

February 27, 2004

Vicki Lucero  
Development Review Supervisor  
Santa Fe County  
102 Grant Avenue – P.O. Box 276  
Santa Fe, NM 87504-0276

**CERTIFIED**  
**RETURN RECEIPT**  
**REQUESTED**

**Re: EZ CASE # Z 04-4050 Santa Fe Opera Village**

Dear Ms. Lucero:

On February 11, 2004, the Office of the State Engineer received a request to review the proposal for “The Opera Village”. This development will be located on 44.1 acres immediately south of the Santa Fe Opera, within the SW ¼ of Section 25, Township 18 North, Range 9 East, NMPM. It will provide parking, storage, rehearsal, recital, restaurant/bar, fitness, and housing facilities for the Santa Fe Opera performers, staff, and guests. Water for the development will be provided by one to three wells. The project will be completed in five phases. This submittal was reviewed pursuant to the Santa Fe County Extraterritorial Zoning Ordinance 1997-4 and the New Mexico Subdivision Act.

#### **WATER DEMAND ANALYSIS**

Article VII, Section 6.6.2 of the County Code requires a detailed water demand analysis for non-residential developments. The consultant has conducted this analysis by quantifying the demand for each use/facility, namely, spa, swimming pool, rehearsal hall, storage building, restaurant, bar, conference hall, landscape areas, 50 rooms without kitchens, 16 four-bedroom co-housing units with kitchens, and 20 two-bedroom casitas with kitchens. The maximum water demand has been estimated at 18.23 acre-feet per year. It has **not** been calculated correctly. The following issues/omissions have been found:

- Swimming pool. The survey plat shows two swimming pools. Annual refill and evaporative losses have been quantified only for one.
- Spa facility. Water use has been estimated at 1 gallon per capita per use, excluding the showers. Further, the consultant assumes that only 10% of the users will use the showers. The analysis should include a description of the equipment/services provided at the facility, and a discussion in support of the figures.
- Landscape irrigation. The consultant has based the calculation on the number of trees and shrubs, and the weekly water requirement for each of them (i.e. 100 trees requiring 10 gallons of water per week for 5 months). This approach is **not** adequate. The

calculation should be based on the water requirement for each type of vegetation per square foot.

- Picnic areas. They are not mentioned in the water budget. The proposal should clarify whether landscaping (and consequent irrigation) is planned or not for these areas.
- Housing units. The budget does not include water use for dishwashers. An omission, or will they not be installed? Also, three toilet flushes per capita per day appears low. Finally, faucet use for cleaning the units has not been accounted for.
- Evaporative cooling. It is not mentioned in the analysis. Water for this use should be calculated, if the installation of air-cooling systems is foreseen.
- Distribution system losses have not been accounted for. The total water demand for indoor and outdoor use should be divided by 95%, to reflect a 5% system loss.
- Water for fire protection. It should be included in the water demand calculations.

This office suggests that the consultant refer to “*State Engineer Office Technical Report No. 48 (Wilson, 1996)*” as a guide to calculate indoor and outdoor water demand. We also suggest “*Water Use in Santa Fe – A Survey of Residential and Commercial Water Use, February 2001*” for water use figures in commercial establishments.

#### **WATER AVAILABILITY ASSESSMENT**

A geo-hydrological report, pursuant to Article VII, Section 6.4.2 of the County Land Development Code, has been provided to demonstrate water availability for 100 years. The following inconsistencies/omissions have been found in the report:

- The value for saturated thickness used to calculate the available water in the aquifer beneath the property is more than double the amount indicated in the well log. The log for well RG-58461 indicates that the principal water-bearing strata was encountered at depths between 700 and 914 feet. The consultant indicates that the saturated thickness is 808 feet, which is the difference between the depth to water after the well was drilled (106 feet) and the total depth of the well (914 feet). If the water availability is recalculated, it is reduced from 0.72 to 0.25 acre-feet per acre per year.
- The consultant has quantified the water availability in the aquifer beneath the 44.1 tract that will encompass the Opera Village. However, page 4 of the proposal states, “*The Santa Fe Opera will use the water allowed under the OSE permit for a back-up to the existing domestic wells serving the Opera*”. Because the Santa Fe Opera is located within the NW ¼ of Section 25, which is outside the 44.1 acre-tract, water availability in the aquifer beneath the “whole property” should be calculated.
- The consultant has based drawdown and availability calculations on a diversion of 22.2 acre-feet of water per year. This was the estimated maximum water use for the original proposal (Inn at the Opera) submitted in 1999. Since the project has been modified, the analysis should be conducted by using the amount of water estimated for the new proposed development, plus the amount of water that might be pumped from wells RG-58461 thru RG-58461-S-2 for use at the Santa Fe Opera. Incidentally, the OSE records indicate that during the year 2002 a total of 9.61 acre-feet of water were diverted from the three domestic wells (1.15 acre-feet were overdiverted from well RG-39168).

This raises another fundamental question, and that is whether the Santa Fe Opera is permitted, by the OSE, to pump the amount of water necessary for the five phases of the project. **The answer is no.**

The OSE records indicate that the Santa Fe Opera is permitted to divert 9.445 acre-feet of water per year from wells RG-58461 thru RG-58461-S-2 for domestic, commercial and hotel related purposes on the Santa Fe Opera property. The diversion can be increased to 37 acre-feet per year pursuant to the implementation of an approved return flow plan by delivery of treated effluent into two injection wells. The OSE permit approved in August 1999 also requires that, prior to injection of return flow water, the permittee must provide evidence of approval of applicable permits from the New Mexico Environment Department. The proposal for the Opera Village does not even mention injection wells. Instead, it includes (see Exhibit D) copy of a discharge plan approved by the New Mexico Environment Department, which authorizes the Santa Fe Opera to discharge treated water to a conventional leachfield.

The Santa Fe Opera is therefore authorized, at the current time, to divert only **9.445 acre-feet per year** from wells RG-58461 thru RG-58461-S-2.

This office is compelled to issue a **negative** opinion on the water supply proposal for the Opera Village at this time, since it is evident that the applicant is not authorized to divert the amount of water necessary for the full implementation of the project. The OSE is prepared to re-evaluate the development proposal when

- The water demand analysis is re-calculated
- The inconsistencies and omissions in the geohydrology report are correctly addressed
- The applicant is holder of a permit approved by the State Engineer to divert the amount of water necessary for the full implementation of the project. This can be achieved by implementing the approved return flow plan (with authorization by the New Mexico Environment Department), or by pursuing the acquisition of additional water rights and appropriate permit by the State Engineer. In the mean time, the applicant could calculate the water budget for each of the five phases of the project, and request approval for the phases that are “covered”.

If you have any questions, please call me at 505-827-4273.

Sincerely,

Mara Smith  
Water Use and Conservation Bureau

cc: Brian C. Wilson, P.E., OSE Water Use and Conservation Bureau Chief  
OSE, Water Rights Division, Santa Fe Office