

**EXHIBIT A**  
**SCOPE OF SERVICES**

**WASHOE COUNTY, NEVADA**  
**PLEASANT VALLEY INTERCEPTOR REACH 3**  
**DETAILED DESIGN, PERMITTING AND BID PERIOD SERVICES**

**PROJECT BACKGROUND**

The Washoe County Department of Community Services (COUNTY) entered into an agreement with Carollo Engineers, Inc. (ENGINEER) for the development of the preliminary design of Reach 3 of the Pleasant Valley Interceptor (PVI-R3), a sanitary sewer pipeline facility. The PVI-R3 project is needed to replace the existing Dorothy Towne Lift Station which is aged and is near the end of its useful life, and to serve future development in the Pleasant Valley area of Washoe County. The preliminary design is summarized in the draft *Pleasant Valley Interceptor Reach 3 Preliminary Design Report* dated May 2018. PVI-R3 begins at the COUNTY's existing Dorothy Towne Lift Station and terminates at the point of connection with the existing Reach 2 segment of the Pleasant Valley Interceptor located approximately 1,000 feet south of the intersection of Damonte Ranch Parkway and Steamboat Parkway in south Reno. The sewage flow in Reach 2 is conveyed to the COUNTY's South Truckee Meadows Water Reclamation Facility (STMWRF) for treatment and reuse.

The PVI-R3 project generally includes the following components.

1. Approximately 5,900 linear feet of 12-inch gravity sewer.
2. The Geiger Lift Station, a submersible type sanitary sewer pump station with a firm pumping capacity of 0.7 million gallons per day (mgd) and associated dual force main, consisting of 6-inch and 8-inch diameter pipes each approximately 2,175 linear feet. Components of the Geiger Lift Station generally includes the following.
  - a. Inlet piping and manhole.
  - b. Wet well with submersible pumps.
  - c. Pump discharge piping and discharge header vault.
  - d. Emergency storage facility, an underground structure made of cast-in-place concrete.
  - e. Flow meter vault.
  - f. Dual force main isolation valve vault.
  - g. Control building housing electrical and control/instrumentation equipment.
  - h. A 150 kW auxiliary electrical power supply engine generator.
3. Approximately 6,900 linear feet of 18-inch gravity sewer to the point of connection with the existing Reach 2.
4. Demolition and abandonment of the existing Dorothy Towne Lift Station.
5. Improvements to the existing wastewater collection system of the Brookside Mobile Home Park

6. Design and construction of improvements to the COUNTY's STWRF reclaimed water distribution system including installation of a pipeline to provide reclaimed water service to the Geiger Lift Station as a source of water supply for lift station wash-down needs.

The COUNTY has requested ENGINEER develop the detailed design of PVI-R3, prepare construction contract documents, including bid documents, construction plans and technical specifications, and provide contractor bidding period services for the construction of PVI-R3. This document details the scope of services to be provided by ENGINEER for the PVI-R3 project.

The project delivery method for the PVI-R3 project is the design-bid-build method. The project schedule is based on meeting the COUNTY's needs and generally calls for completion of the detailed design phase with construction contract documents ready for bidding by contractors by the end of 2018 with construction contract award in March 2019. A 9-month construction contract duration results in the PVI-R3 in place and operational by the end of 2019.

The scope of services to be provided by ENGINEER for the detailed design of the PVI-R3 includes the following four main tasks and associated sub-tasks.

## **TASK 1 - PROJECT MANAGEMENT**

Project management will be conducted under this task. This includes managing the project team, the scope of work, the project schedule and budget, and the coordination of, and documentation of, project meetings.

### **Task 1.1 - Project Administration**

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ENGINEER will administer the project including subconsultants to maintain project schedule and budget. The project progress and budget status will be included in monthly progress reports that will be attached to billing invoices to the COUNTY. Additionally, the monthly progress report will include a list of work completed for the time period, meeting minutes for all meetings held during the time period, and an updated decision log.

### **Task 1.2 - Project Meetings**

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ENGINEER will coordinate the project tasks between the COUNTY, project stakeholders, and other agencies as required through project meetings. ENGINEER will prepare an agenda and meeting minutes for each meeting. Anticipated project meetings include the following.

- Detailed Design Monthly Project Status Meetings, five total.
- Up to four Stakeholder meetings with project stakeholders including:
  - An informative presentation to the Northern Nevada Water Planning Commission (meets first Wednesday of the month)
  - Di Loreto Homes (developer of Damonte Ranch property)
  - Lewis Homes (developer of the proposed Jigsaw development)
  - Nevada Department of Transportation
  - Dorothy Towne Trust (landowner)
  - Steamboat Commerce Center, LLC (landowner)
  - NV Energy (electric utility service provider)

- ENGINEER will organize and participate in three project permitting meetings including the following.
  1. NDOT (Nevada Department of Transportation) Right of Way Occupancy Permit pre-application meeting
  2. City of Reno Special Use Permit pre-application meeting
  3. Reno Planning Commission Special Use Permit hearing
- Prebid Meeting

### **Task 1.3 - Quality Management**

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ENGINEER will implement and maintain a Quality Management Program for the project. This program is based on the concept of continually improving quality by identifying and correcting problems, eliminating inefficiency, reducing variability, and increasing performance. There are three main components of quality management that ENGINEER will apply to the project including planning, monitoring, and reporting. Each one of these components is reviewed on a bi-monthly basis and any necessary adjustments to the project are made to address the issues at hand.

Additionally, ENGINEER will provide value engineering concepts throughout the life of the project to identify potential alternatives that may provide greater value to the COUNTY or that may reduce overall project costs. This is accomplished through the continual peer review process throughout the project. It also incorporates COUNTY comments received during the review process

#### **Task 1 Deliverables:**

1. Monthly Progress Reports
2. Meeting Agendas and Minutes

### **TASK 2 – DETAILED DESIGN, CONSTRUCTION CONTRACT DOCUMENT PREPARATION, AND PROJECT PERMITTING**

In Task 2 the preliminary design of PVI-R3 will be advanced to the point of being ready for contractor bidding by performing detailed design and preparing construction contract documents including bid documents, construction plans, and construction contract technical specifications. The bid documents will conform to COUNTY standards. The construction plans will be developed using CAD (computer added drafting) software, will be 24 by 36 inch in size and will be monochrome. The “front end” specifications for general conditions and provisions of the construction contract will be based on the 2016 Edition of the Standard Specifications for Public Works Construction published by the Washoe County Regional Transportation Commission with appropriate project specific modifications. The technical specifications will use either the 17 division Construction Specifications Institute master format (five digit format) or the 50 division master format (six digit format).

ENGINEER will prepare two separate construction plan sets. Construction Plan Set No. 1 will be constructed by the COUNTY’s construction contractor and includes; the PVI-R3 pipeline from pipeline station 10+00 to approximately pipeline station 132+30, the Geiger Lift Station and its associated dual force main, and the demolition of the existing Dorothy Towne Lift Station. Construction Plan Set No. 2 will be constructed by the construction contractor for the developer of the Damonte Ranch. This includes the portion of the PVI-R3 alignment approximately from pipeline station 132+30 to the point of connection with PVI Reach 2 at pipeline station 150+87. Applicable construction details will be provided in Construction Plan Set No. 2. Technical specifications for Construction Plan Set No. 2 will be included

on the construction plan sheets and ENGINEER will not prepare bid documents for Construction Plan Set No. 2.

Intermediate deliverables of the detailed design at the 60-percent and 95-percent complete design levels will be submitted to the COUNTY for review and comment.

The 100-percent complete, bid ready construction contract documents will be provided to the COUNTY in .pdf format for the COUNTY's Capital Projects Group use in soliciting contractor bids. An updated construction cost estimate will be provide with each intermediate submittal and the final submittal of the 100-percent completed construction contract documents.

The engineering disciplines involved in the development of the detailed design of PVI-R3 include; civil engineering, structural engineering, mechanical engineering, electrical engineering, control and instrumentation engineering along with architectural and landscape architecture design services. The majority of the services will be performed by employees of the ENGINEER, the subconsultants expected to be utilized in the detailed design and construction phase of project execution include; a potholing contractor, landscape architecture design services, construction material testing, and archeological and environmental construction observation.

#### **Task 2.1. - Detailed Design to 60-percent Complete Level**

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In Task 2.1 the preliminary design of PVI-R3 will be advanced to the approximately 60-percent complete design level including the construction plans and the technical specifications. Task 2.1 also includes potholing of existing utilities that cross the alignment of the PVI-R3. This task also includes preparation to the 90-percent complete level of the portions of PVI-R3 facilities within NDOT right of way, for the purpose of submitting the NDOT Right of Way Occupancy permit discussed in Task 2.5.1. At the 60-percent complete level the in-progress construction plans and specifications, and an updated construction cost estimate, will be submitted to the COUNTY for review and comment. COUNTY comments will be discussed in the following monthly progress meeting.

##### **Task 2.1 Deliverables**

1. 60-percent Complete Construction Plans and Technical Specifications for Construction Plan Set No. 1
2. 60-percent Complete Construction Plans for Construction Plan Set No. 2.
3. Construction Cost Estimate at the 60 Percent Complete Design Level
4. 90-percent complete construction plans for NDOT permit submission.

#### **Task 2.2 - Detailed Design to 95-percent Complete Level**

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In Task 2.2 the detailed design of PVI-R3 will be advanced from the approximately 60-percent complete design level to the 95-percent complete level. At this point the bid documents, construction plans, the general conditions and provisions of the construction contract, the technical specifications, and updated construction cost estimate will be submitted to the COUNTY for review and comment. COUNTY comments will be discussed in the following monthly progress meeting.

##### **Task 2.2 Deliverables**

1. 95-percent Complete Construction Plans, Bid Documents, General Conditions and Provisions of the Construction Contract and Technical Specifications for Construction Plan Set No. 1
2. 95-percent Complete Construction Plans (with integrated technical specifications) for Construction Plan Set No. 2

3. Construction Cost Estimate at the 95 Percent Complete Design Level

### **Task 2.3 - Detailed Design to 100-percent Complete Level**

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In Task 2.3 the detailed design of PVI-R3 will be advanced from the approximately 95-percent complete design level to the 100-percent complete level. The construction contract documents will be modified to address the COUNTY comments received by ENGINEER of the 95-percent complete set and will be ready for contractor bidding. The 100-percent complete bid-ready bid documents, construction plans, and technical will be provided to the COUNTY in .pdf format for the COUNTY's use in advertising for contractor bids.

#### **Task 2.3 Deliverables**

1. 100-percent Complete Construction Plans, Bid Documents, General Conditions and Provisions of the Construction Contract, and the Technical Specifications for Construction Plan Set No. 1.
2. 100-percent Complete Construction Plans (with integrated technical specifications) for Construction Plan Set No. 2.
3. Construction Cost Estimate at the 100 Percent Complete Design Level

### **Task 2.4 – Hydraulic Analysis of the Design**

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Task 2.4 includes updating the COUNTY's existing hydraulic model with the 60-percent, and 95-percent complete design facility layouts and pipeline alignments and profiles. The updated hydraulic model will be used to verify that the 60-percent, and 95-percent complete PVI-R3 designs meet project design criteria and the minimum level of performance under projected average dry weather flows, and peak wet weather flows for two cases including with, and without, conversion of existing septic systems in the tributary sewershed. ENGINEER will also use the updated hydraulic model to determine the storage time in the wastewater collection system before an overflow would occur in the event of a lift station failure. This analysis will confirm if the emergency storage facility for the Geiger Lift Station is sized to meet the COUNTY's design requirement of holding two hours of peak hour flow, and to determine if the emergency storage facility's volume can be reduced by utilizing upstream storage in the gravity collection system.

The findings of the hydraulic modeling analysis will be documented in a 60-percent and a 95-percent complete design project memorandum.

#### **Task 2.4 Deliverables:**

1. Project memorandum of the results of the hydraulic analysis at the 60-percent complete design level.
2. Project memorandum of the results of the hydraulic analysis at the 95-percent complete design level.

### **Task 2.5 – Project Permitting Assistance**

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ENGINEER will provide assistance to the COUNTY for project permitting. It is understood that the COUNTY has arranged for cultural/historical/archeological survey and the environmental review for the project to be performed by others under separate contract. The requirements and conditions of the survey and review will be included as required in the bid documents and technical specifications to be prepared by ENGINEER.

Permits to be secured by the construction contractor include, but are not limited to, the following.

1. NDEP (Nevada Division of Environmental Protection) Working in Water Ways Permit (if required)
2. NDEP Stormwater Construction General Permit
3. NDEP National Pollutant Discharge Elimination Permit (secured by contractor based on expected contaminated construction dewatering water discharge)
4. Washoe County Dust Control Permit

The construction contract documents to be prepared by ENGINEER will have sufficient information for the project permits to be secured by the contractor.

The COUNTY will submit permit applications, prior to contractor bidding for Construction Plan Set No. 1, to the City of Reno for the building permit and the grading permit required for the Geiger Lift Station.

ENGINEER has determined that a US Army Corps of Engineers ENG Form 4535 Permit will not be required for construction. This permit would be required for active construction within Waters of the United States, however the PVI-R3 crossing of Steamboat Creek will be accomplished using a jack and bore method of construction and will not impact the Waters of the United States.

#### ***Task 2.5.1 - NDOT Right of Way Occupancy Permit***

A Right of Way Occupancy Permit issued by the Nevada Department of Transportation (NDOT) will be required for the portions of the PVI-R3 within NDOT right of way of Nevada State Route 341 and US Highway 395A. ENGINEER will provide assistance to the COUNTY to secure the permit. Permit acquisition assistance includes the following.

1. Participation in a pre-application meeting with NDOT officials.
2. Using the 90-percent complete construction plans for improvements within NDOT right of way prepared in Task 2.1, ENGINEER will prepare an NDOT permit application plan set in accordance with the NDOT published *Terms and Conditions Relating to Right-of Way Occupancy Permit*. This includes using plan sheet color coding (with legend) showing; the facilities to be installed as red, facilities to be removed, abandoned and/or adjusted in green, and existing facilities in blue.
3. Preparation of the NDOT permit application
4. Design modifications as required by NDOT.

Permit fees will be paid by the COUNTY. The NDOT permit will be issued once the contractor prepared traffic control plans have been submitted to NDOT for review and approved by NDOT.

#### ***Task 2.5.2 - City of Reno Special Use Permit and Building Permits***

A Special Use Permit (SUP) to be issued by the City of Reno will be required for the Geiger Lift Station. The SUP must be secured prior to commencing construction. With anticipated approval of the SUP, conditions may or may not be issued dictating design requirements for the Geiger Lift Station.

ENGINEER will provide the following assistance to the COUNTY to apply for, and secure, the Special Use Permit.

1. Schedule, conduct and document a Special Use Permit pre-application meeting with City of Reno officials.
2. Prepare the Special Use Permit Application which includes the following items for the Geiger Lift Station.

- a. Site plan
  - b. Building elevations
  - c. Preliminary grading plan
  - d. Preliminary utility plan
  - e. Preliminary hydrology report
  - f. Geotechnical investigation report
  - g. Preliminary landscape plan
3. Prepare presentation materials and present the Geiger Lift Station design at the City of Reno Planning Commission hearing to be held for SUP application review and approval.
  4. Modify the design of the Geiger Lift Station (if required) to conform with conditions imposed as part of the SUP process.

Special Use Permit fees will be paid by the COUNTY.

For City of Reno grading and building permits ENGINEER will modify the 100-percent complete plans for Construction Plan Set No. 1 as required to secure the grading and building permits from the City of Reno. Any changes required for City of Reno permitting will be incorporated into the bid set of construction plans for Construction Plan Set No. 1.

#### **Task 2.5 Deliverables:**

1. NDOT Right of Occupancy Permit application, including color coded construction plan sheets.
2. City of Reno Special Use Permit Application
3. City of Reno Special Use Permit Hearing Presentation Materials

#### **Task 2.6 – Engineering Services During Construction**

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Task 2.6 includes the engineering services to be provided during the construction period by the discipline engineers responsible for the design. The engineering design disciplines include; civil, structural, mechanical, electrical, and control and instrumentation along with architectural and landscape architecture design disciplines. The engineering services to be provided during construction include the following.

1. Preparation of responses to contractor requests for information.
2. Review of contractor submittals and shop drawings.
3. Preparation of construction contract change orders as required.

#### **Task 2.6 Deliverables:**

1. Response to Contractor Requests for Information.
2. Reviewed contractor shop drawings and submittals.
3. Construction contract change orders.

### **TASK 3 – DETAILED DESIGN OF RECLAIMED WATER SYSTEM IMPROVEMENTS**

The PVI-R3 project includes improvements to the existing reclaimed water distribution system of STMWRF treated wastewater effluent. The improvements include construction of a new reclaimed water system pipeline that will extend the existing distribution system southwards to serve future service areas and also to provide a source of wash-down water supply to the Geiger Lift Station. The COUNTY has contracted with a land surveyor to provide topographic base mapping for the design of the improvements to the STMWRF reclaimed water distribution system. The reclaimed water supply improvements will be included in Construction Plan Set No. 1.

### **Task 3.1 – Reclaimed Water System Improvements Planning and Coordination with COUNTY**

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In Task 3.1 ENGINEER will coordinate with the COUNTY to plan and identify the improvements to the STMWRF reclaimed water distribution system including; the point of connection to the existing distribution system for the new reclaimed water system pipeline, its alignment and the location of its terminus, the operating pressures and the need for pressure control facilities, the locations of tee fittings and valves for future branch lines, and other pipeline appurtenances. A letter summarizing the results of the planning and coordination will be prepared and submitted to the COUNTY for concurrence and to document the planned improvements.

It is understood that the new reclaimed water pipeline alignment will be collinear through the full length of PVI-R3 in both gravity sections of PVI-R3 and the dual force main section of PVI-R3 and will be constructed simultaneously with, and in the same trench as, the PVI-R3 pipeline.

### **Task 3.2 – Preliminary Design of Reclaimed Water System Improvements**

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Based on the coordination performed in Task 3.1 ENGINEER will develop the preliminary design of the new reclaimed water distribution system pipeline including plan and profile drawings of the alignment and the location of pipeline appurtenances. The preliminary design will be submitted to the COUNTY in the form of a letter report for review and comment.

### **Task 3.3 – Reclaimed Water Design Development and Preparation of Construction Contract Documents**

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ENGINEER will perform detailed design of the reclaimed water system improvements and prepare construction contract documents. The construction plans will be submitted to the COUNTY for review along with the 95-percent complete set of Task 2.2 and the 100-percent complete set of Task 2.3.

### **Task 3 Deliverables**

1. Reclaimed Water System Design Requirements Summary Letter
2. Reclaimed Water System Improvements Preliminary Design Letter
3. 60-percent Complete Construction Plans for Reclaimed Water System Improvements
4. 95-percent Complete Construction Plans for Reclaimed Water System Improvements
5. 100-percent Complete Construction Plans for Reclaimed Water System Improvements

## **TASK 4 – BROOKSIDE MOBILE HOME PARK WASTEWATER COLLECTION SYSTEM IMPROVEMENTS**

The PVI-R3 project includes improvements to the existing wastewater collection system serving the Brookside Mobile Home Park. The improvements include modifying the existing collection system to generally make it deeper to conform with COUNTY standards. The scope of construction generally includes the following.



1. Installation of new collection system piping and manholes.
2. Connection of the new collection system to PVI Reach 3 (when PVI-R3 is ready for use)
3. Connection of existing service laterals to the new collection system piping.
4. Abandonment in place of the existing collection system.
5. Restoration of the existing asphalt paving impacted by collection system improvement construction.

The COUNTY has contracted with a land surveyor to provide topographic base mapping for the ENGINEER's use to design the improvements to the Brookside Mobile Home Park wastewater collection system. The Brookside Mobile Home Park wastewater collection system improvements will be included in Construction Plan Set No. 1.

#### **Task 4.1 – Identify Project Requirements**

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ENGINEER will identify project requirements for the design and construction of improvements to the Brookside Mobile Home Park. A summary of the project requirements identified will be provided to the COUNTY for review in a letter report.

#### **Task 4.2 – Develop Preliminary Design**

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ENGINEER will develop the preliminary design of the improvements to the Brookside Mobile Home Park including plan and profile drawings and details of the connection of the new wastewater collection system to the PVI-R3 pipeline and the abandonment of the existing wastewater collection system. The preliminary design will be submitted to the COUNTY in the form of a letter report for review and comment.

#### **Task 4.3 – Detailed Design and Construction Contract Document Preparation**

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ENGINEER will perform detailed design of the improvement to the Brookside Mobile Home Park wastewater collection system and prepare construction contract documents. The construction plans will be submitted to the COUNTY for review along with the 60 and 95 percent complete set of Tasks 2.1 and 2.2 and the 100-percent complete set of Task 2.3.

#### **Task 4 Deliverables:**

1. Brookside Mobile Home Park Project Requirements Summary Letter Report
2. Brookside Mobile Home Park Preliminary Design Summary Letter Report
3. 60-percent Complete Construction Plans for Brookside Mobile Home Park Wastewater Collection System Improvements
4. 95-percent Complete Construction Plans for Brookside Mobile Home Park Wastewater Collection System Improvements
5. 100-percent Complete Construction Plans for Brookside Mobile Home Park Wastewater Collection System Improvements

## TASK 5 – BID PERIOD SERVICES

Advertising for, and solicitation of, contractor's bids will be performed by the COUNTY along with maintenance of, and distribution of, a construction plan holders list.

ENGINEER will provide construction contract bid period services in the following four subtasks.

### Task 5.1 - Prebid Meeting

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ENGINEER will develop the agenda for, and conduct, a prebid meeting for perspective bidding contractors. Minutes of the prebid meeting will be prepared and distributed to meeting attendees and the entities listed on the plan holders list. The question and answer portion of the prebid meeting will be documented in bid addenda.

### Task 5.2 - Bid Addenda Preparation

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ENGINEER will prepare bid addenda as required to provide answers to written questions posed by bidding contractors and others as required.

### Task 5.3 - Review of Bids Received and Award Recommendation

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ENGINEER will analyze the bids received to verify conformance with contract requirements and prepare a construction contract award recommendation letter to COUNTY officials.

### Task 5.4 - Prepare Conformed Plans and Specifications

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ENGINEER will prepare conformed construction plans and specifications to incorporate the changes resulting from bid addenda. A .pdf version of the conformed contract documents will be provided to the COUNTY.

### Task 5 Deliverables:

1. Prebid meeting agenda and minutes.
2. Construction contract bid addenda.
3. Bid review summary and construction contract award recommendation letter.
4. Conformed construction plans and specifications.

## ASSUMPTIONS

The scope of work presented herein is based on the following assumptions.

1. Existing Utility Potholing

The scope of work assumes a maximum of five locations requiring utility potholing to determine the depth of existing utilities crossing the proposed alignment of PVI-R3.

2. Base Mapping for Reclaimed Water System Improvements

The COUNTY is having a local surveyor prepare base mapping in Autocad software for the proposed improvements to the STMWRF reclaimed water distribution system that will be designed by the ENGINEER. It is assumed the base mapping will be provided in a timely manner and be sufficient for use in developing the detailed design and preparation of construction plans.

3. Base Mapping for Brookside Mobile Home Park Wastewater Collection System Improvements

The COUNTY is having a local surveyor prepare base mapping in Autocad software for the proposed improvements to the Brookside Mobile Home Park wastewater collection system that will be designed by the ENGINEER. It is assumed the base mapping will be provided in a timely manner and be sufficient for use in developing the detailed design and preparation of construction plans.

4. NDOT Right of Way Occupancy Permit

The preliminary design of the alignment for the dual force main for the Geiger Lift Station is within NDOT right of way. It is assumed that NDOT will issue a right of way occupancy permit to allow the construction to proceed and major realignment of the dual force main will not be required.

5. City of Reno Special Use Permit

The Geiger Lift Station will require a Special Use Permit to be issued by the City of Reno, Nevada. It is assumed the permit will be issued with a single permit hearing to be conducted by the City of Reno Planning Commission.

6. Geiger Lift Station Parcel and Pipeline Easement Acquisition

The COUNTY is having a local engineering firm provide assistance to the COUNTY for securing the parcel for the Geiger Lift Station and the easement for portions of the PVI-R3 alignment. It is assumed that major realignment of the PVI-R3 will not be required as a result of easement acquisition issues.

7. Review of Intermediate Submittals

It is assumed that review of intermediate design submittals to the COUNTY will be reviewed with comments provided in a timely manner to allow adherence to the detailed design schedule.

8. Re-design Required Due to Findings of Environmental Significance

There is potential for modification of the preliminary design of the PVI-R3 alignment as a result of biological findings in the form of the Steamboat Buckwheat, a federally recognized endangered species, within the construction corridor of the PVI-R3 project. It is assumed that re-design of the PVI-R3 alignment will not be required as the result of any finding of biological significance.