

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION



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Distribution list / EA cover letter:

August 9th, 2013

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MT State Library, 1515 E. Sixth Ave., P.O. Box 201800, Helena, MT 59620
Bill Dennis, President, Flint Creek Water Users Association, 65 McGuire Ln. Philipsburg, MT 59858
Montana Environmental Information Center, POB 1184, Helena, MT 59624
Montana Audubon Council, P.O. Box 924, Helena, MT 59624
Granite County Commissioners, P.O. Box 925, Philipsburg, MT 59858
Wildlife Federation, P.O. Box 1175, Helena, MT 59624
Trout Unlimited, P.O. Box 7186, Missoula, MT 59807
Charlene Gentry, US Forest Service, Pintler Ranger Dist., 88 Business Loop, Philipsburg, MT 59858
U.S. Army Corps of Engineers, 10 West 15th St., Suite 2200, Helena, MT 59626
Mark Wilson, U.S. Fish and Wildlife Service, MT Field Office, 585 Shepard Way • Helena, MT 59601

Ladies and Gentlemen:

The enclosed draft Montana Environmental Policy Act (MEPA) Environmental Assessment (EA) has been prepared for the East Fork of Rock Creek Diversion & Fish Screen Project and is submitted for your consideration. Please contact James P. Domino at (406) 444-6622 (e-mail jdomino@mt.gov) should you have any questions or comments. Comments will be accepted until 5:00 p.m. Monday, September 9th 2013. Comments can also be mailed to: MT Dept. of Natural Resources and Conservation, State Water Projects Bureau, 1424 9th Avenue, P.O. Box 201601, Helena, MT 59620-1601, attn. James P. Domino. Copies of the EA are available upon request. The EA can also be viewed on the DNRC website at www.dnrc.mt.gov. Thank you for your interest.

Sincerely,

Tim Davis
Administrator,
Water Resources Division



East Fork of Rock Creek Diversion & Fish Screen Project

Draft Environmental Assessment and Montana Environmental Policy Act Checklist



Bull Trout (US Forest Service Photo)

Completed by the Montana Department of Natural Resources and Conservation,
Water Resources Division,
State Water Projects Bureau
August, 2013

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Appendix A: U.S. Forest Service Final EA and Finding of No Significant Impact; USFS/USFWS Bull Trout Biological Opinion (No hard copies attached: follow this link to view these documents. The Biological Opinion is listed as appendix d on the Forest Service web page) http://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=38977

Appendix B: East Fork of Rock Creek In-Stream Flow Study – GHD Consulting (No hard copy attached - click on the following link to view this report): http://dnrc.mt.gov/wrd/water_proj/default.asp

East Fork of Rock Creek Diversion & Fish Screen Project

Draft Environmental Assessment and MEPA Checklist

PART I. PROPOSED ACTION DESCRIPTION

- 1. Type of proposed state action:** The Flint Creek Water Project (FCWP) is located SW of Philipsburg, Granite Co. Construction of the Water Project was completed in 1938 and the Project went into full operation in 1939. The FCWP captures flow from the East Fork of Rock Creek and transfers that water to the Flint Creek Drainage. The Project consists of a dam, reservoir, and 47 miles of canals. The Project irrigates 38% of the Philipsburg Valley.

This East Fork Rock of Rock Creek Diversion & Fish Screen Project will replace a large irrigation diversion on the East Fork of Rock Creek with a new structure that includes a fish screen. The main canal, which has a capacity of 200 cfs, diverts flows from the creek. The existing diversion is deteriorating due to age and requires replacement. The existing diversion does not have a fish screen which is needed to protect bull trout, a federally listed threatened species, from entrapment in the canal.

- 2. Agency authority for the proposed action:** The Montana Legislature enacted statute 85-1- 101(1) through (6) MCA, which states: "It is hereby declared as follows:

(1) The general welfare of the people of Montana, in view of the state's population growth and expanding economy, requires that water resources of the state be put to optimum beneficial use and not wasted.

(2) The public policy of the state is to promote the conservation, development, and beneficial use of the state's water resources to secure maximum economic and social prosperity for its citizens.

(3) The state, in the exercise of its sovereign power, acting through the Department of Natural Resources and Conservation, shall coordinate the development and use of the water resources of the state so as to effect full utilization, conservation, and protection of its water resources.

(4) The development and utilization of water resources and the efficient, economic distribution thereof is vital to the people in order to protect existing uses and to assure adequate future supplies for domestic, industrial, agricultural, and other beneficial uses.

(5) The water resources of the state must be protected and conserved to assure adequate supplies for public recreational purposes and for the conservation of wildlife and aquatic life.

(6) The public interest requires the construction, operation, and maintenance of a system of works for the conservation, development, storage, distribution, and utilization of water, which construction, operation, and maintenance is a single object and is in all respects for the welfare and benefit of the people of the state.

Name of project: East Fork of Rock Creek Diversion & Fish Screen Project

3. Name, address and phone number of project sponsor(s) (if other than the agency):

State Water Projects Bureau
MT. Dept. of Natural Resources & Conservation
1424 9th Ave., P.O. Box 201601,
Helena, MT 59620-1601, Phone: (406) 444-6646

4. Construction Timeline:

Estimated Commencement Date: September 16th 2013

Estimated Completion Date: December 30st 2013

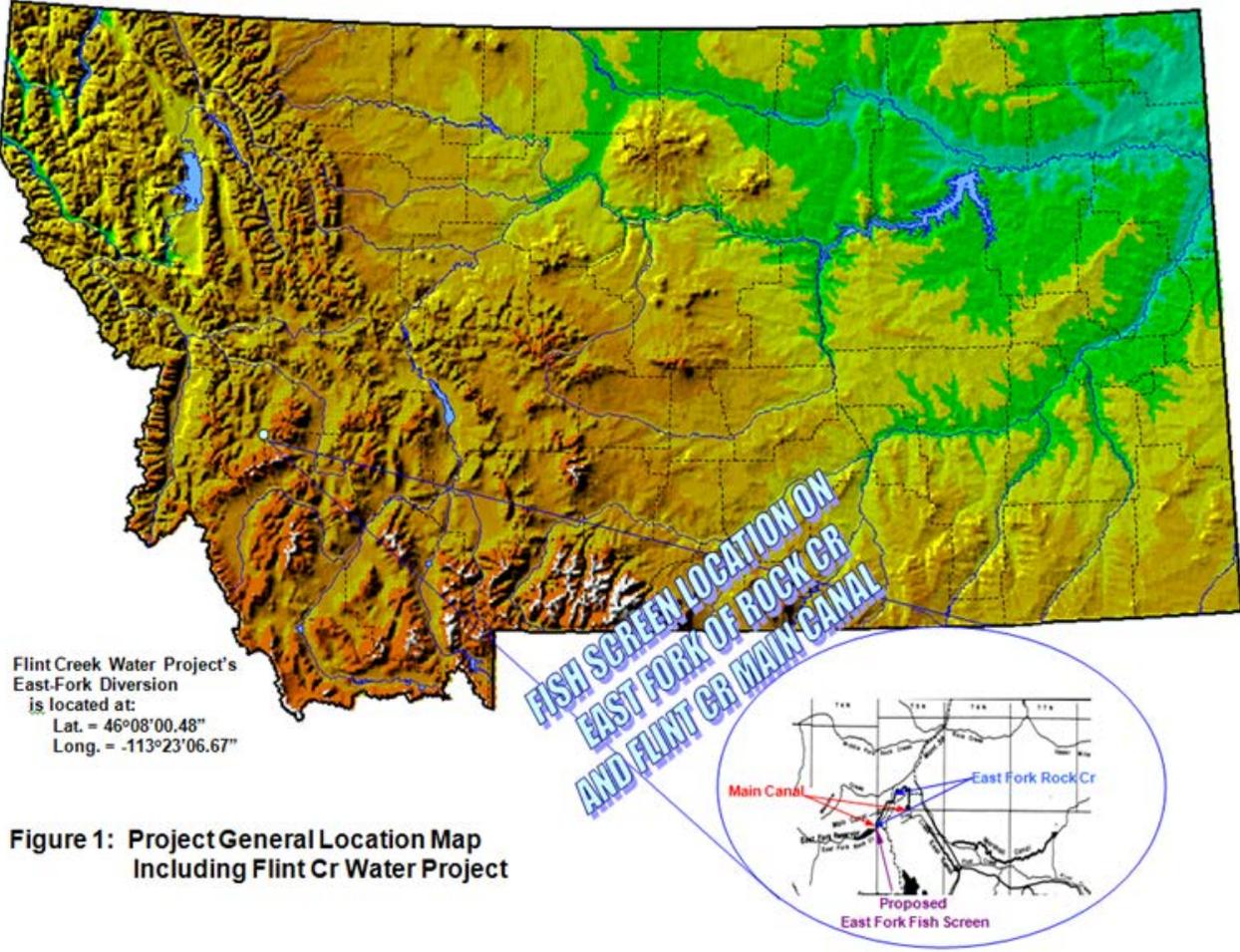
Current Status of Project Design (% complete) 100%

5. Location affected by proposed action (county, range and township):

The Flint Creek Water Project extends across Township 4 N to Township 10 N and from Range 14 West to Range 13 West, as exhibited in the map below (also see Figures 1 - 2 in this section).

The location of the Flint Creek Main Canal (FCMC) diversion is located at: Lat. = 46°08'00.48" and Long. = -113°23'06.67". The fish screen and flow-measuring device, will be installed in the canal, approximately 160 ft. downstream of the diversion structure.

Figure 1
Project General Location



**Figure 1: Project General Location Map
Including Flint Cr Water Project**

**Figure 2.
Project Location Map**

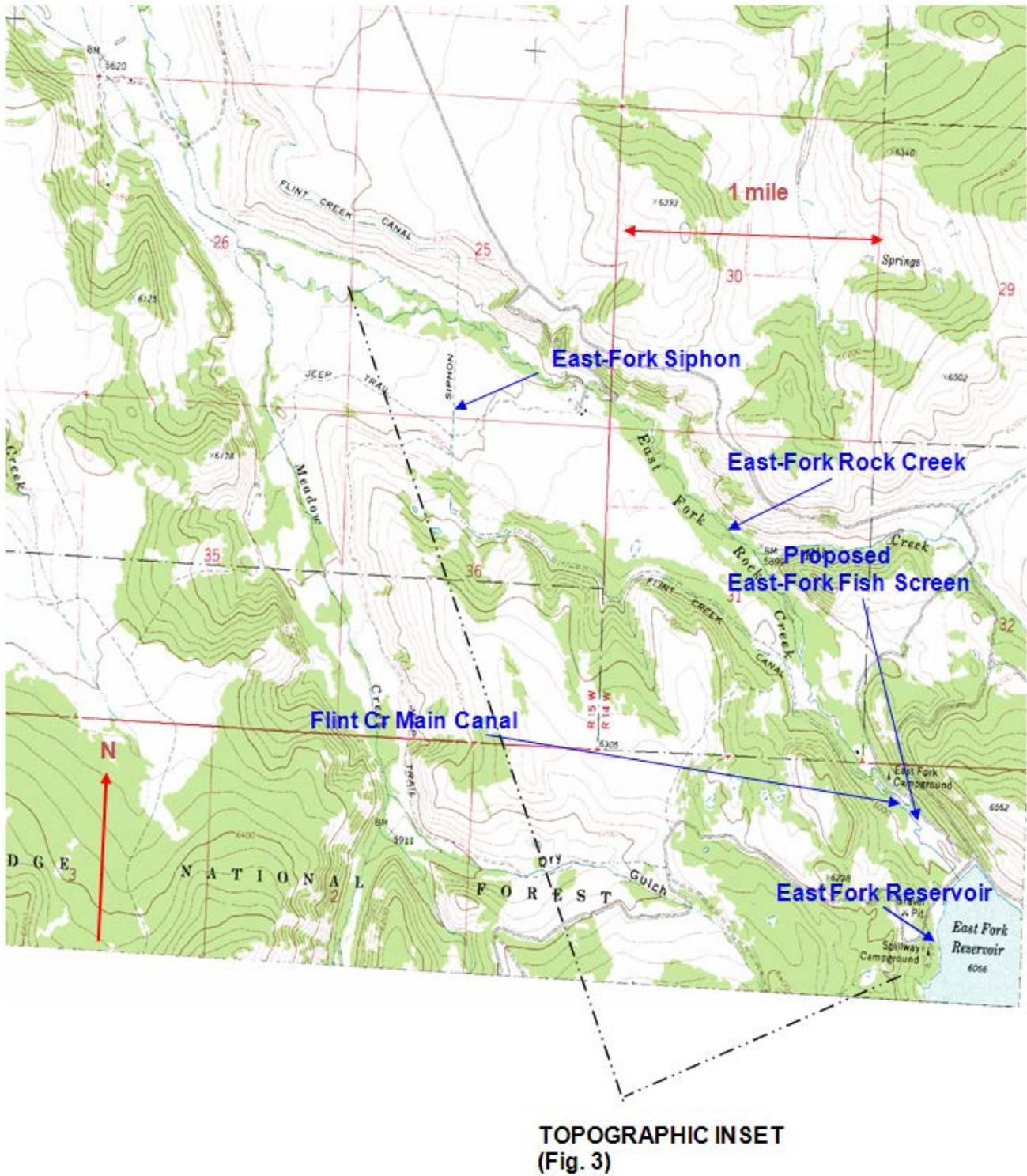
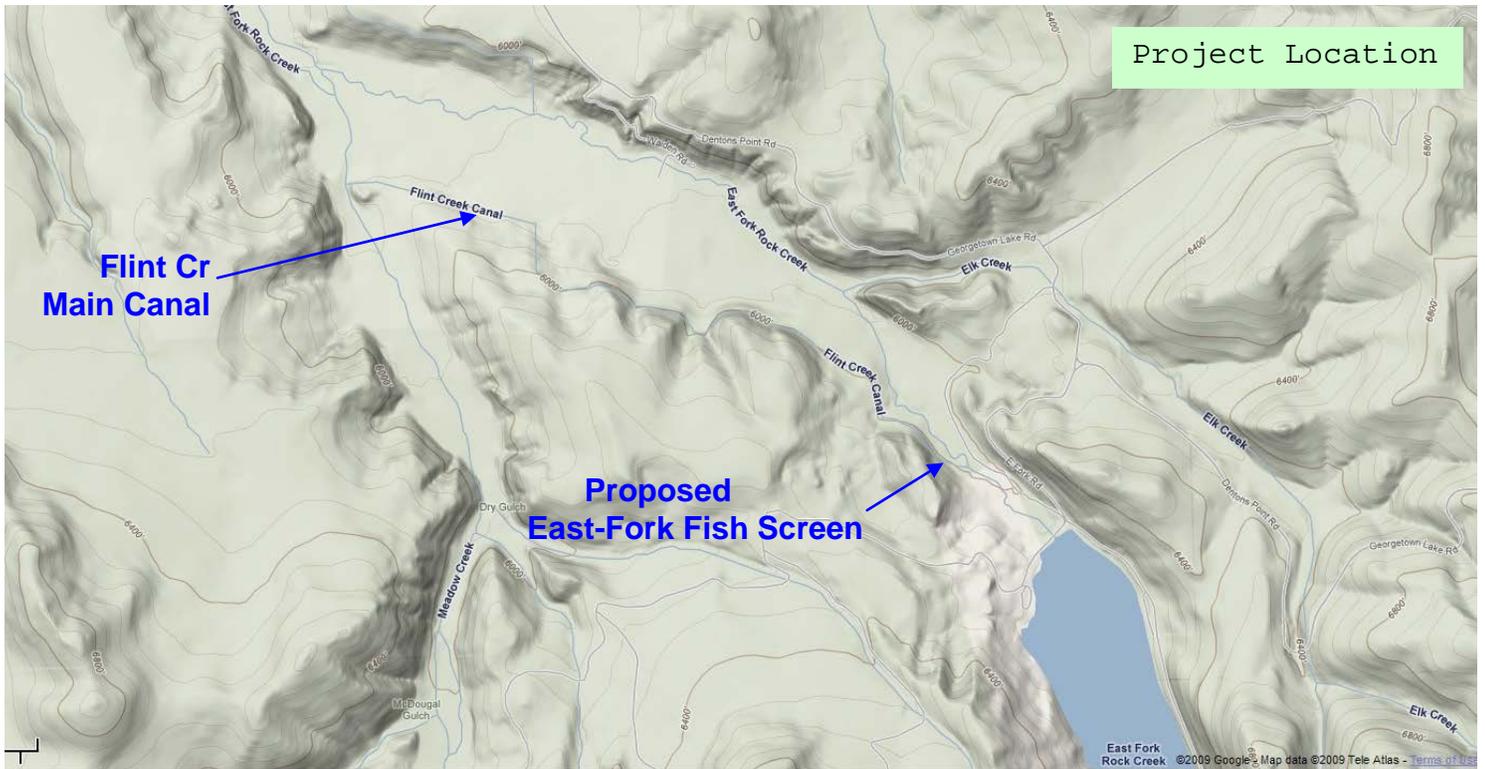


Figure 2: Project Location Map– Fish Screen location proximate to East Fork Reservoir

Figure 3. Topographic Inset



6. Project size -- estimate the number of acres that would be directly affected that are currently:

| | <u>Acres</u> | | <u>Acres</u> |
|--------------------------------------|--------------|--------------------|--------------|
| (a) Developed: | | (d) Floodplain | ___0 |
| Residential | ___0 | | |
| Industrial | ___0 | (e) Productive: | |
| (b) Open Space/Woodlands/Recreation | ___0 | Irrigated cropland | ___0 |
| | | Dry cropland | ___0 |
| (c) Wetlands / <u>Riparian Areas</u> | <1.0 | Forestry | ___0 |
| | | Rangeland | ___0 |
| | | Other | |

7. Local, State or Federal agencies that have overlapping or additional jurisdiction.

(a) Permits: All permits will be obtained prior to applicable project construction.

The following permits would be needed:

| <u>Agency Name</u> | <u>Permit</u> | <u>Status</u> |
|-------------------------------------|---|---------------|
| MT Dept. of Fish, Wildlife & Parks | MT Stream Protection Act (124) Permit | Pending |
| MT Dept. of Environmental Quality | Short-Term Exemption from Surface Water Quality (318 Authorization) | Pending |
| MT Dept. of Environmental Quality | Construction De-Watering Permit | Pending |
| MT Dept. of Environmental Quality | Stormwater Permit | Pending |
| U.S. Army Corps of Engineers | Federal Clean Water Act (404 Permit) | Pending |
| MT St. Historic Preservation Office | Cultural Clearance | Obtained |
| U.S. Forest Service | Special Use Permit | Pending |

(b) Funding:

The proposed budget for the Project consists of the funds listed below:

| | |
|--------------------|--|
| \$ 300,000 | FRIMA Grant (awarded fall 2009) |
| \$ 289,580 | FRIMA Grant (awarded winter 2010) |
| \$ 370,000 | UCFRB Restoration Grant -MT Dept. of Justice, NRDP |
| \$ 16,497 | DNRC-Internal Funding |
| \$ 100,000 | DNRC-Renewable Grant and Loan Program, Grant Application |
| \$ 60,196 | DNRC Staff In-kind Salaries |
| \$ 10,233 | DNRC Staff In-kind Fringe |
| \$ 4,598 | DNRC Staff In-kind Travel |
| \$1,151,104 | TOTAL |

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

| <u>Agency Name</u> | <u>Type of Responsibility</u> |
|---------------------------------------|-------------------------------|
| MT State Historic Preservation Office | Cultural Resource Protection |
| U.S. Forest Service | Land Owner |

Narrative summary of the proposed action including benefits and purpose:

The construction of a fish screen at the canal intake on the East Fork of Rock Creek (EFORC) diversion was an initial requirement of the original 1936 Special Use Permit SUP granted by the USFS to the State of Montana. This Permit allows the canal and reservoir to operate on federal land. There may have been a variance granted during the construction of the Project, but no documentation in the project files of either the DNRC or USFS explaining why the fish screen structure was not built, or required to be built in the succeeding seven decades has been found. The original 1936 SUP was amended and updated in the mid 1990's to reflect the addition of canal and stream gauging systems. A revised Special Use Permit allowing for the construction of the fish screen was issued in July, 2013.

The advent listing bull trout as a threatened species in 1998 caused the DNRC and USFS to revisit the necessity and urgency of constructing a fish screen on the canal intake. The East Fork of Rock Creek and the East Fork Reservoir are bull trout fisheries.

The East Fork of Rock Creek Diversion and Fish Screen Project will become an integral part of the Flint Creek Water Project. The water from the FCWP irrigates crops, waters livestock, and is a major contributor to the local economy in the Flint Creek drainage. As the project utilizes the streams as conveyance, it sustains fish and wildlife in the area.

EFORC is a headwater to Rock Creek, a famous blue ribbon trout stream and provides pristine water for the Upper Clark Fork River Basin, which is currently undergoing restoration under the management of the Montana Attorney General's Natural Resource Damage Program.

Purpose of the Project.

The East Fork of Rock Creek Diversion and Fish Screen Project is a construction project, which will be built to improve two Montana resources, 1) native fisheries in the East Fork of Rock Creek drainage, and 2) the continued beneficial use of the Project's water.

Project Goals

A. Protect and preserve fish in the EFORC:

This will be achieved by preventing their entrainment in the Main Canal. The fish include bull trout, westslope cutthroat trout, brook trout, rainbow trout, brown trout, mountain whitefish, longnose dace, longnose sucker, and sculpin. Screening fish at the intake of the Main Canal will help the fisheries in three ways: First, it will protect fish from harmful stresses exerted by the system's high-pressure siphon. Secondly, it will prevent fish from being stranded in irrigation canals, Thirdly, it will preventing the mixing of fish from different drainages by keeping fish native to the East Fork of Rock Creek contained in that drainage and occluded from Flint Creek. This project will also bestow the benefit of protecting the threatened bull trout and westslope cutthroat trout, a species of concern.

B. Develop more angling opportunities for recreationalists:

This will be achieved by keeping fish (brown trout, brook trout, and rainbow trout) in the East Fork of Rock Creek. An additional benefit of better fishing should result in more money added to the local economy and possibly developing small business opportunities.

C. Fulfill DNRC's Special Use Permit obligation:

This will be achieved by placing a fish screen at its canal intake on the EFORC. This action will ensure permission for the Flint Creek Water Project to keep operating the irrigation facility. This action will sustain local ranching businesses. It will also stabilize and preserve the local economy.

Project Objectives:

- A. Beginning in the fall of 2013, construct a new diversion with a fish screen at the FCMC diversion on the EFORC.
- B. During construction of the fish screen and diversion, install a flow measuring device on the EFORC to ensure that 5 cfs is maintained in stream during the irrigation season.
- C. Within three months after project completion, officially report in writing to the USFS that the fish screen has been constructed, thus fulfilling the USFS Special Use Permit requirements.

Benefits:

Fish populations in EFORC should increase (including bull trout & westslope cutthroat). The increases will be verified in future monitoring reports conducted by the DFWP. The primary basis for the expected benefits includes compliance with Forest Service regulations as stipulated in the project's Special Use Permit, providing the most reasonably expedient and effective means of protecting at risk juvenile and adult fish species from the chronic impacts of entrapment within the main canal, and maintaining minimum bypass flows of 5 cfs during the irrigation season (May 1 to Sept. 30th). The preferred alternative, as presented in this EA, allows the water users to continue to irrigate in an unimpeded manner, thus preserving the integrity of the State's water right. For additional information on in-stream flows, please reference Appendix B, East Fork of Rock Creek In-Stream Flow Study, by GHD Consulting at this web link:

http://dnrc.mt.gov/wrd/water_proj/default.asp

Consultations / Agency Coordination:

The Endangered Species Act (ESA) requires all federal agencies to consult with the USFWS on potential impacts to any listed species. The lead federal agency sponsor is also responsible for compliance with the National Environmental Policy Act (NEPA), the federal equivalent of the Montana Environmental Policy Act (MEPA). The USFS, as part of the reissuance of the Special Use Permit, initiated consultation with the USFWS on the potential impacts to Bull Trout resulting from the proposed project. The DNRC also participated in the consultation as owners of the East Fork Project.

The Montana DEQ, State Historic Preservation Office and Natural Heritage Program have been contacted concerning potential impacts to water resources, historic resources and the presence of any species of special concern within the vicinity of the proposed project, respectively. Montana Fish, Wildlife and Parks have been consulted concerning potential impacts to fish and wildlife. The Corps of Engineers have been contacted on 404 permitting requirements. A Natural Heritage file search indicated that Bull trout (a threatened species) and Westslope cutthroat trout (species of special concern) are found in the East Fork of Rock Creek. The lynx is also listed as threatened in the western third of Montana (including the project area). Grizzly bears, wolves, bald and golden eagles are also known to exist in the general area. No other wildlife or fish species of special concern are known to be present in the vicinity of the project.

It should be noted that the USFS previously attempted to obtain funding to proceed with the construction and installation of a fish screen on this system over ten years ago. On March 15th, 2002 the USFS provided a Public Scoping Notice that stated that "the project (fish screen) will likely be categorically excluded from documentation in an environmental analysis or environmental impact statement". The project was dropped as the USFS requests for funding were denied. Since that time, the USFS reconsidered their original recommendations and required an Environmental Assessment (EA) per NEPA for our proposed action. This EA was released October 2012. The USFS EA Finding of No Significant Impact allows for the construction of the screen and new diversion via a temporary special use permit. The U.S. Forest Service / U.S. Fish and Wildlife Service Biological Opinion, and U.S. Forest Service Final EA and Finding of No Significant Impact can be viewed at the following web link:

http://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=38977

PART II. ENVIRONMENTAL REVIEW

- 1. Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:**

Alternative A: No Action

Evaluation of the no action alternative is properly conducted not as the absence of action but rather as not meeting a need. In the absence of meeting a need the foreseeable impacts and chains of cause and effects are followed to a logical conclusion.

In this case not taking action to replace the diversion and install a fish screen on the main canal will result in the potential entrapment of bull trout in the canal, possibly resulting in mortality. This would be a violation of the Endangered Species Act. The No Action Alternative would also fail to fill full the fish screening requirements of the Forest Service Special Use Permit.

The USFS and US Fish and Wildlife Service (USFWS) have requested the State to comply with the requirements of the original 1936 Special Use Permit. It may be possible for the USFWS to cite and sue the DNRC for illegal bull trout taking or issue an injunction to prevent DNRC from operating the reservoir and canal.

Alternative B: Preferred Alternative

The proposed action involves the replacement of the existing diversion with a new structure and installation of a fish screen on the main canal.

The East Fork Diversion and Fish Screen Project will prevent bull trout, west slope cutthroat trout, brown trout, brook trout, and native, non-game fish from entering the Flint Creek Water Project's Main Canal. These fish will be preserved in the East Fork of Rock Creek, where they go about their normal life cycle and replenish their species.

A combination of federal and state funds would be used to construct the new diversion and fish screen. The Forest Service would issue a new special use permit that would permit the construction, operation and maintenance of the new structures.

Alternative C: Construct the Fish Screen on Private Land

This alternative would involve moving the location of the new fish screen further downstream along the main canal so that it would be located entirely on private land. The U.S. Forest Service would have no jurisdiction with the fish screen construction, operation and maintenance under this scenario.

The special use permit obligation (to construct a fish screen on the main canal) would still be fulfilled under this alternative. A new diversion structure would be optional and dependent on successful and mutually beneficial negotiations with the Forest Service. All other potential impacts would be similar to Alternative B.

Under this alternative, the DNRC would return the federal FRIMA funds to the USFWS. The fish screen would then be constructed using 100% state and private funds. Successful implementation of this alternative is contingent upon obtaining landowner permission and the establishment of a long-term lease agreement with the DNRC.

Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

The permits and associated stipulations involving the construction of the diversion and fish screen are listed in Section 7(a) on page 5 and discussed on page 6 and in Part V, Section 4A (3 and 5) on pages 17 and 19 respectively.

PART III. PUBLIC PARTICIPATION

- 1. Describe the level of public involvement for this project if any, and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?**

The public will be notified by way of a public notice on DNRC web page at www.dnrc.mt.gov. Individual notices will be sent to the State Water Projects Bureau standard EA distribution list (as presented on the cover page of this EA) and to those that have requested a copy.

Duration of comment period:

A 30-day comment period will be provided. This level of public involvement is appropriate for the scale and scope of the proposed action. Opening and closing dates for comments are provided on the EA Cover Letter and Distribution List.

PART IV. EA PREPARATION

- 1. Based on the significance criteria evaluated in this EA, is an EIS required? If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.**

Based on an evaluation of the primary, secondary, and cumulative impacts to the physical and human environment under the Montana Environmental Protection Act (MEPA), this environmental review found no significant impacts from the proposed action. In determining the significance of the impacts, the DNRC assessed the severity, duration, geographic extent, and frequency of the impact, the probability that the impact would occur or reasonable assurance that the impact would not occur, growth-inducing or growth inhibiting aspects of the impact, the importance to the state and to society of the environmental resource or value affected, and precedent that would be set as a result of the proposed action that would commit the DNRC to future actions; and potential conflicts with local, state or federal laws. Therefore, an EA is the appropriate level of review and an EIS is not required.

- 2. Name, title, address and phone number of the person(s) responsible for preparing the EA:**

James P. Domino
Environmental Science Specialist
State Water Projects Bureau
Montana Department of Natural Resources and Conservation
1424 9th Avenue, P.O. Box 201601
Helena, MT 59620-1601
(406) 444-6622
e-mail: jdomino@mt.gov

3. List of agencies consulted during preparation of the EA:

Montana Department of Fish, Wildlife & Parks
Montana State Historic Preservation Office
Montana Natural Heritage Program – Natural Resources Information System
Montana Department of Environmental Quality
U.S. Army Corps of Engineers
U.S. Forest Service

PART V. ENVIRONMENTAL REVIEW CHECKLIST

4. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

| 1. <u>LAND RESOURCES</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. **Soil instability or changes in geologic substructure? | | | X | | | 1a. |
| b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility? | | | X | | | 1b |
| c. **Destruction, covering or modification of any unique geologic or physical features? | | X | | | | 1c. |
| d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake? | | | X | | | 1d. |
| e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard? | | X | | | | |
| f. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources:

1a. The installation of a new structure would not significantly affect geologic substructure or soil stability. The disturbed area (approximately <1.0 surface acres, including 180 L.F. stream-bank disturbance, would be re-graded and reclaimed to the approximate original contours upon project completion (see the construction diagrams on pages 29 and 30 for further details).

1b. Soil would be disturbed during the excavation and construction process, which will cause some erosion, compaction, and loss of soil over-covering. The effects would be minor and non-significant. All disturbed areas would be reclaimed and regraded.

1c. No unique geologic features would be destroyed, covered, or modified by the proposed action.

1d. Minor, temporary changes to deposition patterns related to siltation may occur from the proposed action due to the need to work in and adjacent to the East Fork of Rock Creek as part of the construction. The effects would be short-term and non-significant. The creek would be temporarily diverted by a cofferdam (approximately 42 CY of fill material placed in membranous "super sacks") to dewater the diversion work area by deterring the flow from the creek into to Main Canal. An additional smaller cofferdam (approximately 24 CY) will return flow from the canal back into the creek. A pipe will transfer water around the cofferdam and discharge back into the creek downstream from the work site. The use of erosion control structures and best management practices as prescribed by the MT DEQ, MT DFWP and other pertinent agency permitting requirements would serve to mitigate any temporary adverse impacts (see the construction diagrams on pages 29 and 30 for further details).

| 2. <u>AIR</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. **Emission of air pollutants or deterioration of ambient air quality? (Also see 13 (c).) | | | X | | | 2a. |
| b. Creation of objectionable odors? | | X | | | | . |
| c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally? | | X | | | | |
| d. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Air Resources (attach additional pages of narrative if needed):

2a. Minor and temporary dust and vehicle emissions would be created by equipment during construction. The effect would be non-significant and end with the completion of the project.

| 3. <u>WATER</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated* | Comment Index |
|--|-----------|------|---------|-------------------------|--------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. *Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity? | | | X | | | 3a. |
| b. Changes in drainage patterns or the rate and amount of surface runoff? | | X | | | | |
| c. Alteration of the course or magnitude of floodwater or other flows? | | | X | | | 3c. |
| d. Changes in the amount of surface water in any water body or creation of a new water body? | | X | | | | |
| e. Exposure of people or property to water related hazards such as flooding? | | X | | | | |
| f. Changes in the quality of groundwater? | | X | | | | |
| g. Changes in the quantity of groundwater? | | X | | | | |
| h. Increase in risk of contamination of surface or groundwater? | | | X | | | 3.h |
| i. Effects on any existing water right or reservation? | | X | | | | |
| j. Effects on other water users as a result of any alteration in surface or groundwater quality? | | X | | | | |
| k. Effects on other users as a result of any alteration in surface or groundwater quantity? | | X | | | | |
| l. Effects on any wetlands | | X | | | | |
| m. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Water Resources (attach additional pages of narrative if needed):

3a. The proposed action may cause an increase in turbidity, but the increase would be temporary and non significant. Stipulations limiting surface water discharge turbidity as required under the DEQ MPDES permits would be closely monitored and adhered to.

3c. The creek would be temporarily diverted by a cofferdam to dewater the excavation area. A pipe would transfer water around the cofferdam and discharge back into the creek downstream from the work site while a temporary equipment crossing was constructed. Flows would be maintained throughout the duration of the project. The use of erosion control structures and best management practices as prescribed by the MT DEQ, MT DFWP and other pertinent agency permitting requirements would serve to mitigate any temporary adverse impacts. The maximum creek diversion duration will be 15 working days. Impacts are non-significant in the long-term (see the construction diagrams on pages 29 and 30 for further details).

3h. The risk of water contamination exists during construction. This impact is minor, temporary, non-significant and would end with the completion of the project. The risk would be mitigated by insuring that all equipment is properly maintained with no fluid leaks. Construction equipment refueling would take place at an off-site location away from the East Fork of Rock Creek, associated riparian zone, and any wetland areas, in compliance with the DEQ Stormwater Pollution Prevention Plan and General Permit for Discharge Associated with Construction Activity.

| 4. VEGETATION Will the proposed action result in? | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)? | | X | | | | |
| b. Alteration of a plant community? | | | X | | | 4b. |
| c. Adverse effects on any unique, rare, threatened, or endangered species? | | X | | | | 4c. |
| d. Reduction in acreage or productivity of any agricultural land? | | X | | | | |
| e. Establishment or spread of noxious weeds? | | | X | | | 4e. |
| f. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Vegetation (attach additional pages of narrative if needed):4a.

4b. Some native grasses, sage, trees and shrubs would be disturbed from the excavation and installation of the new diversion and fish screen. The impacts would be non-significant and minor and are negligible due to reclamation and reseeding of the disturbed area.

4c. A Natural Heritage Program file search was completed to determine if any plant species of special concern were present in the location of the project. There are no documented files or observations of any threatened or endangered plants, or plant species of special concern within the project site.

4e. An increase in noxious weeds may occur due to soil disturbance and equipment operation. Effects are negligible in the long-term because of reclamation and weed control implementation.

| ** 5. FISH/WILDLIFE Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|------------------|-------------|----------------|--------------------------------|----------------------------------|----------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Deterioration of critical fish or wildlife habitat? | | X | | | | |
| b. Changes in the diversity or abundance of game animals or bird species? | | X | | | | |
| c. Changes in the diversity or abundance of non-game species? | | X | | | | |
| d. Introduction of new species into an area? | | X | | | | |
| e. Creation of a barrier to the migration or movement of animals? | | | X | | | 5e. |
| f. Adverse effects on any unique, rare, threatened, or endangered species? | | | X | | | 5f. |
| g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)? | | | X | | | 5g. |
| h. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Fish and Wildlife:

5e. In stream work in September will be kept to a minimum, primarily involving the installation of the by-pass culvert, to minimize any potential disturbances to spawning fish and bull trout migration. The access crossing will be designed to accommodate the anticipated base flow of 5 cfs at 3fps velocity. The temporary diversion dam and equipment crossing would not create a barrier to bull trout or other fish.

5f. A Natural Heritage file search indicated that Bull trout (a threatened species) and Westslope cutthroat trout (species of special concern) are found in the East Fork of Rock Creek. The lynx is also listed as threatened in the western third of Montana (including the project area). No other wildlife or fish species of special concern is known to exist in the vicinity of the project.

5g. The use of erosion control structures (straw bales, erosion control mats, silt fencing etc.), best management practices, project timing, and maintaining downstream flows (as recommended by the DEQ and DFWP) will greatly reduce the magnitude of any potential impacts to bull trout and other fish within the construction area. It is not anticipated that the proposed action would significantly impact bull trout, bull trout migration or bull trout spawning activity (which occurs primarily in September), westslope cutthroat trout, lynx or any other fish or wildlife species.

Local wildlife within the immediate vicinity of the project location (e.g. mule and whitetail deer, elk, moose, black bear, mountain lion, raptors, waterfowl) would most likely avoid the immediate work site during construction. This impact would be minor, non-significant and end upon project completion.

All non-significant but potentially adverse impacts to fish and wildlife resources will be temporary, minor, short-term and end upon completion of the project.

B. HUMAN ENVIRONMENT

| 6. <u>NOISE / ELECTRICAL EFFECTS</u> Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Increases in existing noise levels? | | | X | | | 6a. |
| b. Exposure of people to serve or nuisance noise levels? | | X | | | | |
| c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property? | | X | | | | |
| d. Interference with radio or television reception and operation? | | X | | | | |
| e. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Noise/Electrical Effects (attach additional pages of narrative if needed):

6a. There will be a temporary increase in noise levels during construction. This would end after completion of the construction activity. There are no residences adjacent to the site that would be disturbed by the activity.

| 7. LAND USE Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Alteration of or interference with the productivity or profitability of the existing land use of an area? | | X | | | | |
| b. Conflict with a designated natural area or area of unusual scientific or educational importance? | | X | | | | |
| c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action? | | X | | | | |
| d. Adverse effects on or relocation of residences? | | X | | | | |
| e. Increase regulatory restrictions on private property? | | X | | | | |
| f. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Use (attach additional pages of narrative if needed):

| 8. RISK/HEALTH HAZARDS Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption? | | X | | | | |
| b. Affect an existing emergency response or emergency evacuation plan, or create a need for a new plan? | | X | | | | |
| c. Creation of any human health hazard or potential hazard? | | X | | | | |
| d. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Risk/Health Hazards (attach additional pages of narrative if needed):

| 9. COMMUNITY IMPACT Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|--|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Alteration of the location, distribution, density, or growth rate of the human population of an area? | | X | | | | |
| b. Alteration of the social structure of a community? | | X | | | | |
| c. Alteration of the level or distribution of employment or community or personal income? | | X | | | | |
| d. Changes in industrial or commercial activity? | | X | | | | |
| e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods? | | X | | | | |
| f. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Community Impact (attach additional pages of narrative if needed):

| 10. PUBLIC SERVICES/TAXES/UTILITIES Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|------------------|-------------|----------------|--------------------------------|----------------------------------|----------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify: | | X | | | | 10a. |
| b. Will the proposed action have an effect upon the local or state tax base and revenues? | | X | | | | |
| c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications? | | X | | | | |
| d. Will the proposed action result in increased use of any energy source? | | | X | | | |
| e. Define projected revenue sources | | | | | | 10e. |
| f. Define projected maintenance costs. | | | | | | 10f. |
| g. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Public Services/Taxes/Utilities (attach additional pages of narrative if needed):

10a. The proposed action would not have an effect upon or result in a need for new or altered governmental services.

10.d The fish screen will require a new electrical service line to be installed for the operation of the screen. The increased energy use will be negligible and non-significant in the short and long term (see construction diagram on page 29).

10e. Funding sources are identified on page 7, Section 7 (b).

10f. Maintenance costs associated with the Project will be the responsibility of the Flint Creek Water Users Association..

| ** 11. AESTHETICS/RECREATION Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|------------------|-------------|----------------|--------------------------------|----------------------------------|----------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view? | | | X | | | 11a. |
| b. Alteration of the aesthetic character of a community or neighborhood? | | X | | | | |
| c. Alteration of the quality or quantity of recreational/tourism opportunities and settings? | | | X | | | 11c. |
| d. Will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? | | X | | | | |
| e. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Aesthetics/Recreation (attach additional pages of narrative if needed):

11 a & c. Construction will temporarily affect the aesthetics of the area in the short-term. Some anglers and campers may be impacted. The quality of the recreational opportunities and setting may be temporarily impacted. The effects will be minor, short-term and non-significant and end with the completion of the project.

| 12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|------------------|-------------|----------------|--------------------------------|----------------------------------|----------------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. **Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance? | | X | | | | 12a. |
| b. Physical change that would affect unique cultural values? | | X | | | | 12b |
| c. Effects on existing religious or sacred uses of a site or area? | | X | | | | 12c. |
| d. Will the project affect historic or cultural resources? | | X | | | | 12d. |
| e. Other: | | X | | | | 12e. |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Cultural/Historical Resources (attach additional pages of narrative if needed):

12a-e. The proposed project will not result in the destruction, disturbance or alteration of any known site, structure, or object of prehistoric, cultural, religious, sacred, historic or paleontological importance.

C. SIGNIFICANCE CRITERIA

| 13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole: | IMPACT * | | | | Can Impact Be Mitigated * | Comment Index |
|---|-----------|------|---------|-------------------------|---------------------------|---------------|
| | Unknown * | None | Minor * | Potentially Significant | | |
| a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.) | | X | | | | 13a. |
| b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur? | | X | | | | |
| c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan? | | X | | | | |
| d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed? | | X | | | | |
| e. Generate substantial debate or controversy about the nature of the impacts that would be created? | | X | | | | |
| f. Is the project expected to have organized opposition or generate substantial public controversy? | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Significance Criteria (attach additional pages of narrative if needed):

13a. This EA found no significant impacts to the human or physical environment from the proposed action.

PART VI. NARRATIVE EVALUATION AND COMMENT

This EA did not reveal any significant negative impacts to the physical and human environment stemming from the proposed action. No threatened or endangered species would be significantly affected, and no unique or sensitive physical, cultural or historic features would be disturbed. The impacts associated with the actual construction will be short-term, minor and end with the completion of the project. Impacts associated with potentially small increases in the sediment loads, weed proliferation, fish and wildlife stress, and the quality of the recreational experience will be mitigated by project timing, maintaining in-stream flows, providing upstream and downstream fish passage, reclamation, reseeding, weed control efforts, and the implementation of all recommended best management practices. The proposed project will not affect public safety or the beneficial uses of reservoir water

Montana Department of Natural Resources and Conservation

EAST FORK ROCK CREEK FISH SCREENING PROJECT CONSTRUCTION DOCUMENTS



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MONTANA DNRC
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(406) 444-2894 FAX

WATER USERS
ELMT CREEK WATER USERS ASSOCIATION
P.O. BOX 201
PHILIPSBURG, MT 59809



ENGINEER
GHD Inc.
15075 SW SEQUOIA PARKWAY, SUITE 140
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BIOLOGIST
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SURVEYING
DOWL HKM
7 WEST 6TH AVENUE, SUITE 30
P.O. BOX 1008
HELENA, MT 59624
(406) 442-0370 PHONE
(406) 442-0377 FAX

| DWG. NO. | DRAWING TITLE | 35% | 95% | 100% |
|----------|--|-----|-----|------|
| T-1 | TITLE SHEET | X | X | X |
| C-1 | EXISTING CONDITIONS | X | X | X |
| C-2 | EXISTING CONDITIONS | X | X | X |
| C-3 | DEMOLITION & STAGING PLAN | X | X | X |
| C-4 | SET & STAKING PLAN | X | X | X |
| C-5 | SCREEN STRUCTURE PLAN & SECTION | X | X | X |
| C-6 | BYPASS SECTION & TEMPORARY BRIDGE SUPPORT | X | X | X |
| C-7 | DIVERSION STRUCTURE PLAN & SECTION | X | X | X |
| C-8 | EROSION CONTROL & RESTORATION PLAN | X | X | X |
| C-9 | SCREEN & FLOW CONTROL BAFFLE DETAIL | X | X | X |
| C-10 | SUEDE GATE DETAILS | X | X | X |
| C-11 | SCREEN CLEANER DETAILS | X | X | X |
| C-12 | SCREEN CLEANER DETAILS | X | X | X |
| C-13 | SCREEN CLEANER DETAILS | X | X | X |
| C-14 | SCREEN CLEANER DETAILS | X | X | X |
| C-15 | WEIR GATE DETAILS | X | X | X |
| S-1 | STRUCTURAL NOTES | X | X | X |
| S-2 | STRUCTURAL NOTES & ABBREVIATIONS | X | X | X |
| S-3 | SCREEN STRUCTURAL CONCRETE & FRAMING PLANS | X | X | X |
| S-4 | DIVERSION STRUCTURE CONCRETE & FRAMING PLANS | X | X | X |
| S-5 | SCREEN STRUCTURE CONCRETE DETAILS | X | X | X |
| S-6 | SCREEN STRUCTURE CONCRETE DETAILS | X | X | X |
| S-7 | SCREEN STRUCTURE STEEL DETAILS | X | X | X |
| S-8 | SCREEN STRUCTURE STEEL & CONCRETE DETAILS | X | X | X |
| S-9 | VERTICAL FIXED PANEL FISH TRAP PLAN & ELEVATION | X | X | X |
| S-10 | VERTICAL FIXED PANEL FISH TRAP ELEVATIONS | X | X | X |
| S-11 | VERTICAL FIXED PANEL FISH TRAP - DETAILS | X | X | X |
| S-12 | VERTICAL FIXED PANEL FISH TRAP STRUCTURAL PLAN & DETAILS | X | X | X |
| E-1 | ELECTRICAL STANDARD NOTES | X | X | X |
| E-2 | ELECTRICAL SITE PLAN | X | X | X |
| E-3 | ELECTRICAL SCREEN PLAN & DETAILS | X | X | X |
| E-4 | ELECTRICAL DETAILS | X | X | X |
| E-5 | ELECTRICAL PANEL DETAILS | X | X | X |
| R-1 | WEIR GATE REFERENCE DRAWING | X | X | X |
| R-2 | WEIR GATE REFERENCE DRAWING | X | X | X |
| R-3 | WEIR GATE REFERENCE DRAWING | X | X | X |
| R-4 | WEIR GATE REFERENCE DRAWING | X | X | X |
| R-5 | UTILITY BUILDING REFERENCE DRAWING | X | X | X |

DEMOLITION NOTES

- DEMOLITION REQUIREMENTS ARE GENERALLY SHOWN ON THESE DRAWINGS. THE DEMOLITION WORK SHOWN IS GENERALLY DIAGNOSTIC. THE DRAWINGS DO NOT SHOW EVERY SITE ELEMENT THAT NEEDS TO BE REMOVED. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING SCOPE OF DEMOLITION WORK FROM OWNER AND FOR EXAMINATION OF EXISTING SITE CONDITIONS. CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN PRIOR TO CONSTRUCTION OUTLining ITEMS TO BE REMOVED.
- DURING CONSTRUCTION, UTILITY OUTAGES AND ACCESS CLOSURES REQUIRE A MINIMUM OF 24 HOURS NOTICE TO OWNERS.

GRADING NOTES

- SURVEY OF EXISTING CONDITIONS PREPARED BY DOWL HKM SURVEYING. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL SURVEY DATA. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING ALL HORIZONTAL AND VERTICAL CONTROL, PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING WITH A LICENSED SURVEYOR. STAKING WILL BE REVIEWED BY OWNER FOR CONFORMANCE TO DESIGN PRIOR TO CONSTRUCTION.
- ALL GRADIES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHOWING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION.
- ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE DRAINAGE CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND SCATTERING OF WORK AREAS DURING CONSTRUCTION.
- DURING NET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN ENVIRONMENT AND CONSTRUCTION OPERATIONS.
- ALL EXISTING MONUMENTS SHALL BE PROTECTED DURING CONSTRUCTION. IF ANY MONUMENTS ARE DESTROYED OR DESTROYED DURING CONSTRUCTION, CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED LAND SURVEYOR TO RE-ESTABLISH THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY STATE LAW.

UTILITY NOTES

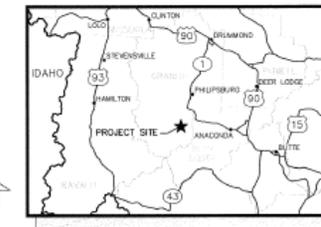
- LOCATIONS OF EXISTING UTILITIES ARE PLOTTED FROM RECORD DRAWINGS AND INTERPOLATION OF PHYSICAL LOCATIONS ON THE SITE AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.
- ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION UNDER THIS SECTION OR ANY OTHER SECTION.
- THE WORKING DRAWINGS ARE GENERALLY DIAGNOSTIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE OR FITTING REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM.
- CONTRACTOR SHALL COORDINATE A UTILITY LOCATE 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION FOR LOCATION MARK-UP OF ALL EXISTING UTILITIES BOTH IN THE RIGHT-OF-WAY AND ON PRIVATE PROPERTY. CONTRACTOR SHALL COORDINATE THE UTILITY LOCAL WITH MUNICIPALITY HAVING JURISDICTION FOR ALL UTILITY WORK WITHIN A PUBLIC RIGHT-OF-WAY. UTILITY ENGINEERS IMMEDIATELY IF LOCATE INDICATES THAT EXISTING UTILITIES ARE DIFFERENT THAN SHOWN ON DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION.
- ALL BURIED LINES TO HAVE 2 FEET MINIMUM COVER, UNLESS NOTED OTHERWISE.

CIVIL ABBREVIATIONS

| | | | |
|-------|---------------------------|------|--------------------------|
| AB | ANCHOR BOLT | NC | NOT IN CONTRACT |
| AC | ASPHALTIC CONCRETE | NO | NUMBER |
| ACP | ASBESTOS CONCRETE PIPE | NOB | NOMINAL |
| | | NS | NOT TO SCALE |
| BLDG | BUILDING | OC | ON CENTER |
| BOT | BOTTOM OF TRENCH | OH | OVERHEAD |
| BOC | BOTTOM OF CONCRETE | OL | OUT/WATER SEPARATOR |
| BOS | BOTTOM OF SLUMP | OW | |
| CA | COMPRESSED AIR | PD | POLYDRYIN |
| CS | CATCH BASIN | P | PLATE |
| CJ | CONSTRUCTION JOINT | PEF | PERFORATED STORM DRAIN |
| CI | CURB INLET | PV | POST INDICATOR VALVE |
| CIP | CAST IRON PIPE | POC | POINT OF CONNECTION |
| CMP | CORRUGATED METAL PIPE | PL | PLAIN/PLAIN CHALLENGE |
| CONC | CONCRETE | PNC | PAVEMENT |
| CNC | CONDENSATE RETURN | PIW | POTABLE WATER |
| CR | CONCRETE | R | ROADS |
| DN | DIAMETER | RCP | REINFORCED CONCRETE PIPE |
| DP | DUCTILE IRON PIPE | RIM | RIM ELEVATION |
| DS | DOWNPOUTS | RR | RAILROAD |
| DW | DRAWING | S | SLOPE |
| E | ELECTRICAL POWER | SAN | SANITARY |
| ELEV | ELEVATION | SB | SPLASH BLOCK |
| ELEC | ELECTRICAL | SD | STORM DRAIN |
| EXIST | EXISTING | SS | SANITARY SEWER |
| | | STW | STEAM |
| FA | FIRE ALARM | TB | THRUST BLOCK |
| FD | FOUNDATION DRAIN | TBM | TEMPORARY BENCH MARK |
| FF | FRESH FLOOR | TC | TOP OF CURB |
| FG | FRESH GRADE | TEL | TELEPHONE |
| FI | FIRE HYDRANT | TOS | TOP OF SEAM |
| FW | FIRE WATER | TOC | TOP OF CONCRETE |
| | | TOG | TOP OF GRADE |
| G | GUTTER | TOP | TOP OF PIPE |
| GR | GRADE | TYP | TYPICAL |
| GV | GATE VALVE | UCAD | UNDERGROUND |
| | | UNL | UNLESS NOTED OTHERWISE |
| HB | HOSE BIBB | VCP | VITRIFIED CLAY PIPE |
| HDPE | HIGH DENSITY POLYETHYLENE | VT | VENT |
| HH | HAND HOLE | VV | VALVE VALVE |
| HPD | HIGH PRESSURE GAS | WM | WATER METER |
| HC | HANDCAPPED | WT | WATER VALVE |
| HYD | HYPERTW | WV | WELDED IRON PIPE |
| | | WSE | WATER SURFACE ELEVATION |
| IE | INVERT ELEVATION | XMR | TRANSFORMER |
| IRR | IRRIGATION | | |
| L | LENGTH | | |
| LP | LIGHT POLE | | |
| M | MAXIMUM | | |
| MI | MINIMUM | | |
| MIN | MINIMUM | | |

GENERAL SITE NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING.
- CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES FIT INTO EXISTING SITE DEVELOPMENT. FRAGMENT JOINTS MATCH CORRECTLY, AND THAT GENERAL DESIGN ELEVATIONS FOR NEW CONSTRUCTION PROVIDE PROPER PAVEMENT AND DRAINAGE SLOPES FROM EXISTING IE IN POINTS. REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
- ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE DNRC AND US FOREST SERVICE. CONTRACTOR SHALL NOTIFY INSPECTOR(S) 48 HOURS PRIOR TO START OF CONSTRUCTION.
- DURING CONSTRUCTION, THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL HAVE A MINIMUM OF ONE (1) SET OF POINT APPROVED PLANS AND SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
- UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN 'AS GOOD OR BETTER' CONDITION.



RELEASE OF DOCUMENTS
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| NO. | DATE | DESCRIPTION |
|-----|------------|-------------------------|
| 1 | 12/10/2012 | ISSUED FOR CONSTRUCTION |

**MONTANA DNRC
EAST FORK ROCK CREEK
FISH SCREEN PROJECT
TITLE SHEET**

PROJ NO: 12105-10001
DRWG: PRK OWD MBW

T-1

SHEET OF

DOWL HKM
 7 WEST 5TH AVE., SUITE 3W
 P.O. BOX 1009
 HELENA, MT 59624
 406-442-0270
 406-442-0377 (FAX)
 DOWLHKM-GHM



INFORMATION
 SUPPLIED
 BY OWNER

THIS IS ONE OF SEVERAL ORIGINAL DRAWINGS
 IN THIS PROJECT
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 DESIGN INCORPORATED THEREIN, AS AN
 INSTRUMENT OF SERVICE, ARE THE
 PROPERTY OF GHD INC. AND SHALL
 REMAIN THE PROPERTY OF GHD INC. IN
 ANY OTHER PROJECT WHERE GHD INC. IS
 THE CONSULTANT
 WITH AUTHORIZATION © GHD INC. 2012

| MARK | DATE | ISSUED FOR CONSTRUCTION | DESCRIPTION | SCALE |
|------|----------|-------------------------|-------------|-------|
| 0 | 12/10/10 | ISSUED FOR CONSTRUCTION | | |

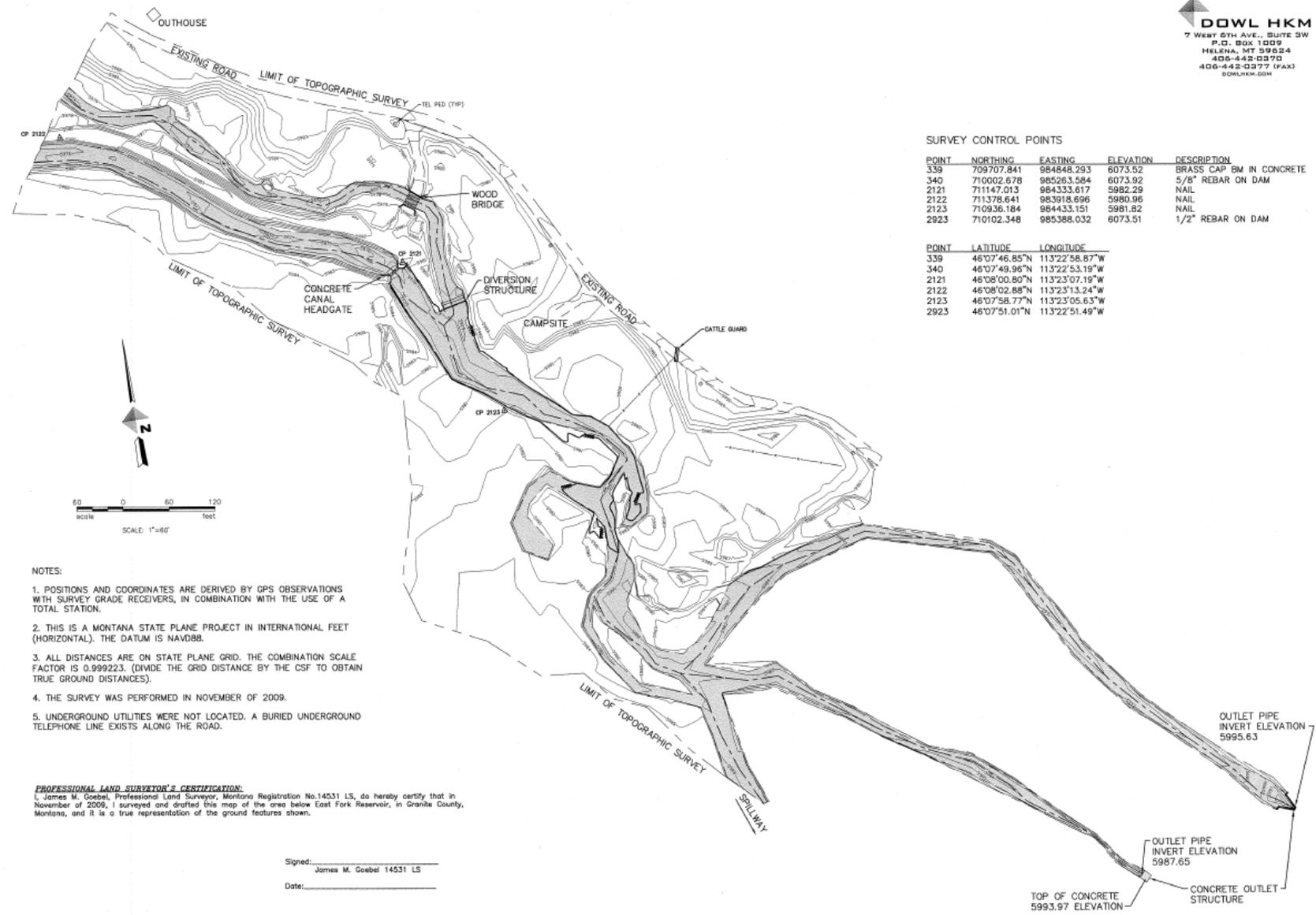
**MONTANA DNR
 EAST FORK ROCK CREEK
 FISH SCREEN PROJECT
 EXISTING CONDITIONS**

| | |
|------------|-------------|
| PROJ NO. | 12105-10001 |
| DRWN | PRK |
| CHKD | MBW |
| C-1 | |
| SHEET | OF |

SURVEY CONTROL POINTS

| POINT | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|-------|------------|------------|-----------|--------------------------|
| 339 | 709707.841 | 984848.293 | 6073.52 | BRASS CAP BM IN CONCRETE |
| 340 | 710002.678 | 985263.584 | 6073.92 | 5/8" REBAR ON DAM |
| 2121 | 711147.013 | 984333.617 | 5982.29 | NAIL |
| 2122 | 711376.641 | 983918.696 | 5980.96 | NAIL |
| 2123 | 710936.184 | 984433.151 | 5981.82 | NAIL |
| 2923 | 710102.348 | 985388.032 | 6073.51 | 1/2" REBAR ON DAM |

| POINT | LATITUDE | LONGITUDE |
|-------|---------------|----------------|
| 339 | 46°07'46.85"N | 113°22'58.87"W |
| 340 | 46°07'49.96"N | 113°22'53.19"W |
| 2121 | 46°08'00.80"N | 113°23'07.19"W |
| 2122 | 46°08'02.88"N | 113°23'13.24"W |
| 2123 | 46°07'58.77"N | 113°23'05.63"W |
| 2923 | 46°07'51.01"N | 113°22'51.49"W |



NOTES:

1. POSITIONS AND COORDINATES ARE DERIVED BY GPS OBSERVATIONS WITH SURVEY GRADE RECEIVERS, IN COMBINATION WITH THE USE OF A TOTAL STATION.
2. THIS IS A MONTANA STATE PLANE PROJECT IN INTERNATIONAL FEET (HORIZONTAL). THE DATUM IS NAVD88.
3. ALL DISTANCES ARE ON STATE PLANE GRID. THE COMBINATION SCALE FACTOR IS 0.999223. (DIVIDE THE GRID DISTANCE BY THE CSF TO OBTAIN TRUE GROUND DISTANCES).
4. THE SURVEY WAS PERFORMED IN NOVEMBER OF 2009.
5. UNDERGROUND UTILITIES WERE NOT LOCATED. A BURIED UNDERGROUND TELEPHONE LINE EXISTS ALONG THE ROAD.

PROFESSIONAL LAND SURVEYOR'S CERTIFICATION:

I, James M. Goebel, Professional Land Surveyor, Montana Registration No. 14531 LS, do hereby certify that in November of 2009, I surveyed and drafted this map of the area below East Fork Reservoir, in Granite County, Montana, and it is a true representation of the ground features shown.

Signed: _____
 James M. Goebel 14531 LS
 Date: _____



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 P.O. BOX 1009
 HELENA, MT 59624
 406-442-0370
 406-442-0377 (FAX)
 DOWLHKM.COM



INFORMATION
 SUPPLIED
 BY OWNER

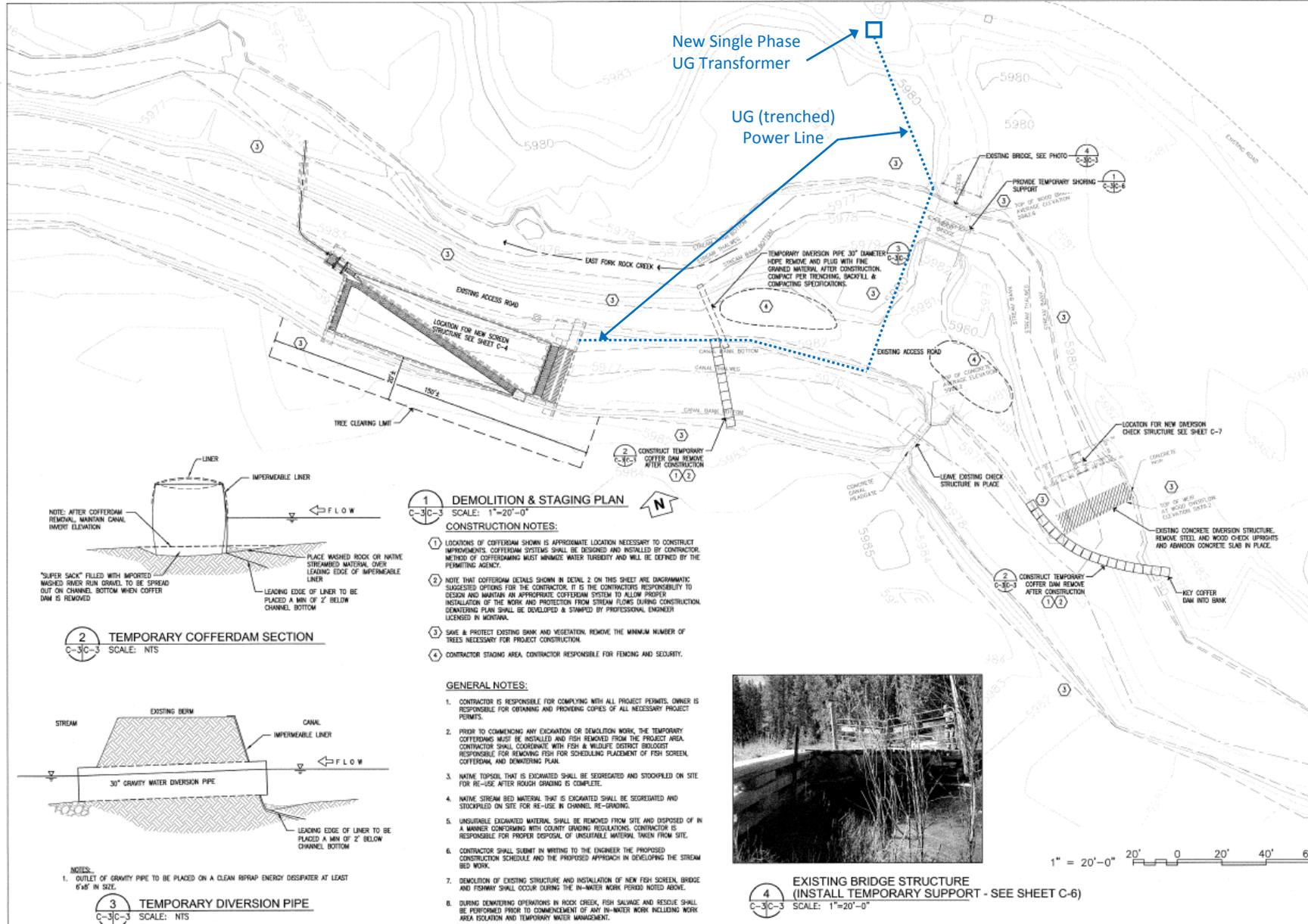
DATE OF REVISION
 0
 REVISION
 1
 REUSE OF DOCUMENTS
 This document and the ideas and
 information contained herein are the
 property of GHD Inc. and shall
 not be used for any other project
 without the written authorization
 of GHD Inc. 2013

| NO. | DATE | DESCRIPTION |
|-----|------------|-------------------------|
| 6 | 10/12/2012 | ISSUED FOR CONSTRUCTION |

**MONTANA DNRC
 EAST FORK ROCK CREEK
 FISH SCREEN PROJECT
 EXISTING CONDITIONS**

PROJ NO: 12105-1001
 DRAWN: PRK
 CHECKED: MSW

C-2
 SHEET OF





 GHD INC.

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 KEITH TOLE

 LICENSED PROFESSIONAL ENGINEER

 CIVIL

 STATE OF MONTANA

 EXPIRES 12/31/24

BASIS FOR DESIGN:

 0. MONTANA DNR

 1. DEMOLITION & STAGING PLAN

REVIEW OF DOCUMENTS:

 This document and the plans and specifications herein were reviewed by the undersigned professional engineer, in accordance with the provisions of the Montana Professional Engineer Act, and it is his opinion that the design complies with the requirements of the Act.

 My other professional work shall not be affected in any way by my work on this project.

 Written authorization by GHD Inc. 12/11

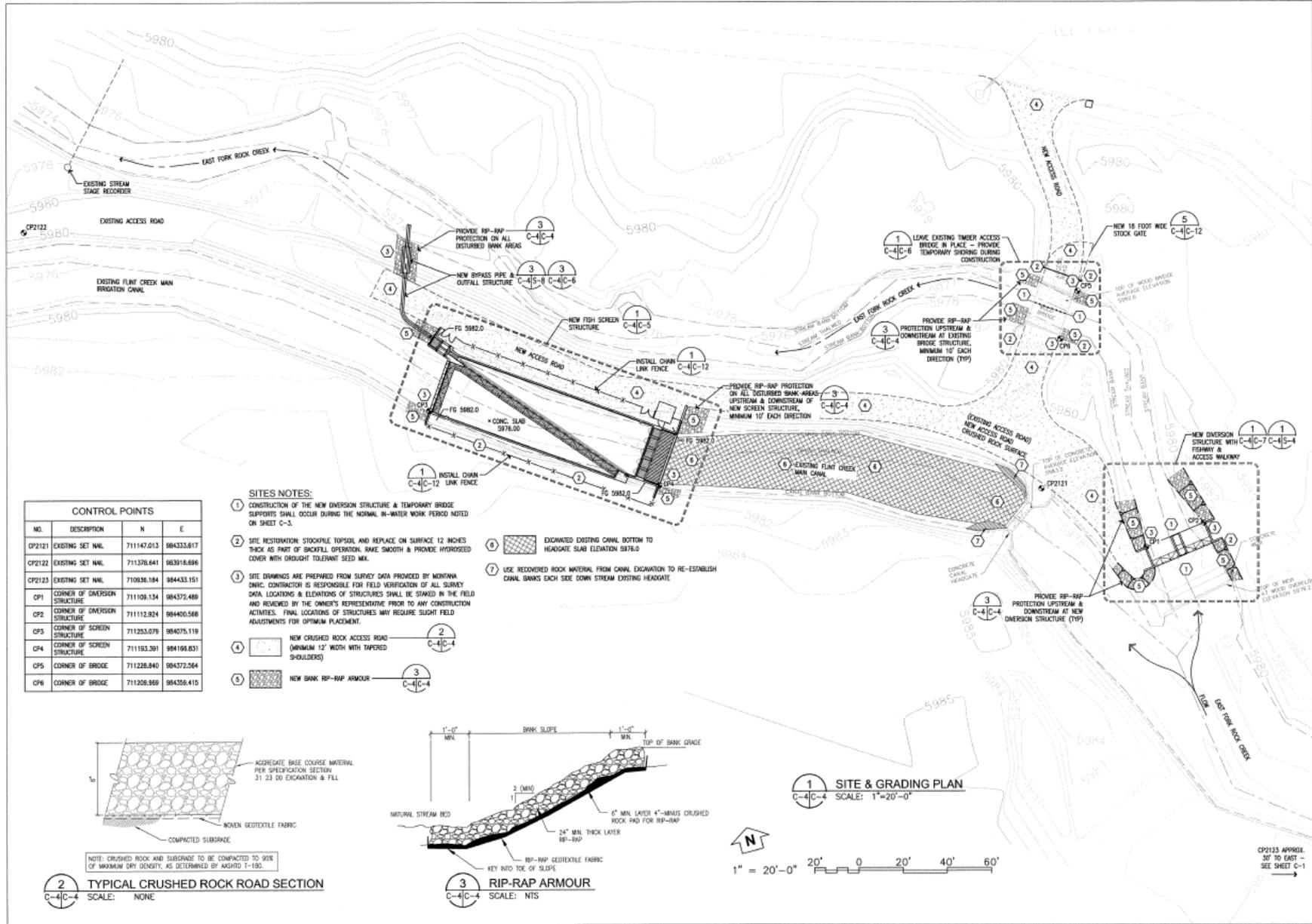
| MARK | DATE | REVISION FOR CONSTRUCTION | DESCRIPTION | ISSUE |
|------|------------|---------------------------|-------------|-------|
| 0 | 12/15/2012 | RESULTS FOR CONSTRUCTION | | |

MONTANA DNR
EAST FORK ROCK CREEK
FISH SCREEN PROJECT
DEMOLITION & STAGING PLAN

PROJ. NO: 12105-10001
 DRAW. PRK. GHD: MSW

C-3

SHEET OF



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MONTANA DNRC
 DIVISION OF WATER QUALITY
 1500 WEST WYOMING AVENUE
 BUTTE, MONTANA 59717
 PHONE: 406.241.2700
 FAX: 406.241.2701
 WWW.DNRC.MT.GOV

REVISIONS:

| NO. | DATE | DESCRIPTION | SCALE |
|-----|------------|-------------------------|-------|
| 0 | 12/15/2012 | ISSUED FOR CONSTRUCTION | |

MONTANA DNRC
 EAST FORK ROCK CREEK
 FISH SCREEN PROJECT
 SITE & GRADING PLAN

PROJECT: 12105-10001
 SERIAL: PRK
 CHG: MBW

C-4

SHEET OF

References:

1. USFS / USFWS Bull Trout Biological Opinion, March 2013 (see web link listed at the bottom of page 9 to view this document. The Biological Opinion is listed as Appendix D on the Forest Service web page).
2. USFS East Fork Fish Screen Decision Notice / Finding of No Significant Impact and Final EA, April 2013 (see web link listed at the bottom of page 9 to view these documents)
3. East Fork Rock Creek In-Stream Flow Study, December, 2012, by GHD Consultants.
4. Consultation with the U.S. Fish and Wildlife Service, Helena Field Office, Helena, MT. 2009 - 2011
5. Consultation with Mr. Brad Liermann, MT Department of Fish, Wildlife and Parks Fisheries Biologist, Region 2, Philipsburg, MT. 2009-2013.
6. Consultation with the MT Department of Environmental Quality, Water Protection Bureau, Helena, MT. 2009-2013
7. East Fork Diversion Replacement and Fish Screen Installation Final Design Report, November 2012
8. Consultation with the U.S. Army Corps of Engineers, Helena MT. Regulatory Office, 2009-2013
9. Species of Special Concern File Search, Montana Natural Heritage Program, Helena, MT. August 2012.
10. Consultation with the State Historic Preservation Office, Helena, MT. January 2006
11. Montana Water Law. MT Department of Natural Resources and Conservation, Water Resources Division, Helena MT. 2003
12. A Guide to the Montana Environmental Policy Act, John Munding and Todd Everts, 1998. Revised by Larry Mitchell, 2004 and Todd Everts, 2006. Published by the Legislative Environmental Policy Office, Environmental Quality Council.
13. A Guide to Stream Permitting in Montana, MT DNRC, Conservation Districts Bureau, 1625 11th Ave. Helena, MT 59620. First issued April 1990, revised June 1993, Oct. 1996, March 1997, Sept. 2000 and Jan. 2005.
14. East Fork of Rock Creek Dam – Manual for Operation and Maintenance, MT DNRC State Water Projects Bureau, April 2002,
15. State Water Conservation Projects, MT DNRC, Engineering Bureau, Water Resources Division. Helena, MT March 1977.
16. Climax Vegetation of Montana Based on Soils and Climate, U.S. Dept. of Agriculture, Soil Conservation Service, Bozeman, MT September 1976



East Fork of Rock Creek Reservoir (DNRC Photo)

Persons with disabilities who need an alternative accessible format of this document should contact:

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Helena, MT 59620-1601
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Main Canal Diversion on the East Fork of Rock Creek (DNRC Photo)

