

# **SITETECH** INC.

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CIVIL ENGINEERING • SURVEYING • LAND DEVELOPMENT CONSULTANTS

## **PRELIMINARY DRAINAGE STUDY TENTATIVE TRACT MAP 18583**

Tentative Tract Map 18583 is a proposed residential Project consisting of a development area of 22.92 acres. The Project is located at the southeast corner of Greenspot Road and Orange Street in the City of Highland. This Project is proposing to construct 133 single family Homes and a community center. Drainage of this development will be designed to be consistent with City of Highland drainage policy and guidelines.

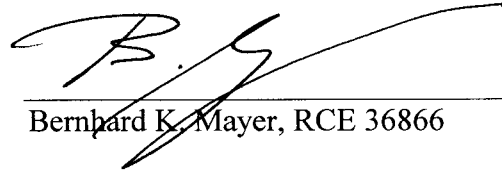
In its existing condition, the site slopes from the east to the west at a 1.5% gradient. The existing drainage flows to the Plunge Creek Overflow, located at the west end of the site at Orange Street. An existing storm drain, Line "A" of the East Highlands Ranch Development, currently discharges 97.4 cfs, during a 100-year storm event, onto this Project site. Approximately 25 acres of upstream tributary drainage area, known as East Highlands Ranch Planning Area 40/42, also flows through the Project site to the Plunge Creek Overflow.

When developed, on-site runoff from Tract 18583 will be conveyed through the proposed streets to the southwest corner of the site where it will flow into a vegetated swale and a water quality management basin. After passing through the swale and basin the flows will be conveyed, through a storm drain, to the Plunge Creek Overflow. The total 100 year storm runoff from Tract 18583 is approximately 64.5 cfs.

As part of the development of Tract 18583, the Line "A" storm drain will be extended through the site to the Plunge Creek Overflow. The Line "A" extension will be designed to carry the existing 97.4 c.f.s. as well as the anticipated 100 year developed runoff for Planning Area 40/42, which is approximately 69 c.f.s, for a total capacity of 166.4 c.f.s. When this flow rate is combining the on-site runoff, the total developed runoff from Tract 18583 is approximately 230.9 c.f.s., during a 100 year storm event. This runoff will flow to the Plunge Creek Overflow. If Tract 18583 is constructed prior to Planning Area 40/42, a temporary inlet will be constructed in order to convey the upstream runoff from Planning Area 40/42 into Line "A".

For purposes of final design, the County of San Bernardino Hydrology Manual will be used for the final drainage study and the 100-year storm runoff determination for this Project.



  
Bernhard K. Mayer, RCE 36866