



Shephard Wesnitzer, Inc.

**Talking Rock Ranch
Phase 10-12-13 Sewer Design Report**

Addendum #1

Engineering an environment of excellence

Design Clarifications

SWI #05495

May 23, 2007

221 North Marina Street, Suite 102
Prescott, AZ 86301
928.541.0443
928.541.1075 fax
www.swiaz.com

**Client: Talking Rock Ranch
Mr. Clint Poteet**

**Prepared by: Richard Aldridge, PE, Shephard-Wesnitzer Inc.
Date: May 23, 2007**

Concerns have been raised by the ICRSD's contract engineer, Civiltec Engineering, in regard to future flows from Phases 17, 18, and 19 and their effect on the Phase 10 sewage pump station design and existing gravity lines.

The following clarifications are provided:

- On 4-25-07 the 4" force main from future Phases 17, 18, and 19 was revised from directly discharging into the 6" force main to discharging into the wet well of the Phase 10 lift station. This change was for convenience and does not affect the function of the lift station for development of Phases 10, 12 and 13.
- The Phase 10 lift station will be revisited in the future when and if additional flows are introduced to the facility. Any necessary modifications required will be addressed at that time.
- The original construction plans included a callout for a Flygt pump capable of 205 gpm at 86' head. The revision on 4-25-07 specified a pump capable of 270 gpm at 78' total head. The submitted Myers pumps met that operating condition and were approved for the installation. Myers pumps are currently installed at the main lift station for Talking Rock Ranch.
- Pump float control elevations as shown on the construction plans are preliminary in nature. Final pump float elevations will be established in the field based on the number of homes discharging to the wet well. These settings will need to be modified periodically by the system operators as conditions change. This applies to not only the Phase 10 lift station, but also the main lift station pumping from Talking Rock Ranch to the ICRSD sewage treatment plant.

Phase 10-12-13 Sewer Design Report Addendum

- The Talking Rock main lift station was noted in the original Phase 10 design report as having to be monitored for necessary improvements as additional homes were added to the system. Currently there are approximately 115 homes either built or under construction at Talking Rock (all phases). The design report noted that improvements may be necessary at the main pump station upon reaching 300 homes.
- The 8" diameter, PVC gravity sewer in Talking Rock Ranch Road has adequate capacity to receive the additional flow from Phase 10, 12 and 13 without requiring any improvements. The capacity of the line, depending on the "n" value used (0.010 for PVC or 0.013) ranges from approximately 699,000 gallons per day (485 GPM) to 547,000 gallons per day (380 GPM). The line will be evaluated with future phase contributions and any necessary improvements will be addressed at that time.

In summary, the current design for the Phase 10, 12, 13 sewage pump station is adequate for the planned flow conditions for full build out of those phases. The concerns expressed by ICRSD's engineers are in regard to the future contributions from Phase 17, 18 and 19, which do not affect the operation of the system for Phase 10, 12 and 13.

The sewer infrastructure will be analyzed as new phases of the Talking Rock Ranch development are added to the system. This will insure that any necessary improvements or modifications are addressed by those future designs.

Prepared By:
SHEPHARD-WESNITZER, INC.



Richard Aldridge, P.E.
Branch Manager

