SENATE NATURAL RESOURCES
EXHIBIT NO. 2
DATE 1/14/11
BILL NO. SB 89

SUBDIVISION REVIEW CHECKLIST

Subdivision: County: Missoula County EQ#: Sub:
Reviewer: Review Date: Owner:

YES	NO	NA	QUESTION	Reviewer's Comments
			GENERAL REQUIREMENTS & PHYSICAL CONDITIONS	
			Is check included with correct fee? 17.36.802 Review fee checklist attached?	
			Is application included with owner's signature and date? 17.36.102(3)	
			Is the Preliminary Plat or COS Included? Final plat required for majors. 17.36.104(a) Is legal description complete? Exhibit A attached if needed?	
			Is local Health Officer approval included? 17.36.108(2)	
			Are Planning Board or County Commissioner's comments included? 17.36.103(1)(N)	
			For all submittals other than family transfers & boundary relocations; have comments from the Public Hearing been included and addressed? 76-4-125(1)(a)	
			Is USGS Topographic map included? Sub App, Pt 2, A(1) (c)	
			Are all lots not reviewed have exemption properly cited. 17.36.605(2), 76-4-122	
			Are five legible copies of lot layout (no larger than 11x17) included? 17.36.104(c)	
			Do site layouts match the Preliminary Plat or COS?	
			Is the name of the subdivision &, county, shown? Are lots and parcels numbered & North Arrow shown? Is the Township, Section, & Range shown?	
			Is a graphic scale, no smaller than 1" = 200', and legend provided? 17.36.104(1)	
			Solid waste site noted? 17.36.104(1)(i)	
			WASTEWATER TREATMENT:	
			Are drainfields and replacement areas shown with correct dimensions to match percolation rate? Are all water features, drainages, slopes, & wells shown. 17.36.304(3&4)	
			Is there no need to limit bedrooms or flow? Area for 3-6 bedrooms? DEQ 4	
			Is slope of drainfield areas provided on 2' contour map. 17.36.322(1) 15%/25% maximums. Escarpment separation met,(25' 17.36.323(1), & 2'/% > 25%, MCCHD)	
			Does drainfield match the ground contour and is the configuration appropriate for the size and design of the system? 2'wide,100'long, 7'separation. 3'wide for pressure? Equal distribution provided? DEQ 4.	
			Are trenches located at least 100 feet away from a potable water supply? 17.36.323(1)	
			Are trenches > 100' from 100-year flood-plain, river, stream, water course, lake or impoundment? 17.36.323(1) If no, is a waiver requested and given. 17.36.323(3)	
			Are trenches located at least 10 feet from water lines, property lines and buildings? 17.36.323(1)	
			Are drainfield areas away from potential driveways, and drainage from building site? Or otherwise protected? 17.36.322(3)	
			Do existing systems have primary & secondary treatment, pumped within 3 years and approved if necessary at time of construction. 17.36.327	
			Have 8' test pits been provided, and described using USDA classification. 17.36.325 (3)(a). Does it match SCS data provided? SCS data required unless it's an unmapped area. DEQ 4, 3.3	
			Is there 4' minimum separation from trench bottoms to limiting layers, GW, Bedrock, Impervious Soils, mottling? 17.36.320(2)	
			Percolation test with correct procedures - 4 hr pre-soak and minimum of 12 hrs swell for percs slower than 10? DEQ 4 appendix A.	
			Is water level no deeper than 6". DEQ 4 appendix A.	
			Does drainfield sizing meet minimum requirements based on soil type & perc rate? DEQ 4 chapter 8.4.1	
			Is pressure distribution provided for drainfields over 500' or for soil types requiring it in table 9-1? (if yes complete pressure distribution checklist)	
			WATER SYSTEM:	
			Are all existing and proposed wells shown and neighboring well sites Identified? Distance from surface water 100'? 17.36.323 Table 3.	
			Is adequate water substantiated – 10 gpm/1hr; 6 gpm/2 hrs or 4gpm for 4 hrs, 25 feet deep. 17.36.332(1)(a)	
			Nitrate sample & TDS or conductivity within one year provided? Or Waiver provided. 17.36.331(1)(b)	
			Bacteriological sample within last 6 months provided for existing wells? 17.36.335(2)(a)	
			If alternative water supplies are proposed, are all items in 17.36.336 addressed. Also see circular.	
			If public sewer or water, is it only a connection? Extensions (2 or more) require DEQ review. Are sewer and water mains shown, and authorization to connect provided?	
			If necessary, are appropriate easements provided for water or sewer? 17.36.326 & 17.36.334	

		NON DEGRADATION REVIEW: ***Nitrate sensitivity & mixing zone***	
		Has non-deg been addressed for all sites constructed or proposed after April 29, 1993. Are previously allowed mixing zones adequate not to impair existing or anticipated uses? 17.30.505 (1) (c)	
		Are mixing zones shown, 100' for lots < 2 acres, 200 feet for subdivisions 5-10 acres in size and lots 2 acres or larger, 500 feet for other lots. Depth? (16.4') Direction? 17.30.517	
		If source specific mixing zones are requested, are they appropriate and do they address items in 17.30.518(5)?	
		Do the zones of influence (typically 100 ft) of existing drinking water wells (on-site and off-site) remain outside the mixing zones? 17.30.508(2). Are all proposed wells, recreational wells and swimming areas outside mixing zones? 17.30.506(2)(b)	
		Is Nitrate sensitivity analysis submitted and correct? K value, gradient, correct background nitrate level and effluent nitrate concentration, correct flow matching proposal, well log information from same area and geology, shallowest groundwater used, correct drainfield length matching that shown on site layout, correct precipitation used for area, (about 13"for Missoula, airport) 17.30.715(1)(d).	
		If shallow ground water is not high quality, are at least two ground water specific conductance values or a published report included? 17.30.715	
		Has applicant requested a mixing zone?. If no, a mixing zone cannot be granted. 17.30.515(2). Is a single mixing zone sufficient for all parameters? If no explain. ARM 17.30.505(1)(a)	
		For a new or increased source, are changes at the mixing zone boundary below what is considered significant degradation pursuant to ARM 17.30.715. (5 mgl for domestic sewage) If not, authorization to degrade is required by DEQ.	
		Is minimum required treatment provided, and conditions such that monitoring is not required? Are additional conditions not necessary to comply with 17.30.505(1)(d,e& f)	
		Is mixing zone adequate so as not to threaten or impair existing beneficial uses? ARM 17.30.506(1) Are there persistence and toxicity concerns for the parameters discharged absent? ARM 17.30.506(2)(d) unpredictable or unusual conditions absent? ARM 17.30.506(2)(g)	
		Are any cumulative effects of multiple or overlapping mixing zones properly addressed? ARM 17.30.506(2)(f)	
		Does the ground water discharge enter surface water within a reasonably short distance or time? 17.3O.506(2)(h). If yes, a surface water mixing zone may also be applicable pursuant to ARM 17.30.507(3).	
		Are human health based standards maintained beyond the ground water mixing zone boundary? ARM 17.30.508(1)(a)	
		Is a standard ground water mixing zone appropriate? 17.30.517(1)(a)(b)(c)&(d) If not, has the applicant requested a source specific ground water mixing zone and shown that it complies with 17.30.506, 17.30.507 and 75-5-303, MCA. 17.30.518(2)	
		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?	
		PHOSPHORUS BREAKTHROUGH ANALYSIS 17.30.715(e)	
		Is the nearest surface water used to calculate phosphorus breakthrough used and identified.	
		Is the depth to ground water or limiting layer supported with test pit or other information	
		Is the mixing depth (0.5 or 1 foot) based on the soil texture at the water table or limiting layer?	
		Are correct dimensions of the primary drainfield used that match that shown on the site plan? Are cumulative effects and replacement areas addressed if needed?	
		Is the correct phosphorus load used? 6.44 lbs/yr for single family. Other loads justified for other types of development?	
		Is breakout longer than 50 years.	
		If site is adjacent to surface water, has it been addressed under 17.36.312 &/or 17.30.715(1)(g)?	
		Do any requested categorical exemptions meet all six criteria found in 17.30.716? (lot size, depth to rock/water, background nitrate, surface water, percolation rate, and test pit)?	
		NON SIGNIFICANCE CHECKLIST COMPLETED	
		PLAT APPROVAL ATTACHED OR DENIAL LETTER	

Missoula City-County Health Department certifies that the submittal was reviewed for compliance with all applicable state laws, rules and Circulars and all that it is in compliance with applicable state standards.

Signature of Reviewer

LOCAL REQUIREMENT CHECKLIST FOR SUBDIVISIONS

Subdivision: County: Missoula County EQ#: Sub:
Reviewer: Review Date: Owner:

YES	NO	N/A	QUESTION	REVIEWER'S COMMENTS
			*A. Is there a maintenance SID or equivalent as required by the Department? (Maintenance plan for 1 or 2 lots—SID for 3 lots or more) * 5.5.3*	
			*B. Are percolation rates less than 120 min/inch? *** IV, (E)*	
			*C. Are the lots at least 1 acre in size (Useable acreage)? *** V, (D)*	
			*D. Is the sand filter proposed for nitrate removal, including non-degradation requirements, with a maximum 30% nitrogen removal credit? * 5. 1& 6.1*	
			*A. Is there language on the face of the plat which includes the waiver and agreement to connect to public sewer and does it meet the requirements? *** XVII, (A) 2*	
			*B. If in the STEP area, are STEP tanks proposed? *** XVII, (A) 2*	
			*C. If there are 3 or more lots less than 5 acres, are they providing a multi-family system or dry laid main? ***XVII, (A) 5*	
			D. It there are 15 or more lots, is a community system proposed?	
			*E. Has the City Engineer approved the design for the multi-family system or dry laid main in writing? ***XVII, (A) 5 (b)*	
			When non-complying septic systems exist, are they upgraded prior to subdivision approval? Reg 1(XIII) (C)	
			Have 3 correct percolation tests been conducted within the boundaries of each drainfield if clay soils? MCCHD Reg. 1(IV)(E)	
			*Are the drainfield areas located a minimum of 100 feet from a flood-prone area? Has any Floodplain Zone A been delineated? *** V, (B) 2*	
			*If a local variance is granted, have the conditions of the variance been met? *** VI*	
			Has an arsenic water test result been received? ARM 17.36.330 (1)(c) Has a second copy of the Nitrate & Arsenic test results page with the GWIC number at the top for DEQ been submitted?	
			Does activity comply with maximum land application rates? MCCHD Reg. 1 (V)(D)	
			Community and Public Non Transient Wells > 1000' to haz waste facility, Class II landfill, petroleum storage facility, fuel pipeline, fueling facility, regulated substance tank. Section (A) (2) (a)	
			Community and Public Non Transient Wells > 250 feet to Class III landfill, railroad track, haz waste transportation route, community subsurface sewage disposal system. Section (A) (2) (b)	
			Community and Public Non Transient Wells > 100' to public sewer lift station, storm water injection well, wastewater abs. system. Section (A) (2) (c)	
			Community and Public Non Transient Wells > 50' to sewer main or irrigation ditch. Section (A) (2) (d)	
			Primary structure > 200' to public water main, if private well proposed. Section (C)	

* Approved Alternative Systems ** Aquifer Protection Ordinance (MMC) *** MCCHD Health Code

SUBDIVISION SIGNIFICANCE DETERMINATION CHECKLIST
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)

Subdivision: County: Missoula County EQ#: Sub:
Reviewer: Review Date: Owner:

2nd Reviewer _____

Determination: _____ Significant _____ Non-Significant _____ Incomplete

Part I: Applicability/Exclusions	YES/NO	Basis for decision.
1. Are any high quality waters affected? (Include downstream and downgradient) If NO, the nondegradation requirements are not applicable. ARM 17.30.701(1) & 75-5-103(9), MCA		
2. New or increased source of pollutants? If NO, the nondegradation requirements are not applicable. ARM 17.30.702(16) & 17.30.705(1)		
3. Activity categorically excluded under If YES, the Activity is Non-Significant. ARM 17.30.716 or 75-5-317, MCA?		
4. Non-Significant under ARM 17.30.715(3)? (Public Notice Required) If YES, the Activity is Non-Significant.		
ARM 17.30 sub-chapter 5 5. Is this determination contingent upon granting a mixing zone? If YES, determine if a mixing zone can be granted before going on to Part II. If NO, continue on to Part II.		
Part II: Significance Determination	**YES/NO**	**Basis for decision.**
ARM 17.30.715(1)(a) 6. Change in mean monthly flow of the surface water > 15%, or change in 7Q10 flow > 10%.		
ARM 17.30.715(1)(b) 7. Concentration of carcinogen or parameter with BCF > 300 in discharge greater than receiving water.		
ARM 17.30.715(1)(c) 8. Increase in toxics or nutrients > trigger value and concentration after mixing > 15% of lowest applicable standard. For nutrients, if the answer is YES, the criteria in question #10 must also be exceeded for the activity to be significant.		
ARM 17.30.715(1)(f) 9. Increase of a harmful parameter > 10% of applicable standard and existing water quality > 40% of applicable standard.		
ARM 17.30.715(1)(g) 10. Measurable effect on a beneficial use or measurable changes in aquatic life or ecological integrity from a narrative parameter.		
11. Increase in nitrate-nitrogen in groundwater at a mixing zone boundary exceeds that allowed in ARM 17.30.715(1)(d).		
12. Increases in phosphorus in groundwater where adsorptive capacity of soils will be exceeded within 50 years and will reach surface water, or the activity does not employ department approved water quality protection practices. ARM 17.30.715(1)(e)		
13. Significant under ARM 17.30.715(2)?		

If any answers to Questions #6 through #13 is YES, the Activity is Significant (except for question #8 as applied to nutrients).

SUBDIVISION STORM DRAINAGE CHECKLIST

Subdivision: County: Missoula County EQ#: Sub:
Reviewer: Review Date: Owner:

YES	NO	N/A	QUESTION	REVIEWER'S COMMENTS
			Does the subdivision have five or fewer lots? 17.36.310 (3)(a)	
			Does the area of disturbance have a slope of three percent or less? 17.36.310 (3)(b)	
			Are the unvegetated areas, roads, cuts, fills, roofs, driveways, less than 15% of the total acreage? 17.36.310 (3)(c)	
			Will drainage structures, such as road ditches, be constructed? 17.36.310 (3)(d)	
			Has the designer demonstrated that there will be no increase in the amount of pre-development stormwater runoff after development? 17.36.310 (3)(e)	
			Has the designer demonstrated that the subdivision will not alter pre-development water flow patterns? 17.36.310 (3)(f)	
			Is a contour map or 7½ minute USGS topo map provided? 17.36.310 (3)(g)	
			ARM Requirements for non exempt	
			Storm Drainage map & plan provided. ARM 17.36.103(1)(j)	
			Drainage plan for non residential designed by PE? ARM 17.36.310(2)(a)	
			Maintenance plan submitted? ARM 17.36.310(2)(b)	
			Responsible party for maintaining system – discretionary requirement – ARM 17.36.310(2)(b)	
			Easements and agreements? ARM 17.36.310(2)(b)	
			DEQ 8 Requirements for non exempt	
			Does the contour map show the lots, drainages and drainage structures (ponds and pipe)? DEQ 8, Ch 1	
			Is the storm runoff directed away from drainfields and sand mounds? DEQ 8, Ch 1.1.2 (e)	
			For large runoff volumes, is the carrying capacity of the drainageway provided? DEQ 8 Ch 1.1.2	
			For steep slopes and/or large amounts of runoff, are measures provided to control erosion (temporary and permanent)? DEQ 8 1.2.2.f	
			Are precipitation values obtained from MOAA Atlas or recent MDT information (curves in old MDOH Hydraulics Manual are not acceptable)? DEQ 8 Ch 1, Appendix A	
			Is the method of determining runoff acceptable (generally Rational or SCS)? DEQ 8 Ch 2	
			For the Rational Method, is the coefficient of runoff acceptable? DEQ 8 Ch 2	
			For the SCS Method, is the Curve Number acceptable? DEQ 8 Ch 2	
			For the SCS Method, is the Ia/P ratio less than 0.5? DEQ 8 Ch 2	
			Does the drainage plan/contour map show direction of flow and identify locations where water leaves the property? DEQ 8 Ch 1	
			Is storm water directed away from lots on adjacent subdivisions? DEQ 8 Ch 1	
			Is adequate evidence provided that the additional runoff will not create downstream problems? DEQ 8 Ch 1	
			If detention/retention ponds are proposed, are they shown on the lot layout and included in the approval statement? DEQ 8 Ch 1	
			If detention/retention ponds are proposed, is there an outlet for runoff events greater than the design event?	
			If runoff will reach state surface waters, is adequate treatment provided? ARM 17.36.310(6)	

I certify that I have reviewed the application as a qualified reviewer under applicable state laws, rules, and Circulars, and the pressure distribution system complies with applicable state requirements.

Signature of Reviewer

SUBDIVISION PRESSURE DISTRIBUTION CHECKLIST

Subdivision: County: Missoula County EQ#: Sub:
Reviewer: Review Date: Owner:

YES	NO	N/A	QUESTION	REVIEWER'S COMMENTS
			Is the volume of each dose equal to or greater than the drained volume of the discharge pipe and manifold plus 5 times the distribution pipe volume? DEQ 4, 9.3	*Discharge pipe volume = _____* *Manifold pipe volume = ___* *Dist. pipe volume = ___ x 5 = ___* *Total = ____ dose*
			Is there a single row of orifices, at least 1/8-inch in diameter? DEQ 4, 9.4	
			Is orifice spacing 5 feet or less? DEQ 4, 9.4	
			Is the duration of the discharge 15 minutes or less? DEQ 4, 9.5	
			Is the minimum pressure at the end of the laterals 1 psi (2.3') (5' for 1/8" orifice) DEQ 4, 9.3	
			Are computations provided which demonstrate uniform distribution (less than 10% variation in flow) throughout the system? DEQ 4, 9.6	
			If there is slope across the drainfield, is this slope considered in the uniform distribution computations? DEQ 4, 9.6	
			Are risers provided at each corner? DEQ 4, 9.7	
			Is there adequate dose tank capacity for pump submergence and the dose volume? DEQ 4, 9.8.1	
			Is the dose tank separated from the septic tank by an air gap? DEQ 4, 9.8.1	
			Is the dose tank provided with adequate access ports? DEQ 4, 9.8.1	
			Are the pumps, valves and other apparatus accessible from the surface without entering the tank? DEQ 4, 9.8.1	
			Is the dose tank watertight and of an acceptable material? DEQ 4, 9	
			Are high water alarms provided for the dosing chamber? DEQ 4, 9.8.3	
			Do the specifications require field testing to demonstrate uniform flow? DEQ 4, 9.9	

I certify that I have reviewed the application as a qualified reviewer under applicable state laws, rules, and Circulars, and the pressure distribution system complies with applicable state requirements.

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Signature of Reviewer