intensity: ped parkand, erately High conservation Intensity: ped parkand erateland of year flood een a Stre and/Uplan ian Corrio ing hydir select a Alterations Intensity in the parkand intensity in the park	oto, sel total la nsity: Ma welland la Shrubland la Shrubland la Connec dudicida la conne	nd use & slunng forest, ke or river divoring forest, ke or river divoring forest gathy grazed gathy grazed silly: Residuent clear-ct card adustrial pawed road; of the control of the cont	A avera natural gra tracent sin pasture, of pasture, o	nge (6 pts assland, praini plective loggim te tane road/o ms. manicured), two lane, ro sily resioential in activity, par In Land Us Prear Wa Verage (8 Odrec Oth atton(s) and/o	e, designate g, hay field we tract: d parkland, ad heavily gr ing to) me etiand pts ma dging er; r ongoing in
C G pts	Metric 2. 2a. Using appropria 6 pts 4 pts 2 pts 0 pt Metric 3. 3a Select a 2 pts 2 pts 5 pts 3c. Select inundation co-domina 4 pts 3 pts	Buffe an aer te buff Wide: Media Narro Very I perim Hydr all sou Precip Groun Seaso Pereni the do saturate & ai Perma Regula Regula Seaso Seaso	ers and rial phot fer width 2150 ft is um: 75 to w: 25 to Narrow. Ceter ology (: rees of viltation dwater minal Intern mial Surfa minant is ation, of verage (unently Inund arity Saturn milly Inund milly Inund milly Inund	i Intension, select of (6 pts maround per extension) (no buffer ex	the mosnax) imeter ound perin and the per r) to <25 ft wetland face Water of dl that x)	imeter around 3d. Ass	Checkign a lich(s) es(s) kes(s) 8 pls	b. Usin comprise 6 pls 4 pts 2	g an a e > 25° Very widdid. Low mana. Mod cours: Mod co	erial photo of the Low Interiors other Low Interiors other Intensity: e. conservation Intensity: e. row crops. retland cover flood een a Stresmid/Uplan ian Corrior ing hydronian Corrior ing hydronian Corrior interiors in the control in the con	coto, sel total la nsity: Ma welland la shribin la nsity: Ma welland la shribin la nsity: Ma di final la nsity: Ma filiago, ri Connecto di final la nsity: India no di final la nsity: India nsity: Indi	nd use & slunng forest, ke or river divoring forest, ke or river divoring forest gathy grazed gathy grazed silly: Residuent clear-ct card adustrial pawed road; of the control of the cont	A average ratural grant ratura	nge (6 pts assland, prairi plective loggim te tane road/o ms. manicured), two lane, ro sity resionntal in activity, para / an Land Us near We yerage (8 Glare Glare Glare Hann(s) and/o than 20 years seconal within 20 years	e, designate g, hay field we tract: d parkland, ad heavily gr ing to) me etiand pts ma dging er; r ongoing in

5	Metric	4. Ha	bitat Alterati	on and Hab	itat Str	ructure Development (20 pts max)
20 pts max	4a. Chi point v ☐ erosio ☐ sedim ☐ filling/	value, or entation grading	select adjoin dredgin plowing intensiv	ing options i g /disking e grezing	& averag	
	4 p	ns ongoin	ng mynor disturbance i DVETED: Significant	s rare substrate disturbant	cs occuned r	d more then 20 years grior to the conty occasional 4c. Select the Wetland's habitat structure development, or select adjoining options & average (7 pts max)
	2 p	Reco	smeni and/or ongoing DV6/ING: A single si assessment, and/or o	ignificani substrale d	fisturbance o	occurred within 20 years prior 7 pts Excellent
	1	Rece	ent or No Recove	Pry: Multiple signifi	capt substrat	ance is frequent 5 pts Good 3 pts Fair sturbance is ongoing (1 pt) Poor
	4b_Che	eck past	or ongoing h	abitat altera	tion. As	ssign a point value, or select adjoining options & average (9 pts max)
	☐ barrier ☐ selecti ☐ clearci ☐ 9 pt	ive cutting utting Is No H	abilat Alteration	azing Apparent: Nos	is removal	□ nulrient enrichment/nuisance algae al □ herbicide/chemical treatment □ fillling/grading □ other: □ sedimentation □ plowing/disking Iteration and/or ongoing minor alteration is rare than 20 years prior to the assessment and/or ongoing minor habital alterations only occasional
	(3 p)					tried within 20 years prior to the assessment, and/or engoing minor alteration is frequent
	1 01					alterations have occurred in the 20 years prior to the assessment and/or habitat akeration is oncome
-5	Metric		cial Situatio			
20 pts max	5a. Add	10 pts	if any of these	situations a	врріу	5b. Add 5 pts for Forested Wetland
			ical Value (see I USFWS design			Exhibits combined canopy cover from any group(s) of frees. Stem DBH must be 23 in to quality as a tree. Must be at least 5 acres or 25% of Welland
		Federal/8	State-listed Thre			5c. Add 5 pts for Urban/Suburban Wetland
			nal species 33 Natural Cornn	nunity Type (at)	easi	5 Is >50% of the landscape in a 1000-ft radius fow-permeability surfaces?
	5 20	tres or 25% o	of Welland)		ŀ	5d. Subtract 10 points for Low Quality Wetland
		Old-Grow	Bog (at least 5 acre ith / Mature Pore	s or 25% of Wellan sted Welland (d) alleast5	Is the Wetland less than 1 acre and non-conliguous and either:
		Great Lat	Welland) kes Coastal Wet	land		1) A stormwater treatment pond excavated from upland or 2) More than 75% covered by highly-invasive vegetation (See Maint 6c)
2	Metric	6. Veg	etation, Inter	spersion, a	nd Hab	bitat Features (20 pts max)
20 pls max			over score for assign point			6b. Estimate the total open water and assign points (3 pts max) 3 pts High: 2.5 acres or more
			Hatve apecres	high nabve diversity	3 pJs	2 pts Moderate: 1.0 acres to <2.5 acres 1.pl. Low: 0.25 acre to <1.0 acre
]]	>25% of Welland	dominate coverage	modurate to tovi native diversity	2 pts	0 pt Absent: <0.25 acres
	Vegetaliph	Arta	Investive of non- native species	moderate to high native divarsity	2 918	6c. Estimate the total coverage of highly invasive species
	Component E > 1/2 sors		dominale coverage	low native diversity moderate to high	161	1 pt Virtually Absent: <1% Aerial Coverage 0 pt Nearly Absent: <5% Aerial Coverage
		≠25% of	Native species dominate coverage	native diversity low native diversity	L pls	(1-1 pt) Sparse: 5-25% Aerial Coverage
		Welland nea	Invasive or non-	moderate spine	1 p1	-3 pts Moderate: 25-75% Aerial Coverage
	li l		natvá speciás Opminaté coverage	diversity low matter diversity	0 pi	-5 pts Extensive; >75% Aerial Coverage
		· · · · ·	Native species	moderate to high native diversity	2 014	6d. Select one horizontal interspersion option (5 pts max)
	Vegetation	>26% of Webship area	domenalo coverage	low native diversity	1 pi	5 pts High Degree of Interspersion 3 pts Moderate Degree of
	Compenent is \$15 acres		consustic or non-united:	species dominate	0 p1	Interspersion NAW UN 104
		<25% of Wes			D _D)	1 pt Low Degree of Interspersion
			orest Overstory hrub/Sapling C			(0 pl No Interspersion possess possess repr
			terbaceous Con		\neg	6e. Determine the amount of habitat features in the Wetland
						and assign points (12 pts max)
7			ic, Recreation	onal and		Absent (0 pt) Sparse (1 pt) Moderate (2 pts) Dense (3 pts)
			(3 pts max)	-1-1-		<1 per acre
pis nax			y and assign p	oints		0 to 3 pts Hummocks/Tussocks/Tree Mounds % of area
·····	1 pt	Scenic \ Recreat	zalue ional Value			0 to 3 pts Coarse Woody Debris (CWD) # per scre 0 to 3 pts Large Living/Dead Standing Trees (12 in DBH) # per scre
Ė	1 pl		Historical Value			0 to 3 pts Large Living/Dead Stationing Trees (12 in DBH) # per edge

DEQ.	nd Wate	r-Mana	MICHI gement:Division	GAN	RAPIE		SMENT METHOD FOR WETLA	NDS (MIRAM)
Site Na	ame: 🤉	Arb.	of Hills # H Eva	luato	r Bi	, 77	Date:	18/22/09
Approx	x. how	much	of the Wetland was reviewed?	<u>37</u>			tation within the Welland been all acted within the past 5 years?	
Note: T	he Eval	uator m	ust be trained in the MiRAM and shou	id refer	to the M	IIRAM Rati	ng Form and User Manual when using t	his form.
						e Ratin		
If any	of the t	ollowin	g questions are answered yes, the We	etland is	s rated a	s high (und	tional value and use of the Quantitative	Rating is not necessary.
			e Wetland located within an area bitat suitable for either the Pipir					☐ YES ØNO
2. Bas	ed on t	the MC	NR's Endangered Species Ass	essme	ent We	site and	l/or site inspection, do	YES NO
			Threatened or Endangered plan					E 120 1110
			cres or more than 25% of the en Check all Rare Wetland Commi					
5 acres a	uruty i indiessi	ype: Ihan 25%	6 of the wetland, the rare community sho	ould be	ypes . split off :	erow. Inte	ne Kare Wenang Community is less than ed separately.	☐ YES ☐ NO
_ □s	31 or \$2	2 N <u>atui</u>	ral Community Type 🔲 South	ern Bo	<u>g</u> [] Old-Gra	wth/Mature Forested Wetland	
				Ordir	ary Hi	gh Water	Mark of any of the Great Lakes,	☐ YES \☐'ÑO
includir	ug tak	e 31, C	Hall ?					
						ve Ratii		
							he subtotal for each metric and add to d	etermine the final score.
0	Me	tric 1.	Wetland Size and Distribut	ion (9	pts m	ax)	····	
9 pts max	1a.	Select	a size class (6 pts max)		7 [1b. Using	the NWI, select a scarcity class	(3 pts max)
ШДА		6 pts	≥50 acres		- }	/3 p/s	0 to 20% of surrounding 2-mile radius	``
		5 pts	25 acres to <50 acres	· · · · · · · ·	-	2 pls	>20 to 80% of surrounding 2-mile radi	
		4 pts	10 acres to <25 acres		7	1 pt	>80% of surrounding 2-mile radius is	
		3 108	3 acres to <10 acres		٦,		<u>. </u>	
		2 pts	1/4 acre to <3 acres		7			
	ļ	0 pt	less than 1/2 acre	· <u></u>				•
1-1	Met	ric 2.	Buffers and Intensity of Sur	roun	ding L	and Use	(12 pts max)	·
12 pls ബമാ			an aerial photo, select the mos	l .	7 [2b. Using	an aerial photo, select the surro	unding land uses that
	app	ropriai i	te buffer width (6 pts max)		-	comprise	>25% of the total land use & aye	
		6 pts	Wide: ≥150 ft around perimeter	,		6 pts	Very Low Interisity: Maturing forest, natural wildlife area, other welland, lake or river	
		4 pts	Medium: 75 to <150 ft around perim	neter] [4 pts	LOW Intensity: Shrubtandyoung forest recent managed parkland, old field, highly grazed pasture.	
	Į	2 pts	Narrow: 25 to <75 ft around the peri	meler		2 pts	Moderately High Intensity.(Residential & locurse, conservation billage, recent disar-cuit (10 y	ewija, menjedireo parklandagoli vs.), iwo lane "mad
		0 рі	Very Narrow; 0 (no buffer) to <25 ft	around	7	‡ pt	High Intensity: Commercial industrial high-di	ensity residential, heavily grazed
	<u> </u>	i	perimeter				pasture, row crops, multi-lane paved road, construc	ation servicy, parking for mining
10	Met	ric 3	Hydrology (26 pts max)			•		
25 pts max	3a S	elect a	Il sources of water for Wetland		_	b. Select	all wetland connections that app	oly
	X	1 pt	Precipitation		_ L	2 pts	100-year floodplain	
	$ \lambda $	2 pts	Groundwater		J L	2 pts	Between a Stream/Lake/Pond and Hur	nan Land Use
-		2 pts	Seasonal Intermittent Surface Water]	2 pts	Wetland/Upland Complex	
	L	5 pls	Perennial Surface Water		JL	2 pis	Riparian Corridor	
			the dominant duration of	3d	. Chec	past or	ongoing hydrolgic alterations in	or near Wetland.
			/saturation, or select all that	As	sign a		ue, or select adjoining options &	
	co-d	omina	te & average (4 pts max)		diloh(s)		weir(s) point-source	dredging
	X	4 pls	Permanently Inundated		liles(s) dikes(s)		stormwater inputs	e olher:
		3 04-	Permanently Saturated to	\ <u></u> `	1		logic Alterations Apparent: No significant al	
		3 pts	Regularly Inundated		8 pts	alteration is o	are	
		2 pts	Regularly Saturated to Seasonally inundated	İ	6 pts		Significant hydrological alternion(s) occurred mo and/or ongoing minor hydrological alteration is only o	
		1 = 1	Seasonally Saturated in the	ļ	4 = 1		RG: A single significant hydrological alteration occur	
The control of the B		1 pt	Upper 12 Inches of Soil	-	4 pts	assessment.	and/or ongoing minor hydrological alleration is frequ	ent
	ubtotat is page				(Tpt)	Recent or	No Recovery: Multiple significant hydrological rito the assessment and/or agnificant afteration(s) is	alterations have occurred in the
				L		Ten tene hun	e-actioners arrorer septiment arrelation(\$) is	ungenty

Subtotal this page

17.	Metric	4. Hab	itat Alteratio	on and Habitat St	ructu	re Developme	ent (20 pts max)	
20 pts mar	4a. Che point v ☐ erosion ☐ sedime	alue, or n entation	or ongoing s select adjoini oredging plowing/	disking 🗓 co	ge (4 -road ve nstruction	e. Assign a pts max) chicle use on vehicle use		
	4 pt	No Si engoin Reco	g minor disturbance is vered; Significant :	ance Apparent; No significare substrate disturbance occurred minor substrate disturbance is	more tha	an 20 years prior to the		tland's habitat structure select adjoining options & ix)
	2 pt	Reco	vering: A single sig	gniticant substrate disturbance going minor substrate disturba	accurred	within 20 years prior	7 pts Exceller 5 pts Good	
	1 pt	in the 2	0 years prior to the as	ry: Multiple significant substr sessment and/or significant di	sturbance	e is angoing	1 pt Poor	now trees, Dead de A,
		froad bed/f we culting offing s No Ha s Records	RR grade	wing or shrub removel arse woody debris remova izing Apparent: No significant al rabilat afteration occurred mon inficant habital afteration occur.	I http://discount.com/discount.	utrient enrichment/me erbiside/chemical tre edimentation ind/or ongoing minor all years prior to the asset n 20 years prior to the r	ursance álgáe 🔲 dredging almen! 🔲 filling/grádin 🔲 plowing/disk	ing alterations only occasional teration is frequent
5	Metric	5. Spe	cial Situation	ns (20 pts max)	-			
20 pis max	5a. Add	10 pts i	f any of these	situations apply			for Forested Wetland	
		Contains Federal/S nt or anim	USFWS designated Threated Species	Narralive Rating above ated Critical Habitat atened or Endangered		Stem DBH must	or Urban/Suburban W	e at least 5 acres or 25% of Welland
	5 ac	res or 25% o Southern Old-Grow s or 25% of t	i Welland) Bog (at least 5 scre th / Mature Fore	nunity Type (a) least as or 25% of Welland) asted Wetland (at least 5 land		5d. Subtract 1 Is the Wetla 1) A stormw	D points for Low Quality and less than 1 age and nor get realment pond excava	y Wetland -contiguous and either:
7	Metric	6. Vege	etation, Inter	spersion, and Ha	bitat	Features (20	pts max)	
20 pis max			ver score for assign point	each Vegetation s (9 pts max)] [3 pls High	2.5 acres or more	assign points (3 pts max)
		>25% of Weltand	Notive species dominale coverage	high hadive dipis oversity dipis moderate to tow number at weeking dipis		1 pt Low:	erate: 1.0 acres to <2.5 acr 0.25 acre to <1.0 acre ent: <0.25 acres	es
	Vegetation Component R>V sere	6483	MYSSIVE OF NON- nalive SOFC-85 dominale coverage	moderate to high netive diversity 2 pts tow halive diversity 2 pt moderate to high		1 pt Virtu	e total coverage of hig ally Absent: <1% Aerial Co ly Absent: <5% Aerial Cow	verage
		≺25% ol Wehand ar€a	Maine species dominate coverage rypsive of non- native species	native diversity 2 of the standard diversity 1 or diodorate painty diversity 1 pt		-1 p/> Spar -3 pts Mode	se: 5-25% Aerial Coverage erate: 25-75% Aerial Covera nsive: >75% Aerial Covera	Asamon // // // age
		>25% of Wetrand	dominate coverage Mative spacies dominate coverage	low native diversity — G pt moderate to high — 2 pts native diversity — 1 pt		5 pts High	horizontal interspersion Degree of Interspersion trate Degree of	n option (5 pts max)
	Vegetation Comportent is <% arzé	area <25‰ of Wet		e pt		1 pt Low	persion Degree of Interspersion	
	/ 0 to	3 pts 5	orest Overstory Shrub/Sapling C Jerbaceous Con		- :	6e. Determine t	terspersion the amount of habitat f ints (12 pts max)	eatures in the Wetland
3 pis	Cultura	l Value	ic, Recreation (3 pts max) y and assign p			Absent (0 pt) 1 per acre or 5% of area	Sparse (1 pt) Mode 1 to 5 per scre or 5 to	Perate (2 pts) Dense (3 pts) 10 per acre or > 10 per acre or or 50% of area Mounds % of area
max	1 pl		Value ional Value (Historical Value			0 to 3 pts 0 to 3 pts 0 to 3 pts	Coarse Woody Debris (CV Large Living/Dead Standin Amphibian Breeding/Nurse	g Trees (12 in DBH) * persons

46

DE Land an	d Water Management Division	- INTO THO AT			eld Form Ve	HOD FOR WE	EILAN	DS (IVIIKA	1141)
Site Na	me: ANDO: IIID W I	Evaluate	or: ph /	160			Date:	12/22	1.59
	. how much of the Wetland was re		·· ″ are	eas im	etation within ti pacted <u>within t</u>	he past 5 year	<u>'s</u> ? 📋 ነ	YES 📈 N	ouffer O
Note: Th	ne Evaluator must be trained in the MiRAf	vi and should refe	er to the MiF	RAM Ra	iting Form and Use	er Manual when i	using this	s form.	_
		· N	larrative	Ratio	ng				
If any	of the following questions are answered by part of the Wetland located with	yes, the Wetland	is rated as I	high fun	ctional value and	use of the Quant	illative Ra	aling i <u>s not</u> ne	ecessar
actually	contain habitat suitable for either	the Piping Pl	over or the	e Hine	sai nabitat <u>and</u> 's Emerald Drai	apes the wett aonfly?	iana	☐ YES	∤∏ NO
Base	ed on the MDNR's Endangered Spe	cies Assessm	ent Web :	site an	d/or site inspec	ction, do		D/YES	□ N
tederal/ 3 is m	state-listed Threatened or Endang ore than 5 acres or more than 25%	ered plant or a	nimal spe	ecies c	occur within the	Wetland?	+		
Commu 5 acres ar S 🔲 S	inity Type? Check all Rare Wetlah Id less than 25% of the wetland, the rare con 1 or S2 Natural Community Type	d Community nmunity should be Southern B	Types bel split off and og	iow, ir dievalua Old-Gr	the Rare Welland C ted separately. owth/Mature For	ommunity is less rested Wetland	,	YES	ĎΝ
4. Is an	y part of the Wetland within 1000 f	eet of the Ord	inary High	Wate	r Mark of any o	f the Great La	kes,	☐ YES	MM
includin	g Lake St. Clair?								
Circle th	e appropriate point value(s) and assign the Metric 1. Wetland Size and D	e score for each		termine	the subtotal for ea	ach metric and ac	dd to dele	ermine the fin	al scor
9 pis mex	1a. Select a size class (6 pts ma	x)	11	b. Usin	g the NWI, sele	ect a scarcity o	class (3	pts max)	
	6 pts ≥50 acres			3 pts		rounding 2-mile			
	5 pts 25 acres to <50 acres			2 pts	>20 to 80% of	surrounding 2-mi	ile radius	is wetland	
	4 pts 10 acres to <25 acres		_	1 pt	>80% of surrou	inding 2-mile radi	ius is we	lland	
	3 pis 3 acres to <10 acres ?								
			_						
	2 pts 1/2 acre to <3 acres 0 pt less than 1/2 acre								
	0 pt less than ½ acre Metric 2. Buffers and Intensi			•			surroun	ding land i	ises t
12 pis max	0 pt less than ¼ acre	the most	2b	. Usin	g an aerial pho e >25% of the to	to, select the s otal land use &	& avera	ge (6 pts m	ax)
	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select	the most	2b	. Usin	g an aerial pho e >25% of the to Very Low Intens	to, select the s otal land use & sity: Maturing Jorest.	& avera	ge (6 pts m	ax)
	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m	the most nax) imeter	2b	. Usin	g an aerial phote >25% of the to	to, select the s otal land use & sity: Maturing forest, elland, lake or rive! Shrubland/voung forest	& averag	ge (6 pts m ssłand, prairie, de lective toporop, ha	ax) esignated
	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around	the most nax) imeter ound perimeter	2b	6 pts	g an aerial phoie > 25% of the to Very Low Intensive area oner w Low Intensity: s managed parkland . Moderately Hid	to, select the sotal land use & sity: Matuming forest, elland, lake or rive; shrubland/young forest lot field, lightly grezed, in Intensity: Reside	average and a second se	ge (6 pts m ssland, prairie, de ective logging, ha e lane road/two tr as, maniciped hau	ax) esignated ly field . I ack
	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around 2 pts Narrow: 25 to <75 ft around	the most nax) imeter ound perimeter and the perimeter	2b co	6 pts	g an aerial phoie > 25% of the to Very Low Intensity: Low Intensity: managed parkland. c Moderately High course, conservation	to, select the sotal land use & sity: Maturing forest, elland, lake or river shrubland/young forest, in late lief, lightly grazed, in Intensity, Reside Mago, recent cleared.	avera; natural grading 1, recent set pastere, ond ential & lawn of (<10 yrs.).	ge (6 pts m estand, prairie, de ective loggrag, ha e lane road/two in is, manicured par two lane road	ax) esignated ty field . I ack kland) go
	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around	the most nax) imeter ound perimeter and the perimeter	2b co	6 pts	g an aerial phoie > 25% of the to Very Low Intensive area oner w Low Intensity: s managed parkland . Moderately Hid	to, select the sotal land use & sity: Maturing forest, elland, lake or river shrubland/young forest, in intensity, Reside Mago, recent cleared Commercial industrial, industri	& average and aver	ge (6 pts m ssland, prairie, de ective logging, ha e lane road/two tr is, manicured par two lane road ty residential, hea	ax) signated ly field . I ack kland) go
	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per (2 pts Narrow: 25 to <75 ft around per (2 pts Narrow: 0 (no buffer)	the most nax) imeter ound perimeter and the perimeter by to <25 ft around	2b co	6 pts	g an aerial phoie > 25% of the to Very Low Intensity: Low Intensity: managed parkland. c Moderately High course, conservation High Intensity:	to, select the sotal land use & sity: Maturing forest, elland, lake or river shrubland/young forest, in intensity, Reside Mago, recent cleared Commercial industrial, industri	& average and aver	ge (6 pts m ssland, prairie, de ective logging, ha e lane road/two tr is, manicured par two lane road ty residential, hea	ax) signated ly field . I ack kland) go
\ <u>Z</u> ,	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per Q pts Narrow: 25 to <75 ft around per very Narrow: 0 (no buffer perimeter)	the most nax) imeter ound perimeter and the perimeter to <25 ft around	Zb co	6 pts 4 pts 2 pts 1 pt	g an aerial phoie > 25% of the to Very Low Intensive sea, other widdle area, other widdle widdle area, other	to, select the sotal land use & sity: Matuning forest, ethand, lake or rives shrubland/young forest of field, fightly grazed, in Intensity; Reside Mago, recent desired. Commercial industrial nutrillane paved road.	& average natural grading pasture on a first	ge (6 pts m ssland, prainie, dr ective toggring. his la land road/two in is, manicured par low land road ity residential, hea solivity, parking	ax) signated ly field . I ack kland) oc wily grez
\Z,	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per Q pts Narrow: 25 to <75 ft around per very Narrow: 0 (no buffer perimeter) Metric 3. Hydrology (26 pts m	the most nax) imeter ound perimeter and the perimeter to <25 ft around	Zb co	6 pts 4 pts 2 pts 1 pt	g an aerial phoie > 25% of the to Very Low Intensity: Low Intensity: managed parkland. c Moderately High course, conservation High Intensity:	to, select the sotal hand use & sity: Metuning forest, ethand, lake or river shrubband/young forest lot field, lightly grazed in Intensity; Reside (Mago, recent destruct) Commercial industrial, publisher paved road, commercial services.	& average natural grading pasture on a first	ge (6 pts m ssland, prainie, dr ective toggring. his la land road/two in is, manicured par low land road ity residential, hea solivity, parking	ax) esignates by field . I ack kland) oc avily grez
12. 15 pts	Metric 2. Buffers and Intensit 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per 0 pt Very Narrow: 0 (no buffer perimeter Metric 3. Hydrology (26 pts m 3a Select all sources of water for	the most nax) imeter ound perimeter and the perimeter to <25 ft around	Zb co	6 ρts 4 pts 1 pt	g an aerial phoie > 25% of the to Very Low Intensity: a managed parkland. a Moderately High Course, conservation High Intensity: pasture, row crops, not all wetland court all wetland court all wetland court all wetland co	to, select the sotal hand use & sity: Metuning forest, ethand, lake or river shrubband/young forest lot field, lightly grazed in Intensity; Reside (Mago, recent destruct Commercial industrial publisher paved road, commercial industrial paved road, commercial paved road, commercial industrial paved road, commercial industrial paved road, commercial pave	& averal Industry grant In recent set pasture, ord pasture, ord In recent set pasture, ord In recent s	ge (6 pts m estand, prairie, de ective logging, ha la lane roaditivo ir is, manicured par ivo lane road ity residential, her activity, parking	ax) signated ly field . I ack kland) oc wily grez
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per 0 pt Very Narrow: 0 (no buffer perimeter Metric 3. Hydrology (26 pts m 3a Select all sources of water for X 1 pt Precipitation X 2 pts Groundwater 2 pts Seasonal Intermittent Surf	the most nax) imeter ound perimeter and the perimeter by to <25 ft around nax) Wetland	3b.	Selec 2 pts 2 pts 2 pts	g an aerial phoie > 25% of the to Very Low intensive to managed parkiand. It is managed parkiand parkiand parkiand parkiand properties. It is managed parkiand	to, select the sotal hand use & sity. Meturing forest, elland, lake or new bid field, lake	& averal Industry grant In recent set pasture, ord pasture, ord In recent set pasture, ord In recent s	ge (6 pts m estand, prairie, de ective logging, ha la lane roaditivo ir is, manicured par ivo lane road ity residential, her activity, parking	ax) signated ly field . I ack kland) go
mey	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per 0 pt Very Narrow: 0 (no buffer perimeter Metric 3. Hydrology (26 pts m 3a Select all sources of water for X 1 pt Precipitation X 2 pts Groundwater	the most nax) imeter ound perimeter and the perimeter by to <25 ft around nax) Wetland	3b.	. Using mprise 6 ots 4 pts 2 pts 1 pt . Select 2 pts 2 pts	g an aerial phoie > 25% of the to Very Low Intensity: Image of perkend. Comment of the perkend. Comment of the perkend. Comment of the perkend. Comment of the perkend of t	to, select the sotal land use & sity. Metuing forest, elland, lake or rive; should field, tightly grazed in Internsity. Reside tiltage, recent clear, and industrial, nutrillane privad road. commercial industrial nutrillane nutrillan	& averal Industry grant In recent set pasture, ord pasture, ord In recent set pasture, ord In recent s	ge (6 pts m estand, prairie, de ective logging, ha la lane roaditivo ir is, manicured par ivo lane road ity residential, her activity, parking	ax) signated by field . In ack kland) go
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per 2 pts Narrow: 25 to <75 ft around per very Narrow: 0 (no buffer perimeter Metric 3. Hydrology (26 pts m 3a Select all sources of water for X 1 pt Precipitation X 2 pts Groundwater 2 pts Seasonat Intermittent Surfice Water 3c. Select the dominant duration inundation/saturation, or select a	the most nax) imeter pund perimeter and the perimeter by to <25 ft around nax) Wetland ace Water of 3c It that Ac	3b.	. Using prise of page 4 pts 4 pts 2	g an aerial phoie > 25% of the to Very Low intensive to Moderately High course, conservation High Intensity: pasture, row crops, not all wetland confidence in a Street Wetland/Upland Riparian Corridor ongoing hydrolue, or select as	to, select the sotal land use & sity: Maturing forest, etland, lake or river stand, lake or river in the sity: Maturing forest, etland, lake or river in the sity: Reside (Mago, recent desired Commercial industrial, publisher payed road, commercial industrial, publisher payed road, commercial industrial, publisher payed road, commercial industrial ain am/Lake/Pond an Complex of sity: Sity of the sity	& average natural grant in recent set pasture, one anial & have at a law at	ge (6 pts m ssland, prairie, dr ective logging, ha late tane road/two in is, manicured par livis lang road ity residential, het activity, parking in Land Use	ax) ssignated to provide the same same same same same same same sam
Nay	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per 2 pts Narrow: 25 to <75 ft around perimeter Metric 3. Hydrology (26 pts m 3a Select all sources of water for X 1 pt Precipitation X 2 pts Groundwater 2 pts Seasonat Intermittent Surfices Water 3c. Select the dominant duration	the most nax) imeter pund perimeter and the perimeter by to <25 ft around	3b. 3b. 1. Check psign a podich(s) tiles(s)	Selection 2 pts 3 pts 4 pts	g an aerial phoie > 25% of the to Very Low Intensity: s managed persent of Course, conservation High Intensity: pasture, row crops, not all wetland congoing hydrolue, or select ac weir(s).	to, select the sotal land use & sity: Maturing forest, etland, lake or river should be of river so the field lightly grazed in Intensity: Reside Mago, recent debricul doministration and intensity in the second debricul	& average natural grass in recent set pasture, one anial & lawn in (210 yrs.), high-densicons ruccion at apply ad Human is in or ns & average ania	ge (6 pts m ssland, prairie, dr ective logging, ha e lane road/two ir is, manicured par iwo lane road ty residential, her ectivity, parking	ax) saignated in gradient of the saignated in
Nay	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per 0 pt Very Narrow: 0 (no buffer perimeter Metric 3. Hydrology (26 pts m 3a Select all sources of water for X 1 pt Precipitation X 2 pts Groundwater 2 pts Seasonat Intermittent Surfus 5 pts Perennial Surface Water 3c. Select the dominant duration inundation/saturation, or select a co-dominate & average (4 pts material) Permanently Inundated to Permanently Saturated to	the most nax) imeter pund perimeter and the perimeter by to <25 ft around	3b. 3cooperation of the second	Selection of the second of the	g an aerial phoie > 25% of the to Very Low intensive in the swindle area other wildlife area other wildlife area of the total lower in the swindle area of the swindle	to, select the sotal land use & sity. Maturing forest, elland, lake or rive. Shrubland/young forest side field, lightly grazed, in Intensity. Reside dulage, recent clear,	& averal natural grad natural grad necent set pasture on natural & lawn natural na	ge (6 pts m ssland, prairie, dr ective togging, ha land road/two in it manicured par it was land road it y residential, her solivity, parking in Land Use mear Wetta erage (8 pt	ax) ssignated to provide the same state of the s
Nay	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per 4 pts Medium: 75 to <150 ft around per 9 pts Narrow: 25 to <75 ft around perimeter Metric 3. Hydrology (26 pts m 3a Select all sources of water for	the most nax) imeter pund perimeter and the perimeter by to <25 ft around	3b. 3b. i. Check pssign a podich(s) (lles(s) dikes(s) 8 pts a	Selection is tecovered to the content of the conten	g an aerial phoie > 25% of the to Very Low Intensity: some managed parkend. In Moderately High Course, conservation High Intensity: pasture, row crops, in the all wetland construction of the conservation of	to, select the sotal hand use & sity: Metuning forest, etland; lake or river stelland; lake or river should be selected to the	& average natural grade natural na	ge (6 pts m ssland, prairie, de ective logging, ha e lane road/two in ss. manicured par i, lwb lane road iyr esidential, het sciusty, parking n Land Use mear Wetta erage (8 pt dredgin other: upn(s) and/or one	ax) ssignated in y field in head sack hand sac
12. 15 pts	Metric 2. Buffers and Intensi 2a. Using an aerial photo, select appropriate buffer width (6 pts m 6 pts Wide: ≥150 ft around per 4 pts Medium: 75 to <150 ft around per 2 pts Narrow: 25 to <75 ft around per very Narrow: 0 (no buffer perimeter) Metric 3. Hydrology (26 pts m 3a Select all sources of water for X 1 pt Precipitation X 2 pts Groundwater 2 pts Seasonal Intermittent Surfice Water 3c. Select the dominant duration inundation/saturation, or select a co-dominate & average (4 pts materials) Regularly Inundated Regularly Inundated Regularly Saturated to Regularly Saturated Satura	the most nax) imeter pund perimeter nd the perimeter t) to <25 ft around nax) Wettand ace Water of Acceptation and Acceptati	3b. 3b. 3c. 3c. 3c. 3c. 3c. 3c. 3c. 3c. 3c. 3c	Selection is lectover decovered to the secover decovered to the secover decovered to the secover decovered to the secover decover deco	g an aerial phoie > 25% of the to Very Low Intensity: Image of parkind. Comments of the total parkind. Comments of the total passure. The tall wetland comments of the tall wetland comments of the tall wetland. The tall wetland of the tall wetland of the tall wetland. The tall wetland of the tall wetland of tall wetland. The tall wetland of	to, select the sotal land use & sity. Maturing forest, elland, lake or rives. Helland, lake or rives. Shrubland/young forest old field, lightly grazed, in Intensity; Residence (Lango, tecen) classification (Lango, te	& average and aver	ge (6 pts m ssland, prairie, de ective logging, ha e lane roadfloor in ss. manicured par i, lwb lane road iyr esidential, het sciusty, parking n Land Use mear Wetla erage (8 pt dredgin other: upn(s) and/or one han 20 years price solonal	ax) esignated if yield if yiel

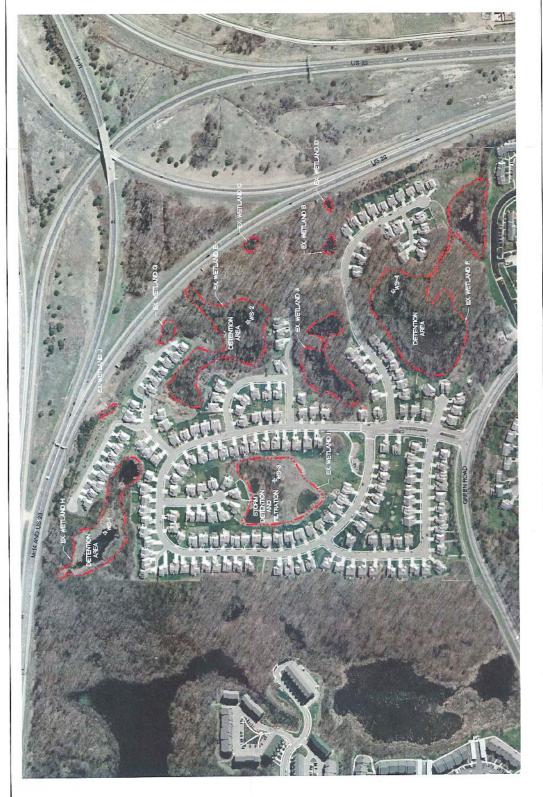
0	Metric	4. Hal	oitat Alterati	on and Hab	itat Struc	ure Development (20 pts max)	
wax 30 bre	point v ☐ erosio ☐ sedim	value, or on entation	or ongoing s select adjoin dreadin plowing	ing options (g disking	Average ☐ off-roa ☐ constru		
	1 (tling/ 4 p 3 p	No S ongoin Reco	intensiv ubstrate Disturb g minor disturbance i vered: Significant iment and/or ongoing	ance Apparent s race substrate disturbanc	ce occurred more	than 20 years prior to the	etland's habitat structure select adjoining options & ax)
	2 p	le the a	essesement, and/or o	ngdua ronim gniogn	ate disturbance i		onl and thereo, from Try on to
		in the 2	0 years prior to the a	ssessment and/or s	ignificant disturb	nce is ongoing Tpf Poor	
	☐ barrier ☐ selecti ☐ clearci ☐ p pl 6 pt	rroad bed/inve culting utiling ts No Hits Records Records	Rigrade model of the control of the	wing or shrub rer arse woody debri azing Apparent: No si nabilal alteration occ prificant habital alter	moval [is removal [] is removal [] fignificant afterolic curred more than ration occurred v	n a point value, or select adjoining op nutrient enrichment/nuisance algae dredging herbicide/chemical treatment hilling/gradised/mentation plowing/diseased/mentation plowing/disease	larming ng olher: king slatterations only occasional
0	Metric		cial Situatio			tions have occurred in the 2D years prior to the assessment r	and/or habitat alteration is ongoing
20 pts max 20 pts mar	High High High High High High High High	gh Ecologic Contains Federal/S int or anim S1, S2, S ress or 25% of Southern Old-Grow is or 25% of Great Lak	Bog (alleast 5 acmith / Mature Fore Wetland) ies Coastal Wel Petation, Inter Over score for assign point Native species dominate coverage Native species dominate coverage Invasiva or non- mature species dominate coverage Invasiva or non-	Nerralive Rating aled Critical He alened or Enda nunity Type (at the sor 25% of Welland (alend welland cand).	g above) abital angered and al least 5	5b. Add 5 pts for Forested Wetland Exhibits combined canopy cover from Stem DRH must be 23 in to qualify as a tree. Must cover the DRH must be 23 in to qualify as a tree. Must cover the DRH must be 23 in to qualify as a tree. Must cover the DRH must be 23 in to qualify as a tree. Must cover the DRH must be 23 in to qualify as a tree. Must cover the DRH must be 23 in to qualify as the DRH must be 23 in to qualify as the DRH must be 23 in to qualify. The DRH must be 24 in the DRH must be 25 in the DRH	tetland redius low-permeability surfaces? ty Wetland n-contiguous and either: ated from upland or wasive vegetation (See Meint 6c) d assign points (3 pts max) res ghly invasive species overage errage errage errage errage
·	Vegelation Component is \$\times \text{N scre}	925% of Wedand area <25% of Wes		edwindline diversity moderate to high majore diversity low native diversity species dominate	0 p1 2 pts 1 pt 0 pt	6d. Select one horizontal interspersion 5 pts High Degree of Interspersion 3 pts Moderate Degree of Interspersion 4 pt Low Degree of Interspersion	·
	0 to	3 pts 5	orest Overstory hrub/Sapting Co lerbaceous Con	omponent		6e. Determine the amount of habitat and assign points (12 pts max)	eatures in the Watland
Z 3 pis max	Cultural	Value that appl Scenic \ Recreati	ic, Recreation (3 pts max) y and assign p /alue conal Value Historical Value	oints		Absent (0 pt) Sparse (1 pt) Mod	VD) # per scre ng Trees (12 in DBH) # per scre

DEO.			1 <u>—</u> 4 € 1	M	ICHIG.	AN R	APIE			THOD FOR WI	ETLAND	os (MiR.	AM)
T	d Water Mar			<u> </u>	Τ			1.	ield Form V			, ,	· -
Site Na	we: VV	1001_	Hillo	<u> </u>	Evalu	ator:	12.5		<u>C</u>			1/2=1/Q	
	how mucl						4	areas im	pacted withir	the Wetland be the past 5 year	rs? ☑Ý	′ES 🔲 N	buffer NO
Note: II	ie Evaluator i	must be I	rained in the	MiRAM and	should	refer to	the N	MiRAM R	aling Form and t	Jser Manual when	using this	form.	
14	-4 no - 4 No - 3					Nar	rativ	e Rati	ng				
1. Is an	or the following the part of the	ng quest re Wetla	ions are ans	werea yes. u d within an	ne Wella	ind is ra lesion	ated a	s high lui	nctional value ar	d use of the Quant	titative Ra	iting is not r	
actually	/ contain ha	abitat sı	uitable for	either the	Piping	Plove	r or i	the Hine	's Emerald D	ragonfiv?	iano	☐ YES	Ď(√vo
2. Base	ed on the M	IDNR's	Endangere	ed Species	Asses	sment	We	b site ar	nd/or site insp occur within t	ection, do		⊠ YES	
3. Is me	ore than 5 a	acres of	more than	n 25% of th	re entir	e Wet	nar s land	compri	sed of a Rare	ne wetland?		<u> </u>	
Commu	inity Type?	Check	ali Rare V	Vetland Co	mmuni	tv Tvc	es b	elow. II	the Rare Welland	l Community is less	than	YES	HAID
5 acres ar	าช less than 25 1 or \$2 Nati	5% of the ural Con	wettand, the r omannity Tva	rare communi ne 🏻 🗀 S	ty should Outhern	d be sp! - Boo			ited separately.	orested Wetland	. 1	LES	CAINO
					f the C	rdina	y Hi	gh Wate	r Mark of any	of the Great La	kes.		<u> </u>
includin	g Lake St.	Clair?	· · <u></u>									☐ YES	⊠ NO _
					0	rienti	itati	ve Rat	ina				
Circle th	e appropriate	point va	lue(s) and as	ssign the sco	re for ea	ich met	ric. E	etermine	the subtotal for	each metric and ac	dd to dete	rmine the fi	inal score.
5			and Size										
9 pts							—— r						
wex			class (6 p	its max)].			elect a scarcity of			
	6 pts		res to <50 a				!	3 pt		surrounding 2-mile			_
	5 pts		res to <25 a				Ì	2 pt		ol surrounding 2-mi ounding 2-mile rad			· · · · · · · · · · · · · · · · · · ·
	3 pts		es to <10 act	·			L	γrμι	200% OF SUIT	ounding z-mile rad	ilus is wei	iano	
	2 pts	. -	e to <3 acres	-``	······								
	0 pl	less th	han ¼ acre	-					•				
·													
1	Metric 2	. Buffe	rs and In	tensity of	Surro	undir	ng L	and Us	e (12 pts ma	x)			
12 pls max	2a. Using	an aer	ial photo, s	select the I	nost		ſ	2b. Usin	g an aerial ph	oto, select the s	surround	ding land	uses that
	appropria		er width (6	·					e >25% of the	total land use &	& averaç	ge (6 pts r	nax)
	6 pts	Wide:	≥150 ft arou	and perimete	ſ			6 pts	Very Low Inte	ertsily: Maturing forest. r welland taka or nyer	, natural gras	sland, praine, o	designated
	4 pts	Mediu	m: 75 to <1	50 ft around	perimete	er		4 pts	Low intensity	Shrub)and/young lores d. old field, lightly grazed	i. recent sele	tolive logging, f	hay field , lightly i
	2 pts	Narrov	w: 25 to <75	fl around the	e perime	ter		2 pls	Moderately H	igh Intensity: Reside	ential & Jawns	s manicured o	anklana noll
	(Opt	Very N	larrow: 0 (no	o buffer) to <	25 ft aro	und		1 pl		on tiliago, recent clear-cu Commercial industrial			
		perime	eter Japanes	60 37 63 18 (1 1/	<u>50 ma</u> 1 Garda		L		pasture, row crops	rgulldane paved road.	construction	activity, parking	p fojt _i ummu a
6	Metric 3.	Hydro	ology (26		12.01				···	· · · · · · · · · · · · · · · · · · ·			
26 pts	3a Select	ali sour	ces of wat	ter for Wet	and		3	b. Selec	t all wetland	connections tha	ıt apply		
	(1 pt)	Precipi	lation	· · · · · ·			Ė	2 pts	100-year flood		6-17-7		
	2 pts	Ground	· - · · <u> </u>					2 pts		ream/Lake/Pond an	of Human	Land Use	
	2 pls		nal intermitte		/ater		L		Wetland/Uplan				
	5 pts	Perenn	iial Surface V	Vater			Ĺ.,	2 pts	Riparian Conf	dor			
			ninant dur		7	3d. C	heck	past or	ongoing hyd	rolgic alteration	ıs in or r	near Weti	anú.
	inundation		ition, or se erage (4 p		t	Assig	n a	point va	lue, or select	adjoining option	ns & ave	erage (8 p	ts max)
	4 pts		nently Inunda			☐ ditch ☐ lites ☐ dike	(S)	, g] weir (;)] stom water inpu] channelization	□ point-sourcits □ filling/gradin	ng	□ olher:	•
	3 pts		nently Satura		7		ols		ologic Alteration	s Apparent: No signi		on(s) and/or or	ngring minor
	2 pts	Regula	rly Saturated	to	-	E	nie			ological alteration(s) occu	irred more th	an 20 years on	ror to the
	(Pus		ally inundate ally Saturate		_	0	pts	assessmen	l and/or ongoing mind	r hydrological alleration (s only occasi	onal	
	1 pt		any Saturate 12 Inches of			4	pls	Recover assessmen	ng: A single signific Landfor engoing min	ant hydrological alteration or hydrological alteration (n occumed w is frequent	ilhin 20 years p	onor to the
12 Sub						/1	pt)	Recent o	r No Recovery:	Multiple significant hydro	ological altera	lions have occ	owed in the
					L	-\[-	/_	zo years pr	S. SO GIO BESESSMENT	and/or significant alteration	mital is ongo	រោជ្ជ	

	Metric	4. Hal	bitat Alterati	on and Hab	itat Stru	ıcture	Devel	opmei	nt (20 pts ma)	9		·
26 pis max		alue, or n entation grading No S	or ongoing s select adjoin deadin plowing intensivubstrate Disturb g minor disturbance	ing options (disking grazing ance Apparent	& averag	e (4 pt oad vehic struction r:	s max) cle use vehicle us	e				itat structure ning options &
	3 pl		overed: Significant iment and/or ongoing					or to the	average (7			Hing options &
	2 pl		vering: A single s					10ing 8	7 pts	Exceller	nt ·	
		Dece	essessment, and/or o		· · · · · · · · · · · · · · · · · · ·				1 1	Good Fair		
	1 pt	in the	20 years prior to the a	ssessment and/or si	gnificant distr	irbance is	ongoing	CCUIIII	 / **	Poor		
		road bed/leve cutting stiling s No H s Reco	RR grade mon co grabital Alteration vered: Significant vering, A single si	wing or shrub rer erse woody debri azing Apparent: No si nabital alteration occ prificant habital atter	noval is removal ignificant alter curred more the rabon occurre	nutn herb sedir sedir ration andr han 20 year	ent enricht icide/chen nentation or ongoing ars prior to t D years prio	ment/nuis nicel free minor aller he assessi r to the ass	sance elgae	dging ng/gradin wing/disk nor habital ng minor a	ig le king o ding only o laterations only o	ıl.
<u> </u>												
<u>-5</u>	Metric	5. Spe	cial Situatio	ns (20 pts n	nax)							
20 pis max	Hig Dla Sac	th Ecologicontains Federal/S nt or anim S1, S2, S res or 25% o Southern Old-Grow s or 25% of	Bog (at least 5 son th / Mature Fore	Narralive Rating ated Critical Ha atened or Enda nunity Type (at it as or 25% of Welland ested Wetland (g above) abitat ingered	50	Exhibits tem Discharge Dis	ils comb BH must b pts fo % of the act 10 Wetland lormwal	or Forested We bined canopy cove to an oquality as a control of Urban/Suburie landscape in a 1 points for Low diess ihan 1 acre ter treatment pond 75% covered by h	er from a ee. Must b ban We 000-ft ra Qualit and nor excava	etland adius low-pen y Wetland o-configuous a aled from upla	neability surfaces?
-			etation, Inter									
20 pts max			over score for assign point			6b			total open war 2.5 acres or more		l assign poi	nts (3 pts max)
	[Citt uno	7,	high delive	3 pls		2 pts	Moder	ate: 1.0 acres to	<2.5 acr	res	
	1	>25% of	Native species commate coverage	moderale to low pain a diversity	2 pt:		(0 pt)		0.25 acre to <1.0 a t: <0.25 acres	acre		
		Wethird	myasivé of noti- nahvá speciás	moderate to mon native diversity	2 pt:		Estima		total coverage	of hig	hlv invasiv	species
	Vegesetion Component is>% acre		qoundars coverage	low native diversity	1 рі		1 pt	Virtual	ly Absent: <1% A	erial Co	verage	
		<25% of	Native species dominate coverage	halive diversity	2 ptr	İ	0 pt		Absent: <5% Aerial C			
		Wotlens area	Invasive of non-	moderate native diversity	1 pt				ate: 25-75% Aeria ive: >75% Aerial			
			najiva specież dominaje coverage	low native diversily	D pl	سبا			orizontal inters			
		>25% of	Native species dominate coverege	moderate to high native diversity	2 pts	100	5 pts	High D	egree of Intersper	sion	option (a	pis (hax)
	: Végetajion Componèni	Welland . dete	invasive of non-native	low halive diversity openes dominate	t pl		3 pts	Modera intersp	ate Degree of ersion		1	
	15 √'A 201b	<25% of Wei	rovatuside		D _P I		1 pt		egree of Interspen	sion	6	TE 62
	/ 0 to		orest Overstory				0 pl	No Inte	rspersion		MAXAMI	MONTH IN
			Shrub/Sapling C Terbaceous Con				Detern		e amount of ha		eatures in t	ne Wetland
3 pts max	Cultural	Value that appl Scenic \ Recreat	ic, Recreation (3 pts max) y and assign power of the control of th	oints			D to 3 O to 3 O to 3	pts H pts C pts L	Sparse (1 pt) 1 to 5 per ace of 5% to 10% of area lummocks/Tussocioarse Woody Det arge Living/Dead imphibian Breedin	Mode 6 to 10% i ks/Tree oris (CW Standin	/D) # per acre g Trees (12 in	DBH) # per acre
13	Total		Atta	ch location m	ар, аегіа	il photo	s, and l	andsca	ipe sketch.			

APPENDIX VII

Water Sample Location Map And Water Quality Results



WATER SAMPLE LOCATION MAP OTY OF ANN ARBOR WASHTENAW COUNTY, MICHIGAN REFERENCE

DATE: JANUARY 13, 2010 PROJECT: 08/004831 RAWN: BWT

AU FILE: 08004831EC-02 HECKED: GC

S66.850.4200 | www.atwell-group.com

₩8-4 APPROXIMATE WATER SAMPLE LOCATION LEGEND: ____APPROXIMATE WETLAND BOUNDARY

Water Quality Results: Field Measurements

	Į-	ield Measurements	
Wetland	Type	Parameter	Measurement
		Temperature (°C)	1.9
11	Ctoma water	Turbidity	3
Н	Storm water	Dissolved Oxygen (mg/L)	15.54
		pН	7.22
		Temperature	3.5
E	Storms motor	Turbidity	51
Ł	Storm water	Dissolved Oxygen	13.77
		рН	6.75
		Temperature	0.7
\mathbf{F}	C4	Turbidity	122
ľ	Storm water	Dissolved Oxygen	14.73
		рН	5.75
		Temperature	1
т	Milicoted	Turbidity	7
1	Mitigated	Dissolved Oxygen	15.44
		р Н	6.14



Thursday, January 07, 2010

Fibertec Project Number:

37434

Project Identification:

Arbor Hills Ecological Assessment /08004831

Submittal Date:

12/22/2009

Ms. Guedelupe Cummins Atwell LLC - Southfield Two Towne Square Suite 700 Southfield, MI 48076

Dear Ms. Cummins,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note samples will be disposed of 30 days after reporting date.

Total Kjeldahl Nitrogen analyzed by Merit Laboratories. Fecal Coliform analyzed by WaterTech.

Marties

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

Daryl P. Strandbergh Laboratory Director

DPS/kc

Enclosures



Order: Page: Date: 37434 2 of 10

01/07/10

99223 Atwell LLC - Southfield Sample Description: Chain of Custody: Client Identification: Collect Date: 12/22/09 Arbor Hills Ecological Sample No: Client Project Name: Assessment Sample Matrix: **Ground Water** Collect Time: 08:50 Client Project No: 08004831 Sample Comments: Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis Definitions: Matrix: Ground Water Analyst: HLL Aliquot ID: 37434-001A Alkalinity by Titrimetry (EPA 0310.2) Prep Batch Analysis Date Analysis Batch Parameter(s) Result Units Reporting Limit Dilution Prep Date µg CaCO3/L WP09L28A 210000 24000 NA NA 12/28/09 1. Bicarbonate Alkalinity (NN) 4 NA 12/28/09 WP09L28A 2. Carbonate Alkalinity (NN) 6000 NA U μg CaCO3/L 12/28/09 WP09L28A NA NA 6000 3. Hydroxide Alkalinity (NN) U µg CaCO3/L Phosphorus, Total (EPA 0365.3) Aliquot ID: 37434-001B Matrix: Ground Water Analyst: CML Result Units Reporting Limit Dilution Prep Date Prep Batch Analysis Date Analysis Batch Parameter(s) O 12/28/09 WF09L28A 12/28/09 WF09L28A 10 1. Phosphorus 160 µg/L Trace Elements by ICP/AES, Total Recoverable (EPA 3005A/EPA 6010B) Aliquot ID: 37434-001C Matrix: Ground Water Analyst: MAP Dilution Prep Batch Analysis Date Analysis Batch Parameter(s) Result Units Reporting Limit Prep Date PT09L28B 10 12/28/09 PT09L28B 12/29/09 60000 1. Calcium 77000 µg/L PT09L28B 12/29/09 2. Magnesium 17000 300 10 12/28/09 PT09L28B µg/L 1000 10 12/28/09 PT09L28B 12/29/09 PT09L28B 3. Potassium 3300 µg/L PT09L28B 12/29/09 PT09L28B 210000 60000 10 12/28/09 4. Sodium µg/L Matrix: Ground Water Analyst: CML Inorganic Anions by IC (EPA 9056) Aliquot ID: 37434-001A Reporting Limit Prep Batch Analysis Date Analysis Batch Prep Date Parameter(s) Result Q Units Dilution 40000 12/22/09 00:00 WA09L22B 12/22/09 00:00 WA09L22B 1. Chloride 330000 µg/L 4 WA09L22B 46 2 12/22/09 00:00 WA09L22B 12/22/09 00:00 2 Nitrate-N 1200 μg/L WA09L22B 12/22/09 00:00 WA09L22B 30 12/22/09 00:00 3. Nitrite-N U µg/L WA09I 22B 12/22/09 00:00 WA09L22B 1000 12/22/09 00:00 4. Sulfate 39000 µg/L Residue, Total (Gravimetric, Dried at 103-105°C) (EPA 0160.3/SM 2540 B.) Aliquot ID: 37434-001A Matrix: Ground Water Analyst: CML Analysis Date Analysis Batch Parameter(s) Reporting Limit Dilution Prep Date Prep Batch Result Units WH09L28A 12/28/09 WH09L28A 12/29/09 1. Total Solids 800000 µg/L 80000 Nitrogen, Ammonia (ISE) (SM 4500-NH3 D.) Aliquot ID: 37434-001B Matrix: Ground Water Analyst: CML Analysis Date Analysis Batch Result Q Units Reporting Limit Dilution Prep Date Prep Batch Parameter(s) 12/28/09 WJ09L28A NA NA 1. Ammonia-N U µg/L 50 Nitrogen, Kjeldahl (SM 4500-Norg B.) Aliquot ID: 37434-001D Matrix: Ground Water Analyst: ML Result Q Units Reporting Limit Dilution Prep Date Prep Batch Analysis Date Analysis Batch Parameter(s) NA NA 01/06/10 NA 1. Total Kjeldahl Nitrogen (NN) 900 µg/L 100



Order:

37434 3 of 10

Page: Date:

01/07/10

Client Identification:

Atwell LLC - Southfield

Sample Description: H

Chain of Custody:

99223

Client Project Name:

Arbor Hills Ecological Assessment

08004831

Sample No:

Collect Date:

12/22/09

Client Project No: Sample Comments:

Definitions:

Sample Matrix:

Ground Water

Collect Time:

08:50

1. Coliform, Fecal (NN)

Biochemical Oxygen Demand, 5 Day (SM 5210 B.)

Aliquot ID: 37434-001A

5000

1

Dilution Prep Date Prep Batch

Matrix: Ground Water Analyst: CML Analysis Date Analysis Batch

Parameter(s) 1. BOD

Result Q U

Reporting Limit

5

NA

12/28/09 00:00 WE09L23A

Fecal Coliform Membrane Filter Procedure (SM 9222 D.)

Aliquot ID: 37434-001

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

NA

Units

Units

µg/L

Reporting Limit Dilution Prep Date

Prep Batch

Matrix: Ground Water Analyst: WT Analysis Date Analysis Batch

Parameter(s) Result

CFU/100 mL 20.0

10.0

NA

NA

12/22/09 00:00

NA



Order:

37434 4 of 10

Page: Date:

01/07/10

Client Identification:	Atwell LLC - Southfield			Sample Des	cription: E			Chain of	Custody: 9	9223
Client Project Name:	Arbor Hills Ecological			Sample No:	2			Collect D)ate: 1:	2/22/09
Client Project No:	Assessment 08004831			Sample Mat	rix: Ground	l Water		Collect T	ime: 1	0:00
Sample Comments:										
Definitions:	Q: Qualifier (see definition	ns at end	of rep	oort) NA: Not	Applicable NN: Pa	rameter not	included in NELAC	Scope of An	alysis.	
Alkalinity by Titrime	try (EPA 0310.2)				Ali	iquot ID: 37	434-002A	Matrix: Gro	und Water A	nalyst: HLL
Parameter(s)	,,	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
Bicarbonate Alkali	inity (NN)	200000		μg CaCO3/L	24000	4	NA	NA	12/28/09	WP09L28A
2. Carbonate Alkalin	Control of the Contro	U		μg CaCO3/L	6000	1	NA	NA	12/28/09	WP09L28A
3. Hydroxide Alkalini		U		μg CaCO3/L	6000	1	NA	NA	12/28/09	WP09L28A
Phosphorus, Total (EPA 0365.3)				Al	iquot ID: 37	434-002B	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Phosphorus		270		μg/L	10	1	12/28/09	WF09L28A	12/28/09	WF09L28A
Trace Elements by I	CP/AES, Total Recoverable	le (EPA 30	05A/	EPA 6010B)	Al	iquot ID: 37	434-002C	Matrix: Gro	und Water A	nalyst: MAP
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Calcium		93000		µg/L	60000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
2. Magnesium		21000		μg/L	20000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
3. Potassium		2900		µg/L	1000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
4. Sodium		41000		μg/L	1000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
Inorganic Anions by	IC (EPA 9056)				Al	iquot ID: 37	434-002A	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chloride		55000		μg/L	10000	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
2. Nitrate-N		13000		μg/L	920	40	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
3. Nitrite-N		U		μg/L	30	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
4. Sulfate		19000		μg/L	1000	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
Residue, Total (Grav	vimetric, Dried at 103-105	°C) (EPA (160.	3/SM 2540 B.)	Al	iquot ID: 37	′434-002A	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Total Solids		550000		μg/L	80000	8	12/28/09	WH09L28A	12/29/09	WH09L28A
Nitrogen, Ammonia	(ISE) (SM 4500-NH3 D.)				Al	iquot ID: 37	434-002B	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Ammonia-N	31,331,262,30	U		μg/L	50	1	NA	NA	12/28/09	WJ09L28A
Nitrogen, Kjeldahl (S	SM 4500-Norg B.)				Al	iquot ID: 37	'434-002D	Matrix: Gro	und Water A	nalyst: ML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch



Order:

37434 5 of 10

Page: Date:

01/07/10

Client Identification:

Atwell LLC - Southfield

Sample Description:

Chain of Custody:

99223

Client Project Name:

Arbor Hills Ecological

Sample No:

2

Collect Date:

12/22/09

Client Project No:

Assessment 08004831

Sample Matrix:

Ground Water

Collect Time:

10:00

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Biochemical Oxygen Demand,	5 Day (SM 5210 B.)			Al	quot ID: 374	34-002A	Matrix: Gro	ound Water Analyst: CML		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch	
1. BOD	7400	J	μg/L	7300	7.33	NA	NA	12/28/09 00:00	WE09L23A	

Fecal Coliform Membrane Filter Pr	cal Coliform Membrane Filter Procedure (SM 9222 D.)					134-002	Matrix: Gro	Analyst: WT	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. Coliform, Fecal (NN)	10.0		CFU/100 mL	10.0	1	NA	NA	12/22/09 00:	00 NA



Order: Page:

37434 6 of 10 01/07/10

Date:

Client Identification:	Atwell LLC - Southfield			Sample Des	cription: I			Chain of	Custody: 9	9223
Client Project Name:	Arbor Hills Ecological			Sample No:	3			Collect D	ate: 1	2/22/09
Client Project No:	Assessment 08004831			Sample Mat	rix: Ground	l Water		Collect T	ime: 1	0:35
Sample Comments:										
Definitions:	Q: Qualifier (see definition	ons at end	of rep	port) NA: Not	Applicable NN: Pa	rameter not	included in NELAC	C Scope of An	alysis.	
Alkalinity by Titrime	try (EPA 0310.2)				AI	iguot ID: 37	434-003A	Matrix: Gro	und Water A	nalyst: HLL
Parameter(s)	(I) (E) A 0010.2)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	
Bicarbonate Alkali	inity (MM)	260000	~	μg CaCO3/L	24000	4	NA NA	NA	12/28/09	WP09L28A
Carbonate Alkalin	and the Assessment	200000 U		μg CaCO3/L	6000	1	NA	NA	12/28/09	WP09L28A
3. Hydroxide Alkalini	7. 1	U		μg CaCO3/L	6000	1	NA	NA	12/28/09	WP09L28A
Phosphorus, Total (EPA 0365.3)		-		Al	iquot ID: 37	434-003B	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch		Analysis Batch
1. Phosphorus		160		μg/L	10	1	12/28/09	WF09L28A	12/28/09	WF09L28A
Trace Elements by I	CP/AES, Total Recoverab	le (EPA 30	05A/	EPA 6010B)	AI	iquot ID: 37	434-003C	Matrix: Gro	und Water A	nalyst: MAP
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Calcium		100000	12770	μg/L	60000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
2. Magnesium		22000		μg/L	20000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
3. Potassium		3300		μg/L	1000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
4. Sodium		17000		μg/L	1000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
Inorganic Anions by	IC (EPA 9056)				Al	iquot ID: 37	′434-003A	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Chloride		27000		μg/L	10000	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
2. Nitrate-N		79		μg/L	23	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
3. Nitrite-N		U		μg/L	30	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
4. Sulfate		50000		μg/L	1000	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
Residue, Total (Grav	vimetric, Dried at 103-105	°C) (EPA 0	160.:	3/SM 2540 B.)	Al	iquot ID: 37	434-003A	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Total Solids		400000		μg/L	100000	10	12/28/09	WH09L28A	12/29/09	WH09L28A
Nitrogen, Ammonia	(ISE) (SM 4500-NH3 D.)				Al	iquot ID: 37	7434-003B	Matrix: Gro	und Water A	nalyst: CML
Parameter(s)		Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Ammonia-N		U		μg/L	50	1	NA	NA	12/28/09	WJ09L28A
Nitrogen, Kjeldahl (S	SM 4500-Norg B.)				Al	iquot ID: 37	7434-003D	Matrix: Gro	und Water A	nalyst: ML
Parameter(s)	17 6	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
							1 TOP DUTO		, monthone mane	

1914 Holloway Drive 11766 E. Grand River 8660 S. Mackinaw Trail Holt, MI 48842 Brighton, MI 48116 Cadillac, MI 49601

T: (517) 699-0345 T: (810) 220-3300 T: (231) 775-8368 F: (517) 699-0388 F: (810) 220-3311 F: (231) 775-8584



Order: Page: 37434 7 of 10

Date:

01/07/10

Client Identification:

Atwell LLC - Southfield

Sample Description: I

Chain of Custody:

99223

Client Project Name:

Arbor Hills Ecological

Sample No:

Collect Date:

12/22/09

Client Project No:

Assessment 08004831

Sample Matrix:

Ground Water

Collect Time:

10:35

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Biochemical Oxygen Demand	, 5 Day (SM 5210 B.)		Al	iquot ID: 374	134-003A	Matrix: Gro	ound Water	Analyst: CML	
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	te Analysis Batch
1. BOD	U		µg/L	5000	5	NA	NA	12/28/09 00:	00 WE09L23A

Fecal Coliform Membrane Filter Pr	ocedure (SM 9222 D.)		Aliquot ID: 37434-003 Matrix: Ground Water					Analyst: WT
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batch
1. Coliform, Fecal (NN)	U		CFU/100 mL	10.0	1	NA	NA	12/22/09 00:0	0 NA



Order: Page:

37434 8 of 10 01/07/10

Date:

at end o	of rep	Sample Des Sample No: Sample Mat	ccription: F 4 rix: Ground	Water		Chain of Collect D	Date: 12	0223 2/22/09
at end o	of rep			Water				2/22/09
at end o	of rep	Sample Mat	rix: Ground	Water		C-II+ T		
at end o	of rep					Collect T	ime: 11	1:35
at end o	of rep			XI NO WOOD			1010000	
at end d	or rep		Applicable MNs De		included in NELAC	Caspa of Ap	alvaio	
		ort) NA: Not	Applicable NN: Pa	rameter not	included in NELAC	, Scope of Alla	arysis.	
			Ali	iquot ID: 37	434-004A	Matrix: Gro	und Water An	nalyst: HLL
Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batcl
180000		μg CaCO3/L	24000	4	NA	NA	12/28/09	WP09L28A
U		μg CaCO3/L	6000	1	NA	NA	12/28/09	WP09L28A
U		μg CaCO3/L	6000	1	NA	NA	12/28/09	WP09L28A
	9	12		iquot ID: 37	434-004B	Matrix: Gro	und Water An	nalyst: CML
Pocult	0	Unite						
1700	Q	µg/L	40	4	12/28/09	WF09L28A	12/28/09	WF09L28A
EDA 20	OE A/I	EDA 6040B)	Al	iquot ID: 37	434-004C	Matrix: Gro	und Water An	nalyst: MAP
100000000000000000000000000000000000000	-	10000000000		10.74 of the provider				PT09L28B
		The second second			12/28/09	PT09L28B	12/29/09	PT09L28B
			1000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
12000		µg/L	1000	10	12/28/09	PT09L28B	12/29/09	PT09L28B
			Al	iguot ID: 37	434-004A	Matrix: Gro	und Water Ar	nalyst: CML
Result	0	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batc
-		-				WA09L22B	12/22/09 00:00	
110			23	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
U			30	1	12/22/09 00:00	WA09L22B	12/22/09 00:00	WA09L22B
16000		µg/L	1000	1	12/22/09 00:00	WA09L22B	12/22/09 00;00	WA09L22B
(EPA 0	160.3	3/SM 2540 B.)	AI	iquot ID: 37	434-004A	Matrix: Gro	und Water Ar	nalyst: CML
25.00	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	Analysis Batc
		μg/L	100000	10	12/28/09	WH09L28A	12/29/09	WH09L28A
			Al	iquot ID: 37	434-004B	Matrix: Gro	und Water Ar	nalyst: CML
Result	0	Units			Prep Date	Prep Batch	Analysis Date	Analysis Batc
190		µg/L	50	1 .	NA NA	NA	12/28/09	WJ09L28A
	- 10		ΔΙ	iquot ID: 37	/434-004D	Matrix: Gro	ound Water Ar	nalyst: ML
	-		Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Date	0.000000
Result	Q	Units	REDDUIDA LIMIT				ATRIT SISVIBILA	
	Result 1700 (EPA 30 Result 76000 16000 12000 110 U 16000 0 (EPA 0 Result 320000 Result Result Result	Result Q 1700 (EPA 3005A/I Q 76000 16000 12000 110 U 16000 16000 100000 1000000	U μg CaCO3/L U μg CaCO3/L U μg CaCO3/L Result Q Units 1700 μg/L (EPA 3005Α/ΕΡΑ 6010Β) Result Q Units 16000 μg/L 12000 μg/L 12000 μg/L 110 μg/L U μg/L U μg/L U μg/L U μg/L O (EPA 0160.3/SM 2540 Β.) Result Q Units O (EPA 0160.3/SM 2540 Β.) Result Q Units	U μg CaCO3/L 6000 U μg CaCO3/L 6000 Ali Result Q Units Reporting Limit 1700 μg/L 40 (EPA 3005A/EPA 6010B) Ali Result Q Units Reporting Limit 76000 μg/L 300 16000 μg/L 1000 12000 μg/L 1000 Ali Result Q Units Reporting Limit 17000 μg/L 1000 110 μg/L 23 U μg/L 30 16000 μg/L 30 16000 μg/L 10000 110 μg/L 23 U μg/L 30 16000 μg/L 10000 Ali Result Q Units Reporting Limit 17000 μg/L 10000 110 μg/L 23 Ali Result Q Units Reporting Limit 17000 μg/L 10000 Ali Result Q Units Reporting Limit 1700 μg/L 10000	U μg CaCO3/L 6000 1 High CaCO3/L 6000 1 Aliquot ID: 37. Result Q Units Reporting Limit Dilution 1700 μg/L 40 4 (EPA 3005A/EPA 6010B) Aliquot ID: 37. Result Q Units Reporting Limit Dilution 76000 μg/L 300 10 16000 μg/L 1000 10 12000 μg/L 1000 10 12000 μg/L 1000 10 Aliquot ID: 37. Result Q Units Reporting Limit Dilution 17000 μg/L 1000 10 17000 μg/L 10000 1 110 μg/L 23 1 U μg/L 30 1 16000 μg/L 30 1 16000 μg/L 10000 1 (EPA 0160.3/SM 2540 B.) Aliquot ID: 37. Result Q Units Reporting Limit Dilution (IEPA 0160.3/SM 2540 B.) Aliquot ID: 37. Result Q Units Reporting Limit Dilution 17000 μg/L 10000 1 Aliquot ID: 37. Result Q Units Reporting Limit Dilution 17000 μg/L 100000 10 Aliquot ID: 37. Result Q Units Reporting Limit Dilution 17000 μg/L 100000 10	U	U μg CaCO3/L 6000 1 NA NA NA U μg CaCO3/L 6000 1 NA NA NA Aliquot ID: 37434-004B Matrix: Gro Result Q Units Reporting Limit Dilution Prep Date Prep Batch 1700 μg/L 40 4 12/28/09 WF09L28A (EPA 3005A/EPA 6010B) Aliquot ID: 37434-004C Matrix: Gro Result Q Units Reporting Limit Dilution Prep Date Prep Batch 76000 μg/L 60000 10 12/28/09 PT09L28B 16000 μg/L 300 10 12/28/09 PT09L28B 3400 μg/L 1000 10 12/28/09 PT09L28B 12000 μg/L 1000 10 12/28/09 PT09L28B 12000 μg/L 1000 10 12/28/09 PT09L28B 12000 μg/L 1000 10 12/28/09 PT09L28B 17000 μg/L 1000 10 12/28/09 PT09L28B 17000 μg/L 1000 1 12/22/09 00:00 WA09L22B 110 μg/L 23 1 12/22/09 00:00 WA09L22B 110 μg/L 30 1 12/22/09 00:00 WA09L22B 110 μg/L 30 1 12/22/09 00:00 WA09L22B 16000 μg/L 1000 1 12/28/09 WH09L28A 16000 μg/L 1000 1 12/28/09 WH09L28A 16000 μg/L 10000 10 12/28/09 WH09L28A 16000 μg/L 10000 10 12/28/09 WH09L28A 16000 μg/L 100000 10 12/28/09 WH09L28A	U



Order: Page: 37434 9 of 10

Page:

01/07/10

Client Identification:

Atwell LLC - Southfield

Sample Description: F

Chain of Custody:

99223

Client Project Name:

: Arbor Hills Ecological Assessment Sample No:

Collect Date:

12/22/09

Client Project No:

Assessment 08004831

Sample Matrix:

Ground Water

Collect Time:

11:35

Sample Comments:

Definitions:

Q: Qualifier (see definitions at end of report) NA: Not Applicable NN: Parameter not included in NELAC Scope of Analysis.

Biochemical Oxygen Demand	, 5 Day (SM 5210 B.)			Al	Aliquot ID: 37434-004A Matrix: Ground Water				Analyst: CML
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Da	ate Analysis Batch
1. BOD	12000	J	µg/L	7300	7.33	NA	NA	12/28/09 00	:00 WE09L23A

Fecal Coliform Membrane Filter Procedure (SM 9222 D.)					Aliquot ID: 37434-004			Matrix: Ground Water Analyst: WT		
Parameter(s)	223	Result	Q	Units	Reporting Limit	Dilution	Prep Date	Prep Batch	Analysis Dat	e Analysis Batch
1. Coliform, Fecal (NN	1)	270		CFU/100 mL	10.0	1	NA	NA	12/22/09 00:0	00 NA



Analytical Laboratory Report Laboratory Project Number: 37434

Order: Page: Date: 37434 10 of 10 01/07/10

Definitions/ Qualifiers:

- A: Spike recovery or precision unusable due to dilution.
- B: The analyte was detected in the associated method blank.
- E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J: The concentration is an estimated value.
- U: The analyte was not detected at or above the reporting limit.
- X: Matrix Interference has resulted in a raised reporting limit or distorted result.
- W: Results reported on a wet-weight basis.
- *: Value reported is outside QA limits

Exception Summary:

Method: SM 5210 B.

Sample Number: 37434-002A

Parameter: BO

Exception: Analyte is found in the associated method blank as well as in the sample.

Sample Number: 37434-004A

Parameter: BOD

Exception:

Analyte is found in the associated method blank as well as in the sample.



100312

DCSID: G-610.4 (12/07/09)