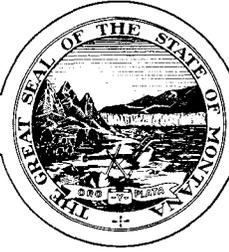


DEPARTMENT OF ENVIRONMENTAL QUALITY
PLANNING, PREVENTION AND ASSISTANCE DIVISION



MARC RACICOT, GOVERNOR

LEE METCALF BUILDING
1520 EAST SIXTH AVENUE

STATE OF MONTANA

(406) 444-6697
fax (406) 444-6836

August 24, 1998

PO BOX 200901
HELENA, MONTANA 59620-0901

Environmental Quality Council
State Capitol, Rm. 106
Deadhead

RECEIVED

AUG 25 1998

**ENVIRONMENTAL
QUALITY COUNCIL**

RE: Montana State Revolving Loan Program
Environmental Assessment for Sunset West Water System Improvements -
Missoula County RSID #8458

To Whom It May Concern:

The Missoula County Office of Planning and Grants is currently pursuing funding for the above referenced project. The environmental assessment was completed by Craig Pagel of the Public Water Supply Section of this Department on June 19, 1998. Public notification was provided, and responses were addressed by Mr. Pagel. In order to finalize the requirements of the Drinking Water Revolving Fund Loan Program, we are providing a copy of the Environmental Assessment to your office for comments.

Please call me at 444-6777 if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Terri Anderson".

Terri Anderson
Environmental Engineer Specialist
Technical and Financial Assistance Bureau

enc.

c: Cindy Wulfekuhle, Missoula County Office of Planning and Grants
Nancy Robert, President, Sunset West HOA

F:\CB0117\WP\PROJECTS\SUNSET\EA-EQC.WPD

DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMITTING & COMPLIANCE DIVISION

Community Services Bureau

Public Water Supply Section

MARC RACICOT, GOVERNOR



STATE OF MONTANA

Phone: (406)444-4400

Fax: (406)444-1374

Metcalf Building

1520 E Sixth Ave

PO Box 200901

Helena, MT 59620-0901

19 June 1998

Office of Planning and Grants
Attn: Cindy Wulfekuhle
200 West Broadway
Missoula, MT 59802

Re: Missoula County RSID #8458 - Sunset West Water System Improvements (EQ 98-1529),
Environmental Assessment Expanded Checklist and Public Comment Period

Dear Cindy,

I have enclosed the Environmental Assessment Expanded Checklist for the Sunset West Water System Improvements project. Please provide public notification of the availability of this document through publication in a local newspaper. Public comments will be accepted for at least two weeks following the date of the public notification. A copy of the document should be available in your office for public review during the two week comment period. Additional copies of the Environmental Assessment Expanded Checklist will be available at the Department of Environmental Quality (DEQ) office in Helena. Public comments or requests for copies of the document should be directed to:

DEQ/Public Water Supply Section
Attn: Craig Pagel
1520 East Sixth Avenue, P.O. Box 200901
Helena, MT 59620-0901
(406) 444-5313

I appreciate the input you have provided and the opportunity to have worked with you on this important project.

Sincerely,

A handwritten signature in cursive script that reads "Craig W. Pagel".

Craig W. Pagel, P.E.

Enclosure

Copies: Curt Martin, DNRC Water Resources Regional Office
Tom Barger, Missoula City-County Health Department
Jim Edgecomb, MT Department of Commerce
Tom Ellerhoff, DEQ Director's Office

**ENVIRONMENTAL ASSESSMENT SUMMARY AND CHECKLIST
MISSOULA COUNTY RURAL SPECIAL IMPROVEMENT DISTRICT (RSID) #8458
SUNSET WEST WATER SYSTEM IMPROVEMENTS**

DESCRIPTION OF PROJECT

The public water supply system for the Sunset West Homeowners Association (HOA) was constructed in the early 1970s. The development is located in the foothills of the Clark Fork River Valley about 1.5 miles north of the Frenchtown frontage road in Section 8, Township 14 North, Range 20 West, Montana Prime Meridian (MPM)(see Attachment 1). The water system currently serves 37 homes on the 44 lots of the Sunset West HOA development.

The public water supply system was designed to provide 60 gallons per minute (gpm) from three wells. The production wells pump directly into the distribution system, with excess water lifted by distribution system pressure during periods of low demand to an 83,000 gallon ground level steel storage reservoir located above distribution system elevations. The water supply system has never met design capacity. Production wells originally produced no more than 30 gpm, and a decline in the capacities of the wells has resulted in a current production of less than 10 gpm. Because water demand has nearly always exceeded supply, the storage reservoir was rarely filled, and has been dry since 1992.

Many of the Sunset West HOA residents have experienced little or no water for extended periods of time, and have constructed private wells and cisterns because of the inadequacy of the public water supply. Presently, there are about 25 known wells, including the three public water supply wells, in the Sunset West HOA development area.

The Missoula County RSID #8458 - Sunset West Water System Improvements proposal includes construction of nearly 10,000 feet of 4-inch transmission main to connect to a well located in the O'Keefe Creek drainage, storage reservoir maintenance, construction of new water service lines, installation of fire hydrants and hydraulic control valves, and construction of curb stops and water meters to regulate residential water usage.

Plans and specifications of the proposed water system improvements required deviation from the design criteria of Department Circular WQB 1 - Standards for Water Works. Four deviation requests and justifications were submitted for components of the water system that could not meet public water supply standards. The deviation requests that were reviewed, approved and limited to the Sunset West Water Improvements by the Department of Environmental Quality Deviation Review Committee are briefly summarized:

Section 8.1.2 Water Main Diameter - The required minimum size of 6-inch diameter water mains for providing fire protection and serving fire hydrants was reduced to 4-inch diameter water mains currently serving the system. Approval was based upon the recommendations of the Frenchtown Rural Fire District which included five additional fire hydrants, and consideration of the current situation which provides little or no fire protection (approved 10 September 1996).

Section 3.2.1.2 Number of Sources - A minimum of two sources of groundwater are required for community public water supplies. Approval of the proposed well in the O'Keefe Creek drainage as the sole source was dependent on infrequent power outages, a high priority status for the repair of the Missoula Rural Electric Cooperative transmission main in the event of outages, the availability of backup submersible pumps, and fire protection provided by gravity flow from the storage reservoir (approved 10 September 1996).

Section 3.2.5.6 (d) Screens - Public water supply standards require well screens to be installed so that the pumping water level remains above the screened interval under all operating conditions. The standard is intended to prevent the intake of microbial and chemical contaminants that may infiltrate from the surface and tend to float on the groundwater surface, and also to minimize flow velocities and the migration of fines through well screen openings. It is anticipated the pumping water level would be below the top of the screened interval during normal operating conditions, particularly during seasonal fluctuations of the groundwater level in the O'Keefe Creek drainage. However, pumping water levels below the top of screened intervals is relatively common in public water supply wells in Montana, and approval was based upon the overall benefits of the proposed improvements (approved 5 May 1998).

Section 8.1.1 Water Main Pressure - Distribution system pressures are required to be maintained to a minimum of 35 psi under normal operating conditions. However, distribution system pressures of less than 35 psi will occur in the upper elevations of the system, due to the location of the storage reservoir and the operational range of water level elevations in the storage reservoir. Increasing normal operating pressures to a minimum of 35 psi in the upper elevations of the distribution system would require physically moving the existing storage reservoir or constructing a new storage reservoir at a higher elevation. The deviation request was approved because the distribution system and storage reservoir were previously approved with the original design, and the infeasibility of physically relocating the storage reservoir. The water system improvements would at least fill the storage reservoir, which would provide considerably more distribution pressure than currently exists. In addition, distribution system pressures of less than 35 psi in the upper elevations of the system would be mitigated somewhat by the existing cisterns and pumps that have been installed by residents to deal with the currently inadequate water system (approved 15 May 1998).

DISCUSSION OF ALTERNATIVES

No other alternatives were presented with the Missoula County RSID # 8458 - Sunset West Water System Improvements proposal. The proposal was submitted for plan and specification review and approval (EQ 98-1529) on 13 October 1997. Water rights for the well in the O'Keefe Creek drainage had been previously approved (Montana Department of Natural Resources (DNRC), Permit to Appropriate Water, priority date 24 June 1994). The existing water right is a key element of the proposal, and no other alternatives were considered.

Preliminary engineering studies conducted in 1994 and 1995 included cost estimates and alternatives that were common to using the O'Keefe Creek drainage well. At that time, some informal discussions involved rehabilitating the existing wells. However, rehabilitation of the existing wells would probably not result in a total combined production of 30 gpm, which was the highest production of the wells but still inadequate for the public water supply. In addition, the drilling of private wells in the Sunset West development area has indicated sustained well yields are consistently low, and additional public water supply wells were not considered a feasible alternative.

The current situation is not an acceptable alternative. Low water pressures or negative water pressures can induce contamination and create public health risks. It is believed some of the private wells drilled by residents because of the inadequate public water supply may be connected directly to the water system service line without proper control valves to prevent potentially dangerous cross connections (i.e., back-siphonage out of a stock tank).

A technically feasible alternative that may be considered in the future would involve drilling a well or wells to the south in the lower portion of the O'Keefe Creek drainage or the Clark Fork River Valley. This alternative would require approximately the same length of transmission main over similar elevations, and sustained well yields would be expected to be considerably higher than in the upper O'Keefe Creek drainage. However, the existing well in the upper O'Keefe Creek drainage was drilled by Sunset West HOA in 1991 and water rights appropriated in 1994, and new well locations are not being included as alternatives with the current proposal.

POTENTIAL IMPACTS TO GROUNDWATER RESOURCES

The Sunset West well in the O'Keefe Creek drainage is located in the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 16, Township 14 North, Range 20 West, MPM (see Attachment 1). The location of the well is within the privately owned lots of the Meadows West HOA. The well was constructed to a depth of 100 feet and intercepted a high water-yielding clay, sand and gravel zone at 58 to 68 feet. The well construction includes an 8-inch diameter steel casing with an open bottom and 3/16 inch by one inch perforations through the water bearing zone (58 to 68 feet). The well was pump tested in late April 1994 at a constant rate of 71 gpm for 25 hours. The static water level at the start of the pump test was 55.56 feet and the pumping water level stabilized at a depth of 58.5 feet. Five observation wells were monitored during the pump test, with measurable drawdown in only one of the observation wells. The Hanson well (currently Bill Amrine), located about 100 feet south of the Sunset West well was reported to have 0.2 feet of drawdown during the pump test, from which a calculated (DEQ) aquifer storage coefficient indicates the aquifer is unconfined.

The unconfined aquifer in the O'Keefe Creek drainage is composed of ancient clay to gravel-sized material deposited in the alluvial outwash plain of O'Keefe Creek. The aquifer materials were eroded from the steep tributary drainages to the north and northeast and deposited when runoff velocities slowed in the shallower gradients of the outwash plain. Deposition of the alluvial materials was controlled by the meandering course of O'Keefe Creek and fluctuations in runoff volumes.

The lense shaped deposits of alluvial materials are relatively thin and discontinuous throughout the upper reaches of the small O'Keefe Creek valley. The alluvial materials are high yielding water-bearing zones, but are encapsulated by fine-grained Tertiary sediments. The Tertiary sediments also contain water, but the yield of these formations is small compared to the high yielding alluvial materials. The Tertiary sediments create low permeability boundary conditions that limit the availability of water in the O'Keefe Creek aquifer.

The high yielding alluvial materials of the O'Keefe Creek aquifer become more continuous to the south of the Sunset West well. The extent of the water bearing zone in which the Sunset West well is completed is unknown. No permeability boundary conditions were observed during the pump test of the Sunset West well. Although the pump test of the Sunset West well exceeded the minimum standards for public water supply wells, pump tests in unconfined aquifers should be conducted for at least 72 hours to allow the drawdown cone of depression to stabilize and identify any boundary conditions that could limit sustained yield.

Static water levels in the O'Keefe Creek aquifer are known to fluctuate seasonally, and water shortages have been documented. Water levels are highest in the spring, with low water levels and water shortages occurring in the fall near the end of the irrigation season. Static water levels measured in the Sunset West well have fluctuated as much as 35 feet since 1994. The Sunset West well pump test was conducted in late April 1994 during optimum seasonal recharge, and the static water level at the start of the pump test was 55.56 feet. By late November of 1994 the static water level in the Sunset West well had dropped to 63.45 feet, and was within 4 feet of the bottom of the perforated interval in the well. Although it is recognized that these conditions occurred at the end of a sustained drought, it is important to realize the well had not been used since the pump test, and low recharge years can be expected to occur in the future.

The specific capacity of the Sunset West well at the time of the pump test was 24 gpm/foot of drawdown. The specific capacity of a well will decrease over time, due to inefficiencies caused by the migration of fines (clay, silt and sand sized particles) and a subsequent decrease in permeability of aquifer materials immediately adjacent to the intake sections of the well. The anticipated decline in the specific capacity of the Sunset West well may be increased by the size and location of the slotted perforations. The slotted perforations were not sized based on particle size distribution analyses of the aquifer materials, which is required to determine the size of well screen openings to limit the migration of fines. In addition, the drawdown of pumping water levels to below the top of the perforated interval may accelerate the migration of fines by increasing the flow velocity of water through submerged perforations, and by water cascading from perforations above the pumping water levels.

The affect of any combination of low permeability boundary conditions, seasonal water level fluctuations, and a decline in the specific capacity of the well would cause the pumping water level to drop, with corresponding lowering and expansion of the drawdown cone of depression. If the pumping water level and drawdown cone of depression drop below the perforated interval of the well, the only water available to the pump would be water rising in the well through the open bottom of the casing.

Water rights have been appropriated for the Sunset West well for a flow rate of 50 gpm and a total volume of up to 71.72 acre-feet per year. The pump test results provided in support of the Application for Beneficial Use Permit indicated the Sunset West well would not adversely affect the wells that existed and were monitored during the pump test. A calculated (DEQ) radius of influence (distance where drawdown = 0; the lateral extent of the cone of depression) of 180 feet from the Sunset West well can be derived from observation well data collected from the Hanson (Bill Amrine) well during the pump test. However, given the large seasonal fluctuation of static water levels, the relatively thin intercept of the water bearing zone in the well, the probability of low permeability boundary conditions, and the anticipated decrease in specific capacity, the Sunset West well may not be able to produce a sustained yield of 50 gpm. The resulting stress on the aquifer could expand the radius of influence and affect surrounding wells in the area. Potential water shortages in the Sunset West well would be expected to occur at the same time other wells in the area would experience water shortages, and recovery would be dependent on reduced water use and seasonal recharge of the aquifer.

POTENTIAL CUMULATIVE IMPACTS TO GROUNDWATER RESOURCES

At the time of the Sunset West well pump test in April 1994, less than ten homes existed in the Meadows West HOA. Even with limited use of the aquifer, documented shortages of water occurred regularly. There are currently about 40 homes in the same area, many of which are multiple-acre lots that include large lawns and irrigated pasture. Another 36 lots are available for purchase and development in the Meadows West HOA. It is assumed similar growth is occurring in Meadows East HOA east of Highway 93 that includes development and use of the upper O'Keefe Creek aquifer.

Since 1994, there have been 21 appropriations for water rights in the upper O'Keefe Creek valley in the area that includes the Meadows West HOA (Section 16 - 14 water rights beginning in 1995, the Southeast 1/4 of Section 9 - 4 water rights beginning in 1995, and the Southwest 1/4 of Section 9 - 3 water rights beginning in 1995). It appears some of the newer homes may have wells for which water rights have not yet been filed. In addition, observed irrigation practices suggest some water users with domestic use water rights may be withdrawing more water than appropriated.

The groundwater resources in the upper O'Keefe Creek valley are limited. Overdevelopment of the groundwater resources can be expected to cause increasing water shortages for users with wells completed in the unconfined O'Keefe Creek aquifer. The cumulative adverse impacts to groundwater resources can be expected to further limit the capacity of the Sunset West well to produce a sustained yield of 50 gpm, and the probability and frequency of water shortages and subsequent recovery periods will likely increase over time.

CONCLUSION

The use of the Sunset West well would not have a significant impact on groundwater resources in the O'Keefe Creek aquifer. Water shortages and the limited potential of the aquifer have been documented since the time when there were only a few homes in the valley. The location of the

well is within or near the southern part of the upper O'Keefe Creek valley where water bearing alluvial materials are known to be more continuous and well yields higher than in the northern end of the valley.

Results of the April 1994 pump test indicate the use of the Sunset West well would not adversely affect neighboring wells. However, the affects of seasonal water level fluctuations, the probability of low permeability boundary conditions and the anticipated decline in the specific capacity of the well could cause a larger radius of influence that may impact neighboring wells. The probability and magnitude of potential impacts to neighboring wells cannot be quantified or accurately predicted.

The recent and future development of residential lots and private wells may have a greater cumulative impact on the O'Keefe Creek aquifer than the use of the Sunset West well. The cumulative impacts of residential wells and the Sunset West well on the O'Keefe aquifer can be expected to result in an increase in water shortages and recovery times.

The significance of cumulative impacts to groundwater resources from continuing well development in the O'Keefe Creek aquifer is beyond the scope of this environmental assessment. Water rights for the Sunset West well have been previously appropriated by DNRC, and the DEQ Public Water Supply Section has no authority to regulate the construction of private wells.

Aquifer limitations and the adverse cumulative impacts to groundwater resources are expected to limit the availability of a long-term sustained yield of 50 gpm from the Sunset West well.

The following documents have been submitted for plan and specification review and approval of the Missoula County RSID #8458 - Sunset West Water System Improvements (EQ 98-1529). These documents were used in the preparation of the environmental review, and are available for public review at the following locations:

Montana Department of Environmental Quality
1520 East Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901

Office of Planning and Grants
200 West Broadway
Missoula, MT 59802

Application for Beneficial Water Use Permit - Land & Water Consulting, Inc., 15 June 1994

Engineering & Construction Services for the Sunset West Water System - MSE, Inc., August 1994

Letter to Missoula County Attorney - Land & Water Consulting, Inc., 30 November 1994

Proposal for Decision in the Matter of the Application for Beneficial Use Permit - DNRC,
3 May 1995 (hearing date 11 April 1995)

Permit to Appropriate Water DNRC, 23 June 1995

Sunset West Water System Improvements. Final Engineering Report - MSE-HKM, Inc.,
24 July 1995

Sunset West Water System Improvements. Final Engineering Report Update MSE-HKM,
Inc., 12 June 1996

Letter to Frenchtown Rural Fire District - MSE-HKM, Inc., 21 June 1996

Letter to MSE-HKM, Inc. - Frenchtown Rural Fire District, 1 July 1996

Letter to DEQ (deviation requests) - MSE-HKM, Inc., 16 July 1996

Water Main Diameter Deviation - DEQ, 5 August 1996

Number of Groundwater Sources Deviation - DEQ, 5 August 1996

Preliminary Plan and Specification Review Letter - DEQ, 9 August 1996

Sunset West Water System Improvements. Plans and Specifications (EQ 98-1529) -
MSE-HKM, Inc., 13 October 1997

Letter to DEQ (requested information) - MSE-HKM, Inc., 19 December 1997

Plan and Specification Review Letter to MSE-HKM, Inc., DEQ, 18 February 1998

Sunset West Hydraulic Analysis, MSE-HKM, Inc., 2 March 1998

Response to DEQ Plan and Specification Review Letter, Land & Water Consulting, Inc.,
18 March 1998

Response to DEQ Plan and Specification Review Letter, MSE-HKM, Inc., 30 March
1998

Pumping Water Level/Screened Interval Deviation, DEQ, 22 April 1998

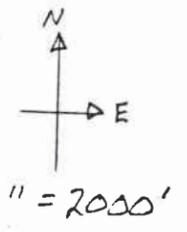
Distribution System Pressure Deviation Request Letter, MSE-HKM, Inc., 5 May 1998

Distribution System Pressure Deviation, DEQ, 7 May 1998

Letter to DEQ (requested information) - MSE-HKM, Inc., 26 May 1998

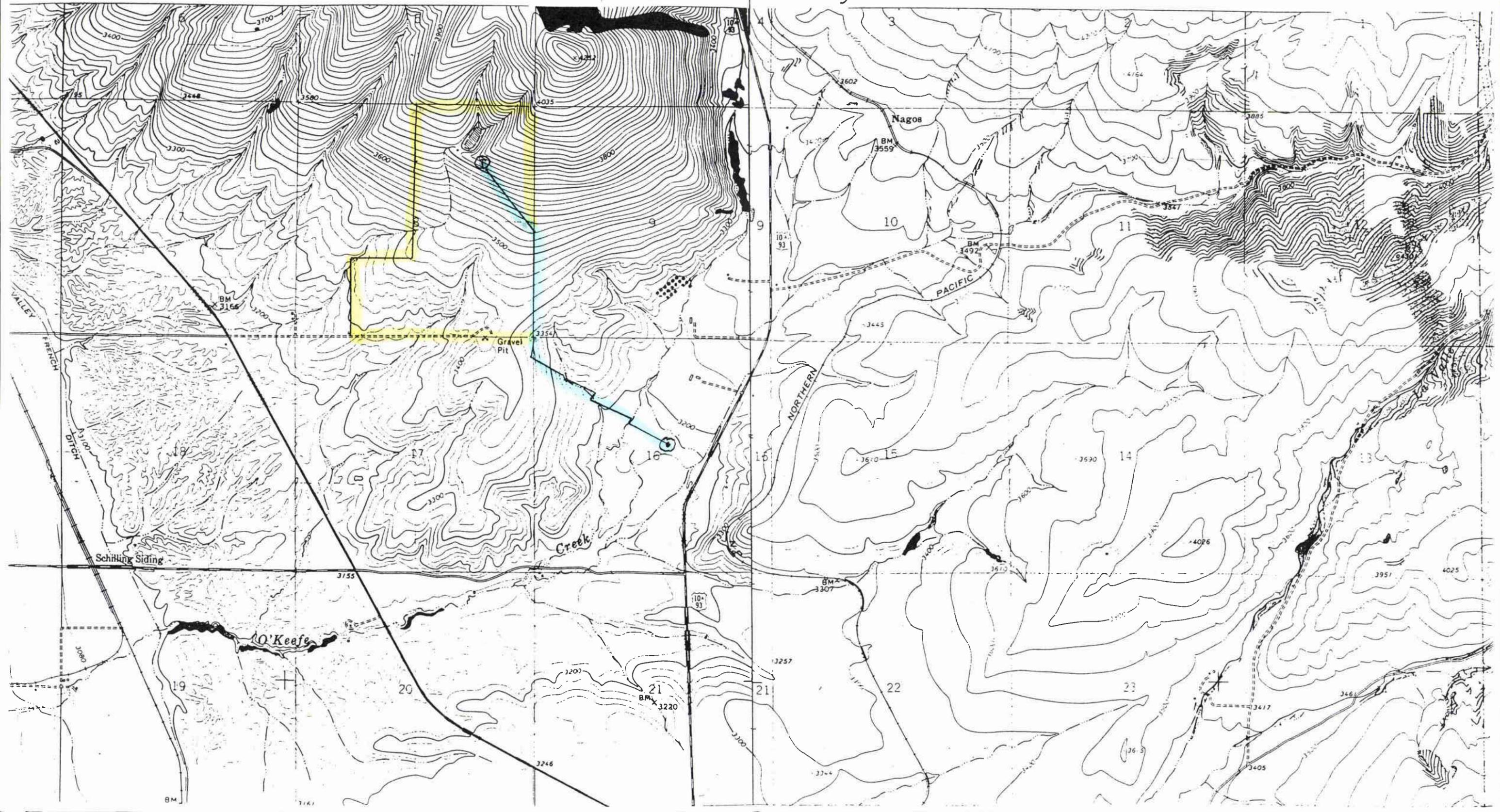
-  Sunset West HOA
-  Storage Reservoir
-  Transmission Main (approx. route)
-  Sunset West Well

Attachment 1 - Missoula County RSID # 8458
Sunset West Water System Improvements



Primrose
Quadrangle

Northwest Missoula
Quadrangle



UNIFORM ENVIRONMENTAL CHECKLIST FOR MONTANA PUBLIC FACILITY PROJECTS

Applicant: Missoula County RSI D # 8458

Project Name: Sunset West Water System Improvements

Environmental Checklist Prepared By: Craig W. Payal
(Name)

DER Public Water Supply
(Title) engineer

Telephone Number: (406) 444-5313

Fax Number: (406) 444-1374

Key Letter: N - No Impact/Not Applicable; B - Potentially Beneficial; A - Potentially Adverse;
P - Approval/Permits Required; M - Mitigation Required

PHYSICAL ENVIRONMENT	
Key <u>N</u>	<p>1. Soil Suitability, Topographic and/or Geologic Constraints (e.g., soil lump, steep slopes, subsidence, seismic activity)</p> <p><i>Comments and Source of Information:</i></p>
Key <u>N</u>	<p>2. Hazardous Facilities (e.g., power lines, hazardous waste sites, acceptable distance from explosive and flammable hazards including chemical/petrochemical storage tanks, underground fuel storage tanks, and related facilities such as natural gas storage facilities & propane storage tanks)</p> <p><i>Comments and Source of Information:</i></p>
Key <u>N</u>	<p>3. Effects of Project on Surrounding Air Quality or Any Kind of Effects of Existing Air Quality on Project (e.g., dust, odors, emissions)</p> <p><i>Comments and Source of Information:</i></p>
Key <u>A</u>	<p>4. Groundwater Resources & Aquifers (e.g., quantity, quality, distribution, depth to groundwater, sole source aquifers)</p> <p><i>Comments and Source of Information:</i> <u>Expanded check list environmental assessment</u></p>
Key <u>N</u>	<p>5. Surface Water/Water Quality, Quantity & Distribution (e.g., streams, lakes, storm runoff, irrigation systems, canals)</p> <p><i>Comments and Source of Information:</i></p>

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<p>Key <u>N</u></p>	<p>6. Floodplains & Floodplain Management (Identify any floodplains within one mile of the boundary of the project.)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>7. Wetlands Protection (Identify any wetlands within one mile of the boundary of the project.)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>8. Agricultural Lands, Production, & Farmland Protection (e.g., grazing, forestry, cropland, prime or unique agricultural lands) (Identify any prime or important farm ground or forest lands within one mile of the boundary of the project.)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>9. Vegetation & Wildlife Species & Habitats, Including Fish (e.g., terrestrial, avian and aquatic life and habitats)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>10. Unique, Endangered, Fragile, or Limited Environmental Resources, Including Endangered Species (e.g., plants, fish or wildlife)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>11. Unique Natural Features (e.g., geologic features)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>12. Access to, and Quality of, Recreational & Wilderness Activities, Public Lands and Waterways, and Public Open Space</p> <p><i>Comments and Source of Information:</i></p>
<p>HUMAN POPULATION</p>	
<p>Key <u>N</u></p>	<p>1. Visual Quality - Coherence, Diversity, Compatibility of Use and Scale, Aesthetics</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>2. Nuisances (e.g., glare, fumes)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>3. Noise -- suitable separation between housing & other noise sensitive activities and major noise sources (aircraft, highways & railroads.)</p> <p><i>Comments and Source of Information:</i></p>

Key Letter: N - No Impact/Not Applicable; B - Potentially Beneficial; A - Potentially Adverse;
 P - Approval/Permits Required; M - Mitigation Required

<p>Key <u>N</u></p>	<p>4. Historic Properties, Cultural, and Archaeological Resources</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>5. Changes in Demographic (Population) Characteristics (e.g., quantity, distribution, density)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>6. General Housing Conditions - Quality, Quantity, Affordability</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>7. Displacement or Relocation of Businesses or Residents</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>B</u></p>	<p>8. Public Health and Safety <i>Expanded checklist</i></p> <p><i>Comments and Source of Information: environmental assessment</i></p>
<p>Key <u>N</u></p>	<p>9. Local Employment & Income Patterns - Quantity and Distribution of Employment, Economic Impact</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>10. Local & State Tax Base & Revenues</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>11. Educational Facilities - Schools, Colleges, Universities</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>12. Commercial and Industrial Facilities - Production & Activity, Growth or Decline</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>13. Health Care - Medical Services</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>14. Social Services - Governmental Services (e.g., demand on)</p> <p><i>Comments and Source of Information:</i></p>

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<p>Key <u>N</u></p>	<p>15. Social Structures & Mores (Standards of Social Conduct/Social Conventions)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>16. Land Use Compatibility (e.g., growth, land use change, development activity)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>17. Energy Resources - Consumption and Conservation</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>18. Solid Waste Management</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>19. Wastewater Treatment - Sewage System</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>20. Storm Water - Surface Drainage</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>B</u></p>	<p>21. Community Water Supply <i>Expanded checklist environmental assessment</i></p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>22. Public Safety - Police</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>B</u></p>	<p>23. Fire Protection - Hazards <i>Expanded checklist environmental assessment</i></p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>24. Emergency Medical Services</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>25. Parks, Playgrounds, & Open Space</p> <p><i>Comments and Source of Information:</i></p>

Key Letter: N - No Impact/Not Applicable; B - Potentially Beneficial; A - Potentially Adverse; P - Approval/Permits Required; M - Mitigation Required

<p>Key <u>N</u></p>	<p>26. Cultural Facilities, Cultural Uniqueness & Diversity</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>27. Transportation Networks and Traffic Flow Conflicts (e.g., rail; auto including local traffic; airport runway clear zones - avoidance of incompatible land use in airport runway clear zones)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>28. Consistency with Local Ordinances, Resolutions, or Plans (e.g., conformance with local comprehensive plans, zoning, or capital improvement plans)</p> <p><i>Comments and Source of Information:</i></p>
<p>Key <u>N</u></p>	<p>29. Is There a Regulatory Action on Private Property Rights as a Result of this Project? (consider options that reduce, minimize, or eliminate the regulation of private property rights.)</p> <p><i>Comments and Source of Information:</i></p>

<p>1. Name of the person or organization...</p>	<p>✓</p>
<p>2. Address...</p>	<p>✓</p>
<p>3. (This page is intentionally left blank)</p>	<p>✓</p>
<p>4. Contact information...</p>	<p>✓</p>