

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Environmental Assessment**

**Permitting and Compliance Division**  
**Water Protection Bureau**

**Name of Project:** Golden Estates III

**Type of Project:** Discharge of residential strength wastewater to ground water from a subsurface drainfield.

**Location of Project:** Northeast ¼ of Section 18, T10N, R3W; or 46° 37' 40" North Latitude and 112° 01' 27" West Longitude.

**City/Town:** Helena

**County:** Lewis and Clark County

**Description of Project:** The Golden Estates Home Owners Association applied for a renewal Montana Ground Water Pollution Control System permit for the discharge of domestic wastewater associated with the Golden Estates III wastewater treatment system. The previous permit was issued on October 1, 2002 and was later modified on April 12, 2004 to reflect transfer of ownership. The permit expired on September 30, 2007 and was administratively extended.

Golden Estates III consists of 42 single-family residences on approximately 15.5 acres. Golden Estates III wastewater treatments system consists of individual septic tanks, filtration system, lift system, sand filter pump vault, recirculation sand filter, dosing tank, distribution lines and a 4-zoned drainfield. The wastewater treatment system has a design capacity of 12,600 gallons per day. The discharge is cycled between four zones in a single drainfield.

The proposed permit renewal authorizes the permittee to discharge treated domestic wastewater to ground water from a subsurface drainfield identified as Outfall 001. Outfall 001 is situated in the northeast quarter of Section 18, Township 10 North, Range 3 West or 46° 37' 40" North Latitude and 112° 01' 27" West Longitude in Lewis and Clark County, Montana.

An Environmental Assessment (EA) was earlier completed for Golden Estates on July 2002 by the Montana Department of Environmental Quality. The EA recommended that no further analysis would be needed.

The receiving ground water classification is Class I.

**Agency Action and Applicable Regulations:** The proposed action is to issue an individual MGWPCS permit that has effluent limits and effluent monitoring requirements. The permit is issued under the authority of the Montana Water Quality Act 75-5-101 *et seq.* Montana Ground Water Pollution Control System Administrative Rules of Montana (ARM) 17.30.1001-1070, and Montana Numeric Water Quality Standards in the Department Circular DEQ-7 (February 2008).

**Summary of Issues:** The purpose of this action is to regulate the discharges of pollutants to state waters from the regulated facility. Issuance of an individual permit will require the applicant to implement,

monitor, and management practices to prevent pollution and degradation of groundwater. Refer to the July 2002 EA for further details.

**Affected Environment & Impacts of the Proposed Project:**

Y = Impacts may occur (explain under Potential Impacts).

N = Not present or No Impact will likely occur.

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
1. <b>GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:</b> Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N] Discharge will increase moisture in the vadose zone. There are no limiting layers present in the soil profile that would impede continued treatment of effluent discharged from the drainfield. The water bearing formation is shallow and unconfined.
2. <b>WATER QUALITY, QUANTITY AND DISTRIBUTION:</b> Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	[N] A standard 500-foot mixing zone laying above Class I ground water with a specific conductance of less than 1,000 µmhos. Department conducted modeling analysis, indicated there would be no water quality or nondegradation significance limits exceeded outside of mixing zone for all parameters expected in the effluent. Shallow water levels in the immediate area range from approximately 23.9 to 35.1 feet below the surface. Refer to the July 2002 EA for further details. See statement of basis.
3. <b>AIR QUALITY:</b> Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N] No significant impacts have been determined.
4. <b>VEGETATION COVER, QUANTITY AND QUALITY:</b> Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] No significant impacts have been identified. No major disturbances to vegetation are proposed. Refer to the July 2002 EA for further details.
5. <b>TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:</b> Is there substantial use of the area by important wildlife, birds or fish?	[N] No significant impacts have been identified. The closest surface water capable of receiving ground water (Prickly Pear Creek) is approximately 15,000 feet down gradient of the discharge location.
6. <b>UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:</b> Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] No significant impacts have been identified from the EA, however the Montana National Heritage Program identified the following species of concern are present in the area of the discharge: <i>Melanerpes lewis</i> , <i>Spizella breweri</i> , <i>Canis lupus</i> , <i>Atriplex truncata</i> , and <i>Cypripedium parviflorum</i> .
7. <b>HISTORICAL AND ARCHAEOLOGICAL SITES:</b> Are any historical, archaeological or paleontological resources present?	[N] No significant impacts have been identified from the EA. The Montana State Historic Preservation Office reported that there have been a few previously recorded sites within the designated and several cultural resource

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
	inventories have been conducted in the area; however there is a low likelihood that cultural properties will be impacted.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] No significant impacts have been identified. The wastewater treatment system is above grade, however they are not aesthetically unappealing.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)	[N] No significant impacts have been identified from the EA. Hydraulic conductivity values indicate a rapid rate of groundwater movement. Ground water levels range from approximately 23.9 to 35.1 feet below the surface. Potential for ground water depletion is minimal. Refer to the July 2002 EA for further details.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N] No significant impacts have been identified during EA preparation.

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N] No significant impacts have been identified. The wastewater treatment facility should employ a fence on the perimeter of the property, and furnish a locking gate.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] No significant impacts have been identified.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] No significant impacts have been identified. As this is an existing system, no new jobs could be expected to be created.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] No significant impacts have been identified.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] No significant impacts have been identified.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] No significant impacts have been identified.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] No significant impacts have been identified.

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] No significant impacts have been identified.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] No significant impacts have been identified.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N] No significant impacts have been identified.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N] No significant impacts have been identified.
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N] No significant impacts have been identified.
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[N] No significant impacts have been identified.
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[N] No significant impacts have been identified.

23. Description of and Impacts of other Alternatives Considered:

A. No Action: Under the 'No Action' alternative the Department would not issue an individual ground water discharge permit under the Montana Ground Water Pollution Control System administrative rules.

B. Approval with modification: The Department has not identified any necessary modifications to grant approval.

24. Summary of Magnitude and Significance of Potential Impacts: Impacts were assessed with the assumption that the permittee will comply with the terms and conditions of the permit. Violations of the permit could lead to significant adverse impacts to state waters. In preparing permit

effluent limits, the Department has taken steps to ensure that beneficial uses of the receiving water are preserved and exceedance of water quality standards will not occur, which includes that the discharge will remain “nonsignificant”, as required by ARM 17.30.subchapter 7 “Nondegradation of Water Quality”. The Department provides assistance to applicants in understanding and implementing the requirements of the permit and conducts periodic inspections of permitted facilities, where potential problems with design or management practices might be identified. If violations of the permit do occur, the Department will take appropriate action under the water quality act (Section 75-5-617, MCA). Enforcement sanctions for violations of the permit include injunctions, civil and administrative penalties, and cleanup orders.

- 25. Cumulative Effects: The issuance of this individual MGWPCS discharge permit would not have cumulative effects because the permit prohibits pollution and degradation of state waters.
- 26. Preferred Action Alternative and Rationale: The preferred action is to issue the individual MGWPCS discharge permit. This action is preferred because the permit provides a regulatory mechanism for protecting ground water quality by applying effluent limits and monitoring requirements to the discharged wastewater.

**Recommendation for Further Environmental Analysis:**

EIS       More Detailed EA       No Further Analysis

Rationale for Recommendation:

- 27. Public Involvement: A 30-day public comment period will be from June 29 through July 29, 2009. A public hearing is not scheduled.
- 28. Persons and agencies consulted in the preparation of this analysis:
  - Damon Murdo, Cultural Records Manager, Historical Preservation Society
  - Montana Bureau of Mines and Geology Web site
  - Montana Fish and Wildlife Web page, animal species information
  - Natural Resource Information System, Montana State Library

**EA Checklist Prepared By:**

Chris Boe

June 16, 2009

**Approved By:**

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Jenny Chambers, Chief  
Water Protection Bureau

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Date