

**SPECIAL PROVISIONS**

**KASPAR INTERSECTION**

for

**MOUNTAIN LINE**

April 16, 2021

**PREPARED BY WOODSON ENGINEERING & SURVEYING, INC.**

**CITY OF FLAGSTAFF PROJECT NO. 20-00196**



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**INTRODUCTION**

Modifications to the MAG Specifications, Arizona Department of Transportation Specifications (ADOT), and to the Preceding General Conditions are made in the Special Provisions and take precedence over the MAG and ADOT Specifications and the General Provisions. Where there is no conflict between MAG Specifications, ADOT Specifications and the General Provisions, the Special Provisions are to be construed as being additions to the Specifications. In cases of conflict between the other Specifications and the Special Provisions, the Special Provisions are to be construed as supplanting only the conflicting portions of the other Specifications.

**MAG UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THE GENERAL PROVISIONS ARE HEREBY AMENDED TO INCLUDE THE FOLLOWING:**

**PART 100 – GENERAL CONDITIONS**

**SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS**

**102.4 EXAMINATION OF PLANS, SPECIAL PROVISIONS AND SITE OF WORK:**

Revise the second paragraph to read:

The bidder shall examine the site of the proposed work and all documents pertaining to the work. It is mutually agreed that the submission of a proposal shall be considered prima facie evidence that the bidder has made such examination and is familiar with the character, quality and quantity of the work to be performed and material to be furnished.

**Technical Specifications and Plans**

The Scope of Work embraced herein shall be done in accordance with the technical provisions and specifications and requirements of the following documents.

- a. City of Flagstaff Standard Details and Construction Specifications, including MAG Modifications.
- b. Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Latest Edition, herein after referred to as “MAG Standard Specifications”.
- c. Maricopa Association of Governments, Uniform Standard Details for Public Works Construction, Revisions through 2010.
- d. Mountain Line General Conditions.
- e. Manual on Uniform Traffic Control Devices (MUTCD).
- f. ADOT Design Standards.

## **SECTION 104 – SCOPE OF WORK**

### **104.1 WORK TO BE DONE**

#### **104.1.1 General**

(revise to include the following)

The work to be completed shall be in accordance with the project Plans – Kaspar Drive and Linda Vista Improvements dated February 12, 2021, including the project Bid Package – Kaspar Intersection Construction Project 2020-116 dated February 12, 2021 including these Special Provisions.

The Kaspar and Route 66 Intersection project generally includes the following components:

- New Route 66 connection from Highway 89 to Kaspar Drive
- Vertical Realignment of Kaspar Drive including pavement, sidewalk and retaining walls
- Vertical relocations of sewer, water, reclaimed water mains and dry utilities in Kaspar Drive.
- Storm Drain modification and Concrete Drop Inlet.
- Traffic Signal modification at Highway 89 and Route 66.
- Traffic Control
- Landscaping and Irrigation

#### **104.1.2 MAINTENANCE OF TRAFFIC**

(revise to include the following)

The detailed traffic control plan for the project has been completed by Civtech and is part of the construction plans and included technical specifications. These plans were approved by the City of Flagstaff. If any modification is necessary due to field conditions or contractor preference, follow the below process.

All materials and work necessary for the Traffic Control until the completion of the project are included in the Lump Sum Bid Item for this work as detailed below. One exception is the use of flaggers which will be paid for at the Unit Price per hours utilized. No additional payment will be made unless a Change order has been approved in writing by the owner's representative.

Traffic Control plans, modified from the approved set, shall be submitted to the Engineering Project Manager and approved by the City of Flagstaff prior to the start of work. The current work and any plan modifications shall include provisions for access to all adjacent private and public properties within the project area. Through advance written notice and coordination with the City's Project Manager and the property owners, the Contractor may temporarily limit a vehicular or pedestrian access to a property only if acceptable alternate access is provided.

The Contractor shall be required to provide no less than one (1) week advance written notice of all street closures and traffic restrictions, and commencement of construction activity to all affected property owners, business owners, residents, and the surrounding neighborhood as well as to the City Project Manager and Mountain Line's Project Representative. The City Project Manager will indicate the limits of the notification. The notice shall include the projected date, and duration of the closure and alternate detour routes. Each notice shall include the Contractor's name, contact person

and local telephone number as well as the Owner's name and telephone number.

Existing pedestrian and bicycle facilities shall be safely continued through or detoured around the construction zone. *This project has minimal options for detouring pedestrians. The Contractor shall provide adequate staging of facilities, such that pedestrian and bicycle traffic is maintained.*

Transit stops and pedestrian access thereto shall be maintained. Should construction occur during the school year, any existing school bus stops will need to be temporarily relocated to another location acceptable to the Flagstaff Unified School District Transportation Director. The Contractor shall coordinate any school bus relocations through the Flagstaff Unified School District Transportation Director, Patrick Fleming at 928-527-2300.

***Special Access Requirements:***

The Contractor shall maintain access to all side streets, private roads, access roads, driveways, alleys, parking lots and to adjacent businesses at all times during their hours of operations. This includes any home-based businesses within the residential area. Access to all residential driveways shall be provided during all non-working hours. Where a property has more than one driveway, no more than one access will be restricted or closed at one time. Should it be necessary to close access to private property, business, driveways or alley entrances, the closure must be for as short a time as possible and be restored at the end of the work shift. If primary residential or business access cannot be restored, the Contractor shall provide an alternative, which will be coordinated with the resident/business and pre-approved by the Owner prior to any restrictions being implemented. The contractor shall coordinate work with the owners so that business access is not impeded.

The Contractor shall coordinate the impact on Jacamar Drive access with the HOA Mount Elden Villas Manager. This is Ted Wojtasik, Community Association Manager at 928-779-4202 ext. 1307. This includes coordination for any work including street work and utility work that would have partial or full closures in which event a detour shall be coordinated and the provisions of the Traffic Control plan shall be implemented. Any closures shall be for as minimal duration as possible.

Full closure of Kaspar Drive shall be at the approval of the City of Flagstaff Engineering Project Manager. If the Contractor desires to obtain full closure, all provisions required by the traffic control plan and the City shall be provided by the Contractor for the lump sum price indicated for Traffic Control. Any closures shall be for as minimal duration as possible.

All roadway closures shall be coordinated by the Contractor with the City's Project Representative at each weekly meeting or at least 72 hours in advance of the roadway closures. The Contractor shall submit the street closure information to the Mountain Line Project Manager, the HOA Mount Elden Villa Manager, the Fire Department and Police Department, FUSD Transportation Director.

***Mountain Line Fleet Driveway, Bus Route and Stop Access:***

For the duration of the project the Mountain Line Fleet driveway must have at least one lane open at all times. The width of the driveway lane shall be that to accommodate the movements of ingress and egress of the bus fleet. Contractor shall obtain approval by the Owner Representative for emergency full closure of Mountain Line fleet driveway to accommodate an unforeseen circumstance.

Mountain Line runs a fixed bus route bus service (Route 2) along Kaspar Drive serving multiple transit stops along Kaspar Drive and Lynch. The Contractor shall allow Route 2 to pass thru the construction area with at least one lane open at all times. Full street closure approval by the City of Flagstaff is detailed above. During a full road closure, Mountain Line Route 2 will detour to Highway 89 with closure of transit stops along Kaspar Drive and Lynch. Mountain Line will provide temporary bus stops on Highway 89. The Contractor shall coordinate signage for stop closures with Mountain Line as part of their work.

All Mountain Line passenger stops shall be kept in an open condition unless other provisions have been approved by Mountain Line. The work to maintain bus stops in an open condition shall be considered Incidental to the Traffic Control item.

***Sanitation Pickup:***

Regular sanitation pickup in the area of this project is scheduled every Wednesday and Friday. When construction activity interferes with sanitation pickup, the Contractor shall provide for sanitation vehicle access to the affected properties or relocate the trash containers where access is acceptable. Contact the Solid Waste Services of the Public Works Department at 928-213-2110.

***Traffic Control and Safety:***

At the time of the Pre-construction Conference, the Contractor shall designate an employee, other than the Project Superintendent, who is well qualified and experienced in construction traffic control and safety, to be available on the project site during all periods of construction to coordinate and maintain safe barricading whenever construction restricts traffic. The contractor shall designate and provide the contact information of one person who shall be available during non-construction hours in case of any traffic control and/or safety items that need to be handled in an urgent manner. This representative must be fully authorized and equipped to correct unsafe or excessively inconvenient conditions on short notice per Section 105 of MAG including nights, weekends and holidays. Traffic control shall include pedestrian and bicycle as well as vehicle traffic.

***Public Involvement:***

At the time of the Pre-construction Conference, the Contractor shall designate an employee who is responsible for coordination with the public, including but not limited to property owners, business owners, HOA representatives and tenants. This person shall be qualified and experienced in public coordination during a construction project and shall be available during all periods of construction to coordinate construction work with businesses and residents and address any issues. The Contractor shall schedule night and weekend work as needed to reduce construction impacts to residents and businesses.

The Contractor shall coordinate the work and impact on townhome residents with the HOA Mount Elden Villas Manager. This is Ted Wojtasik, Community Association Manager at 928-779-4202 ext. 1307. Contractor shall advise the Owner Representative of Contactor's public involvement activities to keep Mountain Line apprised of status.

***Emergency Access:***

All roadway closures shall be coordinated by the Contractor with the City's Project Manager at each weekly meeting or at least 72 hours in advance of the roadway closures. The Contractor shall submit the street closure information to the Fire Department and Police Department.

***U.S. Postal Service Access:***

The Contractor shall be responsible for maintaining access for Postal Service within the project area at all times. The Contractor shall coordinate this work to avoid interruption of mail service. Mailboxes shall be protected in place. Should an existing mailbox be damaged by construction activity, the Contractor shall promptly remove and replace the damaged mailbox with like kind; including post and foundation, at no cost to the resident or Mountain Line. Placement of any mailbox shall be in accordance with USPS requirements.

**Section 104.1.3 – MAINTENANCE OF TRAFFIC EQUIPMENT**

**DESCRIPTION**

The work under this section shall consist of providing flagging services and furnishing, installing, maintaining, moving and removing barricades, warning signs, lights, signals, cones, and other traffic control devices to provide safe and efficient passage through and/or around the work and to protect workers in or adjacent to the work zone. The work shall be done in accordance with the requirements of the Traffic Control Plan, the City of Flagstaff, Part VI of the Manual on Uniform Traffic Control Devices (MUTCD) and the associated Arizona Department of Transportation supplement. When referred to herein, these documents will be referred to as MUTCD and associated ADOT Supplement.

The requirements of the MUTCD and associated ADOT Supplement shall be considered as the minimum standards for the protection of workers and the traveling public.

A traffic control plan is included in the Contract documents for the project area, this plan shall govern unless an alternate plan, acceptable to the Engineer, is submitted by the Contractor. If no traffic control plan is provided or if the contractor desires to deviate from the provisions for maintaining traffic as described in this section, it shall submit to the Engineer for approval a proposed sequence of operations and a compatible method of maintaining traffic. The proposal shall be submitted early enough to allow at least two weeks for review and approval before use of the proposed traffic control plan. No additional payment for any revised traffic control plan will be made.

The traffic control and safety plan of the Contractor, along with the Contractor's work schedule and actual operations, shall be such that no condition that is considered to be unsafe in the opinion of the City Project Manager, Mountain Line Project Representative or Engineer, shall exist. The traffic control plan shall assure that miscellaneous operations occurring throughout the work as well as during the final stages, are occurring throughout the work, as well as during the final stages, are adequately protected. As a result of effective planning and efficient scheduling of the type and quantity of work, the duration, degree, length, amount, size, etc., of any traffic restriction or lane closures shall be limited to that absolutely necessary to provide a safe condition for both traffic

and construction personnel.

### **METHOD OF MEASUREMENT**

The Owner will reimburse the contractor for the work of maintaining and protecting traffic on the basis of the lump sum bid price for the implementation of the various Elements of Work that are part of the Traffic Control Plans and as estimated to be needed for the project traffic control and duration. It is the Contractors responsibility to determine the days that the work will be in place and make the corresponding calculations for their Lump Sum Bid. No additional measurement for payment to the contractor will be made for any Elements of Work with the exception of uniformed officer flaggers.

Elements of Work specified under this subsection which are lost, stolen, destroyed, or are deemed unacceptable by the Engineer, while in use on a project shall be replaced by the contractor and, except as hereinafter specified for temporary impact attenuators, at no additional cost to Mountain Line.

Any additional Elements of Work needed for the project duration will be considered incidental to the Traffic Control Bid lump sum.

### **BASIS OF PAYMENT**

#### **Vertical Panels, Barricades (Type II), Traffic Cones (28-inch), and Tubular Markers**

The Vertical Panels, Barricades (Type II), Traffic Cones (28-inch), and Tubular Markers, will be paid for incidental to the lump sum bid price for Traffic Control which price shall be full compensation for the use and maintenance of each device (in-use), including labor and equipment for the duration of the project.

Type I barricades which are substituted for Type II barricades in accordance with Subsection 701-2.08 shall be paid for as above for Type II barricades.

The work for barricades includes the ballasting as required.

#### **Barricades (Type III) and High-Level Flag Trees**

The Barricades (Type III) and High-Level Flag Trees, will be paid for incidental to the lump sum bid price for Traffic Control, which price shall be full compensation for the use and maintenance of each device (in-use), including labor and equipment.

The work for barricades includes the ballasting and flags, as required.

When signs are to be mounted on Barricades (Type III) or High-Level Flag Trees, the signs will be considered Incidental.

#### **Embedded Sign Posts, Portable Sign Stands (Spring-Type or Rigid) and Portable Sign Posts-Barrier Mounted**

The Embedded Sign Posts, Portable Sign Stands (Spring-Type and Rigid) and Portable Sign Posts-Barrier Mounted, will be paid for incidental to the lump sum bid price for Traffic Control, which price shall be full compensation for the use and maintenance of each device (in-use), including labor and equipment.

The work for signs includes the cost of ballasting as required.

### **Drums**

Drums will be paid for incidental to the lump sum bid price for Traffic Control, which price shall be full compensation for the use and maintenance of each device (in-use), including labor and equipment.

### **Warning Lights (Types A, B, and C)**

Warning Lights (Types A, B, and C), will be paid for incidental to the lump sum bid price for Traffic Control, which price shall be full compensation for the use and maintenance of each device (in-use), including labor and equipment.

### **Temporary Signs**

Temporary Signs, will be paid for incidental to the lump sum bid price for Traffic Control, which price shall be full compensation for the use and maintenance of each device (in-use), including labor and equipment.

The work for temporary signs includes the cost of flags and ballasting as required.

No separate payment shall be made for speed plates, distance plates, or other minor sign message boards that are attached to a temporary sign, or temporary sign posts. If additional signs are attached to those shown on the plans or to existing temporary sign installations, no additional payments will be made.

### **Truck-Mounted Attenuators**

Truck-mounted attenuators, will be paid for incidental to the lump sum bid price for Traffic Control, which rate shall be full compensation for the work, complete, including, but not limited to, furnishing all materials, equipment and labor (including the operator) and maintaining and repairing the truck and truck-mounted attenuator as specified herein and on the project plans. It shall be the contractor's responsibility to replace any damaged or destroyed parts of the attenuator at no additional cost to the Project.

### **Flashing-Arrow Panels, and Changeable Message Boards**

Flashing-arrow panels, will be paid for incidental to the lump sum bid price for Traffic Control, which price shall be full compensation for the work, complete, including furnishing, operating,



maintaining, and relocating the panels on the work site, and providing all necessary labor and equipment.

Changeable Message Boards will be paid for incidental to the lump sum bid price for Traffic Control, which price shall be full compensation for the work, complete, including incidental grading; traffic cones; and furnishing, operating, maintaining, and relocating the boards on the work site, and providing all necessary labor and equipment. No payment will be made for incidental grading or traffic cones, the cost being considered a part of lump sum contract items.

### **Flagging Services**

Services of civilian flaggers will be paid for incidental to the lump sum bid price for Traffic Control, which shall be full compensation for the work, complete, including all overhead costs and fringe benefits. No additional payment will be made for overtime hours, the cost being considered as included incidental in the lump sum Traffic Control cost.

Flagging services provided by local enforcement officers will be paid for at the Unit bid price based on the unit price times the estimated number of days to be provided for the duration of the project, which price shall be full compensation for the work, complete, including all overhead costs and fringe benefits. Overtime hours for local enforcement officers flaggers will be paid for at the respective unit bid prices. No additional payment will be made for overtime hours, the cost being considered as included in the unit bid price for local enforcement officers.

### **104.1.3 TRAFFIC SIGNAL SUPPORTS AND FOUNDATIONS**

#### **TRAFFIC POLES/FOUNDATIONS**

##### **DESCRIPTION**

The work under this section shall consist of furnishing all materials and constructing new supports and foundations for traffic signal and highway lighting systems or modifying poles and mast arms of existing systems at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Pole foundations shall include all conduit, elbows, anchor bolts, grounding wire and reinforcing steel. Cabinet foundations shall include conduit, elbows, anchor bolts and clearance pad.

##### **METHOD OF MEASUREMENT**

The structural supports and foundations for traffic signals and highway lighting will be considered as a unit for each type of support and foundation furnished and installed.

Modification of existing poles and mast arms will be considered as a unit for each pole or mast arm modified.

No specific measurement will be made.

##### **BASIS OF PAYMENT**

The accepted quantities of supports and foundations for signals and lighting, will be paid for at the unit price extension, for the type of support or foundation designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including all hardware, wire, excavation, backfill and incidentals necessary to complete the work.

The accepted quantities of modify pole and modify mast arm, will be paid for at the unit price each extension, for the type of pole or mast arm designated in the bidding schedule to be modified, which price shall be full compensation for the work described and specified herein and on the plans, including all parts, hardware and incidentals necessary to complete the work.

No measurement or direct payment will be made for anchor bolts, the cost being considered as included in the unit price paid for foundations.

#### **104.1.4 UNDERGROUND ELECTRICAL TRAFFIC MATERIAL**

##### **PULL BOXES/CONDUIT**

###### **DESCRIPTION**

The work under this section shall consist of furnishing and installing electrical conduit, conductors, and pull boxes for traffic signals and highway lighting including jacking, drilling, excavating, backfilling, and compacting at the locations designated on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

###### **METHOD OF MEASUREMENT**

Conductors (for signals and lighting) will be considered as a complete lump sum unit of work for the entire project. This method of measurement shall be used for signal and lighting conductors shown in the signal conductor schedule on the project plans.

No measurement or direct payment will be made for conductors in poles and pull boxes, the cost being considered as included in the contract price for the pole and pull box items.

Conduit will be considered a unit price item complete for each diameter size.

Pull boxes will be considered as a unit price item for the total number for each pull box.

###### **BASIS OF PAYMENT**

The accepted quantities of conduit, will be paid for at the unit price extension which price shall be full compensation for the work, complete in place, including excavation, backfill and any incidentals necessary to complete the work. No direct payment will be made for rigid metal conduit bends or rigid non-metallic conduit bends at pull boxes, expansion fittings and coupling fittings, the cost being considered as included in the unit price for the conduit items.

#### **104.1.5 SIGNAL INDICATIONS AND MOUNTING ASSEMBLIES**

##### **SIGNAL FACES/MOUNTS**

###### **DESCRIPTION**

The work under this section shall consist of furnishing and installing or modifying traffic signal indication assemblies, pedestrian signal indications, flashing beacons, and mounting assemblies at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

###### **METHOD OF MEASUREMENT**

Traffic signal faces, pedestrian signal faces, traffic signal mounting assemblies and flashing beacons will be considered as a unit for each type of signal face, mounting assembly or flashing

beacon furnished and installed or modified.

### **BASIS OF PAYMENT**

The accepted quantities of traffic signal faces, pedestrian signal faces, traffic signal mounting assemblies and flashing beacons, will be paid for at the unit price extension, for the type signal face, mounting assembly or flashing beacon designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including visors, backplates, lamps and all hardware necessary to provide a complete, functional, traffic signal installation.

No direct payment will be made for assembly of Department-furnished items, the cost being considered as included in the unit price bid for the item in place.

## **104.1.6 HIGHWAY AND STREET LIGHTING**

### **LUMINAIRES**

#### **DESCRIPTION LUMINAIRES**

The work under this section shall consist of furnishing and installing or modifying highway or street lighting systems or sign illumination systems at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

The work as described above shall include furnishing and installing all materials and equipment designated on the project plans necessary for the installation of future systems.

#### **METHOD OF MEASUREMENT**

Luminaires will be considered as a unit for each luminaire furnished and installed.

Load center cabinets will be considered as a unit for each load center cabinet furnished and installed.

Sign lighting fixtures will be considered as a unit for each fixture furnished and installed.

No additional measurement will be performed.

### **BASIS OF PAYMENT**

The accepted quantities of luminaires and load center cabinets, will be paid for at the unit price extension for the types of luminaires and load center cabinets designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans.

The accepted quantities of sign lighting fixtures, will be paid for at the unit price extension,

complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including incidentals such as mounting hardware, electrical wiring and conduit on sign structure and to adjacent pull box, circuit breaker disconnect, and any other equipment necessary to complete the work.

**104.1.7      TRAFFIC CONTROLLER ASSEMBLY**

**DESCRIPTION**

The work under this section shall consist of furnishing and installing traffic controller assembly at the location shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications. A traffic controller assembly shall consist of a complete assemblage of electrical equipment and components for controlling the operation and timing of traffic control signals. Coordinate the work in this section with the City of Flagstaff Signal Operations, including inspection and acceptance. Contact: Steven Hill, City of Flagstaff at (928) 213-2168.

**METHOD OF MEASUREMENT**

Traffic signal controller will be considered as a unit furnished and installed. No additional measurement shall be made.

**BASIS OF PAYMENT**

The accepted quantities of traffic signal controllers, cabinets and meter pedestal cabinets, measured as provided above, will be paid for at the unit price extension.

**104.1.8      CELLULAR MODEM**

**DESCRIPTION**

The work under this section shall consist of furnishing and installing a cellular modem to provide traffic signal communications to the City of Flagstaff. Modem shall be ruggedized with operating temperatures from -30° C to 70° C and have 4G/LTE capability that works with US cellular carriers. Must have 2 GB Ethernet Ports and Cloud Management. Coordinate the work in this section with the City of Flagstaff Signal Operations, including inspection and acceptance. Contact: Steven Hill, City of Flagstaff at (928) 213-2168.

**METHOD OF MEASUREMENT**

Cellular modem will be considered as a unit furnished and installed. No additional measurement will be provided.

**BASIS OF PAYMENT**

The accepted quantities of cellular modems, will be paid for at the unit price extension.

#### **104.1.9 MAGNETOMETER DETECTION**

##### **DESCRIPTION**

The work under this section shall consist of furnishing and installing vehicular detectors at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications. Magnetometer, will be Cubic | TrafficWare POD Detection System™ or approved equal.

##### **METHOD OF MEASUREMENT**

The complete Magnetometer detection system for the project will be considered as a lump sum for this type of detector system furnished and installed.

##### **BASIS OF PAYMENT**

Magnetometer detection will be paid for at the contract lump sum price extension for the type detector designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans.

#### **104.2.2 MOBILIZATION**

There will be no specific Bid Item for Mobilization in the Bid Form. This Item is Incidental to the Scope of Work in the Contract.

## **SECTION 105 – CONTROL OF WORK:**

### **105.2 PLANS AND SHOP DRAWINGS**

(revise to include the following)

The Contractor shall include a cover sheet with all submittals listing the submittal items and if there are any deviations from the standard that are being requested for any item OR if they are per specification.

#### **105.2.1 RECORD DRAWING (As-Built Plans):**

(revise to include the following)

The Contractor shall be required to provide a record drawing (as-built) set of construction plans that fully describes work that deviated from the approved contract documents. The redlined plan set will be reviewed at each weekly meeting with the City's PM and the Engineer to assure that all deviations from the plans are being noted. The redlined plan set needs to be legible and contain accurate information.

The Contractor is responsible for preparing sealed Record Drawings at the conclusion of the project. The record drawings shall be completed in a CAD format per Section 13-06-002-0008 of the City Engineering Standards and the COF As-built checklist dated December 12, 2019. They shall be sealed by a registered Civil Engineer in the State of Arizona and approved by the City. The engineer will submit the drawings to ADEQ once they are approved by the City and the contractor is responsible for addressing comments from ADEQ and revising the Record Drawings as required and providing a final mylar set.

### **105.4 SUPPLEMENTAL INFORMATION**

#### **105.4.1 GEOTECHNICAL REPORT**

A Geotechnical Investigation and Report is provided as supplemental information as part of these Special Provisions. This Report is attached at the end of the Special Provisions. This Report is part of the Contract Documents and the Contractor shall follow the provisions of this document in performing their work on this Project.

#### **105.4.2 POTHOLE INVESTIGATION**

The results of a pothole investigation performed during the design phase of the Project are being made available at the end of these Special Provisions to provide supplemental information for the Contractor.

#### **105.5.1 WEEKLY CONSTRUCTION MEETING:**

(revise to include new sub-section)

The Contractor's Superintendent shall attend weekly construction progress meetings. The Contractor representative shall provide an agenda and be prepared to discuss construction schedule, construction activities projected for the next two weeks, problems, issues and any other

pertinent project details as may be required by the Owner's representative. The Contractor shall provide a two-week look ahead schedule each week.

#### **105.5.2 PROTECTION OF WORK:**

(revise to include new sub-section)

The Contractor is required to protect work during inclement weather. The contractor shall grade areas to drain and utilize pumps to remove ponding water immediately during all stages of construction during both working and non-working hours. This work is incidental to the project.

The Linda Vista Wash has high flow rates that may need to be controlled during construction where it crosses Kaspar during the construction of the storm drain and headwall. Storm Drain construction activities should be scheduled to avoid the Monsoon weather season. Protect the downstream City of Flagstaff detention basin from uncontrolled surface flows and erosion. This work is considered incidental to the construction of the storm drain.

#### **105.8 CONSTRUCTION STAKES, LINES, AND GRADES**

Unless noted otherwise in the contract documents, the Contractor shall layout the work from the lines, grades and dimensions shown on the drawings. The Contractor shall be responsible for all such work for the duration of the project. Any dimension or grade errors shall be immediately transmitted in writing to the Owner for clarification, before proceeding with the work.

#### **105.12 MAINTENANCE DURING CONSTRUCTION**

(revise to include the following)

The contractor shall trench for utility construction as work proceeds and patch trenches per City of Flagstaff trenching and backfill details.

#### **105.20 CONTRACTOR REQUESTS FOR INFORMATION, RFI'S**

(revise to include the following)

The Contractor shall provide a Request for Information Form acceptable to Mountain Line for use during the project to request supplemental information from the design team, Mountain Line or the City of Flagstaff. The form shall be submitted to the Mountain Line project representative for disbursement to the proper party to answer and return to the Mountain Line project representative and then back to the Contractor. The Request shall include a detailed explanation of the request and shall detail whether there is any cost or time impact associated with the item. This form will be used to approved minor cost or time impacts as part of a Field Change Order change directive coming from the Mountain Line project representative. This Field Change cost impacts will be paid for out of the Project Allowance indicated on the Bid Form. Approval of the Field Change will be required prior to the work being performed.

#### **105.21 CHANGE ORDER PROCEDURE FOR CHANGES IN SCOPE OF WORK**

(revise to include the following)



Changes to the project scope that have significant cost or time implications shall be submitted by the Contractor to the Mountain Line Project representative on the Forms provided as part of the Request for Bids. Change Orders will need to be approved by the Mountain Line General Manager and/or the Mountain Line Board of Directors. Approval of Change Orders will be required prior to the work being performed.

## **SECTION 106 – CONTROL OF MATERIALS:**

### **106.5 STORAGE OF MATERIALS:**

(revise to include the following)

The Contractor is responsible for making provisions for their own construction support yard or laydown areas. These types of areas are not provided on Mountain Line property or on property owned by the City as part of this project. It may be possible for the Contractor to gain approval from the City of Flagstaff to use their property for these types of construction areas. The Contractor will need to apply for a Work in Right of Way Permit from the City of Flagstaff. The approval of this permit is not guaranteed and may be subject to the intended use of the property by the Contractor. Refer to the Potential Staging Plan attached to these Special Provisions. The Contractor shall be required to protect existing trees with the project work zone or support yard in accordance with the requirements of the City of Flagstaff.

## **SECTION 107 – LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC:**

### **107.2 PERMITS:**

(revise to include the following)

The Contractor shall be required to obtain City, ADEQ, and other required permits.

City of Flagstaff utility tapping fees are the responsibility of the Contractor. Fee rates may be obtained from the counter. All cost and fees for utility tap work shall be included in the line item for the installation of new services, including but not limited to all labor and materials for installation, repair of any associated abandoned tap and fees. The Contractor shall perform all work and coordinate payment directly with the Water Services Department and the counter in the City Hall lobby.

The contractor shall make arrangements for and provide all necessary water for his construction operation at his own expense.

### **107.2.2 HANDLING, REMOVAL AND DISPOSAL OF SURPLUS MATERIAL AND ASBESTOS CONTAINING MATERIALS (ACM)**

(revise to include new sub section)

The Contractor is responsible for handling, removal and disposal of all soil and construction material generated by the project as described in the General Provisions. The City requires compliance with Environmental Protection Agency (EPA), Arizona Department of Environmental Quality (ADEQ) and Occupational Safety and Health Administration (OSHA) asbestos regulations

for all City projects. Utility pipes constructed of materials other than metal or polyvinyl chloride (PVC) require testing prior to any disturbance of the pipes to determine if regulated levels of asbestos are present in the pipe material. Suspect pipe materials requiring testing typically include vitrified clay and cement pipe (transite). Asbestos testing is not required for metal pipes. City Public Works/Sustainability & Environmental Managements staff are available to collect samples and submit the samples for analyses with small charges for the testing. If the pipe does not contain regulated levels of asbestos the contractor may disturb and remove the piping. If utility piping contains regulated levels of asbestos, an asbestos abatement contractor must perform any disturbance/removal of the pipe materials. This is required to ensure workers are not exposed to any asbestos fibers.

Work may require the proper handling, removal and disposal of regulated asbestos piping and materials generated by cutting or breaking the pipe to remove it from the ground. If asbestos containing materials (ACM) removal is necessary on the project, the City of Flagstaff requirements for handling, removal and disposal are as follows:

If an infrastructure or building material that is not either wood, glass or metal is encountered during the project and has not yet been either assumed or positively identified to be ACM then the material(s) must be sampled in accordance with regulations generated by the EPA Asbestos Hazard and Emergency Response Act (AHERA) 40 CFR 763 as well as OSHA 29 CFR 1910.1101, by a certified AHERA Building Inspector and sent to a National Voluntary Laboratory Accreditation Program (NVLAP) certified laboratory for analysis.

Once materials of concern are either agreed to be assumed or properly identified to be ACM then the material is required to be removed according to OSHA 29 CFR 1910-1926.1101 by a certified asbestos abatement worker, and NOT a general contractor (GC). However, if the GC holds the appropriate asbestos certifications (AHERA Asbestos Operations and Maintenance), which the City would need to verify is current, then the GC could perform the asbestos abatement.

The City requires the GC arrange for abatement of assumed and/or identified ACM by a certified asbestos abatement contractor as well as arrange area and/or clearance air monitoring by a third party certified asbestos consultant. If applicable to the project, copies of abatement activities and air monitoring shall be provided to City of Flagstaff Environmental Management staff.

In the event of large disturbances to ACM, compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61, Subpart M shall be followed. Notification would be required the Arizona Department of Environmental Quality 10 working days in advance of the start of a large project.

<http://www.azdeq.gov/environ/air/asbestos/>

This notification is not typically required for utility pipe work, but could be required for a very large project involving numerous saw cuts of utility pipes.

**If ACM removal is necessary on the project, the City of Flagstaff requirements for ACM disposal at the City's Cinder Lake Landfill are as follows:**

Only non-friable asbestos waste is accepted for disposal at Cinder Lake Landfill. PRIOR to disposal of non-friable ACM, obtain the necessary forms, which are:

- Non-Friable Asbestos Waste Acceptance Application and accompanying instructions
- Non-Friable Asbestos Waste Shipment Record (WSR)

The Asbestos Waste Acceptance Application is available at the City of Flagstaff's website <http://www.flagstaff.az.gov/index.aspx?NID=929> or by contacting the City of Flagstaff Environmental Management staff at (928) 213-2146 or 2151. Fax the completed Non-Friable Asbestos Waste Acceptance Application to (928) 213-3636. Once faxed to the EM Office the application will be reviewed, signed and faxed back to you, normally within one (1) working day. A Waste Shipment Record is required to accompany each load of non-friable asbestos waste taken to the Cinder Lake Landfill. Forms contain multiple carbon copy sheets and need to be obtained from the Cinder Lake Landfill (928) 527-1927 or City of Flagstaff Environmental Management staff (phone numbers above).

Assure the non-friable ACM is properly handled and wrapped. Non-friable ACM must be thoroughly wetted using amended water PRIOR to being wrapped in 6-millimeter poly and be tightly sealed with duct tape. If the material is heavy (such as transite pipe), has sharp edges, or may easily puncture the poly wrap, a double layer of poly will be necessary. The Cinder Lake Landfill scale house attendant will inspect the load to ensure it is properly wrapped. Containers holding non-friable ACM shall be carefully unloaded and placed in a designated location. Dumping using a hydraulically lifted bed of a truck is not permitted (dump truck), as the poly wrap may be torn open.

If using a large bin for disposal, attach a copy of the Waste Shipment Record to the disposal bin. If not using a City of Flagstaff disposal bin, make sure the delivery driver takes a copy of the SIGNED Non-Friable Asbestos Waste Acceptance Application and the Waste Shipment Record to the Cinder Lakes Landfill with the waste delivery. If using a City of Flagstaff disposal bin call City Environmental Services at (928) 774-0668 to schedule a pick-up for the disposal bin. Please be sure to provide the driver with the SIGNED Non-Friable Asbestos Waste Acceptance Application and the Waste Shipment Record and be sure to clarify if you would like the disposal bin emptied and removed, or emptied and returned to the work site. When disposal is completed, the Landfill Manager will sign the Waste Shipment Record and landfill staff will provide or mail a copy of the Waste Shipment Record.

Cutting of utility pipes generates Regulated Asbestos Containing Material (dust from cutting) and breaking pipes may generate RACM. RACM requires disposal at the Joseph City Landfill or at other landfills located in southern Arizona.

All work relating to the testing, removal, and disposal of materials as described above shall be incidental to the project and no separate payment shall be made for this work.

#### **107.9 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE:**

(revise to include the following)

The Contractor shall take special care to control construction-related dust and noise and to keep the project site cleaned up to the greatest extent possible. The Contractor is responsible to coordinate alternate measures for any impacted operations as mentioned which are acceptable to the parties

involved.

Survey monuments and property corners shall be protected and not disturbed unless specifically called out on the plans for replacement. All costs associated with protecting or re-establishing disturbed survey monuments and property corners shall be borne solely by the Contractor.

The Contractor is responsible for replacing and/or restoring landscaping (including but not limited to fences, retaining walls, landscape walls, pavers, aggregate rock ground cover, plantings, sod) and owner improvements associated with the project to a pre-existing condition. All cost shall be included in the bid as incidental to the work, unless specified in the bid schedule or plans.

The Contractor is responsible for removing existing improvements and salvaging items for relocation after the public improvements are finished. This may necessitate close coordination with property owners. The contractor is responsible for replacing materials in like kind. All cost shall be included in the bid as incidental to the work.

**Sections of the curb, gutter and sidewalk not called out for removal and replacement shall be protected in place and the contractor shall take great care in protecting existing improvements. Replacement of existing improvements damaged by the contractor shall be replaced by the contractor at no cost to the project. The contractor shall schedule a field walk with City staff to designate the limits of concrete removal prior to disturbance.**

**Pre-Construction Video:**

The contractor shall record and provide the City with a pre-construction video (in readable format) of the full construction area prior to mobilization, paying special attention to the adjacent improvements, private property boundary area and private improvements. This video will serve as a record of preexisting conditions and it is in the best interest of the contractor to record a thorough document for the record.

**107.9.1 EROSION AND SEDIMENT CONTROL:**

(new section)

The size of this project is greater than one (1) acre. The Contractor is required to submit a Notice of Intent and a Notice of Termination to the Arizona Department of Environmental Quality. The Contractor shall use best management practices (BMP) in controlling stormwater runoff. A stormwater pollution prevention plan (SWPPP) has been included in the construction documents for the Contractor's use. The contractor shall develop and maintain a SWPPP inspection and maintenance binder that is to be kept on site during construction.

**Payment**

Payment for the SWPPP will be a lump sum complete and shall include all items required to comply with the requirements of the AZPDES permit program and City of Flagstaff requirements. The cost for obtaining and complying with the AZPDES permit and City, inspection documentation, erosion control devices and all work associated with stormwater protection shall be included in the lump sum pay item for SWPPP.

The contractor is required to comply with all applicable standards and guidelines included with the most current AZPDES Construction General Permit. This includes but is not limited to

preparing a Storm Water Pollution Prevention Plan (SWPPP), Implementing and maintaining the necessary Best Management Practices (BMP's) to control erosion and sediment throughout the duration of the project, and filing a Notice of Intent (NOI) prior to starting construction and a Notice of Termination (NOT) after completion of the project. The SWPPP will be paid in partial payments as work progresses. Dust control abatement shall be conducted throughout the duration of project, including weekends.

All disturbed areas shall be hydroseeded in accordance with City of Flagstaff Engineering Standards Section 13-17. A revegetation plan will be required to be implemented and proved successful prior to project closeout. Contractor shall provide 70% successful regrowth per ADEQ permanent stabilization requirements for all areas disturbed during construction. Soil conditioners and watering are required in accordance with 13-17-002-004 and 13-17-002-0005.6 to promote establishment of vegetation.

The contractor shall include documentation of any impacted downstream Stormwater systems in the pre-construction video.

**107.11 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES:** (revise to include the following)

The Contractor is responsible for providing written notification to each affected resident at least 72 hours prior to any disruption to water or sewer service in the construction area. The notice must include the exact time of the disruption of service and the expected duration of the loss of service.

The Contractor is responsible for providing written notification to each affected resident at least 72 hours prior to any disruption to reclaimed water service in the construction area. The notice must include the exact time of the disruption of service and the expected duration of the loss of service.

The Contractor shall coordinate the impact of utility work on Jacamar Drive access and water and sewer service interruptions with the HOA Mount Elden Villas Manager. This is Ted Wojtasik, Community Association Manager at 928-779-4202 ext. 1307. This includes coordination for any work including utility work that would have partial or full shut-down of service. Any shut-downs shall be for as minimal duration as possible.

The Contractor shall coordinate any utility service interruptions with the City's Project Representative and City Water Services Division. The shut down information shall be provided to the Mountain Line Project Manager, the HOA Mount Elden Villas Manager and the Fire Department.

The Contractor shall protect existing water, sewer, and gas service lines where the proposed work crosses individual service lines.

**Not all service lines are shown on the plans and it is the Contractor's responsibility to determine their location in the field at the beginning of the project. The contractor shall coordinate all necessary utility relocations directly with the appropriate utility franchise and provide sufficient time for response prior to construction of the improvements. This investigation and coordination is considered incidental to the project.**

Protection or repair of existing service lines not in conflict with the work is also considered incidental. In the event that there is a physical conflict between an existing service line and the

proposed work, the Contractor shall immediately notify the Engineer of the conflict. The Owner will make a determination as to how the conflict will be resolved. Any extra work required as a result of an unforeseen service conflict will be ordered and paid for in accordance with General Provision Section 104.2.3.

**The Unisource (Gas) will be relocated after the project Notice to Proceed. The Contractor is to provide the trenching and backfill activities for the Unisource Contractor during installation of the lowered gas main. This work shall be per the lump sum price indicated on the Bid Form. The Contractor is required to notify Unisource Construction at the contacts listed herein immediately after obtaining the notice to proceed. Unisource will commit to being available to perform their work at a set schedule with 3 to 4 weeks' notice.**

**Until the new gas line is fully operational, the existing gas line needs to be protected and maintained in place. Limited operations over the utility can occur with proper protection until the new gas line is in service. Coordinate this work with the utility provider and their representative, including schedule. Coordinate this work with the provider to identify the new and abandoned facilities within the project area. Removal of the abandoned gas line and appurtenances is the responsibility of the Mountain Line project Contractor. Coordination of this work is Incidental to the project.**

**The Century Link (Fiber Optic Duct Bank) will be relocated prior to the project Notice to Proceed. There will be some continued work after the NTP including but not limited to line identification and splicing activities. This is anticipated to take up to 30 days to complete after the Contractor NTP. Until the new duct bank is fully operational, the existing bank needs to be protected and maintained in place. Limited operations over and around the utility can occur with proper protection until the new bank is in service. Coordinate this work with the utility provider and their representative, including schedule. Coordinate this work with the provider to identify the new and abandoned facilities within the project area. Removal of the abandoned duct bank and communication manhole is the responsibility of the Mountain Line project Contractor. Coordination of this work is Incidental to the project.**

**Locations of underground utilities shown on the plans are to be regarded as approximate only and it is the Contractor's responsibility to determine their location in the field at the beginning of the project.**

Contact Information for Utility Providers:

Unisource:

Bidding and Construction Phases....Blake Berner 928-525-8135 [bberner@uesaz.com](mailto:bberner@uesaz.com)

Century Link:

Biding Phase...Jason Jensen 801-735-2464. [Jjensen@terratechllc.net](mailto:Jjensen@terratechllc.net)

Construction Phase....Donald Eymann 602-670-6314. [Donald.eymann@centurylink.com](mailto:Donald.eymann@centurylink.com)

APS:

**SECTION 108 – COMMENCEMENT, PROSECUTION AND PROGRESS:**

**108.4 CONTRACTOR’S CONSTRUCTION SCHEDULE**

(revise to include the following)

The contractor is required to submit a revised master schedule with each monthly pay request. The contractor shall be prepared to shift work areas and/or work on clean up, etc. to reduce any stand by time due to conflicts. Standby time less than 3 hours shall not be considered.

**108.5 LIMITATIONS OF OPERATIONS:**

(revise to include the following)

Work on Saturdays will be permitted, as necessary, as approved by the City’s Public Works Inspection Supervisor. Seventy-Two hours advance notice will be required. Work on Sundays and legal City holidays will not be permitted except in emergencies.

**108.7 DETERMINATION AND EXTENSION OF CONTRACT TIME:**

(revise to include the following)

The Contractor’s schedule must include the anticipated adverse weather delays as listed in section 108.7 of Exhibit A, City of Flagstaff Amendments to MAG Standard Specifications for Public Works Construction on a month-by-month basis during the contractor’s normal working schedule.

Extension of contract time shall be by calendar day.

The contract time, including final clean-up of the project site and storage areas, may be extended because of weather conditions that cannot be reasonably anticipated. The number of actual days that the scheduled work is impacted by adverse weather shall be recorded weekly during the construction period.

The Contractor will be entitled to a contract time extension if the actual adverse weather days experienced during the work exceed the anticipated adverse weather days shown. The following is the monthly schedule of adverse weather days that shall be anticipated by the Contractor in scheduling the work:

TABLE 108.7 MONTHLY CALENDAR DAYS for ANTICIPATED ADVERSE WEATHER

MONTH	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
Monthly Calendar Days for Anticipated Adverse Weather	7 DAYS	7 DAYS	8 DAYS	6 DAYS	4 DAYS	3 DAYS
Average Monthly Precipitation	1.98"	1.96"	2.05"	1.34"	0.68"	0.51"
MONTH	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Monthly Calendar Days for Anticipated Adverse Weather	12 DAYS	11 DAYS	7 DAYS	5 DAYS	5 DAYS	6 DAYS
Average Monthly Precipitation	2.78"	2.68"	1.82"	1.52"	1.49"	1.90"

The above schedule of anticipated adverse weather days establishes the base line for the project's monthly weather impacts based on historical records, as recorded by the National Weather Service at Pulliam Airport, for precipitation in excess of 0.01 of an inch per calendar day.

The number of actual days that scheduled work is impacted by adverse weather as defined above shall be recorded weekly during the contract period. It is the Contractor's responsibility to request in writing any adverse weather delays experienced during the prior week no later than the normally scheduled weekly project meeting. Any adverse weather day requests that are not received, as stated above, shall neither be considered nor approved. Once the number of approved actual adverse weather days exceeds the number of anticipated adverse weather days in the schedule above, the Contractor is entitled to a contract time extension.

Actual adverse weather days must also prevent work for fifty (50) percent or more of the Contractor's work day and delay scheduled work critical to the timely completion of the project. The City will convert any delays meeting the above requirements to calendar days and extend the contract period as necessary. No additional compensation will be allowed for direct and indirect overhead expenses associated with any such contract time extensions. The Contractor's schedule must include the above anticipated adverse weather delays for all weather dependent activities and shall show all weekends and holidays.

## **PART 300 – STREET AND RELATED WORK**

### **SECTION 301 – WINTER SHUT DOWN:**

#### **301.1 TEMPORARY PAVEMENT:**

Revised to read:

There is a Bid Form Item for temporary pavement placement on Kaspar Drive as potentially needed for the Contractor to enter into a Winter Shut Down condition. This temporary pavement shall be as required by the City of Flagstaff for winter shut down when there is no significant active work being performed within the Kaspar Drive work zone. The minimum pavement section for this temporary surface would be 2 1/2" over compacted native subgrade. The



Contractor is required to maintain this surface free of defects for the duration the temporary pavement is in place.

### **301.2 WINTER SHUT DOWN COSTS:**

Revised to read:

There is a Bid Form Item for winter shut down costs as potentially needed for the Contractor to enter into a Winter Shut Down condition. These costs may include items such as additional Traffic Control and Signage, temporary surface materials not included in 301.1, such as temporary sidewalk; SWPPP maintenance, project monitoring, other temporary items or materials, etc. The Contractor is required to maintain these items for the duration of the winter shut down.

**If the Contractor continues to work during cold weather conditions on items within the project scope, the provisions for this work to continue during cold weather must meet the requirements of the City of Flagstaff, and the additional cost for continuing this work shall be incidental to the unit price for that Item on the Bid Form.**

## **SECTION 306 – STABILIZED SUBGRADE:**

### **306.1 DESCRIPTION:**

Revised to read:

If unsuitable material and subgrade conditions are encountered during construction of the paved roadways that do not meet the requirements of MAG 301 and the Geotechnical Report, subgrade stabilization will be required, written authorization from the Engineer is required. Several options are available including allowing time to dry out, removal and replacement with additional subbase (usually 2 feet of stockpiled asphalt millings is sufficient), cement treating (MAG Section 311), or the use of geogrid such as Tensar BX1200 or equivalent per 2014 MAG Section 796 Type 2 with an additional 12 inches of aggregate base. Due to the number of means and methods available, potential for shallow utility conflicts, and other restrictions, there is no one method that may work best. Once suspect areas are stabilized to the satisfaction of the engineer, the ABC should then be installed.

**The first approach shall be that the Contractor gives the soils adequate and reasonable drying time including turning the soils to facilitate their drying prior to construction equipment traffic. This work is incidental to the project. The Contractor is required to maintain the exposed soils in a manner such that any precipitation and runoff is removed from the soils as quickly as possible including ditching, diversion, removal and mechanical pumping as necessary. This work is incidental to the project.**

The second approach, as determined by the project Geotechnical QA firm utilized by the City of Flagstaff, will be to provide subgrade stabilization in accordance with the Geotechnical Report and as listed above. This work, regardless of the method utilized, will be paid for based on the Allowance Unit price extension.

**306.8 PAYMENT:**

Revised to read:

All Subgrade Stabilization, measured complete in place, will be paid for at the unit contract bid prices out of Allowance Item, Subgrade Stabilization.

**SECTION 306 – ROCK EXCAVATION:**

**306.2 DESCRIPTION:**

Revised to read:

If rock materials are encountered during excavation for the roadway or during excavation for utilities, the Contractor shall remove the rock materials to the extent as defined in the Plans, Specifications or Geotechnical Report. These materials shall be removed from the project limits. Rock Excavation is per COF MAG Amendments Section 601.2.1.

**306.8 PAYMENT:**

Revised to read:

All Rock Excavation, measured removal in place, will be paid for at the unit contract bid prices out of the Allowance Item, Rock Excavation.

**SECTION 350 – REMOVAL OF EXISTING IMPROVEMENTS**

**350.1 DESCRIPTION:**

(revise to include the following)

Some of the removal limits may be at existing joints that are not uniform and clean. If this is the case the Contractor shall shift the match line 6” past the joint and sawcut the curb to create a uniform edge. Contractor to document the adjusted stationing of the removal limits on the redlined as-built drawings. Minor shifting in removal quantities are incidental to the Bid Schedule removal item. Expansion joints will be placed at all connections between existing and proposed concrete.

All sidewalk, curb, asphalt, fencing, and other existing improvements are to be protected unless specifically called out for removal. If additional removals are necessary, the Contractor shall coordinate with the City’s Project Manager.

**350.2.1 UTILITIES:**

(Revise to include the following)

The construction plans may or may not represent the location of the existing service lines correctly. Existing service lines may or may not run perpendicular to the property and/or main. Investigation will be required to understand which services are active and determine locations of the service runs. The Contractor is required to locate all services and verify that the service is active. This is included in the cost of the work and no additional payment will be made for investigation and locating.

Verify with Unisource and CenturyLink that lines have been abandoned before removal.

### 360.1 APS CONDUITS

Conduits used for APS electrical power extensions or future conduit shall be as follows:

**TABLE 502.3  
APPROVED SERVICE CONDUIT FOR CUSTOMERS INSTALLATION**

APPLICATION	ACCEPTABLE PRODUCT MATERIAL	CONDUIT MARKING REQUIREMENTS
Straight Conduit PVC DB-120 (See Notes 1 & 2)	PVC DB-120 (Modulus 400,000 PSI)	Mfg. name, nom. size, 90°C, Type (i.e. DB120), ASTM F-512, PVC 12254
	PVC SCH 40 or SCH 80	Mfg. name, nom. size, PVC, SCH 40 mx SCH 80, NEMA TC-2
Bends, Sweeps and Elbows (See Note 3)	PVC SCH 40 or SCH 80 (See Note 4)	Mfg. name, nom. size, PVC, SCH 40 mx SCH 80, NEMA TC-2 radius, degree of curvature
Fittings	PVC SCH 40 or SCH 80	Mfg. name, nom. size, PVC, SCH 40 mx SCH 80, NEMA TC-2 (marking may be on packaging material)

The conduit shall have the min 24" of covering except in roadways then it shall have 36" of covering.

## **PART 600 – WATER, SEWER, STORM DRAIN AND IRRIGATION**

### **SECTION 601 – TRENCH EXCAVATION, BACKFILLING AND COMPACTION**

(revise to include the following)

Removal and replacement of asphalt trench materials and patch is incidental to the item of work. It is the contractor's responsibility to control the final trench width and no additional payment will be provided for asphalt patching or trench materials.

Soft subgrade materials of low compaction and/or groundwater may be present. No additional payment or time shall be provided for benching trenches or dewatering.

### **SECTION 610 – WATER LINE CONSTRUCTION**

(revise to include the following)

A check-valve assembly shall be provided between new and old improvements until all water main testing has been passed in order to protect existing water supply from untested water.

The contractor is responsible for maintaining individual water services during construction of the new improvements. If a water service(s) has to be shut down for more than 8 hours to install the new waterline a temporary service will have to be provided until the new main is tested and inspected. The Contractor is responsible for all testing and materials required to install and

maintain the temporary service line. The cost of the temporary service is incidental to the installation of the new main.

Tracer Wires and tapes shall be installed prior to testing the water or sewer main as required by Section 13-09-001-0002.

Water valves shall be adjusted per COF Detail No. 09-03-060 and manholes shall be adjusted per COF Detail No. 9-03-062. Adjustment included in bid item.

All water and sewer materials shall be domestic made.

**610.16 MEASUREMENT AND PAYMENT:**

(revise to include the following)

Unless otherwise noted in the contract documents, all work and materials to provide complete and operational water and sewer systems is included and incidental to the water and sewer bid items, including but not limited to connections, fittings, bends, elbows, thrust blocks, adjustments and materials for sewer main connections to new mains or manholes, etc. and there will be no separate measurement or payment for these items unless listed in the Bid Schedule.

Vertical deflections are quantified on the plans. One vertical deflection is defined as 4-45 degree bends with restrained joints or thrust blocking and the connector pipe between the bends to reach the elevations shown on the plans.

**SECTION 615 – SANITARY SEWER LINE CONSTRUCTION**

(revise to include the following)

**615.1 DESCRIPTION:**

Revise the first paragraph to add:

The work shall also include providing sewer flow diversion during sewer line construction.

**615.5 PIPE INSTALLATION:**

(revise to include the following)

Trenching is not permitted within the buffer zone below the retaining wall foundation as indicated on the structural plans. The trenching for the relocation of the sewer main will conflict. Therefore, the sewer main installation and replacement must be complete in place prior to the installation of the retaining wall foundation. No new trenching permitted next to the retaining wall footing.

Add Subsection 615.5.1 to read:

**615.5.1 SEWAGE FLOW DIVERSION:**

**615.5.1.1 Description:**

The Contractor shall design and provide all labor, materials, and equipment to install and operate a sewage bypass system that bypasses sewage flows around each sewer rehabilitation work area.

Each bypass system shall extend the entire length of the section of pipeline rehabilitation and shall remain in operation until the sewer rehabilitation work is complete and accepted by the Engineer. All bypass flows shall be discharged into a downstream sanitary sewer manhole. Bypass flows shall not be directed to ground surface receiving waters, storm drains, or wherever groundwater contamination is possible. The bypass system shall maintain flow to prevent wastewater backup into customer fixtures or discharge to the environment.

The design of the bypass system is the responsibility of the Contractor and shall be prepared and submitted to the Engineer for review and approval. The required bypass flow rate is *up to* 125 gallons per minute. The Contractor shall have each bypass system in place and tested before bypassing any sewage. The Contractor shall notify the Engineer 48 hours prior to shutting down or bypassing the pipeline to be rehabilitated.

Equipment shall be equipped with a specially designed, acoustically-silenced enclosure intended for use in any application where pumping is required and engine and other noise must be kept to a minimum. The sound levels shall be within the limits specified in the City of Flagstaff codes or 69dBA at 30 feet. The bypass pumping system shall be of adequate capacity and size to handle the required flows with redundancy to bypass if the largest temporary pump is out of service.

The Contractor shall consider the existing conditions and ground features when designing and installing the aboveground discharge pipe system. Access to driveways shall be maintained.

#### **615.5.1.2 Materials:**

Bypass piping shall be polyethylene pipe with Standard PE Code Designation PE3408 as defined in AWWA C906, have a minimum Cell Classification of PE 33443C as defined in ASTM D3350, designed using Hydrostatic Design Basis of 1,600 psi as specified in ASTM D2837.

#### **615.5.1.3 System Monitoring:**

The wastewater levels in the upstream and discharge manholes shall be continuously monitored for the first 24-hours of operation by an on-site representative of the Contractor. After the first 24-hours of monitoring, the Engineer may allow the Contractor to perform monitoring only during daytime hours so long as the site is secured. The representative shall be Contractor staff and/or a subcontractor that has been directly responsible for the bypass pumping of sewage flows during completion of a similar pipeline rehabilitation project. The qualifications of the staff or subcontractor shall be submitted to the Engineer for approval 10 business days prior to any bypass pumping work.

#### **615.5.1.4 System Maintenance:**

The Contractor shall provide qualified personnel available on-site 24 hours per day to maintain the bypass system. The Contractor shall maintain sufficient on-site equipment and materials to ensure continuous and successful operation of the bypass system. This includes a sufficient number of valves, tees, elbows, connections, tools, sewer plugs, piping, fuel, and other parts or system hardware to ensure immediate repair or modification of any part of the system as necessary.

All equipment shall be placed on a new plastic tarp, adequately sized and bermed to protect against fuel, oil, and hydraulic fluid spills. The Contractor is responsible to notify the Engineer for

immediate and proper cleanup should any spill occur, regardless of amount. The Contractor shall repair, without cost to the Owner, any damage that may result from its negligence, inadequate or improper mechanical or electrical failures.

**615.5.1.5 Measurement and Payment:**

Bypass pumping required to install the sewer system as shown on the plans while keeping the mains in service is a lump sum item and will be full compensation for the item.

**615.10 MANHOLES:**

(revise to include the following)

Manholes shall be adjusted to finished grade per COF Detail No. 9-03-062. Adjustment included in bid item for the manhole installation.

**SECTION 616 – RECLAIMED WATER LINE CONSTRUCTION**

(revise to include the following)

**616.1 GENERAL:**

Revise the first paragraph to add:

**There is a concrete cap of the existing reclaim water line that varies in thickness over the length of the zone of removal and lowering of the existing roadway. The plans indicate the information obtained thru potholing along the edge of the concrete. Removal of this concrete cap, as needed to establish the new road grade and for demolition of the existing reclaim water line as needed, is incidental to the cost for the reclaim water line removal as indicated on the Bid Schedule.**

The work shall also include providing reclaimed water flow bypass during reclaimed water line construction. The reclaim line is the secondary reclaim source for the City supply, which operates intermittently, from the Wildcat Hill Treatment Facility and must remain in operation.

**616.3 INSTALLATION:**

Add Subsection 616.3.1 to read:

**616.3.1 Reclaimed Water Flow Bypass:**

**616.3.1.1 Description:**

The Contractor shall design and provide all labor, materials, and equipment to install and operate a bypass system that bypasses reclaimed water flows around the work area. The bypass system shall extend the entire length of the section of pipeline rehabilitation and shall remain in operation until the rehabilitation work is complete and accepted by the Engineer. All bypass flows shall be connected to the downstream system. Bypass flows shall not be directed to ground surface receiving waters, storm drains, or wherever groundwater contamination is possible. The bypass system shall maintain flow to prevent discharge to the environment.

The design of the bypass system is the responsibility of the Contractor and shall be prepared and

submitted to the Engineer for review and approval. The required bypass flow rate is *up to* 1000 gpm. The Contractor shall have the bypass system in place and tested before bypassing any reclaimed water. The Contractor shall notify the Engineer 48 hours prior to shutting down or bypassing the pipeline to be rehabilitated.

The Contractor shall consider the existing conditions and ground features when designing and installing the aboveground bypass pipe system. Access to driveways shall be maintained.

**616.3.1.2 Materials:**

Bypass piping shall be polyethylene pipe with Standard PE Code Designation PE3408 as defined in AWWA C906, have a minimum Cell Classification of PE 33443C as defined in ASTM D3350, designed using Hydrostatic Design Basis of 1,600 psi as specified in ASTM D2837.

**616.3.1.4 System Maintenance:**

The Contractor shall provide qualified personnel on-site, if needed, 24 hours per day to maintain the bypass system. The Contractor shall maintain sufficient on-site equipment and materials to ensure continuous and successful operation of the bypass system. This includes a sufficient number of valves, tees, elbows, connections, tools, plugs, piping, and other parts or system hardware to ensure immediate repair or modification of any part of the system as necessary.

**616.3.1.5 Measurement and Payment:**

Bypass system required to install the reclaimed water line as shown on the plans while keeping the mains in service is a lump sum item and will be full compensation for the item.

**SECTION 618 – STORM DRAIN CONSTRUCTION**

(revise to include the following)

**618.2 MATERIALS:**

(Revise to include)

The approved manufacturer of Smooth Wall SRP, storm pipe is shown below. The smooth wall SRP storm pipe must meet or exceed the pipe manufactured by:

Contech ULTRA FLO 14 gauge