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Southern Black Hills Water System Argyle Road Service Area Special Use Permit

Decision Notice and Finding of No Significant Impact

Black Hills National Forest

Hell Canyon Ranger District
Custer County, South Dakota

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TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	DECISION.....	1
2.1	Decision Rationale.....	3
3.0	PROJECT SUMMARY.....	5
3.1	Public Involvement.....	5
3.2	Alternatives Considered.....	6
3.2.1	Alternative 1 – No Action.....	6
3.2.2	Alternative 2 – Modified Proposed Action.....	6
3.2.3	Alternatives Not Considered in Detail.....	6
3.2.4	Comparison of Two Alternatives Considered	7
4.0	FINDING OF NO SIGNIFICANT IMPACT	8
4.1	Context.....	8
4.2	Intensity	9
5.0	FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS.....	10
5.1	Consistency with the Land and Resource Management Plan.....	11
5.2	Consistency with the National Forest Management Act	12
6.0	ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES	12
7.0	IMPLEMENTATION.....	13
8.0	CONTACT.....	14
	APPENDIX I ERRATA SHEET – ENVIRONMENTAL ASSESSMENT	15
	APPENDIX II SUMMARY OF EA COMMENTS AND FOREST SERVICE RESPONSES TO COMMENTS.....	17

LIST OF FIGURES AND TABLES

Figure 1. Project Area and Vicinity for the Southern Black Hills Water System Argyle Road Service Area Special Use Permit project.....2

Table 1. Summary of Alternatives and Measurement Indicators for Each Issue.7

1.0 INTRODUCTION

A Decision Notice (DN) and Finding of No Significant Impact (FONSI) are provided here. The DN documents my decision and provides my explanation of the management and environmental reasons that I used to make my decision in selecting an alternative to implement. The FONSI presents the reasons why I find this action will not have a significant effect on the human environment and therefore why an environmental impact statement will not be prepared. The completed Southern Black Hills Water System Argyle Road Service Area Special Use Permit Environmental Assessment (EA) is incorporated by reference. Figure 1 shows the project area and surrounding vicinity for the Southern Black Hills Water System Argyle Road Service Area Special Use Permit project.

2.0 DECISION

Based upon my review of the Southern Black Hills Water System Argyle Road Service Area Special Use Permit EA, I have decided to implement Alternative 2 – Modified Proposed Action, which was developed to address the issues identified during scoping:

1. The volume of water involved with this project and the potential effects on water quantity available to other uses.
2. Pipeline construction activities and effects to wildlife and wildlife habitat.
3. Pipeline construction activities and effects to Sensitive Plants.
4. Potential for the establishment and spread of invasive plants as a result of the pipeline construction activities.
5. Pipeline construction activities and the effects to archeological and cultural resources.

To address Issue 1, the maximum pumping capacity of the water source for the pipeline was specified to be 109 gallons per minute (gpm). Withdrawals exceeding 109 gpm are outside the scope of this decision and would require additional environmental analysis. A monitoring and reporting plan addressing water resource monitoring will be instituted to track the long-term response of the Madison Aquifer to pumping of the Streeter Well at 109 gpm. The details of the monitoring and reporting plan will be provided in the special use permit. The monitoring and reporting plan will consist of four parts:

1. Water withdrawals at the Streeter Well will be monitored to measure pumping capacity.
2. Potential leakage from the pipeline over National Forest System (NFS) land will be monitored for resource protection.
3. Beaver Creek Springs will be monitored to record spring flow rates over time.
4. Other water resources, including South Dakota Department of Natural Resources (SD DENR) monitoring wells and underground lakes and Well #2 at Wind Cave will be monitored to provide additional groundwater level measurements in the Madison Aquifer in the vicinity of the Streeter Well.

The Forest Service will facilitate discussions with Southern Black Hills Water System and Wind Cave National Park personnel to review monitoring requirements, schedule data collection, and establish threshold levels that will be included in the special use permit.

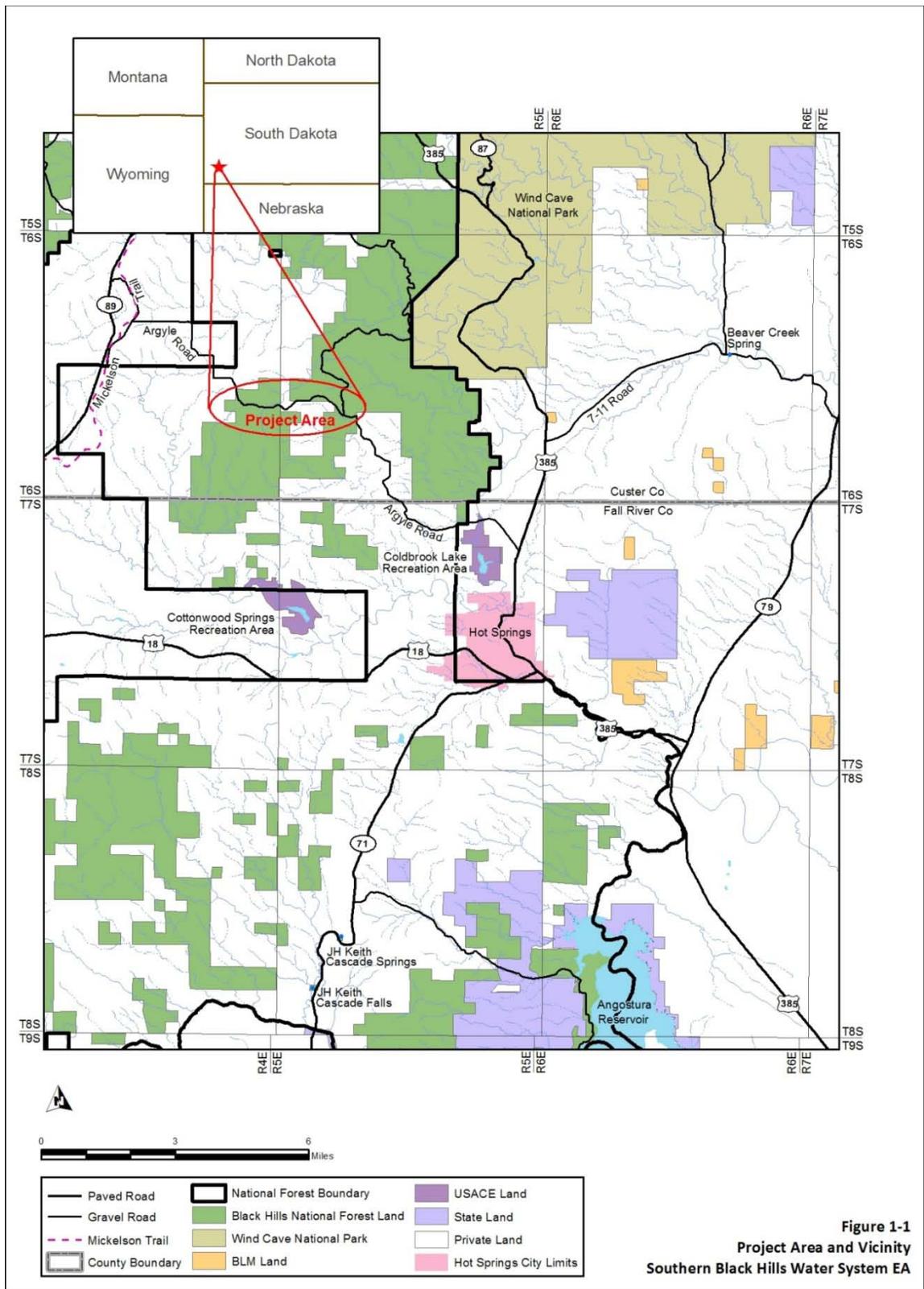


Figure 1. Project Area and Vicinity for the Southern Black Hills Water System Argyle Road Service Area Special Use Permit project.

To address Issue 2, effects to wildlife and wildlife habitat were examined and it was found that there will be no effect on threatened or endangered species or species proposed for listing. To address Issue 3, a plant survey of the project area was completed and no sensitive plants were identified. To address Issue 4, a monitoring plan for invasive species will be instituted. To address Issue 5, any known archeological sites will be avoided during construction and if during construction any bones, artifacts, foundations, or other indications of past human occupation of the area are uncovered, activity will be stopped immediately and the Hell Canyon Ranger District's Archeologist contacted.

2.1 Decision Rationale

The purpose and need for action in the Southern Black Hills Water System Argyle Road Service Area Special Use Permit project area is to:

Provide potable water to customers along Argyle Road in a manner consistent with Forest Plan direction, and mitigating all resource concerns. A limited number of residents along Argyle Road have access to private wells while many must purchase and/or haul water to fulfill domestic, livestock, and fire protection needs.

The Southern Black Hills Water System Argyle Road Service Area Special Use Permit project purpose and need provides the focus and scope for the proposed action and alternatives under direction of the 1997 Revised Black Hills National Forest Land and Resource Management Plan, as amended by the 2006 Phase II Amendment (Forest Plan). Forest Plan direction is summarized in Chapter 1 of the Southern Black Hills Water System Argyle Road Service Area Special Use Permit EA.

Two alternatives (Alternative 1 – No Action and Alternative 2 – Modified Proposed Action) were analyzed in detail in the Southern Black Hills Water System Argyle Road Service Area Special Use Permit EA. I have selected Alternative 2 because I feel it best meets the purpose of and need for action, is consistent with the Forest Plan, follows other management direction, and responds well to the public comments received and issues identified.

After reviewing the hydrogeology specialist's report, I learned that the Madison Aquifer is composed of the Madison Limestone, a massive and cavernous formation that varies in thickness from 300 to 600 feet. It is characterized by fractures, sinkholes, caves, and underground drainage. Because of the fractured and cavernous nature of the Madison Aquifer, groundwater flowpaths vary with location and local geologic structure. It is recharged by infiltration of precipitation at outcrop areas and by streams that lose water to streamflow loss zones when crossing the limestone. It is the most important aquifer in the Black Hills, and the SD DENR monitors the groundwater level of the Madison Aquifer with a network of 26 observation wells. A flowpath in the Madison Aquifer extending from the area of Hot Springs to Beaver Creek Springs has been postulated based on isotope data and water budget considerations. This water appears, at least in part, to be derived from groundwater originating from the western flank of the Black Hills (Limestone Plateau). I also understand that any withdrawals from the Madison Aquifer will reduce water storage somewhere within the aquifer.

Two parameters were used in calculations to estimate groundwater level changes in the Madison Aquifer due to theoretical pumping of the Streeter Well for one year and for 20 years. Transmissivity is a measure of how much water can be transmitted horizontally in an aquifer. Storage coefficient measures the ability of an aquifer to store water. Estimated theoretical declines in the elevation of groundwater for the Madison Aquifer from pumping the Streeter Well for one year and 20 years were calculated for

thirteen wells within the project area, the Wind Cave underground lakes, and Beaver Creek Springs. The 20-year calculations for cumulative effects also included withdrawals from Wind Cave Well No. 1. Based on the results of calculations using a range of transmissivity and storage coefficient values, there were no indirect or cumulative effects from the theoretical drawdown calculations that were completed for any of the water sources examined.

A comment letter from the National Park Service, Wind Cave National Park, expressed concern as to whether the Forest Service will reevaluate impacts associated with a larger water use from a different location in the future, even if the new construction does not cross additional National Forest System lands, and whether the National Park Service would be able to review and provide comments on the new analysis. Specifically, Wind Cave National Park is concerned by the potential impacts to the park from pumping under Water Permit No. 2633-2, a permit held by SBHWS to withdraw groundwater at a rate of 300 gpm from the Madison Aquifer at a point near the southeastern boundary of the park. Additional water from any source exceeding 109 gpm, including Water Permit No. 2633-2, was not analyzed under this project and will require a subsequent environmental evaluation as the water pipeline crossing National Forest System lands will be a conduit for other areas. The scope of the EA analysis was limited to the three water permits that relate to the Streeter Well. Any new analysis will be open for public comment and involvement.

In addition, Wind Cave National Park expressed concern that the cumulative effects of potential impacts to the park's underground lakes were estimated using a time period of 20 years, the term limit of the special use permit. Withdrawals from the Streeter well may go on for longer than 20 years if the special use permit is renewed and Wind Cave National Park is concerned that longer time periods were not used in the withdrawal analyses. If the conditions determined under the special use permit have changed significantly after 20 years, there would be an additional environmental assessment conducted. This is the reason that 20 years was used in the analysis for cumulative effects.

The National Park Service is concerned that pumping of 109 gpm could artificially reduce water levels and leave portions of the cave dry that would normally be under water without the additional withdrawal of groundwater from the Streeter Well. There is also the concern that during periods of reduced groundwater recharge during drought conditions, portions of the cave lake could go dry when they would not have normally done so.

The analysis in the EA uses the best available science at this time. As is presented in the hydrogeology specialist's report, the level of the underground lakes rises and falls with climatic variations, and the recorded level variations at the underground lakes is greater than 19 feet. The theoretical drawdown estimated at the underground lakes due to 20 years of pumping both the Streeter Well and Wind Cave National Park Well No. 1 is between 0.27 and 6.5 feet, depending on groundwater model input parameters. Water-level declines of these magnitudes, should they occur, would not be observable from the natural water-level variations of the underground lakes.

The National Park Service expressed interest that there should be required mitigation if a decrease in water levels due to water withdrawals is observed or predicted to affect water levels at Wind Cave National Park's underground lakes. The State has authority over permitted water wells. Water Permit No. 2634-2 for the Streeter Well specifies under its qualifications that the well owner will control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights. In addition, the permit specifies that the SBHWS cannot begin construction beyond Phase I and II until an alternative water source is obtained and developed, at which

point the well's use must be restricted to use as a standby water source for SBHWS. During its 20-year term, Water Permit No. 2634-2 can be cancelled by the State of South Dakota for nonconstruction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.

The purpose and need for this project are supported by Goal 8 of the Forest Plan, which is to promote rural development opportunities. Under the Forest Plan, the USDA Forest Service recognizes the importance of promoting sustainable development in cooperation with local, county, state, and Tribal partners and recognizes the nature and extent of local economic dependencies on National Forest activities. As stated in Goal 8, the Forest Service will give special attention to resource programs that help diversify rural economies, coordinate with local communities to recognize local goals to maintain desired life styles and social values, and provide appropriate assistance to development groups.

For all of these reasons, I believe that Alternative 2 best addresses the purpose and need for action, issues, and public comments.

3.0 PROJECT SUMMARY

3.1 Public Involvement

The Forest Service solicited comments on Alternative 2 – Modified Proposed Action and potential concerns regarding the Southern Black Hills Water System Argyle Road Service Area Special Use Permit project from members of the public, other public agencies, Tribal governments, adjacent property owners, interest groups, and Forest Service specialists. Various methods were used to request comments.

Public scoping of the Southern Black Hills Water System Argyle Road Water Pipeline was initiated with the development of a written description of the Proposed Action. A scoping package was then prepared consisting of a cover letter from the District Ranger of the Hell Canyon District of the Black Hills National Forest, a description of the proposal, a location map, and a site map. The description of the proposal contained explicit instructions on how to submit comments or identify issues. The scoping package was mailed by the Forest Service to 116 individuals and organizations on October 6, 2009. The Forest Service requested comments to be submitted by November 6, 2009. The Forest Service published a "Scoping Request: Southern Black Hills Water System – Argyle Road Water Pipeline" notice in the Rapid City Journal on October 7, 2009, in the Custer County Chronicle on October 14, 2009, and the Hot Springs Star on October 13, 2009. A notice for public scoping comments was also placed on the Black Hills National Forest website. Seventeen written comment letters or forms were received.

A Modified Proposed Action (Alternative 2) was developed, taking into consideration the issues raised through the public comment process. The opportunity to comment on the EA was printed in the Legal Notice section of the Rapid City Journal on October 7, 2011. The EA comment letter was also mailed out on October 7, 2011 to 109 addresses. The EA was posted and available to the public on the Black Hills National Forest website. The Forest Service received a total of 48 comments from individuals, groups, and state and federal agencies. The comments and the Forest Service response to each comment are in Appendix II attached to this document.

3.2 Alternatives Considered

The interdisciplinary planning team analyzed, in detail, Alternative 1 – No Action and Alternative 2 – Modified Proposed Action. In addition, alternatives not considered in detail were described. Further description and comparison of alternatives can be found in Chapter 2 of the EA.

3.2.1 Alternative 1 – No Action

The National Environmental Policy Act (NEPA), 40 CFR 1502.14, requires the study of the No Action Alternative as a basis for comparing effects of the proposed action and other alternatives. The No Action alternative assumes no implementation of any elements of the proposed action. This alternative represents no attempt to actively respond to the purpose and need for action or the issues identified during scoping. The Forest Service would not issue a water pipeline special use permit for occupancy of NFS land in the Argyle Road area. Under the No Action alternative, the water pipeline planned for installation by Southern Black Hills Water System under the Argyle Road service area special use permit would not be installed. No ground would be disturbed within a 200-foot survey corridor during construction or during maintenance of the water pipeline. Existing homes would continue to acquire drinking water from other sources. The No Action alternative was not selected because it does not meet the purpose and need for action.

3.2.2 Alternative 2 – Modified Proposed Action

The Modified Proposed Action is to approve the issuance of a special use construction permit for a 40-foot corridor (approximately 13 acres of disturbance) and a maintenance and operations permit for a 20-foot corridor (approximately 6.5 acres of disturbance) to Southern Black Hills Water System for a water transmission pipeline across National Forest System (NFS) land. The project is located along Argyle Road, in Custer and Fall River Counties, with approximately 2.7 miles located on NFS land in two parcels. The source of water for the pipeline is a Madison Aquifer well owned by Mr. Eben W. Streeter, who holds three water permits (Water Permit Numbers 2302-2, 2546-2, and 2634-2). The maximum pipe diameter is 12 inches and pumping capacity of the Streeter Well is limited by state permit to 109 gpm. The SD DENR monitors water levels in the Madison Aquifer using state-owned observation wells. The well owner under Water Permit No. 2634-2 will control water withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights. The analysis completed in the EA is based on a withdrawal of 109 gpm from the Madison Aquifer. The water transmission pipeline will be buried and no above ground facilities or distribution lines will be authorized on NFS land.

3.2.3 Alternatives Not Considered in Detail

Two alternatives were considered but eliminated from detailed analysis in the EA. These alternatives were either suggested by the public through the scoping process or were developed during Forest Service interdisciplinary analyses.

The Original Proposed Action, scoped with the public as the Argyle Road Water Pipeline Project, was consistent in location to Segment 1, Phase 2 of the North Hot Springs/Argyle Road Project evaluated for USDA Rural Development. The pumping rate was reduced to 100 to 400 gpm for the original proposed action to be more consistent with the USDA Rural Development evaluation. The original proposed action included three parcels of NFS lands. After receiving comments indicating concern with the quantity of

water proposed for pumping, and discussion with other agencies having jurisdiction related to this project including USDA Rural Development and the SD DENR Water Rights Program, the Modified Proposed Action, at the request of Southern Black Hills Water System, was developed. The modified proposed action identified the limit of the pumping capacity of the well to 109 gpm, which is the amount authorized by the water permits. The easement request on public land was reduced from three to two parcels. This reduced the distance of pipeline crossing NFS lands from 2.8 to 2.7 miles.

A second alternative, reduced mileage of pipeline construction on public land due to private land opportunities is currently not available to Southern Black Hills Water System without easements. Those opportunities that became available since the initial public scoping have been recognized in the Modified Proposed Action. There are no additional opportunities to reduce the mileage of the pipeline on public land and meet the objectives of the project.

3.2.4 Comparison of Two Alternatives Considered

Table 1 compares the two alternatives by effect on resources, based on the issues identified. Chapter 3 of the EA provides a detailed discussion of the resources and effects from the No Action and Modified Proposed Action alternatives.

Table 1. Summary of Alternatives and Measurement Indicators for Each Issue.

Measurement Indicators	Alternative 1 No Action	Alternative 2 Modified Proposed Action
Issue #1 (Water Resources) The volume of water involved with this project and the potential effects on water quantity available to other uses.		
<ul style="list-style-type: none"> Flow from the well into the water pipeline in gpm. Water fluctuations in the Madison Aquifer Leakage from the water pipeline on NFS lands. 	<p>No direct, indirect, or cumulative effects on Madison Aquifer groundwater levels for area private wells. No direct, observable* indirect, or observable* cumulative effects on Wind Cave underground lakes or Beaver Creek Springs.</p> <p>*refer to EA pages 32 - 34</p>	<p>No direct, indirect, or cumulative effects on Madison Aquifer groundwater level for area private wells. No direct, observable* indirect, or observable* cumulative effects on Wind Cave underground lakes or Beaver Creek Springs. As an indirect effect, more water will be taken from the Madison Aquifer and will potentially be available for wildlife and fire suppression activities than available under the No Action Alternative.</p> <p>*refer to EA pages 32 - 34</p>
Issue #2 (Wildlife and Wildlife Habitat) Pipeline construction activities and the effects to wildlife and wildlife habitat.		
<ul style="list-style-type: none"> Acres of wildlife habitat disturbed. 	<p>No change from current condition.</p>	<p>There would be no effect on threatened or endangered species or species proposed for listing. Potential effects on sensitive species from temporary ground disturbance and loss of habitat (snags) are minimal. Potential for increase in invasive plants and subsequent loss of native grassland habitat in project area and surrounding area due to ground disturbance.</p>

Issue #3 (Vegetation – Sensitive Plants) Pipeline construction activities and the effects to Sensitive Plants.		
<ul style="list-style-type: none"> • Acres of vegetation disturbed. 	No change from current condition.	No sensitive plants were identified in the project area. Negative effects to the two sensitive plants for which there is the potential for unknown occurrences in the project area would be limited and there is the potential that ground disturbance would assist in the establishment of these plants.
Issue #4 (Vegetation – Invasive Plants) Potential for the establishment and spread of invasive plants as a result of the pipeline construction activities.		
<ul style="list-style-type: none"> • Increase of invasive species following construction, operation, or maintenance of pipeline. 	No change from current condition.	The ground disturbance and loss of vegetation associated with this project could result in an increase of invasive plants in the project area and surrounding area and a subsequent loss of native grassland habitat.
Issue #5 (Archeological and Cultural Resources) Pipeline construction activities and the effects to archeological and cultural resources.		
<ul style="list-style-type: none"> • Number of cultural sites disturbed. 	No change from current condition.	No direct or indirect effects on archeological site located in the project area. Known archeological site will be avoided.

4.0 FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the environmental effects of the selected alternative as disclosed in the EA. I have also evaluated whether the selected alternative constitutes a significant impact on the quality of the human environment or whether the environmental impacts would be significant based on their context and intensity, as defined by NEPA using the criteria in the implementing regulations (40 CFR 1508.27).

After considering the effects of the actions analyzed in terms of context and intensity, I have determined that these actions will not have significant effect on the quality of the human environment. Therefore an environmental impact statement (EIS) will not be prepared.

4.1 Context

This project is local and would affect only the project area. The issues identified during scoping and considered in alternative development and analysis are local in nature. Effects are limited to the vicinity of the planned activities. The selected alternative is consistent with the requirements of the Forest Plan and contributes to moving toward or meeting the goals and objectives of the Forest Plan. None of the effects disclosed in the Southern Black Hills Water System Argyle Road Service Area Special Use Permit EA are different from those anticipated in the Final Environmental Impact Statement (FEIS) for the Forest Plan or the FEIS for the Phase II Amendment.

4.2 Intensity

Impacts that may be both beneficial and adverse: The EA considers and discloses both beneficial and adverse effects and are addressed in Chapter 3 of the EA. My decision is not biased by the beneficial effects of the action.

The degree to which the proposed action affects public health or safety: No significant public health and safety issues were identified during the analysis process. Public safety may be improved by the increased access to water for wild land and structure fire suppression activities.

Unique characteristics of geographic areas, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas: There are no known unique characteristics of the area that will be adversely affected by the project. No prime farmlands, park lands, wild or scenic rivers, or ecologically critical areas occur in the project area. No adverse impacts are anticipated within floodplains. No adverse effects to wetlands or cultural resources are expected. No trend toward Federal listing or loss of species viability is expected for sensitive species as a result of the action. For further information, consult Chapter 3 of the EA.

The degree to which the effects on the quality of the human environment are likely to be highly controversial: The effects on the quality of the human environment are not likely to be highly controversial. About 86 percent of the socioeconomics analysis area (approximately those areas served by SBHWS when Phase I and Phase II are constructed) is private land and about 12.5 percent National Forest System lands. The area is located in both Custer County and Fall River County, with the majority of the area in Custer County. Based on an average usage rate of about 450 to 600 gallons per day (gpd) for an average household and a maximum flow rate of the Streeter Well of 109 gpm, SBHWS, under Phase I and Phase II, would be able to support an estimated 260 to 350 user connections. This aligns reasonably well with the number of total users currently signed up with SBHWS (388 users), taking into consideration that some of the SBHWS sign-ups may be for livestock use (a higher quantity of water use than human) and that the average household water use estimates may be higher than what is typically found in the SBHWS service area.

The effects on biological diversity, water quality, soils, and other elements of the environment have been described and design criteria and monitoring have been included. No new or unusual methods or activities are proposed. The effects on the human environment are not highly uncertain, are very unlikely to involve unique or unknown risks, and are not likely to be highly controversial because effects of the project are expected to be similar to those of past projects.

The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks: The possible effects of this proposal are known because the actions are generally similar to other management activities on the National Forest. Implementation of the proposed activities does not involve any unique risks.

The degree to which the action may establish a precedent for future actions with significant effects or represent a decision in principle about future conditions: The selected alternative is not likely to set a precedent for future actions with significant effects. The action does not represent a decision in principle about future considerations. Similar projects conducted in the future will have to be evaluated under the NEPA for the significance of the effects of those specific actions.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts: The cumulative actions considered in the environmental analysis are discussed by resource in Chapter 3 of the EA. The cumulative impacts of the proposed action, including connected actions, were considered with other past, present, and reasonably foreseeable actions.

The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources: No adverse effects on heritage resources are anticipated. A heritage resource inventory was completed for the project area. The survey protocol was concurred with by the South Dakota State Historic Preservation Office (SHPO) on December 21, 2009. In a letter dated December 21, 2009, SHPO concurred that the project will have no adverse effect on heritage resources.

The degree to which the action may adversely affect an endangered or threatened species or its habitat: A determination was made that there would be no effect on threatened and endangered species from activities associated with this project. A determination for Forest Service Region 2 sensitive species for the selected alternative found that there will be no trend towards Federal listing or loss of viability in the planning area, including wildlife and plants. There is no habitat present or suspected in the project area for listed species of local concern (SOLC). In addition, a Management Indicator Species (MIS) analysis for this project was completed and it determined that the proposed action, and its relationship to MIS species and the habitat types they represent, is not expected to impact the viability of these species in the future. For further information, consult Chapter 3 of the EA.

Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment: All state water quality requirements will be met as well as other federal, state, and local requirements imposed for the protection of the environment. Effects on water quality, floodplains, and wetlands are documented in the EA and the project record. Design criteria will be used to protect water quality and to meet standards imposed by the Forest Plan, and Regional Watershed Conservation Practices/Best Management Practices will be applied consistent with requirements of the Clean Water Act. No violations of environmental laws or requirements were identified through the environmental effects analysis. The action is consistent with the Black Hills National Forest Land and Resource Management Plan.

5.0 FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

The National Environmental Policy Act (NEPA), 1969

The process of preparing the Southern Black Hills Water System Argyle Road Service Area Special Use Permit EA, DN and FONSI was completed in accordance with this Act.

The Safe Drinking Water Act, The Clean Water Act, Federal Cave Resources Protection Act, Federal Land Policy and Management Act, Multiple-Use Sustained-Yield Act, Domestic Water Supply Act

This project is in compliance and meets the requirements of these laws.

Organic Administration Act

This project is in compliance and meets the requirements of the Organic Administration Act. Watersheds on NFS lands will not be negatively affected by implementation of this project.

Executive Order 11988 – Floodplain Management

Floodplains will not be negatively affected by implementation and this project is in compliance and meets the requirements of the Executive Order for Floodplain Management.

Executive Order 11990 – Protection of Wetlands

Wetlands will not be negatively affected by implementation and this project is in compliance and meets the requirements of the Executive Order for Protection of Wetlands.

South Dakota Codified Law

This project is in compliance and meets the requirements of South Dakota Codified Law for water allocation.

The Endangered Species Act, 1973

A Wildlife Biological Assessment/Biological Evaluation (BA/BE) and a Botany Biological Assessment/Biological Evaluation (BA/BE) have been prepared to document possible effects of any activities on endangered, threatened, proposed, or sensitive species in the Southern Black Hills Water System Argyle Road Service Area Special Use Permit project area. A determination was made that there would be no effect on threatened and endangered species from activities associated with this project.

Rocky Mountain Region, Sensitive Species List

The effects of the Southern Black Hills Water System Argyle Road Service Area Special Use Permit project on Region 2 sensitive species were analyzed and documented in both the Wildlife BA/BE and Botany BA/BE. These documents were used in the preparation of these sections of Chapter 3 of the EA and each document is included in full in the project record. Determinations of effect to sensitive species are summarized in the EA and range from possible effect to may affect, but not likely to result in a trend toward Federal listing or loss of viability.

The National Historic Preservation Act of 1966, as Amended

For purposes of Section 106 NHPA consultation, implementation of Alternative 2 would result in no adverse effects to cultural resources. This letter is in the project record and the cultural resources discussion in Chapter 3 of the EA and the cultural resources report provide more detail on this determination.

5.1 Consistency with the Land and Resource Management Plan

The National Forest Management Act law (16 U.S.C. 1604(i)) requires me to ensure that permits, contracts, cooperative agreements, and other activities carried out on the Black Hills National Forest are consistent with the Forest Plan. My decision is consistent with the 1997 Black Hills National Forest Land and Resource Management Plan, as Amended.

- Planned activities will contribute to Forest Plan goals and objectives.
- I have reviewed the Black Hills National Forest Region 2 Management Indicator Species (MIS) guidance for projects. The effects of planned activities on management indicator species are consistent with the Forest Plan.
- Planned activities are consistent with management area direction.
- Planned activities comply with Forest Plan Standards and Guidelines.
- Planned activities are consistent with the Watershed Conservation Practices Handbook.

5.2 Consistency with the National Forest Management Act

The transition language in the 2000 planning rule and interpretive rules explain that the 1982 rule is not in effect. Projects such as this must be developed considering the best available science, and must be consistent with the Forest Plan. (74 FR 67073).

The scope of analysis for a Forest Plan's management indicator species is determined by the Forest Plan's management direction, specifically, its standards and guidelines (Chapter II) and monitoring direction (Chapter IV). The Black Hills National Forest, Forest Plan contains no obligation to conduct project-specific monitoring or surveying for management indicator species (Phase II Record of Decision, pages 8 and 20; Forest Plan as Amended, page I-11, Objective 238). The Forest Plan establishes monitoring and evaluation requirements that do not require population monitoring for MIS, but rather employ habitat relationships (Phase II ROD, pp. 20; Forest Plan as Amended, pg. I-11, Objective 238). The Southern Black Hills Water System Argyle Road Service Area Special Use Permit EA project analyzed three management indicator species (white-tailed deer, grasshopper sparrow, and black-backed woodpecker) because habitat for these species is available in the project area. Populations of MIS evaluated are likely to persist on the Forest under Alternative 2 and populations would remain stable.

Alternative 2 is consistent with the requirements in the Forest Plan because:

- It is consistent with Objective 238a to maintain or enhance habitat for white-tailed deer and grasshopper sparrow. See species discussions in Chapter 3 of the EA.
- It is consistent with Objective 238b to maintain habitat opportunities for black-backed woodpeckers. See species discussion in Chapter 3 of the EA.
- It is consistent with Objective 221 to conserve or enhance Rocky Mountain Region 2 sensitive species and species of local concern. See species discussions in Chapter 3 of the EA and the Wildlife and Botany Biological Assessment/Biological Evaluation.

Alternative 2 is further consistent with the requirements in the Forest Plan because it meets the following Objectives, Standards, and Guidelines:

- Objective 108, Standards 1106, 1109, 1203, and 1210, and Guideline 1401b regarding water flows, controlling erosion at disturbed sites, reclaiming disturbed sites to prevent resource damage, designing and constructing stream crossings, maintaining water in perennial streams, and preventing human-caused changes in cave ecosystems. Refer to the water resources discussion in Chapter 3 of the EA as well as the water resources monitoring plan in Chapter 5 of the EA.
- Objective 230 and Standards 1110, 4301, 4304, 4306, and 4309 regarding monitoring and treating for invasive plants. Refer to the sensitive plants and invasive plants discussion in Chapter 3 of the EA as well as the invasive plants monitoring plan in Chapter 5 of the EA.
- Guidelines 6101 and 6106 regarding archeological and cultural resources. Refer to the archeological and cultural resources discussion in Chapter 3 of the EA.

6.0 ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES

This decision is subject to appeal pursuant to 36 CFR Part 215 (June 2003). A written appeal must be submitted within 45 days following the publication date of the legal notice of this decision in the Rapid City Journal, Rapid City, South Dakota. The publication date of the legal notice of the decision in the

newspaper of record is the exclusive means for calculating the time to file an appeal. Appellants should not rely on date or timeframe information provided by any other source.

Paper appeals must be submitted to:

USDA, Forest Service, Region 2
Attn: Appeal Deciding Officer
740 Simms St.
Golden, Colorado 80401

Electronic appeals must be submitted to: appeals-rocky-mountain-black-hills@fs.fed.us. In electronic appeals, the subject line should contain the name of the project being appealed. Electronic appeals must be submitted and readable in MS Word, Rich Text or PDF format. When an appeal is electronically mailed, the appellant should normally receive an automated electronic acknowledgement confirming agency receipt. If the appellant does not receive an automated acknowledgement of the receipt of the appeal, it is the appellant's responsibility to ensure timely receipt by other means (36 CFR 215.15(c)(3)).

It is the appellant's responsibility to provide sufficient project- or activity-specific evidence and rationale, focusing on the decision, to show why my decision should be reversed. The appeal must be filed with the Appeal Deciding Officer in writing. At a minimum, the appeal must meet the content requirements of 36 CFR 215.14, and include the following information:

1. The appellant's name and address, with a telephone number, if available;
2. A signature, or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
3. When multiple names are listed on an appeal, identification of the lead appellant and verification of the identity of the lead appellant upon request;
4. The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
5. The regulation under which the appeal is being filed, when there is an option to appeal under either 36 CFR 215 or 36 CFR 251, subpart C;
6. Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
7. Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
8. Why the appellant believes the Responsible Official's decision failed to consider substantive comments; and
9. How the appellant believes the decision specifically violates law, regulation, or policy.

Notices of Appeal that do not meet the requirements of 36 CFR 215.14 will be dismissed.

To be eligible to appeal this decision on this project, an individual or group must have provided a comment or otherwise expressed interest in this project by the close of the comment period.

7.0 IMPLEMENTATION

Pursuant to 36 CFR Part 215, if no appeal is filed within the 45-day time period, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an

appeal is received, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

8.0 CONTACT

For additional information concerning this decision, contact Lynn Kolund, Hell Canyon District Ranger, Black Hills National Forest, 330 Mt. Rushmore Road, Custer, SD, 57730 (605-673-4853). For further information on the Forest Service appeal process, contact Ed Fischer, Environmental Coordinator, Black Hills National Forest, 1019 N. 5th Street, Custer, SD, 57730.



Craig Bobzien
Forest Supervisor
Black Hills National Forest

1-27-12

Date

APPENDIX I ERRATA SHEET – ENVIRONMENTAL ASSESSMENT

p 4, Section 1.4 Modified Proposed Action; The reference to Table 3-5 was rewritten to read Table 3-7.

p 8, Section 1.6 Public Involvement; Section was rewritten to read:

Public involvement is an integral part of the Forest Service decision-making process and an important component of the EA comment process. The purpose of the EA comment process is to identify public concerns, agency concerns, and information sources that were not considered in the EA.

The Forest Service solicited comments on Alternative 2 – Modified Proposed Action and potential concerns regarding the Southern Black Hills Water System Argyle Road Service Area Special Use Permit project from members of the public, other public agencies, Tribal governments, adjacent property owners, interest groups, and Forest Service specialists. Various methods were used to request comments.

Public scoping of the Southern Black Hills Water System Argyle Road Water Pipeline was initiated with the development of a written description of the Proposed Action. A scoping package was then prepared consisting of a cover letter from the District Ranger of the Hell Canyon District of the Black Hills National Forest, a description of the proposal, a location map, and a site map. The description of the proposal contained explicit instructions on how to submit comments or identify issues. The scoping package was mailed by the Forest Service to 116 individuals and organizations on October 6, 2009. The Forest Service requested comments to be submitted by November 6, 2009. The Forest Service published a “Scoping Request: Southern Black Hills Water System – Argyle Road Water Pipeline” notice in the Rapid City Journal on October 7, 2009, in the Custer County Chronicle on October 14, 2009, and the Hot Springs Star on October 13, 2009. A notice for public scoping comments was also placed on the Black Hills National Forest website. Seventeen written comment letters or forms were received.

A Modified Proposed Action (Alternative 2) was developed, taking into consideration the issues raised through the public comment process. The opportunity to comment on the EA was printed in the Legal Notice section of the Rapid City Journal on October 7, 2011. The EA comment letter was also mailed out on October 7, 2011 to 109 addresses. The EA was posted and available to the public on the Black Hills National Forest website. The Forest Service received a total of 48 comments from individuals, groups, and state and federal agencies. The comments and the Forest Service response to each comment are in Appendix II attached to this document.

p 14, Table 2-1; Under Issue #1 (Water Resources), Alternative 1 No Action was rewritten to read:

No direct, indirect, or cumulative effects on Madison Aquifer groundwater levels for area private wells.
No direct, observable* indirect, or observable* cumulative effects on Wind Cave underground lakes or Beaver Creek Springs.

*refer to EA pages 32 - 34

p 14, Table 2-1; Under Issue #1 (Water Resources), Alternative 2 Modified Proposed Action was rewritten to read:

No direct, indirect, or cumulative effects on Madison Aquifer groundwater level for area private wells. No direct, observable* indirect, or observable* cumulative effects on Wind Cave underground lakes or Beaver Creek Springs. As an indirect effect, more water will be taken from the Madison Aquifer and will potentially be available for wildlife and fire suppression activities than available under the No Action Alternative.

*refer to EA pages 32 - 34

p 61, Section 5.1 Water Resources; The first bullet in the list at the top of the page was rewritten to read:

Water levels in Calcite Lake/Windy City Lake, as currently monitored by Wind Cave National Park personnel.

p 61, Section 5.1 Water Resources; The last bullet in the list at the top of the page was rewritten to read:

Madison Aquifer hydraulic head in Wind Cave Well #2, as currently being monitored by Wind Cave National Park personnel.

p 63, REFERENCES; the reference for the hydrogeology specialist's report was rewritten to read:

Kannenber, M. and Kenyon, T. 2011. Argyle Road Water Pipeline Project Southern Black Hills Water System, Inc. Hydrogeology Specialist Report. Leggette, Brashears & Graham, Inc. August 31, 2011.

p 68, APPENDIX II SUMMARY OF SCOPING COMMENTS; was replaced with APPENDIX II SUMMARY OF EA COMMENTS AND FOREST SERVICE RESPONSES TO COMMENTS, as provided in this Decision Notice.

APPENDIX II SUMMARY OF EA COMMENTS AND FOREST SERVICE RESPONSES TO COMMENTS

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
1	South Dakota Department of Environment & Natural Resources – Mark Meyer	It appears, based on the information provided, that this project will not have adverse environmental effects to drinking water in this area.	Effects to drinking water	Noted
2	Caren Howard	Request for hard copy of EA.	Request for Information	Mailed copy of EA
3	Darleen Kahler	Request for information on SBHWS.	Request for Information	Provided SBHWS contact information
4	Leonard Wood	Support statement	Installation of water system	Noted
5	Golden West Telecommunications – Dick Deutscher	Recommendations on laying of water pipeline in road right-of-way.	Installation of water pipeline	Comments are noted and appropriate elements will be incorporated into the special use permit.
6	Millie Piper	Request for further information on EA comment letter she received.	Request for information	Provided information
7	Harry and Marilyn Swain	Support statement	Installation of water system for water supply and fire protection.	Noted
8	Town of Keystone	Support statement	Installation of water system	Noted
9	Bob and Norine Baird	Support statement	Installation of water system for water service to residential, livestock, and wildlife. Beneficial to future development and firefighting abilities. Potential to lower rural residential fire insurance.	Noted
10	Owen and Lois Murphy	Support statement	Installation of water system	Noted
11	Anthony Peterson	Support statement	Installation of water system	Noted
12	Liz Peyser	Support statement	Installation of water system will provide a central water source rather than a series of unregulated individual wells.	Noted
13	Ron Wagner	Support statement	Installation of water system	Noted

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
14	Robbie and Darla Wittkowski	Support statement	Installation of water system	Noted
15	Mollie Crain	Support statement	Installation of water system will be beneficial to local economy.	Noted
16	Doug Rowley	Support statement	Installation of water system	Noted
17	Shara Wilkey	Support statement	Installation of water system will reduce damages to condition of Argyle Road caused by people hauling water.	Noted
18	Wade Wilkins	Question	Why is a permit necessary from the Forest Service if the waterline is installed in the existing road right-of-way?	Easement issued to Custer County is only for the road. It is not a utility corridor. All other uses must have an authorization issued by the Forest Service.
19	Robert and Rebecca Baer	Support statement	Installation of water system	Noted
20	Thomas and Suann Carbone	Support statement	Installation of water system will provide health and safety benefits and will provide a central water source rather than a series of unregulated individual wells.	Noted
21	Rex and Millie Piper	Support statement	Installation of water system	Noted
22	Bartlett & West Engineers, Inc. – Bernie Sailer	Email letter to potential users of Phase II of SBHWS	Encouraged support of installation of water system, listed benefits of project, and provided contact information to comment to the Forest Service.	Noted
23	Dan and Arlette Schweitzer	Support statement	Installation of water system	Noted
24	Marc and Jeana Shaw	Support statement	Installation of water system will provide a reliable way to obtain water and an alternative water source for fighting wild land and structural fires.	Noted
25	Lois Adrian	Support statement	Installation of water system	Noted

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
26	Gary Cornette	Support statement	Installation of water system	Noted
27	Robert Delk	Support statement	Installation of water system	Noted
28a	South Dakota Department of Environment & Natural Resources – Steve Pirner	Support statement	The SBHWS project is designed to provide a reliable supply of safe and high quality drinking water to residents of Custer, Fall River, and Pennington counties in areas where local water supplies do not exist.	Noted
28b		Support statement	The Governor and state legislature have both authorized the project as part of the State Water Resources Management System and established a financial commitment to the project by establishing a \$12 million state cost-share commitment.	Noted
28c		Support statement	The SBHWS has pursued and received state regulatory approval for the water system project. A South Dakota Water Permit has been approved and issued by the state Water Management Board and the Board has put in place a structured regulatory program to protect water resources in the area.	Noted
29	Ursula Gaertner and Steven Potter	Support statement	Installation of water system	Noted
30	Alan Kegel	Support statement	Installation of water system will reduce damages to condition of Argyle Road caused by people hauling water. Also, it will reduce amount of work required by public health officials to test water quality.	Noted

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
31	Pat Krantz	Support statement	Installation of water system will provide a central water source rather than a series of unregulated individual wells and will be beneficial to local economy.	Noted
32	Mollie McCrain	Support statement	Installation of water system	Noted
33	Arnold Osmundson	Support statement	Installation of water system	Noted
34	John Riggins	Support statement	Installation of water system will provide a central water source rather than a series of unregulated individual wells.	Noted
35	Michael Schindler	Support statement	Installation of water system	Noted
36	Paul Van Bockern	Support statement	Installation of water system will provide a central water source rather than a series of unregulated individual wells and will be beneficial to local economy.	Noted
37	Tom and Pam Adams	Support statement	Installation of water system will provide a central water source rather than a series of unregulated individual wells.	Noted
38	John Buchanan	Support statement	Installation of water system	Noted
39	City of Custer	Support statement	Installation of water system will be beneficial to local economy. Also, project will lessen the potential of future ground water contamination by limiting the number of new private wells.	Noted
40	Toni Devereaux	Support statement	Installation of water system	Noted
41	Ed Nesselhuf	Support statement	If the waterline leaks, the worst that can happen is that the aquifer will have some clean, safe water added to it.	Noted
42	Alan and Linda Styger	Support statement	Installation of water system will provide a central water source rather than a series of unregulated individual wells.	Noted

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
43a	Jim and Jan Synhorst	Support statement	“Continued efforts by Governmental entities to obstruct the placing of the water line main across this 2.7 miles clearly is a power play by these governmental agencies acting against the citizens that pay taxes and fees that ultimately pays the salaries and wages of said agencies.”	Occupancy of National Forest system land requires environmental effects evaluation of the action, consultation, and often a permit requirement. The Forest Service must consider law, policy and regulation in making decisions for the good of the American public.
43b		Support statement	Installation of water system will provide a central water source rather than a series of unregulated individual wells is a better way to manage ground water levels.	Noted
43c		Support statement	“Fire protection is a major concern in our area.” An alternative water source for fighting wild land and structural fires is needed to prevent future fires. Subdivisions in the Phase II area continue to be developed.	Noted
43d		Support statement	“There have been extensive studies completed and documented regarding the impact of the water usage in Phase II and the impact on the aquifers. The monitoring process would be quite simple using the information already provided with the data gathered.”	Noted
44	Harry and Irene Fleming	Support statement	Installation of water system	Noted

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
45	Scott and Terry Johnson	Support statement	Installation of the water system will significantly increase the ability to fight forest fires, property values will increase which will in turn bring additional revenues to the state, and a central water sources is safer than unregulated private wells.	Noted
46	Diane Hommerding	Support statement	Installation of the water system	Noted
47a	Southern Black Hills Water System – John Beard	Support statement	Research shows that the flow path of the Madison Aquifer starts south of the City of Hot Springs and on the western side of the Black Hills and flows north toward Beaver Creek Springs. The Streeter Well is located north of Beaver Creek Springs, and based on the location of the well to the springs, the well will not pull water from the springs.	This comment is addressed on pages 17 and 18 of the hydrogeology specialist’s report (Kannenber and Kenyon, 2011). Any withdrawals from the Madison Aquifer will reduce water storage somewhere within the aquifer.
47b		Support statement	The Streeter Well Water Permit is for a maximum of 109 gpm. Discussions with the SD DENR indicate that production wells usually do not exceed 60 percent of the maximum pumping rate on average. Under these calculations, the Streeter Well would average less than 66 gpm. Not only is flow at the well expected to be less than maximum, but withdrawals from the well would not be measurable at Beaver Creek Springs, which has a flow rate that fluctuates from 4,500 to 6,700 gpm.	Any change or impact to Beaver Creek Springs from the maximum pumping level of 109 gpm is anticipated to be negligible. This information is presented on pages 31 and 32 of the hydrogeology specialist’s report (Kannenber and Kenyon, 2011). Monitoring will provide information on flow rates over time at Beaver Creek Springs.
47c		Support statement	Wind Cave National Park did not oppose Water Permit No. 2634-2.	No additional water was appropriated under Water Permit No. 2634-2.

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
47d		Monitoring/Implementation costs	It should not be the responsibility of SBHWS to monitor Beaver Creek Springs. The cost to monitor the springs is prohibitive for a small water system (\$25,000/year). In addition, access to the springs is limited because of private landowner access requirements.	The exact monitoring strategy for Beaver Creek Springs will be articulated in the special use permit.
47e		Monitoring/Implementation costs	It should not be the responsibility of SBHWS to monitor pipeline leakage on NFS lands using water meters on either side of Forest Service property. The cost to monitor pipeline leakage using water meters is prohibitive for a small water system (over \$150,000). SBHWS suggests that pipeline leakage in the area of NFS lands be monitored using pressure gauges in the pump houses along the pipe route.	The purpose for monitoring the pipeline across National Forest System lands is to detect leakage from the pipeline that could cause potential damage to the resource, such as erosion. Monitoring the pipeline will consist of regularly monitoring pressure in the pipeline east and west of National Forest System lands using water pressure gauges installed as part of the SBHWS SCADA (Supervisory Control and Data Acquisition) System.
48a	United States Department of the Interior, National Park Service, Wind Cave National Park – Vidal Davila	Statement of concern	<p>Questions asked:</p> <ol style="list-style-type: none"> 1. Will the Forest Service reevaluate impacts associated with the larger water use from a different point of diversion on the water-dependent resources and water rights of Wind Cave National Park, even if the new construction does not cross additional USFS lands? 2. Will the National Park Service be able to review and provide comments on the new 	<ol style="list-style-type: none"> 1. Additional water from any source that will be used in this pipeline will require a subsequent environmental evaluation as the water pipeline across National Forest Service land is a conduit for other areas. Any action beyond the scope of the EA will require additional NEPA review. 2. Yes

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
48a (cont.)			analysis? 3. How will the Forest Service be notified of the new construction need and subsequent new water withdrawals?	3. Any new environmental analysis will be open for public comment and involvement. The special use permit will include a requirement for notification by SBHWS of changes to sources or quantities of groundwater withdrawals.
48b		Statement of concern	Wind Cave National Park is greatly concerned by the potential impacts to the park from pumping under Water Permit No. 2633-2, a permit held by SBHWS to withdraw groundwater from the Madison Aquifer at a point very near the southeastern boundary of the park.	Future water withdrawals from Water Permit No. 2633-2 are outside the scope of this EA. The scope of the EA analysis is limited to a maximum of 109 gpm withdrawals from the Madison Aquifer and the three water permits that relate to the Streeter Well.
48c		Statement of concern	The National Park Service does not agree with the EA conclusion that effects to Wind Cave National Park underground lakes do not qualify as direct, indirect, or cumulative effects. The National Park Services does not agree with the reasoning of these conclusions, which is that the estimated decreases in underground lake levels of 0.2 to 2.25 feet due to the withdrawal of 109 gpm at the Streeter Well is within the larger range of natural groundwater elevation fluctuations recorded at the Park since the early 1980s. The National Park Service is concerned that pumping of 109 gpm	The underground lakes of Wind Cave National Park are naturally draining, as groundwater flows downgradient through the Madison Aquifer by gravity. Continued dissolution of limestone along structurally-induced fractures, producing new caverns, is likely ongoing. The level of the underground lakes has been shown to rise and fall with climatic variations, and the recorded level variations at the underground lakes are greater than 19 feet. Based on the analysis in the hydrogeology specialist's report

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
48c (cont.)			could artificially reduce water levels and leave portions of the cave dry that would normally be under water without the additional withdrawal of groundwater from the Streeter Well. There is also the concern that during periods of reduced groundwater recharge during drought conditions, portions of the cave lakes could go dry when they would not have normally done so. Alterations to the naturally fluctuating water levels will disrupt natural cave development processes.	(Kannenberg and Kenyon, 2011), the theoretical drawdown estimated at the underground lakes due to 20 years of pumping both the Streeter Well and Wind Cave National Park Well No. 1 is between 0.27 and 6.5 feet, depending on groundwater model input parameters. Water-level declines of these magnitudes, should they occur, would not be observable from the natural water-level variations of the underground lakes. Groundwater modeling completed by the National Park Service (Cutillo, 2006) and in the hydrogeology specialist's report (Kannenberg and Kenyon, 2011) calculated drawdown at the Streeter Well site. The work by Cutillo used a greater pumping rate and a shorter duration of pumping than the work by Kannenberg and Kenyon. Both calculations show drawdown in the levels of the underground lakes at Wind Cave National Park.
48d		Statement of concern	The exact impact of reducing water levels in the Wind Cave National Park underground lakes on water-dependent cave resources is not presently known. However, the NPS maintains that it has inchoate federal reserved water rights for groundwater levels within Wind Cave National Park. Studies are	Noted. The analysis in the EA uses the best available science at this time.

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
48d (cont.)			underway to assist their understanding as to the role of groundwater in ongoing cave development.	
48e		Statement of concern	The EA states that the groundwater elevation of the Madison Aquifer at SD DENR observation well CU-91A has generally been equal to or greater than the groundwater elevation of the Madison Aquifer at Calcite Lake for the available period of record. This statement seems to conflict with Figure 3-2 in the EA, which shows that the water level at SD DENR observation well CU-91A would be about 160 feet lower than at Calcite Lake in Wind Cave National Park.	The groundwater elevation contours of the Madison Aquifer shown on Figure 3-2 in the EA is based on information in the USGS National Water Information System (NWIS) and on static water level and other information provided in driller's logs. It is a generalized map only. Site-specific information described in the EA and in the hydrogeology specialist's report, specifically groundwater elevations of the Wind Cave underground lakes, may not have been readily available to the USGS at the time the groundwater elevation contour map was created. It was determined that there were discrepancies in Figure 6 of the hydrogeology specialist's report (Kannenberg and Kenyon, 2011) for the recorded elevations of Calcite Lake. These discrepancies do not affect the conclusions of the EA.
48f		Statement of concern	Please revise the EA to clarify in the text or in a table, the values of the various input parameters such as total time of pumping, storage coefficient, and transmissivity that are associated with the calculated theoretical groundwater elevation decline estimates.	Tables 5, 6, 7, and 8 in the hydrogeology specialist's report lists the two pumping durations (1 year and 20 years) for which theoretical groundwater elevation decline estimates were calculated for wells, underground lakes, and Beaver Creek Springs, and the storage

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
48f (cont.)				coefficient and transmissivity values that were used for these calculations.
48g		Statement of concern	The cumulative effects of potential impacts to the Wind Cave National Park underground lakes were estimated using a time period of 20 years. Since this permit can be renewed, it is possible that the withdrawals from the Streeter Well will go on for longer than 20 years, provided another water source is not developed. Therefore, additional time periods should have been used in the analysis, such as 30, 40, 50, 75, and 100 years.	The special use permit issued by the Forest Service would have a term limit of 20 years. If conditions have changed significantly after 20 years, there would have to be an additional environmental assessment conducted.
48h		Statement of concern	A withdrawal rate of 6 gpm for 20 years from Wind Cave National Park Well No. 1 was used in the cumulative effects analysis, combined with a withdrawal rate of 109 gpm for 20 years from the Streeter Well. As stated in the EA, Well No. 1 is open in four geologic formations (Madison, Englewood, Deadwood, and Precambrian). Water may be withdrawn from any of the formations and therefore the amount withdrawn from any one formation cannot be verified. The 6 gpm used in the analysis may therefore be too high.	Use of the 6 gpm withdrawal rate for Wind Cave National Park Well No. 1 from the Madison Aquifer is likely an overestimate of the actual water withdrawn by the well from the Madison Aquifer. This results in a more conservative (higher) estimate of theoretical groundwater elevation decline than would be calculated if a value less than 6 gpm were used.
48i		Monitoring/Implementation	The National Park Service is very interested in a monitoring plan that provides protection to the water levels in the Wind Cave National Park underground lakes. The National Park	1. A monitoring plan will be instituted. Using data collected, there will be sufficient data to estimate a cone of depression associated with groundwater

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
48i (cont.)			<p>Service requests to be included in the conception and design of the monitoring plan and requests the following be included in any such plan:</p> <ol style="list-style-type: none"> 1. A method to determine the extent of the cone of depression associated with groundwater withdrawals, such as a nearby monitoring well or wells. 2. Required mitigation if a decrease in water levels due to the withdrawal is observed or predicted to affect water levels at Wind Cave National Park’s underground lakes. 	<p>withdrawals from the Streeter Well.</p> <ol style="list-style-type: none"> 2. The State of South Dakota currently monitors fluctuations in the groundwater level of the Madison Aquifer. The State has authority over permitted water wells. Water Permit No. 2634-2, specifies under its qualifications that the well owner will control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights. In addition, the permit specifies that SBHWS cannot begin construction beyond Phase I and II until an alternative water source is obtained and developed, at which point the well’s use must be restricted to use as a standby water source for SBHWS. During its 20-year term, Water Permit No. 2634-2 can be cancelled for nonconstruction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.
48j		Monitoring/Implementation costs	As stated in the EA, monitoring would be performed by several entities, including SBHWS and state and federal agencies. If the applicant expects to	Noted

Comment Summary and Responses for Environmental Assessment – Southern Black Hills Water System				
Letter #	Name of Commenter	Concern Statement	Subject	Forest Service Response
48j (cont.)			have other entities fund, operate, and maintain monitoring, then these entities must be involved with the conception and design of the monitoring plan. Funding may not always be available for long-term monitoring by Wind Cave National Park of its underground lakes and wells and assistance may be requested to continue these operations.	
48k		Correction to EA	Water levels in Wind Cave Well No. 1 are not currently being recorded by Wind Cave as stated in the EA, p. 61.	This statement will be corrected to remove Wind Cave Well No. 1 from the list of wells currently monitored by Wind Cave National Park. The new statement will read “Madison Aquifer hydraulic head in Wind Cave Well #2, as currently being monitored by Wind Cave National Park personnel.”

REFERENCES:

Cutillo, P.A. 2006. Calculation of Drawdown with Regard to Permit Application Nos. 2580-2 and 2585-2, Filed by the Southern Black Hills Water System. Water Rights Branch, Water Resources Division, National Park Service. 7p.

Kannenber, M. and Kenyon, T. 2011. Argyle Road Water Pipeline Project Southern Black Hills Water System, Inc. Hydrogeology Specialist Report. Leggette, Brashears & Graham, Inc. August 31, 2011.