

GROUND WATER MIXING ZONE DETERMINATION CHECKLIST¹
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Project Title _____ Date Reviewed _____
 Project Number _____ Outfalls _____
 Reviewer _____ 2nd Reviewer _____

Determination (ARM 17.30.515)

_____ **Modified Mixing Zone approved** _____ **Source Specific Mixing Zone approved**
 _____ **Mixing Zone denied** _____ **Standard Mixing Zone approved** rev. 01/2000

GENERAL CONSIDERATIONS²

ITEMS	YES/NO ³	NOTES/DEPARTMENT FINDINGS
1. ARM 17.30.515(2) Has applicant requested a mixing zone?. If no, a mixing zone cannot be granted.		
2. ARM 17.30.505(1)(a) Is a single mixing zone sufficient for all parameters? If no, explain.		
3. ARM 17.30.505(1)(b) For a new or increased source, are changes at the mixing zone boundary significant degradation pursuant to ARM 17.30 sub-chapter 7? If yes, did the Department issue an authorization to degrade state waters pursuant to 75-5-303, MCA?		
4. ARM 17.30.505(1)(c) Was the discharge under a permit issued prior to April 29, 1993, with an allowed mixing zone? If yes, is there evidence that the previously allowed mixing zone will impair existing or anticipated uses?		
5. ARM 17.30.505(1)(d) Have the minimum treatment requirements been met, and have all reasonable land, soil and water conservation practices been applied? If yes, treatment to purer than natural condition is not required.		
6. ARM 17.30.505(1)(e) Due to the potential for harm to the impacted water and its beneficial uses, is monitoring in the mixing zone required?		
7. ARM 17.30.505(1)(f) Are additional conditions required to comply with ARM 17.30 sub-chapter 5? If yes, what are the conditions?		
8. ARM 17.30.505(1), 516 & 517 Describe applicability, size, configuration and location of all mixing zones.	NA	

WATER QUALITY ASSESSMENT

(If answer to any of the following questions (# 9 - 15) is yes, a mixing zone may not be applicable and additional explanation in the NOTES section is necessary. See rules for applicability and specific requirements.)

9. ARM 17.30.506(1) Will mixing zone threaten or impair existing beneficial uses		
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10. ARM 17.30.506(1) Does the applicant need to provide additional information to determine if mixing zone is allowable?		
11a. ARM 17.30.506(2)(b) Is the mixing zone within the zone of influence of any existing drinking water well, recreational well, or drinking water intake?		
11b. ARM 17.30.506(2)(b) Is the mixing zone within or immediately adjacent to a recreational area?		
12. ARM 17.30.506(2)(d) Are there persistence and toxicity concerns for the parameters discharged?		
13. ARM 17.30.506(2)(f) Are there cumulative effects of multiple or overlapping mixing zones?		
14. ARM 17.30.506(2)(g) Are there unpredictable or unusual conditions in the subsurface (fractures, for example) which may result in adverse effects from pollutants in the ground water mixing zone?		
15. ARM 17.30.506(2)(h) & 17.30.507(3) Does the ground water discharge enter surface water within a reasonably short distance or time? If yes, a surface water mixing zone may also be applicable pursuant to ARM 17.30.507(3).		

GROUND WATER MIXING ZONE RESTRICTIONS

(If answer to any of the following questions (# 16 - 17) is yes, a mixing zone may not be applicable and additional explanation in the NOTES section is necessary. See rules for applicability and specific requirements.)

16. ARM 17.30.508(1)(a) Are human health based standards exceeded beyond the ground water mixing zone boundary?		
17. ARM 17.30.508(2) Does the mixing zone intercept the zone of influence of an existing drinking water supply well?		

STANDARD GROUND WATER MIXING ZONE²

18. ARM 17.30.517(1)(a)(b)(c)&(d) Is a standard ground water mixing zone appropriate? If no, skip to question #20.		
19. ARM 17.30.517(1)(d)(ix) Is there a site-specific, impact-related reason to require monitoring at the downgradient mixing zone boundary?		

SOURCE SPECIFIC GROUND WATER MIXING ZONE²

20. ARM 17.30.518(1) Has the applicant requested a source specific ground water mixing zone? If no, questions 21 and 22 are not applicable.		
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21. ARM 17.30.518(2) Does the requested source specific ground water mixing zone comply with requirements of ARM 17.30.506, 17.30.507 and 75-5-303, MCA?		
22. ARM 17.30.518(5) For source specific ground water mixing zones, are the requirements of 75-5-301(4), MCA satisfied? Have the applicable items in ARM 17.30.518(5)(a through l) been addressed adequately?		
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Footnotes:

1. This checklist is a quick reference guide that summarizes rule language. Please see the applicable rule for the complete rule language.
2. For questions #1-8 and #18-22, either response (YES or NO) may require that additional explanation be included in the NOTES section.
3. If a question is not applicable, place "NA" in the YES/NO column.