




January 31, 2018

TO: Commissioner Ike Kwon, President  
Commissioner Vince Courtney, Vice President  
Commissioner Ann Moller Caen  
Commissioner Francesca Vietor  
Commissioner Anson Moran

THROUGH: Harlan L. Kelly, Jr., General Manager 

FROM: Steven R. Ritchie, Assistant General Manager, Water

RE: Water Supply Assessment for the Flower Mart Project

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## 1.0 Summary

### 1.1 Introduction

Under the Water Supply Assessment law (Sections 10910 through 10915 of the California Water Code), urban water suppliers like the San Francisco Public Utilities Commission (SFPUC) must furnish a Water Supply Assessment (WSA) to the city or county that has jurisdiction to approve the environmental documentation for certain qualifying projects (as defined in Water Code Section 10912 (a)) subject to the California Environmental Quality Act (CEQA). The WSA process typically relies on information contained in a water supplier's Urban Water Management Plan (UWMP), and involves answering specific questions related to the estimated water demand of the proposed project. This memo serves as the WSA for the proposed Flower Mart Project ("proposed project") for use in the preparation of an environmental impact report by the City and County of San Francisco Planning Department (case no. 2015-004256ENV, San Francisco Planning Department).

#### 1.1.1 2015 Urban Water Management Plan

The SFPUC's most current UWMP is the UWMP update for 2015, which was adopted in June 2016. The water demand projections in the UWMP incorporated 2012 Land Use Allocation (LUA 2012) housing and employment growth projections from the San Francisco Planning Department.

The WSA for a qualifying project within the SFPUC's retail service area may use information from the UWMP. Therefore, ***the 2015 UWMP is incorporated via references throughout this WSA shown in bold, italicized text.*** The UWMP may be accessed at [www.sfwater.org/uwmp](http://www.sfwater.org/uwmp).

Mark Farrell  
Mayor

Ike Kwon  
President

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Commissioner

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General Manager



### **1.1.2 Basis for Requiring a WSA for the Proposed Project**

The proposed project has not been the subject of a previous WSA, nor has it been part of a larger project for which a WSA was completed. The proposed project qualifies for preparation of a WSA under Water Code Section 10912(a) because it is a mixed-use development that includes more than 250,000 square feet of commercial office space. The proposed project is characterized further in Section 1.2.

### **1.1.3 Conclusion of this WSA**

In this WSA, the SFPUC concludes that there are adequate water supplies to serve the proposed project and cumulative retail water demands during normal years, single dry years, and multiple dry years over a 20-year planning horizon from 2020 through 2040. Additional information on supply sufficiency is provided in Section 4.2, Findings.

## **1.2 *Proposed Project Description***

The project site is located in San Francisco's South of Market District on Assessor's Block 3778, which is bounded by Fifth Street to the north, Brannan Street to the east, Sixth Street to the south, and Bryant Street to the west. The proposed project would include the demolition of all of the existing buildings on the project site, including the existing Wholesale Flower Market and accessory space, as well as the surface parking lot and additional vacant buildings. The project sponsor, KR Flower Mart, LLC, proposes to construct three new buildings—the Market Hall Building, the Blocks Building, and the Gateway Building—containing approximately 2,032,800 square feet of office space, 204,200 square feet of retail space, and 115,000 square feet of space for a new Wholesale Flower Mart, along with underground parking and loading areas both at grade and below grade. The ground floor of the Blocks Building would contain the new Flower Mart.

The proposed project would have four basement levels containing approximately 393,400 square feet of vehicle parking (867 spaces), 25 Wholesale Flower Mart loading spaces, bicycle parking, mechanical equipment, and building service uses. The first basement level of the proposed project would also include approximately 64,400 square feet of retail uses, including a supermarket. The proposed project would also include approximately 31,300 square feet of privately owned public open space.

Construction is expected to begin in November 2019 and be complete in April 2024. Construction would be completed in a single phase, with no partial occupancy. Refer to Attachment B for additional details on the proposed project.

## **2.0 Water Supply**

This section reviews San Francisco's existing and planned water supplies.

### **2.1 *Regional Water System***

See **Section 3.1 of the UWMP** for descriptions of the Regional Water System (RWS) and **Section 6.1 of the UWMP** for water rights held by City and County of San Francisco and the SFPUC Water System Improvement Program (WSIP).

### **2.2 *Existing Retail Supplies***

Retail water supplies from the RWS are described in **Section 6.1 of the UWMP**.

Local groundwater supplies, including the Westside Groundwater Basin, Central Groundwater Sub Basin, and Sunol Filter Gallery Subsurface Diversions, are described in **Section 6.2.1 of the UWMP**.

Local recycled water supplies, including the Harding Park Recycled Water Project and Pacifica Recycled Water Project, are described in **Section 6.2.1 of the UWMP**.

### **2.3 Planned Retail Water Supply Sources**

The San Francisco Groundwater Supply Project is described in **Section 6.2.2 of the UWMP**.

The proposed Westside and Eastside Recycled Water Projects, as well as non-potable water supplies associated with onsite water systems implemented in compliance with San Francisco's Non-potable Water Ordinance (Health Code Chapter 12C), are also described in **Section 6.2.2 of the UWMP**.

### **2.4 Summary of Current and Future Retail Water Supplies**

A breakdown of water supply sources for meeting SFPUC retail water demand through 2040 in normal years is provided in **Section 6.2.5 of the UWMP**.

### **2.5 Dry-Year Water Supplies**

A description of dry-year supplies developed under WSIP is provided in **Section 7.2 of the UWMP**. Other water supply reliability projects and efforts that are currently underway or completed are described in **Section 7.4 of the UWMP**. A breakdown of water supply sources for meeting SFPUC retail water demand through 2040 in multiple dry years are provided in **Section 7.5 of the UWMP**. For a single dry year, the retail RWS allocation and, thus, the breakdown of water supply sources would be the same as those in a normal year.

## **3.0 Water Demand**

This section reviews the climatic and demographic factors that may affect San Francisco's water use, projected retail water demands, and the demand associated with the proposed project.

### **3.1 Climate**

San Francisco has a Mediterranean climate. Summers are cool and winters are mild with infrequent rainfall. Temperatures in the San Francisco area average 57 degrees Fahrenheit annually, ranging from the mid-40s in winter to the upper 60s in late summer. Strong onshore flow of wind in summer keeps the air cool, generating fog through September. The warmest temperatures generally occur in September and October. Rainfall in the San Francisco area averages about 22 inches per year and is generally confined to the "wet" season from late October to early May. Except for occasional light drizzles from thick marine stratus clouds, summers are nearly completely dry. A summary of the temperature and rainfall data for the City of San Francisco is included in Table 1.

**Table 1: San Francisco Climate Summary**

Month	Average Maximum Temperature (°F)	Average Minimum Temperature (°F)	Average Monthly Rainfall (inches)
January	58.0	45.7	4.36
February	60.3	47.3	4.41
March	61.4	48.1	2.98
April	62.3	49.1	1.38
May	63.2	50.9	0.68
June	64.8	52.7	0.18
July	65.6	54.3	0.02
August	66.6	55.3	0.06
September	68.1	55.0	0.19
October	67.8	53.3	1.04
November	61.2	48.1	2.85
December	58.3	45.9	4.33
<b>Annual Average</b>	<b>63.3</b>	<b>50.6</b>	<b>22.45</b>
Source: Western Regional Climate Center ( <a href="http://www.wrcc.dri.edu">www.wrcc.dri.edu</a> ), 1981-2010 data from two San Francisco monitoring stations (Mission Dolores/SF#047772 and Richmond/SF#047767).			

### **3.2 Projected Growth**

Projections of population growth in the retail service area through 2040 are presented in **Section 3.2.2 of the UWMP**. The corresponding LUA 2012 projections for housing and employment in San Francisco, which are incorporated into the projected retail water demands, are provided in **Appendix E of the UWMP**.

### **3.3 Projected Retail Water Demands**

For the 2015 UWMP, the SFPUC developed a new set of models that incorporate socioeconomic factors to project retail demands through 2040. These models incorporate the latest housing and employment projections from LUA 2012. **See Section 4.1 of the UWMP** for tabulated retail water demand projections through 2040 and a description of the model methodology.

### **3.4 Proposed Project Water Demand**

KR Flower Mart, LLC's environmental consultants provided a memo describing the methods and assumptions used to estimate the water demand of the proposed project, along with the resulting demand (Attachment B). The SFPUC reviewed the memo to ensure that the methodology is appropriate for the types of proposed water uses, the assumptions are valid and thoroughly documented along with verifiable data sources, and a professional standard of care was used. The SFPUC concluded that the demand estimates provided by KR Flower Mart, LLC's consultants are reasonable. Water demand associated with the proposed project over the 20-year planning horizon is shown in the following table.

**Table 2: Water Demand Based on Project Phasing**

Demand of Proposed Project (mgd)	2020	2025	2030	2035	2040
Potable Demand	–	0.034	0.034	0.034	0.034
Non-potable Demand	–	0.004	0.004	0.004	0.004
Total Demand	–	0.038	0.038	0.038	0.038
mgd = million gallons per day					
<u>Note:</u> The proposed project would be expected to be completed and ready for occupancy in 2024.					

The San Francisco Planning Department has determined that the proposed project is encompassed within the projections presented in LUA 2012 as indicated in the letter from the Planning Department to the SFPUC (Attachment A). Therefore, the demand of the proposed project is also encompassed within the San Francisco retail water demands that are presented in **Section 4.1 of the UWMP**, which considers retail water demand based on the LUA 2012 projections. The following table shows the demand of the proposed project relative to total retail demand.

**Table 3: Proposed Project Demand Relative to Total Retail Demand**

	2020	2025	2030	2035	2040
Total Retail Demand (mgd) <sup>1</sup>	77.5	79.0	82.3	85.9	89.9
Total Demand of Proposed Project (mgd)	–	0.038	0.038	0.038	0.038
Portion of Total Retail Demand <sup>2</sup>	–	0.05%	0.05%	0.04%	0.04%
<u>Notes:</u> 1. Retail water demands per <b>Table 4-1 of the UWMP</b> . 2. The proposed project is accounted for in the LUA 2012 projections and subsequent retail water demand projections.					

## 4.0 Conclusion

### 4.1 Comparison of Projected Supply and Demand

**Section 7.5 of the UWMP** compares the SFPUC's retail water supplies and demands through 2040 during normal year, single dry-, and multiple dry-year periods. See Table 4, below, which is adapted from the UWMP (Table 7-4). As explained previously in Section 3.4, water demands associated with the proposed project are already captured in the retail demand projections presented in the UWMP. The proposed project is expected to represent up to 0.05 percent of the total retail water demand.

**Table 4: Projected Supply and Demand Comparison (mgd)**

		Normal Year	Single Dry Year <sup>1</sup>	Multiple Dry Years		
				Year 1 <sup>1</sup>	Year 2 <sup>2</sup>	Year 3 <sup>2</sup>
2020	Total Retail Demand <sup>3</sup>	77.5	77.5	77.5	77.5	77.5
	Total Retail Supply <sup>4</sup>	77.5	77.5	77.5	77.5	77.5
	Surplus/(Deficit)	0	0	0	0	0
2025	Total Retail Demand <sup>3</sup>	79.0	79.0	79.0	79.0	79.0
	Total Retail Supply <sup>4</sup>	79.0	79.0	79.0	79.0	79.0
	Surplus/(Deficit)	0	0	0	0	0
2030	Total Retail Demand <sup>3</sup>	82.3	82.3	82.3	82.3	82.3
	Total Retail Supply <sup>4</sup>	82.3	82.3	82.3	82.3	82.3
	Surplus/(Deficit)	0	0	0	0	0
2035	Total Retail Demand <sup>3</sup>	85.9	85.9	85.9	85.9	85.9
	Total Retail Supply <sup>4</sup>	85.9	85.9	85.9	85.9	85.9
	Surplus/(Deficit)	0	0	0	0	0
2040	Total Retail Demand <sup>3</sup>	89.9	89.9	89.9	89.9	89.9
	Total Retail Supply <sup>4</sup>	89.9	89.9	89.9	88.8	88.8
	Surplus/(Deficit)	0	0	0	(1.1)	(1.1)

**Notes:**

- During a single dry year and multiple dry year 1, a system-wide shortage of 10% is in effect. Under the Water Shortage Allocation Plan (WSAP), the retail supply allocation at this stage of shortage is 36.0% of available RWS supply, or 85.9 mgd. However, due to the Phased WSIP Variant, only 81 mgd of RWS supply can be delivered. RWS supply is capped at this amount.
- During multiple dry years 2 and 3, a system-wide shortage of 20% is in effect. Under the WSAP, the retail supply allocation at this stage of shortage is 37.5% of available RWS supply, or 79.5 mgd. RWS supply is capped at this amount.
- Total retail demands correspond to those in **Table 4-1 of the UWMP**, and reflect both passive and active conservation, as well as water loss.
- Total retail supplies correspond to those in **Table 6-7 of the UWMP**. Procedures for RWS allocations and the WSAP are described in **Section 8.3 of the UWMP**. Groundwater and recycled water are assumed to be used before RWS supplies to meet retail demand. However, if groundwater and recycled water supplies are not available, up to 81 mgd, or the corresponding capped amount in dry years, of RWS supply could be used.

The LUA 2012 projections result in a retail demand in 2035 of 85.9 mgd, which represents a 5.0 mgd, or 6 percent, increase over the 2035 demand projected in the 2010 UWMP. The ability to meet the demand of the retail customers is in large part due to development of 10 mgd of local WSIP supplies, including conservation, groundwater, and recycled water. These supplies are anticipated to be fully implemented over the next 10 to 15 years.

If planned future water supply projects (i.e., San Francisco Groundwater Supply Project, Westside Recycled Water Project, Eastside Recycled Water Project, and onsite non-potable supplies) are not implemented, normal-year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during normal years, the SFPUC may import additional water from the RWS beyond the retail allocation of 81 mgd, with mitigation implemented by the SFPUC and potential environmental surcharges if RWS deliveries exceed the 265 mgd interim supply limitation.

If dry-year supply projects (i.e., Calaveras Dam Replacement Project, Lower Crystal Springs Dam Improvements Project, Alameda Creek Recapture, Regional

Groundwater Storage and Recovery Project, and water transfers) are not implemented, existing dry year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during dry years, the SFPUC may reduce system deliveries and impose customer rationing.

The SFPUC remains committed to meeting the level of service goals and objectives outlined under WSIP. In addition, the SFPUC continues to explore other future supplies, including:

- Development of additional conservation and recycling.
- Development of additional groundwater supplies.
- Securing of additional water transfer volumes.
- Increasing Tuolumne River supply.

## **4.2 Findings**

Regarding the availability of water supplies to serve the proposed project beginning in 2024, the SFPUC finds, based on the entire record before it, as follows:

- During normal years, single dry years, and multiple dry years, the SFPUC has sufficient water supplies to serve the proposed project.
- With the addition of planned retail supplies, the SFPUC has sufficient water supplies available to serve its retail customers, including the demands of the proposed project, existing customers, and foreseeable future development.

Approval of this WSA by the Commission is not equivalent to approval of the development project for which the WSA is prepared. A WSA is an informational document required to be prepared for use in the City's environmental review of a project under CEQA. It assesses the adequacy of water supplies to serve the proposed project and cumulative demand.

Furthermore, this WSA is not a "will serve" letter and does not verify the adequacy of existing distribution system capacity to serve the proposed project. A "will serve" letter and/or hydraulic analysis must be requested separately from the SFPUC City Distribution Division to verify hydraulic capacity.

If there are any questions or concerns, please contact Steve Ritchie at (415) 934-5736 or [SRitchie@sfwater.org](mailto:SRitchie@sfwater.org).





# **Attachment A –**

**Communications from San Francisco Planning Department**





# SAN FRANCISCO PLANNING DEPARTMENT

**MEMO**

**DATE:** June 13, 2013

**TO:** SF Planning EP Planners & SFPUC Planners

**FROM:** Scott T. Edmondson, AICP; Aksel Olsen

**RE:** Project Types Represented in the Land Use Allocation

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This Memorandum explains the Planning Department's Land Use Allocation (LUA) and the types of projects included in the LUA. The 2012 LUA is the most recent update and uses the Association of Bay Area Governments' (ABAG) May 2012 Jobs-Housing Connection Scenario. As this memorandum explains, the Planning Department expects that the LUA will encompass the vast majority of development proposals that project sponsors will present to the Planning Department. This memorandum also identifies possible unusual circumstances under which EP Planners and the SF PUC Planners may want to consult further with the Planning Department's Information and Analysis Group to determine whether a project is encompassed within the LUA.

## **ABAG's Projections of San Francisco's Economic Growth and the LUA**

The LUA takes ABAG's 30-year projections of citywide household and job growth and allocates them to smaller geographic units, in this case, the traffic analysis zones of the SF Transportation Authority's Countywide Transportation Model. Thus, the LUA does not project growth but simply allocates ABAG's growth projections to subarea locations within the city. The current 2012 LUA uses ABAG's Jobs-Housing Connection Scenario projections for San Francisco and covers the period from 2010 to 2040; these projections were released in May 2012 and are represented in five-year increments.

ABAG derives its demographic and economic growth projections from assumptions about long-term demographic and economic growth.<sup>1</sup> ABAG maintains its own set of regional models and develops each forecast with its in-house experts and private economic consultants.<sup>2</sup> The forecasting is informed by the best information and assumptions available through federal and State agencies, such as the State Department of Finance, and private sources. However, ABAG develops its forecast based on local knowledge from over 50 years of forecasting and develops the forecast to reflect local conditions in contrast to more general forecasting assumptions of State or federal sources. ABAG's estimate of total citywide growth for the 30-year period is expected to best represent actual growth at the end of the 30-year period. However, projected growth for any portion of the projection period, such as growth in a one-year or a five-year period, would be expected to vary from actual growth in such periods. Within the 30-year growth projection period, higher than average growth periods could be followed by lower than average growth periods such that growth over the period would ultimately equal the projected 30-year

total. All projection methodologies make assumptions based on the best available information at the time. To minimize the effects of imprecision intrinsic to any projections methodology when used in for planning decisions, ABAG follows professional best practices and updates its projections every two years. Accordingly, the Planning Department updates its LUA every two years. The planning practice of frequently updating projections and plans allows the incorporation of new information over time to provide for the most up-to-date projections.

The SFPUC updates its Urban Water Management Plan (UWMP) every five years. The UWMP typically relies on LUA projections or similar information. But, because the LUA is updated every two years, the SFPUC may want to review the LUA issued within SFPUC's 5-year UWMP cycle; and if it varies in a significant way from the SFPUC's projections used in its UWMP, discuss with Planning whether it should make any changes in its own water supply needs assessment during an UWMP cycle.

### **Types of Projects Included in the LUA**

The LUA translates ABAG's projected household and job growth into total expected development in San Francisco over a 30-year period. The LUA translates ABAG's household growth into residential housing units and ABAG's job growth into commercial space.<sup>3</sup> Thus, the LUA projections of housing units and commercial space include all project types expected from San Francisco growth, such as housing, office, retail, production-distribution-repair (PDR), visitor, and cultural-institutional-educational (CIE). The LUA does not exclude any project type or potential growth. As such, the LUA and the ABAG economic projections upon which it is based contain the best estimates available of reasonably foreseeable growth and development in San Francisco over a 30-year period.

### **Unusual Circumstances**

The LUA can be considered to include all reasonably expected growth and development and it is frequently updated to correct for expected variations. Nevertheless, there are possible unusual circumstances under which the EP Planners or SFPUC Planners may want to request further Planning Department consultation with the Information and Analysis Group to determine if a particular project falls within the LUA. ABAG's projections and the Department's LUA take into account urban economic trends and based on that information capture all reasonably foreseeable growth in San Francisco. Limited capital and aggregate demand of any urban economy constrains growth. However, occasionally the reality or perception may arise that a project lies outside the normal growth constraints of the San Francisco economy for some reason, and therefore lies outside ABAG's projection's and the Department's current spatial allocation in its LUA.

One can envision the rare case of a project arising outside the City's economy (demand and capital) from an organization not located in San Francisco using nonprofit foundation funds or private donations to construct a large institutional project in San Francisco, such as a major hospital, a university, or an office complex. These projects would represent spending and demand beyond that normally active in the San Francisco economy, and therefore represent net additions to projected growth beyond that captured by ABAG's projections and reflected in the Department's LUA. Indicative characteristics of such projects

would include those with non-local sponsors, of large size, and for an institutional land use. Alternatively, very large project proposals from local project sponsors active in the SF economy involving a large site, land assembly, a planned unit development (PUDs), master plans, or area plan and rezoning proposals may warrant individual assessment for a range of reasons even though they are likely captured in ABAG's projections and the LUA. Such projects would be similar to recent projects such as Hunters Point/Candlestick, Park Merced, Treasure Island, Pier 70 Master Plan, Eastern Neighborhoods, or the Transit Center District Plan.

The bi-annual update of ABAG's projections and the LUA would be able to capture development associated with such projects. However, should such a project be proposed between updates, the EP Planners and SFPUC could treat its appearance as sufficient cause to request the Planning Department's assistance in determining whether to consider the project outside the latest LUA projections.

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<sup>1</sup> Please see ABAG's summary of its research and forecasting on its website: <http://www.abag.ca.gov/planning/research/index.html>

<sup>2</sup> ABAG describes its current Jobs-Housing Scenario policy-based forecast here: [http://onebayarea.org/pdf/IHCS/May\\_2012\\_Jobs\\_Housing\\_Connection\\_Strategy\\_Appendices\\_Low\\_Res.pdf](http://onebayarea.org/pdf/IHCS/May_2012_Jobs_Housing_Connection_Strategy_Appendices_Low_Res.pdf).

<sup>3</sup> The LUA citywide totals only differ slightly, up to within one percent of ABAG totals (+/-). The difference is produced by LUA's complex method of translating ABAG projections into development (residential units and commercial space) and allocating total citywide growth to subarea locations. The minor difference between the LUA and ABAG citywide totals is real in absolute terms, but not in the sense that they are different projections. The one percent difference does not constitute a difference of projections. ABAG and MTC consider variation of one percent in citywide totals, plus or minus, as sufficiently representing ABAG's projections for consistency with the MTC regional projections and modeling purposes (congestion management, etc.). Even if a few versions of the LUA must be done to make minor subarea spatial allocation corrections, as long as the LUA's citywide totals are within one percent of ABAG's projections, and ABAG's projections have not changed, the LUA citywide totals have not effectively changed either. Any of those LUA versions' citywide totals fully represent the same unchanged ABAG projection totals.



## **Attachment B –**

### **Flower Mart Project Demand Memo**







# SAN FRANCISCO PLANNING DEPARTMENT

**MEMO**

**DATE:** January 26, 2018  
**TO:** Fan Lau, SFPUC  
**FROM:** Chris Thomas, Environmental Planning  
**CC:** Joy Navarrete, Environmental Planning  
**RE:** Flower Mart Project Water Supply Assessment Request (Revised)  
(Planning Department Case No. 2015-004256ENV)

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The purpose of this memorandum is to request that the San Francisco Public Utilities Commission (SFPUC) prepare a Water Supply Assessment (WSA) for the proposed Flower Mart mixed use office/wholesale/retail project, in compliance with CEQA Guidelines Section 15155 and Sections 10910 through 10915 of the California Water Code. This memorandum and accompanying calculations have been revised per comments received in your December 28, 2017 email. As indicated in the attached request for a Water Supply Assessment, the project sponsor, KR Flower Mart, LLC, proposes to construct three new buildings—the Market Hall Building, the Blocks Building, and the Gateway Building—containing approximately 2,032,800 square feet of office space, 204,200 square feet of retail space, and 115,000 square feet of space for a new Wholesale Flower Mart, along with underground parking and loading areas both at grade and below grade.

The project sponsor has provided project information intended to meet the requirements outlined in the SFPUC guidance memo dated September 6, 2016. The project is proposed to be constructed over a 4.5-year period. A summary of the project description, proposed average daily water demands, and supporting tables prepared by the project sponsor's consultant (based on the SFPUC Non-Potable Water Calculator Version 6), are attached. Non-Potable Water Calculator spreadsheets for the proposed project are also attached.

Should you have questions or need additional information from the Planning Department or the project sponsor, please contact me at 415-575-9036 or [christopher.thomas@sfgov.org](mailto:christopher.thomas@sfgov.org).





# memorandum

date January 29, 2018

to Chris Thomas, San Francisco Planning Department, Environmental Planning

from Kyle Brown, KR Flower Mart, LLC and Karl Heisler, ESA

subject New Flower Mart Project: Water Supply Assessment Request

The purpose of the memorandum is to provide the specific project information necessary for the San Francisco Public Utilities Commission (SFPUC) to prepare a Water Supply Assessment (WSA) for the proposed New Flower Mart project (proposed project). This memo provides a brief project description and estimated project water and wastewater demands for the proposed project, based on the calculations developed in the SFPUC Non-Potable Water Calculator, Version 6.

## Project Description

The project site is located in San Francisco’s South of Market (SoMa) District on Assessor’s Block 3778, which is bounded by Fifth Street to the north, Brannan Street to the east, Sixth Street to the south, and Bryant Street to the west. The proposed project would include the demolition of all of the existing buildings on the project site, including the existing Wholesale Flower Market and accessory space, as well as the surface parking lot and additional vacant buildings. The project sponsor, KR Flower Mart, LLC, proposes to construct three new buildings—the Market Hall Building, the Blocks Building, and the Gateway Building—containing approximately 2,032,800 square feet of office space, 204,200 square feet of retail space, and 115,000 square feet of space for a new Wholesale Flower Mart, along with underground parking and loading areas both at grade and below grade. The ground floor of the Blocks Building would contain the new Flower Mart. **Table 1** provides a summary of the relevant project information.

**TABLE 1 – PROJECT INFORMATION**

Project Name	Flower Mart Project
Case No.	2015-004256ENV
Estimated Construction Completion	Spring 2024
Project Contact	Chris Thomas – (415) 575-9036, Christopher.Thomas@sfgov.org
Project Address	5th and Brannan streets
Block/Lot	3778 / Lots 1B, 2B, 4, 5, 47, and 48
Project Site Size	295,144 square feet (6.78 acres)
Days In Operation Per Year	252 office working days; 350 retail/restaurant/warehouse and distribution days; 360 grocery store days

The proposed project would have four basement levels containing approximately 393,400 square feet of vehicle parking (867 spaces), 25 Wholesale Flower Mart loading spaces, bicycle parking, mechanical equipment, and building service uses. The first basement level of the proposed project would also include approximately 64,400 square feet of retail uses, including a supermarket. The proposed project would also include approximately 31,300 square feet of privately owned public open space (POPOS). Construction is expected to begin in

November 2019 and be complete in April 2024. Construction would be completed in a single phase, with no partial occupancy.

The Market Hall Building would provide a total of approximately 86,200 square feet of retail/restaurant space on the ground floor, the mezzanine, and the penthouse. The Market Hall Building would also include approximately 356,900 square feet of office space. The Blocks Building would occupy most of the project site. The ground floor would include approximately 100,000 square feet for use by the New Wholesale Flower Mart, with an additional 15,000 square feet for the New Wholesale Flower Mart on a mezzanine level. A total of about 27,500 square feet of retail/restaurant space also would be provided at the ground and second floors. Office space totaling approximately 1.35 million square feet would occupy the remainder of the Blocks Building. The Gateway Building would be a separate 200-foot-tall building on the corner of Sixth and Brannan streets. The ground and second floors would include approximately 26,100 square feet of retail space, with approximately 321,100 square feet of office space. Project characteristics are shown in **Table 2**.

**TABLE 2 – PROJECT CHARACTERISTICS**

Proposed Use	Total Proposed (sf)
Flower Mart (PDR)	115,000
Office	2,032,759
Retail/Restaurant	204,166
<b>TOTAL</b>	<b>2,351,925</b>
Total Site Area	295,144
Above Ground Impervious Area <sup>a</sup>	95,012
Other Impervious Area <sup>b</sup>	59,837
Landscaped Area <sup>c</sup>	75,295
Height of Buildings	142 to 234 feet

Notes:

<sup>a</sup> Excludes green roof features (factored under open space).

<sup>b</sup> Includes sidewalks, alley extensions, and outdoor plazas.

<sup>c</sup> Includes publicly accessible open spaces, but does not include the 65,000 sf of permeable upper decks.

SOURCE: KR Flower Mart, LLC October 2017.

**Tables 3 and 4** show information pertinent to the estimate of water demand for the proposed project; this includes the proposed office, retail/restaurant, grocery store, and warehouse/distribution square footages as well as the site coverage data. The land uses and site coverage data are based on the total square footage of the proposed project, as well as total employment and square footage of impervious or landscaped area. Consistent with the City’s Non-potable Water Ordinance, Water Efficient Irrigation Ordinance, and Reclaimed Water Use Ordinance, it is likely that actual project water demand will be lower, after incorporation of the use of low-flow fixtures and other water saving measures (including water reuse and minimizing water use for irrigation), that are not yet fully defined at this time. However, the project sponsor has confirmed that both rainwater and graywater capture, treatment as required, and reuse would be employed in the proposed project.

Between the general office, retail, restaurant, grocery store, and warehouse/distribution uses on site, it is anticipated that the proposed project would employ approximately 8,574 full-time employees (FTEs) and 1,751 transient FTEs at buildout.

“Project coverage” refers to the permeability of materials used onsite. More than three-quarters of the project site would be covered in impervious surfaces, which would include the roof and sidewalk/alleyway/plaza areas. Less than one-quarter of the site area would consist of plaza open spaces, which would be a mix of paving and landscaped areas.

**TABLE 3 – PROPOSED PROJECT, BUILDING INPUTS**

Proposed Use	Total Proposed (sf)	Days in Use	SF Per Land Use		Commercial Use Occupancy <sup>1</sup>	
			FTE	Transient FTE	Estimated FTE	Estimated Transient FTE
Office	2,032,759	252	250	0	8,131	0
Retail	122,255	350	550	130	222	940
Restaurant	53,431	350	435	95	123	562
Grocery Store	28,480	360	550	115	52	248
Warehouse/Distribution	115,000	350	2,500	0	46	0
<b>TOTAL</b>	<b>2,351,925</b>	-	-	-	<b>8,574</b>	<b>1,751</b>

<sup>1</sup> Numbers may not add due to rounding.

**TABLE 4 – PROPOSED PROJECT, COVERAGE**

Surface	Area	
<b>Impervious Area</b>	<b>154,849</b>	<b>sf</b>
Roof	95,012	sf
Sidewalks/Open Space	59,837	sf
<b>Pervious Area</b>	<b>140,295</b>	<b>sf</b>
Upper Decks	65,000	sf
Landscaped Area <sup>a</sup>	2,235	sf
Green Roof	73,060	sf

<sup>a</sup> Open Space does not assume turfgrass, as features do not involve turfgrass development.

### **Proposed Project – Demand**

**Table 5** shows the estimated daily and annual water demand for the proposed project by land use category. As shown, the total water use for the proposed project would be 46,700 gallons per day (gpd), or 14.0 million gallons per year (gpy). Of the total water demand, 11.6 million gpy would be for indoor water use and 234,240 gpy would be for irrigation purposes. In addition, SFPUC estimates that approximately 90 percent of water supplied is discharged as wastewater into the sewer system; therefore, the project would discharge around 42,030 gpd, or 12.4 million gpy, of wastewater. Lastly, because the proposed project would comply with the City's Non-potable Water Ordinance and Reclaimed Water Use Ordinance, other water saving measures not yet fully determined, but which could involve water efficient fixtures and onsite reuse, could result in the availability of up to 687,394 gpy of greywater and 890,978 gpy of rainwater to offset projected water demand. At this time, the project sponsor has confirmed that both rainwater and graywater would be captured, treated as required, and reused within the proposed project. Additionally, the project would comply with the City's Water Efficient Irrigation Ordinance, which could limit outdoor water use.

**TABLE 5 - PROPOSED PROJECT, ESTIMATED DEMAND**

<b>Proposed Use</b>	<b>Estimated Avg. Daily Water Demand (gpd)</b>	<b>Estimated Annual Water Demand (gpy)</b>
Commercial water demand	40,876	11,565,533
<i>Potential greywater generated and available for reuse</i>	2,645	687,394
<i>Potential rainwater generated and available for reuse</i>	N/A	890,978
HVAC/Cooling water demand <sup>a</sup>	6,090	2,223,000
Irrigation	N/A	234,240
Washdown	71	26,000
<b>TOTAL <sup>b</sup></b>	<b>47,038</b>	<b>14,048,773</b>
<b>Wastewater Discharge (at 90% non-landscape water supplied)</b>	<b>42,334</b>	<b>12,433,080</b>

<sup>a</sup> HVAC (Heating, Ventilation, and Air Conditioning)/Cooling water demand was estimated by the project mechanical engineer, based on an annual cooling load of approximately 1.2 million ton-hours. This load was estimated by prorating loads from a recent project in San Francisco that would employ a similar HVAC system. Estimated water consumption was derived from the annual cooling load based on applicable figures for cooling tower evaporation, blowdown (the small amount of water that must be drained from the recirculating HVAC system to minimize a buildup impurities), and drift (water released into the atmosphere along with discharge air from an evaporative cooler), as described in the ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) HVAC Systems and Equipment Handbook. The annual figure was then converted to a monthly figure based on the cooling load profile.

<sup>b</sup> Does not reflect offset of potable demands with greywater and rainwater sources.

# NON-POTABLE WATER CALCULATOR

## Project Summary Sheet

**Project Contact:** Kyle Brown  
415-778-5673  
kbrown@kilroyrealty.com

Estimated Site/Building Permit Issuance Date: 10/15/2019



### 1. Demands and Supplies Summary

**Grant Criteria Status:** This building is 250,000 sq.ft. or greater in size and is not eligible for a grant

**Demands Met by Non-Potable Supply for Project (gpy):** 1,578,372 **Meets grant criteria of offsetting a minimum of 1,000,000 gal/yr of potable water use**

**Demands Met by Non-Potable Supply for Project \*:** 11%

**Project Total Annual Water Demand (gpy) \*:** 14,048,773

**Project Total Annual Toilet + Irrigation Water Demand (gpy) \*:** 6,558,411

**Toilet + Irrigation Demands Met by Non-Potable Supply \*:** 24.1%

**Potable Water Allocation (gpy):** 13,717,442 **Potable supplies are allocated to this project to meet remaining demands. Projects are allocated an additional 10% in potable supplies that are available as a buffer.**

**Daily Wet Weather Potable Allocation (gpd):** 33,017 **Projects are allocated these potable supplies during wet weather months (October - March)**

**Daily Dry Weather Potable Allocation (gpd):** 42,137 **Projects are allocated these potable supplies during dry weather months (April - September)**

\*Note: Estimates for Demands Met by Non-Potable Supply for Project and Project Total Annual Water Demand based on Tab 6 - Building Potential Summary total water demand values. Manually entered non-potable demands that exceed auto-calculated non-potable demands from Tab 6 may result in Total Annual Water demands greater than the value used in this analysis. Project Total Annual Toilet Water Demand and Toilet Demands Met by Non-Potable Supply based on Tab 6 - Building Potential Summary toilet demands.

### 2. Building Information Summary

<b>Project / Building Name:</b>	SF Flower Mart
<b>Project Address:</b>	5th and Brannan Streets
<b>Assessor's Block &amp; Lot No. / APN:</b>	3778/LOT 1B,2B,4,5,47,48
<b>Year Online:</b>	2024

<b>Building Type:</b>	MIPS
<b>(gross square footage or GSF):</b>	2,351,925
<b>Total Lot Size (ft<sup>2</sup>):</b>	295,144
<b>Number of Residential Units:</b>	
<b>Impervious Surface Above Grade (ft<sup>2</sup>):</b>	95,012
<b>Impervious Surface Below Grade (ft<sup>2</sup>):</b>	59,837
<b>Landscaped Area (ft<sup>2</sup>):</b>	75,295
<b>Site Location (Zone):</b>	Eastern SF

### 3. Summary of Non-Potable Demands and Supplies for the Project

#### Non-Potable Water Supply Estimates

On-site Alternate Water Source Supplies	Water Quantity (gpy)
Rainwater:	890,978
Stormwater:	0
Graywater:	687,394
Blackwater:	0
Foundation Drainage:	0
Cooling & Other Supplies:	0
<b>TOTAL:</b>	<b>1,578,372</b>

#### Non-Potable Water Demand Estimates

Project Specific Non-Potable Application Demands	Quantity (gpy)
Toilets/Urinals:	6,324,171
Irrigation:	234,240
Toilets/Urinals + Irrigation:	6,558,411
Cooling Tower:	0
Commercial Laundry & Other:	26,000
<b>Total:</b>	<b>6,584,411</b>

### 4. Project Summary

<b>Demands Met by Non-Potable Supply for Projects (gpy):</b>	1,578,372	
<b>Total Water Demand (gpy):</b>	14,048,773	Based on Tab 6 - Building Potential Summary tab
<b>Total Water Demand Offset:</b>	11%	
<b>Potable Water Allocation (gpy):</b>	13,717,442	Amount of Potable Water Allocated to Project to Meet Total Demands
<b>Daily Wet Weather Potable Allocation (gpd):</b>	33,017	Amount of Potable Water Allocated Daily during Wet Weather Months
<b>Daily Dry Weather Potable Allocation (gpd):</b>	42,137	Amount of Potable Water Allocated Daily during Dry Weather Months
<b>Total Toilet + Irrigation Water Demand (gpy):</b>	6,558,411	Based on Tab 6 - Building Potential Summary tab
<b>Total Toilet + Irrigation Water Demand Offset:</b>	24%	Based on Tab 6 - Building Potential Summary tab
<b>Selected Toilet + Irrigation Water Demand (gpy):</b>	6,558,411	Based on selections on Tab 7 - Project Definition
<b>Selected Toilet + Irrigation Water Demand:</b>	24%	Based on selections on Tab 7 - Project Definition

This offset analysis assumes the full year of supplies is available to offset non-potable demands. Some scenarios may require storage to store excess supplies from one month in order to use those supplies in another month with unmet demands.

