1.1 Background & Scope of Work

Joshua Tree Headquarters has an 8-inch fire main that provides fire suppression water during times of need. The pipe has ruptured requiring replacement. Flow is shut-off on to the north side of the HQ compound, and to the south side of the HQ compound. Upon excavation it was determined that the pipe was too degraded to perform standard repair techniques and the entire 180-ft section, between the southern shut off valve and the northern three-way T fitting (see attached PowerPoint) will need to be replaced with 8-inch HDPE pipe. The southern shut-off valve will be replaced as well.

This project is to replace approximately 180 linear feet of 8-inch ductile iron pipe used to supply water to the fire suppression system for Joshua Tree National Park's law enforcement; museum and cultural; sciences and Resources; and facilities management buildings. The section of pipe to be replaced has one 90-degree turn, and two 45 degree turns. The pipe shall be replaced starting from the southern shut-off valve and ending where the pipe T's towards hydrant number 2, including all required fittings, adapters, couplings, etc. Contractor shall dispose of all demolition material offsite. The shut-off valve will also be replaced, and the new valve will mate up to the existing fire main that consists of HDPE.

The contractor shall cut, remove and dispose of asphalt measuring approximately 540 square feet. The fire main will be exposed and then replaced. Any underground concrete thrust blocks shall be replaced/repoured. After the fire main repair is complete, the area shall be backfilled, compacted and asphalt replaced with new hot mix asphalt. Before backfilling, waterflow shall be restored to check for any leaks to the new section of pipe.

1.2 HIGH DENSITY POLYETHYLENE (HDPE) PIPE

A. Pipe shall be high molecular weight, high-density polyethylene pipe. The material shall conform to AWWA C906, PPI designation PE 3408 and have a cell classification of 345444C as described in ASTM D3350 and shall be, TYPE III, Grade PE34. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of same specification from the same raw material pipe. Polyethylene pressure pipe shall also conform to the applicable requirements of ASTM F714.

B. Pipe shall be rated for 250 PSI working pressure minimum.

C. The pipe inside diameter shall not be less than the nominal diameter specified or shown.

E. All joints for the buried polyethylene pipe shall be of the thermal fusion type.

F. Polyethylene fittings shall conform to ASTM D3261. Each fitting shall be clearly labeled to identify its size and dimension ratio.

1.2.1 PERFORMANCE VERIFICATION TEST (PVT)

A. PVT Testing shall be conducted in partnership with Joshua Tree National Park Engineer and/or maintenance division for visual performance test of flow and no leaks.

1.3 COMPACTION

A. Compact the top 2.5 feet of fills to minimum of 95 percent of the maximum density as determined by ASTM D1557, at plus or minus 2 percent of the optimum moisture content.

B. Compact fills below the top 2.5 feet of fills scarified ground surface to 90 percent of maximum density.

1.4 BACKFILL AND COMPACTION

A. Contractor shall place bedding and backfill materials true to the lines, grades, and cross-sections excavated areas and compacted to the degree specified. Place bedding and backfill materials in horizontal lifts not to exceed 8 to 12 inches in thickness measured before compaction.

1.5 COMMERCIAL AGGREGATE BASE COURSE

A. Class 2 Aggregate Base, 3/4-inch maximum; as per Section 26-1.02 A, CDT Standard Specifications.

1.6 BACKFILL / IMPORTED BACKFILL

A. Before placing fill, scarify ground surface to a minimum depth of 12 inches, bring to a moisture content of plus or minus 2 percent of optimum, and compact to 90 percent relative compaction to provide ample bond between old and new material. Place embankment material in layers not exceeding 8 inches loose measurement. Compact each layer before placing the next layer. As the compaction of each layer progresses, continually level and manipulate to ensure uniform moisture and density. Add water to obtain optimum moisture content.

B. Clean, readily compactible non-expansive soil or soil aggregate, free of organic materials, with all particles passing a 2-inch square opening and not more than 40 percent by weight passing a No. 200 sieve, as determined by ASTM D422-63. The plasticity index shall not be greater than 12, as determined by ASTM D4318-95. Minimum R value of 50. Use all suitable existing native backfill material before importing backfill material.

1.7 ASPHALT REPLACEMENT

A. The area in which asphalt was removed for trenching, shall be replaced with new hot mix asphalt to a compacted thickness of 3 inches. The compacted asphalt will be the same height as the existing asphalt parking area.

See following maps and photos this scope of work.

THERE ARE UNDERGROUND UTILITIES RUNNING PERPENDICULAR TO THE FIRE MAIN THAT WILL NEED TO BE IDENTIFIED BEFORE EXCAVATION. CONTRACTOR SHALL COORDINATE ALL UTILITY LOCATES.

Part 2: Contractor Tasks & Supplies

The contractor shall conduct the following:

- Identify underground utilities that run across the construction site so they are not struck by bucket while excavating to water main.
- Ensure construction area is blocked from visitors and employees by 4 foot tall temporary fencing.
- Removed existing asphalt over pipe (approx. 540-sf).
- Excavate down to pipe.
- Remove any thrust blocks that might be in place to conduct repair.
- Replace 180-ft of 8-inch fire main with HDPE Polyethylene.
- Replace southern shut of valve with a new valve.
- Restore and conduct Pressure Verification Test water flow to ensure leak is repaired.
- Replace any thrust blocks that may have been removed for leak repair.
- Backfill excavated area and compact.
- Remove any excess native spoils and dispose legally, offsite.
- Replace removed asphalt with hit mix asphalt patch and sealant where appropriate.
- A National Park Service archeologist will be required to be on site to examine excavated earth while any excavation occurs.
- Contractor shall partner with park maintenance division and archeologist during excavation activities.
- Archeologist will be provided by the park at no expense to the contractor.

Prime Contractor is responsible for directly superintending the project, onsite, all days in which work is being done. Subcontractors will not be permitted to work without direct Prime oversight.

Part 3: Contractor Use of Premises

The contractor shall always adhere to the following while working within Joshua Tree National Park.

i. The Contractor shall be identifiable with uniforms, name tags, marked vehicles, high-visibility vests, hats, or hardhats with company logo, or similar, and maintain a professional decorum and appearance.

ii. Do not drive vehicles off road or access non-project areas without permission from the contracting officer's representative.

iii. Ensure all personnel (contractors, subcontractors, and vendors) entering or working in the park are familiar with and obey all park regulations. Law enforcement rangers will intervene if they perceive any unsafe or unlawful activity.

iv. Working hours shall be 06:00-17:30 Monday through Friday, excluding Government holidays. Work outside regular hours requires approval from the contracting officer's representative. Requests for work outside of regular hours must be submitted not-less-than two working days in advance.

vi. Smoking is prohibited inside or outside within 25 feet of any buildings in the park. This applies to existing buildings, buildings under construction, and

buildings under renovation. Discarding of tobacco products or debris anywhere other than into designated tobacco receptacles is considered littering and subject to fines.

vii. Confine storage of equipment and materials to the staging / lay-down/ storage areas identified by the COR or as established at the preconstruction meeting.

viii. The contractor shall park vehicles and heavy equipment in designated areas for contractor use or as established at the preconstruction meeting.

ix. The Contractor shall keep driveways and entrances serving the premises clear and available to the Government, government employees, tenants, the public, and emergency vehicles always.

x. Prevent damage to natural surroundings. Restore damaged areas and replace damaged vegetation and landscape items, at no expense to the Government.

Part 5: Period of Performance

Project shall be completed within 60 days after NTP.

After contract award, Notice to Proceed #1 will be issued. The contractor will have 10 business days to submit the following, to schedule a preconstruction meeting:

- Certificate of Liability Insurance
- Payment Bond
- Accident & Safety Plan
- Local Jurisdiction Permit
- Project Schedule
- SF-1413 Subcontractor Form
- Letter Designating **PRIME** Superintendent
- Schedule of Values (to match Bid Schedule)

Part 6: Compliance

a. While performing work, the contractor shall comply with all laws, regulations, and policies, to include, but not be limited to, the latest applicable versions of applicable federal, state and local codes.

i. Licensure: All work shall be performed by workers who hold appropriate licenses in one of the 50 States, the District of Columbia, Puerto Rico, or other US territory. Where allowed by the state issuing the license, work may be conducted by unlicensed workers provided the work is overseen by a licensed worker. The Prime or Subcontractor must be a State licensed General or Plumbing Contractor.

ii. All affected areas must be left in a clean and tidy condition. Any damages to Government property will be fixed and repaired at no cost to the Government.

iii. All new equipment, supplies, and products must conform to the manufacturer's instructions and guidelines.

iv. Contractor shall provide one-year labor warranty.

v. Contractor shall respond to warranty service calls within 3 calendar days.

5. ASBESTOS AND HAZARDOUS MATERIALS

a. A survey of asbestos containing materials (ACM) is not available for this area. There are no known ACMs present.

b. The Contractor shall conduct all work that impacts asbestos or hazardous materials, including lead-based or lead-containing paint and animal droppings or carcasses according to applicable laws, regulations, and policies, and by adhering to industry best practices.

c. Impacts to known asbestos containing material, known hazardous materials, or materials reasonably expected to contain hazardous materials or animal waste shall be conducted at no additional cost to the Government.

d. Asbestos or hazardous materials not reasonably expected to be encountered shall be treated as a differing site condition.