

**Appendix 15.9**  
**Preliminary Storm Drain Analysis**



**SHARRAH DUNLAP SAWYER, INC.**

Civil Engineering | Structural Engineering | Landscape Architecture | Planning | Surveying | Project Presentation Graphics

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August 27, 2007  
Job No. 05.0386.002

Mr. David Braithwaite  
Development Services Department  
City of Redding  
777 Cypress Avenue  
Redding, CA 96001

Re: Salt Creek Heights Detention Requirements

Dear Mr. Braithwaite:

We have completed a preliminary storm drain analysis for the proposed Salt Creek Heights project and determined the development will create an increase in the peak flows of both Salt Creek and Gold Run Creek. Per your email on April 18, 2007 it is apparent that avoiding detention is a favorable option. With this in mind we have examined the adjacent properties and determined that the increased peak flow will have no adverse effects. Therefore, we are requesting an exception to City Council Policy Number 1806 be granted for the Salt Creek Heights Subdivision.

The project area was divided into two drainage basins, BSALT and BGOLD. In the pre-developed model both basins are 100 percent open oak/woodland. The proposed subdivision consists of single family residential, multifamily residential and a park area with over 60 percent of each basin remaining undeveloped. With this development the Salt Creek Basin will experience an increase in the peak 10-, 25- and 100-year flows of 6, 4 and 2 percent, respectively. The Gold Run Creek Basin will experience higher increases of 29, 26, and 21 percent in the 10-, 25- and 100-year peak flows, respectively. Table 1 below summarizes the pre- and post development peak flows for both basins.

TABLE 1 Peak Design Flow (in cfs)

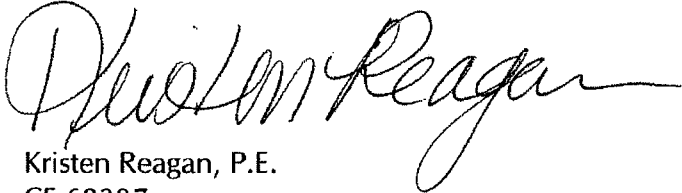
| BASIN ID | 10-YEAR PEAK FLOW |      | 25-YEAR PEAK FLOW |      | 100-YEAR PEAK FLOW |      |
|----------|-------------------|------|-------------------|------|--------------------|------|
|          | PRE               | POST | PRE               | POST | PRE                | POST |
| BSALT    | 193               | 205  | 258               | 268  | 401                | 409  |
| BGOLD    | 157               | 203  | 212               | 268  | 340                | 413  |

Both Salt Creek and Gold Run Creek flow through steep terrain with 25 to 40 foot high slopes. The attached exhibits show the adjacent property to each creek and the areas of slopes greater than 20 percent on each side of the bank. The southern banks of Gold Run Creek are defined by 20 percent slopes for over 100 feet south of the creek flowline. The proposed Matrix

Subdivision by others features an open space easement along Gold Run Creek greater than 100 feet wide. As seen in the aerial exhibits there are no existing or proposed structures within 200 feet of either creek.

In our opinion, there will be no adverse effects due to construction of Salt Creek Heights Subdivision considering cumulative impacts on the adjacent properties in the watershed. With the increase in peak storm water flow of both creeks, the developer will obtain a drainage release from the adjacent property owners pursuant to the requirements of an exception to City Council Policy 1806. If you have any further questions, please feel free to contact Ashley Corey or myself at 221-1792.

Best Regards,

A handwritten signature in black ink, appearing to read "Kristen Reagan", with a long horizontal flourish extending to the right.

Kristen Reagan, P.E.  
CE 68387

Enc: Salt Creek Heights Slope Exhibit  
Salt Creek Heights Aerial Exhibit



# SALT CREEK HEIGHTS AERIAL EXHIBIT

PREPARED FOR:



PREPARED BY:



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05.0386 | August 30, 2007







PROPOSED SALT CREEK  
HEIGHTS SUBDIVISION

# SALT CREEK HEIGHTS SLOPE EXHIBIT 20% AND GREATER

LEGEND

-  20% SLOPE AND GREATER
-  WETLANDS



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