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NO. 99.186

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BARBARA REED
CLERK
BY _____ DEPUTY

APPROVED NOV. 4, 1999 COMMISSIONERS MTNG.

AMENDMENT NO. 1
Contract Between Douglas County and R.O. Anderson Engineering, Inc. Foothill Sewer Project

Whereas, on October 20, 1998, Douglas County, a political subdivision of the State of Nevada, and R.O. Anderson Engineering, Inc., an independent contractor, entered into a contract for Contractor to provide engineering services to provide a sewer master plan update, geotechnical investigation, design surveying, hydraulic modeling, engineering design, and easement documents for the Foothill Sewer Project; and

Whereas, the Contractor was required to provide additional engineering services and design efforts for the Foothill Sewer Project to evaluate an alternate alignment of the proposed sewer collection system; and

Whereas, the Contractor was required to provide additional engineering services and design efforts to incorporate and coordinate vaults and conduits for GTE facilities; and

Now, therefore, in consideration of the agreements herein made, the parties mutually agree as follows:

- The Contractor shall perform the work described in Exhibit A to evaluate the alternate alignment of the proposed sewer collection system.
- Contractor agrees to provide the services set forth in Exhibit A of this amendment at a cost not to exceed a total cost of $65,693.00.
- Total compensation for the original contract and this amendment shall not exceed a total cost of $352,933.00.
- All other sections of the original agreement remain in effect.

Robert O. Anderson — 10.28.99
R.O. Anderson Engineering, Inc. — Date

Jacquie Athgoyhen — 11-4-99
Board of County Commissioners and Douglas County Redevelopment Agency — Date

Attest:

Barbara Reed by Sondra Condron, Chief Deputy Clerk — 11-4-99
County Clerk — Date

_____ — 11/3/99
District Attorney — Date

0481013

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FOOTHILL SEWER PROJECT
ALTERNATE ALIGNMENT EVALUATION

Scope of Services & Fee Proposal

October 18, 1999

Douglas County, as Owner, desires to evaluate an alternate alignment of the proposed sewer collection system as included in the *Foothill Sewer Project Genoa Area Sewer Collection Master Plan, dated March 29, 1999*. The alternate alignment that is being considered commences at the existing Indian Hills Water Pollution Control Facility. From this location it traverses northerly within an existing gravel road to and across U.S. Highway 395, easterly through private property to and under the Carson River, continuing easterly to the old V & T right-of-way and south, within this right-of-way, to the existing wastewater treatment plant owned and operated by Douglas County. In total this alignment is approximately 24,500 feet in length and, if implemented, would replace that portion of the previous alignment that extended through property owned by, Little Mondeaux Limousin Corp., Charney Family Trust, Galleppi Land & Livestock, and Settelmeyer Ranches, Inc., respectively.

The following paragraphs provide a detailed scope of services for evaluating the technical feasibility of the proposed alignment. This scope of services when completed will also identify specific issues, both administrative and physical, that must be addressed and final recommendations for implementing the proposed improvements.

Task A – Sewer Master Plan Update

This task entails updating the sewer master plan for the Genoa area. The consultant shall coordinate the submittal of the final draft report to Nevada Division of Environmental Protection (NDEP) for their review and approval. As part of this plan, the following shall be evaluated:

<u>Key elements of the alternative evaluation is to include:</u>

- Using the projected sewage flow rates and volumes calculated within the existing master plan document, including 5-, 10-, 15- and 20-year average daily and peak design flows for each of the four sub-planning areas, prepare a description of phased improvements, including approximate line sizing, pump sizing, wet well sizing, and emergency storage provisions.
- Identification of probable line locations and lift station locations,

- A planning level estimate of costs for construction and purchase of easements and an estimated cost of Operations and Maintenance, including twenty-year projections for life cycle equipment replacement and energy costs.
- A cost comparison of the former and this proposed alternative.

Key deliverables are to include:

- Ten copies of the final draft report, to include an executive summary.
- Ten copies of each full-size ("D" size) maps showing sewer service areas and alternative sewer line and lift station locations.
- Ten bound copies of the final report, to include an executive summary, one unbound reproducible original, and electronic files (Word, Excel, and AutoCAD)

The consultant shall not proceed with work on any other tasks until the County provides written authorization to proceed.

Task B – Design Investigations

County staff will review the updated sewer master plan and determine whether the alternate alignment justifies additional study. Upon written authorization to proceed with Task B, the consultant will conduct additional investigations including:

Geotechnical Investigation:

- A geotechnical investigation including field exploration, laboratory testing and engineering analysis to adequately reveal subsurface soil and ground water conditions along the selected alignment, including those areas recommended for boring under the Carson River and Highway 395.
- An earthquake risk study showing all active and non-active seismic faults within the alternative alignment area, and a description of probable risk and possible mitigation.
- Evaluation of soil corrosivity and recommendations.
- Bedding and backfill requirements and recommendations.
- Analysis of trench stability.

Exploration efforts along the preferred alignment will be performed by excavating a combination of drilling test holes and backhoe test pits. Exploration will be performed on approximate 1,000-foot centers to depths below proposed invert elevations. Test pits will be utilized in undeveloped areas, whereas test borings will be advanced in areas of tight utility clearance, as well as proposed crossing(s) beneath the Carson River and US Highway 395. Results of explorations will be logged in the field by geotechnical personal. Depth to groundwater will be measured where encountered and representative soil samples will be returned to the laboratory for further analysis.

Representative samples of each significant soil type will be tested in the laboratory to characterize the foundation soils' index properties, such as moisture content, grain size distribution and plasticity.

Results of the geotechnical research, site exploration, laboratory testing and engineering analysis will be summarized in the geotechnical report.

The consultant is responsible for obtaining permission for alignment and facility locations. Where repeated access is needed the consultant shall provide advanced notification as a courtesy to the land owner(s). As needed, the County will assist the consultant with legal issues pertaining to property access, or validate the need for access if requested or required by a property owner.

Key deliverables are to include:

- Ten copies of the above report.
- Ten copies of a technical memorandum with conclusions and recommendations from the investigations on final alignment and location of facilities.

Design Surveying:

This task will include establishment of control points, benchmarks, and all ground and aerial surveying necessary to complete the preliminary design, hydraulic modeling, and final design of the sewer line and lift stations. Mapping will comply with National Map Accuracy Standards for 1" = 40' scale and one-foot contour interval mapping including spot elevations.

In addition to the proposed alternate sewer main alignment, the Consultant shall also provide requisite ground control, benchmarks and perform an aerial survey of the existing borrow area as identified on the attached sketch. Mapping of these areas will also comply with National Map Accuracy Standards for 1"=40' scale and one-foot contour interval including spot elevations.

The consultant shall not proceed with work on this or any other tasks until the County provides written authorization to proceed.

Key deliverables are to include:

- One set of black and white contact prints.
- One draft set of large-scale "D" size review prints.
- AutoCAD v.14 files of final topographical mapping with assigned vertical elevations.
- Two copies of a large-scale "D" size prints of the topography and ground features along the sewer alignment.
- Location (coordinates) and elevation of all ground control points and benchmarks.

Task C – Preliminary Design and Hydraulic Modeling

This task entails completing the preliminary design and hydraulic modeling for the preferred sewer alignment and lift stations, for the 5-, 10-, 15- and 20-year average and peak design flows. This task also details the phasing of improvements for each of the above respective flow conditions, including possible parallel sewer lines, modularly designed lift stations, exchangeable pump assemblies, etc. The consultant shall develop a hydraulic computer model of the selected alignment using a software package approved by county staff. The consultant shall also evaluate the capabilities of the existing force main and lift station facilities located within and outside the Genoa Lakes development, and shall make solid recommendations as to the short, medium and long-term viability of these facilities. And, if necessary, the consultant shall recommend improvements to these facilities so they function properly for each phase of the ultimate proposed system. The consultant shall not proceed with work on this or any other tasks until the County provides written authorization to proceed.

Key deliverables are to include:

- Ten copies of a technical memoranda and conceptual construction drawings detailing the phased improvements for the 5, 10, 15 and 20-year average and peak design flows and recommended modifications to the existing facilities to ensure they function adequately for each phase of the proposed system. The submittal shall also include emergency storage provisions.
- Two copies of a technical appendix detailing the final output and calibration efforts of the hydraulic computer model.

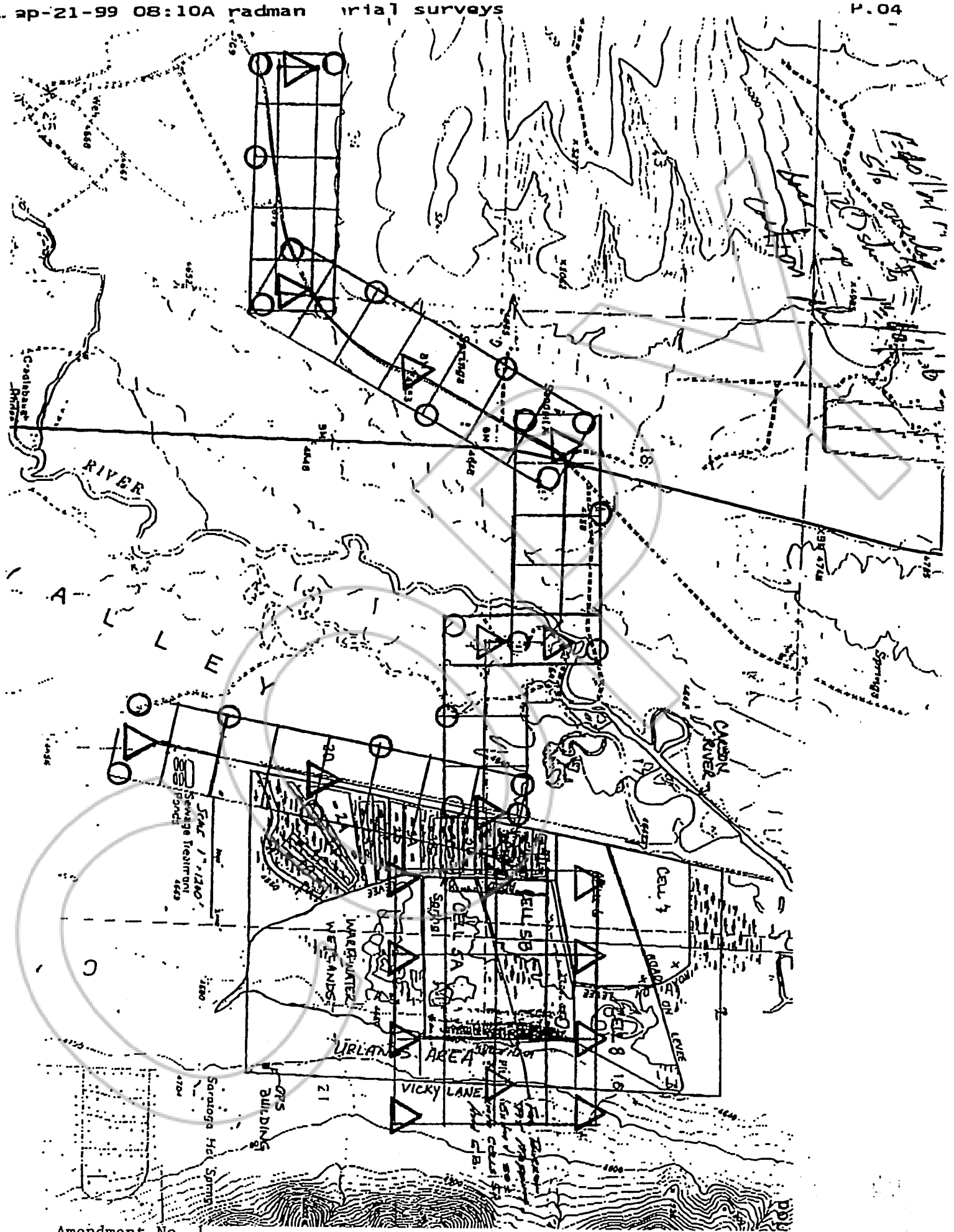
Task D – GTE Coordination Efforts

This task includes incorporating GTE's design for their proposed conduits and vaults into the plans for the sewer system improvements. Within this task the Engineer will coordinate with GTE personnel to obtain their facility designs including proposed horizontal and vertical locations of conduits and vaults and incorporate this information into the project's improvement plans. Additionally, the Engineer will obtain GTE's product and installation specifications and include them in the project's construction specifications. Finally, the Engineer will itemize the quantities of these proposed improvements and include individual bid items within the Bid Schedule.

SUMMARY OF ESTIMATED FEES BY TASK:

Task A – Sewer Master Plan Update:		$ 4,900
Task B – Design Investigations:		$47,363
Geotechnical Investigation:	$12,980	
Design Surveying:	$12,700	
Aerial Surveying:	$21,683	
Task C – Preliminary Design & Hydraulic Modeling:		$ 9,040
Task D – GTE Coordination Efforts		$4,390

At the request of the Owner, this scope of services and fee estimate includes aerial surveys of an existing proposed borrow area. The above fee estimate includes $4,178.50 in costs to accomplish this subtask.



Amendment No
Exhibit A

REQUESTED BY
DOUGLAS COUNTY
IN OFFICIAL RECORDS OF
DOUGLAS CO., NEVADA

1999 NOV 17 AM 9: 35

LINDA SLATER
RECORDER

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CERTIFIED COPY

The document to which this certificate is attached is a full, true and correct copy of the original on file and on record in my office.

DATE: November 15, 1999

B. Reed Clerk of the 9th Judicial District Court of the State of Nevada, in and for the County of Douglas.

By _____ Deputy

SEAL