

Appendix F Water Quality Memo

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Manhattan Beach Unified School District (MBUSD)

Water Quality Memo – Grand View Elementary

February 12, 2019

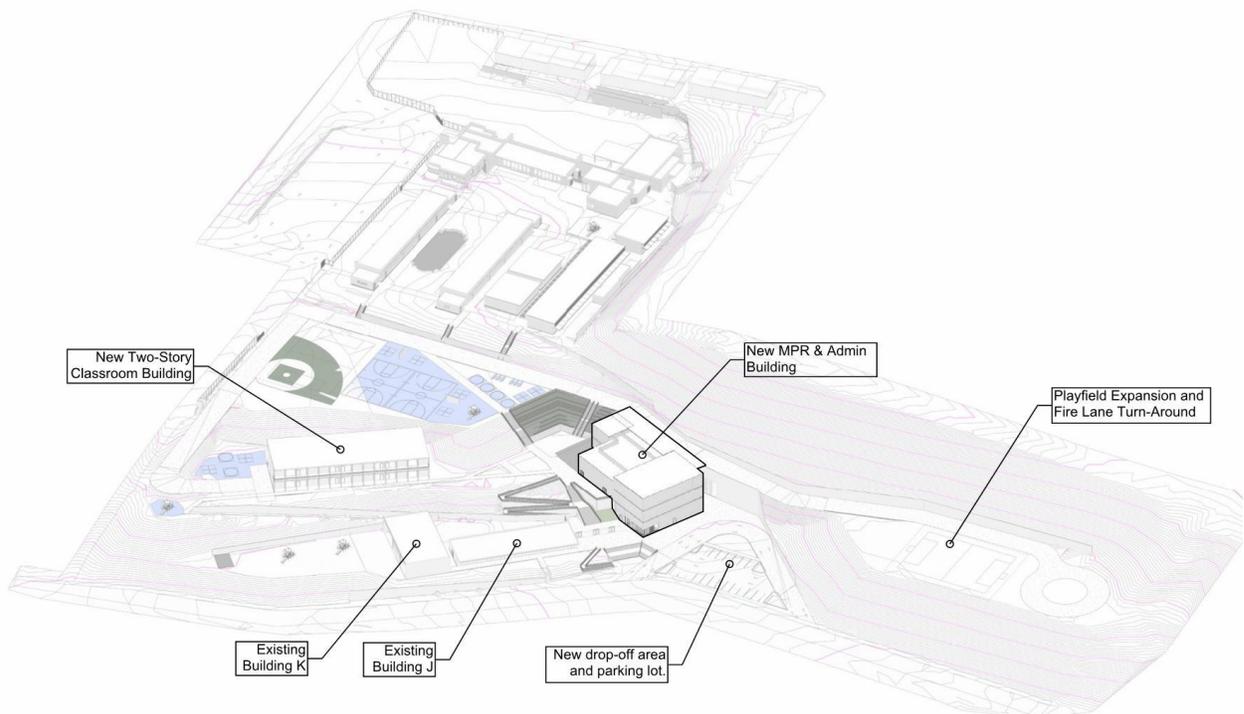
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Introduction

The Manhattan Beach Grand View Elementary project consists of the demolition of existing buildings and construction of a new Multi-Purpose Room (MPR) along with additional classrooms located in Manhattan Beach, California. The project will also include the addition of a new parking lot/ drop-off area below the new MPR/Admin building, along with the addition of a playfield expansion area at the northern end of the school. The Multi-Purpose Room will be comprised of 3 stories and the classrooms will consist of 2 stories. The new playfield expansion will incorporate a fire truck turn-around lane. Grading for both buildings, parking lot, and playfield will be required to comply with current accessibility and drainage codes. Site utilities will be shown from the point of connection to within 5 feet of the proposed buildings. Storm water calculations will be provided to conform to the State Water Board regulations.

Overall Campus - 3D View



Basis of Design; Water Quality

The California Water Boards Smarts “Water Balance Calculator” was utilized to determine how much on-site treatment would need to be utilized. Based on the schematic site layout, post-construction impervious area will be less than the pre-construction condition, thus no treatment is required as determined in the water balance calculator. See the table below for a breakdown of existing vs. proposed impervious areas.

Table 1:

Sub-Watershed Conditions	Area (acres)	Total Area (acres)
Sub-Watershed Area	4.84	4.84
Existing Non-Rooftop Impervious Coverage	0.46	2.49
Existing Rooftop Impervious Coverage	2.03	
Proposed Rooftop Impervious Coverage	0.46	1.71
Proposed Non-Rooftop Impervious Coverage	1.25	

Water Treatment BMP’s

It is not expected that water quality treatment improvements will be required given the current schematic design site layout. As shown in Table 1, there will be an effective decrease in the amount of total pervious are for the site. As a best management practice, water quality improvements may still be installed at the downstream end of the site. It is planned to install a *Stormceptor* system within the landscaping at the northern parking lot area to catch any trash, oil, and debris trapped in the storm drain system. Just downstream of the *Stormceptor* system, a *Maxwell Drywell System* will be utilized to infiltrate smaller storm events. According to the Geotechnical report from Leighton Consulting Inc. Dated 12/24/2018, we can expect infiltration rates of 2.0 inches/hr in the lower portion of the site.

Hydrologic Analysis

A hydrologic analysis will be performed using the LA County Hydrology Manual. LA counties *Hydrocalc* program will be used to determine the expected peak flows for the peak storm required to be analyzed. These peak flows will form the basis of the hydraulic storm drain design, and will also inform the sizing of the Stormceptor and Drywell Systems.