TEA Form R 1/2001

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: **Thomas & Kim Harrison**
PO Box 9738
Helena MT 59604-9738

2. Type of action: **Application for Beneficial Water Use Permit No. 30015402-41I**
Mountain View Estates Major Subdivision

3. Water source name: **Groundwater**

4. Location affected by action: **Two wells in the SENWSE of Sec 18, Twp 11N, Rge 3W, Lewis and Clark County**

5. Narrative summary of the proposed project, purpose, action to be taken, and objectives:
This application proposes to appropriate groundwater from two manifold wells. The wells are located in the SENWSE of Sec 18, Twp 11N, Rge 3W, Lewis and Clark County. The wells are referred to as #1 and #2. The wells have not yet been drilled. They will be drilled to an estimated depth of 140 feet by a licensed well driller. The Lincoln Road RV Park well was used to test the aquifer. Water would be diverted at a maximum rate of 100 gpm up to 37.94 acre-feet per year.

The water would be used for multiple domestic (26 households) from January 1 through December 31, lawn and garden irrigation on 10.80 acres from April 1 through October 31, and fire protection (water stored in a 120,000 gallon concrete tank) from January 1 through December 31. The place of use is Lots 1 through 26, in the Mountain View Estates Major Subdivision located in the SE of Sec 18, Twp 11N, Rge 3W, Lewis and Clark County.

Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

Environmental Assessment Report prepared by Barry Damschen Consulting, LLC, dated August 2005
Montana Natural Heritage Program (MTNHP)
Soil Survey of Helena Valley USDA – SCS
Russell Levens – DNRC Hydrogeologist

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

Determination: **No significant adverse impact.**
This proposed project would not affect chronically dewatered streams as identified by DFWP; it does not seek to develop water from a surface water source. The proposed project is located within the North Hills Controlled Groundwater Area (NHCGWA). The controlled groundwater area was established to address concerns regarding water availability and water quality.

Water quality - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

Determination: **No significant adverse impact.**
This proposed project would not affect water quality in perennial streams. It is unknown at this time whether there would be an impact to groundwater quality. See groundwater section below.

Groundwater - Assess if the proposed project impacts ground water quality or supply.
If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

Determination: **No significant adverse impact.**
Accepted standard tests conducted by the applicant indicate that water is available in the quantities proposed for withdrawal by the two wells. In order to monitor any long-term ground water depletions, the applicant will be required to make periodic water level measurements and measure the volume of water withdrawn and report them to the DNRC.

DIVERSION WORKS - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

Determination: **No significant adverse impact.**
The proposed project would not affect streams or riparian areas. The two wells have not been drilled. If the Application for Beneficial Water Use is approved and issued, the wells will be drilled in accordance with the Montana Board of Water Well Contractors and the Administrative Rules of Montana and subject to DEQ requirements.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater,

assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."

Determination: **No significant adverse impact.**
According to the MTNHP there are several nearby areas that are home to the Black-tailed Prairie Dog. The Black-tailed Prairie Dog or Cynomys ludovicianus is considered a species of special concern.

Although antelope, deer, and other small mammals frequent the area the proposed subdivision is not located in an area with a high wildlife resource value.

Wetlands - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

Determination: **No functional wetlands have been identified.**

Ponds - For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.

Determination: **No pond development is involved in this project.**

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.

Determination: **No significant impact.**
According to the soil survey of the Helena Valley, the chief type of soil in the proposed project area is Scravo, which is described as from 0 to 6″ gravelly loam; from 6 to 17″ very gravelly sand loam; from 17 to 60″ very gravelly loamy sand. Listed under soil interpretations for various uses, it is only rated good under road fill and a probable source for gravel.

As with many areas in and around Helena and the surrounding valley there is the potential for an earthquake. According to a suggestion by a seismologist that in this seismic region, one should exercise moderate concern and follow all prescribed building codes to prevent and reduce damage that could be caused during a seismic event.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.

Determination: **The vegetative cover on the proposed project area consists of native grasses, small shrubs and some trees. The trees will remain as part of the Lincoln Road RV Park. The grass and shrubs will be damaged during construction. The developer is responsible for the establishment or spread of noxious weeds until such time the proposed subdivision is turned over to the water users. A conversation with the Lewis and Clark County Weed District gave the developers basic guidelines of a proper weed management plan.**

AIR QUALITY - Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.

Determination: **No significant adverse impact.**

There may be a deterioration of air quality due to the increased traffic within the subdivision. In addition, if any of the homes have wood burning stoves/fireplaces that are burned improperly, there may be noticeable or objectionable odors that could affect air quality and /or be offensive to other property owners. This impact would be temporary during the winter months when there is an air inversion.

HISTORICAL AND ARCHEOLOGICAL SITES - Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.

Determination: **No significant adverse impact.**
According to the document prepared by Barry Damschen, the State Historic Preservation Office was contacted to conduct a file search of the cultural resources in the proposed project area. The Helena Irrigation Canal was the only historical feature on the property. The canal will be protected throughout the development process. The existing easement shall be maintained in order to preserve the canal in its current condition.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - Assess any other impacts on environmental resources of land, water and energy not already addressed.

Determination: **No additional impacts on environmental resources of land, water and energy not already addressed were identified.**

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.

Determination: **The proposed subdivision resides in "Area E" of the Lewis and Clark County Growth Policy. This area is located in the northwest Helena Valley and is bordered by the Helena Valley Irrigation Canal and Silver Creek on the south and Green Meadow Drive on the west. These boundaries reflect agricultural lands, low-density residential developments and/or floodplain. There is also some non-residential development. Jim Darcy Elementary School and a commercial center are located just east of the area on Lincoln Road.**

The principal road network has been established but additional linkages will need to be established to provide for infill development of interior areas. Most of the roads are gravel and pavement improvements would be necessary to accommodate additional development.

Water availability is a critical issue in the accommodation of additional development. A study is currently under way to analyze the availability of groundwater in this area. The North Hills Controlled Groundwater area established in 2002 will answer some of the questions about water quantity and quality. The study is ongoing at this time.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.

Determination: **No significant adverse impact.**
The proposed project would not impact access to or the quality of recreational and wilderness activities

HUMAN HEALTH - Assess whether the proposed project impacts on human health.

Determination: **No significant adverse impact.**
The proposed subdivision will utilize a new central gravity collection wastewater system and treatment facility. The facility will include a large septic tank, sand filter, and pressure dosed drain fields. Plans and specifications for distribution and storage will have to be approved by DEQ.
Solid waste will be disposed of at the county landfill transfer station. The landowners can either haul their own waste or have a private hauler pick up and dispose of the solid waste.
The Helena Valley Irrigation Canal is one prominent safety hazard located on the northern boundary of the subdivision. It is unknown at this time how that problem will be overcome.

PRIVATE PROPERTY - Assess whether there are any government regulatory impacts on private property rights.
Yes ___ No __**X**

OTHER HUMAN ENVIRONMENTAL ISSUES - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

(a) Cultural uniqueness and diversity? **No significant adverse impact.**

(b) Local and state tax base and tax revenues? **No significant adverse impact. This subdivision project should increase the local and state tax base and revenues. Although this is expected to be a positive impact, the magnitude of the potential increase in tax revenues has not been quantified.**

(c) Existing land uses? **No significant adverse impact. In the past the historic land use was agriculture. The land has not been used as farmland since the Lincoln Road RV Park was constructed. The land at the moment is vacant.**

(d) Quantity and distribution of employment? **No significant adverse impact. This proposed project has the potential to increase the demand for services in the Helena area and create employment opportunities.**

(e) Distribution and density of population and housing? **No significant adverse impact. The development of this subdivision would increase the population growth outside the city limits of Helena. There will be 26 households at full development.**

(f) Demands for government services? **No significant adverse impact. There would be a demand for a number of government and local services. The residents of the subdivision would need fire and police protection, bus service to some schools, however the Jim Darcy Elementary School would be right next door. There will also be a need for medical/health care services, solid waste disposal, postal services, road maintenance, etc. Some of these issues were discussed earlier in this environmental assessment or can be found in the environmental assessment prepared by Barry Damschen Consulting, LLC.**

(g) Industrial and commercial activity? **No significant adverse impact. This subdivision is strictly for domestic and lawn and garden uses.**

(h) Utilities? **No significant adverse impact. This proposed project would create the need for new facilities for electrical power, natural gas, telephone lines, and cable television lines. All utilities will be installed underground in accordance with Lewis and Clark County Subdivision Regulations. Some of the utility companies have been contacted regarding this subdivision.**

(i) Transportation? **No significant adverse impact. The streets that will be impacted by this subdivision are Montana Avenue and Lincoln Road. Montana Avenue is a north-south route located east of the proposed development. Lincoln Road is an east-west route located south of the proposed development. Interstate 15 is accessible via an interchange at Lincoln Road. The proposed subdivision will have new public access roads constructed to meet the Lewis and Clark County Road Standards.**

(j) Safety? **No significant adverse impact. There may be safety impacts created by the increased traffic on Montana Avenue, Lincoln Road and the close proximity of the Interstate. As mentioned earlier in the ea the Helena Valley Irrigation Canal is one prominent safety hazard located on the northern boundary of the subdivision. It is unknown at this time how that problem will be overcome. The subdivision would increase the need for emergency services such as fire, police and medical. The response time for the emergency services may increase due to the growth of the Helena Valley area and limited resources and personnel. The developer will work with the individual services and they have been contacted about the subdivision. A 120,000-gallon concrete storage tank for fire protection will be designed. A 1000 gpm fire pump capable of producing 20 psi through a fire hydrant will be part of the design.**

(k) Other appropriate social and economic circumstances? **No significant adverse impact.**

2. Secondary and cumulative impacts on the physical environment and human population:

Secondary Impacts **No significant adverse impact. A discussion of past development is included in the Final Environmental Assessment (EA) for the NHCGWA (available from the DNRC Helena Regional Office). In summary, the population in the Northeast and Northwest Helena Valley increased by 50% between 1990 and 2000 indicating the demand for groundwater development will continue. DNRC currently has 2 pending groundwater permit applications for water for new subdivisions within the NHCGWA. Bridge Creek Estates is a 130-lot subdivision that lays to the east of Mountain View Estates across Montana Avenue. The water permit application is requesting 432 gpm up to 130 acre-feet per year for multiple domestic. Currently Bridge Creek Estates has been sent to the hearings unit for scheduling. Fieldstone Estates is a 322-lot subdivision that lays to the east of Mountain View Estates, across the interstate. The water permit application is requesting 604 gpm up to 538.8 acre-feet per year for multiple domestic, lawn and garden irrigation and commercial. The original application from Fieldstone Estates went to an Administrative Hearing and was denied on August 2, 2005. A second application was submitted to the Department on December 28, 2005. The information for Fieldstone reflects the current application. The NHCGWA was designated because of concerns by area residents**

that projects such as those just described could affect water levels and production from existing wells, and that elevated concentrations of nitrate could limit uses of groundwater. Reports of problems with numerous wells related to reduced water levels, and reports of elevated levels of nitrate near existing subdivisions were the main causes cited for these concerns. DNRC concluded in its evaluation of the NHCGWA petition that declining groundwater levels resulting from limited recharge during the recent drought probably is the primary cause of well problems. There is not sufficient water quality data to evaluate the extent that septic systems may have on the use of groundwater. The NHCGWA established a permitting system for small wells otherwise exempt from permit requirements in order to provide information for use in evaluating the need for additional controls on groundwater development. The NHCGWA study will gather data to monitor the affects of continuing development in the North Hills area. Conclusions from the study will be used as a tool to regulate the proposed subdivision and other developments cited above.

Cumulative Impacts

There are several large subdivisions in the NGCGWA. There are numerous small subdivisions relying on individual wells as a water source. There are also several subdivisions that are not in the NHCGWA but close enough to have a possible impact in the NHCGWA. All foreseeable development in the vicinity of the proposed project will rely on groundwater from the alluvial aquifer or underlying fractured bedrock.

When the Helena Valley started to be developed, the subdivisions were spread out and not situated in close proximity to each other. A few were developed with community water systems, however most had individual wells and septic systems. The valley is growing at an unprecedented rate at this point in time. Within the NHCGWA several new large subdivisions with community water systems are in the planning stages. There are also many subdivisions relying on individual wells. A partial list of those subdivisions was compiled using the DNRC standards for domestic and lawn and garden volumes. The partial list showed 1,450 lots with a volume of 2,134 acre-feet per year. If the growth continues at the present rate the cumulative impacts could have significant adverse affects. The NGCGWA should help to answer some of these questions. However, at this time the cumulative impacts are unknown.

3. Describe any mitigation/stipulation measures:

The permit, if issued would be subject to all prior existing water rights in the source of supply. The applicant would be required to submit a yearly report of monthly flow rate and volume measurements to the DNRC. Periodic water level measurements in the vicinity of the proposed subdivision will also be required.

This application will be subject to the conditions that have been established for the North Hills Controlled Ground Water Area. This application will go through the DNRC public notice procedure, and water users concerned with potential impacts will be given the opportunity to object to the application. The decision by the DNRC to grant or deny the application would not be made until these review processes are completed.

4. Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:

The no action alternative would prevent the applicant from obtaining water to develop domestic and lawn and garden irrigation for the subdivision. If the permit were denied the individual lot owners in the subdivision would have to construct their own wells to be used for domestic and lawn and garden. The result could be a greater potential for an adverse impact to water quality and quantity because of the 26 new wells that would be drilled to service home sites.

PART III. Conclusion

1. Preferred Alternative: **Issue the permit as applied for by the applicant, or in some modified form considered reasonable. As stated above the potential for adverse affect would seem to be greater with individual new wells being constructed in the area.**

2. Comments and Responses: **Comments and responses were complied by Barry Damschen Consulting, LLC for the subdivision preliminary plat application for Mountain View Estates. For the comments and responses, contact Barry Damschen Consulting.**

3. Finding:
Yes ___ No __**X**_ Based on the significance criteria evaluated in this EA, is an EIS required?

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: **Based on a consideration of the criteria found in DNRC Administrative Rule 36.2.524, "Determining the Significance of Impacts," there is not a sufficient adverse impact. An EA is sufficient for this level of action. The possible impacts from the community water system and wells for the subdivision are not significant adverse impacts and thus do not warrant and EIS.**

Name of person(s) responsible for preparation of EA:
Name: Kathy Arndt
Title: Water Resources Specialist
Date: February 16, 2005