

DRAFT  
ENVIRONMENTAL ASSESSMENT  
and  
FINDING OF NO SIGNIFICANT IMPACT

for the

CITY OF COLORADO SPRINGS, COLORADO

SECTION 14 EMERGENCY STREAMBANK AND SHORE  
PROTECTION PROJECT ALONG EAST FORK SAND  
CREEK NEAR POWERS BOULEVARD

June 29, 2004



**US Army Corps  
of Engineers®  
Albuquerque District**

**Finding of No Significant Impact**  
**Section 14 Emergency Streambank and Shore Protection**  
**Project Along East Fork Sand Creek**  
**Near Powers Boulevard**  
**City of Colorado Springs, Colorado**  
**June 29, 2004**

The U.S. Army Corps of Engineers (Corps), Albuquerque District, in cooperation with and at the request of the City of Colorado Springs, Colorado, is planning a project that would stabilize a channel and improve an existing drop structure in El Paso County, Colorado along the East Fork of Sand Creek in Colorado Springs. The construction work would be conducted under Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended. The proposed construction period is six months and is projected to start in October 2004.

The proposed project would consist of constructing a rectangular concrete channel and a 16-foot concrete apron downstream of the drop structure. Wire wrapped riprap would be placed for a distance upstream and downstream of the structure on the channel bottom and sides. An additional 250 feet of wire wrapped riprap would be placed on the channel bottom and toe of the side slopes downstream of the riprap channel. The side slopes for that 250 feet would be grassed from two feet above the channel bottom to the top of the streambank. Drop structures would also be placed downstream.

The Corps conducted a literature and data search and a cultural resources inventory survey for the project area. No artifacts or cultural resource manifestations were observed during the survey. The data search found that several archaeological sites and historic structures are known to occur within or near the City of Colorado Springs, Colorado. None of these sites or structures will be affected by the construction project. Based on existing documentation and the results of the cultural resources survey, as presented in the project's cultural resources survey report, the Corps is of the opinion that there would be "No Historic Properties Effected" by the construction project.

The no action alternative would provide for no work and no Federal assistance for design or construction beyond this study. Therefore, no rehabilitation of flood damaged streambank protection features would be built to provide further protection. If no action is taken, the damaged flood protection project exposes the streambank to further flooding and erosion, and threatens the existing US Highway 24 (Powers Boulevard) bridge over East Fork Sand Creek.

Section 404 of the Clean Water Act provides for the protection of waters and wetlands of the United States (U.S) from impacts associated with discharges of dredged or fill material. Section 404 of the CWA does not apply to this project, as there will be no discharge of dredged or fill material into waters of the United States. Therefore, a Section 404 Department of the Army (DA) permit would not be needed for the project. The proposed project would provide rehabilitation to the damaged streambank, but would not alter the existing surface flows or channel sinuosity of Fountain Creek. Therefore, the planned action is consistent with Executive Order 11988 (Floodplain Management). The proposed work complies with Executive Order 11990 (Protection of Wetlands), as construction work would be confined to the immediate vicinity of the existing bank protection works.

Only short-term negligible adverse impacts to land use, aesthetics, soils, air, noise, vegetation, and wildlife, would occur during construction. No impacts would occur to land use (long-term), climate, soils (long-term), air (long-term), wetlands or other waters of the U.S., floodplains, special status species, socioeconomics, cultural resources, or cumulative impacts. The proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse affects, and, therefore, is recommended. Beneficial impacts would occur to human safety and public infrastructures.

The planned action has been fully coordinated with Federal, State, tribal, and local agencies with jurisdiction over the ecological, cultural, and hydrological resources of the project area. Based upon these factors and others discussed in detail in the Environmental Assessment, the planned action would not have a significant affect on the human environment. Therefore, an Environmental Impact Statement will not be prepared for the City of Colorado Springs, Section 14 Rehabilitation Project.

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Date

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## 1.0 INTRODUCTION

### 1.1 Background and Location

The United States Army Corps of Engineers (Corps), Albuquerque District, in cooperation with, and at the request of, the City of Colorado Springs, Colorado, is planning to repair and secure the streambank of the East Fork of Sand Creek that has suffered damage from severe erosion.

The proposed work would be conducted under Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended. The Act authorizes the Corps to plan and construct emergency streambank and shoreline protection projects to protect endangered highways, highway bridge approaches, public facilities such as water and sewer lines, churches, public and private nonprofit schools and hospitals, and other nonprofit public facilities.

Costs for emergency streambank and shore protection projects are shared between the federal government and the non-federal sponsor (City of Colorado Springs) in accordance with the Water Resources Development Act of 1946, as amended.

The project site is located along the East Fork of Sand Creek and Powers Boulevard in the City of Colorado Springs, El Paso County, Colorado (Figure 1). Sand Creek originates in the Black Forest at an elevation above 14,000 feet. The creek discharges into Fountain Creek approximately 0.5 miles south of the southern corporate limits of the town. Sand Creek is an intermittent stream that flows in a south-southwesterly direction for approximately 17 miles. The drainage area of Sand Creek at the confluence with Fountain Creek is approximately 53 square miles. The study limit of the East Fork Sand Creek encompasses approximately 880 feet and is downstream of Powers Boulevard (see photos 1 & 2). The proposed construction period is estimated to be six months and is projected to start in October 2004.



Site Photo 1. Proposed Study Site of Sand Creek Looking Downstream (West).



Site Photo 2. Proposed Study Site of Sand Creek Looking Upstream (East). Powers Blvd in Background.

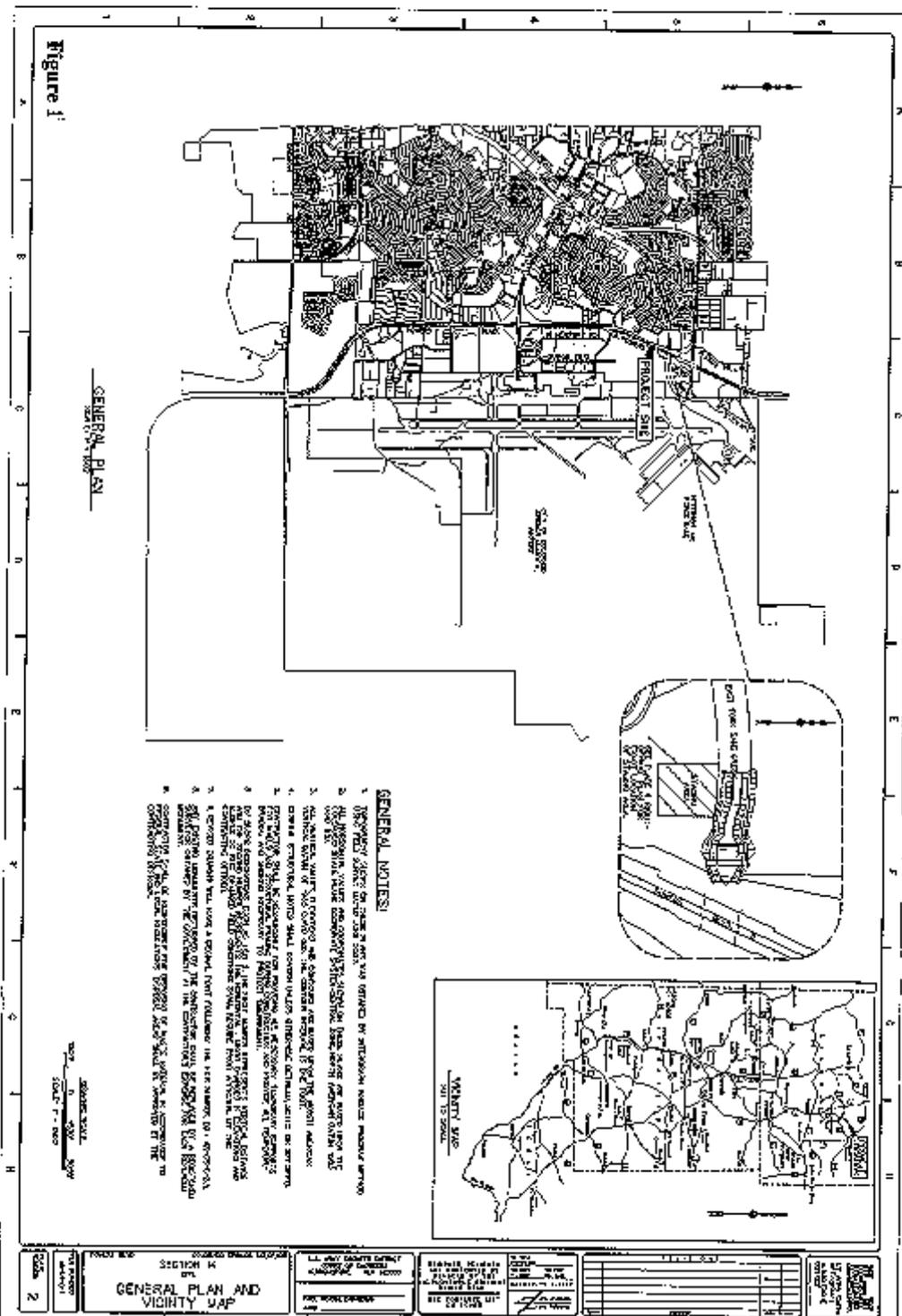


Figure 1

GENERAL PLAN

GENERAL NOTES:

1. PROJECT SITE IS TO BE SITED BY APPROXIMATE NORTH-SOUTH AXIS.
2. ALL PROPOSED DRIVEWAYS SHALL BE SITED BY APPROXIMATE NORTH-SOUTH AXIS.
3. ALL DRIVEWAYS SHALL BE SITED BY APPROXIMATE NORTH-SOUTH AXIS.
4. DRIVEWAYS SHALL BE SITED BY APPROXIMATE NORTH-SOUTH AXIS.
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9. DRIVEWAYS SHALL BE SITED BY APPROXIMATE NORTH-SOUTH AXIS.
10. DRIVEWAYS SHALL BE SITED BY APPROXIMATE NORTH-SOUTH AXIS.

SCALE  
1" = 100'

<p>PROJECT NO. 10000</p> <p>SECTION 4</p> <p>GENERAL PLAN AND VICINITY MAP</p>	<p>DATE: 10/1/70</p> <p>BY: J. W. BROWN</p>	<p>SCALE: 1" = 100'</p>	<p>PROJECT NO. 10000</p>	<p>DATE: 10/1/70</p>	<p>BY: J. W. BROWN</p>	<p>SCALE: 1" = 100'</p>	<p>PROJECT NO. 10000</p>	<p>DATE: 10/1/70</p>	<p>BY: J. W. BROWN</p>	<p>SCALE: 1" = 100'</p>	
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## 1.2 Purpose and Need

The City of Colorado Springs is facing a threat of damages along the East Fork Sand Creek of the Fountain Creek Watershed. This section of the creek has incurred damage from erosion, headcutting, and the failure of previous channel stabilization improvements. There is an existing drop structure located downstream of US Highway 24 (Powers Boulevard) which is being threatened by downstream erosion. If this drop structure fails, the existing bridge over East Fork Sand Creek would be compromised. Prior flood events that occurred in the 1970's caused culvert washouts and roadway embankment erosion. As urbanization continues in the Sand Creek basin, the potential for flash flooding will increase.

## 1.3 Regulatory Compliance

This Environmental Assessment was prepared by the U.S. Army Corps of Engineers, Albuquerque District, in compliance with all applicable Federal Statutes, Regulations, and Executive Orders, including the following:

- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470).
- Clean Air Act of 1970 and Amendments of 1977 and 1990.
- Clean Water Act of 1972 and Amendments of 1977 (CWA).
- Endangered Species Act of 1973, (ESA) as amended (16 U.S.C. 1531 *et seq.*).
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, 1994.
- Fish and Wildlife Coordination Act of 1958, as amended (16 U.S.C 661 *et seq.*).
- Floodplain Management (Executive Order 11988).
- National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*).
- Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 *et seq.*).
- National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et seq.*).
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 *et seq.*).
- Protection and Enhancement of the Cultural Environment (Executive Order 11593).
- Protection of Wetlands (Executive Order 11990).
- Procedures for Implementing NEPA (33 CFR 230; ER 200-2-2).
- U.S. Army Corps of Engineers' Procedures for Implementing NEPA (33 CFR 230).

This Draft Environmental Assessment also reflects compliance with all applicable State of Colorado and their local regulations, statutes, policies, and standards for conserving the environment such as water and air quality, endangered plants and animals, and cultural resources.

## 1.4 Scoping and Issues

Recommendations that were received during the scoping period dates of the scoping period and responses to these are:

## Recommendations:

- *For the Corps to consider alternatives to creating a rip-rapped trapezoidal channel. Consider for example, designing areas adjacent to the Creek as flood plains, which would allow the storm flows to slow and thus reduce the erosiveness of the flows (U.S. Environmental Protection Agency).* Corps response: Alternatives are limited given the urban area and real estate ownership adjacent to Sand Creek.
- *For the Corps to reconsider the design of the concrete apron by replacing the baffle blocks with grouted boulders because it would perform the same function while appearing more natural (U.S. Environmental Protection Agency).* Corps response: The baffle blocks were selected because they were identified as the lesser-cost solution while effectively providing the desired function.
- *The Corps should also consider, in conjunction with the City of Colorado Springs, the watershed as a whole, and investigate upstream sub-watershed to identify the sources of the storm water (U.S. Environmental Protection Agency).* Corps response: Section 14 is limited to the analysis of least cost solutions to erosion impacting a public facility. The Corps will study watershed problems and solutions in the current Fountain Creek Watershed Study.
- *For the Corps to revegetate areas of disturbance and exposed soils with the same or a similar native seed mix, including staging area (Division of Wildlife).* Corps response: The Corps does plan to revegetate areas impacted by the project with native seed mix (see Environmental Protection).
- *Rip-rapped banks should be covered with topsoil to ordinary high water and reseeded with a mixture of warm and cool season native grasses and forbs. Also, the placement of willow sprigs or bare root stock should also be instituted along the banks, especially in those areas in between the first and third drop structures (Division of Wildlife).* Corps response: The Corps does plan to cover the rip-rapped banks with topsoil and will reseed (see Environmental Protection). The placement of willow sprigs or bare root stock would also be instituted along the banks.
- *Have additional grade stabilization structures downstream to prevent further scouring (El Paso County Conservation District).* Corps response: There would be drop structures placed downstream.

### 1.5 Environmental Protection

The proposed work would utilize appropriate Best Management Practices. Construction access would be from the existing maintenance road paralleling the creek. All staging, including the stockpiling of construction materials, and equipment parking for vehicles and equipment not in operation, would be above the 100-year floodplain.

Fuel, oil, hydraulic fluids and other similar substances would be appropriately stored out of the floodplain and must have a secondary containment system to prevent spills if the primary

storage container leaks. Appropriate erosion control measure would be utilized to prevent surface water drainage and erosion material from leaving the construction areas. Water dispersal equipment would be used to minimize dust during construction activities. All appropriate laws regarding the treatment and disposal of waste material would be required. All waste material would be disposed properly at pre-approved or commercial disposal areas or landfills. Activities would be limited to the designated or otherwise approved areas and would be shown on the construction drawings for construction areas, staging access, and borrow use. Corps approval of these areas would be required regardless of their ownership or distance to the construction sites to ensure protection of vegetation, water quality, threatened and endangered species, cultural resources and other significant resources. The Corps' Contracting Officer will coordinate with the Corps Environmental Resources Section to approve any changes in access routes, non-commercial borrow sites, staging areas, and other high-use areas.

Prior to the onset of construction activities, all environmental protection measures as expressed by contract clauses, contract drawings or other means would be reviewed with the contractor at the pre-construction conference. A list of the environmental concerns will be for reference for the landfills. Activities would be limited to the designated or otherwise approved areas and would be shown on the construction drawings for construction areas, staging access, and barrow use. Corps approval of these areas would be required regardless of their ownership or distance to the construction sites to ensure protection of vegetation, water quality, threatened and endangered species, cultural resources and other significant resources.

The contract specifications for construction of this proposed project would require avoiding damage, where practicable, to vegetation. Disturbed areas would be evaluated for reseeded with native, indigenous plants, insofar as contract activities result in noticeable damage to existing plants and vegetative ground cover. The construction contractor would be required to submit an Environmental Protection Plan acknowledging and incorporating these protection measures during construction of the project.

## 2.0 PROPOSED ACTION AND ALTERNATIVES

All Federal agencies that assist or take part in projects that utilize funding are mandated by the National Environmental Policy Act (NEPA) to evaluate alternative courses of action. Typically, alternatives are a set of different locations and methods that satisfy certain defined project criterion. However, alternatives can also include design considerations and/or attributes that may mitigate or reduce impacts generated by a given action. In general, alternatives, including a No-Action alternative, can provide decision makers with an evaluation on the present and future conditions with regard to the implementation of an action at a given site, time, or including particular design characteristics. Information and knowledge yielded from alternative evaluations can then guide decision-making processes such that they are made in the best interest of the public and environment.

### 2.1 Alternative Methods Considered

The hydraulic analysis for this study (Hydrology and Hydraulic Evaluation for East Fork of Sand Creek, August 2002) was performed using the U.S. Army Corps of Engineers Water Surface Profile Computer Model HEC-RAS, River Analysis System, dated March 2001,

developed by the Hydrologic Engineering Center in Davis, California. HEC-RAS is designed to perform one-dimensional hydraulic calculations for natural and constructed channels. The main objective of the program is to compute water surface elevations at all locations of interest for given flow values. The model created for this study incorporated the 10%-chance flood (10-year), the 2%-chance flood (50-year) and the 1%-chance (100-year) floods. Using HEC-RAS, 19 different physical configurations were modeled to evaluate the channel response to various project alternatives before an acceptable alternative was selected. The alternatives included replacing the present drop structure with two, three, and four stone or sheet metal drop structures with and without V-shaped weirs, and widening the channel. All configurations, except one, resulted in reaches with unacceptably high flow velocities, both for the 100-year flood flow and the 10-year peak flood flow. These high velocity reaches would lead to further erosion and head cutting, and would not provide a satisfactory solution. For these reasons the above alternatives were excluded from further consideration.

## 2.2 Proposed Action

Of the alternatives discussed above, one configuration provided an acceptable result. This design is called the St. Anthony's Falls Stilling Basin. This design is a proven method of dissipating stream energy to prevent high-energy streams from causing damage to the stream banks and channel. The elements for the St. Anthony's Falls Stilling Basin include a rectangular concrete channel with a sloped drop of 0.325. A 16-foot concrete apron downstream of the drop contains baffle blocks and an end sill. Upstream and downstream of the structure the channel would be trapezoidal. Wire wrapped riprap would be placed for a distance upstream and downstream of the structure on the channel bottom and sides. An additional 250 feet of wire wrapped riprap would be placed on the channel bottom and toe of the side slopes downstream of the riprap channel. The side slopes for that 250 feet would be grassed from 2 feet above the channel bottom to the top of the streambank. Also, there would be drop structures downstream to prevent further scouring. See Figure 2 for plan and profile drawings.

## 2.3 The No-Action Alternative

The no action alternative would provide for no work and no Federal assistance for design or construction beyond this study. Therefore, no streambank protection features would be built. Nothing would be done to physically alter the existing site; therefore, there would be no effect on existing conditions. If no action is taken, the damaged streambank would be exposed to further flooding and erosion, and would threaten the existing US Highway 24 (Powers Boulevard) bridge over East Fork Sand Creek. The No-Action alternative should be perceived as an environmentally unsound course of action in regard to providing protection to the City of Colorado Springs.

## 3.0 EXISTING ENVIRONMENT AND FORESEABLE EFFECTS

### 3.1 Physical Resources

#### 3.1.1 Physiography, Geology and Soils

The project area is in south-central Colorado within the city limits of Colorado Springs,



Colorado. Sand Creek originates in the Black Forest at elevations over 14,000 feet and discharges into Fountain Creek approximately 0.5 miles south of the southern corporate limits (USACE 1989). Sand Creek is an intermittent stream, which flows in a south-southwesterly direction for approximately 17 miles. The drainage area of Sand Creek at confluence with Fountain Creek is approximately 53 square miles. The study limit of East Fork Sand Creek encompassed approximately 880 feet and is downstream of Powers Boulevard. Most of Colorado Springs, particularly the older part of town, is built on Cretaceous Pierre Shale that underlies the valley of Fountain Creek between the Rampart Range and whitish, cliffy hills of Cretaceous sandstone (Mutel 1984).

The major soil series, which occurs within the proposed project area, is the Ellicott Series (Personal Communication with Olivia Romero from the Major Land Resource Office in Lakewood, Colorado). The following information was obtained from a NRCS website: <http://ortho.ftw.nrcs.usda.gov>. The Ellicott series consists of deep, somewhat excessively drained soils that formed in thick noncalcareous, stratified sandy alluvium derived from arkose beds or granite. The control section ranges from slightly acid to mildly alkaline. Ellicott soils are on terraces and floodplains and have slopes of zero to six percent. Elevations are from 5,200 to 7,400 feet. The typical pedon for this series is Ellicott loamy coarse sand. Mean annual precipitation is about 11 to 17 inches. Mean annual temperature is about 46 to 51 degrees F. Frost-free season is about 115 to 150 days.

For the proposed work, all rock materials to be used for bank protection would come from approved quarry sources. The recommended plan would have no know foreseeable effects upon local physiography, existing or potential geological resources of the area, or on soils. The no action alternative would also have no effect on existing conditions at the site.

### 3.1.2 Climate

The majority of flood producing storms over the Fountain Creek watershed occur from May through August (USDA 1977). During this season the temperature contrast between surface air and the upper air is the greatest. This maximum contrast in temperature causes the heaviest precipitation. During this period, masses of warm moist air, generally from the Gulf of Mexico, and cold, comparatively dry air from the Polar regions, combine over mountain regions causing increased summer storms and summer thunderstorm activity. The latter, most active during July and August, is often distinguished by more intense rainfall at random locations. This intense rainfall, known as cloudbursts, occurs only where there is a marked range in temperature within a relatively small area and usually lasting a very short time. This condition exists near canyon heads where warm, moisture-laden air drifts upward through the canyons to higher altitudes where the reduction in temperature causes rapid condensation resulting in torrential rainfall and damaging floods. The most severe storms occur in the transition periods of late spring and early fall when polar air intrusions are most intensive (USDA 1977).

Available records indicate that snowmelt has seldom contributed to flood occurrences except when augmented with heavy rainfall. The physical features of the Fountain Creek watershed are all conducive to a rapid concentration of runoff resulting in flash floods characterized by high peak flows, moderate volumes and short durations.

In the project area, precipitation varies widely over relatively short distances and much of the total precipitation at these higher elevations is in the form of snow (USDA 1977). Average annual precipitation within the study of Fountain Creek watershed is 16.2 inches/year. Over half of the rainfall occurs during the period of May through August. Temperatures in the watershed vary widely because of altitude differences. At Colorado Springs the mean annual maximum and minimum temperatures are 62.7 and 35.0 degrees Fahrenheit (USDA 1977).

### 3.1.3 Water Resources

Section 402 of the Clean Water Act (CWA; 33 U.S.C 1251 *et seq.*) as amended, regulates point-source discharges of pollutants into waters of the United States and specifies that storm-water discharges associated with construction activities shall be conducted under NPDES guidance. Construction activities associated with storm-water discharges are characterized by such things as clearing, grading, and excavation, subjecting the underlying soils to erosion by storm water, which results in a disturbance to one (1) or more acres of land. The NPDES general permit guidance would apply to this project because the total project area is about 3.9 acres. Therefore, a Storm Water Pollution Prevention Plan (SWPPP) is required and will be prepared by the contractor for this project. Sections 404 and 401 of the CWA do not apply to this project, as there will be not discharge of dredged or fill material into waters of the United States. It will be the contractor's responsibility to follow these guidelines and not discharge dredged or fill material into waters of the United States.

### 3.1.4 Floodplains and Wetlands

Executive Order 11988 (Floodplain Management) provides Federal guidance for activities within the floodplains of inland and coastal waters. The proposed project would provide rehabilitation to the damaged streambank and would not alter the existing surface flows or channel sinuosity of Fountain Creek. Therefore, the proposed project does not constitute any alterations or development within the historical floodplain and would have no new impacts to the historical or current floodplains. Executive order 11990 (Protection of Wetlands) requires the avoidance, to the greatest extent possible, of both long and short-term impacts associated with the destruction, modification, or other disturbance of wetland habitats. Construction work would be confined to the immediate vicinity of the creek channel. No impacts to wetlands would occur due to the proposed project.

### 3.1.5 Air Quality, Noise, and Aesthetics

The El Paso area is in Colorado's Central Region for air quality monitoring. The Colorado Air Quality Control Commission (2001) indicates that El Paso is "in attainment" (does not exceed State or Federal Environmental Protection Agency air quality standards) for all criteria pollutants (carbon monoxide, sulfur oxides, nitrogen dioxide, lead, ozone, and particulate matter), as determined by National Ambient Air Quality Standards established by EPA. The closest air quality-monitoring site is located in Colorado Springs. Ambient air quality in the El Paso area is generally good except during times of high wind. Moderate and periodically high concentrations of particulate matter, specifically fugitive dust, results from a combination of high winds, highly erodible soils, agricultural land use, and dry (drought) conditions.

The recommended plan would result in a temporary but negligible increase in suspended dust particles from construction activities and emissions associated with vehicles. Dust particles and emissions would be minimal and would not result in any permanent or significant short-or-long-term detrimental effects on air quality. Equipment with water sprinklers would be used on all equipment and vehicles during project construction. In the long term, the recommended plan would have negligible effects on air quality. The no action alternative would have no effect on existing conditions.

Background noise levels in the project area are moderate. According to the Noise Center for the League for the Hard of Hearing (NCLHH), a typical, quiet residential area, has a noise level of 40 decibels. A residential area near heavy traffic has a noise level of 85 decibels. Heavy machinery has a noise level of 120 decibels. During construction, noise would temporarily increase in the vicinity during vehicle and equipment operation. The NCLHH advises that noise levels above 85 decibels could harm hearing over time and noise levels above 140 decibels can cause damage to hearing after just one exposure. However, the increase in noise during construction would be minor and temporary, ending when construction is complete.

Terrain of the project area is characterized by an expanse of open short-grass prairie on slightly rolling hills that surround Colorado Springs with the slightly incised valleys of Fountain Creek (USDA 1977). The Fountain Creek valley has been converted to irrigation cropland with numerous dispersed small farms. Within the City of Colorado Springs, the area is urban with significant human encroachment on Sand Creek. Trees and other small riparian vegetation occur in the floodplain. The valley is not necessarily unique from a scenic standpoint. Views from locally higher elevations can be quite impressive. Dirt roads in the area, used primarily by local traffic, add to visually distracting suspended dust particles as well as blowing dust that occurs with storms.

Foreseeable effects to existing noise levels and visual quality by the no action and the recommended plan would have no effect or would be negligible.

## 3.2 Biological Resources

### 3.2.1 Vegetation Communities

The information provided below was obtained from the USDA, 1977 Soil Survey for El Paso County, Colorado. The Fountain Creek and Arkansas River valleys lie within the Southwestern Tablelands ecoregion, which is transitional between the Southern Rocky Mountain and Western High Plains ecoregions. The native plant community outside the Fountain Creek and Arkansas River floodplain is comprised of short, prairie grasses that are utilized primarily as rangeland for grazing livestock. Common prairie grass species include grama (genus *Bouteloua*), side-oats grama (*Bouteloua curtipendula*), buffalo grass (*Buchloe dactyloides*), galleta (genus *Pleuraphis*), alkali sacaton (*Sporobolus airoides*), sand dropseed (*Sporobolus cryptandrus*), western wheatgrass (*Agropyron smithii*), and three-awn (*Aristida basiramea*). Throughout the lower Fountain Creek valley and below the irrigation canals, agricultural cropland predominates, often directly abutting the river channel. Within Colorado Springs; however, the setting is strictly urban with a confined floodplain.

Historically, riparian vegetation along Fountain Creek consisted of plains cottonwood (*Populus deltoids*), sandbar willow (*Salix interior*) and, less extensively, peach-leaf willow (*Salix amygdaloides*). The cottonwoods, some of which grew to great sizes, grew in small-dispersed groves along the banks and on islands in the river channels, and lacked a shrub understory. In a few locations, sandhill plum (*Prunus angustifolia*), wild grapes (*Vitis* spp.), and other bushes and shrubs also occurred. Native Americans used these areas extensively, particularly in winter, and by early Western explorers, traders, and travelers.

During the early-to-mid-1900's, tamarisk (*Tamarix ramosissima*) invaded and colonized much of the floodplains in eastern Colorado. Another non-native tree, Russian olive (*Elaeagnus angustifolia*), also was introduced around this time and colonized riverbanks. Salt cedar and Russian olive form dense stands with low plant species diversity. Both species provide wildlife with shrub cover; however, salt cedar is particularly low in food value. Salt cedar and Russian olive stands provide lower quality wildlife habitat than native cottonwood-willow communities.

Vegetation along the Fountain Creek riparian area and in the vicinity of the construction area consists of plains cottonwood (*Populus deltoides*), tamarisk (*Tamarix ramosissima*), Chinese elm (*Ulmis pumila*), Russian olive (*Elaeagnus angustifolia*), sandbar willow (*Salix interior*), Russian thistle (*Salsola iberica*), field bindweed (*Convolvulus arvensis*), mustard family (*Brassicaceae*), kochia (*kochia scoparia*), common sunflower (*Helianthus annus*), Plains prickly pear (*Opuntia chlorotica*), and various grasses. These species are common for the area.

The foreseeable effects of the proposed action on vegetation of the construction area would be minor, temporary in nature, and would result in negligible disturbance. The proposed action therefore, would have no effect on vegetation. The no action alternative would have no effect to existing conditions at the project site.

### 3.2.2 Wildlife

Wildlife in the area is typical for Colorado and would include small mammals such as bats, squirrels, mice, gophers, rats, rabbits, badgers, and skunks (USDA 1977). Non-game and forage species that occur in Fountain Creek are flathead chub (*Platygobio gracilis*), long-nose dace (*Rhinichthys cataractae*), long-nose sucker (*Catostomus catostomus*), creek chub (*Semotilus atromaculatus*), and brook stickleback (*Culaea inconstans*). Reptiles and amphibians may include tiger salamander (*Ambystoma tigrinum*), Great Plains toad (*Bufo cognatus*), bullfrog (*Rana catesbeiana*), ornate box turtle (*Terrapene ornata*), short-horned lizard (*Phrynosoma douglassii*), collard lizard (*Crotaphytus collaris*), western garter snake (*Thamnophis elegans*), plains hognose snake (*Heterodon nasicus nasicus*), and bullsnake (*Pituophis melanoleucus sayi*). Domestic dogs and cats would also occur.

The foreseeable effects of the proposed action on wildlife of the construction area would be minor, of short duration, temporary in nature, and would result in negligible disturbance to wildlife. Wildlife species in or near the proposed construction area generally have adapted to and would be somewhat tolerant of the existing human presence. The proposed action would have no significant effect on wildlife. There are no foreseeable effects from the no action alternative other than those insignificant effects resulting from the existing human presence and the existing conditions of the project area.

### 3.2.3 Special Status Species

While all Federal agencies and numerous other State agencies have responsibility for the protection and conservation of animal and plant species in the project area, there are three agencies in Colorado who have this task as their primary responsibility. The U.S. Fish and Wildlife Services (USFWS), under authority of the Endangered Species Act of 1973 (16 U.S.C 1531), as amended, has responsibility for Federally listed species. The Colorado Division of Wildlife (CDOW) has responsibility for wildlife species within the State. The Colorado Natural Heritage Program has responsibility over state-listed endangered and threatened plant species. Each agency maintains a list of animal and/or plant species, which have been classified, or are candidates for classification as protected, based on present status and potential threat to future survival or recruitment. Informal consultation with agencies has been conducted, and prior to conducting fieldwork, the above-mentioned lists of animal and plant species were reviewed along with information on available habitat, habitat preferences, and known ranges. U.S. Fish and Wildlife provided a broad list of listed species that potentially occur in El Paso County and may occur near the proposed project area (Appendix A). These species are also discussed below in Table 1.

**Table 1. Special Status Species Listed for El Paso County, Colorado, that has the Potential to Occur in the Vicinity of the Proposed Project Area.**

Common Name	Scientific Name	Federal (USFWS) status <sup>a</sup>	State of Colorado status <sup>b</sup>
<b>Animals</b>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
Arkansas darter	<i>Etheostoma cragini</i>	C	T
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	T	T
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	T
Preble's meadow jumping mouse	<i>Zapus hudsonius preblei</i>	T	T
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>	C	SC
Mountain plover	<i>Charadrius montanus</i>	PT	SC
Black-footed ferret	<i>Mustela nigripes</i>	E	E
<b>Plants</b>			
Colorado butterfly plant	<i>Gaura neomexicana ssp. coloradensis</i>	T	T
Ute ladies' -tresses	<i>Spiranthes diluvialis</i>	T	T

<sup>a</sup> **Endangered Species Act (ESA)** (as prepared by U.S. Fish and Wildlife Services) **status:** Only Endangered and Threatened species are protected by the ESA.  
**E**= Endangered: any species that is in danger of extinction throughout all or a significant portion of its range.  
**T**= Threatened: any species that is likely to become and endangered species within the

foreseeable future throughout all or a significant portion of its range.

**C**= Candidate: taxa for which the Services has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.

**SC**= Species of Concern: taxa for which information now in the possession of the Service indicates that proposing to list as endangered or threatened is possible appropriate, but for which sufficient data on biological vulnerability and threat are not currently available to support proposed rules.

**P**= Proposed for listing in the identified category listed above.

**S/A**= Similarity of Appearance.

**<sup>b</sup> State of Colorado status:**

**E**= Endangered Animal species whose prospects of survival or recruitment within the state are in jeopardy.

**T**= Threatened Animal species whose prospects of survival or recruitment within the state are likely to become jeopardized in the foreseeable future.

**SC**= Species of Special Concern.

Special status animal species listed by USFWS (USFWS list for El Paso County, Colorado) and Colorado Division of Wildlife for El Paso County (CDOW Colorado listing; April 2003) that might occur in or near the project area but are not anticipated to occur include the following:

In Colorado, the Bald eagle (*Haliaeetus leucocephalus*), a Federal and State Threatened species, is normally found near major waterways and larger lakes where adequate food supplies may be found. The Bald Eagle is known to winter within El Paso County, primarily during the late fall and winter months from November to mid-March. The Bald Eagle may use Fountain Creek as a foraging area. The Bald Eagle utilizes large trees for perching and forages primarily for fish, ducks, and carrion. To minimize the potential for disturbing Bald eagles that may be present during construction, efforts would be made to schedule all work outside of the Bald eagle high use months of December, January, and February. If a Bald eagle is present within 0.5 mile of the construction sites in the morning before project activity starts, or following breaks in work, the contractor would be required to suspend all activity until the bird leaves of its own violation, or a Corps biologist, in consultation with the U.S. Fish and Wildlife Service, determines that the potential for harassment is minimal. However, if a Bald eagle arrives during construction activities, or if one is beyond 0.5 mile of the site, construction would not be interrupted. If Bald eagles were found consistently in the immediate project areas during the construction period, the Corps would contact the U.S. Fish and Wildlife Service to determine whether formal consultation under the Endangered Species Act is necessary. However, due to the ease of mobility for the Bald eagle and the limited disturbance of the proposed project, there would be no effect to the Bald eagle. The Bald eagle is currently being considered by the USFWS for removal from the List of Endangered and Threatened Wildlife in the lower 48 States of the United States (Federal Register, Proposed Rule, July 6, 1999).

The Arkansas darter (*Etheostoma cragini*), a Federal Candidate and State Threatened species, is known to occur in very isolated populations in spring areas and the cooler water of the tributaries to the Arkansas River. The Arkansas darter is known to occur along Fountain Creek and may utilize Fountain Creek and Arkansas River sporadically for migratory purposes. However, no population of the Arkansas darter is known to permanently occupy Fountain Creek within the project area. This work would have a negligible effect on the river and water quality,

and would not affect the Arkansas darter's preferred habitat; therefore, there would be no effect to the Arkansas darter by the proposed project. The no action alternative would have no effect to this species.

The Greenback cutthroat trout (*Oncorhynchus clarki stomias*), a Federal and State Threatened species, is cold-water adapted for streams at higher elevations and would not normally occur in the project area. Therefore, there would be no effect to the Greenback cutthroat trout by the proposed project. The no action alternative would have no effect to this species.

The Mexican spotted owl (*Strix occidentalis lucida*) is a Federal and State Threatened species and inhabits mature montane forest and woodlands with high closure, multilayered canopy, high tree density, in association with wooded, steep canyons and cliffs. The preferred forest vegetation tends to be mixed conifer, although pinyon-juniper woodlands may be utilized. The Mexican Spotted Owl's preferred habitat does not occur in the project area and therefore there would be no effect to this species by the proposed project. The no action alternative would have no effect to the Mexican spotted owl.

The Preble's meadow jumping mouse (*Zapus hudsonius preblei*) is a Federal and State Threatened species and inhabits well-developed plains riparian vegetation with adjacent, relatively undisturbed grassland communities and a nearby water source. The Preble's Meadow Jumping Mouse preferred habitat does not occur in the project area and therefore there would be no effect to this species by the proposed project. The no action alternative would have no effect to the Preble's meadow jumping mouse.

The Black-tailed prairie dog (*Cynomys ludovicianus*), listed as a Federal Candidate and State species of Special Concern, occupies shortgrass and mixed grass prairie habitats with well-drained, friable soils that permit the construction of complex burrow systems. While prairie dog towns historically occurred near Fountain Creek, there are no sizeable prairie dog towns in or near the construction area; therefore, there would be no effect to the Black-tailed prairie dog by the proposed project. The no action alternative would have no effect to this species.

The Mountain plover (*Charadrius montanus*), Federally listed as Proposed Threatened and a State Species of Concern, prefers upland, short-grass prairie habitats. This preferred habitat occurs on the High Plains prairie above the river flood plain, away from the project area. Unlike other plovers, Mountain plovers do not utilize areas around water or wetlands and would most likely not occur within the project area; therefore, there would be no effect to the Mountain plover by the proposed project. The no action alternative would have no effect to this species.

The black-footed ferret (*Mustela nigripes*), a Federal and State Endangered species, is known primarily to inhabit large prairie dog towns that provide a sustained prey base. While prairie dog towns historically occurred near Fountain Creek, there are no sizeable prairie dog towns in or near the construction area; therefore, there would be no effect to the black-footed ferret by the proposed project. The no action alternative would have no effect to this species.

In addition, the Colorado Natural Heritage Program maintains the list of State-listed endangered and threatened plant species. The State species list indicates that there are two status

plant species that occur in El Paso County, the Colorado Butterfly plant (*Gaura neomexicana* ssp. *Coloradensis*) and the Ute ladies'-tresses (*Spiranthes diluvialis*). They are each listed by the Colorado Natural Heritage Program as a threatened plant on the Colorado Natural Heritage Program Website (<http://www.cnhp.colostate.edu/index.html>). Although these plants are known to occur in El Paso County, they are not likely to occur within the project area. The Colorado butterfly plant occurs in sub-irrigated, alluvial soils of drainage bottoms surrounded by mixed grass prairie at elevations of 5800-6200 feet. The preferred habitat does not exist within the project area and the distribution map for this plant does not include El Paso County. There would be no effect to the Colorado butterfly plant by the proposed project. The no action alternative would have no effect to this plant. The Ute ladies'-tresses is restricted to lower elevations between 4,200-5,000 feet (Colorado Natural Heritage Website), calcareous microhabitats within old river meanders that are temporarily inundated and remain moist throughout the growing season. There is no suitable habitat within the project area. Also, the project area is located at elevations of 6,000 feet and above. Due to the location and absence of suitable habitat within the project area, there would be no effect to the Ute ladies'-tresses by the proposed project. The no action alternative would have no effect to this plant. Neither of these plants was observed during the Corps site visit on 17 November 2002.

### 3.3 Cultural Resources

On November 6 and 7, 2002, a U.S. Army Corps of Engineers' archaeologist conducted an intensive Class III cultural resources inventory survey of the project area, covering 4.2 acres. The survey covered areas adjacent to, both north and south, of the existing incised creek channel. The survey was conducted in anticipation of construction activities associated with a proposed streambank protection project and to determine the presence or absence of cultural resources within or immediately adjacent to the project area. No artifacts or cultural resource manifestations were observed during the survey. Prior to the survey, a site files search was conducted with the Colorado Historical Society's Office of Archaeology and Historic Preservation. While several sites are known to occur in the vicinity, they are of sufficient distance from the project area that they would not be affected by the proposed project. Consultation is currently being conducted with Native American groups that have indicated that they have cultural concerns in eastern Colorado. At this time, there are no traditional cultural properties known to occur within this small project area that has been affected by previous earth moving activities. Based on the negative results of the cultural resources survey, the Corps is of the opinion that the proposed project would result in "No Historic Properties Affected." Documentation of cultural resources consultation is included in Appendix B.

### 3.4 Land Use and Socioeconomic Considerations

The land in the proposed project area is urban and current use centers on commercial, industrial, and residential properties. In the immediate vicinity, the construction area is bordered by Colorado Springs Municipal Airport and University of Southern Colorado to the east, Sand Creek Golf Course to the northeast, U.S. Highway 24 to the north, and residential property to the west.

The 2002 census indicates that the population within the City of Colorado Springs is 372,466 and the population within El Paso County is 533,428. El Paso is experiencing rapid

human population growth. Between 1990 and 2001, the population in El Paso County increased by 30.2% (U.S Census Bureau 2002).

Public facilities in the area include local schools such as the University of Southern Colorado, Colorado Springs Municipal Airport, Sand Creek Golf Course, libraries, museums, health care facilities, and Senior Citizen's Centers. Communications include local regional television stations, various AM/FM radio stations, and newspapers. Recreation facilities are located at the local schools, city parks, golf courses, and at recreation area and campgrounds. Colorado Springs also has numerous civic and religious organizations, committees, and clubs (<http://maps.yahoo.com>).

The foreseeable effects of the proposed action on land use practices of the construction area would be beneficial. Construction of the proposed project would restore flood protection and reduce the threat of flooding for the Colorado Springs community; however, the proposed project would not enhance the development of the flood plain. The no action alternative would not rehabilitate the existing flood damaged project thereby exposing the local area to the threat of future flooding and potential loss of life and property.

There are no foreseeable effects of the proposed project on the socioeconomic resources in the project area. Any economic benefits of the proposed project would primarily go to contractors and their employees and the project would have little or no significant economic impact on the local population living in the immediate area. The proposed project would also have little or no effect on local community or economic development within the area.

### 3.5 Environmental Justice

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations; February 11, 1994) was designed to focus the attention of Federal Agencies on the human health and environmental conditions of minority and low-income communities. It requires Federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations and proposed actions. In an accompanying memorandum, President Clinton emphasized that existing laws, such as the National Environmental Policy Act (NEPA), should provide an opportunity for federal agencies to access the environmental hazards and socioeconomic impacts associated with any given agency action upon minority and low-income communities. In April of 1995, the EPA released a guidance document entitled *Environmental Justice Strategy: Executive Order 12898*. In short, this document defines the approaches by which the EPA will ensure that disproportionately high environmental and/or socioeconomic effects on minority and low-income communities are identified and addressed. Further, it establishes agency wide goals for all Native Americans with regard to Environmental Justice issues and concerns.

The proposed project is not located near or associated with any low-income populations. No disproportionately high environmental and/or socioeconomic effects on minority or low-income communities would result from the proposed project. The no action alternative would have no effect on minority or low-income communities.

### 3.6 Cumulative Impacts

In consideration of the past, present, and future (foreseeable, reasonable actions), the cumulative impacts of the proposed project would be negligible on the natural, cultural, and socioeconomic resources of the construction area. There are no other federally funded streambank erosion protection projects in the vicinity of the proposed project. Other known federally funded projects are agricultural in nature and are known to occur upstream and downstream. These projects deal primarily with the diversion, delivery, and return of irrigation waters. The proposed project, when combined with previous projects and other existing Federal projects would not create significant cumulative environmental impacts.

## 4.0 CONCLUSIONS AND SUMMARY

Based on the information provided in this Draft Environmental Assessment, rehabilitation of the flood damage to the Fountain Creek Flood Control Project would have no effect on the human environment including natural and biological resources, climate, water resources and water quality, air quality, noise, visual quality, special status species, cultural resources, land use, or socioeconomics. The proposed project would provide benefits of flood protection to the Colorado Springs community by effectively rehabilitating the damaged streambank protection. The recommended plan would provide structural stability to the Flood Control Project for its design flow capacities and would have no effect on existing river flow velocities, channel capacity, or sinuosity upstream or downstream of the project area. The Flood Control Project would prevent damages to the existing environment and would provide for the beneficial use of the local area. The proposed project is not excessively expensive, is structurally viable, and would assist the local sponsor and taxpayers by reducing the amount of required operation and maintenance. If the proposed project were not provided, the local area would be exposed to the threat of future flooding and potential for loss of life and property. Upon review of the negligible environmental effects of the proposed project, the no action alternative was considered and eliminated from consideration.

## 5.0 PREPARATION, CONSULTATION AND COORDINATION

### 5.1 Preparation

This Draft Environmental Assessment (DEA) was prepared for the City of Colorado Springs by the U.S. Army Corps of Engineers, Albuquerque District (USACE). Personnel primarily responsible for preparation include:

Danielle A. Pecastaing	Biologist, USACE, Albuquerque District
Gregory D. Everhart	Archeologist, USACE, Albuquerque District
Gary L. Rutherford	Project Manager, USACE, Albuquerque District

### 5.2 General Consultation and Coordination

Agencies and entities contacted formally or informally in preparation of this Draft Environmental Assessment include:

FEDERAL:

Le Roy W. Carlson  
U.S. Fish and Wildlife Service  
Mountain-Prairie Region

Dana Allen  
EPA Region 8 Office  
8 EPA-N

Mr. Gary Rutherford  
Project Manager  
U.S. Army Corps of Engineers, Albuquerque District

STATE OF COLORADO:

Mr. Casey Cooley  
Colorado Division of Wildlife  
Southeast Region

Michael Menefee  
Colorado Natural Heritage Program  
Colorado State University

Mark T. Pifher  
Director, Water Quality Control Division

CITY:

Lorne Kramer  
City Manager  
City of Colorado Springs, CO

John Valentine  
Natural Resources Conservation Service  
Colorado Springs Service Center

COUNTY:

Mike Bonar  
Environmental Services Department  
El Paso County

6.0 REFERENCES

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**Appendix A**  
Sample Scoping Letter and Comments Received

March 24, 2003

Engineering and Construction Division  
Environmental Resources Branch

Dear XXXXXX:

The U.S. Army Corps of Engineers, Albuquerque District, is working with the City of Colorado Springs to repair and secure the streambank along the East Fork Sand Creek, Fountain Creek Watershed, in the City of Colorado Springs. See Exhibit 1 for the proposed location map. This letter is to solicit comments on the project under the National Environmental Policy Act (NEPA) of 1969.

The City of Colorado Springs is facing a threat of damages along the East Fork Sand Creek. This section of the East Fork Sand Creek has suffered damage from erosion, headcutting, and failure of channel stabilization improvements. There is an existing drop structure located downstream of US Highway 24 (Powers Boulevard) which is being threatened by downstream erosion. If this drop structure fails, the existing US Highway 24 Bridge over East Fork Sand Creek would be compromised.

The proposed work would consist of a 16-foot concrete apron downstream of the drop structure that would contain baffle blocks and an end sill. Upstream and downstream of the proposed apron, the channel would be trapezoidal. Wire wrapped riprap would be placed for a distance upstream and downstream of the proposed apron on the channel bottom and sides. An additional 250 feet of wire wrapped riprap would be placed on the channel bottom and toe of the side-slopes downstream of the riprap channel. The side slopes within the 250 feet would be grassed with native grasses from 2 feet above the channel bottom to the top of the streambank. Exhibit 2 illustrates where these additional features would be located.

Please send us any comments or concerns you may have for the proposed project. Send your correspondence within 30 days from the date of this letter to:

Ms. Danielle Pecastaing  
U.S. Army Corps of Engineers, Albuquerque District  
Environmental Resources Branch  
4101 Jefferson Plaza, NE  
Albuquerque, New Mexico 87109-3435

If you have any questions or need additional information, please contact Ms. Pecastaing at (505) 342-3661, or e-mail address [danielle.pecastaing@spa02.usace.army.mil](mailto:danielle.pecastaing@spa02.usace.army.mil). Thank you for your time and attention.



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

IN REPLY REFER TO:  
ES/CO: COE-Albuquerque  
Mail Stop 65412

APR 09 2003

Julie A. Hall  
U.S. Army Corps of Engineers  
4101 Jefferson Plaza, NE  
Albuquerque, New Mexico 87109-3435

**Re: Highway 24 Bridge**

Dear Julie Hall:

The U.S. Fish and Wildlife Service (Service) received your letter dated March 20, 2003, regarding the proposed channel stabilization in Colorado Springs, Colorado. These comments have been prepared under the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.), the Fish and Wildlife Coordination Act (48 Stat. as amended; 16 U.S.C. 661 et seq.), and the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4327).

For your convenience, we have enclosed a list of Colorado's threatened and endangered species, as well as the counties in which they are known to occur. We cannot provide site-specific details.

If you have any further questions, please call Ari Cornman at (303) 275-2370.

Sincerely,

LeRoy W. Carlson  
Colorado Field Supervisor

Enclosure: Species List

Reference: General Consultations\24 Bridge





STATE OF COLORADO  
Bill Owens, Governor  
DEPARTMENT OF NATURAL RESOURCES  
**DIVISION OF WILDLIFE**  
AN EQUAL OPPORTUNITY EMPLOYER

Russell George, Director  
6060 Broadway  
Denver, Colorado 80216  
Telephone: (303) 297-1192



*For Wildlife  
For People*

April 22, 2003

Ms. Danielle Pecastaing  
U.S. Army Corps of Engineers, Albuquerque District  
Environmental Resources Branch  
4101 Jefferson Plaza NE  
Albuquerque, NM 87109-3435

Re: City of Colorado Springs proposed work on the East Fork of Sand Creek

Dear Ms. Pecastaing,

The Division of Wildlife has reviewed the above referenced project and is familiar with the site. In regards to threatened and endangered species present at the proposed project location in El Paso County, Colorado, the Division believes that no threatened and/or endangered wildlife species to be present at the project site. However, we do offer suggestions to the project for your consideration.

The Division agrees that bank stabilization is needed in the project area, however, we suggest alternatives to a trapezoidal channel. We believe installation of rip rap in conjunction with existing drop structures should adequately improve the stability of the incised channel along this particular reach of Sand Creek. We suggest that rip rapped banks be covered with topsoil to ordinary high water and reseeded with a mixture of warm and cool season native grasses and forbs. The placement of willow sprigs or bare root stock should also be instituted along the banks, especially in those areas in between the first and third drop structures. This should also contribute to bank stability over the long term. We would request that all areas of disturbance and exposed soils be revegetated with the same or a similar native seed mix, this includes staging areas. In both instances, revegetation should minimize invasion by noxious weeds and promote stands of desirable herbaceous species. The site should be monitored for a period of at least two growing seasons. Any stands of noxious weeds that become established should be controlled with appropriate mechanical and/or chemical methods.

The Division appreciates having this opportunity to provide input. Please feel free to contact Casey Cooley at (719) 227-5227 should you have any questions or require additional information.

Sincerely,

Russell George  
Director

cc: Mark Konishi, Southeast Regional Manager  
Bruce Goforth, Southeast Senior Habitat Biologist  
Casey Cooley, Area Habitat Biologist

DEPARTMENT OF NATURAL RESOURCES, Greg E. Walcher, Executive Director  
WILDLIFE COMMISSION, Rick Enstrom, Chair • Philip James, Vice-Chair • Olive Valdez, Secretary  
Members, Bernard Black • Tom Burke • Jeffrey Crawford • Brad Phelps • Robert Shoemaker • Ken Torres  
Ex-Officio Members, Greg E. Walcher and Don Ament



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**El Paso County Conservation District**

1826 E. Platte Avenue, Suite 114 - Colorado Springs, CO 80909 - Phone (719) 473-7104 Ext. 3

Board of Supervisors  
GARY E. GUTHRIE  
ROBERT L. MINER  
ROBERT J. CORDOVA  
W. DEAN SAM  
GLEN C. ERMEL

April 8, 2003

Department of the Army  
Albuquerque District Corps of Engineers  
4101 Jefferson Plaza, NE  
Albuquerque, New Mexico 87109-3435

Attn: Ms. Danielle Pecastaing

RE: Design drawings for drop structure in Colorado Springs, Colorado at Powers and East Fork on Sand Creek.

In reviewing the design drawings for the above referenced drop structure the only concern I would have is the down ward cutting that could occur downstream of the wire wrapped riprap. The cut off wall is approximately 5' below the bottom of the stream.

Past experience has shown that unless the channel downstream of a structure like this is prevented from further scouring, low flows tend to remove the sand from the end of the structure and cause an overfall that eventually would compromise the structure. You did not mention if there were any additional grade stabilization structure down stream, if not, I would recommend that you add an additional 2-3' feet of depth to the cutoff channel at the outlet end of your structure.

Call me if you have any questions.

John Valentine  
District Conservationist



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

APR 18 2003

Ref: 8EPR-EP

Ms. Julie Hall  
Chief, Environmental Resources Branch  
United States Corps of Engineers, Albuquerque District  
Environmental Resources Branch  
4101 Jefferson Plaza NE  
Albuquerque, New Mexico 87109-3435

Re: East Fork Sand Creek Project

Dear Ms. Hall:

The Environmental Protection Agency, Region 8 (EPA), has reviewed your letter soliciting comments on the National Environmental Policy Act (NEPA) project located along the East Fork of Sand Creek, Colorado Springs, Colorado. EPA recognizes the need for the project, but believes that alternatives exist to the wire wrapped rip-rap and concrete apron.

The Corps of Engineers (Corps) is proposing to create a trapezoidal rip-rap channel upstream and downstream of a concrete apron with baffle blocks and an end sill. Wire wrapped rip-rap would be placed upstream and downstream of the apron to help protect the apron and existing drop structure. EPA requests that the Corps consider alternatives to creating a rip-rapped trapezoidal channel. Consider, for example, designing areas adjacent to the Creek as flood plains which will allow the storm flows to slow and thus reduce the erosiveness of the flows. Planting the flood plains with native vegetation will also allow the flood plains to perform some water quality functions.

EPA also requests that the Corps reconsider the design of the concrete apron. Designs such as grouted boulders can perform the same functions as the baffle blocks while appearing more natural. The Corps should also, in conjunction with the City of Colorado Springs, consider the watershed as a whole, and investigate upstream sub-watersheds to identify the sources of the storm water. If the areas contributing the majority of the storm water are identified, smaller projects, which will reduce the amounts and velocities of the storm water flows which are necessitating the project, can be designed and implemented.

Thank you for the opportunity to review this proposal. If you have any questions regarding these comments, please call me at 303-312-6235, or e-mail me at [truskowski.brent@epa.gov](mailto:truskowski.brent@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Brent Truskowski". The signature is fluid and cursive, with the first name "Brent" being more prominent than the last name "Truskowski".

Brent Truskowski  
Wetlands and Watersheds Unit  
Ecosystems Protection Program

**Appendix B**  
Cultural Resources Report

**Appendix C**  
Biological Coordination

**Appendix D**  
Public Review Comments and Responses

**Appendix E**  
Notice of Draft EA Availability