WELL ISOLATION DISTANCE WORKSHEET for MAJOR and POTENTIAL SOURCES of CONTAMINATION

PRIVATE WELLS and TYPE IIA, IIB and III PUBLIC WELLS

(Following the criteria listed in Waste Storage Facility (313) Practice Standard, Table 1)

Producer Name:		County:						
Farm locat	tion: Township	Range	Section	1/4 of _	¹⁄4 of _	1⁄4		
Farm addı	ess:							
Prepared l	oy:	Date:	Checked by:		Date:			
directions pall waste st	provided after each step	Attach a map of contamination	each step in the order the farmstead showing and wells included in the farm.	g the locations	and identifi	cations for		
Michigan I	Department of Environ	mental Quality, lo	sed wells properly aband scal health department, of itrate levels must meet d	or a registered	licensed we			
storage If Y	facility on the farm? YES, complete Part B- before proceeding to	YES NO 1 and B-2 for each Step 2.	000 feet for Type IIA) of (check one) h well located within 80 ithout further considerati	0 feet (2,000 fe	eet for Type	e IIA)		
			re the Actual Isolation D YES NO (che		waste stora	ge facility		
If Y	YES and the source of	contamination is	existing, proceed to Step planned, proceed to Step on assistance. Do not pro	4.	3 or 4.			
- For	equate, the Comprehen rective action date is nation distance f	ctual isolation distance of States o	tance from an existing so nagement Plan (CNMP) from the existing sour gan isolation distance requ	must include t	the notation	below. No		
- For	d source of contaminat any well where the ac	tion: ctual isolation dist the notation below	tance from a planned sou	arce of contam				
	does not meet the minin	num State of Michig	from the planned source gan isolation distance requ prior to operation of the pl	iirements. Corr	ective action	to the well		
- Ve	rify in Part B-1 Step 7	when corrective a	action, as noted in Part E	3-1 Step 6, is f	ully implem	ented.		

The well isolation distance criteria is applicable to existing Type IIA, Type IIB and Type III public water supplies on agricultural operations where it is necessary to upgrade an existing waste storage structure, handling area, or tank for major sources of contamination within the isolation distance of a drinking water well. Sources of contamination that comply with applicable regulations and are located in accordance with this procedure are considered to be complying with the requirements to maintain isolation distance from the well to the contaminant source.

- Type II water supply is classified as any non-community public well
 - Type IIA water supply is an operation with 25 or more employees and a production of 20,000 gallons or more per day during the peak month
 - Type IIB water supply serves 25 or more employees with a production of less than 20,000 gallons per day during the peak month
- Type III water supply is any dairy operation that does not meet the requirements above or a farm operation with 1-24 employees (non-family members)

The isolation distance from major sources of contamination is 2,000 feet from Type IIA wells and 800 feet from Type IIB and Type III wells prior to reductions.

Isolation Distance Reduction for Part B-2						
Type IIA – Reduction allowed down to 1,000 feet	Type IIA – Reduction allowed down to 500 feet					
Type IIB and Type III - Reduction allowed down to 400 feet	Type IIB and Type III - Reduction allowed down to 200 feet					
where the following Protection Factors are documented in Part	where the following Protection Factors are documented in Part					
B-2	B-2					
A or,	A+B or, E+B+C or,					
B+C or,	A+C or, E+D or,					
Е	A+E or, F (agrichemical and fuel storage only)					

WELL PROTECTION FACTORS:

- A Based on groundwater flow direction, well is up-gradient from the contamination source
- B Confining material of 10 feet continuous clay, 10 feet continuous shale, or 20 feet continuous clay mixture
- C Well casing depth is 100 feet or more
- D B (minimum of 10 feet of continuous clay, 10 feet continuous shale, 20 feet continuous clay mixture) + C (minimum of 60 feet casing depth) = 100 feet or more
- E Waste storage facility or other major source of contamination is constructed with a flexible membrane liner, a reinforced concrete liner, a glass fused steel tank, or a solid manure stacking facility constructed in accordance with USDA Natural Resources Conservation Service Michigan conservation practice standard for Waste Storage Facility (313) and the well is sited or graded to protect the water supply in the event of a failure. The structure must have been built within the 15 years prior to the well assessment, be certified by a professional engineer, or assessed by an NRCS Engineer with appropriate job approval that the structure provides equivalent environmental protection with documented test data where appropriate. Plain concrete liners do not meet this criterion.
- F Agrichemical handling facilities or fuel storage facilities without secondary containment that meet factor D may be reduced to 200 feet for Type IIB and Type III wells and 500 feet for Type IIA wells.
 - The isolation distance where secondary containment is present may be reduced to 75 feet for Type IIB and Type III wells and 200 feet for Type IIA wells.

Minimum isolation distances are required for both "major sources of contamination" and "potential sources of contamination." Actual isolation distances should be maximized to the extent possible. Major sources of contamination include storages of toxic materials, such as pesticides and fertilizers, fuel, or large amounts of less dangerous contaminants, such as animal manure. In general, practices or facilities meeting the definitions and purposes of NRCS practice standards for Waste Storage Facility (313), Composting Facility (317) for manure, Agrichemical Handling Facility (309), and Fueling Facilities (713 and 710) are major sources of contamination.

Potential sources of contamination include small quantities of less dangerous contaminants such as animal and poultry yards. Practices or facilities meeting the definitions and purposes of the NRCS practice standard for Waste Transfer (634) generally are potential sources of contamination. Lots where livestock are concentrated, such as feedlots and exercise lots, and manure packs in livestock buildings are also considered potential sources of contamination. Pastures as defined in GAAMPs are neither major nor potential sources of contamination.

WELL ISOLATION DISTANCE WORKSHEET for

MAJOR and POTENTIAL SOURCES of CONTAMINATION for TYPE IIA, IIB and III PUBLIC WELLS and PRIVATE WELLS (following the criteria listed in Waste Storage Facility Practice Standard, Table 1)

Producer Name:	County:			
Well Identification:	Prepared by:	Date:	Checked by:	Date:
Instructions: Complete a separa copy of the well record, if avai	te Part B for each well within 800 feet (2,000 feet flable.	For Type IIA) of any exi	sting or planned source of conta	mination on the farm. Attach a
any existing or planned sour If YES, use the isolation	nt of Environmental Quality or the local health depose of contamination located within 800 feet (2,000 a distance allowed by the permit or deviation and rewhere the permit or deviation applies (attach copy 2.	feet for Type IIA) of the ecord that distance in the	is well? YES NO (c Minimum Well Isolation Dista	check one)
If YES, proceed to Step	ess than allowed by State of Michigan law. Unless	NO (check o	*	s required from MDEQ or the
The well is used for the	ditions apply? s the well is a Type IIB or Type III public well. milkhouse or milking parlor for a Grade A dairy. a potable plumbing system and is on a farm that h	YES NO (c	theck one) Theck one) The at any time during the year. Y	TES NO (check one)
If NO to all of the abov of contamination.	ove conditions, this is a public well. Proceed to Stee conditions, this is a private well. Proceed to Part of contamination (as identified on page 2), docume	B-2 recording 150 feet		· ·
4. Is the well capacity less that the peak month? YES If YES to either questions If NO to both questions health department in order.	NO (check one) n, proceed to Part B-2. capacity exceeds the limit established by MDEQ.	•	· ·	han 20,000 gallons per day during required from MDEQ or the loca
5. Are there any planned source If YES, proceed to Step If NO, proceed to Part A		ctual Isolation Distance	is less than the Minimum Isolati	on Distance? YES NO (check one)

6.	List the planned source(s) of contamination and the corrective action(s) needed so the Actual Isolation Distance is equal to or greater than the Minimum Isolation				
	Distance, then proceed to Part A S	tep 2.			
	Planned Sou	rce of Contamination	Corrective Action(s) Required		
				_	
7.	Verification of Corrective Action: of contamination was not adequate	• •	required above for this well where the actual isolation distance from	any planned source(s)	
	Verified By:	Date:			

Record documentation supporting verification below or attached supporting documentation:

WELL ISOLATION DISTANCE WORKSHEET for MAJOR and POTENTIAL SOURCES of CONTAMINATION for TYPE IIA, IIB and III PUBLIC WELLS and PRIVATE WELLS

Instructions: At the top of the table, enter the identification/description of each source of contamination within 800 feet (2,000 feet for Type IIA) of the well and circle Existing or Planned for each source of contamination. Then indicate whether or not each well protection factor applies relative to each source of contamination. Use information from the site well records and information on the individual waste storage facility or source of contamination. Where a well record does not exist, answer "NO" to the well protection factors that are unknown, or obtain written documentation from a licensed well drilling contractor on the specific well protection factors for the specific site well. Where on-site soils investigations provide additional information, attach a copy of the investigation report and note on the worksheet where the investigation information altered the worksheet results, as applicable. **After completing the table, return to Step 5 on Part B-1**.

Producer Name:	County: I	Prepared	l by:	Da	ate:	_ Check	ed by:		Date:
Well Identification:	Sources of Contamination within 800 feet (2,000 feet for Type IIA) of the Well								
Well Identification: Well Protection Factors		Identification/Description:		Identification/Description:		Identification/Description:		Identification/Description:	
		Existing	Planned	Existing	Planned	Existing	Planned	Existing	Planned
A - Based on groundwater flow direction, we the contamination source.	ll is up-gradient from	YES UNKNOV	NO WN	YES UNKNOV	NO VN	YES UNKNOW	NO /N	YES UNKNOW	NO /N
B - Confining material of 10 feet of continuous feet of a continuous clay mixture* below elevation of the waste storage facility/sou	the design bottom	YES	NO (check	one) Thi	ckness =	feet	CLAY MIXT	SHALE	(check one)
C - Well casing depth is 100 feet or more		YES	NO (check	one) Ac	tual Casing Dep	th =	feet		
D - Confining material (minimum of 10 feet of or 20 feet continuous clay mixture* below elevation of the waste storage facility/sou Well casing depth (minimum of 60 feet coor more	v the design bottom rce of contamination) +	YES Actual	NO (check Casing Depth =		ckness =	_ feet	CLAY CLAY MIXT	SHALE URE	(check one)
E - Waste storage facility constructed with floreinforced concrete**, glass fused steel; stacking facility constructed in accordance Michigan conservation practice standards protect the water supply in the event of facility.	or solid manure e with USDA NRCS- and sited or graded to		NO facility type as appropriate:	YES Describe fa liner, as app	NO cility type and propriate:	YES Describe fa liner, as ap	NO acility type and opropriate:	YES Describe fa liner, as ap	NO acility type and propriate:
F - Agrichemical or fueling facilities with se	condary containment	YES	NO	YES	NO	YES	NO	YES	NO
List the well protection factors (A , B , C , D , E response for each individual waste storage fac	ility.								
Minimum Well Isolation Distance in feet (bas Part B-1 Step 3, or Isolation Distance Reduction Part A, whichever is less.)			Feet		Feet		Feet		Feet
Actual Well Isolation Distance in feet.			Feet		Feet		Feet		Feet
Is the Actual Well Isolation Distance less than	the Minimum Well	YES	NO	YES	NO	YES	NO	YES	NO

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^{*}Note – For continuous clay mixtures, when interpreting water well record information contained under Formation Description, the first material named is the dominant material in the strata being described. For example: (a) If the material is described as "clay/sand/gravel," clay is the dominant material and would classify as a continuous clay mixture; (b) If the material is described as "sand/clay," it would <u>not</u> be acceptable as a continuous clay mixture since sand is the dominant material.

^{**}Note – Reinforced concrete structures include tanks with pre-cast or cast-in-place reinforced concrete walls and plain concrete floors where: (1) the floor is placed below the natural ground surface to a depth equal to at least 3/4 of the maximum wall height, and (2) the walls are backfilled to a depth equal to at least 3/4 of the wall height. Plain concrete liners do NOT meet well protection factor E.