Environmental Assessment

Camp Creek Garden of the Gods Detention Facility and Downstream Improvements

Colorado Springs, Colorado
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Federal Emergency Management Agency
Department of Homeland Security
500 C Street, SW
Washington, DC 20472

FEMA

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List of Acronyms and Abbreviations

ACHP	Advisory Council of Historic Preservation
ADT	Average Daily Traffic
AMEC	AMEC Earth and Environment
APE	Area of Potential Effects
ASTM	American Society for Testing and Materials
BMP	Best Management Practices
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLOMR	Conditional Letter of Map Revision
cfs	cubic feet per second
CO	carbon monoxide
Colorado Springs	City of Colorado Springs
CPW	Colorado Parks and Wildlife
CY	cubic yard(s)
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
ft/s	feet per second
HMGP	Hazard Mitigation Grant Program
I-25	Interstate Highway 25
IF	Isolated find
IPaC	Information and Planning Conservation
LOMR	Letter of Map Revision
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1996
NNL	National Natural Landmark
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
SHPO	State Historic Preservation Officer
SWMP	Storm Water Management Plan
TUS	Traditionally Used Site

List of Acronyms and Abbreviations (continued)

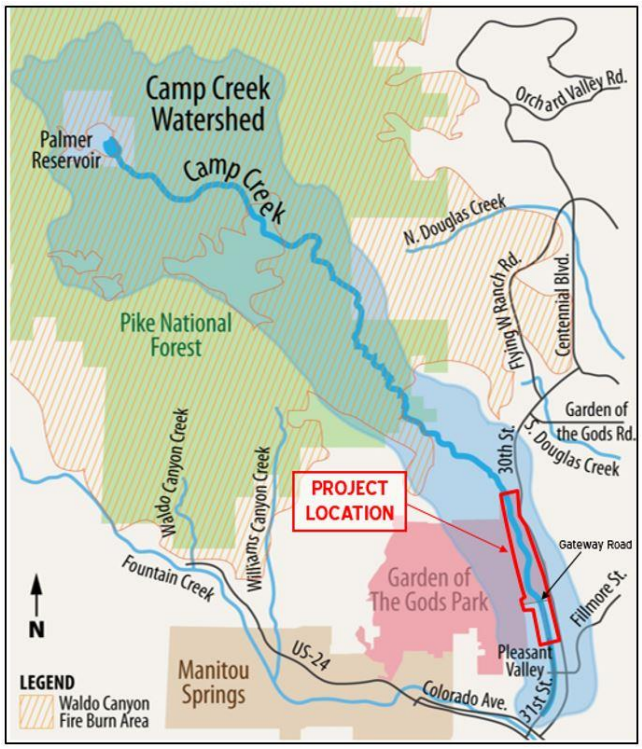
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USCB	U.S. Census Bureau
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOUS	Waters of the United States

1.0 Introduction

1.1 Background and History

Camp Creek drains a 10 square mile watershed, which originates in the steep and rocky Pike National Forest to the northwest as shown in Figure 1. The Waldo Canyon Fire in the summer of 2012 burned approximately 70 percent of the watershed. The Camp Creek watershed sustained severe soil burns from the fire. This condition has greatly increased the potential for storm runoff and sediment transport. It has already resulted in increased peak rates, runoff volumes, and frequency of runoff events associated with Camp Creek. For example, approximately 13,000 cubic yards of sediment were deposited along Camp Creek in a single extended storm event during the fall of 2013.

Figure 1 – Project Location



At its southern end, Camp Creek flows through the Pleasant Valley neighborhood, developed in the 1950's, in a concrete and riprap lined channel in the center median of 31st Street. Due to inadequate capacity in this channelized portion of Camp Creek over 200 properties in Pleasant Valley neighborhood are at greater risk of flooding and are included in a special flood hazard area (FEMA Flood Insurance Rate Map (FIRM) no. 08041C0726F). The Camp Creek floodplain in this area includes 31st Street (a critical transportation link), emergency evacuation routes, schools, pedestrian corridors, and neighborhood facilities.

1.2 Project Area

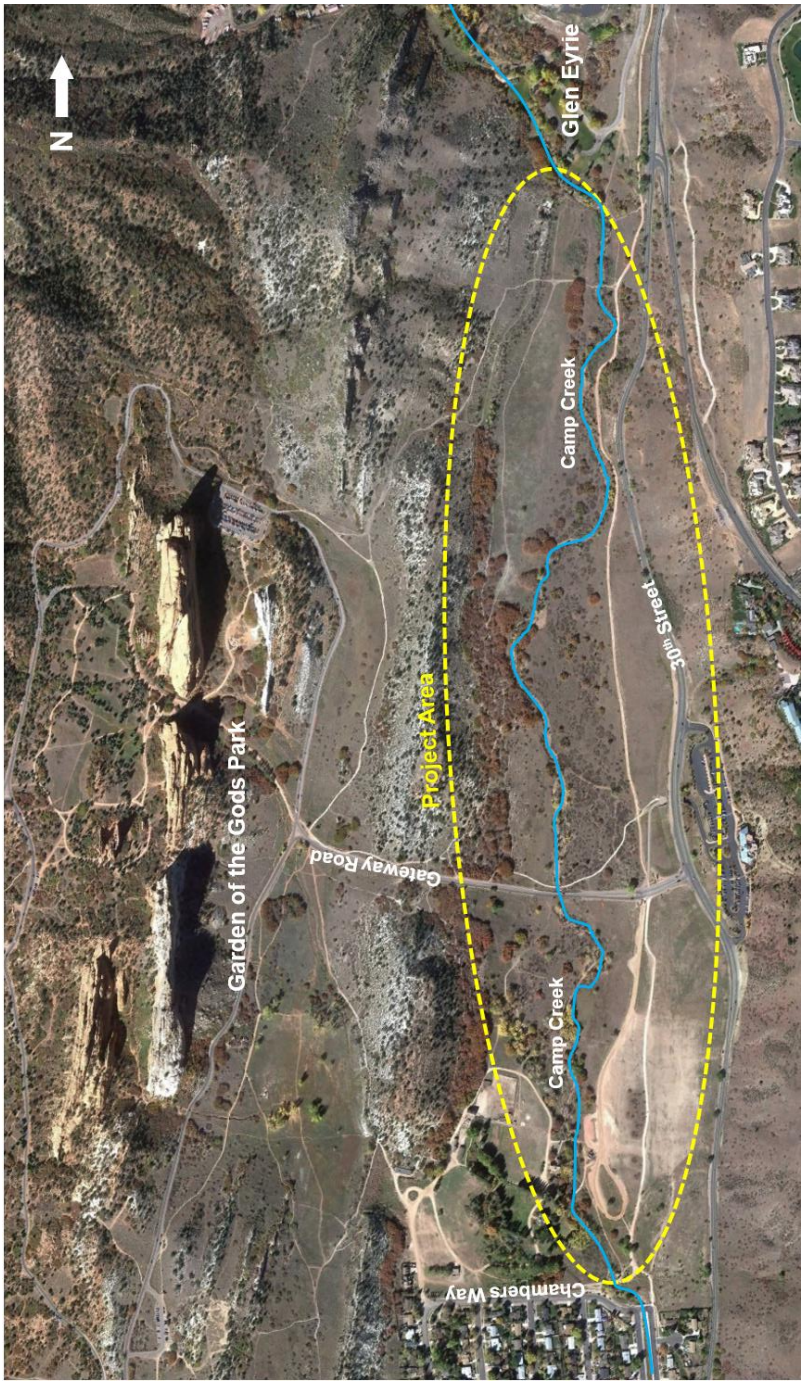
The project area includes Camp Creek and adjacent areas from the northern boundary of Garden of the Gods Park south of Glen Eyrie to the southern boundary of Rock Ledge Ranch at Chambers Way. The project area includes a small segment of Gateway Road adjacent to Camp Creek.

The project area as indicated in Figure 1 is located entirely within the Garden of the Gods Park and Rock Ledge Ranch which are owned by the City of Colorado Springs and managed by the City's Parks, Recreation and Cultural Services Department. The park was designated a National Natural Landmark (NNL) in 1971. The NNL Program is managed by the National Park Service, and recognizes and encourages the conservation of sites that contain outstanding biological and geological resources, regardless of land ownership type. As of 2015, there are 597 NNLs within the United States and American Territories.

An aerial photo of the project area is presented in Figure 2. This reach of the creek from the Glen Eyrie property line on the north to Chambers Way on the south is unimproved except for a

small traffic bridge at Gateway Road and three small pedestrian bridges within Rock Ledge Ranch. Gateway Road is the primary access to Garden of the Gods Park. This project will not include the future 31st Street improvements through the Pleasant Valley neighborhood south of Chambers Way nor any improvements upstream on the Glen Eyrie property.

Figure 2 – Project Area



2.0 Purpose and Need

Colorado Springs through the Colorado Division of Homeland Security and Emergency Management, has requested Federal Emergency Management Agency (FEMA) funding to construct a Stormwater detention / sediment retention pond along Camp Creek in Garden of the Gods Park approximately 0.8 miles upstream of the Pleasant Valley Neighborhood. The FEMA funding would be provided under the Hazard Mitigation Grant Program (HMGP). The HMGP is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act as amended (the Stafford Act) Title 42, United States Code 5170c. The primary purpose of HMGP is to provide the opportunity to take critical mitigation measures to reduce future loss of life and property during the reconstruction process following a disaster and associated reliance on funding from future disaster declarations.

All of the project elements are part of the Camp Creek Drainage Improvements Project which was master planned in 2013 and 2014. Additional elements of the project include bridge and roadway improvements to Gateway Road and naturalistic channel stabilization improvements to Camp Creek between the outlet of the proposed pond and Chambers Way. These elements are outside the scope of the HMGP and will be funded through other sources. The timing of the construction of these additional elements is dependent on funding and is yet to be determined.

Other Federal Agencies may choose to adopt FEMA's NEPA analysis in accordance with their own implementation regulations.

The specific purpose of the Camp Creek Improvement Project is to mitigate future public and private property damage and the potential for loss of life and or injury due to natural hazards including flooding, erosion and sedimentation along the Camp Creek Corridor.

The potential for flooding of residential and commercial properties along Camp Creek existed even before the 2012 Waldo Canyon Wildfire as evidenced by a broad regulatory floodplain along the Creek. The Waldo Canyon Fire burned approximately 70% of the watershed, which increased the risk of flooding, erosion, and sedimentation along the Creek. The need for a project to mitigate these risks is critical. More specific needs of the project include the following:

- Reduce the risk of flooding residential and commercial properties along the Camp Creek Corridor through the Pleasant Valley Neighborhood.
- Mitigate flood risks to the traveling public and provide safe passage for emergency vehicles at Gateway Road and in the Pleasant Valley Neighborhood.
- Mitigate further erosion of the natural channel in Garden of the Gods Park and Rock Ledge Ranch and restore the historic connection to its floodplain to protect the natural habitat and adjacent infrastructure and mitigate sediment abrasion and sedimentation damage to downstream facilities.
- Mitigate the potential for flooding, damage to natural habitat, and damage to downstream infrastructure through abrasion associated with the high sediment load carried by Camp Creek runoff originating on the Waldo Canyon burn scar.

3.0 Project Alternatives

The existing conveyance facilities along Camp Creek do not have capacity to convey the runoff from large rainfall events such as the 100-year storm without flooding. The Camp Creek Drainage Improvement Project reviewed alternatives for Camp Creek from the Glen Eyrie property line on the north to Fountain Creek on the south that would provide the required conveyance capacity. The alternatives included various forms of channel reconstruction and creek stabilization with and without detention options.

3.1 Alternatives Not Retained

3.1.1 Upsize 31st St. Channel with No Stormwater Detention

A conveyance facility required to convey the un-detained 100-year flood flow through the space constrained 31st Street corridor would need to be concrete lined and much larger than a channel required for detained flow. This larger concrete channel would visually impact more properties in the project area. This alternative would also not provide optimum reduction in downstream flood risk. The community was opposed to this alternative as they desired a more naturalistic aesthetically pleasing conveyance feature and reduce flood risk. The City determined that this alternative was not acceptable for the purpose of this project.

3.1.2 Single Medium Sized Detention Pond adjacent to Gateway Road

This alternative would require raising Gateway Road, the primary access to Garden of the Gods Park, by approximately 14 feet to serve as the dam for the detention facility. The location next to Gateway Road limited the size of the potential detention facility and would have required an additional sediment and debris basin at the north end of Garden of the Gods Park. Because of the limited storage available, this alternative would not reduce the flow rates to a level that they could be conveyed in the naturalistic channel section in the median of 31st Street as preferred by the community. The alternative would require a large concrete lined conveyance facilities downstream to convey the 100-year flood.

The community expressed significant concerns about the impacts that this change to Gateway Road and potential sediment and debris deposits would have on the most popular view in Garden of the Gods Park (from the visitor center to Kissing Camels rock formation) and the additional impacts to the Garden of the Gods Park. This alternative would also not provide to optimum reduction in downstream flood risk. The City determined that this alternative was not acceptable for the purpose of this project.

3.1.3 Medium Sized Detention Pond at the north end of Garden of the Gods Park

A medium sized detention facility, as discussed above, would not reduce flow rates to a level that could be conveyed in the naturalistic channel section in the median of 31st Street as preferred by the community. This alternative would also not provide optimum reduction in downstream flood risk. The City determined that this alternative was not acceptable for the purpose of this project.

3.2 Alternatives Considered

Two alternatives were carried forward for detailed evaluation in this Environmental Assessment (EA) and are described below:

Alternative 1 – No Action, and

Alternative 2 – Stormwater Detention/Sediment Retention Pond/Camp Creek Improvements (Proposed Action).

3.2.1 Alternative 1 – No Action Alternative

Under this alternative, no improvements would be made to mitigate the effects of flooding or sedimentation and erosion through Garden of the Gods Park or the Pleasant Valley neighborhood. The City would continue to maintain the small sedimentation facility that they have constructed in the northern part of Garden of the Gods Park but it would be overwhelmed with sediment in large storm event and sediment would likely migrate downstream. Erosion would continue to occur in the natural sections of the creek and the process would be accelerated as the channel enlarges and the natural function of the floodplain is diminished.

3.2.2 Alternative 2 - Proposed Action

The Proposed Action includes three elements:

- Construction of a stormwater detention/sediment retention pond on the north end of the Garden of the Gods Park (the FEMA funded action),
- Reconstruction of the Gateway Roadway bridge with associated roadway elements, and
- Stabilize the natural channel through the Garden of the Gods Park.

Figure 3 identifies the location of these improvements within the project area. All three improvements are evaluated as part of this EA, even though reconstruction of the Gateway Roadway bridge and the natural channel stabilization portions will not be FEMA funded.

The stormwater detention/sediment retention pond would be constructed in the Garden of the Gods Park approximately 0.8 miles upstream of the Pleasant Valley neighborhood in western Colorado Springs, Colorado. The pond would be constructed within the Camp Creek stream corridor, approximately 2,100 linear feet north of Gateway Road (38° 53’ 07” N, 104° 52’ 29” W) as shown on the attached location maps. The function of the pond would be to capture and store debris and sediment while reducing peak flow rates in downstream Camp Creek during large run-off events. Camp Creek is conveyed in the 31st Street Channel through the Pleasant Valley Neighborhood.

Detention Pond

The proposed detention pond, as shown in Figure 4, would have a storage capacity of approximately 175 acre-feet. Approximately 50 acre-feet of the storage capacity is expected to be needed for storage of sediment in the 100-year event due to high volume of sediment that is transported out of the watershed burn scar during large flow events. The remaining capacity would be used to store a portion of the runoff from the contributing watershed during large storm events and release flow to the downstream channel at reduced rates over an extended period of time. The proposed pond would reduce the peak outflow rate in the 100-year event to less than half of the inflow rate, thus greatly reducing the size of the floodplain though the Pleasant Valley Neighborhood.

Figure 3 – Proposed Action

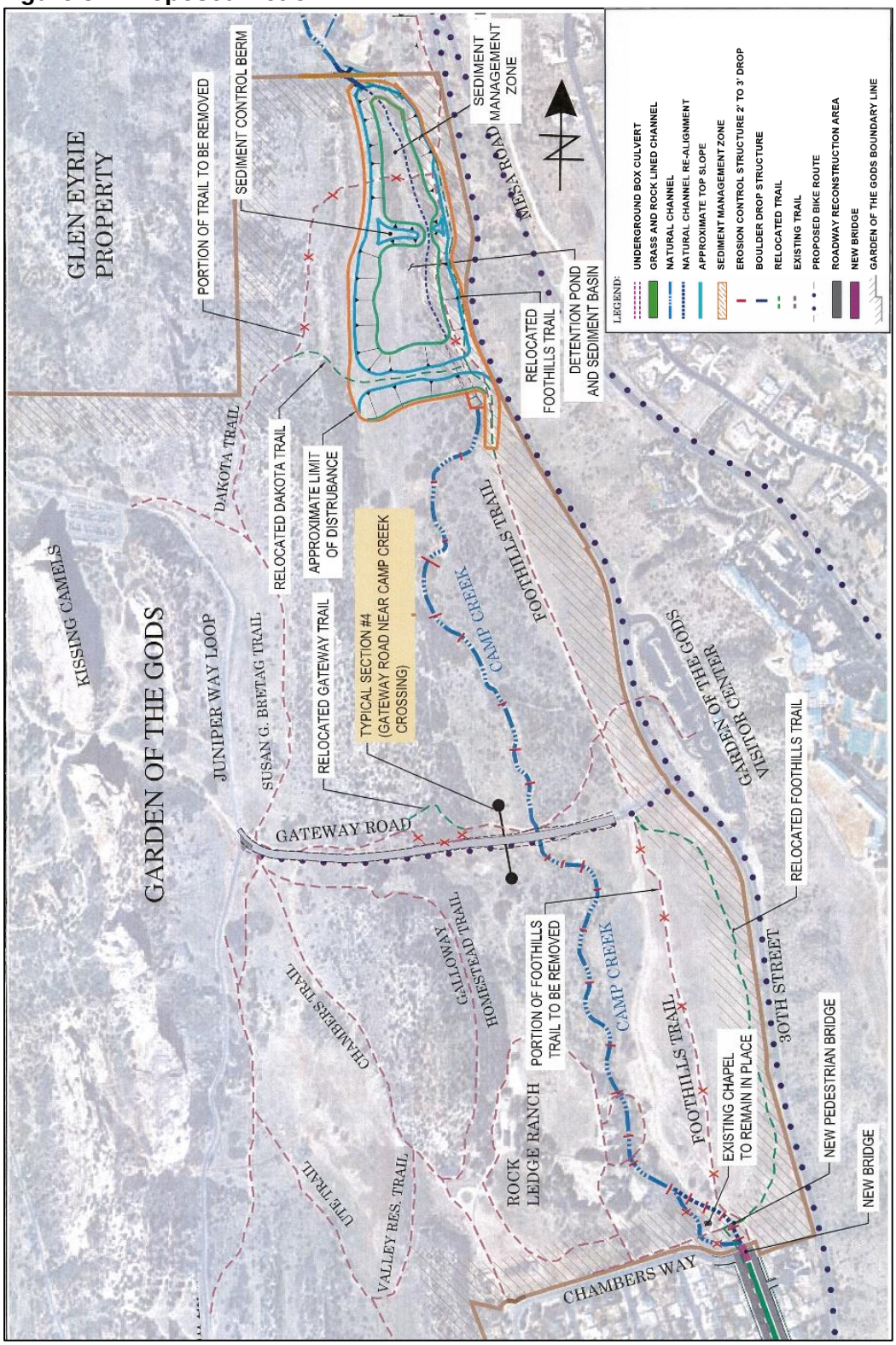
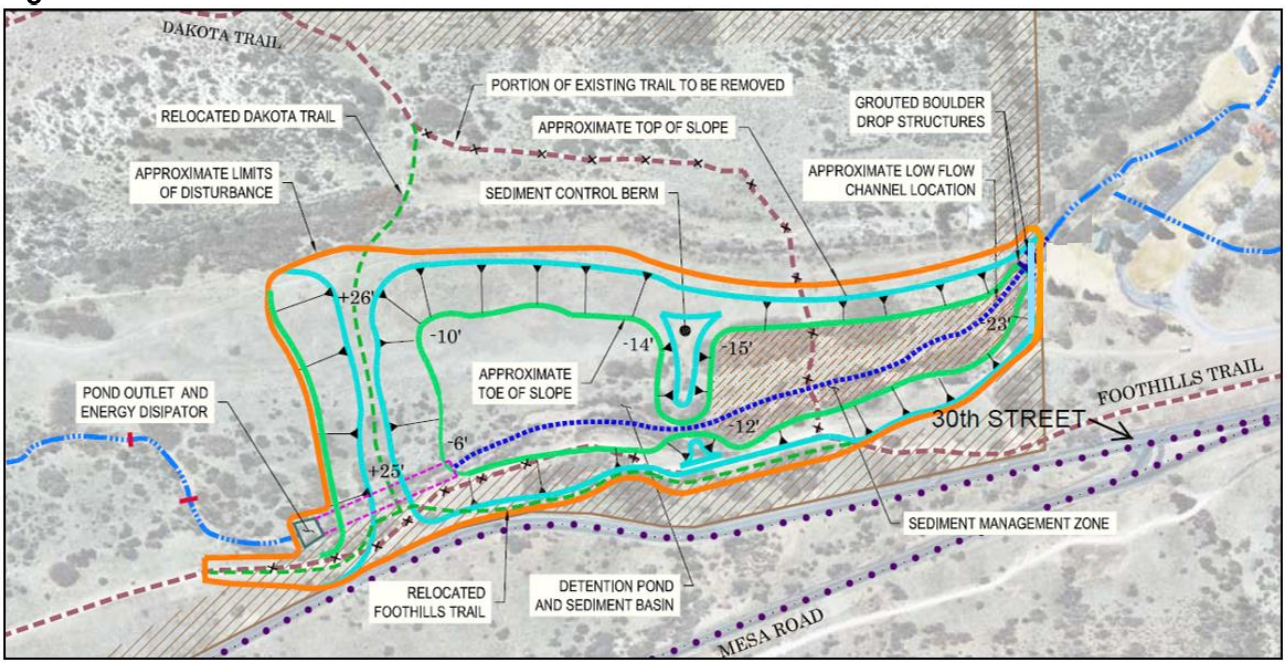


Figure 4 – Detention Pond



The proposed pond would also reduce the potential for sediment and debris to cause negative impacts to the Pleasant Valley Neighborhood. In the existing condition, sediment conveyed through the flood flow reduces the conveyance capacity of the 31st Street Channel. High storm flows have the potential to scour out trees along the creek through the Garden of the Gods Park and Rock Ledge and carry them downstream where they have the potential to block culverts and bridges along the 31st Street Channel. The proposed pond would capture and retain sediment carried by the flow from the burn scar in Queens Canyon. The reduced peak flow rates downstream of the proposed pond would decrease the potential for the flow to scour out trees which could block culverts and bridges.

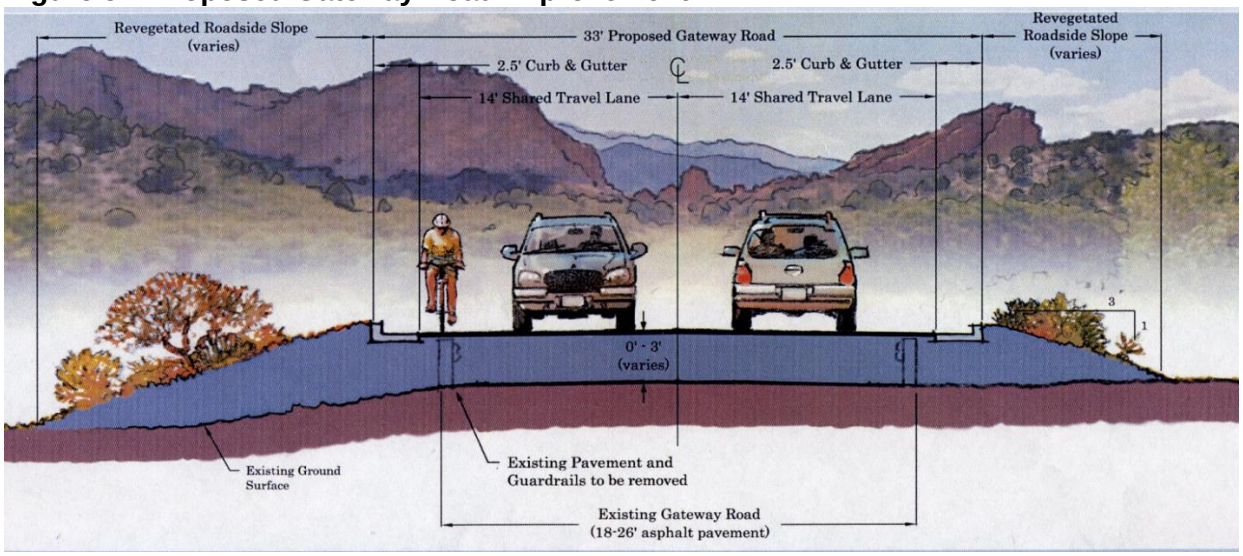
Approximately 150,000 cubic yards of soil would be excavated and approximately 90,000 of this soil would be used to construct an earthen dam. The remaining 60,000 cubic yards of excavated soil would be trucked off-site to an acceptable disposal site. The footprint of the proposed project is approximately 17 acres.

The proposed Garden of the Gods Detention Pond is the initial element in a multi-phased Camp Creek Drainage Improvement Project that would be constructed over the coming years as funding becomes available. The proposed project is stand-alone from the prospective that it would immediately provide flood protection benefits to downstream areas even without the future elements of the overall project in place.

Gateway Road

The existing bridge at the Gateway Road crossing of Camp Creek would be replaced with a longer, wider, and higher bridge that would convey 100-year flows and better accommodate roadway traffic. Gateway Road would be widened in the vicinity of the proposed Camp Creek Bridge to improve motorized traffic, bicycle, and pedestrian safety, as depicted in Figure 5.

Figure 5 – Proposed Gateway Road Improvement



Natural Channel Stabilization

The Proposed Action would also construct improvements along the 0.8 mile reach of the Camp Creek between the proposed detention facility and the Pleasant Valley residential neighborhood. This reach of the creek is contained in Garden of the Gods Park and Rock Ledge Ranch Historic Site which are owned by the City of Colorado Springs and managed by the City's Parks, Recreation and Cultural Services Department. This reach of the creek is unimproved except for a small traffic bridge at Gateway Road and three small pedestrian bridges within Rock Ledge Ranch. Gateway Road is the primary access to Garden of the Gods Park. Two of the pedestrian bridges serve as access to Rock Ledge Ranch facilities from its parking lot. The third pedestrian bridge provides passage over Camp Creek for the Foothills Trail. Improvements planned for this reach of the Creek include naturalistic stabilization to reconnect Camp Creek to its floodplain, replacement of the bridges to improve conveyance capacity and correction of existing structural deficiencies. The naturalistic grade control structures are expected to look similar to the one shown in the right hand photo of Figure 6.

Figure 6 – Photo of Eroding Camp Creek (left), Example of Naturalistic Stabilized Stream (right)

4.0 Affected Environment and Potential Impacts

This section describes the affected environment and potential impacts associated with the No Action Alternative and the Proposed Action with regard to various social and environmental resources. The discussion is organized as follows:

4.1 Physical Resources
4.2 Land Use and Zoning
4.3 Water Resources
4.4 Biological Resources
4.5 Cultural Resources
4.6 Socioeconomics
4.7 Community Resources
4.8 Hazardous Materials
4.9 Cumulative Impacts

4.1 Physical Resources

The No Action Alternative involves no excavation and the Proposed Action would involve shallow excavation downstream of the pond outlet and various levels of excavation activities within the pond area. Therefore neither alternative has the potential to affect geology of the area, and geology is not discussed further in this document.

The project area is located in parks owned by the Colorado Springs, with no agricultural use. The Natural Resources Conservation Service (NRCS) does not consider developed areas to contain farmland including prime farmland. Accordingly, neither the No Action Alternative nor the Proposed Action has the potential to adversely affect prime farmland, and prime farmland is not discussed further in this EA.

The physical resources that were considered in this EA are: soils, air quality, global climate change and visual resources.

4.1.1 Affected Environment

4.1.1.1 Soils

The reach of Camp Creek in the project area has sandy loam soil, which overlays bedrock that is composed of either sandstone or shale or claystone. Sandy loam soils erode easily with low-volume, high-frequency storms. Where present, the sandstone frequently acts as a cap to the more erodible claystone underlying it (Colorado Springs 2010). When exposed to weathering, claystone has an erosion rate comparable to sandy loam soils (NRCS 2012).

4.1.1.2 Air Quality and Global Climate Change

The National Ambient Air Quality Standards established by the U.S. Environmental Protection Agency (EPA) define the allowable concentrations of pollutants that may be reached but not exceeded in a given period to protect human health (primary standard) and welfare (secondary standard) with a reasonable margin of safety. The standards include maximum concentrations for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter with a diameter of 10 microns or less and 2.5 microns or less.

The Colorado Springs area is an attainment area for all criteria air pollutants except carbon monoxide (CO). Colorado Springs is currently a CO Attainment/Maintenance Area, having

recorded no violation of a national CO standard since 1989. The region's second 10-year CO maintenance plan received EPA approval in 2011.

A new, tighter national ozone standard was promulgated by EPA in 2015. The Colorado Springs has experienced ozone concentrations close to the new, tighter standard over the past several years. At this time, no new attainment/nonattainment designation has been made for the region.

The Council on Environmental Quality (CEQ) has recently released guidance on how Federal agencies should consider global climate change in their decisions. Guidance for National Environmental Policy Act (NEPA) documents suggests that quantitative analysis should be done if an action would release more than 25,000 metric tons of greenhouse gases per year (CEQ 2010). The Camp Creek Drainage Improvement Project would not warrant quantitative analysis under this criterion.

4.1.1.3 Visual Resources (Aesthetics)

The proposed project area is located adjacent to eastern edge of the scenic 1,300-acre Garden of the Gods Park, one of the region's top tourist attractions, known for its large red rock formations (see Figure 7). The park also offers spectacular views of nearby Pikes Peak (elevation 14,115 feet). The park was designated a National Natural Landmark in 1971, largely because of the unique geological formations visible throughout the park. The viewshed from within the Camp Creek corridor is dominated by the adjacent Garden of the Gods rock formations to the west of the creek. Looking eastward from the creek, the view includes 31st Street and an undeveloped mesa. West of the Gateway Road entrance to the park, the foreground to the east includes the Garden of the Gods Visitor Center. The proposed project would not affect any of these formations, the viewshed or the overall aesthetics of the park.

Figure 7. Garden of the Gods National Natural Landmark

4.1.2 Environmental Consequences

4.1.2.1 Alternative 1 – No Action

Topography and Soils

Since the No Action Alternative does not involve any construction, this alternative would not directly affect topography or soils in the project area. Soils lining the creek bank and bottom would continue to erode, especially during future storm events, and over time, the local topography could be indirectly adversely affected.

Air Quality and Climate Change

The No Action Alternative would result in no soil disturbance or construction activity. Therefore, it would have no impact on air quality and would not affect global climate change.

Visual Resources

With the No Action Alternative, Camp Creek would continue to erode, resulting in a loss of vegetation and soil. Therefore, the No Action Alternative would have an indirect adverse effect on visual resources in the project area.

4.1.2.2 Alternative 2 – Proposed Action

Topography and Soils

Stabilizing the eroding stream bed and banks though the project area and reconstruction of a portion of Gateway Road with a new bridge to cross Camp Creek would represent a minor change in the local topography. Post-project topography for the stabilized stream would be relatively consistent with the topography that existed prior to the erosion that has occurred as a result off the Waldo Canyon Fire.

Excavation and placement of soil in the northern portion of Garden of the Gods Park to construct the proposed stormwater detention/sediment retention pond and associated dam will change the topography from the existing and pre-Waldo Canyon Fire conditions, but will be graded in a manner that blends well with the natural contours in the area.

To the extent practical, cut and fill slopes will be constructed at 4:1 (horizontal: vertical) or less to facilitate slope stability and re-vegetation.

Excavation, grading and construction of drop structures, bridge, roadway, dam, spillways, trails and local drainage system improvements would affect about 17 acres of land in the project area. Soils in these areas would be disturbed by shallow and deep excavation, grading and construction of improvements.

Implementation of the Proposed Action would substantially reduce the amount of soil lost in the project area to erosion. Areas that are not protected by armor would be reseeded with a mixture of native grasses and shrubs where appropriate.

To reduce the potential for soil erosion during construction, the contractor would use Best Management Practices (BMPs) such as silt fences and/or hay bales to minimize the movement of soils from disturbed areas into Camp Creek. The BMPs would be used until the disturbed areas were adequately revegetated. With appropriate BMPs and an aggressive re-vegetation program, the disturbance of approximately 17 acres of soil would not be a significant impact.

Air Quality and Climate Change

No permanent sources of increased air emissions would be associated with the Proposed Action, and therefore there would be no long-term impacts to air quality or global climate change

as a result of this alternative. Soil disturbance during excavation and construction activities would result in a temporary increase of particulates (dust) in the air. If dust (particulates) were to become a problem (visual or health issue) during construction, the Colorado Department of Public Health and Environment (CDPHE) can require the contractor to water down the work area to reduce the dust levels.

Operation of the construction equipment (including haul trucks) would contribute to exhaust-related air pollutants such as nitrogen oxide, carbon monoxide, and ozone. Increases of these air pollutants would be localized and temporary and would have a minor adverse effect on local air quality. Because the construction is expected to take more than 6 months, a State Air Pollution permit would be required. Due to the limited emission of greenhouse gases, the Proposed Action would not have a detectable effect on global climate change.

Visual Resources

Temporary (short-term) adverse impacts to visual resources occur as a result of grading, excavating, construction of grade control structures, roadway, trails, bridge, dam, spillways and local drainage improvements and the presence of construction equipment. The grading and excavation will remove a portion of the wooded riparian area and grasses in the area. However, a re-vegetation plan would be implemented to replace vegetation to reduce this adverse impact. Nearly all of the armoring required for the emergency spillway required to protect the dam will be covered with earth which will be vegetated with native species. The Proposed Action would have a long-term beneficial effect on visual resources in the stream corridor and surrounding area because the eroded stream banks would be restored to support vegetation. The proposed stormwater detention/sediment retention pond will minimize the potential for sediment and debris to be deposited over native vegetation in the very important view corridors of Garden of the Gods Park located downstream of the proposed facility. Grading and re-vegetation will be accomplished in a manner that blends well with adjacent natural topography and vegetation.

The photos in Figure 6 are representative of the general pre and post visual conditions associated with the natural channel stabilization. The photos and sketches in Figures 8 and 9 depict pre and post visual conditions associated with the proposed Gateway Road improvements and the proposed stormwater detention/sediment retention pond.

Figure 8. Pre (left) and Post (right) Gateway Road Improvements

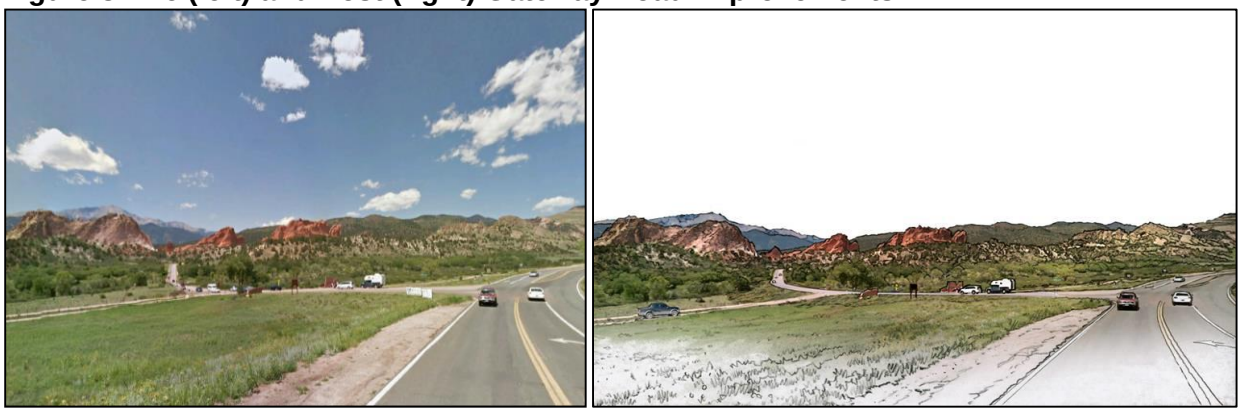


Figure 9. Pre (top) and Post (bottom) Stormwater Detention/Sediment Retention Pond

4.2 Land Use and Zoning

Neither the No Action Alternative nor the Proposed Action has the potential to effect zoning in Colorado Springs. Therefore, zoning is not discussed further in this document.

4.2.1 Affected Environment

The Proposed Action would be implemented completely within the boundaries of Garden of the Gods Park. This is a 1,300 acre park owned by the City of Colorado Springs.

Garden of the Gods is on the National Registry of Natural Landmarks. It is considered nationally significant because it is considered one of the best examples of biological and geological features known that is characteristic of a given natural region. The Park is a unique biological melting pot where the grasslands of the Great Plains meet the pinon-juniper woodlands characteristic of the American Southwest, and merge with the mountain forest of the 14,115-foot Pikes Peak -America's Mountain. The 300 million years of geological history of the Garden of the Gods in Colorado Springs reveal one of the most extensive pictures of earth history found anywhere in the United States.

4.2.1.1 Land Use

South and downstream of the Proposed Action is the adjacent Pleasant Valley Neighborhood, a residential area with 2,539 residents according to the 2010 Census. This is an established, built out area where no land use change is anticipated.

4.2.1.2 Recreational Facilities

Within the project area, Garden of the Gods has recreational trails and scenic viewing areas. The Rock Ledge Ranch Historic Site is an educational, non-profit living history farm and museum that depicts life in the Pikes Peak region in past time periods.

The two recreational trails in the project area are the Foothills Trail and the Dakota Trail. The Foothills Trail has a generally north-south orientation, paralleling 30th Street. The Foothills Trail has an important role in getting hikers, joggers and bicyclist to and from Garden of the Gods Park. The Dakota Trail is generally east-west oriented and plays a role getting non-motorized traffic into and out of the park without having to use Gateway Road. Additionally, some bicyclists use Gateway Road for recreational riding.

The Foothills Trail was damaged by recent flooding and approximately 1,200 LF of flood damaged trail was relocated to higher ground closer to 30th Street by the City of Colorado Springs. This action was partially funded by FEMA's Public Assistance Program (FEMA 4229-DR-CO PW 00128) and evaluated as a separate action under NEPA.The portion of the Dakota Trail that crosses Camp Creek was also eroded away by recent flooding. No repairs have been completed.

Other recreational activities (e.g., horseback riding) are available elsewhere in the park, but are not focused in the project area.

4.2.2 Environmental Consequences

4.2.2.1 Alternative 1 – No Action

Land Use

With the No Action Alternative, no facilities would be constructed or changed and existing use patterns would continue. Therefore, existing land uses are not expected to be altered by this alternative.

Recreation Facilities

The No Action Alternative would not control sedimentation and erosion along Camp Creek and thus the two trails located in the vicinity of the project area would continue to be at risk for flooding, sedimentation, and erosion. It is likely the Dakota Trail will experience frequent periods of closure during and after precipitation events. Further, the No Action Alternative would not impede current or planned City improvements to recreational features in the project area.

4.2.2.2 Alternative 2 – Proposed Action

Land Use

The Proposed Action consists of drainage improvements located entirely within Garden of the Gods Park and Rock Ledge Ranch Historic site. All affected land will remain in park ownership and use. No land use changes on private property would result from the Proposed Action.

Recreation Facilities

The Proposed Action has been designed to accommodate and enhance recreational uses in the park. Its design includes relocation of the Foothills Trail eastward to higher ground, ensuring uninterrupted trail use. Additionally, it includes relocation of the Dakota Trail to cross Camp Creek atop the dam created by the proposed detention structure. Finally, the Gateway Road Bridge will be replaced with a new bridge that is longer, wider and higher than the existing bridge. The existing bridge has minimal width for two vehicles and no dedicated space for bicycles or pedestrians. The new, wider bridge would replace existing 8-foot road lanes with 14-foot shared lanes that can accommodate simultaneous use by vehicles and non-motorized traffic.

4.3 Water Resources

Neither the No Action Alternative nor the Proposed Action has the potential to affect the groundwater in the project area. Therefore, groundwater is not discussed further in this document.

4.3.1 Affected Environment

Water resources considered in this EA include surface water, floodplains, and wetlands.

4.3.1.1 Surface Water

Camp Creek flows into Fountain Creek southeast of 31st Street and northeast of US Highway 24. A USGS gaging station on Camp Creek immediately south of Gateway Road is located approximately 1.9 miles north of Camp Creek's confluence with Fountain Creek.

Waters of the United States (WOUS) are defined in 40CFR 230.3 (s). WOUS include all waters that are currently, have been, or may be used for interstate or foreign commerce, all interstate waters including interstate wetlands; and tributaries of waters identified as WOUS. Activities affecting WOUS require a Section 404 Permit from the U.S. Army Corps of Engineers (USACE). Camp Creek is considered a WOUS.

4.3.1.2 Wetlands (Executive Order 11990)

EO 11990, Protection of Wetlands, and 44 CFR Part 9 requires Federal agencies to avoid construction or management practices that would adversely affect wetlands unless the agency finds that (1) there is no practicable alternative and (2) the Proposed Action includes measures to minimize harm to the wetlands. The EO directs all Federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural beneficial values of wetlands in the conduct of the agency's responsibilities. The Federal agency must provide an opportunity for early public review by those who may be affected and include its findings in its environmental or other appropriate decision documents. Activities disturbing jurisdictional wetlands also require a Section 404 Permit from the USACE.

The bed of Camp Creek consists of well drained sand, gravel and cobbles through the project area. The creek is dry except for relatively short periods of runoff after significant rainfall events. A field review of Camp Creek from the western border of Glen Eyrie to the confluence at Fountain Creek identified one small 1 foot wide wetland area in the channel along 31st Street. This strip was less than 20 feet long and is in the man-made portion of the channel. A jurisdictional determination from USACE has not been requested at this time. No other wetland areas were identified in the project area. This wetland is outside of the project area shown in Figure 2 and will not be impacted by the Proposed Action.

4.3.1.3 Floodplains (Executive Order 11988)

Executive Order (EO) 11988, Floodplain Management, and CFR 44 Part 9 requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, “each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities” for the following actions:

- Acquiring, managing, and disposing of Federal lands and facilities
- Providing federally undertaken, financed, or assisted construction and improvements
- Conducting Federal activities and programs affecting land use, including, but not limited to, water and related land resources planning, regulation, and licensing activities

To satisfy the intent of the EO, FEMA uses an Eight-Step Decision-Making process when evaluating projects that have features in an identified 100-year floodplain. The process is similar to the NEPA compliance process that encourages public involvement starting at the early stages of project development, promotes avoidance of floodplains and wetlands, requires evaluation of all practicable alternatives, assessment of potential impacts, and minimization of impacts.

Colorado Springs participates in the National Flood Insurance Program (NFIP), and in accordance with the requirements for NFIP participation, the City has implemented controls, zoning, development regulations, and land use planning to reduce and control development that occurs in 100-year floodplains. The majority of the project would be constructed in a FEMA regulatory 100-year floodplain mapped as flood hazard zone AE with a floodway. The floodplain is shown on FEMA FIRM Panels 08041C0513F, 08041C0494F, and 08041CO726F, effective date of March 17, 1997. The flood profile for the project area is shown on Flood Profile Sheets 14P and 15P. According to the Flood Insurance Study (FIS), the 100-year peak flow rate used to map the floodplain was 4,600 cubic feet per second (cfs). The portion of Camp Creek located downstream of the project including the Pleasant Valley Neighborhood is also in located in a FEMA regulatory 100-year floodplain mapped as flood hazard zone AE with a floodway. This portion of the floodplain is shown on FEMA FIRM Panel 08041C0726F effective date of March 17, 1997. The flood profile for the Pleasant Valley Neighborhood area is shown on Flood Profile Sheets 13P and 14P. The proposed project would reduce the Special Flood Hazard Area (SFHA) and Base Flood Elevations(BFEs) associated with the floodplain downstream of the proposed Garden of the Gods Detention Pond. The SFHA and the BFEs will be increased within the limits of the proposed pond. These changes would be reflected in the Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR)s that would be processed with the proposed project.

4.3.2 Environmental Consequences

4.3.2.1 Alternative 1 – No Action

Surface Water

Under the No Action Alternative, no activities would occur and the hydrology and erosion rate in Camp Creek would remain as is; therefore there would be no direct impact to hydrology or water quality in the creek. However, in the long-term, erosion in Camp Creek would continue, and

sediment loading would continue to adversely affect the water quality in this reach of the creek and downstream in Fountain Creek.

Wetlands
With the No Action Alternative, no construction would occur; further, the project area does not contain wetlands. Therefore, the No Action Alternative would not affect wetlands.

Floodplains
The No Action Alternative does not involve construction and would therefore not affect any identified floodplain.

4.3.2.2 Alternative 2 – Proposed Action

Surface Water
Implementation of the Proposed Action would result in a reduction of peak flow rates conveyed in Camp Creek downstream of the proposed detention pond in large infrequent runoff events. A portion of the flow conveyed to the detention pond in these infrequent events will be temporarily stored in the pond during the high flow period of the event and released downstream as the flow rates diminish. Construction of the natural channel stabilization along Camp Creek would be done in a manner that raises the invert of the channel to improve the connection of the channel to its floodplain to reduce flow velocities and associated erosion and thus reduce the amount of sediment carried by the flow. The proposed detention pond would collect and store sediment and debris entrained in the Camp Creek flow generated in the upstream Queens Canyon watershed.

Undertakings in WOUS are required to have a Section 404 Permit from the USACE. Colorado Springs would need to coordinate with the USACE before initiating any construction to obtain the necessary Section 404 Permit for the placement of fill in WOUS.

The Colorado Department of Public Health and the Environment (CDPHE) administers the EPA's National Pollutant Discharge Elimination System (NPDES) Program in Colorado. This program requires a permit for any construction activity that would disturb more than 1 acre of land. The Proposed Action would disturb approximately 5 acres of soils/vegetation; therefore, a NPDES permit would be required for the project. A General Permit for Storm Water Discharges Associated with Construction Activity (General Permit) would need to be obtained from CDPHE before initiating construction. As part of the permitting process, a Stormwater Management Plan (SWMP) would need to be prepared. Appropriate BMPs would be identified in the SWMP, which would be used to prevent and/or minimized soil erosion and the movement of sediment during construction.

With the requirements of the permits and implementation of BMPs, any adverse impacts on water quality in the project area and downstream reaches would be temporary. The Proposed Action would result in a long-term positive impact on the water quality of Camp Creek by removing sediment and debris from the flow and providing more stable banks and decreasing the amount of erosion and sedimentation in the creek.

Wetlands
No wetlands are located in the project area, therefore no wetlands would be affected, and FEMA's Eight-Step Decision Making Process for wetlands is not required.

Floodplains
As discussed previously, the majority of project features will be constructed in a FEMA regulatory 100-year floodplain. Therefore, FEMA's Eight-Step Decision Making Process was employed. Alternatives were evaluated to assess and minimize impacts to the floodplain. Actions and/or determinations associated with each step are provided in Appendix A. The results of the Eight-Step Process confirmed that all practical alternatives would contain project features located in a 100-year floodplain.

Because the Proposed Action would involve construction in a floodplain, an inital public notice was published in the Colorado Springs Gazette on October 1, 2015 to comply with EO 11988 and Step 2 of the Eight-Step Process. The public notice informed interested parties that FEMA intended to fund a project that included activities in the 100-year floodplain of Camp Creek. No comments were received regarding the Proposed Action.

The Proposed Action would not adversely affect the function or value of the floodplain in the project area, or the floodplain downstream of the project area, and would in fact be beneficial the to Camp Creek floodplain. Additionally, the Proposed Action would not encourage or contribute to development or occupancy of the floodplain in the project area.

Because construction would take place in the floodway and 100-year floodplain, the City would be required to obtain a Floodplain Development Permit from the Pikes Peak Regional Building Department. The proposed project would also alter the area and elevation of the floodplain within the footprint of the proposed detention pond and thus would require approval of CLOMR prior to construction and completion of a LOMR after the project is constructed. The analysis for the CLOMR has been already been started.

4.4 Biological Resources

Biological resources evaluated in this EA are vegetation, terrestrial wildlife, aquatic wildlife, and threatened and endangered species.

4.4.1 Affected Environment

4.4.1.1 Vegetation
Vegetation zones in the project area are primarily upland with very limited areas of narrow, sparsely vegetated riparian zone that parallel the creek. Much of the previous vegetation has either been eroded away and carried downstream, or has been covered with sediment. The riparian zone is not continuous along the creek because bank erosion has prevented the establishment of riparian vegetation or destroyed it in most areas along the stream. The existing riparian vegetation consists of matures trees with a limited understory of woody shrubs.

Because of the extensive bank erosion and loss of much of the riparian areas there are few transition zones between the limited riparian and upland vegetation. This transition vegetation is not dependent on creek flows for survival. Vegetation in the transition zone is composed of both water-tolerant (riparian) and drought-tolerant (upland) species. The more water-tolerant species tend to be lower on the bank, and the more drought-tolerant species are higher on the bank. The vegetation type transitions from riparian to upland moving up the bank, forming a mosaic of wet and dry species. The understory vegetation varies from woody shrubs (such as chokecherry bushes) to areas with bunch grass.

4.4.1.2 Terrestrial Wildlife

The project area and its surrounding area are located within the City of Colorado Springs. Habitats for wildlife species in urban areas are generally associated with larger parks or a water source and are used by species that can adapt to urban conditions.

In urban areas, streams also provide migration corridors for many wildlife species. The trees and larger woody shrubs provide nesting habitat for a variety of bird species. The Migratory Bird Treaty Act (MBTA) decrees that all migratory birds and their parts (including eggs, nests, and feathers) should be protected. The U.S. Fish and Wildlife Service (USFWS) administers the MBTA. For projects such as the Camp Creek Drainage Improvements project, the primary concern is the removal of trees that could have nests with eggs or fledglings. The nesting and fledging period for the Colorado Springs area is generally between April 1 and August 15.

Habitat in the project area can sustain wildlife species such as mule deer, mountain goats, coyote, red fox, cottontail rabbits, ground nesting birds, and numerous other small mammals. Typical Front Range prairie reptile species frequently found in this type of habitat include bull snakes, prairie rattlesnakes, and plains garter snakes. Amphibians that could occur in the project area include Woodhouse toads, northern leopard frogs, plains leopard frogs, and tiger salamanders. Invertebrate species could include ants including honey ants, *Myrmecocystus mexicanus hortideorum*. However, the honey ants typically prefer to construct their nests on ridges instead of low lying areas like the project area.

4.4.1.3 Aquatic Wildlife

Flows in Camp Creek vary substantially during most years and generally include extended periods when the flow ceases or is extremely low. The low-flow periods prevent the establishment of an aquatic ecosystem that would support aquatic organisms, such as macroinvertebrates or fish. Several minnow species (fathead minnows, sand shiners, bigmouth shiners, and stonerollers) are present in the Arkansas River basin within El Paso County (Woodling 1985). These species have the potential to populate Camp Creek if flow and other environmental conditions are satisfactory for an extended period of time.

4.4.1.4 Threatened and Endangered Species and Critical Habitat

Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1536) requires Federal agencies to ensure that actions they authorize, fund, or implement are not likely to jeopardize the continued existence of threatened, endangered, or proposed species or cause destruction or adverse modification of their critical habitats.

A list of federally listed threatened and endangered species that have the potential to occur in El Paso County was obtained from the USFWS Information Planning and Conservation (IPaC) System (USFWS 2012). The USFWS lists 9 threatened or endangered species with the potential to occur in El Paso County or that have the potential to be affected by projects in El Paso County. Federally-listed and State-listed species and their habitat requirements are summarized in **Table 1**. There is no habitat within the project area to support any of these species and none were observed in the field.

A list of the State-listed species was obtained from the Colorado Parks and Wildlife (CPW) website (CPW 2012a). Colorado has 16 State-listed threatened and endangered animal species that are not also federally listed species. Of these 16 species, only the North American wolverine, western burrowing owl, plains sharp-tailed grouse, and Arkansas darter have the potential to occur in El Paso County (CPW 2012a; Woodling 1985). The habitat requirements for these species as well as the federally-listed species are summarized in **Table 1**. Colorado has

no State-level recognition or protection for plant species (CSU 2009). There is no habitat within the project area to support any of these species and none were observed in the field.

A Wilson & Company biologist conducted a field review of the project area in November 2013. No raptor nests or other nesting migratory birds in the vicinity of the roadway. No other wildlife species were observed during the field review. An additional survey will occur prior to construction of the project to verify that this condition has not changed.

Table 1: Federal and State-Listed Species with the Potential to Occur In or to Be Affected by Projects in El Paso County

Common Name	Scientific Name	Federal Status	State Status	Habitat Preference	Habitat Present in Project Area?	Determination
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	T	T	Wet meadows and well-developed riparian vegetation near a water source. Dense combinations of grasses, forbs, and shrubs.	No	No effect
Mexican spotted owl	*Strix occidentalis lucida*	T	T	Old growth mature forest with complex structural components and high canopy closure. Canyons with riparian or conifer communities.	No	No Effect
Greenback cutthroat trout	*Oncorhynchus clarki stomias*	T	T	Cold water streams and cold water lakes normally high in the watershed. Adequate stream spawning habitat present during spring and clear, cold, well-oxygenated water.	No	No Effect
Ute ladies'-tresses	*Spiranthes diluvialis*	T	NL	Riparian edges, gravel bars, old oxbows, high flow channels, and moist wet meadows along perennial streams at elevations between 4,300 and 6,850 feet.	No	No Effect
Whooping crane	*Grus americana*	E	E	Mid-river sand bars and wet meadows along the Platte River in Nebraska.	No	No Effect
Least tern	*Sterna antillarum*	E	E	Bare sand, gravel bars, and waste sand piles along several rivers in Nebraska.	No	No Effect
Piping plover	*Charadrius melodus*	T	T	Bare sand, gravel bars, and waste sand piles along several rivers in Nebraska.	No	No Effect
Pallid sturgeon	*Scaphirhynchus albus*	E	NL	Large turbid rivers including the lower Platte River in Nebraska.	No	No Effect

T = Threatened
E = Endangered
C = Candidate
NL = Not Listed

Table 1: Federal and State-Listed Species with the Potential to Occur In or to Be Affected by Projects in El Paso County (continued)

Common Name	Scientific Name	Federal Status	State Status	Habitat Preference	Habitat Present in Project Area?	Determination
Western prairie fringed orchid	*Platanthera praeclara*	T	NL	Wet meadows associated with native prairies and wet riparian areas along the Platte River in Nebraska.	No	No Effect
North American wolverine	*Gulo gulo*	NL (C)	E	Boreal forest, tundra areas, and marshy areas.	No	No Effect
Western burrowing owl	*Athese cuniculia*	NL	T	Grasslands in or near prairie dog towns.	No	No Effect
Plains sharp-tailed grouse	*Tympanuchus phasianellus jamesii*	NL	E	Cropland, riparian area (especially in fall and winter) and shrublands that are void of conifers. Nesting occurs in grassland including wet meadows, ridges, and knolls.	No	No Effect
Arkansas darter	*Etheostoma cragini*	NL (C)	T	Streams with clear water with low velocities, and sandy bottoms. Normally associated with rooted aquatic vegetation.	No	No Effect

Sources: CPW (2012a); USFWS (2015)
T = Threatened
E = Endangered
C = Candidate
NL = Not Listed

4.4.2 Environmental Consequences

4.4.2.1 Alternative 1 – No Action

Vegetation

With the No Action Alternative, no construction would occur; therefore, the alternative would have no direct impact on vegetation. However, as the creek banks continue to erode and sediment and debris from Queens Canyon continues to be conveyed in Camp Creek, vegetation would continue to be lost when the bank fails, and sediment is deposited along the Camp Creek floodplain. The No Action Alternative would have an indirect long- term negative impact on vegetation along the creek.

Terrestrial Wildlife

With the No Action Alternative, no construction would occur; therefore, wildlife species would not be directly affected. However, without corrective action, erosion of the creek banks and sedimentation along its floodplain would continue, and the existing wildlife habitat in the project area would be lost. The No Action Alternative would have a long-term negative effect in the project area.

Aquatic Wildlife

The No Action Alternative would have no impact on the existing quantity or quality of water in Camp Creek; therefore, it would not have a direct effect on aquatic resources. However, water quality in the stream would continue to degrade from sediment loading, which would affect the potential for aquatic organisms in the creek.

Threatened and Endangered Species

There is no federally or State-listed threatened or endangered species and/or their critical habitat in the project area. The No Action Alternative would not adversely affect any federally or State-listed threatened or endangered species and/or their critical habitat because no construction or changes in flows would occur and there is currently no habitat for these species in the project area.

4.4.2.2 Alternative 2 – Proposed Action

Vegetation

The estimated amount of area to be disturbed during project construction is itemized by project component in the Table 2. The total area is 25.5 acres, some of which is currently paved or degraded by sediment as noted in the table.

Construction of the Proposed Action would affect minimal vegetation. The area of the detention pond and sediment basin, where the primary disturbance during construction will take, has sparse vegetation due to the build-up of sediment. The natural channel stabilization, trail relocation, and the Gateway bridge replacement downstream of the pond would have minimal permanent impacts on vegetation and would minimize temporary impacts. Riparian and transitional vegetation would be temporarily lost as a result of the construction. Colorado Springs has also adopted a set of guidelines (Streamside Design Guidelines) for re-establishing vegetation along stream banks in the City (Colorado Springs 2009a), and these guidelines would be followed. Majority of the impacted vegetation would be replaced in accordance with the City's revegetation plan (AMEC 2009b) which was developed in accordance with the adopted guidelines. The temporary loss of vegetation would be considered to be a minor impact and with the natural channel stabilization additional riparian areas will be developed.

Table 2. Estimated Disturbance Area for the Proposed Action

Project Component	Disturbance area (acres)	Notes
Stormwater Detention/Sediment and Debris Facility	17.5	Approximately 5 acres that will be disturbed have been disturbed and denuded by sedimentation since the 2011 Waldo Canyon Wildfire. Nearly all of the area disturbed by the construction will be re-vegetated. The sediment and debris basin portion of the facility will be subject to future sedimentation.
Natural Channel Stabilization	5.5	Approximately 2.5 of these acres have been eroded and denuded by the increased flow of stormwater runoff since 2011 Waldo Canyon Wildfire. Nearly all of the area disturbed by the construction will re-vegetated.
Gateway Road Improvements Including a new bridge	2.5	Approximately 1 acre of this area is paved in the existing condition. The area of pavement will increase to approximately 1.5 acres with the project. The remaining 1 acre adjacent to the roadway will be re-vegetated.

Terrestrial Wildlife

The Proposed Action would include intense construction activities in the project area for approximately 8 to 12 months. Many wildlife species would vacate the project area during construction. Wildlife would likely not occupy the project area during construction because of lack of vegetation and construction noise. During construction, the project area would not provide cover, which would preclude the use of the stream corridor as migration route for most terrestrial wildlife species. Migrating terrestrial species would be forced to find an alternative route through the area or occupy a reduced range, potentially resulting in the loss of individual animals. Species found in this type of urban setting generally are not restricted to a stream corridor, but occur throughout an urban area. Therefore, these impacts would be minor and temporary. After the completion of the construction and revegetation of the disturbed areas, wildlife would return to the creek corridor. Therefore, the Proposed Action would have no long-term effect on local wildlife.

Vegetation removal would occur outside of the nesting and fledging period (April 1 to August 15) to prevent impacts on nesting migratory birds; therefore the Proposed Action would be in compliance with the MBTA. In addition, the project area will be surveyed for nesting activity prior to construction.

Aquatic Wildlife

As previously discussed, the Proposed Action would have a short-term adverse impact on water quality in Camp Creek during construction and a long-term beneficial impact following construction. Therefore, the Proposed Action would have a negligible effect on the limited aquatic resources that presently occur in the creek.

Threatened and Endangered Species

Federally Listed Species

As presented in Table 1 there are no habitats within the project limits that support Federally listed species. After initial project scoping dated 8/21/14, USFWS responded stating they have "no concerns" with the proposed project on 9/17/14. Therefore, FEMA has determined the Proposed Action would have no effect on Federally-listed Threatened or Endangered Species.

State-Listed Species
The State-listed species for El Paso County that are not also federally listed are the North American wolverine, western burrowing owl, sharp-tailed grouse, and Arkansas darter. As presented in Table 1 there are no habitats within the project limits that support State-listed species. Therefore, the Proposed Action would have no effect on State-listed species.

4.5 Cultural Resources

The National Historic Preservation Act of 1966 (NHPA) (16 U.S.C. § 470 et seq.) constitutes the primary Federal policy protecting historic properties and promoting historic preservation, in cooperation with States, tribal governments, local governments, and other consulting parties. The NHPA established the National Register of Historic Places (NRHP) and designated the State Historic Preservation Officer (SHPO) as the entity responsible for administering State-level programs. The NHPA also created the Advisory Council on Historic Preservation, the Federal agency responsible for overseeing the process described in Section 106 of the NHPA (16 U.S.C. § 470f) and for providing commentary on Federal activities, programs, and policies that affect historic properties.

Section 106 of the NHPA and its implementing regulations (36 CFR Part 800) contain the procedures for Federal agencies to follow to take into account the effect of their actions on historic properties. The Section 106 process applies to any Federal undertaking that has the potential to affect historic properties, defined at 36 CFR § 800.16(l)(1) as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places.” Although buildings and archaeological sites are most readily recognizable as historic properties, the NRHP contains a diverse range of resources that includes roads, landscapes, and vehicles.

Under Section 106, Federal agencies are responsible for identifying historic properties in the Area of Potential Effects (APE) for an undertaking; assessing the effects of the undertaking on those historic properties, if present; and considering ways to avoid, minimize, or mitigate any adverse effects. Because Section 106 is a process by which the Federal Government assesses the effects of its undertakings on historic properties, it is the primary regulatory framework used in the NEPA process to determine impacts on cultural resources.

4.5.1 Affected Environment

4.5.1.1 Section 106 Resource Inventory
In 2014, the State Historic Preservation Office (SHPO) was contacted to inform them of the project and the potential for impacts to cultural resources in the project area. A formal cultural resources assessment of the project area was initiated for the larger Camp Creek Drainage Improvements Project, including the FEMA funded detention pond and the two other future elements described as part of the Proposed Action in this EA.

Alpine Archaeological Consultants performed this work under State of Colorado Archaeological Permit 2014-27 conducted a Class I literature review and a Class III cultural resource inventory of the proposed overall project area along Camp Creek and within Garden of the Gods. Prior to the City of Colorado Springs Camp Creek Drainage improvement project, Alpine conducted a site file search and an intensive pedestrian archaeological inventory along two areas adjacent to Camp Creek. Alpine described these areas as the “northern project area” and the “southern project area”. The northern project area is the Proposed Action project area. The southern project area is located approximately 1.4 miles downstream of the Proposed Action project area

near the confluence of Camp Creek and Fountain Creek. Alpine also conducted an analysis of historic properties along 31st street (Appendix A and B), as well as documentation of the historic canal along Camp Creek within the 31st Street median. The inventory covered 147.7 acres of land, including 136.1 acres on lands managed by the City of Colorado Springs or the Garden of the Gods National Park and 11.6 acres on privately owned land. The objectives of the file search and cultural resource inventory were to locate all visible prehistoric and historic cultural resources within the project area, evaluate these resources for NRHP eligibility, and to make management recommendations. These objectives have been achieved.

The inventory resulted in the evaluation of 12 sites, seven of which were previously recorded, and five isolated finds (IFs). All recorded resources were on lands owned and managed by the City of Colorado Springs. The sites are all historic and include a ranch complex, a school, three linear sites relating to water conveyance systems, a bridge, four artifact scatters, and an inscription. One site (5EP188) has previously been listed in the National Register, two sites (5EP2900 and 5EP7359) are recommended as eligible for inclusion in the NRHP, and the remaining nine sites are recommended as not eligible for inclusion in the NRHP. The eligible water line, site 5EP7359, includes two documented segments, including one (segment 5EP7359.1) that is argued to be a non-contributing element and one (segment 5EP7359.2) that contributes to the eligibility of the resource. The IFs are all evaluated as not eligible for inclusion in the NRHP. Additionally, one Traditionally Used Site (TUS) was identified to Alpine during tribal consultation. Please note that none of these sites were present within the APE of proposed FEMA funded detention pond.

The State Historical Preservation Office has been provided a copy of the survey report titled "Cultural Resources Inventory of the Camp Creek Drainage Improvement Project in El Paso County Colorado", dated July 2014, by Alpine Archaeological Consultants, Inc.

The Rock Ledge Ranch Historic Site was determined eligible to the NRHP under Criteria A (event), B (persons), and C (architecture). The Ranch is significant for its association with two important regional industries: agriculture and health care. The Ranch is also important for its association with William Jackson Palmer, the founder of Colorado Springs; William Sclater, an internationally known ornithologist; and Thomas MacLaren, an important architect in Colorado Springs. The Ranch buildings are significant for their architectural features: Rock Ledge is characteristic of small vernacular farmhouses of the period and Orchard House is a fine, early example of Mission Style architecture in the area. (NRHP Inventory Nomination Form, August 1979)

Historic Rock Ledge Ranch

The Garden of the Gods has been the cross roads and gathering place of many different peoples and cultures including Native Americans (Ute, Apache, Kiowa, Comanche, Cheyenne, Arapaho, Lakota Sioux, to name a few), explores and adventures, and homesteaders and settlers – all leaving evidence of their culture and times.

An archaeological survey was undertaken in 1993 in the Garden of the Gods, finding both prehistoric and historic sites. Historic sites included foundations, structures, walls, sandstone floor, and red ceramic tile. Prehistoric sites and features included lithic (chipped stone) scatters, bison kill sites, hearths, rock-shelters, and rock art. This previous archaeological study suggests that more archaeological resources could be present within the project area along Camp Creek.

4.5.1.2 American Indian

Alpine Archaeological Consultants working with the City of Colorado Springs contacted and consulted with local and regional Americans Indians that have interest in the project area. Meetings were held with local representatives of American Indian tribes to make them aware of the project and to encourage them to participate in the community involvement process. The first meeting focused on identifying native people's issues of interest and concern related to cultural resources in the project area. Subsequent meetings with American Indians continued throughout the process, including on-site gatherings at Rock Ledge Ranch Historic Site and Garden of the Gods at the request of the local Native Americans Indians, so that the project team could get a better understanding of particular sites of concern to local American Indians.

At the invitation of the local American Indians the project team met at Rock Ledge Ranch Historic Site with them and with Southern Ute Tribe Elder Alden Naranjo in July 2014. The purpose of the meeting was to review with Mr. Naranjo the purpose of the Camp Creek Drainage Improvement Project, the community involvement process, and the Recommended Plan that resulted from that process. Mr. Naranjo expressed no concerns with the Recommended Plan. He was also informed that Alpine Archaeological Consultants had conducted a cultural resources inventory of the project area; he was later mailed a digital copy of the inventory report. The group also reviewed the nearby historic Indian encampment area Traditionally Used Site (TUS) and discussed project design modifications which could help protect the TUS.

Representatives of the local Native American community have participated in the community meetings that were held during the Camp Creek Drainage Improvement project planning process and have indicated their support for the project.

4.5.2 Environmental Consequences

4.5.2.1 Alternative 1 – No Action

The No Action Alternative would have no impact on cultural resources. Therefore, FEMA has determined that no historic properties would be affected by the No Action Alternative.

4.5.2.2 Alternative 2 – Proposed Action

The cultural resources survey concluded that no historic structures would be negatively impacted by construction of the proposed FEMA funded detention pond. Further, no significant historic artifacts or sites were found to be located in the area that would be disturbed by construction of the proposed FEMA funded detention pond. The State Historical Preservation Office and FEMA have been provided a copy of the survey report titled "Cultural Resources Inventory of the Camp Creek Drainage Improvement Project in El Paso County Colorado", dated July 2014.

Although not located within the area of the proposed FEMA detention pond, avoidance of the TUS was discussed with Richard Wilshusen (State Archaeologist at the SHPO) and Astrid Liverman (National and State Register Coordinator). If work in this area should become funded in the future by any party, SHPO recommended that the project avoid significant visual impacts to the area and that the western bank of the TUS be fenced during construction to help avoid inadvertent construction impacts and to reduce foot traffic in the area.

The proposed FEMA action of detention pond construction would have no impacts on the Rock Ledge Ranch.

Therefore, FEMA has determined that no historic properties would be affected by the Proposed Action Alternative. On January 20th, 2016 the Colorado SHPO concurred with FEMA's determination of no historic properties affected.

4.6 Socioeconomic Resources

Both the potential economic and social effects of the project are considered in this section.

4.6.1 Affected Environment

4.6.1.1 Socioeconomics

The project area is located within Garden of the Gods Park, which is publicly owned by the City of Colorado Springs. Admission to the park is free, providing no direct revenue to the City. The park's Visitor's Center on the east side of 30th Street includes a gift shop, and the Historic Rock Ledge Ranch west of 30th Street is available to rent out as a meeting venue. Garden of the Gods Park contributes indirectly to the region's economy by being a top tourist attraction. Other local attractions include Pikes Peak, the U.S. Air Force Academy, and to a lesser extent the U.S. Olympic Training Center. Regional tourism was reported at 6.3 million visitors in 2008 according to springstourism.com. Tourism has traditionally been an important contributor to the region's economy.

There are numerous motels located south of the park, along Colorado Avenue, potentially serving some park visitors. Nobody lives in Garden of the Gods Park, as is noted in population statistics discussed below.

4.6.1.2 Environmental Justice (*Executive Order 12898)*

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) directs Federal agencies to "make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

Table 3 indicates the percentages of minority and Hispanic or Latino populations (self-reported in the 2010 Census) for the City of Colorado Springs and for the three Census Tracts that abut the project area. Census Tracts 37.01 (north of Gateway Road, west of 30st Street) and 66 (south of Gateway Road, also west of 30th Street) encompass the project area. Census Tract 79 abuts these two Census tracts to the east. Only the population of Census Tract 66 (Pleasant Valley Neighborhood) is affected by downstream impacts of the project.

Table 3. Racial and Ethnic Population Percentages in the Project Area

Census Area (CT = Census Tract)	Population	Minority Percentage	Hispanic or Latino Percentage
City of Colorado Springs	416,427	29.3%	16.1%
CT 66 Pleasant Valley Neighborhood	2,539	9.1%	5.4%
Nearby populations not directly affected by project impacts:			
CT 37.01 Garden of the Gods[1]	7,513	12.8%	7.8%
CT 79 Kissing Camels Country Club[2]	2,216	13.4%	6.2%

[1] The population of CT 37.01 is physically separated from the park. No population resides in the park.
[2] The population of CT 79 is physically separated from the park by a steep mesa.

It can be seen from the data that the minority and Hispanic percentages for population in the Pleasant Valley Neighborhood are approximately one-third of the corresponding percentages for the city as a whole. The project is not located in a minority area.

Similarly, the project area is not a low-income area. The median household income for the Pleasant Valley Neighborhood (CT 66) is $60,089 annually. This is about 10 percent higher than the median household income for the City of Colorado Springs ($54,228), The median household income for the other census tracts abutting the project area are even higher - $77,000 for CT 37.01 and $84,145 for CT 79.

4.6.2 Environmental Consequences

4.6.2.1 Alternative 1 – No Action

Socioeconomics

No project-related activities would occur with the No Action Alternative. Therefore, it would have no direct effect on socioeconomics of the City or other local communities. Erosion in the Camp Creek channel would continue, and the risk of damage to development downstream from the project area.

Environmental Justice

The No Action Alternative would not involve any project related activities. Therefore, it would not have a disproportionately high and adverse impact on any population in the City, including minority and low-income populations.

4.6.2.2 Alternative 2 – Proposed Action

Socioeconomics

The Proposed Action would cost an estimated $12 million, to be funded by existing local tax revenues and a FEMA grant. Additional funding, possibly from NRCS, will be identified for the natural channel stabilization. The scale and type of proposed improvements are not highly specialized and thus could be completed by contractors from within the region or at least within the state. Thus the direct expenditures and their potential recycling through the local economy (multiplier effects) are likely to provide near-term economic benefits to the community.

Pleasant Valley Neighborhood residents downstream from the Proposed Action can be expected to accrue long-term benefits due to reduced damage from future flood events, as well as any potential reduction in flood insurance costs that may result from the project.

Construction of the Proposed Action is not expected to adversely affect visitation to the Garden of the Gods Parks specifically or to regional tourism in general. Any disruption of access to the park via Gateway Road (e.g., for bridge replacement) would be kept to a minimum. Scheduling the work outside the summer tourism season would be desirable. In any event, normal access to the park will remain available at Garden Drive, Beckers Lane, Columbia Road and Ridge Road. Garden of the Gods park is free to the public, so any temporarily reduced visitation (no reduction is anticipated) would not reduce city revenues.

Environmental Justice
Since no minority or low-income populations were identified in the vicinity of the project area, the Proposed Action would not have any disproportionately high and adverse impact on any minority or low-income populations.

4.7 Community Resources

4.7.1 Affected Environment

4.7.1.1 Noise
The project area is located within Garden of the Gods Park and is very quiet by urban standards. Noise from central Colorado Springs and Interstate 25 is blocked by the high mesa east of 30th Street. Traffic on 30th Street is the primary noise generator in the area.

4.7.1.2 Traffic
In the vicinity of the project area, 30th Street is a two-lane road, with a posted speed limit of 35 miles per hour, and does not attract heavy truck traffic. Gateway Road, leading into the park, is narrower and has a posted speed limit of 20 miles per hour. Traffic counts on these roads were not taken for this EA. Due to tourism, traffic on both 30th Street and Gateway Road can be assumed to peak during summer months.

4.7.1.3 Public Services and Utilities
Utilities along the Camp Creek Drainage Basin were evaluated in a January 2014 memorandum from Dan Kreuger (AMEC) to Mike Chaves, City of Colorado Springs. The memo covered the project area of the Proposed Action as well as the rest of the basin downstream to Fountain Creek. Numerous utility lines were documented within the basin south of the project area, where future drainage improvements are contemplated along 31st Street. A sanitary sewer line has been documented in the area of the pond.

4.7.1.4 Public Health and Safety
The project area is served by the police and fire departments of the City of Colorado Springs. The closest fire station to the project area is located at 2830 West Colorado Avenue, 2.1 miles from Gateway Road. The nearest Colorado Springs police station and hospital are further distant.

4.7.2 Environmental Consequences

4.7.2.1 Alternative 1 – No Action
Noise
The No Action Alternative does not involve any foreseeable construction activity and would have no noise impacts.

Traffic
The No Action Alternative does not involve any road improvements or access disruption and thus would have no traffic impacts.

Public Services and Utilities
The No Action Alternative does not involve any construction and thus would have no impacts on public services or utilities.

Public Health and Safety
The No Action Alternative does not involve any road improvements or access disruption and thus would have no impact on emergency response times. The No Action Alternative would leave unchanged the fact that motorists using Gateway Road and 31st Street and residences downstream are at increased flooding risk due to the watershed damage resulting from the disastrous Waldo Canyon Fire of 2012.

4.7.2.2 Alternative 2 – Proposed Action

Traffic
There is potential for some delay or detouring of traffic on Gateway Road when its bridge over Camp Creek is replaced. Exact construction details are not known at this time, but a variety of methods are available to minimize traffic disruption. Access into and out of this eastern park entrance is expected to be available throughout the construction process. Any full closure of this roadway, if necessary, would be kept to a minimum and would be scheduled to avoid the summertime peak tourist season.

Public Services and Utilities
The sanitary sewer line through the pond site will be impacted and will be accommodated in the final design. No disruption of service is anticipated.

Public Health and Safety
The Proposed Action would not affect 30th Street and thus would not affect the passage of emergency responders on this important west-side roadway. Disruption of access into Garden of the Gods Park via Gateway Road would be minimized by construction methods and scheduling. In any event, access into the park is available via several other roadways to the south.

Downstream residences in the Pleasant Valley Neighborhood would experience a substantially reduced flooding risk as a result of implementing the Proposed Action. It is recognized that future 31st Street drainage improvements in that neighborhood would be needed to achieve a greater improvement with regard to this matter.

4.8 Hazardous Substance/Wastes

A substance is classified as hazardous if it has the potential to damage the environment and/or be harmful to humans and other living organisms. The presence of a hazardous substance/waste within, in the vicinity, and/or upgradient of a project area is important in determining development constraints and viability of an action.

4.8.1 Affected Environment

To determine whether any facilities in the vicinity of the project area have known and

documented environmental issues or concerns an American Society for Testing and Materials (ASTM) standard record search was performed for the Camp Creek corridor. The record search reviews state and federal databases for known or reported regulated events at or in the vicinity of a specified property. The record search contains no evaluation of the potential environmental impact to the site, nor does the report generated constitute a Phase I Environmental Assessment of the property. Further, the absence of information on a particular parcel or property does not necessarily mean that there are no problems connected with the property. The records search identified two properties adjacent to the Camp Creek basin with minimal potential to impact the project from leaking storage tanks (LST). These sites are located approximately 6,200 feet south and down gradient of the project near the intersection of 31st Street and Colorado at the following addresses:

1) Amoco Oil #5494 3104 W Colorado Blvd
2) K&S Automotive 3042 W Pikes Peak Ave

The reconnaissance survey of the Camp Creek project area did not identify any additional hazardous material sites.

4.8.2 Environmental Consequences

4.8.2.1 Alternative 1 – No Action

With the No Action Alternative, no project related activities would occur. Therefore, the alternative would have no impact on the LST sites.

4.8.2.2 Alternative 2 – Proposed Action

As discussed previously, the LST sites are located approximately 6,200 feet south and down gradient of the project area. The Proposed Action would have no effect on these LST sites.

In the unlikely event that a spill or leak in the project area occurred or hazardous materials are encountered during construction, construction would be stopped, procedures in the Hazardous Materials Management Plan would be followed to contain the spill or leak, and FEMA and the CDPHE would be contacted regarding the appropriate procedure for handling any contaminated soils.

4.9 Cumulative Impacts

4.9 Cumulative Impacts

Section 1508.7 of the CEQ Regulations defines cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions.” Cumulative effects are not wholly different effects from direct or indirect effects of an action. Cumulative effects analysis offers a way of placing seemingly isolated or insignificant direct and indirect effects in context with respect to overall impacts, both over time and in an area larger than that evaluated for direct and indirect effects.

In addition to the Proposed Action, the following past, present, and foreseeable future projects within the Camp Creek drainage are included in the assessment of cumulative impacts:

- At the upstream limits of the project area, an interim sediment basin, within the footprint of the proposed project, was constructed in the northeast corner of Garden of the Gods Park on Glen Eyrie property Camp Creek in the summer of 2014.

- Downstream of the project area, proposed drainage improvements and street reconstruction along 31st Street are reasonably foreseeable in the future and will be a high priority but exceed currently available funding resources.

The entire reach of the creek has experienced excessive erosion and continues to degrade resulting excessive sediment deposition and damage to road and trail systems. The interim sediment basin would help reduce peak flow rates, which in turn would help to minimize soil erosion and sedimentation during large storm events.

The proposed downstream drainage improvements and street reconstruction along 31st Street would increase the capacity of the existing concrete channel to convey storm runoff from Camp Creek through the Pleasant Valley neighborhood to Fountain Creek, reducing the potential for flood damage in the area.

The noted past, present, and foreseeable future projects, in combination with the Proposed Action, are anticipated to have long-term positive impacts on the overall function of the Camp Creek drainage.

5.0 Summary of Impacts

A summary of potential environmental impacts of Alternative 1 (No Action) and Alternative 2 (Proposed Action) are presented in **Table 4**.

Under the No Action Alternative, the City and private property owners would take no action to mitigate peak flow rates, reduce downstream flood risks, prevent further bank and streambed erosion, and channel meandering within Camp Creek in the project area.

The Proposed Action consists of three work elements that when implemented would greatly reduce the risk of flooding downstream and reduce bank and streambed erosion within Camp Creek. The three work elements are:

- Construction of a stormwater detention/sediment retention pond on the north end of the Garden of the Gods Park,
- Reconstruction of the Gateway Roadway bridge with associated roadway elements, and
- Stabilize the natural channel through the Garden of the Gods.

Table 4: Environmental Effects of the No Action Alternative and the Proposed Action

Environmental Resource	Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Proposed Action
Physical	Topography and soils	• No effect. • Existing erosion of soils would continue and over time would contribute to changes in topography.	• No effect on geology. • Development of the stormwater detention/sediment and debris collection facility and associated dam will impact localized topography, but will be graded in a manner that blends well with the natural contours in the area. • In the short term, project activities would affect approximately 25.5 acres of soil. • Stabilizing the streambed and banks would reduce soil erosion and represent a long-term beneficial effect.
	Air quality and climate change	• No effect.	• No long-term effect on air quality. • Minor increases in particulates and exhaust-related air pollutants are expected during construction. A State Air Pollution Permit would be required. • Due to the limited emission of greenhouse gases, no detectable effect on global climate.

Table 4: Environmental Effects of the No Action Alternative and the Proposed Action (continued)

Environmental Resource	Subcategory	Alternative 1 – No Action	Alternative 2 – Proposed Action
Physical (continued)	Visual Resources	• Continued erosion would have a negative impact on local visual resources.	• During construction, a temporary adverse effect on local visual resources from grading, excavation, and presence of construction equipment. • The grading and excavation will remove a portion of the wooded riparian area and grasses in the area. • Aggressive re-vegetation plan will blend with adjacent natural topography and vegetation to reduce impact. • The Proposed Action would have a long-term beneficial effect on visual resources in the stream corridor and surrounding area because the eroded stream banks would be restored to support vegetation. • The stormwater detention/sediment and debris collection facility will mitigate the potential for sediment and debris to be deposited over native vegetation in the view corridors of Garden of the Gods Park.
Water Resources	Surface water	• No direct effect on surface water hydrology or water quality. • Sedimentation (eroded soils) would continue to adversely affect water quality of the stream especially during flood events.	• Peak flow rates in Camp Creek will be reduced during large infrequent flow events downstream of the proposed detention pond. • Temporary adverse impacts on the water quality (sediment loading) of the creek doing construction. • A NPDES Construction Permit would be required from the CDPHE and a Section 404 Permit would be required from the USACE. • In the long term, stabilizing the streambed and banks would have a beneficial effect on the water quality of Camp Creek.
Water Resources (continued)	Floodplains	• No effect.	• The floodplain of Camp Creek through the Pleasant Valley neighborhood would be reduced in size due flow in large flood events. The natural channel stabilization through the project area will help reconnect Camp Creek to its historic footprint. • A CLOMR would be required prior to the start of construction and a LOMR would be needed after the work has been completed. • A Floodplain Development Permit would need to be obtained from the Pikes Peak Regional Building Department.
	Wetlands	• No effect.	• No wetlands are located in the project area.

Table 4: Environmental Effects of the No Action Alternative and the Proposed Action (continued)

Environmental Resource	Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Proposed Action
Biological	Vegetation	• No effect.	• Approximately 25.5 acres with sporadic vegetation would be affected during construction. • Disturbed area would be revegetated with a mixture of native grasses and shrubs.
	Terrestrial wildlife	• No direct effect. • Stream bank erosion would continue and would result in loss of low quality wildlife habitat.	• Wildlife in the vicinity of the project area would be adversely affected during the 8 to 12 month construction period. • Wildlife habitat would return to pre-project conditions following construction and revegetation.
	Aquatic wildlife	• No effect.	• Aquatic wildlife present in and downstream of Camp Creek may be temporary adversely affected during construction by increased turbidity levels. • Stabilization of the stream banks would reduce erosion, which would improve habitat conditions for aquatic resources in and downstream of the project area.
	Threatened and endangered species	• No effect.	• No federally listed threatened or endangered species or their habitat is located in the project area. FEMA has determined that the Proposed Action will have no effect on federally listed threatened or endangered species. • No State-listed threatened or endangered species would be affected by the Proposed Action.
Cultural Resources	Aboveground resources	• No effect.	• No historic properties adversely affected.
	Archaeological resources	• No effect.	• No historic properties affected.

Table 4: Environmental Effects of the No Action Alternative and the Proposed Action (continued)

Environmental Resource	Resource Subcategory	Alternative 1 – No Action	Alternative 2 – Proposed Action
Socioeconomics and Environmental Justice	Socioeconomics	• No effect	• No minority or low-income populations are present in or adjacent to the project area. • Minor economic benefit during the construction period associated with the purchase of goods and services.
	Environmental justice	• No effect.	• No disproportionately high or adverse impacts on any population in Colorado Springs, including minority and low income populations.

6.0 Agency Coordination, Permits and Public Involvement

6.1 Agency Coordination and Permits

Future coordination, permitting, and/or mitigation requirements that would be expected for the following agencies are identified below:

- U.S. Fish and Wildlife Service. No additional coordination or permits would be required related to ESA. The project area must be surveyed for nesting activity prior to construction in compliance with the MBTA.
- U.S. Army Corps of Engineers. Alternative 2 (Proposed Action) would require additional coordination with the USACE regarding a Section 404 Permit. Because the stormwater detention/sediment retention pond, Gateway Roadway improvements, and the natural channel stability will be constructed in phases the project is expected to use two or possibly three 404 permit criteria. The USACE is working with the project team to determine the most appropriate permitting process. Mitigation measured identified in the permit(s) would need to be implemented by Colorado Springs.
- Natural Resources Conservation Service. No additional coordination or permits would be required.
- Colorado State Historic Preservation Officer. No additional coordination would be required unless cultural resources are encountered during construction.
- Colorado Parks and Wildlife. No additional coordination or permits would be required.
- Colorado Department of Public Health and Environment. A State Air Pollution Permit would need to be obtained prior to beginning construction, and a NPDES Construction Permit and Section 401 Water Quality Certification would be required prior to the start of construction of the Proposed Action.
- Pikes Peak Regional Building Department. The Proposed Action includes activities in the designated floodplain of Camp Creek. Therefore, a Floodplain Construction Permit would be needed. In addition, Colorado Springs would need to submit a CLOMR prior to construction and upon completion of the project, a LOMR would need to submitted.

6.2 Public Involvement

The purpose of the community involvement process for the Camp Creek Drainage Improvement Project was to engage the community in developing solutions to the corridor drainage challenges. Those solutions had to be both technically sound and responsive to community needs and values.

To that end, the following goals were established for successfully integrating the technical and community perspectives through an open public process:

- Demonstrate to the community that the project is necessary;
- Quantify existing constraints and opportunities, both physical and community values-based;
- Build trust with the community;
- Develop an integrated plan for drainage, road and bridge improvements through a robust, collaborative process with public and private stakeholders; and
- Develop a plan for short-term and long-term funding and logical project phasing, with the intent to implement improvements as quickly as possible.

The process was designed to incorporate and balance both technical and community perspectives. As a result, internal/technical steps were interwoven and coordinated with

external/community steps. Each step in the process was designed to inform the next so that the final recommended solution reflected an invaluable melding of both perspectives.

In addition to defining the purpose of and need for the project, the City Project Team agreed upon a set of project "givens" as one of the first planning steps. The givens reflected those elements of any potential solution which the City of Colorado Springs considered non-negotiable. They served as the parameters for decisions made during the project and were communicated to the community throughout the process so that expectations were clear.

6.2.1 Public Notices

6.2.1.1 Initial Public Notice
Step One: Identify community issues, concerns, and priorities

1. A total of 45 face-to-face and telephone interviews were conducted by the Wilson & Company Team with a variety of groups, individuals, and agencies interested in and/or potentially impacted by the project. The purpose of the interviews was three-fold: to explain the project purpose and the public involvement process; to ask for assistance in spreading the word about the process; and to solicit issues, concerns, and priorities related to the project.
2. The first community workshop was held on October 22, 2013 and attended by approximately 150 people. As with the interviews, the primary purpose of the workshop was to provide information about the project's purpose and the public involvement process as well as to solicit the community's issues, concerns and priorities. Participants also reviewed and responded to a Preliminary Project Issues List which reflected summarized results from the interviews.

<u>How results were used:</u>
- Interviews: Results from all interviews were documented and summarized and were shared with the City Project Team and with the community at the October 22 workshop.
- Community workshop: All issues, concerns, and priorities submitted during the workshop were fully documented and summarized. Comments about the Preliminary Project Issues list were incorporated and a final Project Issues List prepared. Workshop results were reviewed with the City Project Team and both verbatim and summary results were placed on the project website for public review and reference. A newsletter summarizing workshop results was also distributed to all workshop participants. Project engineers were guided by interview and workshop results as they prepared a range of possible design concepts.

Step Two: Review and respond to design concepts

A second community workshop was held on December 12, 2013 and was attended by approximately 60 people. The purpose of the workshop was to present information about hydrology in the area and to present five design concepts for review and response by workshop participants. The concepts were presented not as recommendations, but as possible approaches to design solutions to address the Camp Creek corridor drainage and erosion issues.

Workshop participants worked in small groups to assess each of the concepts and completed response forms. The forms solicited information about what each group liked best about each concept and why and what the group liked least about each concept and why. Groups then

reported their group's assessment to the full group so there could be broad awareness about general response to the concepts. Additionally, participants were provided with the list of design criteria that would be used by the City/Wilson & Company Project Team in development and final assessment of proposed solutions. The criteria were based on community issues and priorities gathered through Step One of the process, as well environmental needs and technical requirements.

How results were used

All of the small groups' assessments of the five concepts were compiled and summarized. sults were reviewed with the City Project Team and both verbatim and summary results were placed on the project website for public review and reference. All workshop responses were summarized in a newsletter distributed to participants in the first and second community workshops. Through the results, project engineers were able to understand elements of the concepts that were less acceptable to the community and were able to keep the community context in mind as they developed the subsequent design alternatives.

Step Three: Review and respond to alternatives

1. Two of the concepts presented during the Step Two workshop included the option of raising Gateway Road 15-17 feet in order to accommodate a medium-sized detention pond immediately north of Gateway Road in the Garden of the Gods. It was apparent from comments of some workshop participants that they were having trouble envisioning the visual impact of that option. So that there would be the opportunity for full understanding of potential impacts, project engineers worked with the Parks, Recreation and Cultural Services Department staff to place a series of 10 white poles along the north and south sides of Gateway Road to demonstrate the approximate elevation the surface of Gateway Road would be raised if that element of a solution was chosen. Participants in the first two workshops were notified by e-mail to let them know about the demonstration project and encourage them to view it prior to the third workshop.
2. The third in a series of community workshops was held on February 25, 2014 with approximately 125 in attendance. The workshop's primary purpose was to present and solicit the community's response to three design alternatives. The alternatives were based on the community's assessment of the five concepts presented in Step Two as well as ongoing technical analysis and assessment of the Camp Creek corridor. Again working in small groups, participants were asked to provide a numerical level of support for each of the three alternatives and an explanation of what would increase or decrease their group's level of support for each alternative.

How results were used

Community workshop: All of the workshop groups' ratings and comments about the three design alternatives were compiled and summarized and reviewed with the City Project Team. Verbatim and summary results were placed on the project website for public review and reference and all workshop responses were summarized in a newsletter distributed to all participants in the first, second and third community workshops. Results indicated a significantly higher level of community support for one of the alternatives over the other two.

Before moving forward on the decision about which alternative to recommend, the City/Wilson & Company Project Team applied the design criteria to all of the alternatives. As a result, the alternative which featured a grass-lined channel along 31st Street with a large upstream detention pond in the far northern end of Garden of the Gods was selected as the Preferred

Plan, reflecting both the community's first preference and the alternative's ability to meet the design criteria.

Community Step Four: Review preferred alternative

On April 29, 2014, the recommended Camp Creek Drainage Improvement Plan was presented at an open house for community review and response. Over 100 people reviewed displays, asked questions of and discussed Plan details with project engineers. The open house segment of the meeting was followed by a short presentation of the Plan and next steps in the process. All attendees were asked to complete an individual response form which asked: "Is there anything you would like the Camp Creek Drainage Improvement Project Team to know and understand about the Recommended Plan".

How results were used

All open house comments about the Recommended Plan were compiled and summarized and reviewed with the City Project Team. Verbatim and summary results were placed on the project website for public review and reference and open house responses were summarized in a newsletter distributed to all who had participated in any part of the process.

Responses indicated many people liked the Recommended Plan. Concerns about the Plan included traffic and parking impacts on 31st Street, future maintenance, Plan implementation, pedestrian/bicyclist safety on 31st Street and moving the bike lane to 30th Street. Responses about the community involvement process were generally positive as well. Project engineers reviewed all comments submitted and made only minor modifications to the Recommended Plan as a result. The recommended plan includes all three elements that make up the current proposed project.

FEMA Public Notices

In addition to the steps discussed above, a FEMA Notice of Intent to prepare an Environmental Assessment was published in the Colorado Springs Gazette on October 1, 2015. The notice contained the text included below. A copy of the notice as published is included in Appendix C. No comments were received during the 15 day public comment period.

Notice of Intent
To prepare an Environmental Assessment for
Garden of the Gods Detention Facility and Camp Creek Stabilization
Garden of the Gods Park and Rock Ledge Ranch, Colorado Springs, Colorado

Public notification is hereby given by the Department of Homeland Security's Federal Emergency Management Agency (FEMA) of the intent to prepare an Environmental Assessment (EA) for proposed projects on Camp Creek in Garden of the Gods Park and Rock Ledge Ranch in Colorado Springs, Colorado. The City of Colorado Springs has requested assistance from FEMA for the proposed construction of a stormwater detention and sediment collection facility in the northeastern corner of the park. A future project to add naturalistic grade control along Camp Creek through Garden of the Gods Park and Rock Ledge Ranch will also be included in the EA.

This notification is provided pursuant to the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), Executive Order 11988 – Floodplain Management, and Executive Order 11990 – Wetland Protection, and Federal agency

implementation procedures including 44 C.F.R. Parts 9 and 10.

FEMA is considering funding the detention pond project through the Hazard Mitigation Grant Program, which provides funds to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. In accordance with NEPA, an EA will be prepared to evaluate the potential impact of the proposed projects on the human and natural environment. The EA will also address any connected actions that will be carried out as part of the proposed projects.

Background

Camp Creek drains a 10 square mile watershed, which originates in the steep and rocky Pike National Forest to the northwest. The Waldo Canyon Fire in the summer of 2012 altered the watershed. The Camp Creek watershed sustained soil burns and loss of vegetation from the fire. This condition has greatly increased the potential for storm runoff and sediment transport and has resulted in increased peak flow rates, runoff volumes, and frequency of runoff events associated with Camp Creek. Large amounts of sediment were deposited along portions of Camp Creek in a large storm event in 2013 and during several storm events this year. Erosion is occurring in other portions of Camp Creek.

The Pleasant Valley neighborhood borders the Camp Creek/31st Street channel and includes over 200 properties that are in the special flood hazard area. The risk of flooding is due to inadequate capacity in the channelized portion of Camp Creek that flows in the center median of 31st Street through the neighborhood. Important pedestrian corridors to neighborhood facilities and schools and 31st Street are included in the Camp Creek floodplain

All vehicle access to the northwest quadrant of the Pleasant Valley Neighborhood is across or through 31st Street. Thus, emergency access to the neighborhood is cut off during large flood events. Many of the homes in the Camp Creek floodplain have basements that are subject to flooding. Thus, flooding associated with Camp Creek poses property damage and life safety risks.

Sediment deposits and erosion along Camp Creek are having a negative impact on Garden of the Gods and Rock Ledge Ranch. The Gateway Road Bridge over Camp Creek has marginal capacity for flood flows and thus, Gateway Road is closed when the potential for large flows in the creek exists during rainfall events.

Project Description

The proposed detention pond project is the initial element of a multi-phased Camp Creek Drainage Improvement Project that was developed through a planning process with robust public involvement in 2013 and 2014. The proposed pond and future naturalistic channel stabilization are part of the plan that was most favored by the public through the planning process.

The proposed pond will significantly reduce peak flow rates, sediment and debris that must be conveyed through Camp Creek within Garden of the Gods, Rock Ledge Ranch and the 31st Street Channel during large flood events. Thus, it will significantly reduce the potential for flood damage and life safety issues. The project will also reduce the potential for sedimentation and erosion in Garden of the Gods Park and closures of Gateway Road during large runoff events.

The proposed pond will store a portion of the runoff from the contributing watershed during large storm events and release flow to the downstream Camp Creek channel at reduced rates over an extended period of time. In the 100-year flood, the pond will control the peak rate of flow in the downstream portion of Camp Creek to less than half of the inflow rate which will result in a significant reduction in the size of the floodplain along the Creek. A portion of the pond will be configured to collect and store sediment and debris in a location that can be accessed for cleanout by the City.

The future naturalistic stabilization of Camp Creek through Garden of the Gods Park and Rock Ledge Ranch will add numerous drop structures constructed of boulders along the creek to mitigate erosion that is occurring with increased runoff from the Waldo Canyon burn scar.

The proposed projects will affect a segment of Camp Creek that is designated as “water of the United States” and has an associated FEMA designated floodplain. All required federal, state and local permits and approvals, including a Clean Water Act Section 404 permit from the regulatory office of the U.S. Army Corps of Engineers will be needed prior to construction.

Comment Period

A public comment period related to the Proposed Action will remain open for 15 days following publication of this notice. In addition to this initial comment period, a final opportunity for public review and comment will be provided when the Draft EA becomes available. Interested parties may submit comments or request additional project information by contacting:

Vancel Fossinger, Project Manager, Wilson & Company, 5755 Mark Dabling Boulevard, Suite 220, Colorado Springs, CO 80919, Email: vance.fossinger@wilsonco.com,
Telephone: (719) 302-6742 Or:

Daniel Jones, Environmental Specialist, FEMA Region VIII, DFC Building 710, P.O. Box 25267, Denver, Colorado 80225-0267, Email: Daniel.Jones5@fema.dhs.gov
Telephone: (303) 231-1887

6.2.1.2 Final Public Notice

A FEMA Notice of Availability of the Draft Environmental Assessment will be published in the Colorado Springs Gazette. It will contain the following text:

PUBLIC NOTICE

Federal Emergency Management Agency
Notice of Availability of the Draft Environmental Assessment
For the Camp Creek Garden of the Gods Detention Facility and Downstream Improvements
Colorado Springs, Colorado

Interested persons are hereby notified that the Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS), in cooperation with the City of Colorado Springs, Colorado are preparing an Environmental Assessment (EA) for proposed projects on Camp Creek in Garden of the Gods Park and Rock Ledge Ranch in Colorado Springs, Colorado. Funding for the Camp Creek Garden of the Gods Detention Facility portion of the Proposed Action would be provided through the Hazard Mitigation Grant Program (HMGP), which funds long-term hazard mitigation measures after a major disaster declaration. In

accordance with the National Environmental Policy Act (NEPA) of 1969 and the implementing regulations of FEMA, an EA is being prepared to assess the potential impacts of each of the proposed alternatives on the human and natural environment. This also provides public notice to invite public comments on the proposed project in accordance with the National Historic Preservation Act (NHPA) of 1966, Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands.

The City of Colorado Springs has identified the need to mitigate future public and private property damage and the potential for loss of life and injury due to natural hazards including flooding, erosion, and sedimentation along the Camp Creek corridor. The Proposed Action would consist of the Garden of the Gods Detention Facility on Camp Creek in the northern portion of Garden of the Gods Park and additional elements which are outside of the scope of the HMGP and will be funded through other sources. The additional elements include bridge and roadway improvements to Gateway Road and naturalistic channel stabilization improvements to Camp Creek between the outlet of the proposed stormwater detention facility and Chambers Way. The timing of construction of the additional elements is dependent on funding and is yet to be determined. Other Federal Agencies may choose to adopt FEMA's NEPA analysis in accordance with their own implementing regulations. All of the Proposed Action project elements are part of the Camp Creek Drainage Improvement Project which was Master Planned in 2013 and 2014.

A public comment period related to the Proposed Action will remain open for 15 days following publication of this notice. If no substantive comments are received by the above deadline, the draft EA will become final and associated Finding of No Significant Impact (FONSI) will be issued by FEMA. Substantive comments will be addressed as appropriate in the final documents.

The draft Environmental Assessment will be available for public viewing at the City of Colorado Springs, City Engineering Office at 30 South Nevada Avenue, Suite 401, Colorado Springs, Colorado between the hours of 8:00 a.m. and 4:30 p.m. (MT) Monday through Friday. The document will also be available on the City of Colorado Springs Camp Creek Project website at https://coloradosprings.gov/resident-services/public-works/city-engineering/camp-creek . Comments and requests for technical information can be submitted to Vancel Fossinger, Project Manager, Wilson & Company, Engineers & Architects, Inc., at (719) 302-6742 or by email at vance.fossinger@wilsonco.com

Interested parties may also submit comments or request additional information by contacting Daniel Jones, Environmental Specialist, FEMA Region VIII, Denver Federal Center, P.O. Box 25267, Denver, Colorado, 80225, by telephone at (303) 231-1887 between 8:00 a.m. and 4:30 p.m. (MT), Monday thru Friday, or by email at Daniel.Jones5@fema.dhs.gov.

6.2.2 Public Comments

INSERT WHEN AVAILABLE

7.0 Agencies Consulted

Colorado Department of Public Health and Environment
Air Pollution Control Division
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-WQPS-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
HMWMD-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Jamie Prochno
Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

Dan W. Corson
Intergovernmental Services Director
Office of Archaeology and Historic Preservation
History Colorado
1200 Broadway
Denver, Colorado 80203

Susan Linner, Field Supervisor
Colorado Ecological Services Office
U.S. Fish & Wildlife Service
134 Union Blvd., Suite 670
PO Box 25486 DFC
Denver, CO 80225

Colorado Department of Natural Resources – State Parks
1313 Sherman Street, 6th Floor
Denver, CO 80203

John Andrews, PE, State Conservation Engineer
USDA Natural Resource Conservation Service
Denver Federal Center, Building 56, Room 2604
PO Box 25426
Denver, CO 80225-0426

U.S. Army Corps of Engineers
Southern Colorado Regulatory Office
Albuquerque District
200 South Santa Fe Ave., Suite 301
Pueblo, CO 81003

Heather Eggleston
National Park Service
12795 West Alameda Parkway
Lakewood, CO 80228

8.0 References

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Colorado Springs (City of Colorado Springs). 2009a. Streamside Design Guidelines. Available at: http://www.springsgov.com/Files/Streamside.pdf.

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CEQ (Council on Environmental Quality). 2010. *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*.

CPW (Colorado Parks and Wildlife). 2012a. Wildlife Species. Species of Concern. Threatened and Endangered List. Available at http://wildlife.state.co.us/WildlifeSpecies/SpeciesOfConcern/ThreatenedEndangeredList/Pages/ListOfThreatenedAndEndangeredSpecies.aspx.

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EPA. (U.S. Environmental Protection Agency). 2012. "Counties designated as 'Nonattainment' or 'Maintenance' for Clean Air Act's National Air Ambient Quality Standards (NAAQS)." Available at http://www.epa.gov/air/oaqps/greenbk/mapnmpoll.html

USFWS. 2012. IPaC – Information, Planning, and Conservation Online System. Available at http://ecos.fws.gov/ipac/.

USGS (U.S. Geological Society). 2012. Peak streamflow for Colorado USGS 07103980 Cottonwood Creek at Woodmen Rd NR Colorado Springs, CO. Surface water: Peak streamflow. Available at http://nwis.waterdata.usgs.gov/co/nwis.

Woodling, John. 1985. *Colorado's Little Fish – A Guide to the Minnows and Other Lesser Known Fishes in the State of Colorado*. Denver, CO: Colorado Division of Wildlife, Department of Natural Resources.