TECHNICAL MEMORANDUM

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BKF Job Number: 20056154

Deliver To: Heather Klein,
City of Oakland

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Subject: Oak Knoll Preliminary Sanitary Sewer Master Plan – Update to Projected Dry Weather Flows

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This technical memorandum is prepared to update the projected dry-weather flow estimated for the Oak Knoll project in the Preliminary Sanitary Sewer Master Plan, dated July 28, 2015, prepared by BKF (2015 Master Plan). The update is based on revised land-use mix proposed for the Oak Knoll project and revised sewage unit demand factor. The revised land-use mix now includes 363 single-family residential units, 572 town homes and 82,000 square feet of commercial/institutional uses.

The unit demand factor for any given land-use varies by unit type, geographically and also by agencies and/or utility districts which have different regulatory requirements. This technical memorandum is provided to refine the unit demand factors for single-family homes and townhomes from 330 gpd to 250 gallons per day (gpd) and 200 gpd, respectively. The revised demand factors more accurately reflect these land-uses and demand factors for that use when located within the East Bay Municipal Utility District. The revised demand is also within the industry standard unit demand factor range for single-family homes and townhomes. With this clarification, BKF estimates total project average dry-weather flow (ADWF) and peak dry-weather flow (PDWF) to be 0.213 and 0.405 million gallons per day (mgd), respectively. The following updates Table 4 of BKF's 2015 Master Plan.

Table 4: Historic vs Proposed

Condition	ADWF	PDWF	RDI/I	PWWF
Historic				
- Based on 1985 SSES	0.122	0.232	0.748	0.980
- Based on Floor Area	0.238	0.451	0.748	1.199
Proposed Project	0.213	0.405	0.171	0.576
Net Increase/Reduction				
- Based on 1985 SSES	0.091	0.173	(0.577)	(0.404)
- Based on Floor Area	(0.024)	(0.046)	(0.577)	(0.623)

Notes:
a) All flows are reported in million gallons per day (mgd). Flow reduction is shown in parenthesis.
b) ADWF – Average Dry Weather Flow; RDI/I- Rainfall Dependent Inflow & Infiltration
c) Peak Dry Weather Flow (PDWF) = ADWF * 1.9
d) Peak Wet Weather Flow (PWWF) = PDWF + RDI/I

Apart from Table 4, an additional table is provided here to compare current site conditions, which do not include any uses that generate sewage (as the site is currently abandoned), to the proposed project.

Table 5: Current vs Proposed

Condition	ADWF	PDWF	RDI/I	PWWF
Current	0.000	0.000	0.748	0.748
Proposed Project	0.213	0.405	0.171	0.576
Net Increase/Reduction	0.213	0.405	(0.577)	(0.172)

Notes:
a) All flows are reported in million gallons per day (mgd). Flow reduction is shown in parenthesis.
b) ADWF – Average Dry Weather Flow; RDI/I- Rainfall Dependent Inflow & Infiltration
c) Peak Dry Weather Flow (PDWF) = ADWF * 1.9
d) Peak Wet Weather Flow (PWWF) = PDWF + RDI/I