

**SCOPE OF SERVICES AND FEES**

The Roundup Drive sewer main is affected by hydraulic constraints, future channelization of the Agua Fria River and its tributary improvements, the Northside Sewer Improvement Project, and possible future connection of a bypass main north of the proposed Agua Fria River channel.

Generally, the scope of services herein will encompass a conceptual alternative study to analyze the benefits and challenges associated with construction of a new sewer trunk main along the north side of the proposed Agua Fria Channel approximately from Cattletrack Drive to Ranger Road vs. construction of a new sewer trunk main within Roundup Drive within the same east-west limits. Currently known issues to be discussed are depth of the new main(s) due to future storm drain and channel crossings, capacity issues, ease of construction, and State Land Department right-of-way or easement issues.

Additionally, this scope includes preparation of design plans, specifications and Engineer's Opinion of Probable Costs (EOPC) for a new main line approximately from the intersection of Roundup Drive and Ranger Road to existing Manhole Z0034 and Z0028. This main will follow the location of the existing 18 inch PVC main between manhole Z0034 and Z0028. It is anticipated that this main will be 24 inches or 30 inches in diameter and be designed to accommodate depth and flowrates from the selected alternative of the two potential upstream main line alignments described in the preceding paragraph based on the outcome of the conceptual alternative study including probable increases from the Northside connection.

The basic service tasks the CONSULTANT will accomplish for this project are listed herein.

**Task – Conceptual Alternative Study Services: ..... Fixed Fee of \$ 14,824.00**

1. Research existing regional data. This task includes gathering informative data from the Town GIS department, historical utility plans in the area, improvement plans from other consultants, design reports and pertinent sewer flow calculations from the Town and their sewer system master plan.
2. Prepare a conceptual base map showing an alternative alignment north of the proposed channelization of the Agua Fria River showing said channel, potential storm drain connections, property lines, right-of-way lines, future Santa Fe Loop Road, Northside Sewer Improvements, and other germane public works improvements that could have an effect on the conceptual layout of this alternative.
3. Prepare a conceptual base map showing an alternative alignment along Roundup Drive, analyzing potential storm drain connections, property lines, right-of-way lines, future Santa Fe Loop Road, Northside Sewer Improvements, and other germane public works improvements that could have an effect on the conceptual layout of this alternative.
4. Prepare a Conceptual Alternatives Analysis Report comparing the two alternative alignments discussed above. This Report will contain conceptual line sizing, approximate depths required to clear potential storm drain crossings, and deliver a design elevation for the re-design of the new sewer main to be constructed in FY 2015 east of Ranger Road as described in Phase 2 of this scope of services. The report will also discuss benefits and challenges associated with each alignment as well as rudimentary potential construction costs.
5. Project Management. This task includes internal project management and up to three meetings with Town Staff.

**Task – Sewer Main Design – East of Ranger Road:.....Fixed Fee of \$54,300.00**

1. Survey Control. This task includes retracing and establishment of survey control utilizing the Town of Prescott Valley's modified state plane coordinate system. We will also identify and quantify any elevation differences between the 1929 vertical datum and North American Vertical Datum of 1988.
2. Field Survey. This task includes surveying the intersection area of Roundup Drive and Ranger Road as well as field locations of sewer manholes Z0028 through Z0035.
3. Utility Research. This task includes contacting all utility companies and obtaining record maps and information from them with primary focus on the area in the vicinity of Roundup Drive and Ranger Road. Minimize the relocation of all utilities during design, as feasible. Survey available Bluestake for all new above ground utilities to verify location, as applicable.
4. Base Map Preparation. This task includes assembling research data, survey, GIS data, utility data, and other pertinent data to create a project base map for development of design plans.

Base Mapping Plan Requirements

1. Data Acquisition: Acquire all available and applicable data for the design of this project, including:
  - a. Meetings: Meet with Town staff and other entities to refine the scope, acquire data, identify special conditions, schedule, etc.
  - b. GIS, As-Built & Other Information: Acquire all record drawings, ROW Maps, GIS information, etc. applicable to this project. Utilize as much of the GIS information for design, as possible, with the accuracy of such data in mind.
2. Prepare the planimetric base map of existing conditions and structures. Include all benchmarks, found pins, property lines, easements, rights-of-way, and encroachments, as well as utilities information on the base map-Submittals: Submit the Base Map(s) to the Town. (Refer to Town of Prescott Valley, Public Works Department, Engineering Division Design and Construction Standards and Specifications for requirements on submittals.) Receive the Town's review comments, make corrections and resubmit, until approved.
5. Hydraulic Calculations. This task includes pipe sizing and slope based upon steady state, normal depth flow for the potential peak buildout flows for this main.
6. Preliminary Plans. This task includes preparation of preliminary line and grade plan and profile plans for the sewer improvements approximately from the intersection of Ranger Road to Z0028.
7. Pre-Final Plans, Specifications and Estimate. This task includes preparation of pre-final engineering plans for the sewer main design, and preparation of a pre-final set of Special Provisions to accompany Town adopted standard specifications, and preparation of a pre-final EOPC.
8. Utility Company Coordination. This task includes coordination with utility companies in order to determine potential utility conflicts and resolution, as well as providing utility companies copies of pre-final plans for their use in designing utility relocations. At this time, no pot-holing is anticipated.
9. Final Plans, Specifications, and Estimate. This task includes preparation of final engineering plans for the sewer main design, and preparation of a final set of Special Provisions to accompany Town adopted standard specifications, and preparation of a final EOPC.

Final Design Plan Requirements

1. Final Design Plans: Prepare the final plan sheets per the approved preliminary design plans as approved by the Town. The preliminary plans shall include the following sheets:
  - a. Cover: Provide a cover sheet that includes, vicinity map, project drawing with areas defined with sheet page numbers, legend, contacts list, table of contents, approval signature lines, etc.

- b. General Notes: Prepare general notes either on their own sheet or combined with other sheets.
- c. Details: Prepare details either on their own sheet or combined with other sheets.
- d. Project Summary Map: Provide a sheet(s) summarizing the overall project, including connections to other on-site and existing off-site infrastructure and, any proposed future infrastructure.
- e. Plan and Profile Sheets: Prepare Plan and Profile sheets for the following:
  - i. Town-Utilities (sewer, water, reclaimed water)
- 2. Utilities Coordination: Provide information to the utilities as necessary.
- 3. Bidding Documents & Specifications (using Town template)
- 4. Final Quantities
- 5. Detailed Opinion of Probable Cost
- 10. Sewer System Design Report. This task includes preparation of a sewer system design report outlining hydraulic characteristics, pipe materials, and design elements of the sewer main. It is anticipated that peak flow rates from the existing Town of Prescott Valley Sanitary Sewer Model Analysis Report (Carollo-June 2004) will be utilized for peak flows to be used for sewer main design with modifications due to Northside flows included.
- 11. Project Management. This task includes internal project management and attendance of up to 5 meetings with Town staff as they relate to the preparation of plans, specifications, design elements, and estimates associated with the project.

**Task – Project Expenses.....Allowance Not to Exceed \$600.00**

The CONSULTANT will have direct project expenses including, but not limited to: printing, copying, submittal, review, shipping, permitting fees, and other related expenses. These direct project expenses are excluded from the fees for each task and will be billed at actual cost with a 15% markup.

<b>TOTAL Tasks:</b> .....	<b>\$69,124</b>
<b>TOTAL Expenses:</b> .....	<b>\$600</b>
<b>TOTAL</b> .....	<b>\$69,724</b>

**TOTAL of Tasks: .....\$69,724.00**

Services provided shall be in conformance with:

- 1. this agreement, and all amendments thereof,
- 2. Town Code, specifically, but not limited to, Chapter 16 Engineering (<http://www.pvaz.net/Index.aspx?page=274>); and
- 3. hence, the Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, latest edition, including latest revisions and supplements (<http://www.mag.maricopa.gov/publications.cms>); and
- 4. the “Town of Prescott Valley, Public Works Department, Engineering Division Design and Construction Standards and Specifications”, hereinafter referred to as PVDCSS (<http://www.pvaz.net/Index.aspx?page=261>)
- 5. all applicable local, state, and federal laws and regulations.