

**Kannah Creek and Purdy Mesa Flow Lines Intertie Project
City of Grand Junction**

**WaterSMART Drought Response Program:
FY22 Drought Resiliency Project Grant Application**

Notice of Funding Opportunity No. R22AS00020

October 5, 2021

Applicant:

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Unique Entity Identifier:

4SK15

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1.0 Technical Proposal

This section presents the technical proposal and addresses the evaluation criteria for the proposed Kannah Creek and Purdy Mesa Flow Lines Intertie Project.

1.1 Executive Summary

Date: October 5, 2021

Applicant Name: City of Grand Junction

Location: City of Grand Junction, Mesa County, Colorado

Applicant Category: As a municipal water utility, the city of Grand Junction is a Category A applicant.

Project Summary:

The city of Grand Junction will construct an intertie between its two water supply lines, the Purdy Mesa Flow Line and the Kannah Creek Flow Line, to provide operational flexibility by enabling delivery of water to the Grand Junction Water Treatment Plant either directly from the Kannah Creek or from the Juniata Reservoir through either line. The City is currently limited to conveying 5 million gallons per day from the Kannah Creek through the Kannah Creek Flow Line. The intertie project will increase the total capacity of the Kannah Creek Flow Line to 9.7 million gallons per day when conveying water directly from Kannah Creek. The intertie between the Kannah Creek Flow Line and the Purdy Mesa Flow Line will also enable delivery up to 6.2 million gallons per day (an additional 6,945 acre-feet per year) from Juniata Reservoir through the Kannah Creek Flow Line to meet municipal water demands during times of drought.

Schedule:

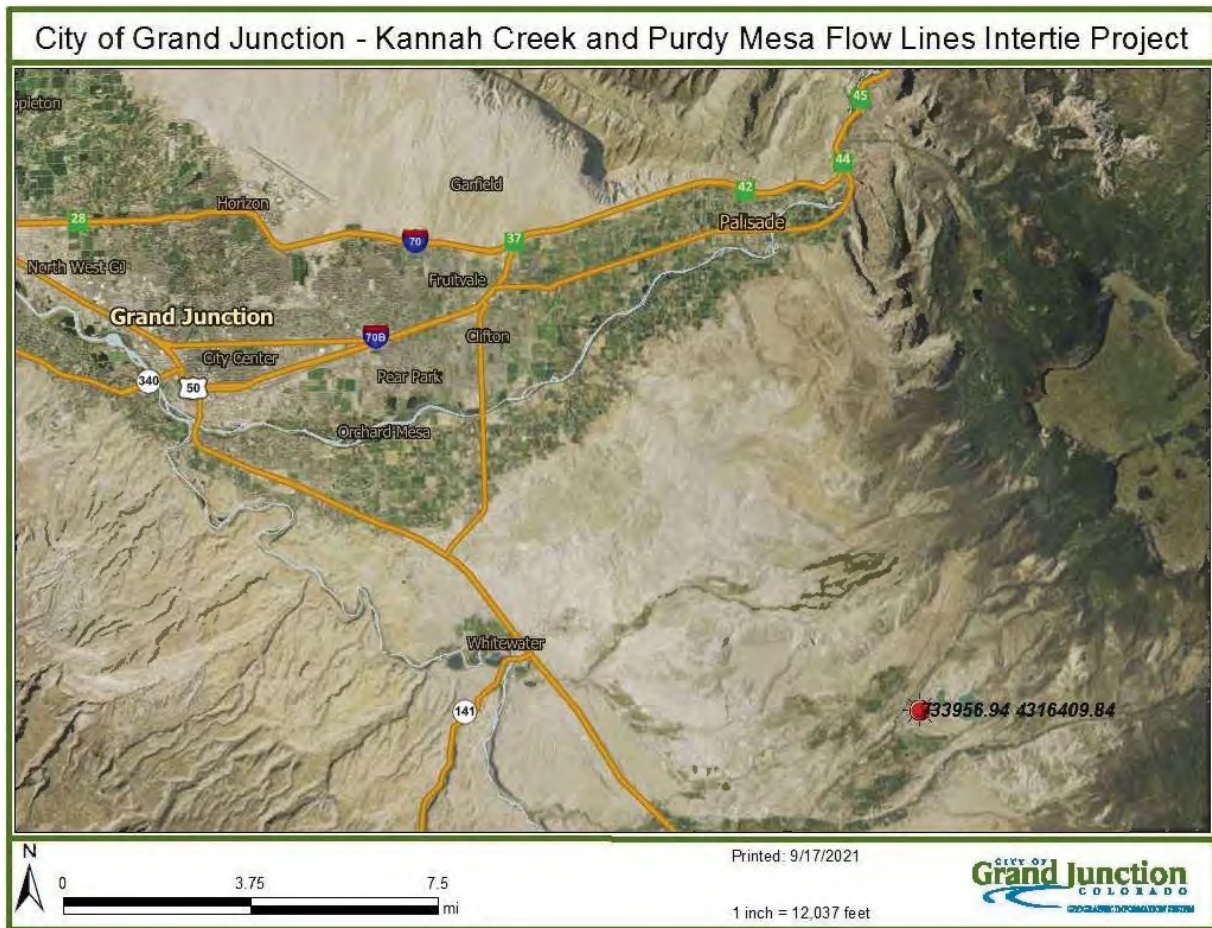
The City of Grand Junction has completed design of this project. Construction of the project can be initiated in July 2022 following execution of the financial assistance agreement and approval of NEPA compliance. The total estimated duration of the project is 4 to 6 weeks so the project could be completed by October 2022. A completion date of December 30, 2022 is requested to allow for unanticipated delays.

Whether or not the proposed project is located on a Federal facility:

The Juniata Inlet and the Kannah Creek and Purdy Mesa Intertie project is located on private property within a City easement and on City property.

1.2 Project Location

The Kannah Creek and Purdy Mesa Flow Lines Intertie Project is located in Mesa County, Colorado approximately 15 miles southeast of the city of Grand Junction at latitude/longitude 733956.94, 4316409.84 as shown in the following figure.



1.3 Technical Project Description

The city of Grand Junction will construct an intertie between its two water supply lines, the Purdy Mesa Flow Line and the Kannah Creek Flow Line, to provide operational flexibility by enabling delivery of water to the Grand Junction Water Treatment Plant either directly from the Kannah Creek or from the Juniata Reservoir through either line. The City is currently limited to conveying 5 million gallons per day from the Kannah Creek through the Kannah Creek Flow Line. The intertie project will increase the total capacity of the Kannah Creek Flow Line to 9.7 million gallons per day when conveying water directly from Kannah Creek. The intertie between the Kannah Creek Flow Line and the Purdy Mesa Flow Line will also enable delivery up to 6.2 million gallons per day (an additional 6,945 acre-feet per year) from Juniata Reservoir through the Kannah Creek Flow Line to meet municipal water demands during times of drought.

Design of the intertie project has already been completed. The project elements include:

- Enlarging 1,710 feet of pipeline upstream of the proposed intertie from 14- and 16-inch diameter pipe to 20-inch diameter pipe. The current pipe sizes limit the amount of water that can be conveyed through the Kannah Creek pipeline. At

times when the City can divert both its paramount (7.81 cfs) and No. 2 (3.91 cfs) water right on the Kannah Creek, the pipe constraint does not allow conveyance of all flows through the Kannah Creek Flow Line. Increasing the size of this segment of line, will enable conveyance of up to 9.7 million gallons of water per day. The increased capacity will also allow the City to divert additional reservoir releases from the top of the Grand Mesa to meet demands in the event of any water quality impacts such as wildfire or harmful algal blooms (HABs).

- An intertie between the Kannah Creek Flow Line and the Purdy Mesa Flow Line.
- Enlarging about 3,080 feet of pipeline downstream of the proposed intertie from 14- and 16-inch diameter pipe to 20-inch diameter pipe. The current sizes limit the amount of water that can be conveyed through the Kannah Creek Flow Line. Once the intertie is constructed, enlarging this segment of pipeline will allow for conveyance of up to 6.2 million gallons per day of water from the Juniata Reservoir through the Purdy Mesa Flow Line to the interconnect and then through the Kannah Creek Flow Line.

The city of Grand Junction proposes to complete the construction of this project using City pipeline maintenance crews.

1.4 Performance Measures

The City of Grand Junction will be able to test the operation of the Kannah Creek Flow Line once the intertie is complete. Performance of the intertie can be measured by the quantifying the volume of water that is delivered from the Juniata Reservoir to the Grand Junction Water Treatment Plant via the Kannah Creek Flow Line.

1.5 Evaluation Criteria

Evaluation Criterion A—Project Benefits (30 points)

Task A projects that increase water supply reliability and Task B projects that improve water management should be fully described in the project proposal. Projects will be evaluated based on how the proposed project will improve drought resiliency. Please answer all applicable questions:

- How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?

The Kannah Creek and Purdy Mesa Flow Lines Intertie project will build long-term resilience to drought by providing the ability to convey water to the Grand Junction Water Treatment Plant either directly from the Kannah Creek or from the Juniata Reservoir through either line. The City is currently limited to conveying 5 million gallons per day from the Kannah Creek through the Kannah Creek Flow Line. The intertie between the Kannah Creek Flow Line and the Purdy Mesa Flow Line will enable delivery of up to 6.2 million gallons of water per day (an additional 6,945 acre-feet per

year) from the Juniata Reservoir through the Kannah Creek Flow Line to meet municipal water demands during times of drought.

The project will continue to provide benefits for the duration of the useful life of the new PVC pipeline, which is expected to be 100 years.

- Will the project make additional water supplies available?
 - If so, what is the estimated quantity of additional supply the project will provide and how was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years (e.g., if the project captures flood flows in wet years, provide the average benefit over ten years including dry years).
 - What percentage of the total water supply does the additional water supply represent? How was this estimate calculated?
 - Provide a brief qualitative description of the degree/significance of the benefits associated with the additional water supplies.

This project will not make additional water supplies available.

- Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)? If so:
 - How will the project increase efficiency or operational flexibility?
 - What is the estimated quantity of water that will be better managed as a result of this project? How was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years (e.g., if the project captures flood flows in wet years, provide the average benefit over ten years including dry years).
 - What percentage of the total water supply does the water better managed represent? How was this estimate calculated?
 - Provide a brief qualitative description of the degree/significance of anticipated water management benefits.
 - Will the project make new information available to water managers? If so, what is that information and how will it improve water management?

This project will improve the management of water supplies. It will increase the operational flexibility to convey water from the Kannah Creek diversion or the Juniata Reservoir through either the Kannah Creek or the Purdy Mesa Flow Line. This is especially critical during drought when the flows in Kannah Creek are low. The City is currently limited to conveying 5 million gallons per day from the Kannah Creek through the Kannah Creek Flow Line. The intertie between the Kannah Creek Flow Line and the Purdy Mesa Flow Line will enable delivery of 6.2 million gallons of water per day (an additional 6,945 acre-feet per year) from the Juniata Reservoir

A hydraulic evaluation of the Kannah Creek Flow Line was completed in 2018 to evaluate sizing for replacement of aging segments of the flow line as well as increase the capacity of the flow line (see **Attachment C**). The evaluation determined that replacing the line with a 20-inch diameter PVC pipe would increase the Kannah Creek Flow Line capacity to 9.7 million gallons per day if supplemental water is diverted from Kannah Creek. If supplemental water is supplied from Juniata Reservoir, the Kannah Creek flow line capacity would be 6.2 million gallons per day.

Evaluation Criterion B— Sustainability and Supplemental Benefits (20 points)

B.1 Climate Change

- Does the proposed project include other natural hazard risk reductions for hazards such as wildfires?
- Does the proposed project contribute to climate change resiliency in other ways not described above?

The intertie project will provide additional risk mitigation in the event of a wildfire. If a wildfire would occur that might impact either the Kannah Creek or Juniata Reservoir, having the ability to convey water from the unaffected source through either flow line will reduce the risk of water supply interruptions.

Also, Juniata Reservoir is at risk for more frequent harmful algal blooms (HABs) due to warmer temperatures and longer growing seasons resulting from climate change. In the event of an HAB impact, the City could convey water directly from Kannah Creek and supplemental releases from the City's reservoirs on top of the Grand Mesa via the Purdy Mesa Line that has a flow capacity of 9.7 mgd with the new intertie.

B.2 Disadvantaged or Underserved Communities

- Will the proposed project serve or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety through water quality improvements, new water supplies, or economic growth opportunities.
- If the proposed project is providing benefits to a disadvantaged community, provide sufficient information to demonstrate that the community meets the applicable state criteria or meets the definition in Section 1015 of the Cooperative Watershed Act (defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the state).
- If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.

The project is expected to benefit an economically disadvantaged community. The city of Grand Junction meets the definition in Section 1015 of the Cooperative Watershed

Act (defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the state).

FACTOR	City of Grand Junction	BENCHMARK
MHI	\$52,504	<= \$57,865 (80% of State MHI)

Source: 2021 SRF Disadvantaged Community Data

B.4. Ecological Value

- Does the project seek to improve ecological climate change resiliency of a wetland, river, or stream to benefit to wildlife, fisheries, or habitats? Do these benefits support an endangered or threatened species?
- What are the types and quantities of environmental benefits provided, such as the types of species and the numbers benefited, acreage of habitat improved, restored, or protected, or the amount of additional stream flow added? How were these benefits calculated?
- Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?

In the event of a climate impact such as wildfire or harmful algal bloom (HAB) outbreak in Juniata Reservoir, the intertie project would provide the City with sufficient water supply to meet the City's needs. Therefore, we would be less reliant upon obtaining supplemental water (up to 5 million gallons per day) through our interconnect with the Clifton Water District. Clifton Water District obtains its water supply directly from the Colorado River at the 15-mile reach section that has been identified as critical habitat for threatened and endangered species including the Razorback Sucker, Humpback Chub, and the Colorado Pike Minnow. This project would result in maintaining about 8 cfs of stream flow in the Colorado River.

The proposed intertie project will also help delay the need for the City to utilize supplemental water from the City's pumping station on the Gunnison River. The City's water treatment plant is a direct filtration plant and is not currently designed to treat high total dissolved solids and salinity levels that are present in the Gunnison River. This project is a cost-effective option to provide more operational flexibility. The estimated cost to upgrade the City's water treatment plant to be able to treat Gunnison River water is \$42 million.

B.5. Other Benefits

Will the project address water sustainability in other ways not described above? For example:

- Will the project assist States and water users in complying with interstate compacts?
- Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?
- Will the project benefit a larger initiative to address sustainability of water supplies?

The intertie project will ensure sufficient water can be conveyed to the City's raw water reservoir at the Grand Junction water treatment plant that supplies water to the City's parks and recreational areas including the Butterfly Pond and open space at Las Colonias Park, Duck Pond Park, and the Dos Rios Riverfront Park currently under construction.

As noted under Criterion C, the Drought Response Plan includes a provision for calling back water rights that others are using such as the City's ranch lessees and other agricultural water users that purchase bulk water or reservoir water from the City. The intertie project will eliminate or delay the need to implement these augmentation methods.

Evaluation Criterion C— Drought Planning and Preparedness (15 points)

For purposes of evaluating this criterion, please:

- Attach a copy of the applicable drought plan, or sections of the plan, as an appendix to your application. These pages will not be included in the total page count for the application.
- Explain how the applicable plan addresses drought. Proposals that reference plans clearly intended to prepare for and address drought will receive more points under this criterion.
 - Explain whether the drought plan was developed with input from multiple stakeholders. Was the drought plan developed through a collaborative process?
 - Does the drought plan include consideration of climate change impacts to water resources or drought?
- Describe how your proposed drought resiliency project is supported by and existing drought plan.
 - Does the drought plan identify the proposed project as a potential mitigation or response action?
 - Does the proposed project implement a goal or need identified in the drought plan?
 - Describe how the proposed project is prioritized in the referenced drought plan?

A copy of the Grand Valley Drought Response Plan is included in **Attachment D**. The Drought Response Plan is a cooperative document developed by the three water utilities (Grand Junction, Clifton Water District, and Ute Water District) as well as other cooperating agencies. During extreme or exceptional drought conditions, the three water utilities can possibly augment their water supply from other sources. There are several options for doing this, each presenting its own set of intergovernmental and technical considerations. Among the possibilities:

- Call back water rights that others are using (ranch lessees and water rentals)
- Augment raw water sources through River Pump Stations if river water is available.

- Seek approval from Federal and State agencies to allow diversion and use of irrigation water decrees if available.
- Obtain municipal water contracts from federal projects if available.
- Collective use of all available water rights.

The proposed intertie project will enable operational flexibility to enable more delivery of water from Kannah Creek and Juniata Reservoir thereby eliminating or delaying the need to implement these augmentation methods.

The city of Grand Junction is a member of the Gunnison Basin Roundtable and identified replacement of the City of Grand Junction's raw water flow lines that deliver water from the Kannah Creek basin (tributary to the Gunnison River) to the water treatment plant in Grand Junction as a critical supply project (Project #93) in the Gunnison Basin Implementation Plan (GBIP). The GBIP was developed by the Gunnison Basin Roundtable, a collaborative group that includes multiple stakeholders across the Gunnison Basin.

The Kannah Creek and Purdy Mesa Flow Lines Intertie project further enhances the operational flexibility between these two water supply lines.

A copy of Table 18 Proposed Basin Projects included in the Gunnison Basin Implementation Plan (BIP) is included in **Attachment E**. The Gunnison BIP was submitted to the Colorado Water Conservation Board (CWCB) in the process of developing Colorado's Water Plan. It identifies projects and methods to meet basin-specific municipal, industrial, agricultural, environmental, and recreational needs to address issues of water shortages and availability.

The Gunnison BIP presents the drought vulnerability of the Gunnison Basin as:

- Delta and Mesa Counties are ranked as a Number 2 Vulnerability where "agriculture is present but may not be the dominant activity in the county. Without significant tracts of crops and herds of cattle, these counties are not expected to experience devastating agricultural losses during a drought."
- The remaining Gunnison Basin counties are ranked as a Number 1 Vulnerability where "agricultural activity is largely absent from the county or there is a small proportion compared to the size of the county". These counties are categorized in this manner with respect to the rest of the State as they are located in mountainous regions, which "have more dominant recreation and tourism sectors than agriculture."

The Gunnison BIP projected water demands (including reductions as a result of passive conservation measures) for 2035 and the 2050 for low, medium, and high scenarios are expected to increase by up to 23,000 acre-feet per year.

The City of Grand Junction's raw water flow line project (Project #93) is classified as a Tier 3 project that will address municipal and industrial water shortages. At the time that the Gunnison BIP was issued, the project was in the preliminary stages of planning and

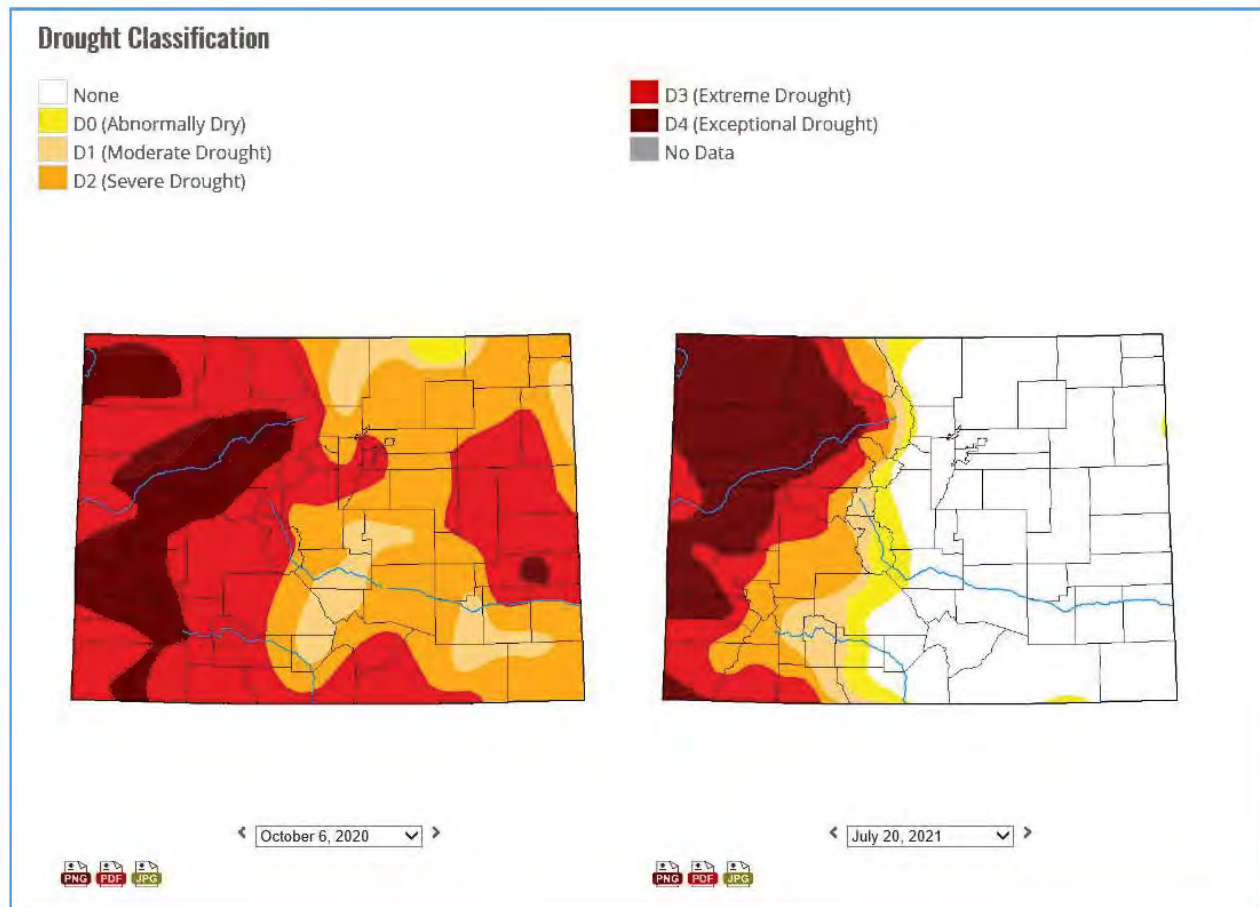
was not expected to be complete by 2025. Since that time, however, this project has moved up in priority because of hydraulic and operational constraints experienced by the City.

Evaluation Criterion D— Severity of Actual or Potential Drought Impacts to be addressed by the Project (15 points)

Describe the severity of the impacts that will be addressed by the project:

- What are the ongoing or potential drought impacts to specific sectors in the project area if no action is taken (e.g., impacts to agriculture, environment, hydropower, recreation and tourism, forestry), and how severe are those impacts? Impacts should be quantified and documented to the extent possible. For example, impacts could include, but are not limited to:
 - Whether there are public health concerns or social concerns associated with current or potential drought conditions (e.g., water quality concerns including past or potential violations of drinking water standards, increased risk of wildfire, or past or potential shortages of drinking water supplies? Does the community have another water source available to them if their water service is interrupted?).
 - Whether there are ongoing or potential environmental impacts (e.g., impacts to endangered, threatened or candidate species or habitat).
 - Whether there are local or economic losses associated with current drought conditions that are ongoing, occurred in the past, or could occur in the future (e.g., business, agriculture, reduced real estate values).
 - Whether there are other drought-related impacts not identified above (e.g., tensions over water that could result in a water-related crisis or conflict).
- Describe existing or potential drought conditions in the project area.
 - Is the project in an area that is currently suffering from drought or which has recently suffered from drought? Please describe existing or recent drought conditions, including when and the period of time that the area has experienced drought conditions (please provide supporting documentation, [e.g., Drought Monitor, droughtmonitor.unl.edu]).
 - Describe any projected increases to the severity or duration of drought in the project area resulting from changes to water supply availability and climate change. Provide support for your response (e.g., reference a recent climate informed analysis, if available).

Mesa County is experienced Exceptional Drought for much of the current water year starting in October 2020 through August 2021 as shown in the following U.S. Drought Monitor maps.

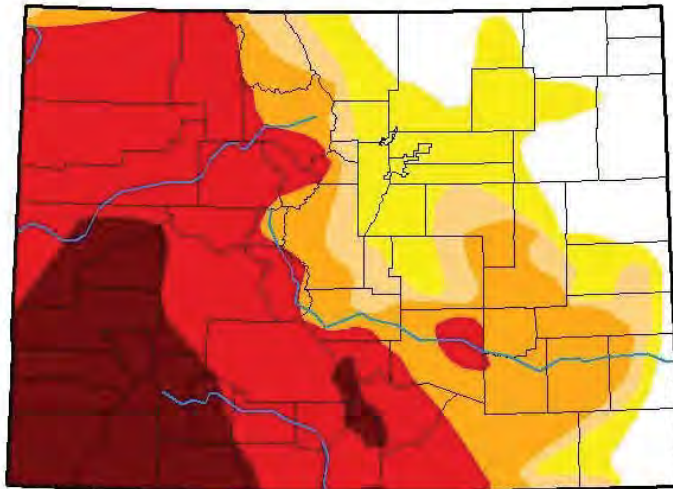


Due to climate change, Grand Junction, Mesa County is in a regional “hot spot” that has warmed more than 2°Celsius and has been subject to a 20-year drought.

Mesa County also experienced an Exceptional Drought in 2018 (as shown in the graphic below).

U.S. Drought Monitor Colorado

October 2, 2018
(Released Thursday, Oct. 4, 2018)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	14.19	85.81	72.30	64.41	48.47	16.21
Last Week 09-25-2018	14.19	85.81	72.30	64.41	48.47	16.21
3 Months Ago 07-03-2018	20.46	79.54	67.30	52.31	36.46	8.81
Start of Calendar Year 01-02-2018	6.57	93.43	33.53	7.27	0.00	0.00
Start of Water Year 09-25-2017	14.19	85.81	72.30	64.41	48.47	16.21
One Year Ago 10-03-2017	70.54	29.46	3.70	0.00	0.00	0.00

Intensity

■ D0 Abnormally Dry ■ D3 Extreme Drought
■ D1 Moderate Drought ■ D4 Exceptional Drought
■ D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements.

Author

David Miskus
NOAA/NWS/NCEP/CPC

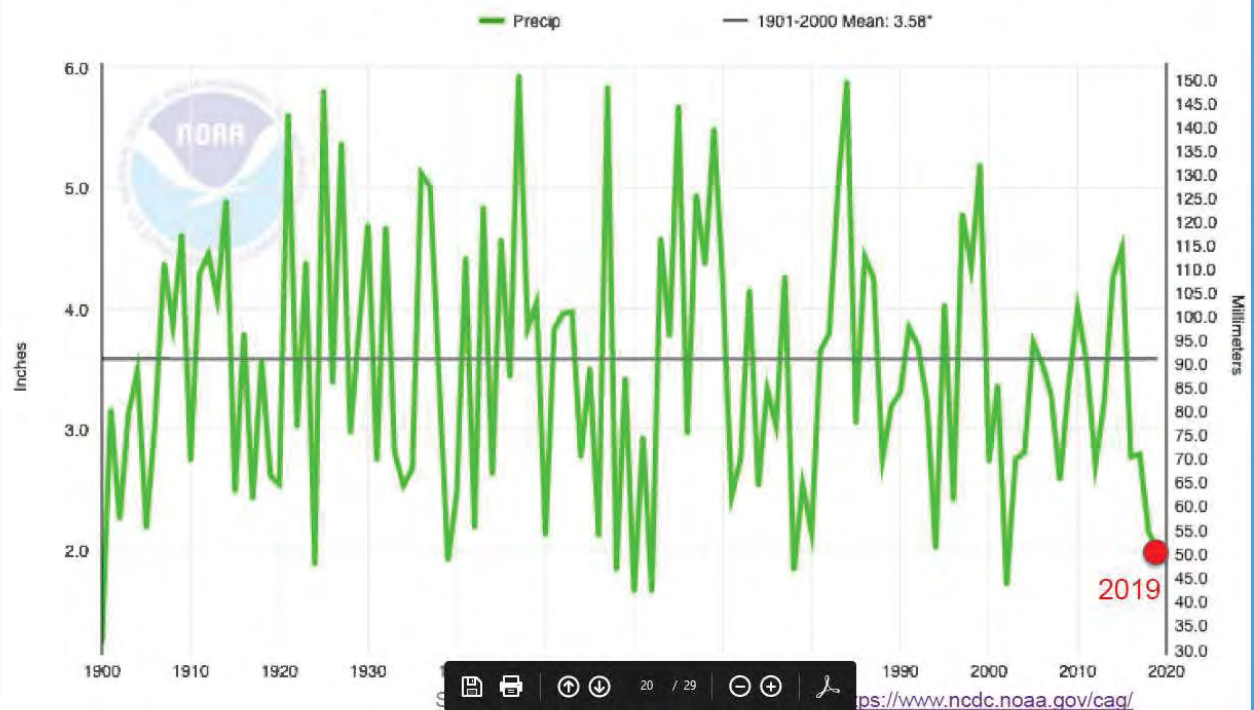


<http://droughtmonitor.unl.edu/>

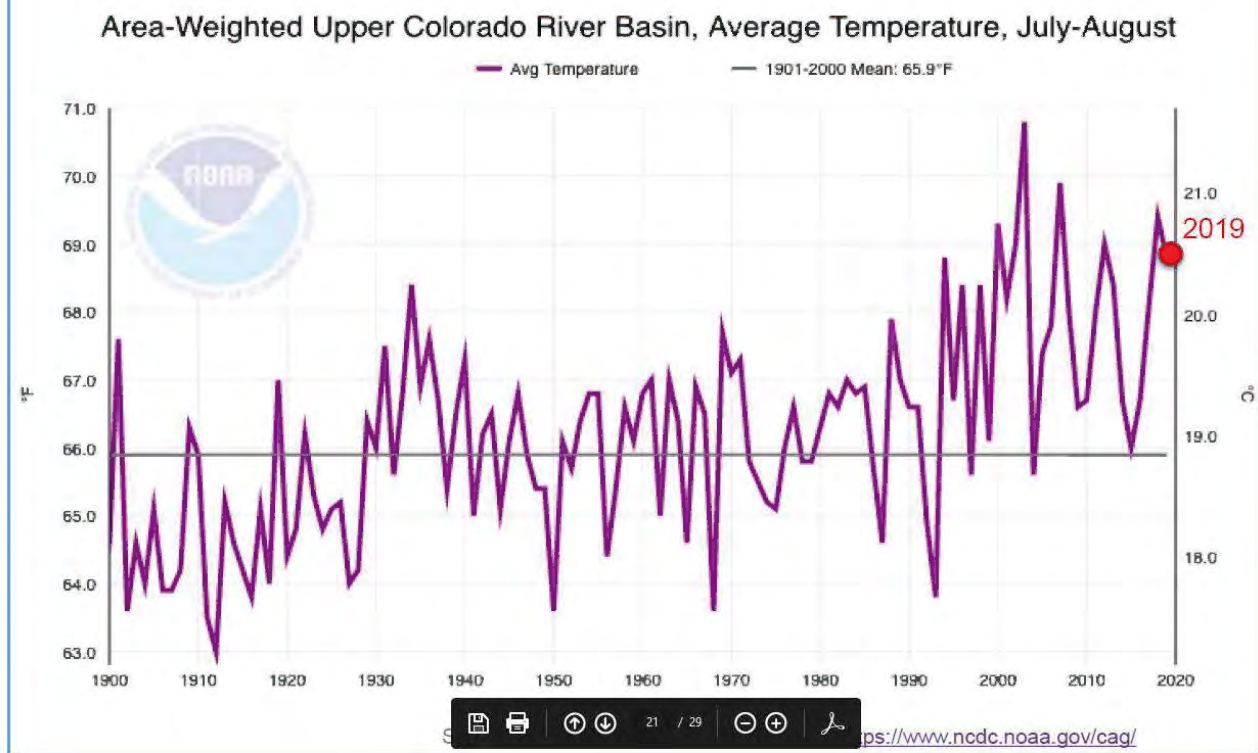
While the region benefited from higher than normal snow precipitation February-March 2019, this did not translate to above normal runoff in the Spring of 2019 due to the low soil moisture contents following the 2018 drought. Further, June-August 2019 was the 8th driest and 6th warmest summer over the past 100 years as shown below.

Jun-Aug Upper Basin precip: 2019 8th driest

Area-Weighted Upper Colorado River Basin, Precipitation, June-August



July-Aug Upper Basin temps: 2019 6th warmest



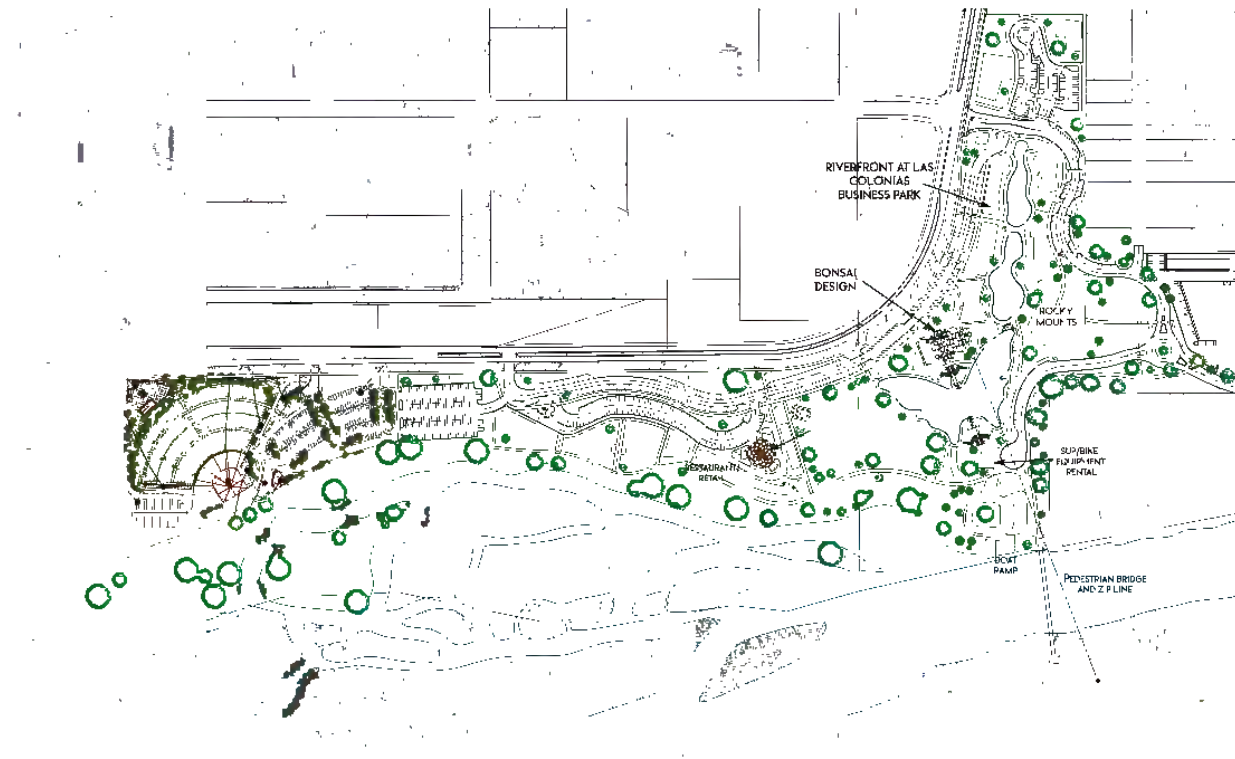
Based on data presented by the Western Water Assessment, CIRES, and the University of Colorado at the 2019 Annual Water Seminar sponsored by the Colorado River District, Upper Colorado River Basin interannual precipitation variability has increased about 10% since 1980. This is consistent with expectations from climate models that more warming will translate to more precipitation variability. While individual storms will tend to be wetter in a warmer climate, warmer summer temperatures will dry out the land surface faster. Warmer summer temperatures will require that the City manage its water storage and conveyance system optimally to respond to drought impacts.

The Kannah Creek and Purdy Mesa Flow Line Intertie project will address several potential drought impacts as described under Criterion C.

The Kannah Creek and Purdy Mesa Flow Line Intertie project is expected to address potential impacts to tourism and recreation during drought. During drought conditions and periods of high demands, if we are unable to convey the full capacity through either the Kannah Creek or Purdy Mesa Flow Lines, the City would need to issue mandatory water use restrictions as stipulated in Drought Response Plan (Attachment D). Water use restrictions over an extended period of time will impact residential, commercial and governmental users. Water use restrictions may result in the loss of residential landscaping. In addition to limiting outdoor watering, the City would also ask require hotels and restaurants to limit water use, which could directly impact tourism.

Water use restrictions would also be imposed on governmental and public facilities such as parks and recreational tourism destinations. These would include the City of Grand Junction's newly constructed development, Riverfront at Las Colonias Park, which is an economic driver for the community. Riverfront at Las Colonias Park offers outdoor recreation companies a Federal Opportunity Zone geared toward wellness, community and outdoor access. The 140-acre mixed-use park includes a 15-acre business park, a 5,000-seat amphitheater, a river park with two standing waves along the Colorado River, a boat ramp, multiple ponds, and a zipline across the Colorado. The business park is geared toward outdoor recreation and tech-related businesses. The park integrates access to outdoor fun, a collaborative community, high-end fit and finish office space to support a healthy community balanced between work, play and commerce.

Las Colonias Master Plan



This was the site of a uranium mill in the late 1940's and 1950's. The U.S. Department of Energy reclaimed the site in the early 1990's prior to deeding the property to the City of Grand Junction. The City has since built the Riverside Parkway, numerous utility projects, the Amphitheater and now Las Colonias Park. Key to the development of the park is the availability of City irrigation water (supplied through the City's raw water supply) for landscaping and pond features.

Evaluation Criterion E—Project Implementation (10 points)

- Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include, but are not limited to, the following: design, environmental and cultural resources compliance, permitting, construction/installation.
- Describe any permits that will be required, along with the process for obtaining such permits.
- Identify and describe any engineering or design work performed specifically in support of the proposed project.
- Describe any new policies or administrative actions required to implement the project.

The following is the implementation plan for the proposed Kannah Creek and Purdy Mesa Flow Lines Intertie project.

Task 1 – Engineering Design

The City has completed engineering design for the Project as part of a larger project. Design plans are included as Attachment F. This project will start at Station 70+00 on page 10 and run east to 86+30, where it crosses Lands End Road, follows the road right-of-way and then continues to the proposed intertie location at Station 2+50 and continues to Station 19+60.

Task 2 – Environmental and Cultural Resources Compliance

The City will contract with a consultant to perform the environmental and cultural resources assessment of the project area. This work will be initiated in late 2021 so that it is available for Bureau of Reclamation to review for NEPA compliance in early 2022. The City understands that Reclamation must still review and adopt environmental compliance and issue a notice to proceed before ground-disturbing activities may be initiated

Task 3 – Permitting

All work will be performed on City property, road right of way, or within existing Utility easements on private property. The project will cross the North Fork of Kannah Creek and qualifies as a utility line activity permissible under Nationwide Permit 12 by the U.S. Army Corps of Engineers.

Task 4 – Bidding

The City will issue an Invitation for Bid (IFB) for valves, pipe and associated fittings needed to complete this project. The IFB will be issued in February 2022 and is expected to be awarded in March 2022 so an order can be placed for material to be delivered no later than June 2022.

Task 5 – Construction

Construction will be completed by a City pipeline maintenance crew. The project is expected to be completed in about four to six weeks. The production rate for installation of new pipe is about 300 feet per day for a total duration of 3 weeks. Installation of new intertie valves and tie overs is expected to take another week. Following completion of the project, City staff will prepare as-built construction drawings.

The total estimated duration of the project is 4 to 6 weeks so the project could be completed by October 2022. A completion date of December 30, 2022 is requested to allow for unanticipated delays.

Task 6 – Compliance with Reporting Requirements

This task will include compliance with reporting requirements, including final project and evaluation.

An estimated project schedule is presented below.

Project Task	Description	2021		2022		
		Q4	Q1	Q2	Q3	Q4
Task 1	Engineering Design					
Task 2	Environmental and Cultural Resources Compliance					
	NEPA Compliance					
Task 3	Permitting					
Task 4	Bidding					
	Material Delivery					
Task 5	Construction					

Evaluation Criterion F— Nexus to Reclamation Project Activities (10 Points)

This project is not connected to a Reclamation project or Reclamation activity.

2.0 Project Budget

2.1 Funding Plan and Letters of Commitment

The non-Federal share of Project costs will be provided by the city of Grand Junction. The City will make its contribution to the cost share requirement through a combination of monetary and in-kind contributions. The source of funds is the City's Water Enterprise Fund.

Project funding will not be provided by third party funding sources. Therefore, no letters of commitment are included with this application.

2.2 Budget Proposal

The total project cost is **\$624,415**.

Table 1—Total Project Cost Summary

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$300,000
Costs to be paid by the applicant	\$324,415
Value of third-party contributions	\$0
TOTAL PROJECT COST	\$624,415

2.2 Table 2—Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
a. Salaries and Wages				
Project Manager	\$ 50	8	hours	\$ 400
Admin Assistant	\$ 24	8	hours	\$ 192
Grants Administrator	\$ 32	8	hours	\$ 256
Project Engineer	\$ 47	40	hours	\$ 1,880
Pipeline Maintenance Workers	\$ 35	720	hours	\$ 25,200
b. Fringe Benefits				
Full-Time Employees	32%	\$ 27,928	total labor \$	\$ 8,937
c. Travel				
Trip 1				\$ -
d. Equipment				
Excavator Rental	7500	1	month	\$ 7,500
e. Supplies				
Rock bedding material	13	1200	CY	\$ 15,600
Item B		1	month	\$ -
f. Contractual				
Environmental and Cultural Survey	\$ 10,000	1	EA	\$ 10,000
g. Construction				
Water Main (20") C900 DR18	\$ 75	4790	LF	\$ 359,250
Connector (20") (FL x PE)	\$ 2,000	6	EA	\$ 12,000
Coupling (20")	\$ 2,000	4	EA	\$ 8,000
Elbow (20") (90-deg)	\$ 2,000	3	EA	\$ 6,000
Elbow (20") (45-deg)	\$ 2,000	2	EA	\$ 4,000
Elbow (20") (22.5-deg)	\$ 2,000	2	EA	\$ 4,000
Tee (20" x 20")	\$ 2,000	4	EA	\$ 8,000
Butterfly Valve (20" with Manual Operated 2" Nut)	\$ 10,000	4	EA	\$ 40,000
Valve Box (6") (90#)	\$ 300	4	EA	\$ 1,200
Air Vac Combo Valve and Manhole	\$ 10,000	2	EA	\$ 20,000
Contingency	\$ 92,000	1	EA	\$ 92,000
Other				
None				\$ -
TOTAL DIRECT COSTS				\$ 624,415
Indirect Costs				
None				
TOTAL ESTIMATED PROJECT COSTS				\$ 624,415

2.3 Budget Narrative

The City's proposed budget includes the following costs.

Salaries and Wages

The City's designated project manager will be Mark Ritterbush, Water Services Manager. Other key personnel include Crystal Madrigal, Grants Administrator; Amy Brown, Administrative Assistant, and Pipeline Maintenance Workers. Estimated administration hours are based upon the level of effort anticipated to administer the grant funding and reporting requirements. Estimated engineering time is based upon the level of effort required to oversee bidding and construction management for capital projects of this size and complexity. Construction will be performed by a City pipeline maintenance crew of four staff.

Position	Task	Direct Labor Rate (hourly)	Fringe Rate	Estimated Hours
Mark Ritterbush (Project Manager)	6 - Compliance with reporting requirements	\$50.00	32%	8
Amy Brown (Admin Assistant)	6 - Compliance with reporting requirements	\$24.00	32%	8
Crystal Madrigal (Grants Administrator)	6 - Compliance with reporting requirements	\$32.00	32%	8
John Eklund (Project Engineer)	4 – Bidding 5 - Construction	\$47.00	32%	40
Pipeline Maintenance Workers	5 - Construction	\$35.00	32%	720

All labor estimates must be allocated to specific tasks as outlined in the applicant's technical project description. Labor rates and proposed hours shall be displayed for each task. The budget proposal and narrative should include estimated hours for compliance with reporting requirements, including final project and evaluation.

Fringe Benefits

Fringe rate includes employer-paid taxes and benefits such as Medicare, Social Security, Health Insurance, Life Insurance, Retirement, and Vehicle Allowance. These rates are used for application purposes only.

Travel

No travel costs are included in this budget.

Equipment

Equipment costs will include rental of a large excavator for one month for installation of the new intertie valves and pipeline. Monthly rental rates are \$7,500.

Materials and Supplies

Materials that will be purchased for this project include rock bedding material. The City will solicit bids for PVC pipe, valves and associated fittings and these costs are included under construction.

Contractual

The City will contract with a consultant to perform an environmental and cultural survey.

Construction

The City will solicit bids for PVC pipe, valves and associated fittings and these costs are included under construction. Bid items and estimated costs are included in Table 2. Due to the current market volatility of PVC pipe materials, a 20% contingency is included.

Other Expenses

No other expenses are included for this project.

Indirect Costs

Indirect costs are not included in the requested budget.

Total Costs

Total project costs are estimated at **\$624,415** including the Federal and non-Federal cost share amounts.

3.0 Environmental and Cultural Resources Compliance

To allow Reclamation to assess the probable environmental and cultural resources impacts and costs associated with each application, all applicants must respond to the following list of questions focusing on NEPA, ESA, and NHPA requirements.

The City will contract with a consultant to perform an Environmental and Cultural Resources survey for the project site. The following information will be updated with the results of the survey.

- Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

The project will involve earth-disturbing work that will involve digging a trench to install the new pipelines and valves. Steps will be taken to minimize the impacts of earth-disturbing work that may affect the air, water, or animal habitat in the project area. If weather conditions dictate that dust abatement is necessary during construction, as much as 10,000 to 15,000 gallons of untreated water per day from the existing flowline will be used for dust suppression. Soil disturbance will be kept to a reasonable minimum. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If equipment creates ruts in excess of 3 inches deep, the soil will be deemed too wet to adequately support construction equipment.

- Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

The vicinity of the project is identified as habitat for the Colorado Hookless Cactus. A biological survey will be completed to identify if cacti are present in the specific project area. A Colorado Hookless Cactus Protection Plan will be implemented if cacti are identified in the project area and this will be followed during construction of the Kannah Creek and Purdy Mesa Flow Line Intertie project.

- Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.

The project will cross the North Fork of Kannah Creek. As noted under

- When was the water delivery system constructed?

The Kannah Creek Flow Line was originally constructed in 1911 and was later replaced in 1950s.

- Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

No.

- Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

No.

- Are there any known archeological sites in the proposed project area?

No.

- Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No.

- Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

No.

- Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

No.

4.0 Required Permits or Approvals

The City will contract with a consultant to perform Cultural Resource Assessment and an Environmental Assessment in late 2021 for submittal to BOR for approval.

All work will be performed on City property, road right of way, or within existing Utility easements on private property. The project will cross the North Fork of Kannah Creek and qualifies as a utility line activity permissible under Nationwide Permit 12 by the U.S. Army Corps of Engineers.

Attachment A

Letters of support

Letters from interested stakeholders supporting this Project for the City of Grand Junction are included.

Attachment B
Official Resolution

An Official Resolution has been prepared by the City of Grand Junction and will be included on the agenda for an upcoming City Council meeting. The approved resolution will be submitted no later than November 4, 2021.