

To: Shahab Biazar, P.E.
Development and Building Services
City of Albuquerque

From: Daniel S. Aguirre, P.E.

Date: October 24, 2011

File Number: X3-210-022

Re: Volcano Heights Drainage Compilation Report

Dear Mr. Biazar,

The intent of this report is to share with the City and AMAFCA the planning concepts used over the past 8-10 years in this area and to bring to your attention the system limitations based on the existing and planned infrastructure. This report is not intended to be used for design but to identify the allowable discharge at specific points in the area based on the concepts followed with past projects. I have updated the report per your comments to fix any identified errors and tried to explain the intent below. Please remember that any projects in the area require a detailed analysis and do not need to follow the exact concepts used for the purposes of this report.

Please see below responses to your comments of the review of the drainage report dated August 24, 2011:

1. **Any discharge to the Petroglyph National Monument has to be approved by Open Space.** This report is based on several approved reports that have been completed over the past several years. These flows have been approved via the Paseo Del Norte Extension drainage report, La Cuentista Subdivision, Vista Vieja Subdivision and Boca Negra Dam plus others. An additional meeting was held with Open Space on October 17, 2011 to discuss all discharges into open space. The Map has been slightly modified based on this meeting in the SAD 228 area and a copy of a letter of approval will be sent to your office when received from Open Space.
2. **Please confirm the allowable discharge from Pond 11 to Chamisa storm drain system.** AMAFCA required that the Chamisa Storm Drain take the 45 cfs from adjacent lots. The flow is shown in the approved drainage report for the Paseo Del Norte Extension and should be included in the Chamisa storm drain report.

3. **How was the capacity determined to allow the Unser Detention Basin to drain to Chamisa Detention Basin?** This is a proposed system (concept only) to prevent low flows from discharging to the Petroglyph National Monument (PETR) during low flow (erosive) events. We created a pond to store water with a minimal discharge to the Chamisa detention basin ultimately discharging to the Lyon Blvd storm drain for low flows (up to 10 year event) once the pond fills to the 10 year volume it will start to spill to PETR through a weir up to the 120 cfs originally identified as historic flow. This was intended to reduce erosion at the PETR discharge point and can be redesigned and modified with a more detailed analysis or other concepts when final design is completed.
4. **Can some of the flows proposed for Unser Detention Basin drain south to the Paseo Del Norte Storm Drain System?** The existing Paseo Del Norte Storm Drain System was designed and constructed based on the roadway original alignment. The existing storm drain system has a limited capacity and would require additional ponds to accept flows from other subbasins. If you incorporate the right amount of detention you can modify in final design plans.
5. **May need to run the runoff calculations based on the 100-year, 24-hour storm based on the duration of the discharge for the detention ponds. Please stay consistent between all the drainage reports for this area. Most of the runoff calculations for the SAD 228 were based on the 100-year, 24-hour storm.** This report serves as a guide to develop allowable flows at specific discharge points. Hydrology calculations need to be modeled in future studies as each area is developed in the same manner that has been done with SAD 228. The final models will be determined based on the requirements for the design.
6. **Flow numbers for Basins K2, M5, M6, and T1 are not the same on the Plate-1, Table-1/Plate-1 and AHYMO calculations. T1 basin area is different from the AHYMO calculations and what is shown on the Plate-1.** All numbers corrected.