Appendix K:
Utility Technical Report

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Fulton Corridor Specific Plan and Community Plan EIR Technical Report

Sherwood Design Engineers

2/6/2013

Table of Contents

1. Introduction 1
    1.1 Specific Plan and Community Plan 1
    1.2 Overview 1
2. Wet Utilities 3
    2.1 Potable Water 3
        2.1.1 Existing Conditions 3
        2.1.2 Development Conditions 7
        2.1.3 Water Demand Analysis 10
        2.1.4 Infrastructure Improvements 13
    2.2 Sanitary Sewer/ Wastewater Treatment 20
        2.2.1 Existing Conditions 20
        2.2.2 Proposed Conditions 22
        2.2.3 Wastewater Volume Analysis and Results 23
        2.2.4 Collection System Analysis 25
    2.3 Recycled Water 27
        2.3.1 Existing Conditions 27
        2.3.2 Estimated Recycling Potential 29
        2.3.3 Recycled Water Demand and Distribution 29
3. Stormwater Management 31
    3.1 Existing Conditions 31
    3.2 Proposed Conditions 32
    3.3. Storm Water Quantity and Quality Analysis and Results 33
        3.3.1 Methodology 33
        3.3.2 Results 34
    3.4 Infrastructure Improvements 36

Appendix 1: Background Information I
Appendix 2: Wet Utilities VIII
Appendix 3: Stormwater XXIII
Appendix 4: Downtown Community Plan Density Analysis XXXIII
Appendix 5: Downtown Community Plan Unit Count by Superblock XXXV
Appendix 6: Water Distribution Network Model XXXVII
Appendix 7: Sewer System Model Report XXXIX

1. Introduction

The City of Fresno's Downtown Neighborhoods Community Plan (DNCP or Community Plan) and Fulton Corridor Specific Plan (FCSP or Specific Plan) lay out Fresno's long-term goals for the adjoining areas covered by these jointly developed plans. Both Plans establish detailed policies concerning land use and development, transportation, the public realm of streets and parks, infrastructure, historic resources, and health and wellness. This Technical Report will serve as a basis for quantitative assessment of the infrastructure elements required to support build out of each plan. These elements include the supply and distribution networks for potable water and recycled water, and the collection, treatment and management systems for storm water and domestic wastewater.

1.1 Specific Plan and Community Plan

Geographic context for the Community Plan and the Specific Plan is presented in Figures 1.1 and 1.2 in Appendix 1, which show that the FCSP is completely surrounded by the DNCP. The proposed development programs for the areas covered by the FCSP and the DNCP, jointly referred to in this report as the "Plan Area," are shown in Tables 1.1 and 1.2 in Appendix 1, while Zone maps for each plan are shown in Figures 1.3 and 1.4 of Appendix 1. The anticipated distributions of land uses in the Specific and Community Plans are also presented within Tables 1.1 and 1.2 in Appendix 1. This information will be used to quantify the changes in the City's downtown infrastructure systems that may be required to support future conditions throughout the Plan Area.

1.2 Overview

The areas covered by the Specific Plan and the Community Plan are adequately served by the City's existing water, sewer and stormwater infrastructure. However, many of these utility networks are aging and in need of upgrades to ensure proper long-term function for existing users, as well as to accommodate future economic growth, business expansion and residential development.

Much of the existing downtown water distribution system is over 50 years old and nearing the end of its useful life; as such improvements are needed to reduce widespread leakage and improve structural reliability. In addition, projected population growth and neighborhood densification may necessitate the upgrade of many individual lines, primarily to provide adequate fire flow. These

problems are exacerbated by high rates of water consumption throughout the City, which are straining the City's available sources of water and increasing the demands placed on local distribution systems. As discussed in this report, Fresno has recently adopted a number of policies designed to identify and develop alternative sources of water, promote conservation measures to reduce the demand for potable water, and substitute potable water with recycled water wherever possible.

Sewer capacity upgrades are needed to accommodate currently-planned population growth and associated wastewater loading. To offset water demand for non-potable uses, plans are currently underway to expand and further establish the City's Recycled Water System, including the installation of tertiary treatment facilities.

Stormwater infrastructure suffers capacity-related limitations during large rainfall events in some areas. The Plan Areas are characterized by large impervious areas, and contain areas that are susceptible to localized nuisance flooding. Proposed development is not expected to exacerbate this condition, and will likely even improve the current condition, because total runoff is not anticipated to increase.

As the City of Fresno moves toward a resource efficient future, the manner in which infrastructure integrates into the framework of the Plan Areas will be critical to the success, viability, and continued growth of these unique places and facilities. Implementation of the plans and design methodologies set forth in the FCSP and DNSP and referenced in this report will help the City to achieve its development goals while providing high quality utility services to residents, visitors and commercial interests.

2. Wet Utilities

Wet utilities within the combined Plan Area will be affected by an overall increase in population and density as downtown Fresno continues to develop. This section identifies the changes in capacity requirements anticipated to result from this development and describes specific infrastructure improvements that will be needed to accommodate the changes. The section is divided into three parts: Potable Water, Wastewater and Recycled Water.

2.1 Potable Water

Overall use of potable water is projected to increase as growth occurs within the Downtown area in accordance with the proposed Fulton Corridor Specific Plan and the Downtown Neighborhoods Community Plan. To quantify these changes in demand, this section presents estimates of existing water use based on information presented in the City's 2008 Urban Water Management Plan (2008 UWMP),[1] and calculates future use based on modified demand rates developed as part of this analysis.

2.1.1 Existing Conditions

2.1.1.1 Potable Water Sources

Presently, the City of Fresno uses a combination of groundwater and treated surface water to meet its demands. Total use of these sources was projected to equal approximately 163,300 acre feet (af) in 2010, according to the 2008 UWMP (see Table 2.1 in Appendix 2).

Surface Water

Surface water is supplied from three sources:

- United States Bureau of Reclamation (USBR): 58,200 acre-feet/year
- Fresno Irrigation District (FID) contract for Kings River water: 94,800 acre-feet/year
- Water available through the City's Wastewater Recycle Exchange Agreement with FID: 13,800 acre-feet/year

The "normal year" contract volumes shown were projections for the year 2010 in the 2008 UWMP. The USBR and FID Recycled Exchange volumes are not

[1] City of Fresno, Urban Water Management Plan, August, 2008, Table 5-5.

anticipated to change, but the FID volume is scheduled to increase to 133,300 acre-feet/year (af/yr) by the year 2030, bringing the total surface water supply to 205,300 af/yr. It is noted these average amounts for the USBR and FID contracts may vary widely from year to year, depending on rainfall conditions. According to the City's 2008 Urban Water Management Plan (2008 UWMP), the total available surface water supply could range from a maximum of 233,700 af/yr under "wet" conditions to a minimum of 96,800 af/yr under "critical-low" conditions.

These available surface water supplies are treated at the City's Surface Water Treatment Facility (SWTF) located in northeast Fresno. The existing SWTF has a design capacity of 30 MGD. Based on this design capacity, and assuming the SWTF is down for a total of 30 days throughout the year for maintenance activities, the SWTF can provide up to approximately 30,800 af/yr of treated surface water. Due to additional operational constraints, the SWTF has a current capacity of only 27.5 MGD, or about 28,300 af/yr with a historical average of around 19,100 af/yr. Current plans call for increasing total treatment capacity through improvements at the SWTF and construction of a second plant to 123,400 acre-feet/year, or 60 percent of the City's planned normal year surface water supply.

Groundwater

The City is one of many water purveyors that use groundwater from the Kings Subbasin, which is part of the greater San Joaquin Valley Groundwater Basin (SJV Basin). The City currently operates approximately 250 active municipal supply wells within the Kings Subbasin to supply a major portion of its total demand. Until late 2004, Fresno relied solely on pumped groundwater to meet all demand within its service area, but began utilizing surface water in that year because the Kings Subbasin had been identified by the California Department of Water Resources (DWR) as one of eleven California groundwater basins in critical overdraft. To address this issue, the City and nine other public and private agencies have joined together to support the Fresno Area Regional Groundwater Management Plan, with the objective of monitoring, protecting and sustaining groundwater within the region. Of particular importance is a goal to "Correct the overdraft and stabilize groundwater levels …" Accordingly, the City has made it a key objective to balance groundwater operations by the year 2025, so that groundwater pumpage equals inflow to the groundwater subbasin.

To achieve the goals of the Groundwater Management Plan and ensure the long term viability of its groundwater resource, Fresno's reliance on groundwater for potable use declined from 100% to 88% between 2004 and 2007, and is projected to further decline to 40% by 2030. As outlined in the 2008 UWMP, the total planned water supply for the year 2030 is 249,000 acre-feet, which is 85,700 acre-feet more than was projected for 2010 supply (actual figures for 2010 are not available). Over this 20-year period, the use of surface water is projected to grow by approximately 92,000 acre-feet, the use of groundwater is projected to decline by 31,000 acre-feet, and the use of recycled water (to replace potable water for permitted uses) is projected to grow by more than 24,000 acre-feet. Table 2.1 in Appendix 2 shows a summary of the City's anticipated water supplies, as outlined in the 2008 UWMP. [2]

Plan Area Supplies

In 2009, West Yost Associates completed a hydraulic evaluation of the Downtown water supply network to determine whether the existing pipes and sources of supply had the capacity to meet increased demand associated with buildout of the 2025 General Plan.[3] Although the City's water system is completely interconnected, it is divided into four zones usually operated as stand-alone nodes that primarily rely on local groundwater supplies. Demand within the Downtown area is met by six existing groundwater wells (two are currently inactive), which had a total capacity in 2008 of 8327 gallons per minute (gpm), or approximately 12 million gallons per day (mgd). The 2009 Hydraulic Evaluation determined this would be insufficient to meet future peak demands while also providing a minimum 3500 gpm fire flow to the areas of highest density, and so recommended replacing the two inactive wells with a single new well and rehabilitating a third well to increase its capacity.[4] At the City's request,

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[2] The UWMP matched the City's future supply precisely to projected demand in the year 2030 by using groundwater to make up the difference between total demand and anticipated "normal" year supplies of surface water and recycled water. The targeted surface and recycled water volumes were chosen so groundwater use will continue to decline, but the City expects groundwater will remain a flexible source that will allow it to continue meeting all water supply obligations.

[3] West Yost Associates, Technical Memorandum: Hydraulic Evaluation of the Downtown Central Area, March 1, 2009. The "Downtown" area covered by the Technical Memo corresponds to the Fresno Triangle, which is bounded by Highways 99, 41 and 180. This area extends beyond the limits of the FCSP but excludes large portions of the DNCP.

[4] As noted in the text, the 2009 Hydraulic Evaluation studied an area that included all of the FCSP and a portion of the DNCP, so the recommendation to install new/rehabilitate existing wells was addressing a distribution system need that overlapped the subject Plan Areas. The DNCP includes another 13 active wells, but it is not known to what extent their service area

West Yost updated the 2009 Hydraulic Evaluation in 2011 in an attempt to find an alternative to the recommended well rehabilitation. The Update concluded that an enhanced connection to a seventh well, located outside the immediate Downtown area, would provide an equivalent supply benefit.[5]

2.1.1.2 Potable Water Distribution System

The City's potable water transmission and distribution system consists of:

1. Regional Transmission Main (RTM) System: Pipes generally 24 inches in diameter or larger that convey water from the Northeast Surface Water Treatment Facility (NESWTF) to neighborhoods throughout the City.
2. Transmission Grid Main (TGM) System: 16 inch diameter water mains that connect the RTM System and individual supply wells to local distribution zones.
3. Distribution System: A 1,740 mile network of distribution pipes that range in size from 6 inches to 14 inches in diameter, providing connections to individual customers and supplying the City's fire suppression system.
4. Storage Tanks: Reservoir storage that provides operational flexibility and additional peaking capacity to reduce demands on supply and transmission facilities.

In addition to the well improvements described above, the 2009 Hydraulic Evaluation determined that 3 million gallons of storage would be needed in the Downtown area to reliably meet fire flow requirements plus peak hour demands. The evaluation also concluded the area needed approximately 5270 feet of new 16-inch pipeline and 9050 feet of new 24-inch pipeline to ensure water supplies could be properly distributed throughout the Downtown, and to improve existing connections to outside wells and the City's surface water treatment plant. Installation of these major transmission mains would be in addition to replacement of an undetermined number of smaller pipes that may not be able to meet future, 2025 General Plan demands, depending on the distribution and density of development. The evaluation anticipated the City would assess the suitability of these existing facilities as it receives applications for development

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coincides with the DNCP boundary or whether additional wells (and other infrastructure, as described in the following paragraph) would be needed to serve this much larger planning area's build-out demands.

[5] West Yost Associates, Technical Memorandum: Hydraulic Evaluation Update of the Downtown Central Area, May, 2011.

and better defines localized demand conditions throughout the Downtown neighborhood.

The Hydraulic Evaluation mainly focused on the suitability of the Downtown distribution system to meet future demands, but the Fresno Department of Public Utilities (DPU) is also addressing issues related to the reliability and suitability of an aging pipe network. In the FCSP area alone, over 18,000 feet of pipe are known to have been installed before 1950, and another 20,000 feet of pipe are suspected to have been installed in the same time period. Thus, approximately 38,000 feet of existing water lines are either approaching, or have already exceeded the end of their useful life-cycle.[6] As a result, the City should also inspect or otherwise evaluate the condition of existing distribution piping as part of the Hydraulic Evaluation's recommended distribution system capacity assessment, prior to constructing right of way surface improvements associated with Downtown redevelopment efforts. Replacing deficient pipes as part of a larger street improvement program would generally lower the cost of replacement while greatly reducing the need to excavate newly paved streets to find and repair future leaks after an area has been redeveloped.

The existing FCSP water distribution system is shown in Figure 2.1 in Appendix 2.

2.1.2 Development Conditions

2.1.2.1 Existing Land Use

Existing land uses within both Plan Areas were determined from City of Fresno GIS data, which classifies parcels on the basis of the City's Land Use Codes. These codes were then consolidated to conform with the applicable Customer Class designations used to estimate water demand in the UWMP: Single Family Residential, Multi-Family Residential, Commercial/Institutional, Industrial, and Landscape Irrigation (Table 2.2). In addition, aerial photographs were examined to accurately identify parcels that were either vacant or under-utilized, which included uses such as surface parking lots and existing buildings that did not match the allowable FAR.

[6] Estimated lengths of aging pipelines are based on a 2010 analysis by Sherwood Design Engineers, using GIS files of the infrastructure within the FCSP Area provided by the City of Fresno.

2.1.2.2 Future Land Use

As described in Moule & Polyzoides April 28, 2011 Technical Memorandum, it was assumed that growth in accordance with the land uses and densities set forth in the proposed plans would only occur on parcels designated as currently vacant or underutilized.[7] Uses and densities on parcels considered to be already developed would not change. Based on this assumption (as further described below), it is estimated the total resident population within the combined plan areas would increase by 41 percent over 2010 levels under the maximum buildout scenario, to 99,081 by the year 2035. This total is only 312 persons lower than projected under the 2025 General Plan, a difference of less than one half of one percent, so there would be no significant change in the number of residents within the combined areas (see Table 1.3 in Appendix 1 for population projections under the current Municipal Code).[8] However, the proposed plans would shift density from the Downtown Neighborhoods into the Fulton Corridor, where there would be a higher concentration of multi-family units. This would bring more people and water consuming activities into the Fulton Corridor than would be expected under the 2025 General Plan, although only in the residential sector. Economic studies indicate there would be little change in the amount and mix of commercial/industrial development under either growth scenario, in both the FCSP and the DNCP, since these activities will continue to be market driven.[9]

The growth totals presented in the preceding paragraph are based on estimates of the number of square feet of residential, commercial or industrial space that could potentially be created on individual vacant and underutilized parcels, subject to the development restrictions assigned to each land use type by the FCSP and the DNCP. These restrictions were used to calculate potential maximum and minimum build-out conditions, which represented, respectively, the most intense development of each parcel's potential building envelope (minimum setbacks and maximum height) and the least intense (maximum

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[7] Technical Memo: FCSP & DNCP Development Potential, addressed to Wilma Quan, City of Fresno, by Moule & Polyzoides Planners & Architects, April 28, 2011. Calculation of future development capacity in the DNCP included only vacant parcels, while calculations for the FCSP included both vacant and underutilized.

[8] Ibid., Moule & Polyzoides Planners & Architects, April 28, 2011, Tables 8 & 9. Note that 12 percent of the projected FCSP and DNCP population growth (equal to 860 dwelling units, at an assumed 1.9 persons per unit) would occur as existing vacant or underutilized homes and apartments become fully occupied, as opposed to construction of new units.

[9] Personal communication, Juan Gomez-Novy, Moule & Polyzoides Planners & Architects, February 23, 2012.

setbacks and minimum height). The resulting FARs for each land use type were then averaged across a development zone to obtain a maximum and a minimum FAR for the zone. These FARs were then multiplied times the total number of square feet included within vacant or underutilized parcels to obtain the zone's total development potential, as measured in square feet. Finally, this total was then allocated among four land use classifications (residential, office, retail and industrial) on the basis of regional population growth and general market demands to estimate the amount of each type of development projected for each zone.[10]

Specific Plan:

Calculations performed using this methodology indicate the FCSP would support the construction of approximately 14.12 million square feet of new building space,[11] of which it is estimated 7.55 million would be residential uses and 6.57 million would be commercial or industrial uses. The residential development potential corresponds with the Fresno Downtown Neighborhoods Community Plan and Fulton Corridor Specific Plan EIR Notice of Preparation (NOP), which states the Fulton Corridor residential development potential could result in 6,293 new units, increasing the 2010 population by 11,958, to 15,834.[12] The Plan Area's commercial and industrial spaces would support more than 18,300 new jobs.[13] Please refer to Table 1.1 in Appendix 1 for a compilation of these development square footages and for a breakdown of the commercial/industrial totals into office, retail and industrial categories.

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[10] The derivation of average development zone FARs and the allocation of anticipated growth among the four development categories is described more thoroughly in the previously cited April 28, 2011 Technical Memo by Moule & Polyzoides Planners & Architects.

[11] Development potential numbers calculated for the Specific Plan Area were based on program data received by Sherwood Design Engineers on April 28,2011, and are based on areas delineated by Land Use Zone boundaries (ex: CBD1, CBD2, Chinatown District, etc), some of which extend beyond the boundary of the Specific Plan Area. These larger Land Use Zones result in higher gross square footages of buildable area across each type of development (Residential, Office, Retail, and Industrial) than reported in the April 5, 2012 public draft of the Fulton Corridor Specific Plan. According to Chapter 3 of this plan, the total development potential under maximum buildout of the FCSP is 13.20 million sf, consisting of 6,293 new dwelling 1200 sf units, 3.9 million sf of new office space, 1.6 million sf of new retail space and 145,085 sf of new industrial uses. Sherwood's gross square footage calculations reported here and submitted to West Yost Associates for modeling are greater, and thus more conservative, than the figures reported by the Fulton Corridor Specific Plan. The areas utilized by Sherwood for the Specific Plan Area water demand calculations are shown graphically in Fig 1-3 in Appendix 1.

[12] Notice of Preparation and Scoping Meeting. City of Fresno, DARM Department. April, 2012.

[13] Op.Cit., Moule & Polyzoides Planners & Architects, April 28, 2011, Table 10.

Community Plan: Growth potential within the DNCP is presented in Table 1.2, which shows that development of vacant parcels would support 9.7 million square feet of new construction, with 4.4 million square feet of new housing and 5.3 million square feet of new commercial/industrial space (Table 1.2 in Appendix 1). Residential units were still assumed to average 1200 square feet per dwelling unit, but this Plan Area would likely be more family oriented, so each home would contain an average of 4.13 persons. As a result, there would be about 3,700 new homes with 15,268 residents, increasing the 2010 population to 81,612. New commercial development would generate an estimated 11,800 jobs.

2.1.3 Water Demand Analysis

2.1.3.1 Existing Water Use

The 2008 UWMP projected future water use throughout the Fresno Water Service Area by applying land use based demand rates to the estimated number of acres within each of the five Customer Classes listed in Section 2.1.2.1 (the UWMP actually used six Classes, but one was developed specifically for the Southeast Growth Area and so does not apply to Downtown water demand). These rates, which are expressed as acre feet of water demand per acre per year, were applied in this analysis to the estimated number of acres, measured on the basis of individual parcels, contained within each Customer Class in the FCSP and the DNCP. In both Plan Areas, only parcels with no buildings (such as parking lots and vacant land) were assumed to have no existing water demand.

Using this information, it was determined that existing (2010) water demand in the Specific Plan area was approximately 684,000 gpd, of which 513,000 gpd was attributed to developed parcels and 171,000 gpd to vacant and underutilized parcels (Table 2.3 in Appendix 2). In the Community Plan area, by contrast, total demand was estimated to be approximately 11.2 million gpd with 178,000 gpd attributed to vacant parcels. The results of this analysis are presented in Table 2.4 in Appendix 2, but it is noted they cannot be directly compared with demands calculated for the 2008 UWMP. This is because demand estimates presented in the UWMP were developed for the entire City, with no breakdown by individual neighborhood. However, the unit demand rates used for this existing condition analysis were taken from the 2008 UWMP, so it can be assumed the results are consistent with the conclusions reached in that document.

2.1.3.2 Future Water Demand – Proposed Development Program

The land use demand rates used to calculate existing condition water use were developed to reflect City-wide demand conditions. As a result, they were based on the suburban densities that are typical in Fresno, and do not necessarily reflect the generally higher densities and levels of development anticipated throughout the Downtown. To refine these demands and obtain a more accurate estimate of future water use in the FCSP and the DNCP, the demand rates were modified to reflect actual building square footages, rather than just parcel areas. These modified rates were based on studies of a similarly dense California urban area with metered service, to more accurately reflect future conditions within downtown Fresno.[14] They were applied to all vacant and underutilized parcels in the FCSP and to all vacant parcels in the DNCP, while assuming water demand would remain mostly unchanged on parcels classified as already developed in the FCSP and on parcels classified as either underutilized or already developed in the DNCP.[15] Because the proposed plans only specify the anticipated mix of development within each development zone, it was not possible to assign a specific demand rate to each parcel. Instead, a weighted average of the anticipated water demand for each land use based on this mix (in accordance with the land uses set forth in Table 1.1) was calculated for each zone, and the resulting rate was applied to the development potential of each parcel as calculated through application of the zone's planned FAR.

The dwelling unit and building square footage totals listed in Section 2.1.2.2 for future development of vacant and underutilized parcels were multiplied times these new demand rates to calculate water use attributable to future development. This subtotal was then added to the demands for already developed parcels to estimate the total future water demands listed below and presented in detail in Tables 2.5-2.6 of Appendix 2. As the table shows, these demands were broken down by Development Zone within each Plan Area to facilitate evaluation of the local distribution system, as described below.

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[14] It was determined that wastewater generation rates developed by the City of Oakland would provide a good match for future water use/wastewater generation within Fresno's downtown areas, owing to the mixed use nature of much of the development within Oakland's boundaries. To convert wastewater generation into water demand and account for water that does not end up in the sewer, the wastewater rates were increased by a uniform 20 percent. The resulting rates, which were applied to the future development of vacant and under-utilized parcels, are shown in Tables 2.5 and 2.6 of Appendix 2.

[15] Although existing levels of water use were held constant for most demand categories, the future demand rate was reduced by approximately 8.5 percent after 2010 for single family homes, in accordance with 2008 UWMP demand projections.

The results of this analysis were provided to West Yost Associates for use in the water distribution network model, as described below in Section 2.1.4.1.

Specific Plan: Using the methodology outlined above, demand on all currently vacant and under-utilized parcels in the FCSP at maximum build-out (some of which have existing water use) is expected to be approximately 2.81 mgd. This would be an increase on these parcels of 2.64 mgd over existing conditions, and it would raise total water use to 3.32 mgd when combined with an estimated demand of 0.51 mgd on already developed properties.[16]

Community Plan: Projected water demand is expected to rise in the Community Plan area by 2.71 mgd if all currently vacant parcels are built out to the maximum limit permitted under the proposed plan. However, this would be partially offset by an approximately 0.49 mgd decrease in demand resulting from increased conservation by existing water users, in accordance with the UWMP. As a result, total water use is expected to rise from 11.86 mgd to 14.07 mgd, or 2.21 mgd higher than the area's estimated existing demand.

Water Demand Summary: Comparison to Current Municipal Code & UWMP For residential development, the General Plan projected the combined FCSP and DNCP areas would accommodate a total of 99,393 residents at buildout. The proposed development plans, by contrast, estimated these combined areas would accommodate 99,081 residents, a reduction of only 312 people, or less than one half of one percent. Similarly, based on economic studies prepared as part of the FCSP and DNCP planning process, it is assumed that commercial and industrial development will be largely market driven, so the amount and type of development that actually occurs should not differ substantially from the projections made for the 2025 General Plan. Consequently, it can be concluded that maximum build-out under the proposed development programs will be essentially the same as it would be if development proceeds in accordance with the current Municipal Code.

Development of the FCSP and DNCP in accordance with the proposed development plans would increase total water use in these portions of

[16] The previously cited existing condition flow of 684,000 gpd included approximately 171,000 gpd from underutilized properties the specific plan assumed would undergo redevelopment. As a result, the existing condition flow added to the calculated flow from new development is only 513,000 gpd (684,000 – 171,000).

Downtown by approximately 4.84 mgd by the year 2035, as compared to 2010 levels of demand. Of this total, water use in the FCSP would increase by approximately 2.64 mgd and water use in the DNCP would increase by approximately 2.21 mgd. As previously noted, the 2008 UWMP did not estimate Fresno's future water demand by neighborhood, so it is not possible to directly determine if it accounted for these localized levels of growth. However, comparisons can be made by converting total water use into per capita water demand, which the UWMP also calculated.

As shown in Table 2.7, estimated per capita water use within the FCSP and the DNCP was roughly equal in 2010 (the "existing" condition year), and both were more than 20 percent lower than in the City as a whole. City-wide per capita consumption under future conditions (assumed to be the year 2035 for this report, but projected as the year 2030 in the 2008 UWMP and in Table 2.7), is expected to increase by approximately eight and one half percent, while this analysis indicates per capita consumption will rise by nearly 17 percent in the FCSP and fall by three and one half percent in the DNCP. This growing disparity between the Plan Areas is related to the higher levels of commercial/industrial development proposed within the FCSP, which increases the residents' per capita demand, and also to the higher resident densities per dwelling unit anticipated for nearly all of the new housing in the DNCP, which lowers per capita demand. Despite these differences, both Plan Areas would use significantly less water on a per capita basis than the City as a whole, which suggests the projected increased water use, at least within these two parts of the Downtown, was accounted for in the 2008 UWMP's future demand estimates. As a result, development of the FCSP and DNCP in accordance with the proposed plans should not require any modification of the City's existing long range water supply plans. However, as further described below, differences in the distribution of this growth throughout the Downtown could have localized effects on the water distribution system.

2.1.4 Infrastructure Improvements

2.1.4.1 Methodology and Results

Water Distribution System—Specific Plan Area

In 2011, West Yost Associates re-examined the Downtown distribution system, but with a focus on the FCSP to identify deficiencies that might prevent it from

adequately serving the Plan area's anticipated growth in demand.[17] Inputs to the model included the per parcel demands calculated in Section 2.1.3.2, plus a fire flow requirement of 3500 gpm at 20 psi residual pressure.[18] To replicate conditions that occur during the periods of peak demand used to design distribution systems, WYA increased the average flow rate computed for each parcel by a factor of 2.9 before adding in the fire flow, at varying locations. In this way, the model was able to identify the worst case combination of peak domestic demand and localized fire flow demand for determination of the capacity and associated pipe size needed for each water main segment. The full report prepared by WYA is attached as Appendix 6.

As a basis for WYA's modeling effort, it was assumed the improvements recommended in the Downtown Central Area Hydraulic Evaluations performed in 2009 and 2011 would be constructed: new 16 and 24-inch water mains, well improvements, plus 3 mg of new storage. As a result, the Fulton Corridor Hydraulic Evaluation only identified the additional system upgrades needed to supplement these facilities as required to meet future demands. These upgrades included replacing approximately 1,400 linear feet of existing small diameter pipes with 8-inch lines, installing approximately 7,660 linear feet of new 8-inch lines, and constructing 1.5 MG of storage in addition to the 3 MG already planned for this area. It is assumed the previously identified site for the planned Downtown tank will be able to accommodate this additional storage, so a second tank site would not be required. The results of WYA's modeling are shown graphically in Figure 2.3 (Appendix 2), and the full technical memorandum is provided in Appendix 6.

It is noted that although these water system improvements are in addition to those listed in WYA's 2009 Hydraulic Evaluation and 2011 Update, those studies anticipated that more improvements would ultimately be needed, but could not be identified until future patterns of development were better defined. The improvements recommended in the Fulton Corridor Hydraulic Evaluation

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[17] West Yost Associates, Hydraulic Evaluation of the Proposed Fulton Corridor Plan Project, July 22, 2011.

[18] On the basis of proposed building type and height, fire flow requirements in some areas could be as high as 6250 gpm. However, because the City expects these demands will be mitigated through installation of building sprinklers, a City Fire Protection Engineer instructed WYA to use a maximum fire flow demand of 3500 gpm throughout the plan area. Consequently, the City would need to enact a policy requiring the use of sprinklers in all buildings above a minimum size to ensure adequate levels of fire protection if the local distribution system is improved in accordance with the results of the West Yost analysis.

represent this next level of design evaluation, in accordance with the land uses proposed in the FCSP. However, within planned mixed use areas like the FCSP, it is not practical to firmly identify either the size or extent of water system improvements that may ultimately be required until the level and distribution of development can be more accurately determined. As a result, the improvements described in the Hydraulic Evaluation may still need revision. It is not anticipated this would result in significant changes to any identified construction-related impacts, though, because:

- The minor changes in pipe diameter these revisions would likely entail would have little effect on the construction process or on existing utilities in the vicinity.
- If new pipeline segments not currently identified as needing replacement or upgrading are added to the construction program, it is expected there would be a corresponding reduction in the number of already identified segments. This is because higher water demand in one area would be matched by reductions in another, since the overall demand for water under the proposed development program would remain unchanged.
- Aside from potentially different traffic control requirements, it is anticipated construction impacts associated with pipeline construction in any part of the FCSP or the DNCP would be similar to all other areas, so a change in the location of required improvements, or even an expansion of the pipelines program, should not introduce impacts that have not already been identified and mitigated.[19]
- The overall demand for water is not expected to change significantly from the projections presented in this report, so modifications to the Hydraulic Evaluation's pipe improvement program should have no effect on the City's water supply or on the construction or size of planned storage facilities.

Water Distribution System—Community Plan Area

The Fulton Corridor Hydraulic Evaluation did not include the DNCP, so there are no specific recommendations for distribution system improvements, additional storage facilities or new supply wells to serve build-out of this larger

[19] It is recognized that introduction of water system improvements into an area where none are currently proposed could generate previously unidentified impacts in the vicinity of sensitive noise receptors (eg. medical facilities), or require special construction measures to protect archaeological sites or historic buildings. Identification of these and other parcel-specific construction constraints is beyond the scope of this analysis, and can only be addressed in the context of general mitigation measures to be employed in the event such constraints are encountered.

area. As noted above, though, the (maximum) build-out population would be nearly identical to that envisioned under the 2025 General Plan, and no significant changes are anticipated in the overall level of commercial/industrial development. Consequently, total consumptive water demand under the proposed plan would be largely unchanged from General Plan projections, so it is expected the area's existing water distribution network would support densification of the Plan Area in accordance with the DNCP, as long as the City continues to implement recommendations set forth in the 2008 UWMP and in the Fresno Metropolitan Water Resources Management Plan.[20] It is noted, though, that individual pipelines may require upgrades beyond those recommended in these studies to accommodate both higher fire flows and higher localized demands associated with the proposed concentration of development along the Plan Area's commercial corridors.

In addition, Micheal Despain, Deputy Chief and Fire Marshal of the Fresno Fire Department, has stated that Densification of the Downtown Community Plan Area is consistent with the Fire Department's goals of faster response times and reduced staffing requirements, through the establishment of fewer, more centralized, fire stations.[21] As noted above, though, densification can result in a need for higher fire flows. The Fire Department expects the City's minimum fire flow requirement of 1500 gpm would be adequate within the Community Plan Area for densities up to a four-plex multi-family building, but 6-plex and 8-plex buildings would require flows of 2500 gpm. However, the Fire Department is concerned that all parts of the existing distribution system might not be able to accommodate these higher flow rates, so flow and pressure testing would be needed to identify where deficiencies exist. In such areas, fire flow requirements could potentially be reduced through the installation of commercial fire sprinkler systems and adequate fire walls (as described for the FCSP), so it may not be necessary to upsize all pipes with insufficient capacity. However, the City would still have to perform regular maintenance and install system upgrades on an as-needed basis.

In the event that distribution system upgrades are required as the DNCP develops, construction and the associated impacts would be similar to what is anticipated in the FCSP, with little difference on the basis of specific location. As

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[20] Martin Querin, PE, Fresno Department of Public Utilities, personal communication with Sherwood Design Engineers, January 25, 2012.

[21] As per conversation with Michael Despain, Deputy Chief and Fire Marshal of the Fresno Fire Department, on November 15, 2011.

a result, the limitations on constructed-related impacts described for the FCSP would apply equally to the DNCP.

2.1.4.2 Demand Reduction Policies and Programs

Although residential population growth throughout Fresno will increase overall domestic water use, the City has outlined a number of initiatives designed to slow the rate of increase and lower its future water supply requirements. These initiatives are focused in two areas: increasing the use of recycled water for irrigation and decreasing per capita use of potable water.

According to the 2008 UWMP, a number of large landscape conservation programs are currently being implemented, and the City expects the use of recycled water for irrigation to increase from 750 acre-feet per year to 25,000 acre feet per year between 2010 and 2025. Because densification of the Downtown Plan Areas would not substantially increase the amount of irrigated landscape, use of recycled water for existing landscaping should offset some of the projected growth in total domestic demand. This use, however, would depend on development of the treatment capacity and distribution facilities needed to convey recycled water into Downtown. As described in Section 2.3, major recycled distribution lines have been proposed for extension into the Downtown, but it is unknown when water would actually become available. As a result, the water use estimates presented above assume that all future demand would be met by the potable supply and distribution system.

The City's projected recycling-related reductions in potable demand would only be achieved on commercial/industrial or institutional landscaping, since there are currently no plans to provide recycled water for residential use. To help capture some of the potential water savings within this sector, the City in 2011 adopted an amendment to Municipal Code Chapter 6, Article 5, Section 6-520, which discourages outdoor water use through mandatory watering schedules, restrictions on the installation of turf and lawns, and fines for water wastage. It is assumed this ordinance, which is applicable to all customers served water by the City of Fresno and is in effect year round, will help reduce the volume of water used for irrigation purposes throughout the City, even where recycled water is not available.

In addition to these efforts to reduce irrigation demand, the 2008 UWMP included a number of recommendations designed to reduce per capita water usage. With implementation of these recommendations, per capita demand

(encompassing all water use in the city, not just in the home) is projected to decline in a series of steps by a total of 19%, from 300 gallons of water per person per day in 2007 to 243 gallons per person per day in 2020. Much of this reduction will be accomplished through installation of meters for all single family homes (all other services are currently metered), resulting in a gradual increase in conservation by all water users. According to the 2008 UWMP, nearly 85% of all accounts were still unmetered, accounting for roughly 60% of total water use, so transition to the lower demands typically associated with metered versus unmetered services is anticipated to provide the largest share of the projected reduction in City-wide per capita demand. These reductions would likely be more significant in the area of the DCNP than within the urban core covered by the FCSP, because so much of the Community Plan consists of existing single family housing. Meters tend to encourage reductions in indoor water use, but the largest benefit typically comes through the disincentive meters create for excessive landscape irrigation. Irrigation generally accounts for a high percentage of residential water use throughout the Central Valley, so installation of meters should provide a strong complement for the Municipal Code restrictions described in the previous paragraph.

In February, 2011, the City Council renewed its commitment to the meter installation goal by adopting Resolution No. 2011-17, which appropriated funds to continue the effort. Current plans call for all residential services to be metered by 2013. Completion of this program, plus realization of the water savings resulting from the additional conservation measures described in the 2008 UWMP, should help offset what would otherwise be a greater increase in total water use caused by general population growth and by densification in the Downtown Area

It is noted the anticipated effect of Municipal Code restrictions, other conservation measures, and particularly the meter installation program, is reflected in the demand rates used in the 2008 UWMP. It assumed there would be an overall 5 percent reduction in demand between 2005 and 2010, across all customer classes, and a 10 percent reduction for single family homes between 2010 and 2025, as the meter installation program reaches all parts of the City. As a result, the water savings described in this section have been incorporated into the demands calculated in Section 2.1.3.2 for already developed parcels. These demands do not, however, include the additional 10 percent reduction in per capita demand (to the previously cited 243 gpcd) the UWMP recommends the City achieve by the year 2020 to help extend the adequacy of its currently identified water supplies.

2.1.4.3 Design Outcomes

Based on the plan assumptions and conditions presented in Moule & Polyzoides' April, 2011 Development Potential Technical Memo, the replacement of existing pipes, the installation of new pipes, and the provision of additional storage, as described in Section 2.1.4.2 and shown on Figure 2.3 of Appendix 2, would be adequate to meet the anticipated increase in future potable water demand and fire flow requirements within the Fulton Corridor Specific Plan Area. In addition, the Fresno DPU expects that planned upgrades to the existing distribution system that serves the Downtown Neighborhoods Community Plan Area, with minor modifications, will allow it to also meet all future condition demands. It is noted, though, that the future use of recycled water has not been incorporated into any of the demand projections, so if the necessary distribution facilities are extended into Downtown in accordance with current plans, both total potable water use and peak demands could be lower than estimated in this report.

2.2 Sanitary Sewer/ Wastewater Treatment

Population growth and increased commercial activity will increase wastewater generation within the FCSP and the DNCP. The following analysis of sanitary sewer/wastewater treatment systems includes calculations made to estimate the volume of this increase and to identify the improvements needed to accommodate the resulting higher wastewater flows. As noted below, these calculations are largely based on information presented in the City's 2006 Wastewater Collection System Master Plan (WCSMP), prepared by Brown and Caldwell Engineers.

2.2.1 Existing Conditions

2.2.1.1 Wastewater Treatment

As a condition of a Clean Water Grant issued by the Federal government, the City of Fresno was designated the Regional Sewer Agency for the Fresno-Clovis Metropolitan Area (FCMA) in 1966. The City currently operates the Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF) under a Joint Powers Agreement with Clovis and the County of Fresno. The 3000-acre RWRF was originally constructed in 1947, and is located inside the City limits but within a non-contiguous area situated about 3.5 miles southwest of the Chandler Executive Airport. Over the past 65 years, the RWRF has been expanded and rehabilitated several times; most recently in 2010when process units were added to the facility to address high organic concentrations within incoming wastewater. The treatment plant includes a number of redundant facilities that allow for regular maintenance and provide backup capacity in the event of equipment failure.

In the Public Facilities Element of the 2025 Fresno General Plan, it was estimated the current FCMA population of 482,000 would increase to 790,000 by the year 2025. Multiplying this population estimate times a net wastewater generation factor of 110 gallons per capita per day indicates Fresno and the areas it serves will require a base treatment capacity of approximately 87 MGD in 2025.[22]

[22] This generation factor was obtained by dividing the total volume of all wastewater produced in the City, by residents, businesses and institutions, by the total service area population, thereby allocating wastewater generation solely on the basis of population. The factor is an estimated value provided by representatives of the Fresno DPU, based on recent measurements of average flow rates at the wastewater treatment plant. Note it is approximately 15 percent lower than the per capita generation factor used in the 2025 General Plan, but it was decided this lower factor provides a more accurate reflection of future conditions, since it accounts for the reductions in per capita water use currently being envisioned in the City's water supply studies.

While the City supports maintaining the RWRF as the area's principle wastewater treatment facility, sub-regional facilities could potentially help accommodate the growth outlined in the 2025 General Plan. In 2001, the City completed a subregional satellite wastewater treatment plant study, which concluded an 8 MGD satellite plant would be needed to serve the North Growth Area, and a 24 MGD plant would be needed for the southeast quadrant of the City. This latter plant was designed to serve growing areas in both the City of Fresno and the City of Clovis, but, since completion of the study, Clovis has decided to construct its own phased 8.4 MGD treatment plant to treat flows in excess of its RWRF capacity allocation. At this time, Fresno is still considering construction of the Southeast satellite plant, with a reduced capacity that would include an allowance to account for possible future flows from Clovis.[23] It is noted that neither of the planned satellite treatment plants would serve the FCSP or the DNCP. All wastewater generated within these areas will continue to be treated at the RWRF.

2.2.1.2 Wastewater Collection System

In addition to operating the RWRF, Fresno owns and maintains the wastewater collection system for the City and for the following agencies that are also served by the RWRF: County of Fresno, Pinedale Public Utility District, and Pinedale County Water District. Additionally, the City owns and maintains the sewer trunk system that serves the City of Clovis. In total, the City's wastewater collection system consists of:

- 23,000 manholes
- 15 lift stations
- Nearly 2 miles of force mains
- 54 junction structures, and
- Approximately 1,500 miles of gravity sewer pipes ranging from 6" to 84" in diameter.

Based on its 2006 Wastewater Collection System Master Plan, the City has established an on-going program to address operational challenges found throughout its collection system. These include aging facilities, incomplete coverage of the service area, a lack of capacity and, most notably, corrosion of concrete sewers caused by high sulfide levels in the wastewater stream. The

[23] WCSMP, Chapter 1.

improvement projects designed to address these problems can be divided into the following categories:

- *Infill* to reach currently unserved areas
- *Replacement* of failed or undersized lines
- *Rehabilitation* of corroded or otherwise deteriorated lines
- *Relief Sewers* to provide additional peak flow capacity

Some of these improvement projects have already been completed or are underway. The existing sewer system is shown in Figure 2.4 (Appendix 2)

2.2.2 Proposed Conditions

The Fulton Corridor Specific Plan and the Downtown Neighborhoods Community Plan propose a modest transfer of density from the DNCP to the FCSP, as compared with the 2025 General Plan. This transfer would modify the previously envisioned distribution of wastewater generation by residents and businesses throughout the Downtown Area. Under either planning scenario, though, (the proposed plans or the 2025 General Plan) wastewater generation will increase as growth occurs over the next 25 years.

For the purposes of this wastewater analysis, it was assumed growth within the two Plan Areas will occur as described in Section 2.1.2, on currently vacant or underutilized parcels. As shown in detail in Table1.1 of Appendix 1, this will result in a maximum of 6,291 new or reoccupied dwelling units and 6.5 million square feet of new or repurposed commercial/industrial space within the FCSP. At an assumed density of 1.9 persons per dwelling unit, there will be almost 13,600 more residents at maximum build-out of the Plan Area than there were in 2010.[24]

In the DNCP, by contrast, it was not assumed there are any unused residences or commercial/industrial spaces that will be occupied in the future, so all growth will occur as new development of currently vacant properties. According to the DNCP development program, build-out will produce a maximum of 3,697 new dwelling units and 5.3 million square feet of new commercial/industrial space (see Table 1.2, Appendix 1). At this area's higher assumed density of 4.13 persons per dwelling unit, the resident population is projected to grow by approximately 15,300 people by the year 2035.

[24] The estimated population includes reuse of 860 existing dwelling units that are currently unused, which would increase the total number of new residential units to 7151 at maximum buildout.

2.2.3 Wastewater Volume Analysis and Results

2.2.3.1 Specific Plan

Existing Wastewater Generation

Existing Average Dry Weather Flows (ADWF) within the Specific Plan Area were estimated by assigning each parcel in the FCSP to one of the land use classifications established for the UWMP and used in the previous section's water analysis. An estimated wastewater generation rate, equal to approximately 83 percent of total existing condition water use for each classification, was then multiplied times the measured parcel area to calculate an existing wastewater flow.[25] The resulting flows were summed by collection area to obtain the ADWF for each contributing sewershed, and the collection areas were summed to obtain a total for the entire FCSP. To estimate the peak flow rates that are used to determine the capacity needed for pipes and other collection facilities, the ADWF was multiplied by dry weather peaking factor of 1.49 used in the Wastewater Collection System Master Plan (WCSMP) to account for fluctuations in wastewater flow over the course of a year, and then increased by 10,000 gpd per acre to account for the combined effects of infiltration and inflow (jointly referred to as I&I).[26]

This analysis indicates the existing average dry weather wastewater flow in the FCSP is 0.568 mgd, peak dry weather flow is 0.846 mgd, and peak wet weather flow is 4.41 mgd, as shown Table 2.8 in Appendix 2. The existing wastewater collection system within the Specific Plan Area is shown in Figure 2.5.

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[25] These generation rates are approximately one third lower than those used in the WCSMP, but comments provided by Steve Hogg with DPU (DATE) indicate the City is seeing indications of lower flow than the WCSMP figures would suggest. As a result, and to ensure consistency with the water analysis, it is assumed that existing wastewater generation rates are a function of water use as estimated in the UWMP.

[26] The WCSMP classifies I&I as groundwater-dependent or rainfall-dependent. It concluded there is no groundwater infiltration owing to its depth below the surface (typically at least 30 feet), but the age and condition of the collection system result in significant rainfall infiltration. This occurs when percolated rainfall seeps into pipe joints and manholes, and when unapproved storm drain connections discharge directly to the wastewater collection system. According to the WCSMP, the existing City-wide I&I rate is 500 gpd/acre, but flow metering indicates it may be as high as 10,000 gpd per acre throughout the Downtown area, suggesting the widespread existence of unapproved connections.

Future Wastewater Generation

As described in the Water Supply Section, estimates of future wastewater flow within the downtown study areas are based on the square footage of development that can be achieved on each vacant or underutilized parcel, rather than on the area of the parcel itself, while actual rates of wastewater generation were taken from a comparable mixed use, urban neighborhood. These rates were averaged within each development zone to account for the anticipated mix of land uses shown in Table 1.1, and then applied uniformly throughout the zone to each parcel's development area. Calculations were performed to estimate total wastewater flows under both the Maximum and Minimum FAR conditions. These flows were then increased by the same factor used for existing developed properties to obtain peak dry weather flow, and I/I was added at the rate of 1,500 gpd/ac (as specified by the WCSMP for new Downtown development) to arrive at a peak wet weather flow generated by each parcel.[27] These flows were then added to those previously calculated for already developed parcels to arrive at a total for each collection area and for the entire Specific Plan Area, as shown in Table 2.8 of Appendix 2.

Based on this analysis, average dry weather flows would increase by approximately 2.2 MGD, to 2.76 mgd at maximum build-out, and peak dry weather flows would increase by 3.27 MGD to 4.12 mgd. Peak wet weather flows would increase by a lesser amount, though, since it is anticipated the elimination of illegal storm drain connections on redeveloped parcels would reduce I&I by approximately 0.56 MGD, resulting in a total flow of 7.13 mgd. These projected changes in wastewater flows within the FNSP are shown in Table 2.9 and illustrated on a per parcel basis in Figure 2.5 of Appendix 2.

The projected increase in average dry weather flows, which are significant in gauging required treatment capacity, would result from the densification anticipated to occur as the Downtown is built-out to the levels envisioned in the proposed Specific Plan. As noted in the Water Section, though, the amount of development the plan would permit is not substantially different from what could occur under the 2025 General Plan, so little change is anticipated in overall

[27] Because existing I&I rates are so high in the Downtown, the WCSMP recommended reducing peak wet weather flows by repairing leaky sewers and removing unapproved storm drain connections (in areas with lower I&I rates, it is usually more cost effective to simply accommodate I&I in the design of the collection and treatment systems). The Master Plan estimated the City could achieve a net rate of 1500 gpd per acre through an I&I prevention program, so this value was used in the estimation of peak wet weather flows from redeveloped parcels.

wastewater flow. However, because the FCSP would change the distribution of this development, it would have different impacts on the existing collection system. To evaluate these differences, the results of this flow analysis were provided to the City of Fresno for use in their wastewater system model, as described in a following section.

2.2.3.2 Community Plan

Actual wastewater flow calculations were not prepared for the DNCP, but the growth scenario proposed under the plan has been reviewed by the City, which concluded that the amount and distribution of densification, and its anticipated effect on total flows, is generally consistent with what would be allowed under the 2025 General Plan.[28] As a result, implementation of the DNCP would not result in a need for mainline upgrades or additional treatment capacity above what is already planned, although some localized segments of the existing collection system could require upgrades that had not been previously anticipated.

2.2.4 Collection System Analysis

To evaluate the impact of build-out in accordance with the FCSP on the existing Downtown collection system, the Fresno Department of Public Utilities performed a capacity analysis on the existing collection system using a version of the flow data presented in this report.[29] This analysis identified five potentially deficient pipe segments totaling 4740 feet in length, and ranging in size from 8 inches to 27 inches in diameter. Upgrades in all cases would be to the next pipe size, two or three inches in diameter larger. (These segments are shown on Figure 2.6, Appendix 2). According to the DPU, these results are only preliminary, and decisions on the need for and/or the size of any upgrades would be made as development progresses and requirements for additional

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[28] Doug Hecker, Supervising Engineering Technician, City of Fresno Department of Public Utilities, December 12, 2011

[29] *Sewer Capacity Study of Fulton Corridor Specific Plan Project Area*, City of Fresno Department of Public Utilities, July 15, 2011. A copy of this report is attached as Appendix 7. Note it is assumed this analysis is conservative, and thus preliminary, because it used peak wet weather flow rates that were approximately 10 percent higher than the results presented in Table 2.8. This difference primarily resulted from assumptions regarding the rate at which existing I&I conditions would be corrected as the plan area redevelops. Although the resulting rates were eventually determined to be unrealistically high, the DPU did not rerun its sewer model with the lower flow rates, so the list of needed upgrades it identified is considered to represent the upper limit of improvements that might ultimately be required.

capacity are better defined. This is because the modeling was based on build-out throughout the FCSP to the maximum permitted FAR, which may not occur in all areas.

The FCSP is served by six different trunk sewers that convey wastewater from different parts of the City through the Plan Area to the RWRF. The DPU capacity analysis did not identify any future project-related deficiencies in any of these large diameter sewer lines.

A capacity analysis was not performed for the DNCP, since, as described above, future wastewater flow rates were not determined. However, the densification review performed by the DPU identified three areas where higher concentrations of housing and commercial development could potentially result in wastewater flows that exceed previous estimates made for the Downtown area. As a result, the City expects it will pay particular attention to these areas and their resulting wastewater collection requirements as the neighborhood continues to build out.

2.3 Recycled Water

Future development within both the FCSP and the DNCP present opportunities for increased use of recycled water for landscape irrigation. However, this analysis is confined to the FCSP, because it is anticipated this area will see more of the large scale street improvements that make installation of a recycled water distribution system more cost effective. Consequently, although there may be substantial recycled water use throughout the DNCP in the future, these potential demands will not be evaluated at this time.

2.3.1 Existing Conditions

Except for incidental and evaporative losses, the total volume of treated wastewater effluent produced at the RWRF is currently used to irrigate farmland or is discharged to large percolation basins to help recharge the local groundwater aquifer. This allows the City to increase its groundwater pumping by an amount equal to the volume percolated, but the "excess" groundwater obtained in this way (excess above the level permitted under goals set forth in the Fresno Area Regional Groundwater Management Plan) is discharged into FID canals for delivery to FID's agricultural customers. Because this groundwater replaces a similar volume of surface water that FID contractors would otherwise use for irrigation, the City receives a surface water credit from FID for 46 percent of the water it pumps into the canals under the terms of the agencies' Wastewater Recycle Exchange Agreement, up to a maximum of 13,800 acre feet per year. Surface water obtained under this agreement is treated at the City's Surface Water Treatment Facility along with its other surface supplies, and pumped into the potable distribution system.[30]

To help reduce its use of limited potable water supplies and control groundwater contamination associated with percolation disposal, the City plans to begin using treated effluent from the RWRF for landscape irrigation and other approved uses by 2025. This would require upgrading at least a portion of the RWRF's treatment facilities to produce the tertiary quality effluent required for unrestricted use on publically accessible landscape. It is now estimated the use of recycled water will total 25,000 afy by 2025, with a high concentration in the Southeast Growth Area, where the necessary distribution infrastructure can be installed as the area is developed.[31] Other areas are also being considered, though, including additional undeveloped growth areas and portions of the

[30] City of Fresno, Urban Water Management Plan, August, 2008, page 4-5.
[31] City of Fresno, Urban Water Management Plan, August, 2008, page 4-19.

existing City where large uses that include landscape irrigation, industrial processes and dual plumbing systems in large buildings can be most efficiently served. [32]

Preliminary plans set forth in the City's Recycled Water Master Plan (RWMP)[33] and Ordinance: Notice of Preparation and Initial Study (ESA, May, 2010) show an extensive recycled water distribution system that will primarily serve northern areas of the City along the San Joaquin River and southern areas primarily located south of Highway 180. In the southwest quadrant of this southern system, coverage would be extensive in the industrial portions of the DNCP located west of Highway 99 and also along the western side of the FCSP. The RWMP included no information on potential uses for this water, so it offered no information regarding the amount of existing or future potable water use that could be offset with recycled water within these areas. However, projections of the volume of recycled demand within the FCSP prepared for this report are presented in a following section.

Although the recycled distribution system described in the RWMP is predicated on the use of effluent from the RWRF, an alternative included in the Master Plan proposes the construction of as many as four satellite reclamation facilities throughout the City. These smaller plants would be similar to the ones discussed in the Wastewater Section, and would substantially reduce the need to move both untreated and treated wastewater long distances before reuse. At this time, the City has not finalized plans for developing its recycling treatment and distribution infrastructure, but City staff has been developing an ordinance that would potentially require various types of properties to use recycled water for approved uses (in accordance with State Division of Health Services requirements) when it becomes available. The City Council has yet to consider such requirements, but it is noted that establishing these mandates in advance of when the system can actually deliver recycled water would allow property owners and developers to incorporate the necessary infrastructure into their building plans so they are ready to use the water once it becomes available.

The planned recycling at the RWRF and/or satellite plants would be in addition to an existing irrigation use of tertiary treated effluent from a City owned and operated water recycling facility in North Fresno, which was constructed to serve

[32] 2008 UWMP, Chapter 10.

[33] City of Fresno Recycled Water Master Plan and Ordinance: Notice of Preparation and Initial Study, Environmental Science Associates, May, 2010.

the Copper River Ranch. The output from this plant, proposed to be approximately 1250 afy at build-out of the development, could be used to irrigate the project's golf course and other landscaped areas in the vicinity. The amount of effluent used for golf course irrigation would replace a supply that now mainly consists of surface water from FID, which would free up an equivalent volume for alternate potable uses throughout the Fresno area.

2.3.2 Estimated Recycling Potential

The RWMP identified a number of different land uses where recycled water could be used for irrigation. Several of these, including schools, existing city-owned parcels, and parks proposed as part of the open space plan, are located within the FCSP boundary. In addition, the Specific Plan calls for the development of streetscapes with extensive plantings. Rough estimates of the potential irrigated areas associated with these land uses indicate there would be 32.9 acres around schools and parks, 34.5 acres of open space, and 8.4 acres of street right of way. This represents a total of about 76 acres that could be irrigated with recycled water within the built-out FCSP. These areas are shown graphically on Figures 2.7 and 2.8 (Appendix 2).

Note that for the purposes of this analysis, no estimate is made of other recycling opportunities, which can include industrial processes and toilet flushing in commercial buildings and high density residential projects. If extended to these potential uses in the future, the use of recycled water within the FCSP could be substantially higher than estimated in this report.

2.3.3 Recycled Water Demand and Distribution

Irrigation demand was estimated for the areas described above by subtracting average rainfall from the reference evapotranspiration rate for each month. It was assumed that all areas would be planted with ornamental grasses, which have a relatively high demand factor of 0.88, so the need for water would be only about 10 percent lower than the actual evapotranspiration rate minus rainfall. Applying this factor to a total irrigated area of 76 acres results in an average annual demand of 3,188 acre-feet, most of which would be applied between the months of March and November (rainfall would typically eliminate the need for irrigation during the winter months)

At this time, the 25,000 afy of recycled water the City plans to be distributing by the year 2025 has not been allocated to specific uses, but it appears utilization of

the volume calculated above for the FCSP could be easily accommodated by the available supply (although some reallocation away from the Southeast Growth Area may be required). It is noted, though, that unless a satellite treatment plant is located in the Downtown Area, the future use of recycled water within the FCSP will depend on when the RWRF recycled distribution system is extended into the project vicinity. In addition, because the City has not committed to the construction of a satellite plant in the FCSP or anywhere else, it can only be assumed at this time that all recycled water would be produced at the RWRF.

A preliminary layout of the distribution system needed to deliver recycled water to the identified opportunity sites is shown in Figure 2.7 (Appendix 2). It is tied into the backbone transmission system described in the RWMP, although the Figure also shows a potential site for a satellite treatment plant, located immediately east of the Specific Plan boundary, in the vicinity of Fresno City Hall and adjacent to the Fresno Water Tower.

3. Stormwater Management

The Fresno Metropolitan Flood Control District (FMFCD or the District) is responsible for managing urban stormwater runoff in the Fresno metropolitan area. The District boundary is located in the north-central portion of Fresno County, between the San Joaquin River and the Kings River, and FMFCD is authorized to control stormwater within a combined urban and rural watershed of approximately 400 square miles. The watershed extends eastward into the Sierra Nevada foothills to an elevation of approximately 4,500 feet above sea level, covering an area collectively referred to as the Fresno County Stream Group.

The main purpose of this section is to determine impacts to the existing stormwater infrastructure system based on the proposed plans are expected and discuss necessary infrastructure upgrades.

3.1 Existing Conditions

Stormwater collection in the project area begins in the street gutters that convey runoff to existing storm drain inlets and the underground stormdrain conveyance infrastructure. The gutters, as well as all public streets and sidewalks, are maintained by the City of Fresno Street Maintenance Division, which is responsible for keeping these surface storm drain facilities operating efficiently. The FMFCD stormwater system begins at the storm drain inlets and includes all downstream drainage facilities, including the underground pipes and pump stations that convey runoff to District-owned infiltration basins, which dispose of most annual runoff through percolation into the underlying groundwater table. The existing drainage system is shown in Figure 3.1 in Appendix 3. When storms generate larger volumes of runoff than these basins can handle, it overflows into a network of relief channels that discharge to the San Joaquin River, its tributary streams or local agricultural canals. The runoff from the FCSP Area is routed to infiltration basins to the west of the plan area where it is infiltrated into the groundwater table.

Within the City of Fresno, FMFCD's Storm Drain Master Plan divides the District into local drainage areas of one to two square miles. All inlets, pipes and pumping stations within each drainage area are maintained by the District; except for those located in the Fulton Mall within the FCSP Area, which are currently maintained for the District by the City under a system of work

authorizations. It is assumed that this maintenance arrangement will remain in place for the foreseeable future and the City will continue to maintain that portion of the Plan Area's storm drain infrastructure throughout the life of the FCSP and DNCP.

There are two areas within the Specific Plan Area that currently lack complete or adequate storm drain infrastructure. This makes them prone to localized flooding that inconveniences residents, potentially resulting in lower property values and higher insurance costs for both homeowners and businesses. These areas have not historically generated sufficient tax revenue to fund the construction of modern drainage facilities, so a number of storm drain improvements are now being constructed with funding provided by the American Recovery and Reinvestment Act (ARRA). One of these projects is located on Divisadero Street, adjacent to an approximately twelve block area with no storm drain facilities that extends south from Divisadero into the Plan Area. Although these improvements would provide little immediate relief for this neighborhood, they would make it feasible to relieve existing flooding conditions by extending this system in the future.

The second area, totaling about 50 acres and located in the south corner of the Specific Plan Area, lacks an existing storm drain network. No facilities are currently planned for this area, but it is assumed that storm drains will eventually be needed to support the scale and character of redevelopment being considered. It is anticipated that these new facilities would be constructed at the time of future redevelopment and be connected to the major storm drain lines that now serve the central portion of the Specific Plan Area or to the lines that serve the neighborhood located immediately north of Divisadero Street. Although there are no indications of significant drainage problems within the areas now served by these facilities, shallow, nuisance flooding has been reported after heavy rains, leaving standing water that has damaged pavement and inconvenienced both drivers and pedestrians.

3.2 Proposed Conditions

Specific Plan Area: The intention of the Specific Plan is to continue to use the drainage conveyance infrastructure that is owned and operated by the District. Redevelopment of the Specific Plan area is focused first and foremost on underutilized parcels. This focus on underutilized parcels, coupled with an

increase in civic open space and a focus on low impact development solutions, is intended to lower the imperviousness of the FCSP Area.

Community Plan Area: The Community Plan proposes to move densification away from the corridors themselves, as is proposed in the General Plan, and into the surrounding neighborhoods. This densification includes one and two story multi-family residential development on vacant and under-utilized parcels. More detailed analysis regarding this shift in density can be found in the downtown Neighborhoods Community Plan.

3.3. Storm Water Quantity and Quality Analysis and Results

3.3.1 Methodology

Specific Plan- The amount of impervious surface in a watershed is the principal determinant of both the peak rate and total volume of stormwater runoff. Peak rates of stormwater runoff are calculated in the City of Fresno using the Rational Method, which can be applied to both undeveloped and developed watersheds. The method is based on the use of runoff coefficients, which represent an estimate of the percentage of total rainfall expected to end up as runoff (ie. a coefficient of 0.3 equals 30% runoff). For each subarea of a watershed, the runoff coefficient is multiplied by the number of acres within the contributing drainage area and by the expected peak rainfall intensity (expressed in inches per hour) to calculate the peak rate of storm water runoff (expressed as cubic feet per second). This relationship is expressed in the following equation:

Peak Runoff = Runoff Coefficient x Drainage Area x Rainfall Intensity

or: Q (cfs) = C x A (acres) x I (inches/hour)

It is noted that in watersheds with mixed uses (such as the Downtown Area), the runoff coefficient represents a weighted average of the coefficients assigned to each land use.

Since Rainfall Intensity is a function of site location and local climate, it will remain constant for both the existing and proposed conditions. Consequently, a comparison of the product of the Area and Coefficient variables under existing and proposed conditions is sufficient to determine how the proposed development will affect peak rates of stormwater runoff, and whether some associated mitigation would be necessary. For this analysis runoff coefficients were assumed to remain constant within a given land use type, though based on the landscape design intent of the Specific Plan, proposed development is likely to increase the permeability of the ground cover, resulting in lower runoff

coefficients. The landscape design intent focuses on increased vegetated streetscape elements and the integration of landscape-based stormwater management features into new development projects

The existing condition was provided by the Flood Control District and is included in the Results discussion below. Area calculations for proposed land uses by zone as per the FCSP were performed. A coefficient of runoff was assigned to each land use type within the zones. A weighted runoff coefficient was then calculated for each zone and correspondingly for the entire FCSP Area.

The existing and proposed runoff coefficients used for this analysis are:

Residential = 0.75 (as estimated by Sherwood Design Engineers)
Commercial = 0.8 (as provided by Flood Control),
Industrial = 0.75 (as provided by Flood Control)
Open Space = 0.40 (as estimated by Sherwood Design Engineers)

The percentage of each land use type for the proposed and existing conditions are shown in Tables 3.1 and 3.2 for the Specific Plan Area.

Community Plan- The methodology for determining potential changes in stormwater runoff rates within the Community Plan area involves a comparison of the two primary land use types within the plan area. These are the conditions along the corridors and within the adjacent residential neighborhoods. By discussing the changes to lot coverage patterns within the corridors and then separately within the neighborhoods a qualitative analysis will be performed.

3.3.2 Results

Specific Plan- A comparison of the proposed land uses under the two sets of conditions shows there would be little change in total coverage by impervious surfaces, and the total Area/Coefficient product would actually decline by a small amount (from 0.78 to 0.74). Since the amount of impervious surface in a watershed is the principal determinant of both the peak rate and total volume of stormwater runoff, this indicates there would be little difference between build-out under the proposed plan and build-out under the existing condition. As a result, it is anticipated that stormwater management strategies currently in place,

which the Fresno Metopolitan Flood Control District considers to be satisfactory,[34] would also be sufficient for development under the proposed FCSP.

This assessment is supported by Ms Denise Wade of the Fresno Metropolitan Flood District based on a preliminary review of the Specific Plan Area development proposal. She determined that, upon initial inspection, existing land uses are comparable to the proposed changes within the proposed Specific Plan, and she did not expect to see significant impacts to the existing system.[35] In the event more intense land uses result in higher estimated rates of stormwater discharge, then mitigations, such as construction of parallel pipelines to increase capacity and/or on-site water retention methods (surface ponds or underground storage pipelines, could be required. In addition, should the project change existing street drainage patterns and/or pipeline alignments, typically a review would be performed to determine how the system is impacted and whether additional pipelines and/or inlets would be required. In accordance with standard Flood Control District policy, it is generally the responsibility of developers to fund improvements to the District's system that are needed to address impacts associated with their projects.

Community Plan- The primary difference in land use between the existing Municipal Code and the proposed DNCP is a shift in residential density from the corridors into the surrounding neighborhoods. Whereas the Municipal Code included a higher density of residential uses along the corridors, the proposed DNCP maintains the corridors as primarily commercial centers.

Based on a comparison of required setbacks under the current Municipal Code and as set forth for each zoning district under the proposed Community Plan, it was determined that setbacks would decrease primarily in the following proposed areas: Corridor General Zones, Neighborhood Center Zones, and a few of the Neighborhood General Zones. Although a decrease in setback would indicate a potential for an overall increase in impervious area of these zones, examination of current conditions within the DCNP through aerial photographs (see Appendix 3, Figure 3.2) shows that a large percentage of the existing setbacks within the proposed Neighborhood zones is currently covered by

[34] Denise Wade, Staff Engineer, Master Planning & Special Projects Department, Fresno Metropolitan Flood Control District, personal communications, November and December, 2011.

[35] Email correspondence on 11/2/2010 with Denise Wade using Figure 3.3 and 3.4 in Appendix 3 as reference for determination.

impervious surfaces such as access driveways and parking lots. Consequently, little change in the amount of impervious cover is anticipated in these zones. Additionally, since there would be fewer multi-story residential buildings, there would be less need for large new areas of surface parking along the major street corridors under the DNCP. Within the DNCP's remaining zones, setbacks would either increase slightly or remain largely consistent with the existing Municipal Code and existing patterns of development.

In addition to setback conditions, it is noted the DNCP projects there would be almost 600 fewer housing units at build-out than under the current Municipal Code (3,697 units versus 4,283 units). This reduction in density would mainly occur by shifting development away from the major street corridors and into multi-family units within the surrounding neighborhoods. As described above, this would lessen the need for new surface parking, because a surplus of on-street parking spaces already exists on neighborhood streets. As a result it is assumed that there would be little difference in overall impervious area, and thus total runoff, under the Municipal Code and under the DNCP.

Because these conclusions regarding impervious cover and total runoff are preliminary, Denise Wade's previously cited comments regarding the need for additional review as development proceeds and the possibility that mitigation measures might be required would also apply throughout the DNCP. However, if development occurs in accordance with the assumptions set forth in the DNCP and in this report, it remains likely that few changes to the area's existing storm drain infrastructure would be required as the neighborhood continues to build out.

3.4 Infrastructure Improvements

Although it was determined that neither the Specific Plan nor the Community Plan would result in a net increase in stormwater runoff to the District's facilities, both the Specific and Community Plans include recommendations for the implementation of Low Impact Development (LID) stormwater management facilities. LID focuses on minimizing impervious surfaces, improving the quality of stormwater runoff, and reducing impacts to our natural waterways. The use of LID stormwater management will enhance the existing infrastructure network of the FMFCD and reduce localized flooding, improve water quality, provide community amenities, and enhance aquifer recharge throughout the City. The primary goal of the stormwater management approach outlined within these plans is to improve the quality and quantity of water infiltrated into the local

groundwater supply and decrease flows to the District's system. Within the Specific Plan, implementation locations and conceptual designs are detailed to help ensure future integration of LID design into improvement projects.

Table 3.3 in Appendix 3 describes the most relevant and practical types of Low Impact Development (LID) strategies. Tables 3.4-3.7 in Appendix 3 show where these LID strategies can be introduced whenever right-of-way improvements are made within the Specific Plan Area.

Appendix 1: Background Information

Figure 1: Location of DNCP and FCSP within the City of Fresno

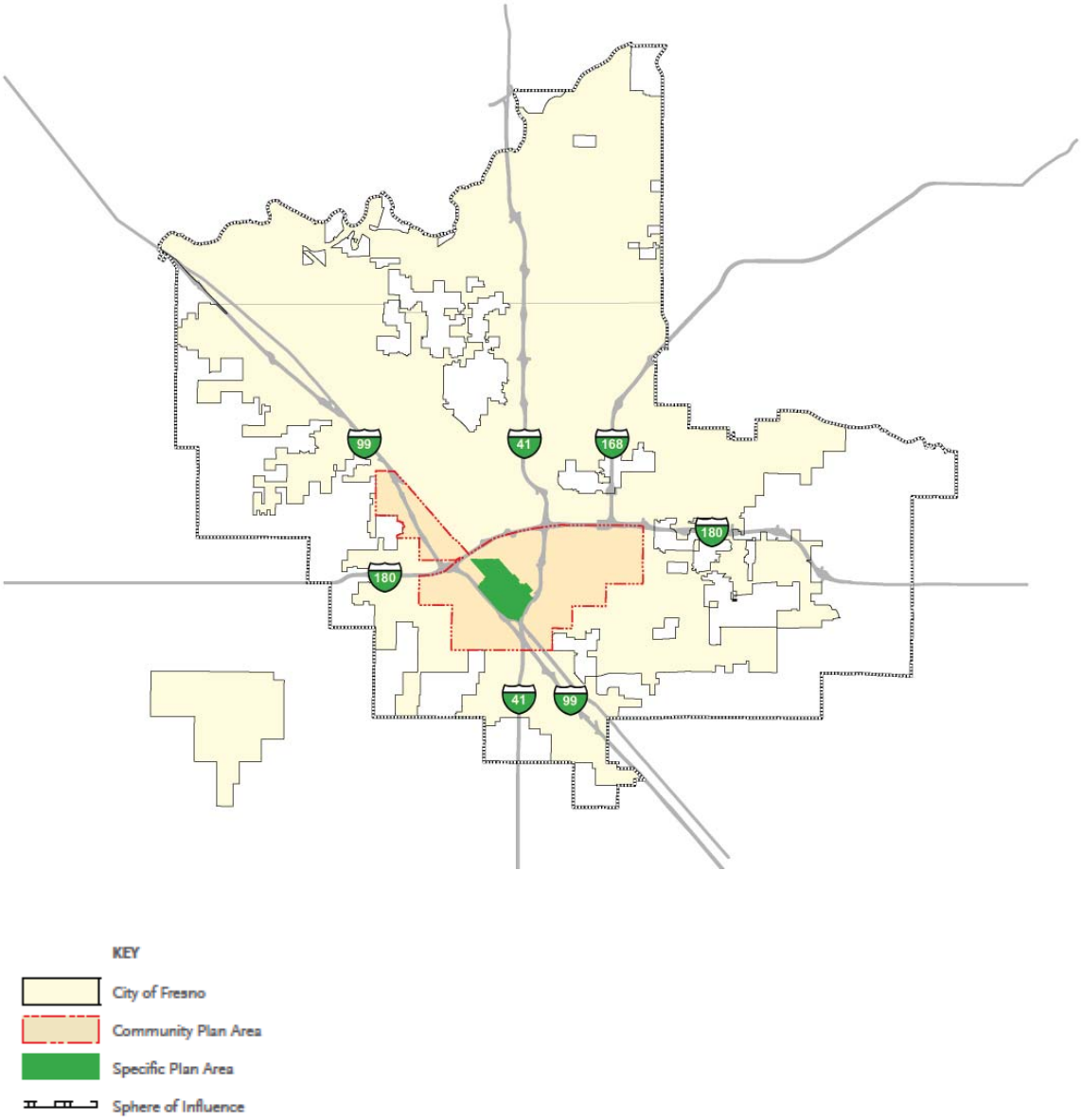
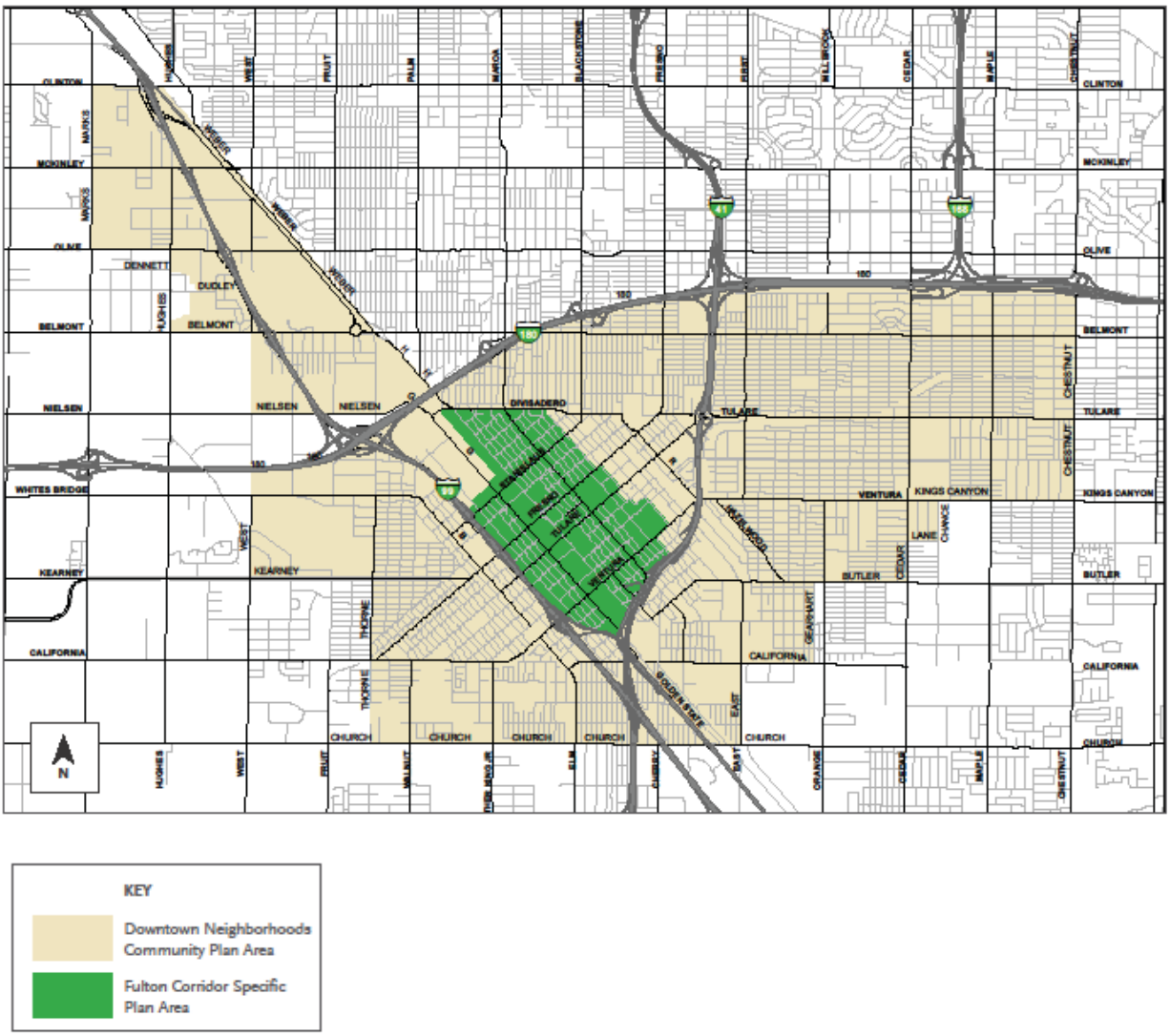


Figure 2: DNCP and FCSP Boundaries



KEY

Downtown Neighborhoods Community Plan Area

Fulton Corridor Specific Plan Area

Table 1.1 Specific Plan Development Program- By Land Use Zone

DEVELOPMENT POTENTIAL: MAXIMUM FAR

Zone	Total Area of Underutilized Parcels (sf)	Avg FAR	Total Buildable SF	Residential			Office		Retail		Industrial	
				%	SF	Units	%	SF	%	SF	%	SF
CBD 1	1,074,233	6.1	6,542,377	45%	2,944,070	2,453	40%	2,616,951	15%	981,357	0%	0
CBD 2	1,405,881	2.4	3,354,417	65%	2,180,371	1,817	25%	838,604	10%	335,442	0%	0
Civic Center	0	0.0	0	0%	0	0	75%	0	25%	0	0%	0
Chinatown District	572,087	1.4	808,590	65%	525,583	438	20%	161,718	15%	121,288	0%	0
Cultural Arts/ South Stadium District	1,315,979	2.0	2,615,326	60%	1,569,196	1,308	20%	523,065	20%	523,065	0%	0
Chinatown Industrial District	272,576	1.5	410,284	%	0	0	25%	102,571	0%	0	75%	307,713
Town Center	0	0.0	0	0%	0	0	75%	0	25%	0	0%	0
Neighborhood General	397,936	0.7	280,795	100%	280,795	234	0%	0		0	0%	0
Neighborhood General Preservation	62,555	0.7	45,975	100%	45,975	38	0%	0	0%	0	0%	0
Special District	61,441	1.1	65,879	5%	3,294	3	5%	3,294	0%	0	90%	59,291
0	0	1.6	0	44%	0	0	29%	0	12%	0	17%	0
TOTALS	5,162,689		14,123,642		7,549,283	6,291		4,246,203		1,961,152		367,004

DEVELOPMENT POTENTIAL: MINIMUM FAR

Zone	Total Area of Vacant Parcels (sf)	Avg FAR	Total Buildable SF	Residential			Office		Retail		Industrial	
				%	SF	Units	%	SF	%	SF	%	SF
CBD 1	1,074,233	1.7	1,840,519	45%	828,234	690	40%	736,208	15%	276,078	0%	0
CBD 2	1,405,881	1.1	1,613,948	65%	1,049,066	874	25%	403,487	10%	161,395	0%	0
Civic Center	0	0.0	0	0%	0	0	75%	0	25%	0	0%	0
Chinatown District	572,087	0.9	506,456	65%	329,196	274	20%	101,291	15%	75,968	0%	0
Cultural Arts/ South Stadium District	1,315,979	1.3	1,008,694	60%	605,216	504	20%	201,739	20%	201,739	0%	0
Chinatown Industrial District	272,576	0.4	101,605	0%	0	0	25%	25,401	0%	0	75%	76,204
Town Center	0	0.0	0	0%	0	0	75%	0	25%	0	0%	0
Neighborhood General	397,936	0.3	117,994	100%	117,994	98	0%	0	0%	0	0%	0
Neighborhood General Preservation	62,555	0.4	24,872	100%	24,872	21	0%	0	0%	0	0%	0
Special District	61,441	0.4	26,339	5%	1,317	1	5%	1,317	0%	0	90%	23,705
0	0	0.7	0	44%	0	0	29%	0	12%	0	17%	0
TOTALS	5,162,689		5,240,428		2,955,896	2,463		1,469,443		715,180		99,909

Table 1.2 Community Plan Development Program - By Land Use Zone

DEVELOPMENT POTENTIAL: MAXIMUM FAR

Zone	Total Area of Underutilized Parcels (sf)	Avg FAR	Total Buildable SF	Residential			Office		Retail		Industrial	
				%	SF	Units	%	SF	%	SF	%	SF
CBD 2	58,701	2.4	143,804	62%	88,861	74	35%	50,836	3%	4,107	0%	0
Cultural Arts/ South Stadium District	58,364	2.1	120,362	63%	75,417	63	31%	37,392	6%	7,553	0%	0
Town Center	115,196	2.8	321,398	48%	155,600	130	42%	133,451	10%	32,347	0%	0
Neighborhood Center	533,019	1.7	923,900	47%	432,707	361	44%	408,649	9%	82,544	0%	0
Corridor General	1,096,031	1.6	1,712,881	10%	169,549	141	80%	1,367,547	10%	175,785	0%	0
Neighborhood General	2,562,248	0.8	2,042,255	100%	2,042,255	1,702	0%	0	0%	0	0%	0
Neighborhood General Revitalization	935,121	0.8	745,344	100%	745,344	621	0%	0	0%	0	0%	0
Neighborhood Edge	1,053,497	0.5	568,511	100%	568,511	474	0%	0	0%	0	0%	0
Special District	2,922,430	1.1	3,133,494	5%	157,430	131	0%	0	2%	48,864	93%	2,927,200
TOTALS	5,162,689		14,123,642		7,549,283	6,291		4,246,203		1,961,152		367,004

DEVELOPMENT POTENTIAL: MINIMUM FAR

Zone	Total Area of Underutilized (SF)	Avg FAR	Total Buildable SF	Residential			Office		Retail		Industrial	
				%	SF	Units	%	SF	%	SF	%	SF
CBD 2	58,701	0.9	52,830	62%	32,646	27	35%	18,676	3%	1,509	0%	0
Cultural Arts/ South Stadium	58,364	0.5	29,182	63%	18,285	15	31%	9,066	6%	1,831	0%	0
Town Center	115,196	0.8	92,157	48%	44,616	37	42%	38,266	10%	9,275	0%	0
Neighborhood Center	533,019	0.4	213,208	47%	99,855	83	44%	94,304	9%	19,049	0%	0
Corridor General	1,096,031	0.4	438,412	10%	43,396	36	80%	350,024	10%	44,992	0%	0
Neighborhood General	2,562,248	0.2	512,450	100%	512,450	427	0%	0	0%	0	0%	0
Neighborhood General Revitalization	935,121	0.2	187,024	100%	187,024	156	0%	0	0%	0	0%	0
Neighborhood Edge	1,053,497	0.1	105,350	100%	105,350	88	0%	0	0%	0	0%	0
Special District	2,922,430	0.3	876,729	5%	44,048	37	0%	0	2%	13,672	93%	819,009
TOTALS	9,334,608		2,507,342		1,087,670	909		510,335		90,328		819,009

Sources: FCSP and DNCP Notice of Preparation received 4/1/12, Report Comparisons.docx received 4/3/12, spreadsheet from Juan Gomez received 4/5/12, correspondence with Juan Gomez regarding updated FARs 4/6/12. Updated back to original FARs per Juan Gomez email regarding FARs 4/9/12

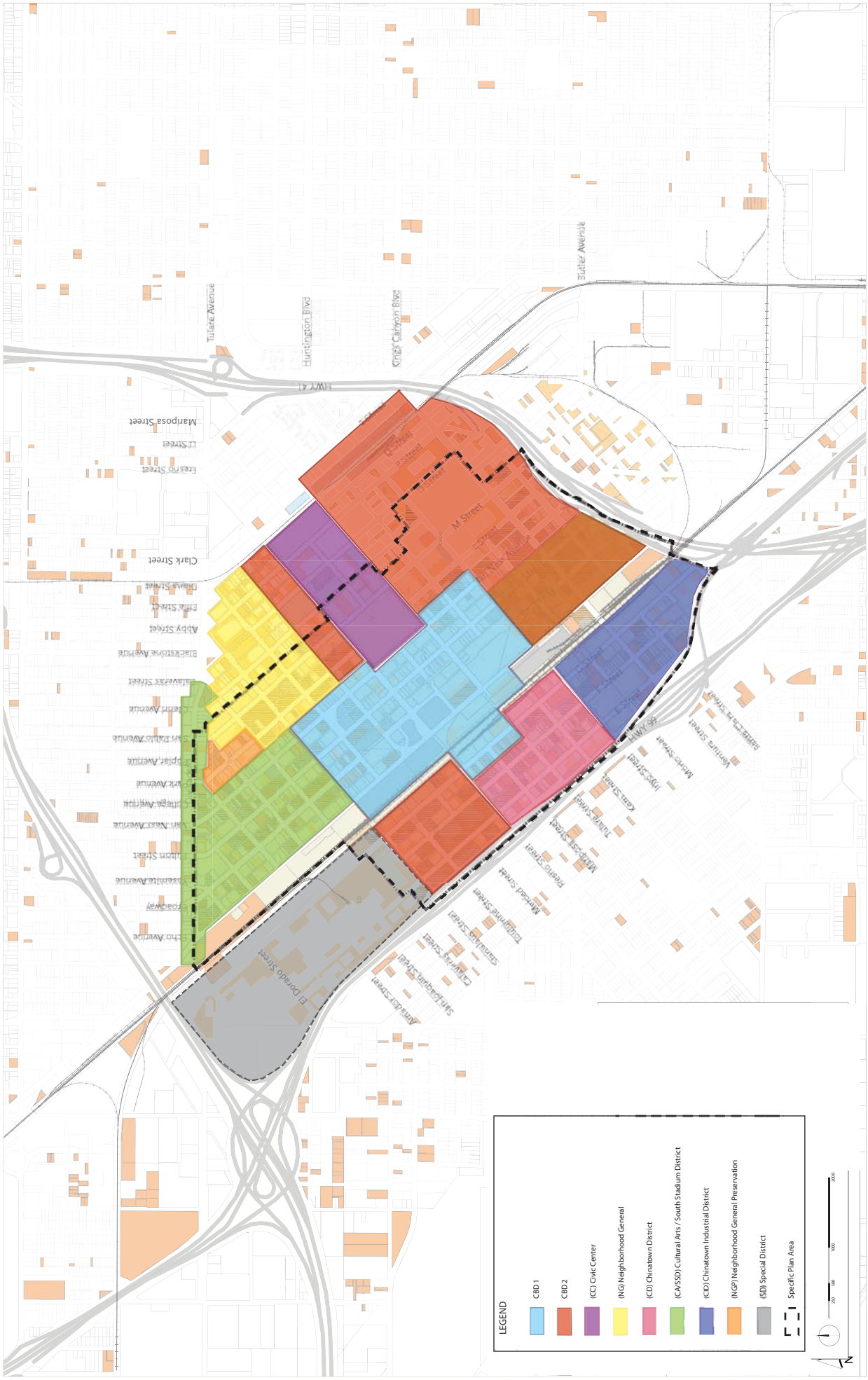


Figure 1.3 Specific Plan Zones

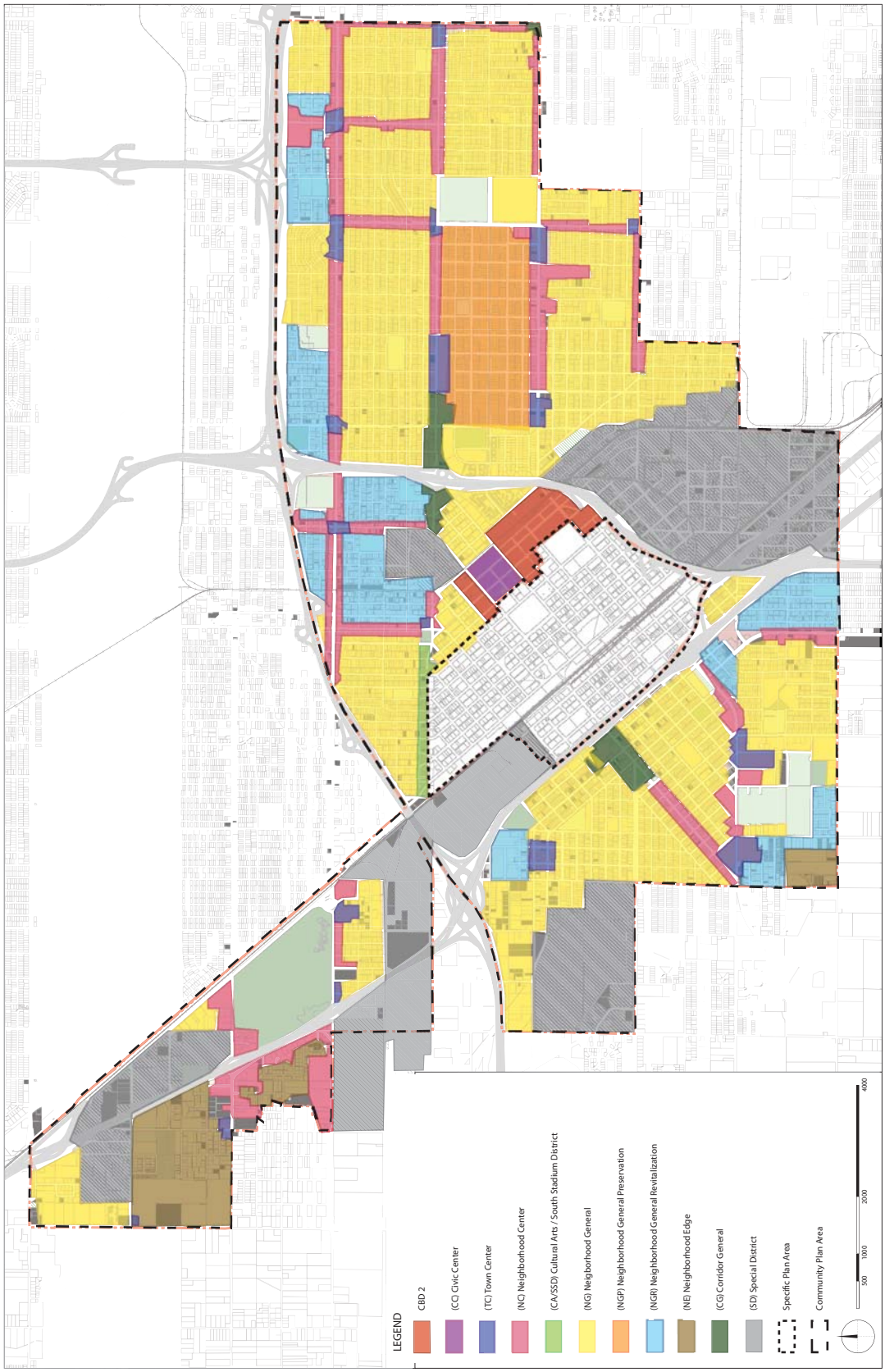


Figure 1.4 Zone Specific Plan Zones

Table 1.3 General Plan Allowed Population Increase Within Area of Combined Specific Plan and Community Plan (by Existing Plan Areas)

Existing Community Plan	% within combined FCSP/DNSP boundary	Allowed Population Increase (Persons)		Population within FCSP/DNCP Boundary (Persons)	
		Within Each Existing Community Plan	Within Combined FCSP/DNCP Boundary	Year 2000	Year 2035
Central Area	1	12,845	12,845	14,927	27,772
Edison	0	43,286	7,657	12,356	20,013
Roosevelt	0	39,036	5,809	35,598	41,407
West Area	0	73,913	5,447	4,754	10,201
Total		**169,080**	**31,758**	**67,635**	**99,393**

**Source: Moule & Polyzoides Architects & Urbanists, April, 2011*

Appendix 2: Wet Utilities

Table 2.1. Current and Planned Water Supplies (from UWMP)

	Current and Planned Water Supplies, af/yr*					
Water Supply Sources	**2005 (actual)**	**2010**	**2015**	**2020**	**2025**	**2030**
Treated Surface Water	15,807	30,800	92,500	123,400	123,400	123,400
Groundwater	141,471	131,750	95,800	82,000	85,000	100,600
Recycled Water		750	1,000	1,000	25,000	25,000
Total	157,278	163,300	189,300	206,400	233,400	249,000

**Source:UWMP Table4-18*

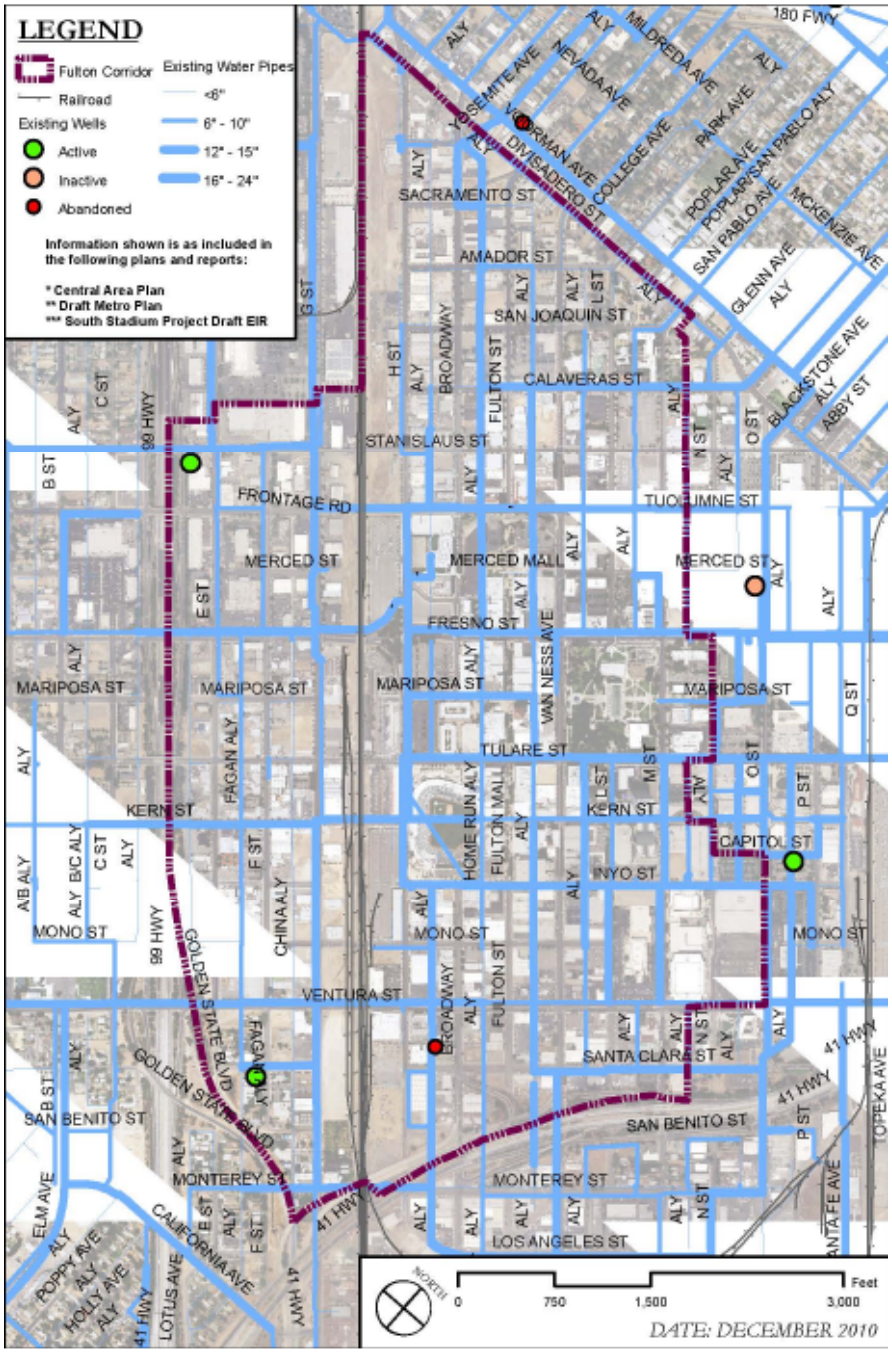


Fig 2.1 Existing Water Distribution System—Specific Plan Area

Table 2.2 City-Wide Demand Projections by Customer Class
2008 UWMP

Land-Use Based Demand Projections by Customer Class*

	Unit Factors, af/ac/yr			Low Demand Estimate						High Demand Estimate					
				2005 (estimated)		2010		2025		2005 (estimated)		2010		2025	
Customer Class	2005	2010	2025	Area, acres	Water Demand af/yr	Area, acres	Water Demand af/yr	Area, acres	Water Demand af/yr	Area, acres	Water Demand af/yr	Area, acres	Water Demand af/yr	Area, acres	Water Demand af/yr
Single Family Residentia	3.8	3.5	3.2	21,948	89,700	25,619	89,700	36,244	116,000	22,777	86,600	26,688	93,400	37,414	119,700
Multi Family Residential	6.5	6.2	6.2	3,757	23,300	3,757	23,300	4,639	28,800	3,852	25,000	4,133	25,600	4,981	30,900
Commercial/Institutional	2.0	1.9	1.9	12,771	24,300	12,771	24,300	19,393	36,700	14,084	28,200	14,563	27,700	21,273	40,400
Industrial	2.0	1.9	1.9	1,994	3,800	1,994	3,800	4,098	7,800	1,994	4,000	1,994	3,800	4,098	7,800
Landscape Irrigation	3.0	2.9	2.9	2,876	6,900	2,376	6,900	2,675	7,800	2,310	6,900	2,391	6,900	2,705	7,800
Sourth East Growth Area	3.4	3.2	3.2	2,094	6,700	2,094	6,700	3,376	26,800	0	0	2,094	6,700	8,376	26,800
Total Projected Consuption					14,800		154,700		223,900		150,700		164,100		233,400
UAFW (10%)					15,800		17,200		24,900		16,700		18,200		25,900
Total Projected Production					157,600		171,900		248,800		167,400		182,300		259,300

** Source: UWMP Table 6-4*

Table 2.3 Specific Plan Existing Water Demand

Existing Demand- SPECIFIC Plan

	Parcel Area (sf)		Parcel Area (ac)						Total Demand (gpd)				
Land Use Category	Developed	Underutilized	Developed		Underutilized		TOTAL	2010 Unit Demand per acre	Developed		Underutilized		Combined
Single Family Residence	134,165	13,068	3.1	+	0.30	=	3.4	3,124	9,623	+	937	=	10,560
Multi-family Residence	371,131	72,745	8.5	+	1.67	=	10.2	5,535	47,155	+	9,243	=	56,398
Commercial	6,932,574	2,450,686	159.2	+	56.26	=	215.4	1,696	269,934	+	95,422	=	365,356
Industrial	4,781,581	1,624,788	109.8	+	37.30	=	147.1	1,696	186,180	+	63,264	=	249,445
Landscape Irrigation	3,920	33,106	0.1	+	0.76	=	0.9	2,589	233	+	1,967	=	2,200
Parking & Vacant	2,700,720	0	62.0	+	0.00	=	62.0	0	0	+	0	=	0
TOTALS	**14,924,092**	**4,194,392**	**342.6**	**+**	**96.29**	**=**	**438.9**		**513,125**	**+**	**170,834**	**=**	**683,959**

Source: 2010 unit demands from 2008 UWMP, converted as follows: acre feet/year/acre x 892.7 = gallons/day/acre

Table 2.4 Community Plan Existing Demand

	Parcel Area (sf)		Parcel Area (ac)			Total Demand (gpd)		
Land Use Category	Developed	Underutilized	Developed	Underutilized	2010 Unit Demand per acre	Developed	Underutilized	Combined
Single Family Residence	79,675,556	566,308	1,829	13	3,124	5,714,811	40,619	5,755,430
Multi-family Residence	13,519,489	69,136	310	2	5,535	1,717,753	8,784	1,726,537
Commercial	36,818,937	320,428	845	7	1,696	1,433,618	12,477	1,446,095
Industrial	35,494,916	2,956,993	815	68	1,696	1,382,065	115,136	1,497,201
Landscape Irrigation	12,716,274	15,931	292	0	2,589	755,730	947	756,677
Parking	1,664,699	0	38	0	0	0	0	0
Vacant	3,876,730	8,800,166	89	202	0	0	0	0
TOTALS	**183,766,601**	**12,728,963**	**4,219**	**292**		**11,003,978**	**177,963**	**11,181,940**

Source: 2010 unit demands from 2008 UWMP, converted as follows: acre feet/year/acre x 892.7 = gallons/day/acre

Table 2.5 Specific Plan Projected Water Demand, Max and Min FAR cases

PROJECTED WATER DEMAND: MAXIMUM FAR

Zone	Total Buildable	Residential 240 gpd/unit		Office 240 gpd/1000 sf		Retail 240 gpd/1000 sf		Industrial 240 gpd/1000 sf		Total District Demand	Zone average unit demand
	SF	Units	Demand	SF	Demand	SF	Demand	SF	Demand	gpd	gpd/1000sf
CBD 1	6,542,377	2,453	588,814	2,616,951	628,068	981,357	117,763	0	0	1,334,645	204
CBD 2	3,354,417	1,817	436,074	838,604	201,265	335,442	40,253	0	0	677,592	202
Civic Center	0	0	0	0	0	0	0	0	0	0	210
Chinatown District	808,590	438	105,117	161,718	38,812	121,288	14,555	0	0	158,484	196
Cultural Arts/ South Stadium District	2,615,326	1,308	313,839	523,065	125,536	523,065	62,768	0	0	502,143	192
Chinatown Industrial District	410,284	0	0	102,571	24,617	0	0	307,713	36,926	61,543	150
Town Center	0	0	0	0	0	0	0	0	0	0	210
Neighborhood General	280,795	234	56,159	0	0	0	0	0	0	56,159	200
Neighborhood General Preservation	45,975	38	9,195	0	0	0	0	0	0	9,195	200
Special District	65,879	3	659	3,294	791	0	0	59,291	7,115	8,564	130
0	0	0	0	0	0	0	0	0	0	0	191
NEW DEVELOPMENT TOTALS	14,123,642	6,291	1,509,857	4,246,203	1,019,089	1,961,152	235,338	367,004	44,040	2,808,324	

PROJECTED WATER DEMAND: MINIMUM FAR

Zone	Total Buildable	Residential 240 gpd/unit		Office 240 gpd/1000 sf		Retail 240 gpd/1000 sf		Industrial 240 gpd/1000 sf		Total District Demand	Zone average unit demand
	SF	Units	Demand	SF	Demand	SF	Demand	SF	Demand	gpd	gpd/1000sf
CBD 1	1,840,519	690	165,647	736,208	176,690	276,078	33,129	0	0	375,466	204
CBD 2	1,613,948	874	209,813	403,487	96,837	161,395	19,367	0	0	326,018	202
Civic Center	0	0	0	0	0	0	0	0	0	0	210
Chinatown District	506,456	274	65,839	101,291	24,310	75,968	9,116	0	0	99,265	196
Cultural Arts/ South Stadium District	1,008,694	504	121,043	201,739	48,417	201,739	24,209	0	0	193,669	192
Chinatown Industrial District	101,605	0	0	25,401	6,096	0	0	76,204	9,144	15,241	150
Town Center	0	0	0	0	0	0	0	0	0	0	210
Neighborhood General	117,994	98	23,599	0	0	0	0	0	0	23,599	200
Neighborhood General Preservation	24,872	21	4,974	0	0	0	0	0	0	4,974	200
Special District	26,339	1	263	1,317	316	0	0	23,705	2,845	3,424	130
0	0	0	0	0	0	0	0	0	0	0	191
NEW DEVELOPMENT TOTALS	5,240,428	2,463	591,179	1,469,443	352,666	715,180	85,822	99,909	11,989	1,041,656	

Table 2.6 Community Plan Projected Water Demand, Max and Min FAR Case

PROJECTED WATER DEMAND: MAXIMUM FAR

Zone	Total Buildable SF	Residential 240 gpd/unit		Office 240 gpd/1000 sf		Retail 240 gpd/1000 sf		Industrial 240 gpd/1000 sf		Total District Demand	Zone average unit demand
		Units	Demand	SF	Demand	SF	Demand	SF	Demand	gpd	gpd/1000sf
CBD 2	143,804	74	17,760	50,836	12,201	4,107	493	0	0	30,453	212
Cultural Arts/ South Stadium District	120,362	63	15,120	37,392	8,974	7,553	906	0	0	25,000	208
Town Center	321,398	130	31,200	133,451	32,028	32,347	3,882	0	0	67,110	209
Neighborhood Center	923,900	361	86,640	408,649	98,076	82,544	9,905	0	0	194,621	211
Corridor General	1,712,881	141	33,840	1,367,547	328,211	175,785	21,094	0	0	383,145	224
Neighborhood General	2,042,255	1,702	408,480	0	0	0	0	0	0	408,480	200
Neighborhood General Revitalization	745,344	621	149,040	0	0	0	0	0	0	149,040	200
Neighborhood Edge	568,511	474	113,760	0	0	0	0	0	0	113,760	200
Special District	3,133,494	131	31,440	0	0	48,864	5,864	2,927,200	351,264	388,568	124
TOTALS	**14,123,642**	**6,291**	**887,280**	**4,246,203**	**479,490**	**1,961,152**	**42,144**	**367,004**	**351,264**	**1,760,178**	

PROJECTED WATER DEMAND MIN CASE

Zone	Total Buildable SF	Residential 240 gpd/unit		Office 240 gpd/1000 sf		Retail 240 gpd/1000 sf		Industrial 240 gpd/1000 sf		Total District Demand	Zone average unit demand
		Units	Demand	SF	Demand	SF	Demand	SF	Demand	gpd	gpd/1000sf
CBD 2	52,830	27	6,529	18,676	4,482	1,509	181	0	0	11,192	212
Cultural Arts/ South Stadium District	29,182	15	3,657	9,066	2,176	1,831	220	0	0	6,053	207
Town Center	92,157	37	8,923	38,266	9,184	9,275	1,113	0	0	19,220	209
Neighborhood Center	213,208	83	19,971	94,304	22,633	19,049	2,286	0	0	44,890	211
Corridor General	438,412	36	8,679	350,024	84,006	44,992	5,399	0	0	98,084	224
Neighborhood General	512,450	427	102,490	0	0	0	0	0	0	102,490	200
Neighborhood General Revitalization	187,024	156	37,405	0	0	0	0	0	0	37,405	200
Neighborhood Edge	105,350	88	21,070	0	0	0	0	0	0	21,070	200
Special District	876,729	37	8,810	0	0	13,672	1,641	819,009	98,281	108,731	124
TOTALS	**2,507,342**	**909**	**217,534**	**510,335**	**122,480**	**90,328**	**10,839**	**819,009**	**98,281**	**449,135**	

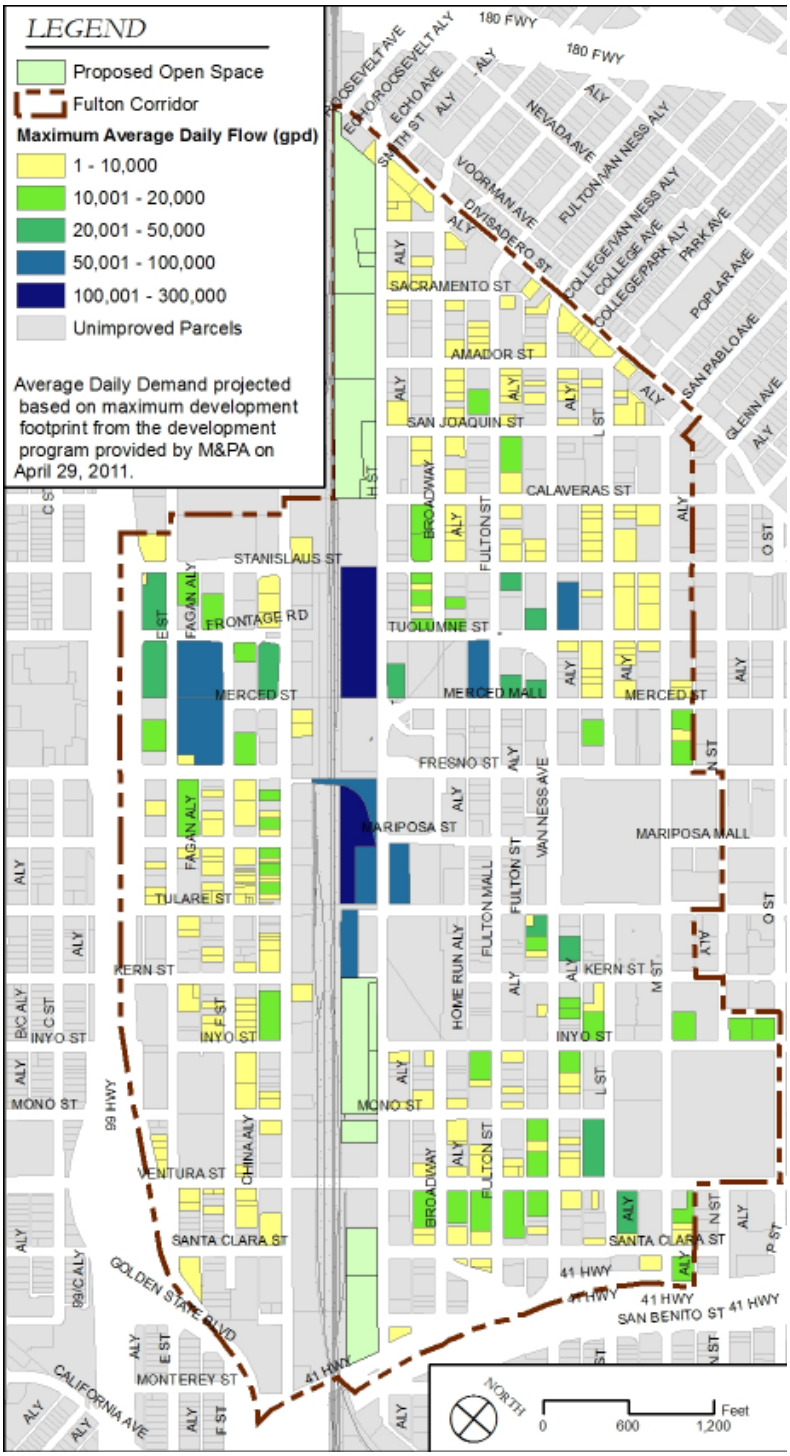


Fig 2.2 Projected Water Demand by Parcel—Specific Plan Area
(Maximum Build-Out)

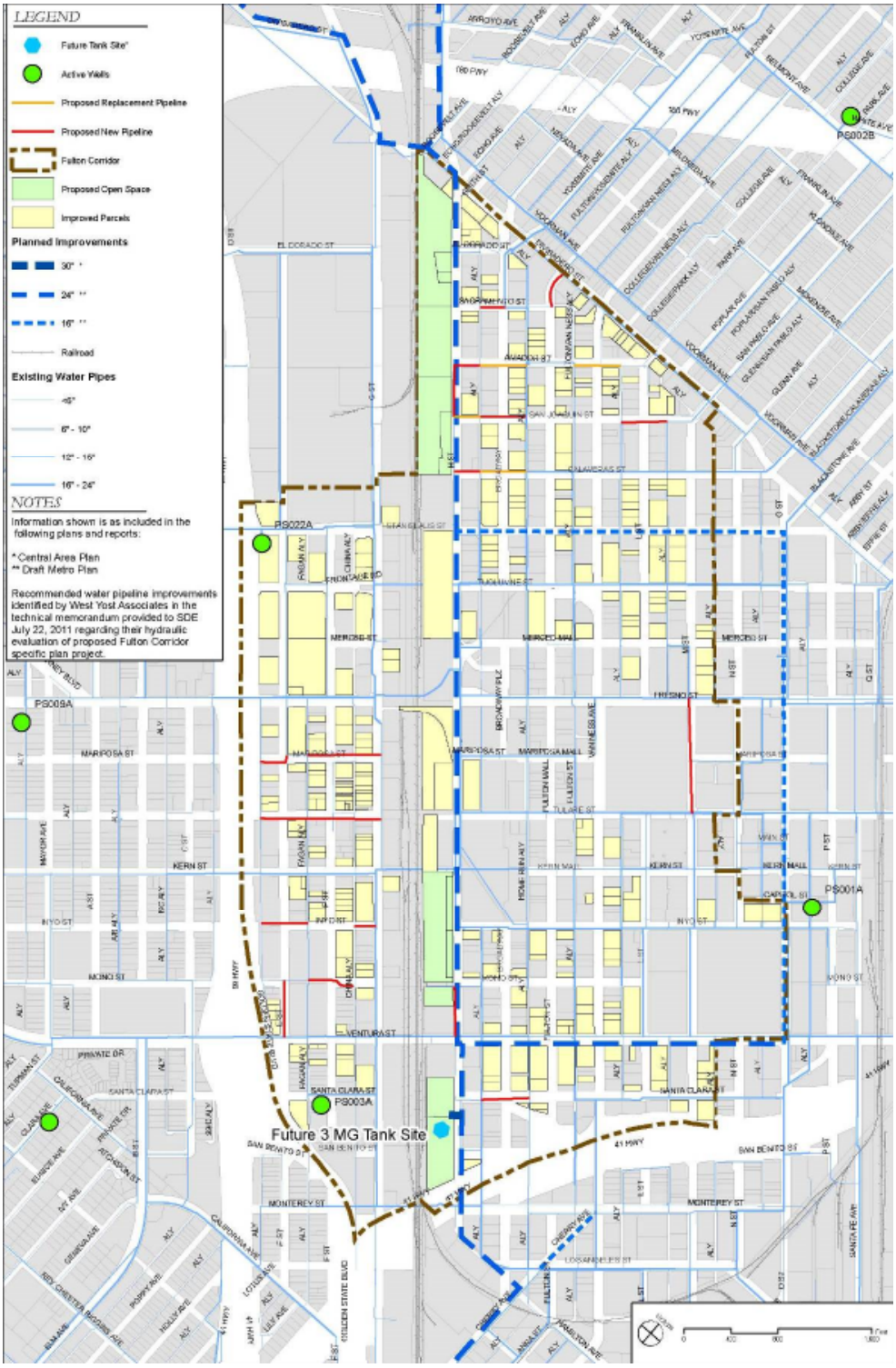


Fig 2.3 Water Infrastructure and Required Water Infrastructure Improvements—Specific Plan Area
(Maximum Build-Out)

Table 2.7 Specific Plan Existing Sewer Generation

Existing Sewer Flow								
	Without Existing Use	With Existing Use		Total Acres	ADWF	PDWF	I&I	PWWF
Parcel Condition	ac	ac	GPD	ac	GPD	GPD	GPD	GPD
Already Developed	23.5	280.6	745.2	304.1	745,131	1,110,245	2,806,000	3,916,245
Vacant & Underutilized	38.6	96.2	225.1	134.7	225,138	335,456	961,600	1,297,056
TOTAL	62.0	376.8	970.3	438.8	970,269	1,445,701	3,767,600	5,213,301

Table 2.8 Projected Wastewater Generation
Specific Plan Area

Proposed Sewer Flow								
	Without Existing Use	With Existing Use		Total Acres	ADWF	PDWF	I&I	PWWF
Parcel Condition	ac	ac	GPD	ac	GPD	GPD	GPD	GPD
Already Developed	23.5	280.6	745,181.0	304.1	745,181	1,110,320	2,806,000	3,916,320
Vacant & Underutilized	16.2	118.5	2,213,627.0	134.7	2,213,627	3,298,304	177,750	3,476,054
TOTAL	39.7	399.1	2,958,808.0	438.8	2,958,808	4,408,624	2,983,750	7,392,374

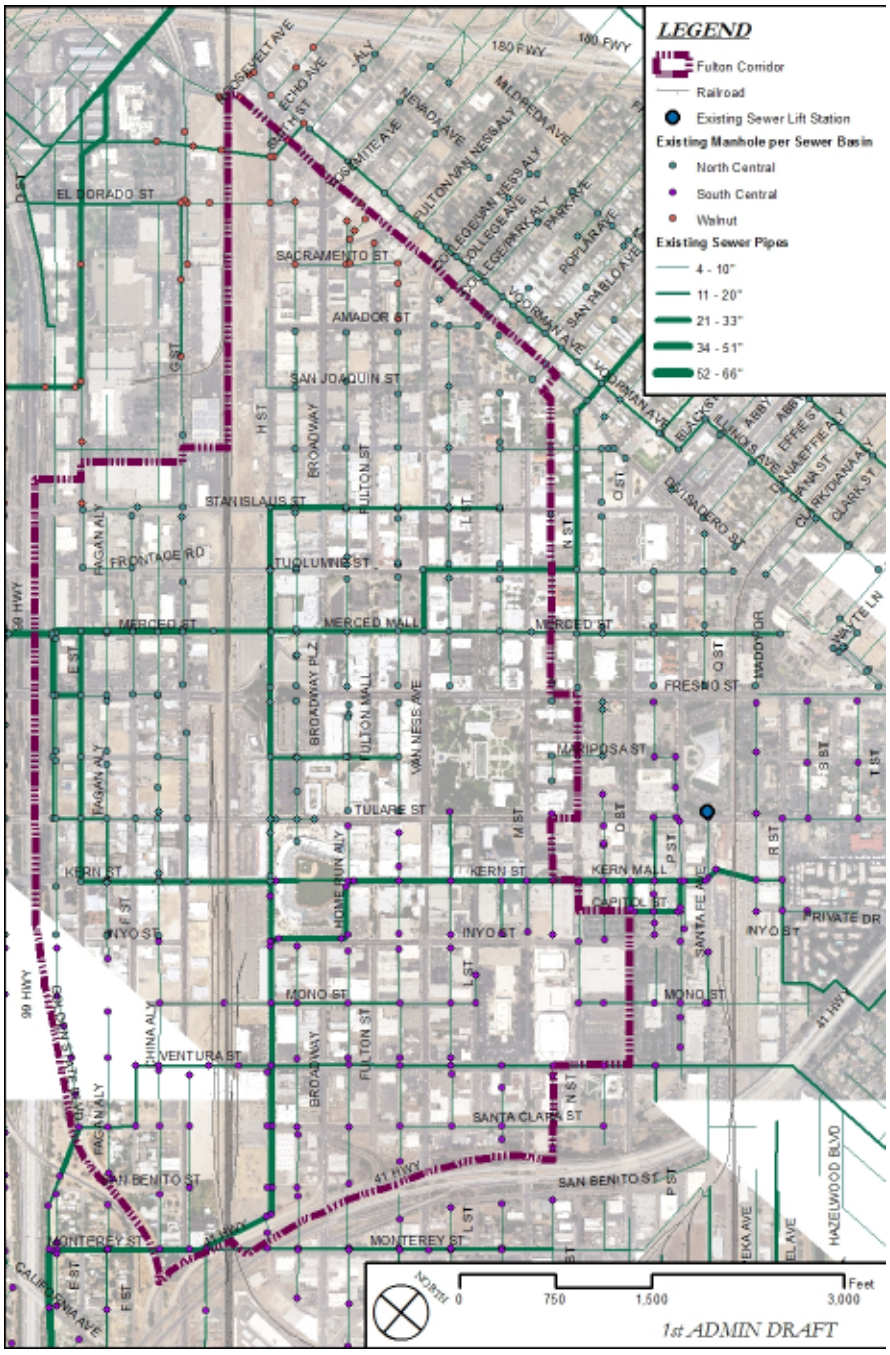


Fig 2.4 Existing Sewer System—Specific Plan Area

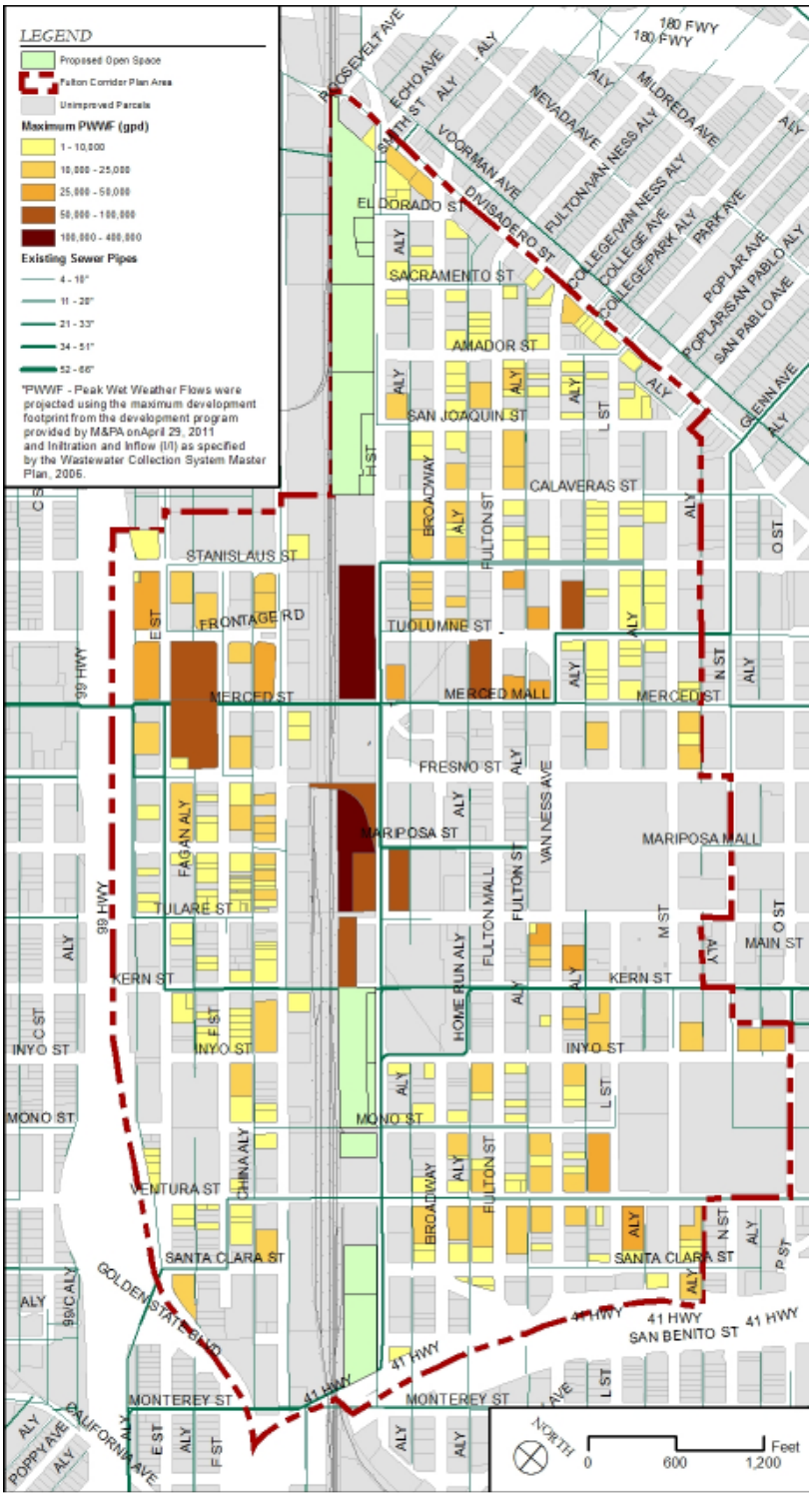


Fig 2.5 Existing Sewer Infrastructure and Projected Generation—Specific Plan Area

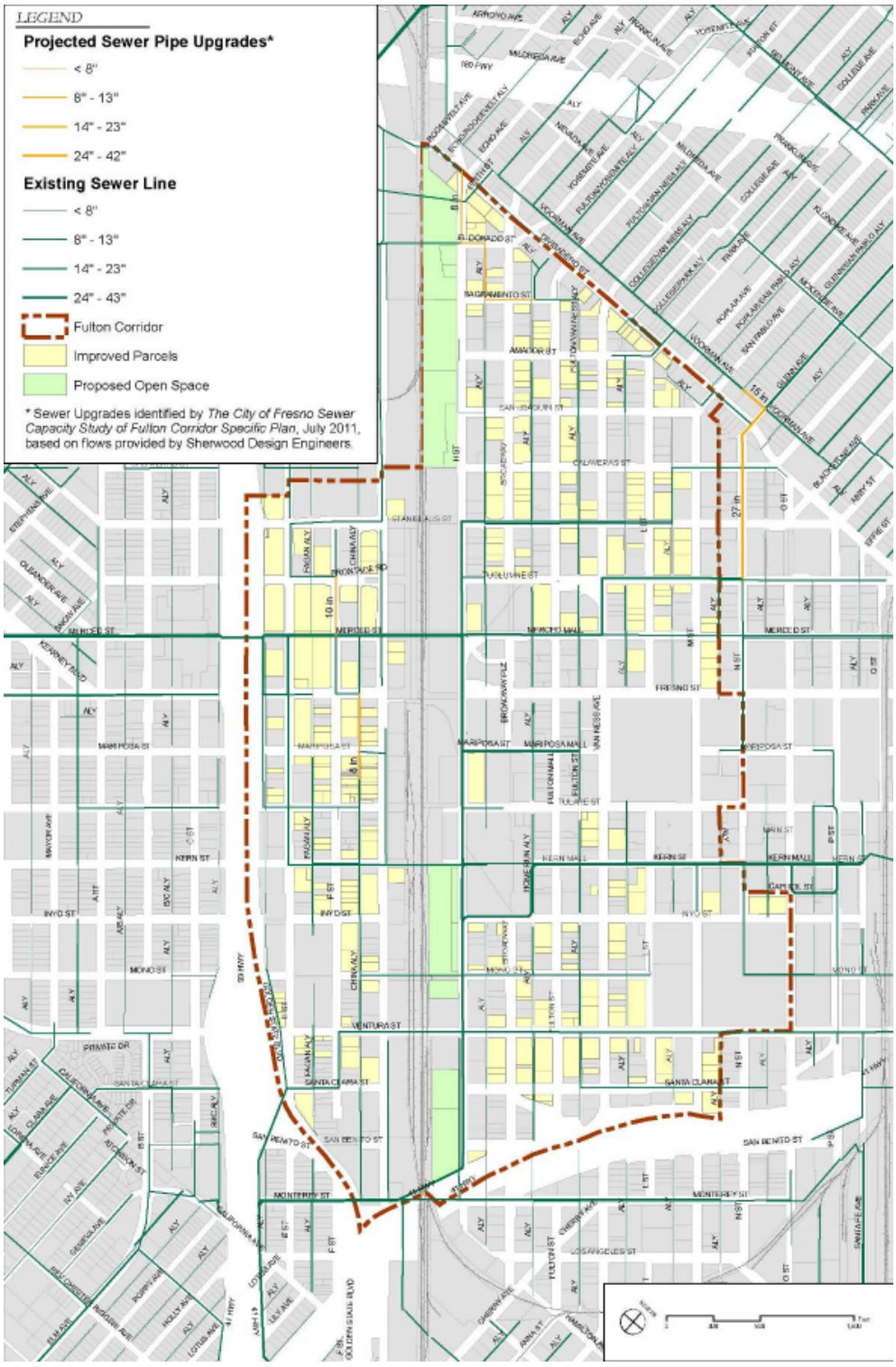


Fig 2.6 Sewer Infrastructure and Required Improvements—Specific Plan Area

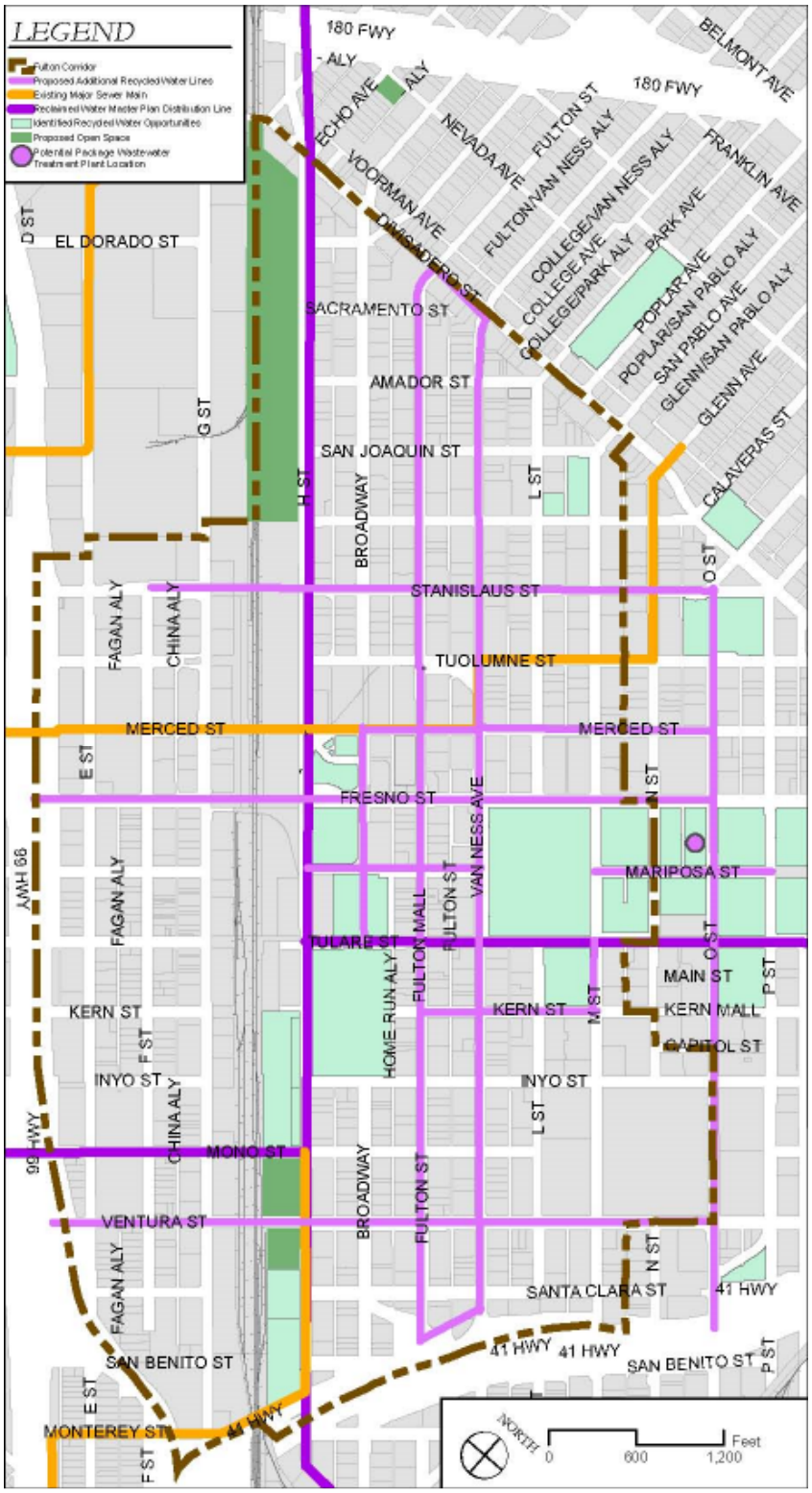


Fig 2.7 Proposed Recycled Water Infrastructure and Opportunities Specific Plan Area

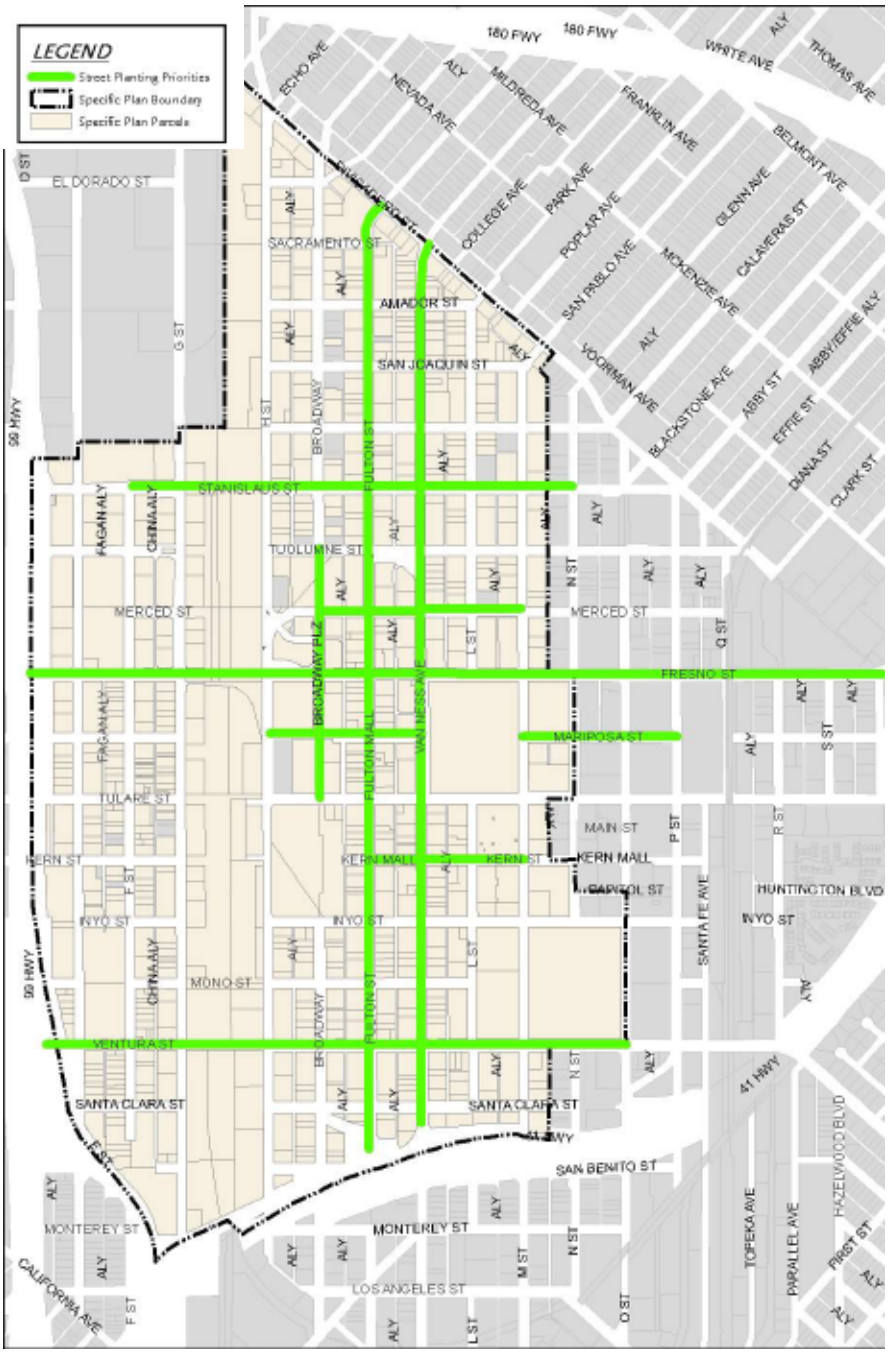


Fig 2.8 Landscape for Streets Plan—Specific Plan Area

Appendix 3: Stormwater

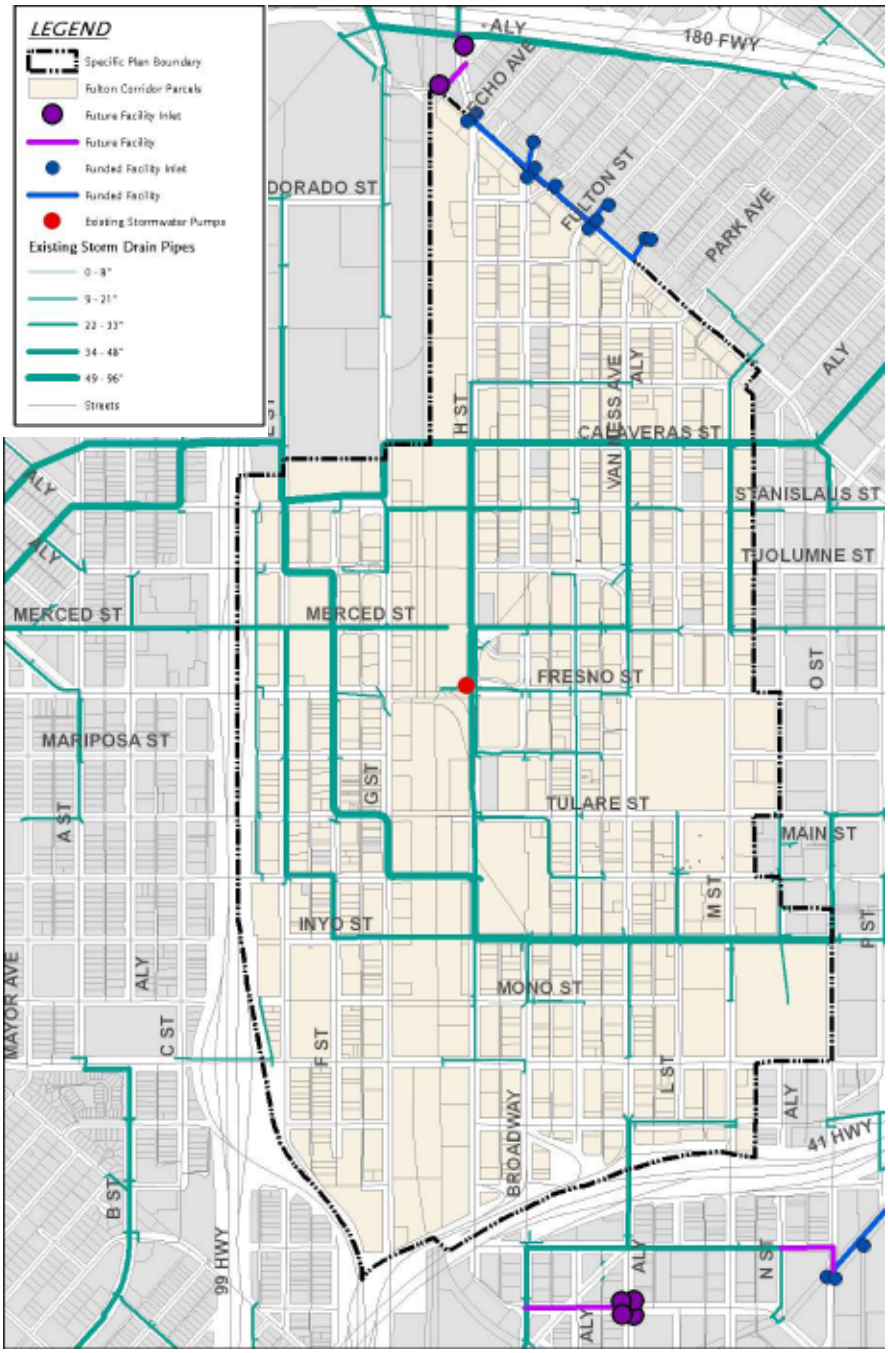


Fig 3.1 Existing Downtown Storm Drain System—Specific Plan Area

Table 3.1 Existing Weighted Coefficient of Runoff for the Specific Plan Area

EXISTING CONDITION								
	Percent of Total SP	Weighted C	Residential		Commercial		Industrial	
			%	C	%	C	%	C
FCSP Area	100%	0.78	0%	0.75	55%	0.80	45%	0.75
TOTALS	100%	0.78						

Table 3.2 Proposed Weighted Coefficient of Runoff for the Specific Plan Area

DEVELOPMENT POTENTIAL MAX CASE										
Zone	Percent of Total SP	Weighted C	Residential		Office		Retail		Industrial	
			%	C	%	C	%	C	%	C
CBD 1	20%	0.78	45%	0.75	40%	0.80	15%	0.80	0%	0.75
CBD 2	20%	0.77	65%	0.75	25%	0.80	10%	0.80	0%	0.75
Civic Center	4%	0.80	0%	0.75	75%	0.80	25%	0.80	0%	0.75
Chinatown District	7%	0.77	65%	0.75	20%	0.80	15%	0.80	0%	0.75
Cultural Arts/ South Stadium District	15%	0.77	60%	0.75	20%	0.80	20%	0.80	0%	0.75
Chinatown Industrial District	10%	0.76	0%	0.75	25%	0.80	0%	0.80	75%	0.75
Town Center	0%	0.80	0%	0.75	75%	0.80	25%	0.80	0%	0.75
Neighborhood General	5%	0.75	100%	0.75	0%	0.80	0%	0.80	0%	0.75
Neighborhood General Preservation	8%	0.75	100%	0.75	0%	0.80	0%	0.80	0%	0.75
Special District	2%	0.75	5%	0.75	5%	0.80	0%	0.80	90%	0.75
Other (proposed park / open space)	9%	0.40	0%	0.75	0%	0.80	0%	0.80	0%	0.75
TOTALS	100%	0.74								

Fig 3.2 Aerial Photo of Planned Corridor—Existing Conditions

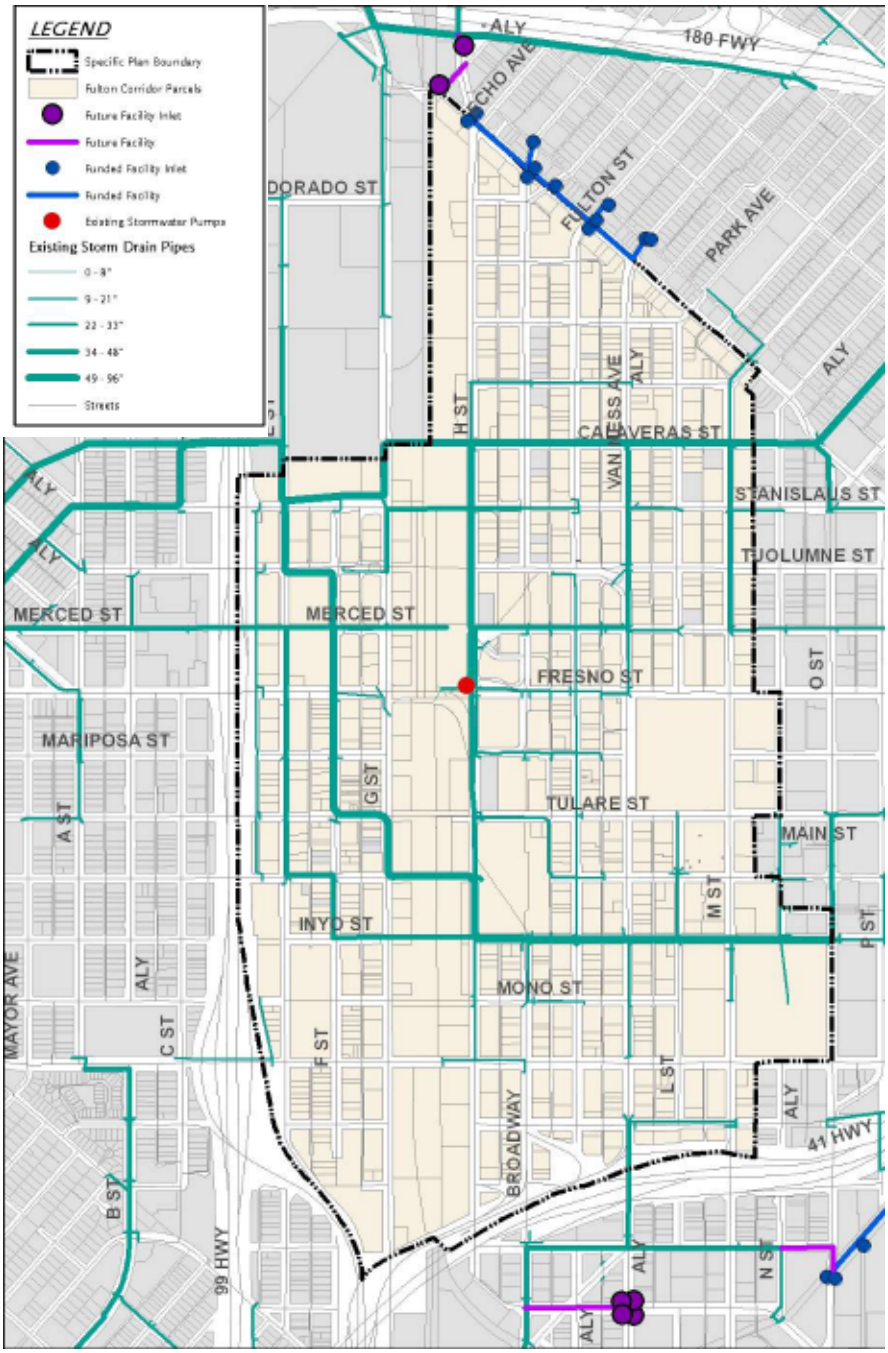


Fig 3.1 Existing Downtown Storm Drain System—Specific Plan Area

Table 3.3 Menu of Sustainable Stormwater Strategies

Stormwater Planters (Infiltration and Flow-Through)

Within an urban context, planters are typically small, vegetated areas situated within an area of otherwise impervious hardscape, such as inside curb islands or cut into a sidewalk against a building wall. Given these locational characteristics, stormwater management planters often receive runoff from a discrete, dedicated source, such as a rainwater leader or a tightly defined section of sidewalk or roadway pavement. The two types of planters used for this purpose are infiltration and flow-through. Infiltration planters depend on native soil conditions that allow runoff to soak into the underlying soil. Flow-through planters are completely contained systems that only allow runoff to soak through the planter's imported soil bed and then into underdrains that are connected to the storm drain system. Both types reduce the rate of stormwater runoff, which eases the burden on local storm drain facilities, but infiltration planters are more desirable because they also reduce the total volume of runoff. Flow-through planters are appropriate where native soil conditions are unfavorable to infiltration, at locations above underground structures, where there is underlying soil contamination, and/or where the seasonal high water table is within 10 feet of the landscape surface. Stormwater planters are easily incorporated into retrofit conditions and in places where space is limited.

Pervious Paving Systems

Pervious paving systems allow rain water to pass through their surface and soak into the underlying ground. Pervious paving must be designed to not only manage stormwater runoff adequately, but also meet the load bearing requirements of the proposed application and provide a level of durability equivalent to conventional paving. Urban plazas, parking stalls or other low traffic areas are typically ideal for the application of pervious paving, as opposed to heavily loaded or high traffic volume areas. Runoff from streets and parking areas should be treated for water quality before infiltrating through permeable pavers and into the ground.

Swales

Vegetated swales are long, narrow landscaped depressions, with a slight longitudinal slope. They are primarily used to convey stormwater runoff on the land's surface while also providing water quality treatment. As water flows through a vegetated swale, it is slowed by the interaction with plants and soil, allowing sediments and associated pollutants to settle out or be adsorbed by the plant material. In addition, there is generally some reduction in the volume of runoff, because water that soaks into the soil is taken up by plants or percolates into deeper strata if native soils are well drained. The remaining water that continues to flow downstream travels more slowly than it would through pipes in a traditional stormwater conveyance system, which further reduces peak flow rates. To maximize vegetative contact, vegetated swales are typically built very shallow and contain runoff that is only a few inches deep. Vegetated swales are relatively low-cost, simple to construct, easy to maintain, and widely accepted as a stormwater management strategy. They can be planted in a variety of ways, ranging from mown grass to a diverse palette of grasses, sedges, rushes, shrubs, groundcover, and trees.

Rain Gardens

Rain gardens are large, shallow, vegetated depressions in the landscape. They can be any size or shape, and are often molded to fit in "leftover" spaces in parking lots, along street frontages, and in situations where streets intersect at odd angles.

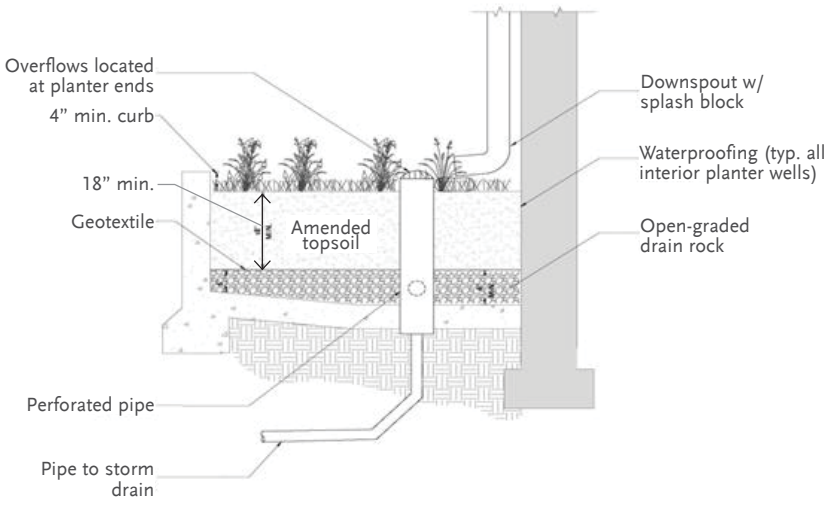
Rain gardens retain stormwater, thereby attenuating peak flows and overall volume. They can also allow for infiltration, depending on the capacity of the native soil. Although rain gardens can share certain characteristics with swales and planters (they can be designed with vertical curbs or side slopes), they differ from swales in that their primary function is the maximum storage of runoff, not conveyance. Accordingly, they are typically designed to be flat-bottomed without any longitudinal slope in order to maximize stormwater storage potential.

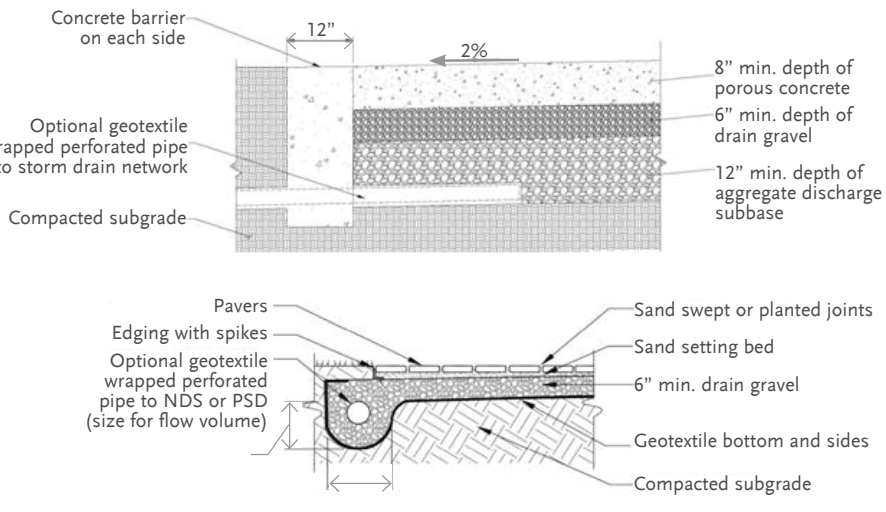
Curb Extensions

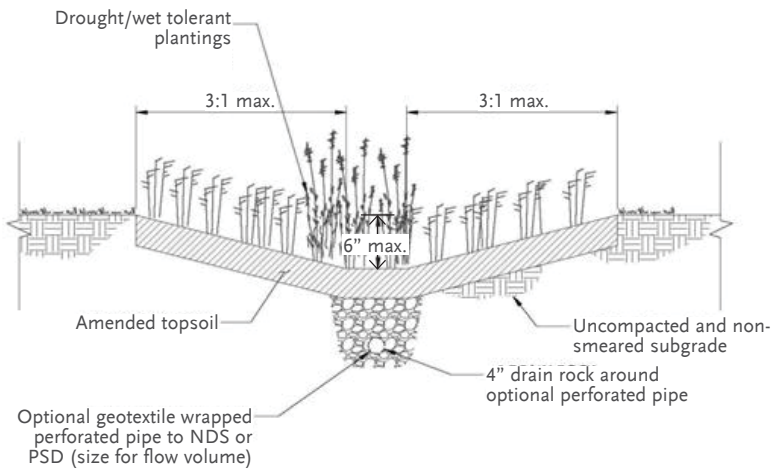
Stormwater curb extensions are landscape areas that extend into the street and capture stormwater runoff. Conventional curb extensions (i.e., bulb outs, chokers, chicanes) are commonly used to increase pedestrian safety and help calm traffic. Stormwater curb extensions share these same attributes and add a stormwater benefit by allowing water to flow into landscape space. This landscape space can be designed with the physical characteristics of vegetated swales, planters, or rain gardens depending on the available space and specific site conditions.

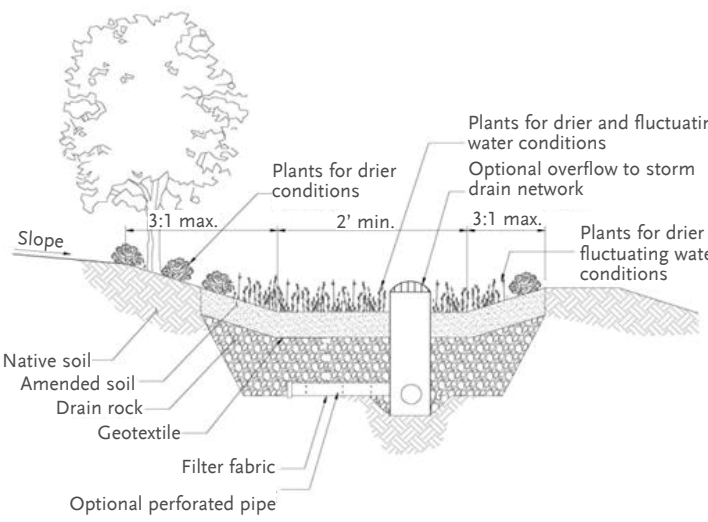
Stormwater curb extensions are particularly advantageous in retrofit situations because they can often be added to existing streets with minimal disturbance. The small footprint of these features allows for an efficient stormwater management system that often performs very well for a relatively low implementation cost. Stormwater curb extensions can be planted with a variety of trees, shrubs, grasses and ground covers, depending on site context and conditions.

Table 3.3 Menu of Sustainable Stormwater Strategies (continued)









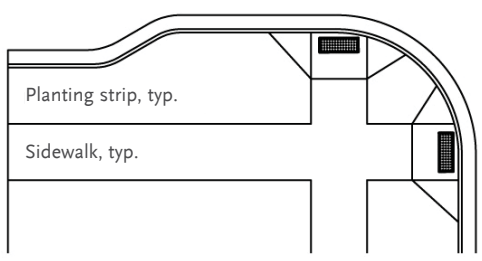


Table 3.4 Parking Lot Retrofit

PARKING LOT RETROFITS	Potential LID Measures				
	Flow-Through and Infiltration Planters	Swales	Rain Gardens	Curb Extensions	Tree Planting
Criteria / Properties					
Land use designated by planning program is to remain parking.	✓	✓	✓	✓	✓
Drive aisles are greater than 24' wide.	✓	✓	✓	✓	✓
Presence of underutilized medians and/or 'dead' striping zones.	✓	✓	✓	✓	✓
Long, linear, continuous configuration.	✓		✓		
Large footprint (i.e. for shopping malls, big box stores).	✓		✓	✓	✓
Example Locations					
Stadium Lot - H Street (between Mono Street & Kern Street)	✓	✓	✓	✓	✓
Lot - Homerun Alley @ Inyo Street	✓	✓	✓	✓	✓
2 Lots- H Street (between Fresno Street & Stanislaus Street)	✓	✓	✓	✓	✓
Fresno Met Lot - Calaveras Street @ Van Ness Avenue	✓		✓	✓	✓

Parking lots represent a substantial fraction of impervious surface within the Plan area and offer opportunities for implementing LID techniques. To ensure that adequate parking is made available on-site while also minimizing the impact of impervious paved surfaces, optimal parking lot design can be achieved by narrowing drive aisles. Savings in paved areas can then be replaced by LID water quality treatment applications using strategically placed vegetated swales, rain gardens, or infiltration/flow-through planters that either percolate into underlying soil or are hard piped into the City's existing drainage system. Opportunities for increased tree planting would also improve the shade canopy and reduce heat island effects. Area made available by streamlining parking could also be potentially used to install solar arrays to offset energy demands of nearby buildings and public spaces.

Table 3.5 Street Buffer Treatment

STREET BUFFER TREATMENT	Potential LID Measures				
	Flow-Through and Infiltration Planters	Swales	Rain Gardens	Curb Extensions	Tree Planting
Criteria / Properties					
Non-pedestrian medians and/or islands.	✓		✓		✓
Non-pedestrian traditional curb extensions.	✓		✓	✓	✓
Streets with over-abundant permanent parallel parking stalls.	✓	✓	✓	✓	✓
Streets with angled parking stalls.	✓		✓	✓	✓
Leftover landscape and/or asphalt space.	✓	✓	✓	✓	✓
Dead striping zones, such as for "No Parking".	✓		✓	✓	
Example Locations					
Intersection - H Street @Tulare Street	✓		✓	✓	✓
Intersection - F Street @ Mariposa Street	✓		✓		✓
Sidewalk - Calaveras Street @ Van Ness Avenue	✓		✓	✓	✓
Medians & islands - Broadway @ Fresno Street	✓		✓		✓

Similar to parking lots, LID techniques can be integrated into streetscapes and roadways to reduce the extent of paved surfaces and storm-water runoff pollution. Large areas of unused or inefficiently used spaces, such as concrete medians, islands, and unnecessarily wide road-ways or sidewalks, can all be transformed into planted areas that facilitate infiltration, reduce runoff, and alleviate the burden on the City's drainage system. These planted treatment areas can take shape as vegetated swales, infiltration planters, rain gardens, or curb extensions.

Leftover landscape and asphalt spaces are also prime candidates for LID retrofits. For areas where on-street parking is fully utilized, smaller stormwater curb extensions, spaced more frequently, can be used to minimize parking loss to any individual property. Streets striped with "no parking" zones could be converted into stormwater curb extensions without any loss of parking. Existing curb extensions paved with concrete or landscaped can be redesigned as either infiltration or flow-through planters. Stormwater curb extensions can also be constructed on streets with an angled parking configuration.

Table 3.6 Inlet Rain Garden Retrofit

INLET RAIN GARDEN RETROFIT	Potential LID Measures				
	Flow-Through and Infiltration Planters	Swales	Rain Gardens	Curb Extensions	Tree Planting
Criteria / Properties					
Not adjacent to critical utility structures (i.e., hydrant, electrical box).	✓	✓	✓	✓	✓
Near non-pedestrian traditional curb extensions.	✓		✓	✓	
Near existing landscape area or underutilized open space.	✓	✓	✓	✓	✓
Coincide with street buffer intersection locations fitting criteria above.	✓		✓	✓	✓
Example Locations					
3 Inlets - F Street @ Kern Street	✓		✓	✓	
2 Inlets - F Street @ Mariposa Street	✓		✓	✓	
Inlet -Tuolumne Street @ Fulton Street	✓		✓	✓	
Inlet -Stanislaus Street @ Fulton Street	✓		✓	✓	✓

The drainage system within the Plan area is currently designed so that untreated surface runoff flows overland and is collected at curb inlets or in hardscape areas, where it enters the City's storm drain network. Without the capacity to treat at least the first flush of runoff, infiltration basins and receiving water bodies are more likely to accumulate pollutants such as grease, household chemicals, construction debris, and litter. To accomplish this, existing inlets can be relocated or reconfigured to sit inside rain gardens, so that stormwater runoff is first routed through landscaped detention or bio-retention facilities, allowing pollutants to be filtered out by soil and plant material.

Table 3.7 Plaza Retrofit Treatment

PLAZA RETROFIT TREATMENT	Potential LID Measures				
	Flow-Through and Infiltration Planters	Swales	Rain Gardens	Pervious Pavers	Tree Planting
Criteria / Properties					
Within existing pedestrian mall corridors.	✓		✓	✓	✓
Areas with limited or prohibited vehicular traffic.	✓		✓	✓	✓
Not adjacent to critical utility structures (i.e., hydrant, electrical box).	✓		✓	✓	✓
Example Locations					
Merced Pedestrian Plaza	✓		✓	✓	✓
Mariposa Pedestrian Plaza	✓		✓	✓	✓
Kern Pedestrian Plaza	✓		✓	✓	✓
Fulton Pedestrian Plaza	✓		✓	✓	✓

Pedestrian plazas are prime opportunity areas for replacing otherwise impervious surface cover with permeable pavers, which promotes infiltration and reduces stormwater runoff. By reducing the footprint of required stormwater treatment measures, pervious paving is often the only viable option in ultra-urban areas that are served by internal drainage systems. Runoff from streets or parking lots should be treated for water quality before infiltrating through permeable pavers into the ground. It is important to note that pervious pavers along pedestrian walkways must be ADA-compliant and not cause tripping hazards. Pavers are available in a variety of materials and finishes, and may be chosen to complement the streetscape palette or to enhance wayfinding.

Appendix 4: Downtown Community Plan Density Analysis

180 EAST CALIFORNIA BOULEVARD AT PICHER ALLEY, PASADENA, CALIFORNIA 91105

626 844.2400 PHONE 626 844.2410 FAX
info@mparchitects.com

ELIZABETH MOULE & STEFANOS POLYZOIDES
ARCHITECTS AND URBANISTS

MEMORANDUM

To: Wilma Quan
City of Fresno

From: Juan Gomez-Novy

Date: 5 December 2011

Re: DNCP Density Analysis

CC: Stefanos Polyzoides; Elliott Balch; Elaine Robles; Arnoldo Rodriguez

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Dear Wilma:

In order to determine the impact of new development as envisioned by the Downtown Neighborhoods Community Plan (DNCP) and implemented through the Downtown Development Code (DDC), on the water, sewer, and storm water systems, Moule & Polyzoides conducted a density analysis comparing how many units could be built on the vacant parcels within the DNCP area per the proposed DDC zoning and per the existing Fresno Municipal Code (FMC) zoning. If you will recall, the development potential for the DNCP, as described in the April 28, 2011 development potential memorandum, was based upon the assumption that vacant parcels would be infilled with new development. Thus this analysis adds another level of detail regarding how new residential units are distributed within the plan area.

The comparison between the DDC and FMC zoning is summarized in **Table 1** (Comparison of New Residential Development Potential: Downtown Development Code vs. Fresno Municipal Code). This comparison was achieved by dividing the DNCP area into smaller subareas, shown in **Figure 1** (DNCP Subareas), and then calculating on a lot by lot basis how many units could be accommodated by the DDC and the FMC, respectively, within each subarea (the lot by lot density assumptions and calculations are shown in **Attachment 1**).

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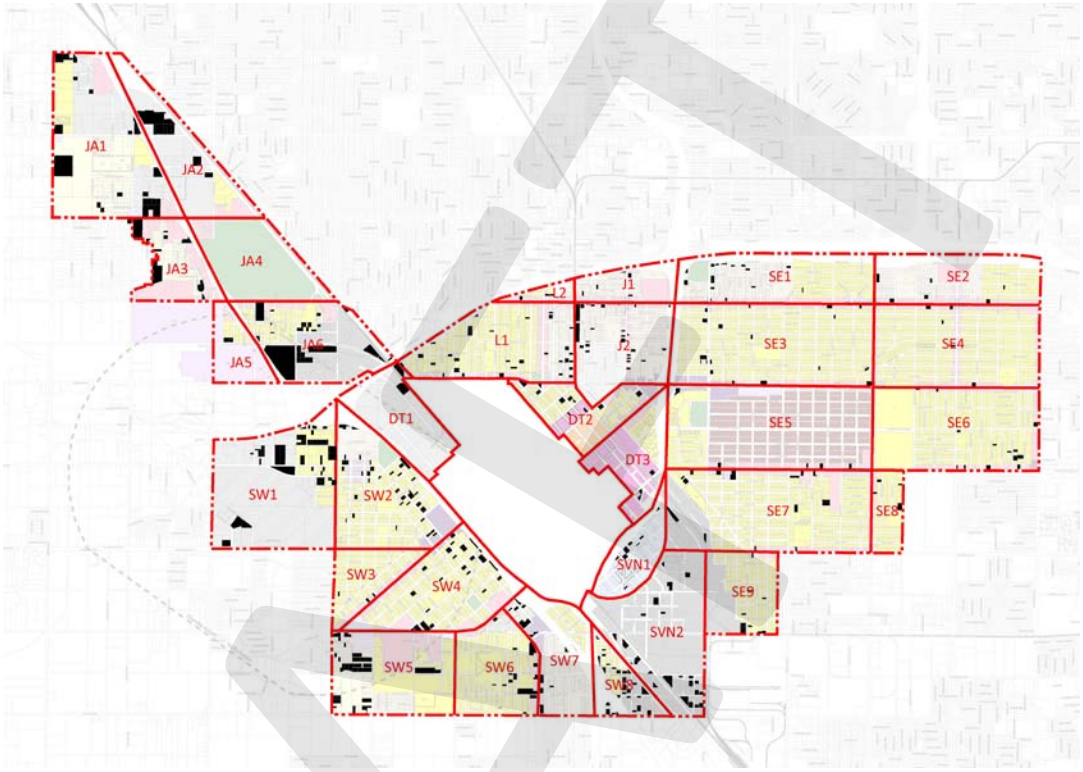
TABLE 1. Comparison of New Residential Development Potential: Downtown Development Code vs. Fresno Municipal Code[1]

Subarea	Units per Downtown Development Code (DDC)	Units per Fresno Municpal Code (FMC)	Difference (DDC-FMC)
DT1	61	66	-5
DT2	92	170	-78
DT3	18	0	18
J1	22	15	8
J2	155	327	-172
JA1	494	840	-346
JA2	0	53	-53
JA3	307	337	-30
JA4	0	0	0
JA5	16	3	13
JA6	405	53	352
L1	120	290	-169
L2	8	36	-28
SE1	46	73	-27
SE2	53	55	-2
SE3	113	128	-15
SE4	46	58	-12
SE5	68	29	39
SE6	64	93	-29
SE7	129	171	-42
SE8	11	6	5
SE9	30	13	16
SVN1	50	0	50
SVN2	122	47	75
SW1	240	281	-41
SW2	153	255	-102
SW3	14	13	1
SW4	122	260	-138
SW5	265	266	-1
SW6	259	153	106
SW7	140	159	-19
SW8	73	33	39
TOTAL	3,697	**4,283**	**-586**

[1] See **Attachment 1** for lot by lot density assumptions.

FIGURE 1. DNCP Subareas (vacant parcels shown in black).



As you can see, overall the DDC results in almost 600 units less than the FMC. As you can also see, some subareas see an increase in the number of units, while others see a decrease. Increases typically occur in industrial and manufacturing zones which, with the exception of the Downtown Triangle, do not allow residential uses. The DDC introduces live/work uses as allowed uses.

As part of this exercise, Moule & Polyzoides also analyzed how the proposed DDC zoning relates to the existing FMC zoning in terms of building height and density. This analysis showed that in general:

- **AE-5, AE-20, R-1.** The residential density within areas currently zoned for single-family houses (R-1) and as agricultural districts (AE-5 and AE-20) generally increased due to the introduction by the DDC of more dense building types, including Duplexes, Triplexes, Quadplexes, Bungalow Courts, and Rosewalks, and in some cases Courts.

- **R-2, R-2A.** With the exception of the Jane Addams Neighborhoods, the residential density within areas currently zoned for low density multi-family housing (R-2 and R-2A) stayed primarily the same. Areas within the Jane Addams Neighborhoods zoned R-2 and R-2A, generally decreased. The height limit is reduced from 35 feet

- **R-3.** The residential density within areas currently zoned for medium density multi-family housing (R-3), either stayed the same or decreased.

- **R-4.** The residential density within areas currently zoned high density multi-family housing (R-4) – primarily within the Lowell, Jefferson, and Southeast Neighborhoods – decreased.

- **R-P, C-P.** The residential density within areas currently zoned Residential and Professional Office District (R-P) and Administrative and Professional Office District (C-P), principally along corridors, generally stayed the same.

- **C-1, C-2.** The residential density and height within areas currently zoned Neighborhood Shopping District (C-1) and Community Shopping District (C-2) generally stayed the same. Note, however, that this resulted from the assumption that projects built according to the FMC obtained a Conditional Use Permit (CUP) allowing housing within mixed-use buildings. Without the CUP, housing within the C-1 and C-2 Districts is not permitted.

- **C-4, CC.** The residential density within areas currently zoned Central Trading District (C-4) and Civic Center District (CC) decreased. Both of these zones are within the boundaries of the Mid Rise and High Rise Ordinance which permits, with a CUP, high rise buildings without a height limit. The DDC places a 10-story building height cap.

- **C-5, C-6.** The residential density within areas currently zoned General Commercial District (C-5) and Heavy Commercial (C-6) District generally decreased. This zoning occurs primarily along the corridors within the Lowell, Jefferson, and Southeast Neighborhoods. Note, however, that the density decrease resulted from the assumption that projects built according to the FMC obtained a Conditional Use Permit (CUP) that allows housing within mixed-use buildings up to 5 stories in height. Without the CUP, housing within the C-5 and C-6 Districts is not allowed and the building height would remain unchanged at 35' (or 3-stories).

- **C-M**. The residential density within areas currently zoned Commercial and Light Manufacturing District generally increases, while the height generally decreases. Currently, residential uses are not allowed outside the State Route 99, 41, 180 triangle. The DDC changes areas zoned C-M to mixed-use districts, while reducing the height from 75 feet to 3 stories.

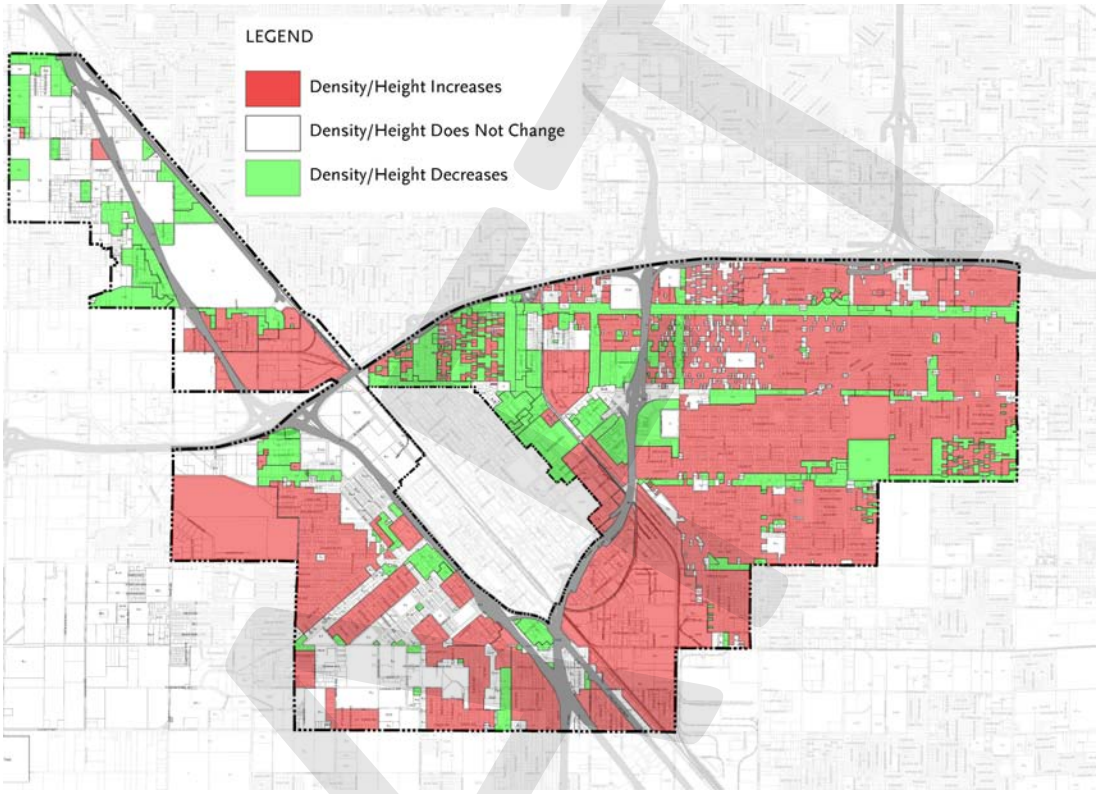
- **M-1, M-2, M-3.** The residential density within areas currently zoned for manufacturing and industrial uses (M-1, M-2, and M-3) increased due to the introduction of live-work building types and uses. Except for within the Central Area Community Plan (CACP) area, the FMC does not permit residential uses within manufacturing and industrial districts. Within the CACP area, residential uses are permitted with a CUP.

- **P.** The residential density within areas currently zoned for off-street parking uses (P) increased due to the introduction of residential building types and uses on these parcels.

- **T-P.** The residential density within areas currently zoned for Trailer Park Residential District (T-P) stayed the same. Note that the DDC does not allow new trailer parks, but does allow existing trailer parks as non-conforming uses.

These increases and decreases in density and/or height are illustrated in **Figure 2** (Density and/or Height Change in Relation to FMC). The detailed zone by zone comparison is shown in **Attachment 2**.

FIGURE 2. Density and/or Height Change in relation to FMC



The density analysis also compared the setback distances between the DDC and FMC. In general (see **Attachment 2** for more detail):

- In the residential neighborhoods, setbacks remain the same or increase.
- Along the corridors, setbacks get smaller (the DDC provides a range of setback distances, but assuming that sites develop to their maximum, setbacks get smaller).
- Within the industrial zones, setbacks remained the same (assuming maximum development occurs).

Please note the above density analysis includes the following modifications to the building types allowed within the NG, NG-P, NG-R, and NE zones (Neighborhood General, Neighborhood General Preservation, Neighborhood Revitalization, and Neighborhood Edge zones) as follows:

NG ZONE
~~Hybrid Court~~ (Hybrid Court deleted)
~~Court~~ (Court deleted)
~~Live-Work~~ (Live-Work deleted)
~~Rowhouse~~ (Rowhouse deleted)
Bungalow Court
Rosewalk
Duplex/Triplex/Quadplex
Single Dwelling
Carriage House

NG-P ZONE
~~Bungalow Court~~ (Bungalow Court deleted)

~~Rosewalk~~ (Rosewalk deleted)
Duplex, Triplex, Quadplex,
Single Dwelling
Carriage House

NG-R ZONE
~~Hybrid Court~~ (Hybrid Court deleted)
Court
Rowhouse
Bungalow Court
Rosewalk
Duplex/Triplex/Quadplex
Single Dwelling
Carriage House

NE ZONE
Bungalow Court (Court changed to Bungalow Court)
Single Dwelling
Carriage House

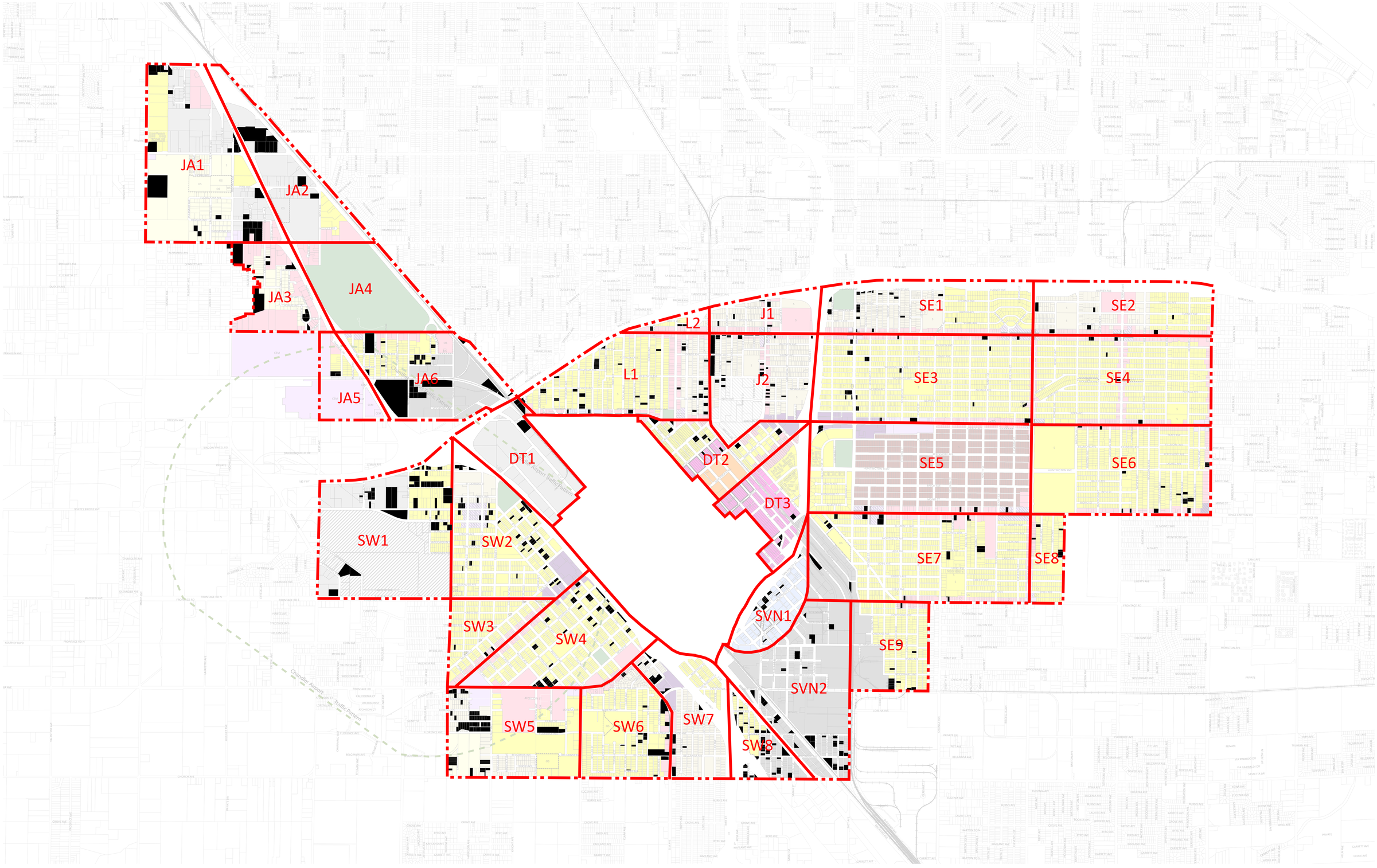
The reasons for these changes are:

- Change, as described in the vision of the Fulton Corridor Specific Plan (FCSP) and DNCP, is concentrated in the FCSP area. The Market Report generated by Strategic Economics supports this vision of change.

- The goal is to infill the DNCP neighborhoods with buildings that are house-like in form.
  In the case of the NG zone, the Hybrid Court, Court, Live-Work, and Rowhouse types are buildings comprised of attached multi-family units that could potentially overwhelm the many single-family house building types that currently populate these neighborhoods. These multi-family types are better suited along the corridors. Though Duplexes, Triplexes, and Quadplexes contain multiple units, these building types are conceived as single-family houses that happen to contain two, three, or four units. Similarly, Bungalow Courts are composed of several single family buildings built grouped around a shared open space.
  The NG-P zone applies generally to areas that are well built out with well-preserved single-family buildings (such as along Huntington Boulevard). Developing the Rosewalk and Bungalow Court building types would require assembling two lots, a practice that should be avoided in the these well-preserved neighborhoods.
  The NE zone is conceived as a lower density zone that is rural in character. Accordingly, the allowed building types have been changed to detached single family types: single dwellings and bungalow courts.

- Increasing density in the NG, NG-P, and NE zones means that water and sewer pipes might need to be increased in size in order to support wastewater flows and fire flow. Based upon the findings of Strategic Economics' Market Report (that very little development activity will occur in the neighborhoods), infrastructure upgrades should be concentrated in the FCSP area. In addition, the FCSP area has some of the oldest infrastructure in the City (some as old as 70 years), infrastructure that should be replaced before other infrastructure is replaced.

Appendix 5: Downtown Community Plan Unit Count by Superblock



Unit Count Comparison

City of Fresno, California
Fulton Corridor Specific Plan and
Downtown Neighborhoods Community Plan
23 November 2011

Moule & Polyzoides
Architects and Urbanists

Appendix 6: Water Distribution Network Model

WEST YOST ASSOCIATES

TECHNICAL MEMORANDUM

DATE: July 22, 2011 Project No.: 439-02-10-07

TO: Brock Buche, City of Fresno Water Division Project Manager
Martin Querin, City of Fresno Assistant Public Utilities Director—Water Division

FROM: Brenda Estrada, Project Engineer, R.C.E. #67062
Elizabeth Drayer, Project Engineer, R.C.E. #46872

REVIEWED BY: Charles Duncan, Project Manager, R.C.E. #55498

SUBJECT: Hydraulic Evaluation of the Proposed Fulton Corridor Specific Plan Project

INTRODUCTION

The purpose of this memorandum is to present West Yost Associates' (West Yost's) evaluation of the potential hydraulic impacts on the City of Fresno (City) water system of the proposed Fulton Corridor Specific Plan Project (Proposed Project) located in the City's downtown area. As described in this memorandum, West Yost has used the City's water system hydraulic model to evaluate the ability of the City's existing water system to provide minimum required pressures and flows under the future, projected demands associated with the buildout of the Proposed Project. Our findings and recommendations for water system infrastructure improvements to serve the Proposed Project are described below.

PROJECT DESCRIPTION

The Proposed Project is located in the City's Downtown area and encompasses several distinct center city areas (districts) including the Central Business District, the Cultural Arts District, the South Stadium zone, and Chinatown. As shown on Figure 1, the approximate boundaries of the Proposed Project are East Divisadero Street to the north, N and O Streets to the east, Highway 41 to the south, and Highway 99 to the west. In all, the combined Proposed Project area comprises approximately 440 acres and includes a mix of multi-family residential, industrial mixed use, office and retail land uses.

As described below, three different land use development scenarios for the Proposed Project have been evaluated by Sherwood Design Engineers (Sherwood) based on a range of Floor Area Ratio (FAR) assumptions. The total building area for the three development scenarios ranges from 5.2 million square feet for the minimum proposed FAR scenario to 14.1 million square feet for the maximum proposed FAR scenario.

PROJECTED WATER DEMANDS

The analysis of the potable water demand within the Proposed Project was performed by Sherwood[1]. The demand analysis utilized the proposed building areas and FARs as developed by Moule & Polyzoides (M&P) and the Project planning team. The water demands were calculated for each development scenario using water demand rates based on built area per land use types. Unit water use factors were based on the increased densification and proposed land uses for underutilized parcels included in each district within the Proposed Project area and were taken from Sherwood's existing internal data/research and cross-referenced with the City of Oakland's land use demand values[2]. Proposed average daily flow rates per district were calculated as weighted averages based on M&P's distribution of land uses within each district.

Table 1 provides a summary of the unit water use factors used by Sherwood for each district for the evaluation.

Table 1. Summary of Unit Water Use Factors Used for Proposed Project

District	Unit Water Use Factor, gallons per day per 1,000 square feet
Central Business District 1 (CBD1)	204
Central Business District 2 (CBD2)	202
Civic Center	210
Chinatown District	196
Cultural Arts/South Stadium District	192
Chinatown Industrial District	150
Town Center	210
Neighborhood General	200
Neighborhood General Preservation	200
Special District	130

Source: Sherwood Design Engineers Water Demand Calculations received May 23, 2011 (FCSP_Water_Analysis_110513.pdf) (Water_Flow_SP.xlsx).

Three development scenarios were evaluated by Sherwood:

- A minimum buildout scenario (minimum FAR),
- A median buildout scenario (median FAR), and
- A maximum buildout scenario (maximum FAR).

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1 Sherwood Design Engineers Water Demand Calculations received May 23, 2011 (FCSP_Water_Analysis_110513.pdf) (Water_Flow_SP.xlsx).

2 The data available for the City of Oakland was based on estimated wastewater flows for various types of development. To back-calculate water use based on this data, the estimated wastewater flows were multiplied by a factor of 1.20 to account for consumptive water uses which do not result in wastewater flows.

Table 2 provides a summary of the calculated water demands for the three development scenarios evaluated by Sherwood for the Proposed Project. Demands were calculated for underutilized parcels within the Proposed Project area, such that the calculated additional demand represents the projected demand associated with the Proposed Project for various FAR scenarios. Based on the current land use of the underutilized parcels, the existing demand was estimated at 170,822 gallons per day (gpd), or 191 acre-feet per year (af/yr). The estimated water demands on other parcels within the Proposed Project were assumed not to change. A copy of Sherwood's water demand calculation spreadsheet showing the calculated water demand for each underutilized parcel for each development scenario is provided in Attachment 1.

Table 2. Summary of Projected Water Demand for Various Development Scenarios

Development Scenario	Total Projected Building Area on Underutilized Parcels, square feet	Existing Demand on Underutilized Parcels, gpd	Additional Demand on Underutilized Parcels as a result of Proposed Project, gpd	Total Demand on Underutilized Parcels within Proposed Project Area, gpd	Total Existing Demand on All Parcels within Proposed Project Area, gpd	Total Demand within Proposed Project Area, gpd
		[1]	[2]	[3] = [1] + [2]	[4]	[5] = [2] + [4]
Minimum Buildout Scenario (Minimum FAR)	5,240,428	170,822	870,835	1,041,656	683,983	1,554,818
Median Buildout Scenario (Median FAR)	9,572,280	170,822	1,733,744	1,904,565	683,983	2,417,727
Maximum Buildout Scenario (Maximum FAR)[(a)]	14,123,642	170,822	2,637,503	2,808,324	683,983	3,321,486

Source: Sherwood Design Engineers Water Demand Calculations received May 23, 2011 (FCSP_Water_Analysis_110513.pdf) (Water_Flow_SP.xlsx).

[(a)] The Maximum Buildout Scenario (Maximum FAR) is the basis for West Yost's analysis.

For purposes of West Yost's hydraulic evaluation of the Proposed Project, West Yost has evaluated the water demands associated with only the maximum buildout (maximum FAR) development scenario which equate to an additional average day demand of approximately 2.6 million gallons per day, which equals an additional annual demand of 2,955 af/yr.

Figure 2 shows the projected demands by parcel within the Proposed Project area for the maximum buildout development scenario.

WATER SUPPLY

As described in the City's Metro Plan Update, the City's Water Master Plan, and West Yost's March 2009 Technical Memorandum "Hydraulic Evaluation of the Downtown Central Area," the City's available water supplies are limited to a finite quantity and are extremely limited. As shown in Table 2, the estimated annual demand for the maximum buildout scenario for the Proposed Project will further increase required water supplies by an additional 2,955 af/yr. Water supplies to meet this estimated additional demand must come from within the City's existing, limited water supply portfolio and may need to be "imported" from other parts of the City and/or require reduced water use (additional water conservation) in other parts of the City.

Water supplies for the Proposed Project will probably need to be evaluated as part of an SB 610 Water Supply Assessment to evaluate the availability and reliability of the City's water supplies to meet the projected increased water demands of the Proposed Project under various hydrologic conditions and whether these demands were anticipated as part of the City's most recent Urban Water Management Plan.

EVALUATION CRITERIA

Planning and Modeling Criteria

The planning and modeling criteria used for this evaluation are based on West Yost's recent work with the City. The August 2008 verified hydraulic model of the City's water distribution system was used as the basis for the evaluation. The criteria used to evaluate the potential impacts to the City's existing water system are as follows:

- Minimum peak hour demand pressure 40 pounds per square inch (psi);
- Maximum allowable velocity is 7 feet per second (fps) during a peak hour condition;
- Maximum day plus fire flow residual pressure at the flowing hydrant must be equal to or greater than 20 psi;
- Maximum allowable velocity is 10 fps during the simulated fire flow condition[3];
- Maximum allowable head loss rate is 10 feet per 1,000 feet during any condition[4];
- Any new, required pipelines will be modeled with a roughness coefficient (C-factor) of 130;

[3] This criteria was developed primarily for new development; ability to meet this criteria within existing distribution systems (such as that in the City's downtown area) can be difficult due to existing small diameter pipelines and aging pipelines.

[4] This criteria was developed primarily for new development; ability to meet this criteria within existing distribution systems (such as that in the City's downtown area) can be difficult due to existing small diameter pipelines and aging pipelines.

- Assumed peaking factors for maximum day and peak hour demand conditions are consistent with the City's adopted peaking factors and are as follows:
  - Maximum Day Demand = 2.0 times Average Day Demand
  - Peak Hour Demand = 2.9 times Average Day Demand

Fire Flow Requirements

Fire flow requirements based on proposed land use for each parcel were determined by Sherwood and were based on the California Building Code (CBC) and the 2007 California Fire Code (CFC) (Table B105.1). Sherwood assumed maximum potential building footprints for each parcel and assumed CBC construction type (IA, IIIB, etc.) for each land use zone based on the building type with the maximum FAR. Based on this methodology, fire flow requirements of up to 6,250 gallons per minute (gpm) for a four-hour duration were identified for some of the parcels. The projected fire flow requirements by parcel are shown on Figure 3. A copy of Sherwood's fire flow calculation spreadsheet showing the calculated fire flow requirement by parcel is provided in Attachment 2.

Some of the larger buildings included in the Proposed Project will be fully sprinklered which results in a reduction of the required fire flow. Therefore, based on direction received from Byron Beagles (City of Fresno Fire Prevention Engineer), a fire flow requirement of 3,500 gpm for a four-hour duration with a minimum 20 psi residual pressure will be assumed for the Proposed Project[5].

It should be noted that evaluated fire flows and residual pressures are based on ground surface elevations, and do not account for required minimum water service pressures on higher floors in multi-story buildings. As such, utility system designs for some buildings within the Proposed Project may require the provision of booster pumps to provide adequate water service pressures on higher floors and for fire suppression systems.

Although these criteria have been established, and used to size new pipelines, the existing system in the City's downtown area should be evaluated using pressure as the primary criterion. Secondary criteria, such as velocity, head loss, age, and material type, are used as indicators for areas of the water system that also may need improvements, but may not be required as part of this evaluation.

[5] February 6, 2011 e-mail from Byron Beagles to Brock Buche, re: Fire Flow Requirements.

WATER SYSTEM FACILITY ASSUMPTIONS

Recommendations from Previous Evaluations

In March 2009, West Yost completed a hydraulic evaluation of the Downtown Central Area to evaluate available supplies in the City's downtown area and address the loss of supply in the downtown area due to aging wells and water quality issues[6]. The following recommendations for water system improvements were made:

- Additional storage to increase system reliability during peak hour and fire flow conditions;
- Replacement or rehabilitation of Wells 1A and 21A;
- Upgrade of Well 172 pumping capacity along with associated distribution system improvements from Well 172 to the City's downtown area; and
- Addition of 24-inch and 16-inch diameter pipelines through the Central Area to support integrating surface water supply from the east and continuing the City's goal of developing opportunities to transition their predominate groundwater supply to a more balanced conjunctive use system.

In May 2011, West Yost conducted a re-evaluation of the Downtown Central Area to determine what potential alternatives existed other than the March 2009 recommendation for increasing the pumping capacity of Well 172[7]. The recommendations of the May 2011 evaluation were to make distribution pipeline improvements to improve flow from Well 172 (as recommended in the March 2009 evaluation), but instead of upgrading the pumping capacity of Well 172, distribution system improvements should be made to convey supplies from Well 313 to the Downtown Central Area.

For purposes of this evaluation, it has been assumed that the pipeline and storage infrastructure recommendations from these prior hydraulic evaluations of the Downtown Central Area without the pumping capacity increase of Well 172 will be implemented by the City and will be available to serve the Proposed Project.

Specific Facility Assumptions

The following specific assumptions have been made related to available water system facilities and other water demands within the City's service area:

- Wells 1A and 21A in the City's downtown area (located just northeast of the Proposed Project) area are assumed to be inactive;

[6] "Hydraulic Evaluation of the Downtown Central Area", Technical Memorandum, prepared by West Yost Associates, March 12, 2009.

[7] "Hydraulic Re-Evaluation of the Downtown Central Area Water Distribution System", Technical Memorandum, prepared by West Yost Associates, May 10, 2011.

- New Well 1B (located just outside the City's downtown area) is assumed to be operational and active (recommended as part of West Yost's March 2009 Hydraulic Evaluation of the Downtown Central Area as a replacement for Wells 1A and 21A);
- The new 3.0 million gallon (MG) Downtown tank and associated pipelines (along Nielsen Avenue and G Street) (currently under design) are assumed to be operational (recommended as part of West Yost's March 2009 Hydraulic Evaluation of the Downtown Central Area);
- The distribution system improvements from Well 172 to the Central Area are assumed to be operational. The associated distribution system improvements include a new 16-inch diameter pipeline south along Hughes Avenue and a new 24-inch diameter pipeline along Nielsen Avenue to convey supplies from Well 172 to the Central Area (recommended as part of West Yost's March 2009 Hydraulic Evaluation of the Downtown Central Area);
- A 12-inch diameter connection at West Avenue to the 24-inch diameter pipeline in Nielsen Avenue to convey supplies from Well 313 to the Central Area is assumed to be operational (recommended as part of West Yost's May 2011 Hydraulic Re-Evaluation of the Downtown Central Area Water Distribution System);
- New 24-inch and 16-inch diameter pipelines through the Central Area along G Street, Ventura Street, O Street and Stanislaus Street are assumed to be operational to support integrating surface water supply from the east and continuing the City's goal of developing opportunities to transition their predominate groundwater supply to a more balanced conjunctive use system (recommended as part of West Yost's March 2009 Hydraulic Evaluation of the Downtown Central Area);
- The new Chestnut Avenue transmission pipeline from the City's Northeast Surface Water Treatment Facility (SWTF) is assumed to be operational;
- The regional Transmission Grid Mains (TGMs) are included and assumed to be operational;
- Future water demands in the southwest part of the City service area are included (per June 8, 2011 e-mail from Brock Buche, the City's Development Department has indicated that development in the southwest part of the City will occur concurrently with the Proposed Project);
- The proposed new Southeast SWTF is <u>not</u> included; and
- Future water demands associated with the Southeast Growth Area (SEGA) are <u>not</u> included.

The City's assumed water system facilities available to serve the Proposed Project in the downtown area are shown on Figure 4.

EVALUATION SCENARIOS

As described above, only the maximum buildout (maximum FAR) development scenario of the Proposed Project has been analyzed by West Yost for this evaluation; no other development scenarios or phasing plans were evaluated.

To evaluate the adequacy of the City's water system to serve the Proposed Project, West Yost has evaluated buildout of the Proposed Project under the following two demand conditions:

- A future maximum day demand condition concurrent with a 3,500 gpm fire flow demand while maintaining a minimum residual system pressure of 20 psi; and
- A peak hour demand condition while maintaining a minimum system pressure of 40 psi.

EVALUATION FINDINGS

Storage Capacity Evaluation

Treated water storage capacity requirements for the City were evaluated based on the following three components: operational storage, emergency storage and fire storage. The principal advantage that storage provides is to equalize demands on supply sources and production facilities. The City's Metro Plan Update and Water Master Plan both indicate a need for water storage in the City's downtown area.

West Yost's March 2009 evaluation of the City's Central Area recommended that approximately 3 million gallons (MG) of storage be constructed in the City's Central Area to increase system reliability during peak hour and fire flow conditions. As described above, a new 3 MG Downtown Tank is currently under design and is assumed to be operational for the purposes of this evaluation. However, the required storage capacity previously calculated for the City's Central Area did not take into account the increased densification associated with the Proposed Project. This increased densification will increase the need for storage in the City's Downtown area. Table 3 shows the increased storage requirement attributed to the increased demands associated with the Proposed Project.

Table 3. Additional Storage Required Due to Densification Associated with Proposed Project

Storage Component	Required Storage based on Current Buildout of Fulton Corridor Area without Proposed Project, MG	Required Storage based on Current Buildout of Fulton Corridor Area with Proposed Project, MG	Increased Storage Requirement Attributed to Proposed Project, MG
Operational: Equal to 25% of the Maximum Day Demand	1.17	1.65	0.48
Emergency: Equal to Average Day Demand	2.33	3.30	0.96
Fire Flow: Equal to the highest fire flow demand for an area multiplied by the required duration.	0.84	0.84	0.00
Total	4.34[(a)]	5.78	1.45

[(a)] The storage requirement shown for buildout of the Fulton Corridor Area without the Proposed Project (4.34 MG) is part of required storage previously calculated for the Downtown Central Area. As described in West Yost's March 2009 Hydraulic Evaluation of the Downtown Central Area, required storage within the Downtown Central Area was previously calculated to 8.3 MG, which will be met by a combination of groundwater credits (5.2 MG) and a new Downtown storage tank (3.0 MG). These previous storage calculations for the Downtown Central Area did not include the Proposed Project described in this technical memorandum.

As shown in Table 3, the additional storage requirement resulting from the increased densification associated with the Proposed Project is 1.45 MG.

As described in West Yost's March 2009 evaluation of the City's Central Area, water storage within the City is considered on a regional basis with the water storage requirements for the downtown area being a portion of the overall system requirements. The City's Water Master Plan is evaluating the overall system and will make recommendations for overall system improvements, including recommendations for storage improvements. The 3.0 MG Downtown tank (currently being designed) does not provide adequate capacity for the additional storage required for the Proposed Project, therefore additional operational and emergency storage will need to be provided within the City's overall system to meet the storage needs for the Proposed Project.

Pumping Capacity Evaluation

Along with the increased storage due to the demand densification, the City will require additional pumping capacity for the Proposed Project to meet operational demands. The operational pumping requirements are used to help meet the City's performance criteria during peak demand conditions. The pumping capacity for fire flow has been accounted for on a regional basis and will not increase as a result of the densification. Emergency pumping capacity is based on an average day demand and is generally met by wells and pump stations equipped with auxiliary power. The recommended pumping required to serve the operational needs of the Proposed Project is approximately 1.44 mgd (1,000 gpm). This increased pumping capacity will need to be added within the City's overall system to meet peak demand operations.

Distribution System Evaluation

The City's existing water system hydraulic model was modified by West Yost to be representative of the projected water demands associated with the maximum buildout (maximum FAR) development scenario of the Proposed Project. The estimated future demands were distributed throughout the Proposed Project area, as appropriate, according to the proposed development plans.

The future buildout system with the Proposed Project, and the previously recommended Downtown Central Area water system infrastructure improvements described above, was evaluated under maximum day demand plus fire flow conditions and peak hour demand conditions. The evaluation results are described below.

The results of the maximum day demand plus fire flow condition for the future buildout system with the Proposed Project are shown on Figure 5. Figure 5 shows the available flow at each node in the hydraulic model assuming that a minimum system pressure of 20 psi is maintained. Nodes that are shown in "green" have available flows of 3,500 gpm or more, indicating that they meet the fire flow requirement for the Proposed Project. Nodes shown in "red" have available flows that are less than 3,500 gpm, indicating that they do not meet the fire flow requirement for the Proposed Project. As shown, in the northern part of the Proposed Project area, there are several locations where available flows are below the required minimum of 3,500 gpm (see "red" nodes on Figure 5); the lowest available flow in this area is 1,617 gpm. Similarly, there are several locations in the southern part of the Proposed Project area where available flows are below the required minimum of 3,500 gpm (see "red" nodes on Figure 5); the lowest available flow in this area is 1,497 gpm. It should also be noted that the City's pipeline velocity criteria of a maximum of 10 fps during a simulated fire flow condition is not being met in many locations within the Proposed Project area; however, this is expected due to the age and small diameter size of the existing pipelines in the downtown area. Therefore, infrastructure improvements will be required to meet the City's fire flow pressure and flow criteria (these recommendations are described below).

The results of the peak hour demand condition for the future buildout with the Proposed Project are shown on Figure 6. Figure 6 shows the system pressure at each node in the hydraulic model based on peak hour demand conditions. As shown, system pressures throughout most of the Proposed Project area are between 40 and 50 psi under buildout peak hour demand conditions (indicated by the "green" nodes), and some are between 50 to 60 psi (indicated by the "blue" nodes). Therefore, the City's minimum peak hour pressure criteria of 40 psi is being met throughout the Proposed Project area and no specific improvements are required for the peak hour demand condition.

EVALUATION RECOMMENDATIONS

Figure 7 shows the following recommended infrastructure improvements to resolve the fire flow deficiencies described above as a result of the increased water demands associated with the Proposed Project. The recommended improvements include the replacement of existing smaller diameter pipelines with 8-inch diameter pipelines (approximately 1,400 linear feet in total) and the installation of new 8-inch diameter pipelines where pipelines did not previously exist

(approximately 7,660 linear feet in total). A table listing the proposed pipeline improvements by street is provided as Attachment 3.

Also, as described below, West Yost recommends that an additional 1.5 MG of storage be located within the City's overall water system to meet the operational and emergency storage needs of the Proposed Project.

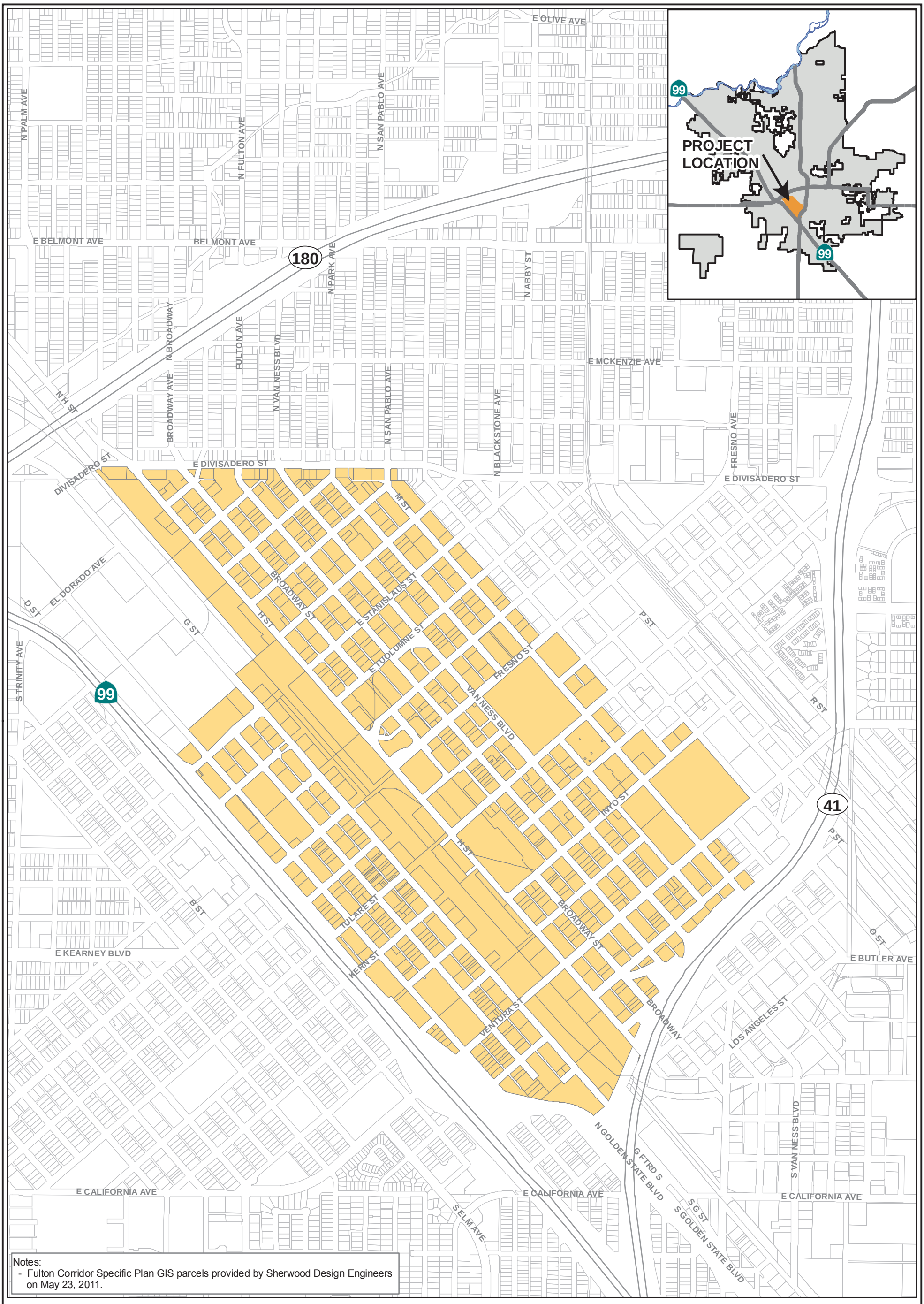
Figure 8 shows the maximum day demand plus fire flow scenario with the Proposed Project with the recommended pipeline improvements as listed above. As shown, with the recommended improvements, the fire flow requirement of 3,500 gpm is met throughout the entire Proposed Project area, with the exception of the following two locations:

- G Street (just north of Stanislaus Street): The available fire flow at this location is 1,972 gpm. This node is located at the end of an approximately 440 foot long, 8-inch diameter pipeline (which appears to be a hydrant lateral). Flows from this location could be combined with flows from other nearby hydrants to provide the fire flow requirement of 3,500 gpm for the Proposed Project.
- Mono Street (just east of E Street): The available fire flow at this location is 2,140 gpm. This location has smaller parcels and no proposed multi-story buildings, therefore, this available fire flow appears to be adequate for this area. Also, flows from this location could be combined with flows from other nearby hydrants to provide the fire flow requirement of 3,500 gpm for the Proposed Project.

It should be noted that the City's pipeline velocity criteria of a maximum of 10 fps during a simulated fire flow condition is still not being met in many locations within the Proposed Project area, even with the recommended improvements described above and shown on Figure 7; however, this is expected due to the age and small diameter size of the existing pipelines in the downtown area. Because fire flow pressure and flow requirements are being met, this velocity criteria, by itself, is not considered as being critical enough to require replacement of additional existing pipelines with larger diameter pipelines in the downtown area.

Figure 9 shows the peak hour demand scenario with the Proposed Project with the recommended improvements. As noted above, no specific improvements were required for the peak hour demand condition for the Proposed Project. Similar to the peak hour results shown in Figure 6, the minimum peak hour system pressure of 40 psi is met throughout the entire Proposed Project area.

An estimation of probable construction costs for these recommended water system infrastructure improvements to serve the Proposed Project was not included in West Yost's Scope of Work for this evaluation. However, these cost estimates can be provided if requested and if a budget augmentation is approved by the City.



Notes:
- Fulton Corridor Specific Plan GIS parcels provided by Sherwood Design Engineers on May 23, 2011.

LEGEND

Fulton Corridor Specific Plan

N

0 500 1,000

Scale in Feet

FIGURE 1

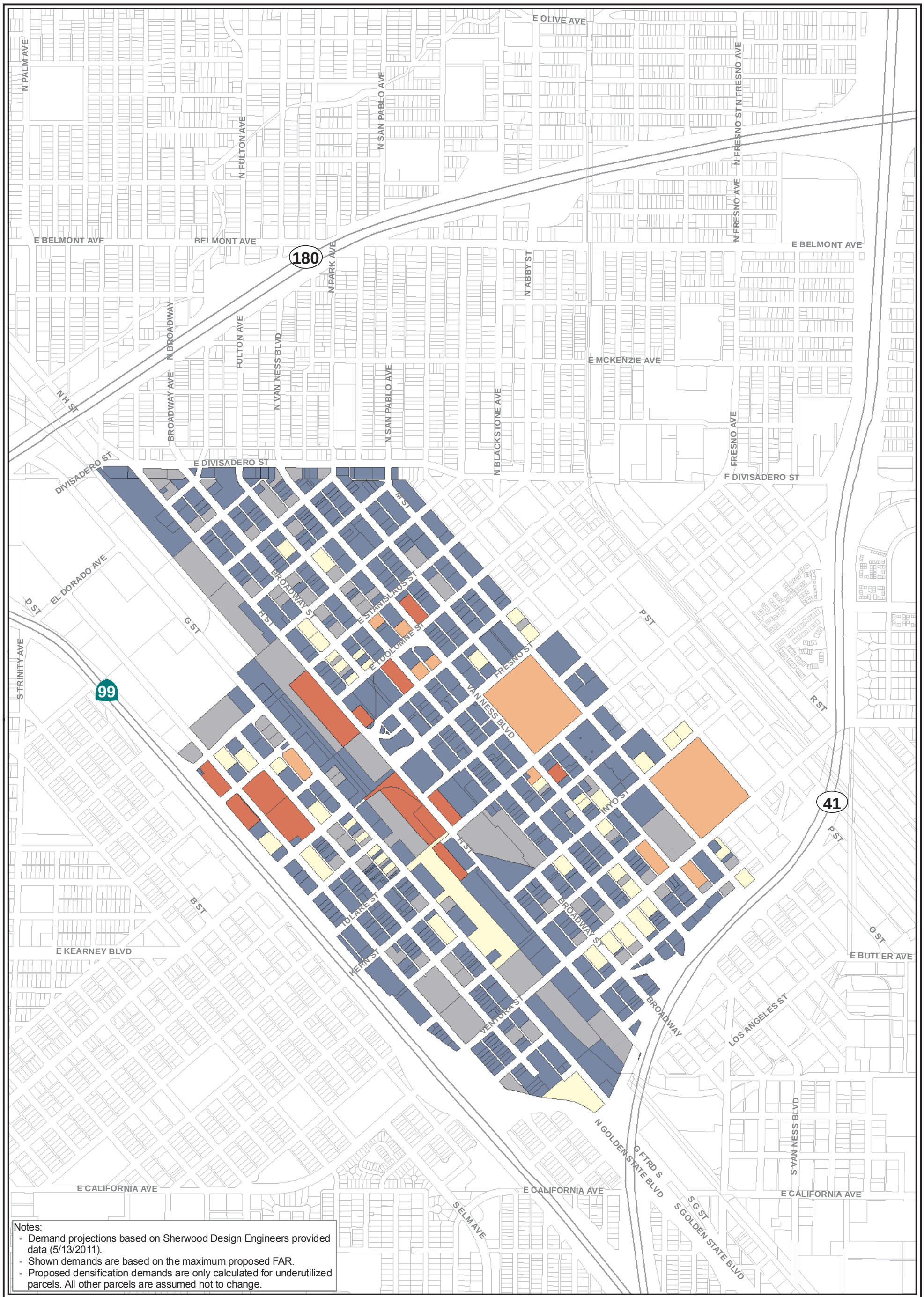
City of Fresno

Fulton Corridor Hydraulic Analysis

PROJECT LOCATION

WEST YOST ASSOCIATES
Consulting Engineers

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 1 Location.mxd 6/28/2011



Notes:
- Demand projections based on Sherwood Design Engineers provided data (5/13/2011).
- Shown demands are based on the maximum proposed FAR.
- Proposed densification demands are only calculated for underutilized parcels. All other parcels are assumed not to change.

LEGEND

Fulton Corridor Projected Demands

- 0 - 5,000 gpd
- 5,001 - 10,000 gpd
- 10,001 - 20,000 gpd
- 20,001 - 30,000 gpd
- 30,001 - 286,209 gpd

N

0 500 1,000

Scale in Feet

FIGURE 2

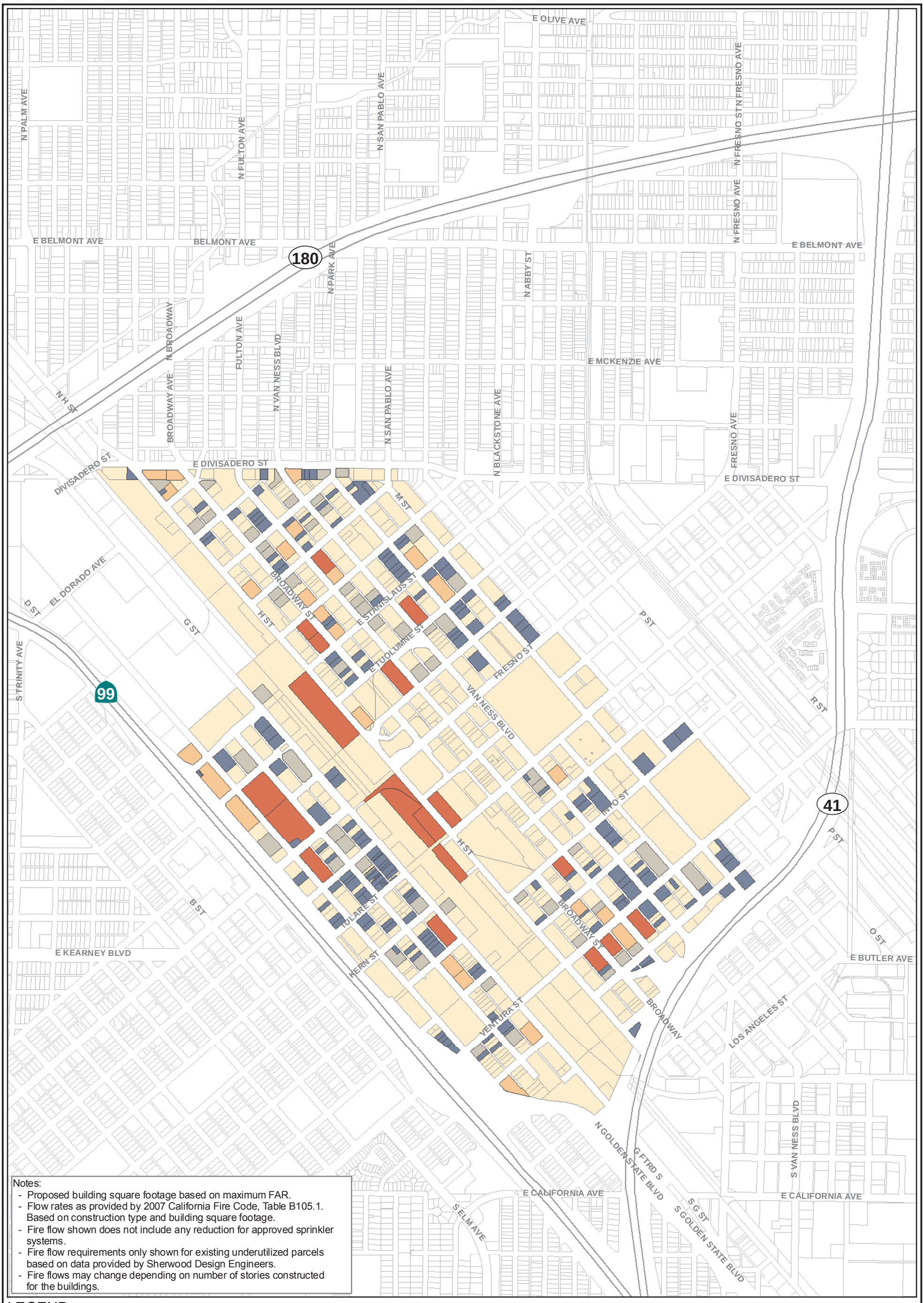
City of Fresno

Fulton Corridor Hydraulic Analysis

PROJECTED DEMAND DENSIFICATION

WEST YOST ASSOCIATES
Consulting Engineers

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 2 Ex System.mxd 6/28/2011



Notes:
- Proposed building square footage based on maximum FAR.
- Flow rates as provided by 2007 California Fire Code, Table B105.1. Based on construction type and building square footage.
- Fire flow shown does not include any reduction for approved sprinkler systems.
- Fire flow requirements only shown for existing underutilized parcels based on data provided by Sherwood Design Engineers.
- Fire flows may change depending on number of stories constructed for the buildings.

LEGEND

Underutilized Parcel Fire Flow

- 1,500 - 3,000 gpm
- 3,001 - 4,000 gpm
- 4,001 - 5,000 gpm
- 5,001 - 6,500 gpm
- Fire Flow not updated

N

0 500 1,000

Scale in Feet

FIGURE 3

City of Fresno

Fulton Corridor Hydraulic Analysis

PROJECTED FIRE FLOW REQUIREMENTS

WEST YOST ASSOCIATES
Consulting Engineers

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 3 Projected Fire Flow.mxd 6/28/2011

WELL 010A
WELL 018A
WELL 066
WELL 002B
WELL 050A
WELL 021A
WELL 001A
WELL 022A
WELL 009A
WELL 003A
WELL 16A
3 MG Downtown Storage Tank and Booster Pump Station
N PALM AVE
N FULTON AVE
N SAN PABLO AVE
N FRESNO ST
E BELMONT AVE
N PARK AVE
N ABBY ST
E MCKENZIE AVE
N BROADWAY
FULTON AVE
N VAN NESS BLVD
N BLACKSTONE AVE
FRESNO AVE
E DIVISADERO ST
M ST
EL DORADO AVE
D ST
G ST
P ST
R ST
E STANISLAUS ST
E TUOLUMNE ST
FRESNO ST
VAN NESS BLVD
N O ST
H ST
TULARE ST
KERN ST
VENTURA ST
BROADWAY ST
E KEARNEY BLVD
E BUTLER AVE
LOS ANGELES ST
O ST
S TRINITY AVE
N GOLDEN STATE BLVD
G FTRD S
S VAN NESS BLVD
E CALIFORNIA AVE
S G ST
S GOLDEN STATE BLVD
S ELM AVE
180
99
41

Notes:
- Downtown tank and transmission pipeline along G Street currently under design.
- Planned transmission pipeline recommendations based on the City of Fresno Metropolitan Plan to supply surface water throughout the City.

LEGEND

- Existing Pipelines
- **Planned Transmission Pipelines**
  - 12 inch diameter
  - 16 inch diameter
  - 24 inch diameter
  - 30 inch diameter
- Well/Pump Station
- Inactive Well
- Storage Tank
- Fulton Corridor SP

N

0 500 1,000

Scale in Feet

FIGURE 4

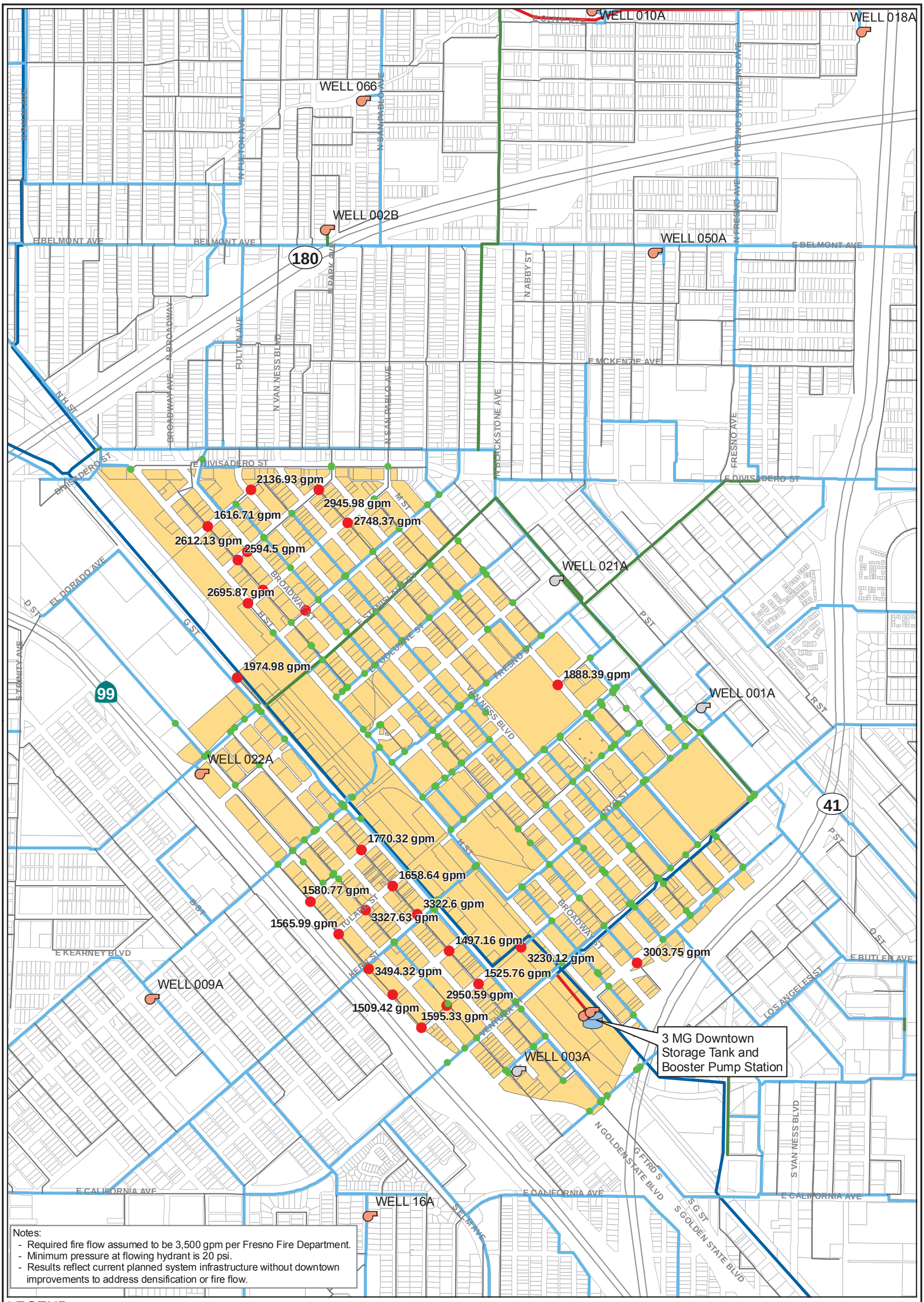
City of Fresno

Fulton Corridor Hydraulic Analysis

PLANNED BUILDOUT FACILITIES

WEST YOST ASSOCIATES
Consulting Engineers

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 4 Bo System.mxd 7/1/2011



Notes:
- Required fire flow assumed to be 3,500 gpm per Fresno Fire Department.
- Minimum pressure at flowing hydrant is 20 psi.
- Results reflect current planned system infrastructure without downtown improvements to address densification or fire flow.

LEGEND

Available Flow @ 20 psi
- Less than 3,500 gpm
- Greater than 3,500 gpm
- Well/Pump Station
- Inactive Well
- Storage Tank

Pipe Diameters
- 6 to 8 inch
- 10 to 12 inch
- 14 to 16 inch
- 24 inch
- 30 inch

N

0 500 1,000

Scale in Feet

FIGURE 5

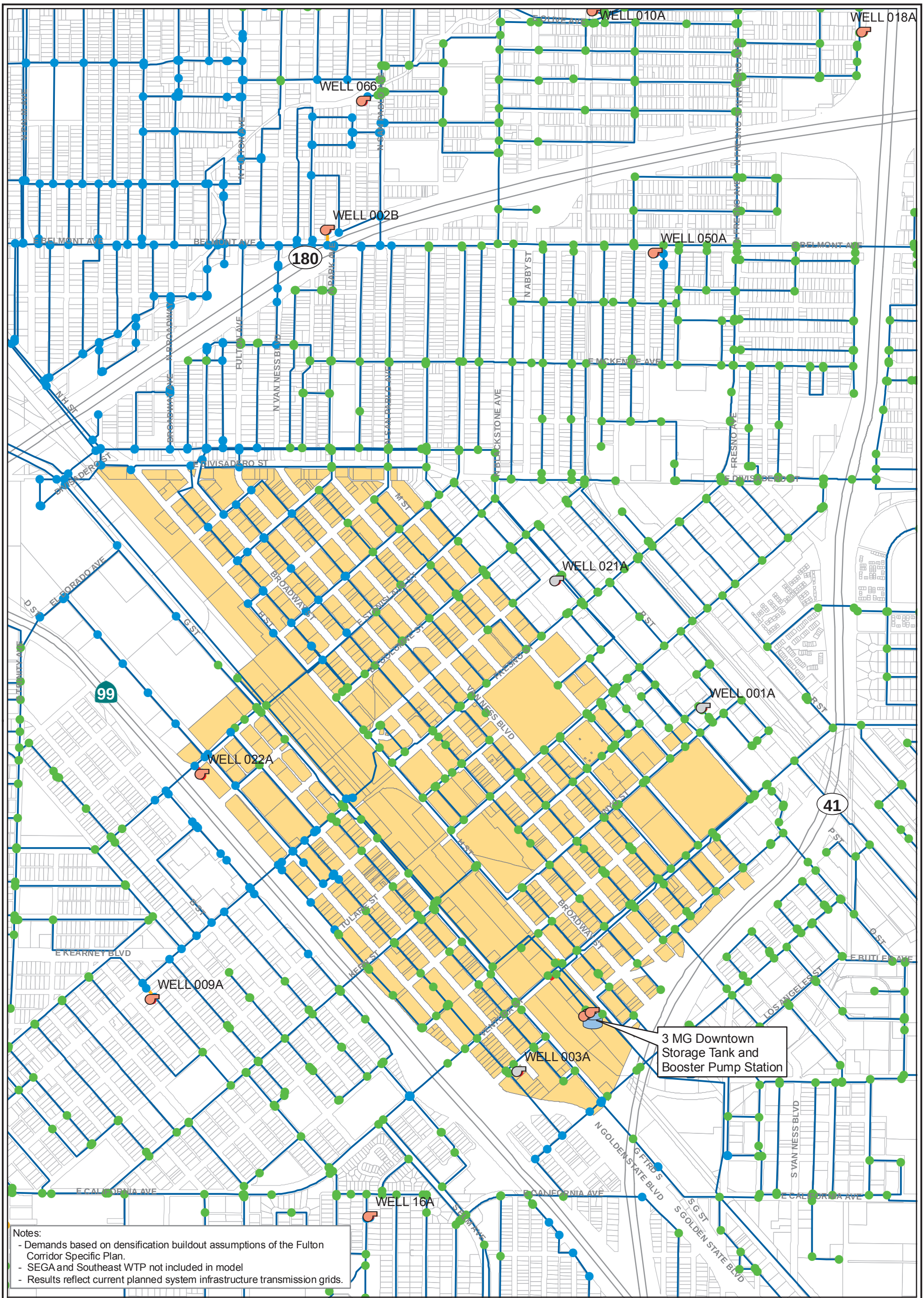
City of Fresno

Fulton Corridor Hydraulic Analysis

PROPOSED DENSIFICATION FIRE FLOW

WEST YOST ASSOCIATES
Consulting Engineers

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 5 Sw System FF.mxd 7/1/2011



LEGEND

System Pressure
- Less than 35 psi
- 35 to 40 psi
- 40 to 50 psi
- 50 to 60 psi
- 60 psi and Greater

Pipeline Velocity
- Less than 6 fps
- 6 to 7 fps
- 7 fps and Greater
- Well/Pump Station
- Inactive Well

Storage Tank

Fulton Corridor SP

N

0 500 1,000

Scale in Feet

FIGURE 6

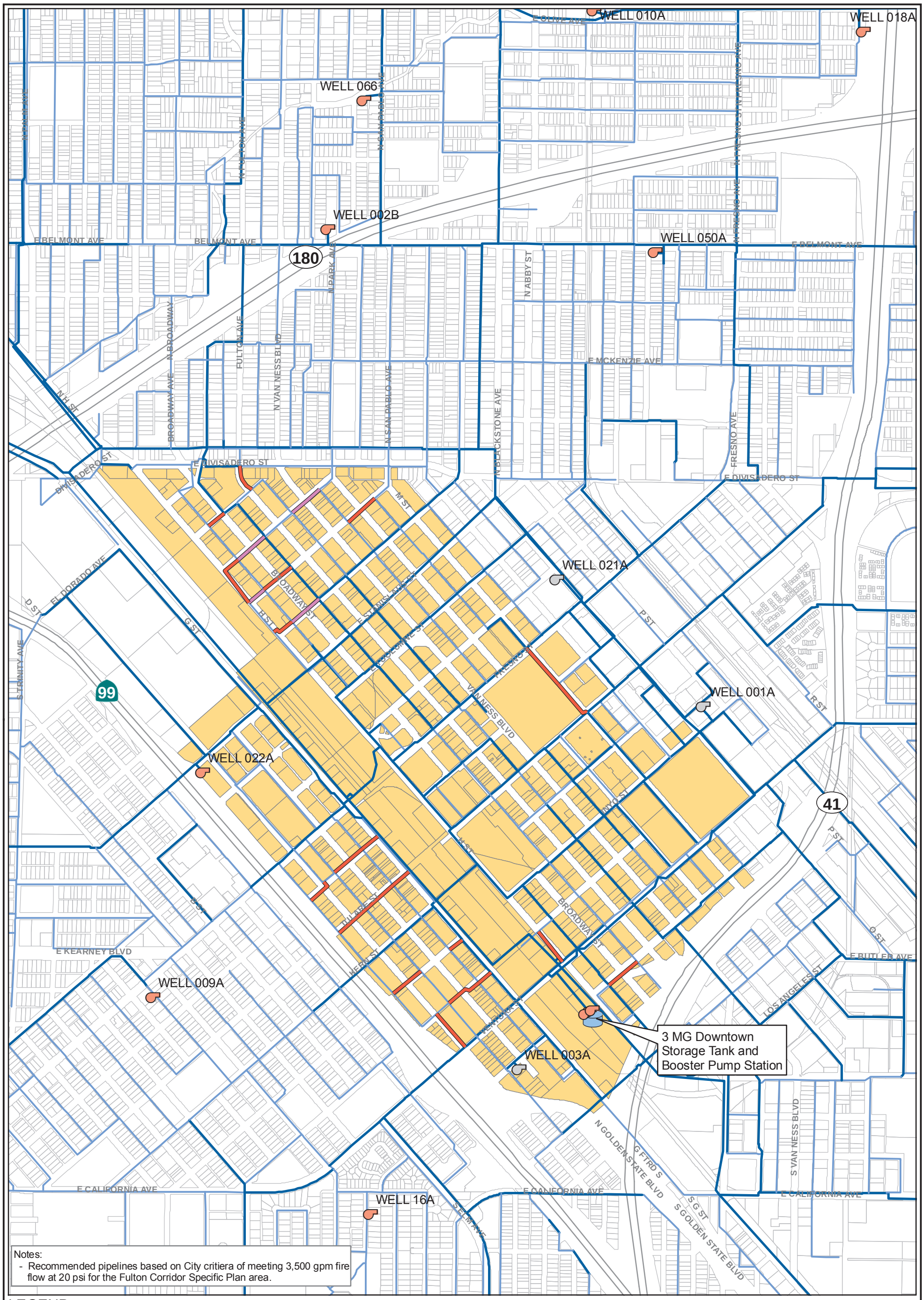
City of Fresno

Fulton Corridor Hydraulic Analysis

PROPOSED DENSIFICATION PEAK HOUR

WEST YOST ASSOCIATES Consulting Engineers

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 6 Sw System Peak hour.mxd 7/1/2011



Notes:
- Recommended pipelines based on City critiera of meeting 3,500 gpm fire flow at 20 psi for the Fulton Corridor Specific Plan area.

LEGEND

Recommended Improvements
- New Pipeline (8 inch)
- Replacement Pipeline (8 inch)
- Well/Pump Station
- Inactive Well
- Storage Tank

Existing/Planned Pipeline
- Distribution (less than 12 inch)
- Transmission (12 inch and greater)

N

0 500 1,000

Scale in Feet

FIGURE 7

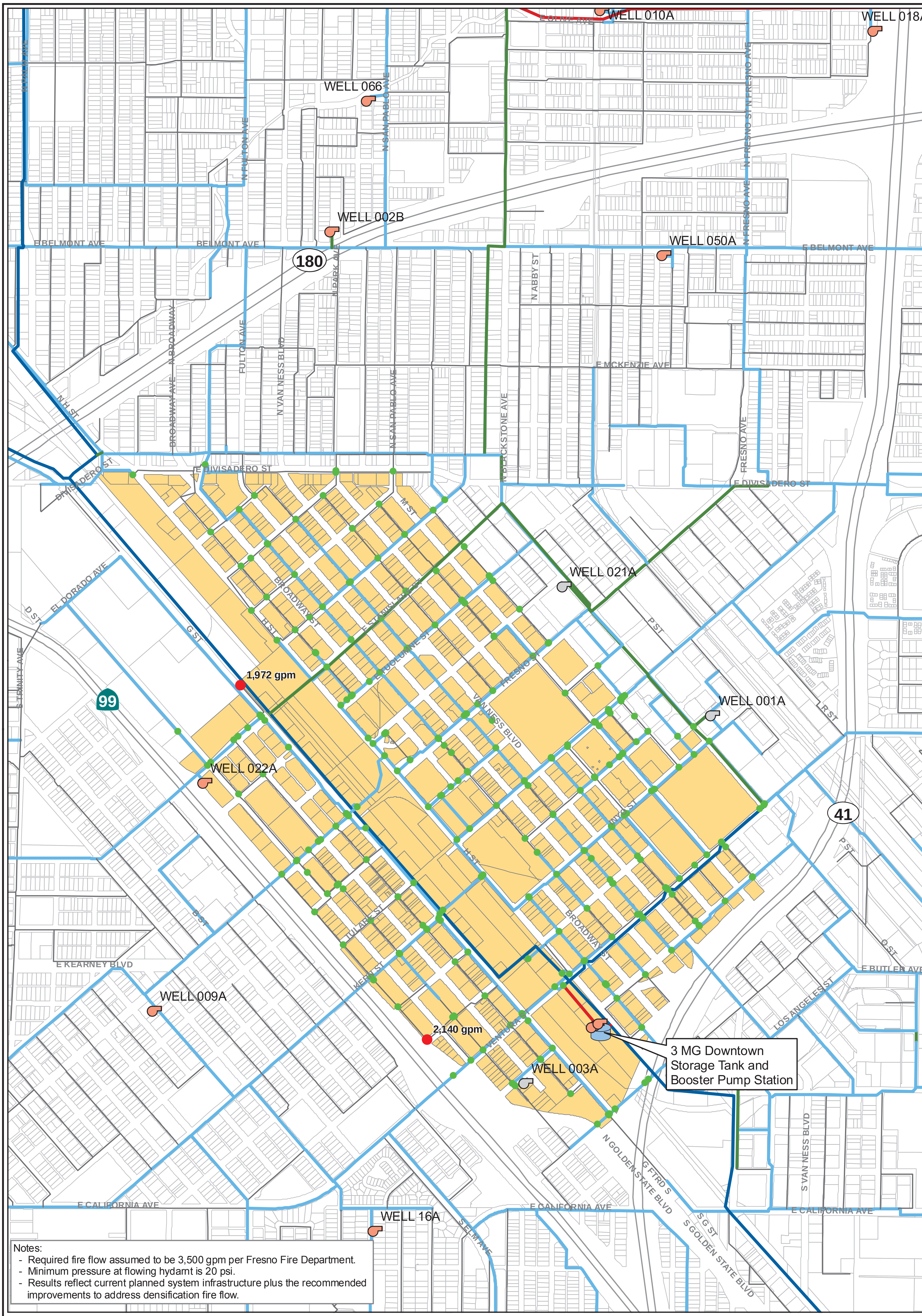
City of Fresno

Fulton Corridor Hydraulic Analysis

RECOMMENDED PIPELINE IMPROVEMENTS

WEST YOST ASSOCIATES Consulting Engineers

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 7 Sw System Improvements.mxd 6/30/2011



Notes:
- Required fire flow assumed to be 3,500 gpm per Fresno Fire Department.
- Minimum pressure at flowing hydarnt is 20 psi.
- Results reflect current planned system infrastructure plus the recommended improvements to address densification fire flow.

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 8 Sw System FF Improvements.mxd 6/30/2011

LEGEND

Available Flow @ 20 psi	Pipe Diameters
Less than 3,500 gpm	6 to 8 inch
Greater than 3,500 gpm	10 to 12 inch
Well/Pump Station	14 to 16 inch
Inactive Well	24 inch
Storage Tank	30 inch

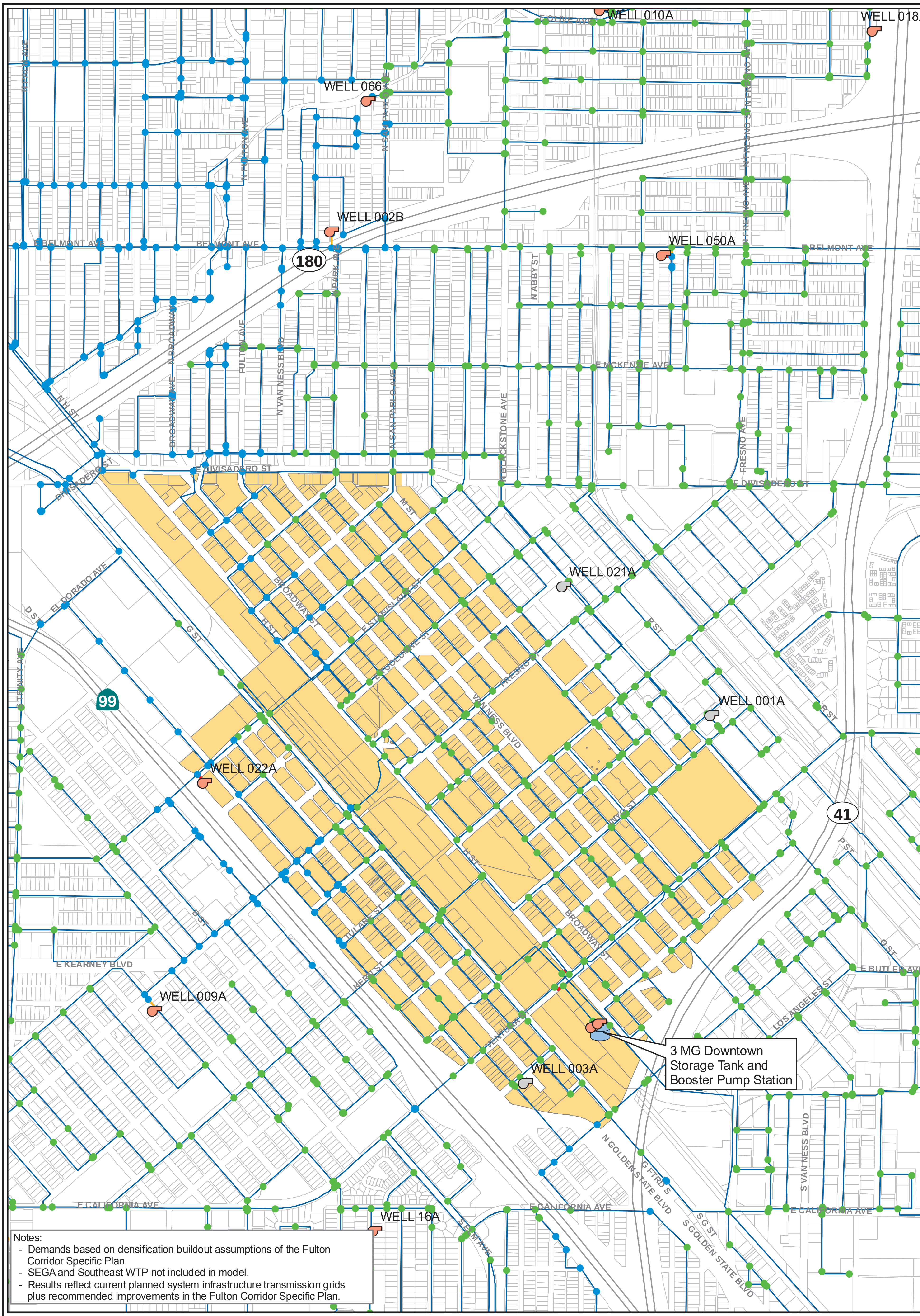
N

0 500 1,000
Scale in Feet

FIGURE 8

City of Fresno
Fulton Corridor Hydraulic Analysis
DENSIFICATION FIRE FLOW IMPROVEMENTS

WEST YOST ASSOCIATES
Consulting Engineers



Notes:
- Demands based on densification buildout assumptions of the Fulton Corridor Specific Plan.
- SEGA and Southeast WTP not included in model.
- Results reflect current planned system infrastructure transmission grids plus recommended improvements in the Fulton Corridor Specific Plan.

LEGEND

System Pressure
- Less than 35 psi
- 35 to 40 psi
- 40 to 50 psi
- 50 to 60 psi
- 60 psi and Greater

Pipeline Velocity
- Less than 6 fps
- 6 to 7 fps
- 7 fps and Greater
- Well/Pump Station
- Inactive Well

Storage Tank

N

0 500 1,000
Scale in Feet

FIGURE 9

City of Fresno
Fulton Corridor Hydraulic Analysis
DENSIFICATION PEAK HOUR IMPROVEMENTS

WEST YOST ASSOCIATES
Consulting Engineers

O:\Clients\439_Fresno\02-10-07 Fulton Corridor Specific Plan Water Infrastructure Evaluation\GIS\Figures\Figure 9 Sw System Peak hour Improvements.mxd 6/30/2011

ATTACHMENT 1

Sherwood Design Engineers Water Demand Projections

SHERWOOD Design Engineers

NOTES:

Existing Conditions

1) Existing parcel areas and land uses based on City of Fresno GIS dat
2) Existing water use was determined using land-based unit factors provided Table 6-4 of the UWMP, August 2008.

UWMP Water Demand Rates	Unit Factors (af/ac/yr)			Unit Factors (gpd/ac)		
	2005	2010	2025	2005	2010	2025
Single Family Residentia	3.8	3.5	3.2	3392	3124	2857
Multi-Family Residentia	6.5	6.2	5.5	5802	5535	5535
Commercial / Institutional	2	1.9	1.9	1785	1696	1696
Industrial	2	1.9	1.9	1785	1696	1696
Landscape Irrigatior	3	2.9	2.9	2678	2585	2585
South East Growth Are	3.4	3.2	3.2	3035	2857	2857

Proposed Condition:

1) Proposed building square footage for underutilized parcels as provided by Moule & Polyzoides program received 1/19/11. Values calculated for the range of possible Floor Area Ratios (FAR).
2) Proposed Average Daily Flow rates per district were calculated as weighted averages based on M&P's distribution of land uses within each district. Flowrates per land use type were taken from the City of Oakland Sanitary Sewer Design Guidelines to reflect the dense, urban condition of the downtown area. Flows were then multipled by a factor of 1.2 to represent domestic water flows.
3) For parcels without a zone designation (i.e. '0'), FAR (High) and corresponding Weighted Average Daily Flow were calculated as an average of the
4) Proposed Average Daily Flow is only calculated for underutilized parcels. All other parcels are assumed not to change.

	Average Daily Flow (gpd/1000 sf)	CBD 1	CBD 2	Civic Center	Chinatown District	Cultural Arts/ South Stadium District	Chinatown Industrial District	Town Center	Neighborhood General	Neighborhood General Preservation	Special District	0
FAR (High)	--	6.090	2.386	0.000	1.413	1.987	1.505	0.000	0.706	0.735	1.072	1.590
Residential	200	45%	65%	0%	65%	60%	0%	0%	100%	100%	5%	44%
Office	240	40%	25%	75%	20%	20%	25%	75%	0%	0%	5%	29%
Retail	120	15%	10%	25%	15%	20%	0%	25%	0%	0%	0%	11%
Industrial	120	0%	0%	0%	0%	0%	75%	0%	0%	0%	90%	17%
Weighted Average Daily Flow (gpd/1000sf)		204	202	210	196	192	150	210	200	200	130	189

EXISTING UNDERUTILIZED PARCEL SUB-TOTALS	EXISTING		MIN PROPOSED FAR		MED PROPOSED FAR		MAX PROPOSED FAR	
	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)
	--	170,822	5,240,428	1,041,656	9,572,280	1,904,565	14,123,642	2,808,32
INCREASE FROM EXISTING (gpd)		--		870,835		1,733,744		2,637,503
PROJECT TOTALS (gpd)		683,983		1,554,818		2,417,727		3,321,486

PARCEL INFO				EXISTING			MIN PROPOSED FAR		MED PROPOSED FAR		MAX PROPOSED FAR	
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	LAND USE (COF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)
34,25	Cultural Arts/ South Stadium Distric	0.79	46502002	VACANT	v	0	0	0	0	0	0	0
8,955	Cultural Arts/ South Stadium District	0.21	46502001	U	il	349	6,767	1,299	12,282	2,358	17,797	3,417
20,514	Cultural Arts/ South Stadium Distric	0.47	46613117	U	co	799	15,502	2,976	28,136	5,402	40,769	7,828
12,679	Cultural Arts/ South Stadium Distric	0.29	46610332	VACANT	v	0	9,581	1,840	17,390	3,339	25,198	4,838
100,753	Cultural Arts/ South Stadium Distric	2.31	466182455	0	v	0	0	0	0	0	0	0
5,904	Cultural Arts/ South Stadium Distric	0.14	46610321	0	rm	423	0	0	0	0	0	0
26,085	Cultural Arts/ South Stadium Distric	0.60	46610331	0	co	1,016	0	0	0	0	0	0
18,226	Cultural Arts/ South Stadium Distric	0.42	46610326	0	pqch	710	0	0	0	0	0	0
17,599	Cultural Arts/ South Stadium Distric	0.40	46613344	0	cgh	685	0	0	0	0	0	0
350,138	Proposed Open Space	8.04	46502008U	VACANT	v	0	0	0	0	0	0	0
15,830	Cultural Arts/ South Stadium Distric	0.36	46618225	E	cgh	616	0	0	0	0	0	0
6,130	Cultural Arts/ South Stadium Distric	0.14	46613343	0	co	239	0	0	0	0	0	0
10,733	Cultural Arts/ South Stadium Distric	0.25	46613333	EU	cgh	418	8,110	1,557	14,720	2,826	21,329	4,095
12,714	Cultural Arts/ South Stadium Distric	0.29	46613327	0	rh	1,615	0	0	0	0	0	0
9,941	Cultural Arts/ South Stadium Distric	0.23	46610122	E	rh	1,263	0	0	0	0	0	0
13,271	Cultural Arts/ South Stadium Distric	0.30	46613328	VACANT	v	0	10,029	1,926	18,202	3,495	26,375	5,064
4,385	Cultural Arts/ South Stadium Distric	0.10	46613118	VACANT	v	0	3,313	636	6,013	1,155	8,714	1,673
5,846	Cultural Arts/ South Stadium Distric	0.13	46613119	VACANT	v	0	4,417	848	8,017	1,539	11,617	2,231
10,229	Cultural Arts/ South Stadium Distric	0.23	46613123	U	co	398	7,730	1,484	14,030	2,694	20,330	3,903
14,730	Cultural Arts/ South Stadium Distric	0.34	46613124	VACANT	v	0	11,131	2,137	20,202	3,879	29,274	5,621
3,926	Cultural Arts/ South Stadium Distric	0.09	46618101T	0	orp	233	0	0	0	0	0	0
25,985	Cultural Arts/ South Stadium Distric	0.60	46618320	U	cgh	1,012	19,635	3,770	35,637	6,842	51,638	9,914
19,841	Cultural Arts/ South Stadium Distric	0.46	46618315	U	cgh	773	14,993	2,879	27,212	5,225	39,431	7,571
11,992	Neighborhood General Preservatio	0.28	46610312	0	co	467	0	0	0	0	0	0
14,746	Cultural Arts/ South Stadium Distric	0.34	46618316	0	il	574	0	0	0	0	0	0
18,674	Cultural Arts/ South Stadium Distric	0.43	46618325	U	il	727	14,111	2,709	25,612	4,917	37,112	7,125
9,962	Cultural Arts/ South Stadium Distric	0.23	46613336	0	pqch	388	0	0	0	0	0	0
2,111	Cultural Arts/ South Stadium Distric	0.05	46613108	0	co	82	0	0	0	0	0	0
5,953	Cultural Arts/ South Stadium Distric	0.14	46613107	E	cgh	232	0	0	0	0	0	0
2,917	Cultural Arts/ South Stadium Distric	0.07	46613104	0	pqch	114	0	0	0	0	0	0
6,502	Cultural Arts/ South Stadium Distric	0.15	46613116	0	co	253	0	0	0	0	0	0
3,411	Cultural Arts/ South Stadium Distric	0.08	46613303	0	v	0	0	0	0	0	0	0
13,568	Cultural Arts/ South Stadium Distric	0.31	46618240	EU	cgh	528	10,253	1,969	18,608	3,573	26,964	5,177
59,532	Neighborhood Genera	1.37	46610106	0	cgh	2,318	0	0	0	0	0	0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING			MIN PROPOSED FAR		MED PROPOSED FAR		MAX PROPOSED FAR	
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	LAND USE (COF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)
9,878	Neighborhood General Preservatio	0.23	46610304	EU	rmh	1,255	3,928	786	5,594	1,119	7,260	1,452
2,498	Cultural Arts/ South Stadium Distric	0.06	46613105	E	pqch	97	0	0	0	0	0	0
9,713	Cultural Arts/ South Stadium Distric	0.22	46613304	0	cgh	378	0	0	0	0	0	0
28,935	Neighborhood General Preservatio	0.66	46610325	U	co	1,127	11,505	2,301	16,385	3,277	21,266	4,253
6,216	Neighborhood General Preservatio	0.14	46610303	E	rml	446	0	0	0	0	0	0
5,981	Neighborhood General Preservatio	0.14	46610302	0	rml	429	0	0	0	0	0	0
55,600	Cultural Arts/ South Stadium Distric	1.28	46613335	0	rh	7,064	0	0	0	0	0	0
19,347	Cultural Arts/ South Stadium Distric	0.44	46618325	U	il	753	14,620	2,807	26,535	5,095	38,449	7,382
4,978	Neighborhood General Preservatio	0.11	46610310	VACANT	v	0	1,979	396	2,815	564	3,658	732
15,016	Cultural Arts/ South Stadium Distric	0.34	46618235	0	cgh	585	0	0	0	0	0	0
11,238	Neighborhood General Preservatio	0.26	46613201	E	pqhc	438	0	0	0	0	0	0
9,991	Cultural Arts/ South Stadium Distric	0.23	46613106	0	co	388	0	0	0	0	0	0
9,026	Cultural Arts/ South Stadium Distric	0.21	46613338	0	co	351	6,821	1,310	12,379	2,377	17,938	3,444
4,985	Neighborhood General Preservatio	0.11	46610309	VACANT	v	0	0	0	0	0	0	0
9,084	Cultural Arts/ South Stadium Distric	0.21	46613305	E	cgh	354	0	0	0	0	0	0
26,894	Cultural Arts/ South Stadium Distric	0.62	46618415	0	il	1,047	0	0	0	0	0	0
3,747	Cultural Arts/ South Stadium Distric	0.09	46618307	U	il	146	2,832	544	5,140	987	7,448	1,430
7,488	Neighborhood General Preservatio	0.17	46613202	VACANT	v	0	2,978	596	4,241	848	5,504	1,101
7,570	Cultural Arts/ South Stadium Distric	0.17	46613306	0	cgh	295	0	0	0	0	0	0
7,493	Neighborhood General Preservatio	0.17	46613203	0	rh	952	0	0	0	0	0	0
59,935	Neighborhood Genera	1.38	46610417	0	pqhc	2,334	0	0	0	0	0	0
11,269	Cultural Arts/ South Stadium Distric	0.26	46613213	VACANT	v	0	8,516	1,635	15,456	2,967	22,395	4,300
15,199	Cultural Arts/ South Stadium Distric	0.35	46613324	U	co	592	11,486	2,205	20,846	4,002	30,206	5,800
14,996	Neighborhood General Preservatio	0.34	46613204	0	rh	1,905	0	0	0	0	0	0
22,448	Cultural Arts/ South Stadium Distric	0.52	46619112	0	cgh	874	0	0	0	0	0	0
3,754	Cultural Arts/ South Stadium Distric	0.09	46613212	0	cgh	146	0	0	0	0	0	0
14,982	Cultural Arts/ South Stadium Distric	0.34	46618410	0	il	583	0	0	0	0	0	0
7,508	Cultural Arts/ South Stadium Distric	0.17	46613211	U	cgh	292	5,674	1,089	10,298	1,977	14,922	2,865
10,664	Cultural Arts/ South Stadium Distric	0.24	46618414	EU	il	415	8,059	1,547	14,626	2,808	21,194	4,069
15,074	Neighborhood General Preservatio	0.35	46610415	0	co	587	0	0	0	0	0	0
11,256	Neighborhood General Preservatio	0.26	46613205	E	rmh	1,430	0	0	0	0	0	0
11,265	Cultural Arts/ South Stadium Distric	0.26	46613210	U	cgh	439	8,512	1,634	15,450	2,966	22,387	4,298
8,342	Cultural Arts/ South Stadium Distric	0.19	46618405	E	il	325	0	0	0	0	0	0
26,218	Cultural Arts/ South Stadium Distric	0.60	46618412	0	il	1,021	0	0	0	0	0	0
7,501	Cultural Arts/ South Stadium Distric	0.17	46613401	0	cgh	292	0	0	0	0	0	0
6,725	Neighborhood General Preservatio	0.15	46613206	0	co	262	0	0	0	0	0	0
10,479	Cultural Arts/ South Stadium Distric	0.24	46619111	VACANT	v	0	7,919	1,520	14,372	2,759	20,826	3,999
7,480	Cultural Arts/ South Stadium Distric	0.17	46619103	U	cgh	291	5,653	1,085	0	0	14,866	2,854
18,780	Cultural Arts/ South Stadium Distric	0.43	46613214	0	cgh	731	0	0	0	0	0	0
22,578	Neighborhood General Preservatio	0.52	46610409	0	co	879	0	0	0	0	0	0
14,781	Cultural Arts/ South Stadium Distric	0.34	46618413	VACANT	il	576	11,170	2,145	20,273	3,892	29,375	5,640
5,621	Cultural Arts/ South Stadium Distric	0.13	46613402	0	cgh	219	0	0	0	0	0	0
22,359	Proposed Open Space	0.51	46502009U	0	il	871	0	0	0	0	0	0
44,483	Neighborhood Genera	1.02	46610215	0	pqch	1,732	0	0	0	0	0	0
7,479	Cultural Arts/ South Stadium Distric	0.17	46619115	U	cgh	291	5,652	1,085	10,258	1,970	14,864	2,854
5,621	Cultural Arts/ South Stadium Distric	0.13	46613403	EU	cgh	219	4,247	816	7,709	1,480	11,170	2,145
13,961	Cultural Arts/ South Stadium Distric	0.32	46619110	0	cgh	544	0	0	0	0	0	0
7,479	Cultural Arts/ South Stadium Distric	0.17	46619118	U	cgh	291	5,651	1,085	10,257	1,969	14,863	2,854
7,494	Cultural Arts/ South Stadium Distric	0.17	46613404	E	cgh	292	0	0	0	0	0	0
7,736	Neighborhood General Preservatio	0.18	46614101	0	co	301	0	0	0	0	0	0
7,512	Cultural Arts/ South Stadium Distric	0.17	46613418	VACANT	v	0	5,677	1,090	10,303	1,978	14,930	2,866
6,783	Cultural Arts/ South Stadium Distric	0.16	46613207	U	co	264	5,125	984	9,302	1,786	13,479	2,588
18,437	Cultural Arts/ South Stadium Distric	0.42	46618416	U	il	718	13,933	2,675	25,287	4,855	36,642	7,035
14,858	Cultural Arts/ South Stadium Distric	0.34	46619115	U	cgh	291	11,228	2,156	20,378	3,913	29,528	5,669
11,241	Cultural Arts/ South Stadium Distric	0.26	46613405	U	cgh	438	8,494	1,631	15,417	2,960	22,338	4,289
11,275	Neighborhood General Preservatio	0.26	46610417	U	pqhc	2,334	4,483	897	6,385	1,277	8,286	1,657
45,045	Neighborhood General Preservatio	1.03	46614108	0	co	1,754	0	0	0	0	0	0
13,950	Cultural Arts/ South Stadium Distric	0.32	46619109	0	cgh	543	0	0	0	0	0	0
22,507	Cultural Arts/ South Stadium Distric	0.52	46613417	U	cgh	876	17,008	3,266	30,869	5,927	44,730	8,588
22,485	Cultural Arts/ South Stadium Distric	0.52	46619401	0	cghv	875	0	0	0	0	0	0
11,783	Proposed Open Space	0.27	46502010U	0	il	459	0	0	0	0	0	0
10,491	Cultural Arts/ South Stadium Distric	0.24	46613406	0	cgh	408	0	0	0	0	0	0
22,463	Cultural Arts/ South Stadium Distric	0.52	46614110	0	pf	875	0	0	0	0	0	0
11,172	Neighborhood General Preservatio	0.26	46610407	0	pqhc	435	0	0	0	0	0	0
24,024	Neighborhood Genera	0.55	46610524	U	cp	0	7,124	1,425	12,038	2,408	16,952	3,390
17,386	Cultural Arts/ South Stadium Distric	0.40	46619108	U	cgh	677	13,139	2,523	23,846	4,578	34,553	6,634
12,030	Cultural Arts/ South Stadium Distric	0.28	46613407	0	co	468	0	0	0	0	0	0
7,200	Cultural Arts/ South Stadium Distric	0.17	46613411	U	cp	0	5,441	1,045	9,874	1,896	14,308	2,747
22,457	Cultural Arts/ South Stadium Distric	0.52	46619201	E	cgh	874	0	0	0	0	0	0
6,494	Cultural Arts/ South Stadium Distric	0.15	46614111	0	pf	253	0	0	0	0	0	0
7,497	Cultural Arts/ South Stadium Distric	0.17	46619410	VACANT	v	0	5,666	1,088	10,283	1,974	14,900	2,861
7,491	Cultural Arts/ South Stadium Distric	0.17	46619402	0	cgh	292	0	0	0	0	0	0
14,747	Neighborhood Genera	0.34	46610208	E	cgh	574	0	0	0	0	0	0
11,546	Cultural Arts/ South Stadium Distric	0.27	46613410	0	cgh	450	0	0	0	0	0	0
46,363	Cultural Arts/ South Stadium Distric	1.06	46614104	0	co	1,805	0	0	0	0	0	0

SHERWOOD Design Engineers

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AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	LAND USE (COF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)
8,020	Neighborhood Genera	0.18	46610523	U	rmh	1,019	2,378	476	4,019	804	5,659	1,132
7,492	Cultural Arts/ South Stadium Distric	0.17	46619408	VACANT	v	0	5,662	1,087	10,275	1,973	14,885	2,859
39,959	Neighborhood Genera	0.92	46610525	U	cp	0	0	0	0	0	0	0
29,992	Cultural Arts/ South Stadium Distric	0.69	46619415	0	cgh	1,168	0	0	0	0	0	0
7,998	Neighborhood Genera	0.18	46610522	U	rmh	1,016	2,371	474	4,007	801	5,643	1,129
29,980	Cultural Arts/ South Stadium Distric	0.69	46619418	0	cgh	1,167	0	0	0	0	0	0
3,755	Cultural Arts/ South Stadium Distric	0.09	46613408	E	co	146	0	0	0	0	0	0
33,717	Cultural Arts/ South Stadium Distric	0.77	46614408	0	co	1,313	0	0	0	0	0	0
11,880	Cultural Arts/ South Stadium Distric	0.27	46619210	EU	cp	0	8,978	1,724	16,294	3,128	23,610	4,533
26,211	Cultural Arts/ South Stadium Distric	0.60	46619216	VACANT	cgh	1,021	19,807	3,803	35,945	6,902	52,090	10,001
11,993	Neighborhood Genera	0.28	46610521	0	rmh	1,524	0	0	0	0	0	0
7,511	Cultural Arts/ South Stadium Distric	0.17	46613409	U	co	292	5,676	1,090	10,301	1,978	14,926	2,866
210,125	Proposed Open Space	4.82	46503013U	0	ilv	8,182	0	0	0	0	0	0
19,917	Neighborhood Genera	0.46	46611124	0	cgh	775	0	0	0	0	0	0
35,826	Neighborhood Genera	0.82	46610520	U	cp	0	10,623	2,125	17,951	3,590	25,280	5,056
12,581	Cultural Arts/ South Stadium Distric	0.29	46619211	U	cp	0	9,507	1,825	17,254	3,313	25,002	4,800
7,506	Neighborhood Genera	0.17	46614201	U	co	292	2,226	445	3,761	752	5,297	1,059
37,462	Cultural Arts/ South Stadium Distric	0.86	46614407	U	cgh	1,459	28,310	5,435	51,380	9,865	74,451	14,295
43,860	Neighborhood Genera	1.01	46611125	0	cp	0	0	0	0	0	0	0
7,499	Neighborhood Genera	0.17	46614202	U	co	292	2,224	445	3,758	752	5,292	1,058
15,016	Cultural Arts/ South Stadium Distric	0.34	46619418	0	cgh	1,168	0	0	0	0	0	0
6,985	Cultural Arts/ South Stadium Distric	0.16	46619207	U	cp	0	5,281	1,014	9,585	1,840	13,888	2,667
11,244	Cultural Arts/ South Stadium Distric	0.26	46619203	E	cgh	438	0	0	0	0	0	0
29,820	Cultural Arts/ South Stadium Distric	0.68	46619501	0	il	1,161	0	0	0	0	0	0
26,189	Cultural Arts/ South Stadium Distric	0.60	46614403T	0	co	1,020	0	0	0	0	0	0
14,994	Neighborhood Genera	0.34	46614203	U	co	584	4,446	889	7,513	1,503	10,580	2,116
6,988	Cultural Arts/ South Stadium Distric	0.16	46619206	E	cp	0	0	0	0	0	0	0
15,040	Neighborhood Genera	0.35	46611401	U	cgh	586	4,460	892	7,536	1,507	10,613	2,123
26,234	Cultural Arts/ South Stadium Distric	0.60	46614212	0	cgh	1,021	0	0	0	0	0	0
10,482	Cultural Arts/ South Stadium Distric	0.24	46619205	U	cp	0	7,921	1,521	14,377	2,760	20,832	4,000
8,995	Neighborhood Genera	0.21	46614204	VACANT	rh	1,143	2,667	533	4,506	901	6,346	1,269
8,244	Cultural Arts/ South Stadium Distric	0.19	46619301	E	cgh	321	0	0	0	0	0	0
14,991	Cultural Arts/ South Stadium Distric	0.34	46619507	0	il	584	0	0	0	0	0	0
18,752	Neighborhood Genera	0.43	46611412	U	cgh	730	5,560	1,112	9,396	1,879	13,232	2,646
6,996	Cultural Arts/ South Stadium Distric	0.16	46619204	U	cp	0	5,287	1,015	9,595	1,842	13,904	2,670
9,739	Neighborhood Genera	0.22	46614214	VACANT	pqch	379	2,888	578	4,880	976	6,872	1,374
22,459	Cultural Arts/ South Stadium Distric	0.52	46614406	EU	cgh	874	16,971	3,259	30,802	5,914	44,633	8,570
17,971	Cultural Arts/ South Stadium Distric	0.41	46619302	E	cgh	700	0	0	0	0	0	0
14,970	Neighborhood Genera	0.34	46611411	U	cgh	583	4,439	888	7,501	1,500	10,563	2,113
18,685	Cultural Arts/ South Stadium Distric	0.43	46619502	0	il	728	0	0	0	0	0	0
14,979	Cultural Arts/ South Stadium Distric	0.34	46614208	0	cgh	583	0	0	0	0	0	0
11,171	Neighborhood Genera	0.26	46614215	VACANT	pqch	435	3,312	662	5,598	1,120	7,883	1,577
11,228	Cultural Arts/ South Stadium Distric	0.26	46619506	0	il	437	0	0	0	0	0	0
36,236	Cultural Arts/ South Stadium Distric	0.83	46614501T	0	cgh	1,411	0	0	0	0	0	0
26,181	Neighborhood Genera	0.60	46611415	U	cgh	1,019	7,763	1,553	13,118	2,624	18,474	3,695
18,748	Cultural Arts/ South Stadium Distric	0.43	46619320	U	cp	0	14,168	2,720	25,713	4,937	37,259	7,154
44,753	Neighborhood Genera	1.03	46611414	U	cgh	1,743	13,270	2,654	22,425	4,485	31,579	6,316
6,469	Cultural Arts/ South Stadium Distric	0.15	46619303	E	cgh	252	0	0	0	0	0	0
7,478	Cultural Arts/ South Stadium Distric	0.17	46619505	0	il	291	0	0	0	0	0	0
11,284	Cultural Arts/ South Stadium Distric	0.26	46619503	E	il	439	0	0	0	0	0	0
41,162	Neighborhood Genera	0.94	46611215T	0	co	1,603	0	0	0	0	0	0
7,487	Cultural Arts/ South Stadium Distric	0.17	46614208	0	cgh	292	0	0	0	0	0	0
4,762	Cultural Arts/ South Stadium Distric	0.11	46619304	E	cgh	185	0	0	0	0	0	0
26,103	Cultural Arts/ South Stadium Distric	0.60	46619504	U	il	1,016	19,726	3,787	35,801	6,874	51,877	9,960
11,978	Cultural Arts/ South Stadium Distric	0.27	46619308	0	cgh	466	0	0	0	0	0	0
11,206	Cultural Arts/ South Stadium Distric	0.26	46614207	0	cgh	436	0	0	0	0	0	0
18,726	Neighborhood Genera	0.43	46614301	0	pqch	729	0	0	0	0	0	0
14,976	Cultural Arts/ South Stadium Distric	0.34	46614508T	VACANT	cgh	583	11,317	2,173	20,540	3,944	29,763	5,714
12,694	Cultural Arts/ South Stadium Distric	0.29	46619310	0	cgh	494	0	0	0	0	0	0
240,428	Proposed Open Space	5.52	46503012U	0	ilv	9,362	0	0	0	0	0	0
10,476	Cultural Arts/ South Stadium Distric	0.24	46619305	E	cgh	408	0	0	0	0	0	0
14,959	Cultural Arts/ South Stadium Distric	0.34	46619601	EU	il	582	11,304	2,170	20,517	3,939	29,729	5,708
24,440	Cultural Arts/ South Stadium Distric	0.56	46619306	U	cgh	952	18,469	3,546	33,515	6,436	48,570	9,325
13,171	Cultural Arts/ South Stadium Distric	0.30	46614502T	VACANT	co	513	9,953	1,911	18,064	3,468	26,175	5,026
7,484	Cultural Arts/ South Stadium Distric	0.17	46614507T	E	cgh	291	0	0	0	0	0	0
7,494	Neighborhood Genera	0.17	46614302	U	co	292	2,222	444	3,755	751	5,288	1,058
11,225	Neighborhood Genera	0.26	46611501	EU	cgh	437	3,328	666	5,624	1,125	7,920	1,584
10,292	CBD 1	0.24	46614313	0	co	401	0	0	0	0	0	0
3,741	Cultural Arts/ South Stadium Distric	0.09	46614506T	EU	cgh	146	0	0	0	0	0	0
7,496	Neighborhood Genera	0.17	46614303	0	co	292	0	0	0	0	0	0
14,969	Cultural Arts/ South Stadium Distric	0.34	46619602	VACANT	v	0	11,312	2,172	20,530	3,942	29,748	5,712
14,960	Cultural Arts/ South Stadium Distric	0.34	46614505T	EU	cgh	583	11,305	2,171	20,518	3,940	29,731	5,708
10,487	Cultural Arts/ South Stadium Distric	0.24	46614503T	VACANT	co	408	7,924	1,521	14,382	2,761	20,841	4,001
11,227	Neighborhood Genera	0.26	46611502	0	rml	805	0	0	0	0	0	0
7,508	Neighborhood Genera	0.17	46611207	U	co	292	2,226	445	3,762	752	5,298	1,060

SHERWOOD Design Engineers

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22,473	Cultural Arts/ South Stadium Distric	0.52	46620115	0	cgh	875	0	0	0	0	0	0
49,669	CBD 1	1.14	46614315	U	co	1,934	85,099	17,360	193,797	39,535	302,495	61,709
26,295	Neighborhood Genera	0.60	46614314	0	co	1,024	0	0	0	0	0	0
54,918	Cultural Arts/ South Stadium Distric	1.26	46619604	0	il	2,138	0	0	0	0	0	0
11,261	Neighborhood Genera	0.26	46611206	U	co	438	3,339	668	5,643	1,129	7,946	1,589
7,465	Neighborhood Genera	0.17	46611512	U	co	291	2,213	443	3,741	748	5,268	1,054
14,975	Neighborhood Genera	0.34	46611503	0	rh	1,903	0	0	0	0	0	0
29,924	Cultural Arts/ South Stadium Distric	0.69	46619603	0	il	1,165	0	0	0	0	0	0
18,710	Cultural Arts/ South Stadium Distric	0.43	46614504	EU	cgh	728	14,139	2,715	25,661	4,927	37,183	7,139
52,105	Proposed Open Space	1.20	46503021U	0	il	2,029	0	0	0	0	0	0
7,468	Neighborhood Genera	0.17	46611511	U	co	291	2,214	443	3,742	748	5,269	1,054
37,408	CBD 1	0.86	46614615U	0	cgh	1,457	0	0	0	0	0	0
20,940	Cultural Arts/ South Stadium Distric	0.48	46620114	U	cp	0	15,824	3,038	28,715	5,514	41,615	7,990
25,933	Cultural Arts/ South Stadium Distric	0.60	46620116	0	cgh	1,010	0	0	0	0	0	0
11,208	Neighborhood Genera	0.26	46611510	U	co	436	3,323	665	5,616	1,123	7,909	1,582
22,570	Neighborhood Genera	0.52	46611513T	0	co	879	0	0	0	0	0	0
22,441	CBD 2	0.52	46611307	U	co	874	25,762	5,204	39,653	8,010	53,544	10,816
14,956	Neighborhood Genera	0.34	46611508	0	co	582	0	0	0	0	0	0
29,985	Neighborhood Genera	0.69	46615114	U	cgh	1,167	8,890	1,778	15,024	3,005	21,157	4,231
18,688	CBD 1	0.43	46614614	U	cgh	728	32,018	6,532	72,916	14,875	113,814	23,218
6,984	Cultural Arts/ South Stadium Distric	0.16	46620108	U	cp	0	5,278	1,013	9,579	1,839	13,880	2,665
4,988	Cultural Arts/ South Stadium Distric	0.11	46619605	0	il	194	0	0	0	0	0	0
11,651	Cultural Arts/ South Stadium Distric	0.27	46620104	0	cgh	454	0	0	0	0	0	0
18,813	Neighborhood Genera	0.43	46611515	U	cp	0	5,578	1,116	9,427	1,885	13,275	2,655
6,986	Cultural Arts/ South Stadium Distric	0.16	46620107	U	cgh	272	5,279	1,014	9,582	1,840	13,884	2,666
12,000	CBD 2	0.28	46611306	U	cgh	467	13,776	2,783	21,203	4,283	28,631	5,783
29,977	Cultural Arts/ South Stadium Distric	0.69	46620410	U	il	1,167	22,653	4,349	41,114	7,894	59,575	11,438
22,518	CBD 1	0.52	46614613	U	cgh	877	38,581	7,871	87,861	17,924	137,141	27,977
8,492	CBD 2	0.19	46611614T	0	pqp	331	0	0	0	0	0	0
59,867	CBD 2	1.37	46611613T	0	pqp	2,331	0	0	0	0	0	0
21,026	Cultural Arts/ South Stadium Distric	0.48	46620112	U	cgh	819	15,889	3,051	28,837	5,537	41,786	8,023
7,477	CBD 1	0.17	46614609	0	pqch	291	0	0	0	0	0	0
10,785	CBD 1	0.25	46615114	0	cgh	1,167	0	0	0	0	0	0
25,563	CBD 2	0.59	46611308	VACANT	v	0	29,346	5,928	45,169	9,124	60,992	12,320
33,730	CBD 1	0.77	46614616	0	cgh	1,313	0	0	0	0	0	0
7,491	Neighborhood Genera	0.17	46615103	U	cgh	292	2,221	444	3,753	751	5,286	1,057
20,625	CBD 1	0.47	46620201	0	cgh	803	0	0	0	0	0	0
7,937	CBD 1	0.18	46615110	E	cgh	309	0	0	0	0	0	0
37,479	Cultural Arts/ South Stadium Distric	0.86	46620407	0	il	1,459	0	0	0	0	0	0
7,489	Neighborhood Genera	0.17	46615104	U	cgh	292	2,221	444	3,753	751	5,284	1,057
7,487	CBD 1	0.17	46615109	0	cgh	292	0	0	0	0	0	0
59,815	CBD 2	1.37	46611613T	U	pqp	2,331	68,668	13,871	105,693	21,350	142,718	28,829
29,510	Cultural Arts/ South Stadium Distric	0.68	46620405	U	il	1,149	22,300	4,282	40,474	7,771	58,647	11,260
127,656	Civic Center	2.93	46612101T	0	pgo	4,971	0	0	0	0	0	0
15,064	Neighborhood Genera	0.35	46615105	U	co	587	4,467	893	7,548	1,510	10,630	2,126
7,486	CBD 1	0.17	46615108	0	cgh	291	0	0	0	0	0	0
7,495	CBD 1	0.17	46620202	0	pqch	292	0	0	0	0	0	0
13,976	CBD 1	0.32	46620220	E	cgh	544	0	0	0	0	0	0
6,737	CBD 1	0.15	46615107	0	cgh	262	0	0	0	0	0	0
255,106	0	5.86	46504034U	0	ilv	9,933	0	0	0	0	0	0
20,595	CBD 1	0.47	46620221	0	cp	0	0	0	0	0	0	0
19,541	CBD 1	0.45	46615106	0	cgh	761	0	0	0	0	0	0
10,474	CBD 1	0.24	46620219	E	cgh	408	0	0	0	0	0	0
11,225	CBD 2	0.26	46615201	0	co	437	0	0	0	0	0	0
14,953	Cultural Arts/ South Stadium Distric	0.34	46620406	0	il	582	0	0	0	0	0	0
22,912	CBD 1	0.53	46615315	0	cp	0	0	0	0	0	0	0
27,921	CBD 1	0.64	46615318	0	cp	0	0	0	0	0	0	0
10,467	CBD 1	0.24	46620208	U	cp	0	17,934	3,659	40,841	8,332	63,748	13,005
11,269	CBD 1	0.26	46620205	E1	co	439	0	0	0	0	0	0
28,486	CBD 2	0.65	46615202	U	co	1,109	32,702	6,606	50,335	10,168	67,968	13,730
11,222	CBD 1	0.26	46620523	VACANT	il	437	19,228	3,922	43,788	8,933	68,347	13,943
7,437	Cultural Arts/ South Stadium Distric	0.17	46620405	0	il	290	0	0	0	0	0	0
10,460	CBD 1	0.24	46620207	0	cgh	407	0	0	0	0	0	0
17,854	CBD 1	0.41	46615312	U	co	695	30,590	6,240	69,662	14,211	108,735	22,182
26,172	CBD 1	0.60	46615211	0	co	1,019	0	0	0	0	0	0
607,022	Civic Center	13.94	46616001T	0	phce	23,636	0	0	0	0	0	0
7,488	CBD 1	0.17	46620524	VACANT	il	292	12,829	2,617	29,216	5,960	45,602	9,303
60,644	CBD 1	1.39	46620656T	U	co	2,361	103,904	21,196	236,622	48,271	369,340	75,345
10,468	CBD 1	0.24	46620206	U	cp	0	17,935	3,659	40,845	8,332	63,752	13,005
14,977	CBD 1	0.34	46620503	VACANT	il	583	25,661	5,235	58,435	11,922	91,217	18,608
85,119	District	1.95	46504023S	0	il	3,314	0	0	0	0	0	0
10,821	CBD 1	0.25	46620514	0	il	421	0	0	0	0	0	0
23,915	CBD 1	0.55	46615314	U	cgh	931	40,974	8,359	93,311	19,035	145,647	29,712
20,179	CBD 2	0.46	46615203	0	co	786	0	0	0	0	0	0
26,224	Civic Center	0.60	46612201T	0	pgo	1,021	0	0	0	0	0	0

SHERWOOD Design Engineers

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7,473	CBD 1	0.17	46620513	0	il	291	0	0	0	0	0	0
7,490	CBD 1	0.17	46620504	VACANT	il	292	12,832	2,618	29,225	5,961	45,614	9,305
33,659	CBD 1	0.77	4661521C	0	co	1,311	0	0	0	0	0	0
35,180	CBD 1	0.81	46615419T	0	cgh	1,370	0	0	0	0	0	0
19,852	CBD 1	0.46	46620512	0	il	773	0	0	0	0	0	0
7,490	CBD 1	0.17	46620505	E	rh	952	0	0	0	0	0	0
57,293	CBD 1	1.32	46620650T	0	cp	0	0	0	0	0	0	0
11,241	CBD 1	0.26	46620506	U	cp	0	19,260	3,925	43,862	8,948	68,463	13,966
2,579	CBD 1	0.06	46620651T	0	v	0	0	0	0	0	0	0
24,456	Civic Center	0.56	46612203	0	pgo	952	0	0	0	0	0	0
66,752	Civic Center	1.53	466122027	0	pgo	2,598	0	0	0	0	0	0
8,178	CBD 1	0.19	46620511	0	cgh	318	0	0	0	0	0	0
4,391	CBD 1	0.10	46620637	0	cgh	171	0	0	0	0	0	0
11,191	CBD 1	0.26	46615414	0	co	436	0	0	0	0	0	0
58,732	CBD 1	1.35	46620648	0	cgh	2,287	0	0	0	0	0	0
12,679	CBD 1	0.29	46620518	0	il	494	0	0	0	0	0	0
25,483	Special District	0.59	46504006	U	il	992	10,924	1,420	19,124	2,486	27,323	3,552
7,451	CBD 1	0.17	46615413	0	cgh	290	0	0	0	0	0	0
11,602	CBD 1	0.27	46620638	0	cgh	452	0	0	0	0	0	0
21,854	CBD 1	0.50	46615421	0	co	851	0	0	0	0	0	0
18,582	CBD 1	0.43	46615412	0	cgh	724	0	0	0	0	0	0
46,094	Special District	1.06	4650842C	0	il	1,795	0	0	0	0	0	0
8,135	0	0.19	4650403IS	0	il	317	0	0	0	0	0	0
25,379	CBD 1	0.58	46620647	0	cgh	988	0	0	0	0	0	0
18,327	CBD 1	0.42	46621112	0	pgo	714	0	0	0	0	0	0
30,028	CBD 1	0.69	46620645	0	cp	0	0	0	0	0	0	0
47,087	0	1.08	46504035U	0	il	1,833	0	0	0	0	0	0
11,971	0	0.27	46504005T	0	il	466	0	0	0	0	0	0
11,462	CBD 1	0.26	46615431	0	co	446	0	0	0	0	0	0
173,378	Special District	3.98	4650842-	0	il	6,751	0	0	0	0	0	0
57,263	0	1.31	46504036U	0	il	2,230	0	0	0	0	0	0
5,278	CBD 1	0.12	46621120	0	pgo	205	0	0	0	0	0	0
33,734	CBD 2	0.77	46504004	0	il	1,313	0	0	0	0	0	0
10,737	CBD 1	0.25	46615411	0	co	418	0	0	0	0	0	0
20,969	CBD 1	0.48	46621113T	0	cp	0	0	0	0	0	0	0
1,406	CBD 1	0.03	46625007U	0	co	55	0	0	0	0	0	0
14,754	CBD 1	0.34	46621103T	0	pgo	574	0	0	0	0	0	0
31,428	CBD 1	0.72	466250087	0	co	1,224	0	0	0	0	0	0
29,716	CBD 1	0.68	46620654T	U	cp	0	50,914	10,386	115,947	23,653	180,980	36,920
40,825	CBD 2	0.94	46821116	0	co	1,590	0	0	0	0	0	0
2,081	CBD 1	0.05	46621119T	0	pgo	81	0	0	0	0	0	0
11,112	CBD 1	0.26	46621104T	0	pgo	433	0	0	0	0	0	0
16,735	CBD 1	0.38	46626001	0	cr	652	0	0	0	0	0	0
5,775	CBD 1	0.13	46621115T	0	cp	0	0	0	0	0	0	0
22,478	CBD 1	0.52	46621401	E	cgh	875	0	0	0	0	0	0
3,258	CBD 1	0.07	46621105	0	cgh	127	0	0	0	0	0	0
26,201	CBD 2	0.60	46504003	0	il	1,020	0	0	0	0	0	0
29,325	CBD 1	0.67	46621117	0	rh	3,726	0	0	0	0	0	0
18,952	CBD 2	0.44	4650912C	U	il	738	21,737	4,395	33,488	6,765	45,219	9,134
4,282	CBD 1	0.10	46621106	0	cgh	167	0	0	0	0	0	0
13,367	CBD 1	0.31	46617114	0	cr	520	0	0	0	0	0	0
127,021	CBD 2	2.92	468214107	0	pgo	4,946	0	0	0	0	0	0
18,701	CBD 1	0.43	466250087	0	co	1,224	0	0	0	0	0	0
1,908	CBD 1	0.04	46620629T	0	v	0	0	0	0	0	0	0
25,305	CBD 2	0.58	4681852C	U	cp	0	29,051	5,868	44,715	9,032	60,378	12,196
29,755	CBD 2	0.68	46509135	0	il	1,159	0	0	0	0	0	0
18,769	CBD 2	0.43	46509134	U	il	731	21,547	4,352	33,165	6,699	44,783	9,046
1,825	CBD 1	0.04	46620631T	0	v	0	0	0	0	0	0	0
18,758	CBD 2	0.43	4682111S	0	co	730	0	0	0	0	0	0
6,008	CBD 1	0.14	46617113	0	cr	234	0	0	0	0	0	0
7,504	CBD 1	0.17	46621201	0	cr	292	0	0	0	0	0	0
3,387	CBD 1	0.08	46621417T	0	v	0	0	0	0	0	0	0
12,016	CBD 1	0.28	46617112	0	cr	468	0	0	0	0	0	0
96,009	CBD 2	2.20	468212197	0	pcce	3,738	0	0	0	0	0	0
7,496	CBD 1	0.17	46621217	0	cr	292	0	0	0	0	0	0
55,688	CBD 1	1.28	46621417T	0	v	0	0	0	0	0	0	0
25,253	CBD 2	0.58	4681853I	U	cp	0	28,991	5,856	44,622	9,014	60,254	12,171
7,495	CBD 1	0.17	46621216	0	cr	292	0	0	0	0	0	0
615	CBD 1	0.01	46621417T	0	v	0	0	0	0	0	0	0
17,251	CBD 2	0.40	46509133	U	il	672	19,804	4,000	30,482	6,157	41,160	8,314
21,963	CBD 2	0.50	465040225	0	il	855	0	0	0	0	0	0
132,552	CBD 1	3.04	467030355T	0	ilv	5,161	0	0	0	0	0	0
12,007	CBD 1	0.28	46617111	0	cr	468	0	0	0	0	0	0
537	CBD 1	0.01	46621118T	0	road	21	0	0	0	0	0	0
18,908	CBD 1	0.43	46624003	0	cgh	736	0	0	0	0	0	0

SHERWOOD Design Engineers

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14,022	CBD 1	0.32	46621212	0	cgh	546	0	0	0	0	0	0
14,987	CBD 1	0.34	46621203	0	cr	584	0	0	0	0	0	0
30,258	CBD 2	0.69	4650913(	0	il	1,178	0	0	0	0	0	0
22,554	CBD 2	0.52	4650932(	0	il	878	0	0	0	0	0	0
633,183	CBD 2	14.54	46840001I	0	pcce	24,654	0	0	0	0	0	0
231	CBD 2	0.01	46821449(	0	pgo	9	0	0	0	0	0	0
231	CBD 2	0.01	46821442(	0	pgo	9	0	0	0	0	0	0
51,021	CBD 1	1.17	4662122(	0	cp	0	0	0	0	0	0	0
12,510	CBD 1	0.29	46621204	0	cr	487	0	0	0	0	0	0
35,958	Special District	0.83	4651311(	U	il	1,400	15,415	2,004	26,985	3,508	38,555	5,012
4,000	CBD 2	0.09	46509501I	0	road	156	0	0	0	0	0	0
36,621	CBD 2	0.84	4650402(	0	il	1,426	0	0	0	0	0	0
26,287	CBD 2	0.60	4682511(	0	co	1,024	0	0	0	0	0	0
36,112	CBD 1	0.83	4662400(	0	cgh	1,406	0	0	0	0	0	0
17,639	CBD 1	0.40	4661721(	0	cr	687	0	0	0	0	0	0
16	0	0.00	46509317I	0	il	1	0	0	0	0	0	0
37,020	CBD 2	0.85	4650932(	U	il	1,441	42,498	8,585	65,413	13,213	88,328	17,842
33,814	CBD 2	0.78	4650932(	U	il	1,317	38,818	7,841	59,749	12,069	80,680	16,297
67,184	0	1.54	46703036U	0	ilv	2,616	0	0	0	0	0	0
9,997	CBD 1	0.23	46621213I	0	cr	389	0	0	0	0	0	0
54,387	CBD 2	1.25	4650921(	U	il	2,118	62,437	12,612	96,102	19,413	129,768	26,213
123,511	CBD 1	2.84	46621520I	0	cp	0	0	0	0	0	0	0
231	CBD 2	0.01	46821428(	0	pgo	9	0	0	0	0	0	0
32,056	CBD 2	0.74	46821220I	VACANT	co	1,248	36,800	7,434	0	0	76,486	15,450
51,518	CBD 2	1.18	4682152(	0	co	2,006	0	0	0	0	0	0
11,269	CBD 1	0.26	4682511(	0	co	439	0	0	0	0	0	0
32,425	0	0.74	46703013U	0	il	1,263	0	0	0	0	0	0
6,980	CBD 1	0.16	4662700I	0	cr	272	0	0	0	0	0	0
1,752	CBD 1	0.04	46627X0(	0	cr	68	0	0	0	0	0	0
14,140	CBD 2	0.32	4682511(	0	co	551	0	0	0	0	0	0
6,758	CBD 1	0.16	4661721(	0	cr	263	0	0	0	0	0	0
57,195	0	1.31	46703022U	0	v	0	0	0	0	0	0	0
231	CBD 2	0.01	46821435U	0	pgo	9	0	0	0	0	0	0
21,476	CBD 2	0.49	4650922(	U	il	836	24,655	4,980	37,949	7,666	51,242	10,351
10,860	CBD 1	0.25	46621325I	0	cr	423	0	0	0	0	0	0
11,279	CBD 1	0.26	4682510(	E	cgh	439	0	0	0	0	0	0
675	CBD 1	0.02	46627X01	0	cr	26	0	0	0	0	0	0
231	CBD 2	0.01	46821429(	0	pgo	9	0	0	0	0	0	0
18,335	CBD 1	0.42	4661720(	0	cr	714	0	0	0	0	0	0
64,835	CBD 2	1.49	4651321(	U	il	2,524	74,431	15,035	114,563	23,142	154,696	31,249
8,406	CBD 2	0.19	4682511(	0	cgh	327	0	0	0	0	0	0
43,372	CBD 2	1.00	4682152(	0	co	1,688	0	0	0	0	0	0
3,444	CBD 1	0.08	4662132(	0	cr	134	0	0	0	0	0	0
26,140	CBD 2	0.60	4650932(	0	il	1,018	0	0	0	0	0	0
26,324	CBD 1	0.60	4682511(	U	cgh	1,025	45,103	9,201	102,713	20,953	160,323	32,706
8,238	CBD 1	0.19	4662130(	0	cr	321	0	0	0	0	0	0
11,288	CBD 2	0.26	4682510(	0	cgh	440	0	0	0	0	0	0
14,467	CBD 2	0.33	467030235	0	il	563	16,608	3,355	25,562	5,164	34,517	6,972
37,725	CBD 2	0.87	4650921(	0	il	1,469	0	0	0	0	0	0
18,742	CBD 1	0.43	4682540(	VACANT	v	0	32,112	6,551	73,128	14,918	114,145	23,286
7,968	CBD 1	0.18	4661720(	0	cr	310	0	0	0	0	0	0
7,491	CBD 1	0.17	4662130(	0	cr	292	0	0	0	0	0	0
800	CBD 2	0.02	46513218I	U	il	31	918	186	1,414	286	1,909	386
34,138	CBD 1	0.78	4662133(	0	pgo	1,329	0	0	0	0	0	0
2,200	CBD 2	0.05	46513211I	U	pps	86	2,526	510	3,888	785	5,249	1,060
199	CBD 2	0.00	46513216I	U	v	0	229	46	352	71	476	96
3,971	CBD 1	0.09	4662130(	0	cr	155	0	0	0	0	0	0
127,340	CBD 2	2.92	46509436U	U	il	4,958	146,186	29,530	225,005	45,452	303,833	61,374
15,069	CBD 2	0.35	467030195	0	il	587	17,299	3,494	26,627	5,379	35,954	7,263
19,030	CBD 2	0.44	4682153(	0	co	741	0	0	0	0	0	0
3,729	CBD 1	0.09	4682540(	VACANT	v	0	6,390	1,303	14,551	2,968	22,713	4,633
132	0	0.00	46509326I	0	il	5	0	0	0	0	0	0
7,269	CBD 1	0.17	4662130(	0	cr	283	0	0	0	0	0	0
11,302	CBD 1	0.26	4682510(	0	cgh	440	0	0	0	0	0	0
18,827	CBD 2	0.43	4682521(	U	cgh	733	21,614	4,366	33,268	6,720	44,922	9,074
3,748	CBD 1	0.09	4662130(	0	cr	146	0	0	0	0	0	0
27,130	CBD 1	0.62	4682541(	0	cr	1,056	0	0	0	0	0	0
15,336	CBD 1	0.35	4682540(	EU	cgh	597	26,276	5,360	59,838	12,207	93,400	19,054
90,676	CBD 1	2.08	4662133(	0	pgo	3,531	0	0	0	0	0	0
14,995	CBD 1	0.34	4662130(	E	cr	584	0	0	0	0	0	0
29,590	CBD 2	0.68	467030258	0	il	1,152	0	0	0	0	0	0
34,263	CBD 1	0.79	46621330I	0	pgo	1,334	0	0	0	0	0	0
11,242	CBD 2	0.26	4682520(	0	cgh	438	0	0	0	0	0	0
18,254	CBD 2	0.42	4670611(	0	il	711	0	0	0	0	0	0
14,249	CBD 2	0.33	4682152(	0	co	555	0	0	0	0	0	0

SHERWOOD Design Engineers

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7,180	CBD 1	0.16	4682541	U	cgh	280	12,302	2,510	28,015	5,715	43,728	8,920
117,060	CBD 2	2.69	468216171	0	cgh	4,558	0	0	0	0	0	0
15,069	CBD 1	0.35	4682521(	0	cgh	587	0	0	0	0	0	0
3,753	CBD 1	0.09	4682540:	0	cgh	146	0	0	0	0	0	0
11,279	CBD 1	0.26	4682540(	0	cgh	439	0	0	0	0	0	0
30,056	CBD 2	0.69	4682520-	U	cgh	1,170	34,505	6,970	53,109	10,728	71,714	14,486
25,726	CBD 2	0.59	46706121	0	il	1,002	0	0	0	0	0	0
12,976	CBD 2	0.30	46706113	E	il	505	0	0	0	0	0	0
60,284	CBD 1	1.38	46621334	U	cp	0	103,287	21,071	235,218	47,984	367,149	74,898
6,662	CBD 1	0.15	4682540:	0	cr	259	0	0	0	0	0	0
182,716	0	4.19	467030321	0	ilv	7,114	0	0	0	0	0	0
24,797	CBD 1	0.57	4682810!	E	cr	966	0	0	0	0	0	0
7,518	CBD 1	0.17	4682540(	0	cr	293	0	0	0	0	0	0
11,298	CBD 1	0.26	468252097	U	cgh	440	19,357	3,949	44,082	8,993	68,806	14,037
67,823	CBD 2	1.56	46513312	U	il	2,641	77,860	15,728	119,842	24,208	161,824	32,688
2,290	0	0.05	465133137	U	il	89	0	0	0	0	0	0
18,808	CBD 1	0.43	46825407	0	cr	732	0	0	0	0	0	0
19,846	CBD 2	0.46	46706115	0	cgh	773	0	0	0	0	0	0
144,811	CBD 2	3.32	46706414	U	il	5,639	166,243	33,581	255,880	51,688	345,518	69,795
11,295	CBD 1	0.26	468252087	EU	cgh	440	19,351	3,948	44,069	8,990	68,787	14,033
28,734	CBD 1	0.66	46825514	0	rh	3,651	0	0	0	0	0	0
34,310	CBD 2	0.79	46706120	U	co	1,336	39,388	7,956	60,625	12,246	81,863	16,536
38,958	CBD 1	0.89	46703017	E	il	1,517	0	0	0	0	0	0
7,648	CBD 1	0.18	4682844	0	ccr	298	0	0	0	0	0	0
7,513	CBD 1	0.17	4682810:	0	cr	293	0	0	0	0	0	0
6,026	CBD 1	0.14	4682520;	E	cgh	235	0	0	0	0	0	0
8,366	CBD 1	0.19	4682844:	0	ccr	326	0	0	0	0	0	0
5,266	CBD 1	0.12	4682520(	E	cgh	205	0	0	0	0	0	0
7,618	CBD 1	0.17	4682810:	0	cr	297	0	0	0	0	0	0
11,300	CBD 1	0.26	4682520:	E	cgh	440	0	0	0	0	0	0
180,475	CBD 2	4.14	4682242(	0	cgh	7,027	0	0	0	0	0	0
6,001	CBD 2	0.14	4682530	0	cgh	234	0	0	0	0	0	0
135,222	CBD 1	3.10	468284437	0	ccr	5,265	0	0	0	0	0	0
7,089	CBD 1	0.16	4682810-	0	cr	276	0	0	0	0	0	0
30,099	CBD 1	0.69	46825507	0	cr	1,172	0	0	0	0	0	0
5,975	CBD 1	0.14	4682551:	U	cgh	233	10,238	2,088	23,314	4,756	36,391	7,424
35,254	CBD 2	0.81	4682531:	0	cgh	1,373	0	0	0	0	0	0
220,413	CBD 1	5.06	468284447	0	ccr	8,582	0	0	0	0	0	0
11,596	CBD 1	0.27	4682810:	0	cr	452	0	0	0	0	0	0
11,299	CBD 1	0.26	46706211	0	cgh	440	0	0	0	0	0	0
25,276	CBD 1	0.58	468255117	0	cp	0	0	0	0	0	0	0
11,271	CBD 1	0.26	46706203	U	cgh	439	19,310	3,939	43,976	8,971	68,641	14,003
22,522	CBD 2	0.52	4682531(	U	cgh	877	25,855	5,223	39,796	8,039	53,736	10,855
28,596	CBD 1	0.66	46703004	0	il	1,113	0	0	0	0	0	0
26,653	CBD 2	0.61	46710112	0	il	1,038	0	0	0	0	0	0
22,594	Chinatown District	0.52	46706210	U	cgh	880	20,002	3,920	25,968	5,090	31,934	6,259
10,595	CBD 1	0.24	468282217	0	cr	413	0	0	0	0	0	0
30,110	CBD 1	0.69	468255157	0	cp	0	0	0	0	0	0	0
11,271	CBD 1	0.26	46706204U	0	cgh	439	0	0	0	0	0	0
18,769	CBD 2	0.43	4682531(	E	cgh	731	0	0	0	0	0	0
15,714	CBD 1	0.36	4682821(	E	cr	612	0	0	0	0	0	0
7,514	CBD 1	0.17	46706205	VACANT	cgh	293	12,874	2,626	29,318	5,981	45,763	9,336
15,022	CBD 2	0.34	468253117	U	cgh	585	17,245	3,484	26,544	5,362	35,842	7,240
38,288	CBD 2	0.88	46710113	U	cgh	1,491	43,955	8,879	67,655	13,666	91,355	18,454
11,271	CBD 1	0.26	46706206	EU	cgh	439	19,312	3,940	43,978	8,972	68,646	14,004
30,026	CBD 2	0.69	4682560(	0	cgh	1,169	0	0	0	0	0	0
390,921	0	8.97	467040210	0	ilv	15,221	0	0	0	0	0	0
26,328	Chinatown District	0.60	46706209	U	cgh	1,025	23,308	4,568	30,260	5,931	37,212	7,294
3,759	CBD 1	0.09	468282227	E	cr	146	0	0	0	0	0	0
7,512	CBD 2	0.17	468253157	U	cgh	292	8,624	1,742	13,274	2,681	17,924	3,621
7,520	Chinatown District	0.17	46706501	0	cgh	293	0	0	0	0	0	0
8,898	CBD 2	0.20	46706415	U	il	346	10,215	2,063	15,723	3,176	21,231	4,288
7,518	CBD 1	0.17	46706207	VACANT	cgh	293	12,881	2,628	29,334	5,984	45,787	9,341
3,759	CBD 1	0.09	4682820'	0	cr	146	0	0	0	0	0	0
21,560	CBD 2	0.49	4682221(	U	il	838	24,751	5,000	38,097	7,696	51,443	10,391
26,308	CBD 1	0.60	468282237	0	cr	1,024	0	0	0	0	0	0
52,649	CBD 1	1.21	467040245	0	il	2,050	0	0	0	0	0	0
15,028	CBD 2	0.34	4682530(	E	co	585	0	0	0	0	0	0
3,752	Chinatown District	0.09	46706510	0	cgh	146	0	0	0	0	0	0
13,024	CBD 2	0.30	468222127	0	il	507	0	0	0	0	0	0
39,432	CBD 1	0.91	467030295	0	v	0	0	0	0	0	0	0
59,990	CBD 2	1.38	4682611(	U	cgh	2,336	68,869	13,911	106,002	21,412	143,136	28,913
7,504	Chinatown District	0.17	46706509	U	cgh	292	6,643	1,302	8,624	1,690	10,606	2,079
11,263	Cultural Arts/ South Stadium Distric	0.26	4682561(	U	cgh	439	8,511	1,634	15,447	2,966	22,385	4,298
11,287	Chinatown District	0.26	46706208	0	cgh	439	0	0	0	0	0	0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING			MIN PROPOSED FAR		MED PROPOSED FAR		MAX PROPOSED FAR	
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	LAND USE (COF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)
3,752	Chinatown District	0.09	46706503	0	cgh	146	0	0	0	0	0	0
11,301	CBD 1	0.26	46706338	VACANT	v	0	19,362	3,950	44,093	8,995	68,825	14,040
7,506	CBD 2	0.17	4682561	0	cgh	292	0	0	0	0	0	0
60,115	Chinatown District	1.38	467065081	U	pfs	2,341	53,219	10,431	69,093	13,542	84,967	16,654
16,813	CBD 2	0.39	46710111	0	cgh	655	0	0	0	0	0	0
11,258	Chinatown District	0.26	46706511	E	cgh	438	0	0	0	0	0	0
7,508	Cultural Arts/ South Stadium Distric	0.17	4682560	E	cgh	292	0	0	0	0	0	0
7,506	CBD 2	0.17	4682561	0	cgh	292	0	0	0	0	0	0
11,261	Cultural Arts/ South Stadium Distric	0.26	4682560	0	cgh	438	0	0	0	0	0	0
3,757	CBD 1	0.09	46706303	VACANT	v	0	6,437	1,313	14,658	2,990	22,880	4,668
11,288	CBD 2	0.26	4682611	0	cgh	440	0	0	0	0	0	0
57,031	CBD 2	1.31	468225	0	pqch	2,221	0	0	0	0	0	0
7,506	Chinatown District	0.17	46706506	VACANT	v	0	6,645	1,302	8,627	1,691	10,609	2,079
1,878	CBD 1	0.04	46706304	VACANT	v	0	3,218	657	7,329	1,495	11,440	2,334
15,022	CBD 2	0.34	4682560	0	cgh	585	0	0	0	0	0	0
11,945	CBD 1	0.27	46706344	VACANT	v	0	20,466	4,175	46,608	9,508	72,750	14,841
7,525	CBD 2	0.17	4682220	U	il	293	8,639	1,745	13,297	2,686	17,955	3,627
117,099	CBD 1	2.69	468284457	0	ccr	4,559	0	0	0	0	0	0
18,775	Chinatown District	0.43	46706507	VACANT	v	0	16,621	3,258	21,579	4,229	26,536	5,201
18,868	Chinatown District	0.43	46706334	U	cgh	735	16,704	3,274	21,686	4,250	26,668	5,227
30,078	Cultural Arts/ South Stadium Distric	0.69	4682831	EU	cgh	1,171	22,730	4,364	41,253	7,921	59,777	11,477
7,507	Cultural Arts/ South Stadium Distric	0.17	4682560	0	cgh	292	0	0	0	0	0	0
7,523	CBD 2	0.17	4682611	E	cgh	293	0	0	0	0	0	0
15,015	CBD 2	0.34	4682221	0	il	585	17,237	3,482	26,532	5,359	35,826	7,237
4,958	CBD 1	0.11	46706339	VACANT	v	0	8,495	1,733	19,345	3,946	30,195	6,160
7,506	Cultural Arts/ South Stadium Distric	0.17	4682560	U	cgh	292	5,672	1,089	10,295	1,977	14,918	2,864
7,523	CBD 2	0.17	4682611	VACANT	cgh	293	8,636	1,745	13,293	2,685	17,950	3,626
22,534	Chinatown District	0.52	46710201	0	cgh	877	0	0	0	0	0	0
3,756	CBD 1	0.09	46706311	VACANT	v	0	6,435	1,313	14,654	2,990	22,874	4,666
43,669	CBD 2	1.00	4682252	U	cgh	1,700	50,132	10,127	77,163	15,587	104,194	21,047
7,506	Cultural Arts/ South Stadium Distric	0.17	4682560	E	cgh	292	0	0	0	0	0	0
11,266	CBD 1	0.26	46706312	VACANT	v	0	19,303	3,938	43,959	8,968	68,615	13,998
7,523	CBD 2	0.17	4682611	0	cgh	293	0	0	0	0	0	0
3,763	Chinatown District	0.09	46706333	0	cgh	147	0	0	0	0	0	0
60,225	Chinatown District	1.38	467040125	0	il	2,345	0	0	0	0	0	0
22,558	CBD 2	0.52	46826414	U	cgh	878	25,897	5,231	39,860	8,052	53,824	10,872
13,985	Cultural Arts/ South Stadium Distric	0.32	4682831	E	cgh	545	0	0	0	0	0	0
1,881	Chinatown District	0.04	46706332	VACANT	cgh	73	1,665	326	2,162	424	2,659	521
7,513	Cultural Arts/ South Stadium Distric	0.17	4682560	VACANT	cgh	293	5,677	1,090	10,304	1,978	14,930	2,867
7,523	CBD 2	0.17	4682611	VACANT	v	0	8,636	1,745	13,293	2,685	17,949	3,626
1,881	Chinatown District	0.04	46706331	E	cgh	73	0	0	0	0	0	0
3,762	Chinatown District	0.09	46706330	VACANT	v	0	3,331	653	4,324	848	5,318	1,042
6,158	CBD 1	0.14	46706335	VACANT	v	0	10,551	2,152	24,025	4,902	37,506	7,651
191,242	Proposed Open Space	4.39	467040205T	0	cp	0	0	0	0	0	0	0
686	0	0.02	468284347	0	ccr	27	0	0	0	0	0	0
26,285	CBD 2	0.60	468223201	VACANT	pfs	1,023	30,175	6,095	46,446	9,382	62,716	12,669
7,524	Chinatown District	0.17	46706329	VACANT	v	0	6,661	1,306	8,648	1,695	10,634	2,084
9,414	Chinatown District	0.22	46706615	U	cgh	367	8,334	1,633	10,820	2,121	13,306	2,608
7,526	Cultural Arts/ South Stadium Distric	0.17	4682830	EU	cgh	293	5,687	1,092	10,322	1,982	14,957	2,872
18,767	CBD 2	0.43	4682611	U	cgh	731	21,544	4,352	33,161	6,699	44,778	9,045
3,520	CBD 1	0.08	46706337	0	il	137	0	0	0	0	0	0
28,464	Proposed Open Space	0.65	467040225T	0	cp	0	0	0	0	0	0	0
15,023	Chinatown District	0.34	46710202	VACANT	v	0	13,300	2,607	17,267	3,384	21,234	4,162
3,495	Cultural Arts/ South Stadium Distric	0.08	4682831	0	cgh	136	0	0	0	0	0	0
1,225	Chinatown District	0.03	46706328	VACANT	v	0	1,084	213	1,408	276	1,731	339
22,587	Cultural Arts/ South Stadium Distric	0.52	4682830	E	cgh	879	0	0	0	0	0	0
1,881	Chinatown District	0.04	46706326	VACANT	v	0	1,665	326	2,162	424	2,658	521
5,632	Chinatown District	0.13	46706613	U	cgh	219	4,986	977	6,474	1,269	7,961	1,560
3,494	Cultural Arts/ South Stadium Distric	0.08	4682831	0	cgh	136	0	0	0	0	0	0
7,523	Chinatown District	0.17	46706325	VACANT	v	0	6,660	1,305	8,646	1,695	10,633	2,084
1,584	CBD 1	0.04	46706318	VACANT	v	0	2,714	554	6,180	1,261	9,647	1,968
31,030	Cultural Arts/ South Stadium Distric	0.71	4682641	E	cgh	1,208	0	0	0	0	0	0
11,279	CBD 2	0.26	4682640	U	cgh	439	12,949	2,616	19,930	4,026	26,912	5,436
9,610	CBD 2	0.22	4682622	0	cgh	374	0	0	0	0	0	0
17,465	Cultural Arts/ South Stadium Distric	0.40	4682831	0	cgh	680	0	0	0	0	0	0
15,021	Chinatown District	0.34	46706602	U	cgh	585	13,298	2,606	17,264	3,384	21,231	4,161
22,558	Chinatown District	0.52	46710203	0	cgh	878	0	0	0	0	0	0
6,370	CBD 2	0.15	4682620	VACANT	v	0	7,313	1,477	0	0	15,199	3,070
3,149	Chinatown District	0.07	46706319	VACANT	v	0	2,788	546	3,620	709	4,451	872
7,533	Chinatown District	0.17	46707101	0	cgh	293	0	0	0	0	0	0
656	Chinatown District	0.02	46706327	0	v	0	0	0	0	0	0	0
7,020	Cultural Arts/ South Stadium Distric	0.16	4682860	VACANT	v	0	5,305	1,019	9,628	1,849	13,952	2,679
11,279	Chinatown District	0.26	46706608	U	cgh	439	9,985	1,957	12,964	2,541	15,942	3,125
26,316	CBD 2	0.60	46826413	U	cgh	1,025	30,211	6,103	46,500	9,393	62,790	12,683
6,500	CBD 2	0.15	4682620	E	v	0	0	0	0	0	0	0

SHERWOOD Design Engineers

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750	Chinatown District	0.02	46706320	VACANT	v	0	664	130	862	169	1,060	208
1,879	Chinatown District	0.04	46707102	0	cgh	73	0	0	0	0	0	0
11,557	CBD 2	0.27	4682252	U	rh	1,468	13,268	2,680	20,422	4,125	27,576	5,570
1,499	Chinatown District	0.03	46706321	VACANT	v	0	1,327	260	1,723	338	2,119	415
5,885	Chinatown District	0.14	46706336	U	cgh	229	5,207	1,021	6,760	1,325	8,313	1,629
9,394	Chinatown District	0.22	46707103T	0	cp	0	0	0	0	0	0	0
14,955	CBD 2	0.34	4682262-	U	rmh	1,900	17,168	3,468	26,425	5,338	35,682	7,208
7,511	Chinatown District	0.17	46706603	0	cgh	292	0	0	0	0	0	0
8,031	Cultural Arts/ South Stadium Distric	0.18	4682861	E	cgh	313	0	0	0	0	0	0
6,982	Cultural Arts/ South Stadium Distric	0.16	4682830	0	cgh	272	0	0	0	0	0	0
11,274	Chinatown District	0.26	46706607	0	cgh	439	0	0	0	0	0	0
18,851	CBD 2	0.43	468262	U	cgh	734	21,641	4,371	33,309	6,728	44,977	9,085
10,890	CBD 2	0.25	468262	0	cgh	424	0	0	0	0	0	0
7,523	Cultural Arts/ South Stadium Distric	0.17	4682860	E	cgh	293	0	0	0	0	0	0
7,511	Chinatown District	0.17	46706604	VACANT	v	0	6,650	1,303	8,633	1,692	10,617	2,081
3,758	Chinatown District	0.09	46707104T	U	cp	0	3,327	652	4,319	847	5,311	1,041
10,463	Cultural Arts/ South Stadium Distric	0.24	468283	U	cgh	407	7,907	1,518	14,351	2,755	20,794	3,992
4,377	Chinatown District	0.10	46707117	E	v	0	0	0	0	0	0	0
26,328	Cultural Arts/ South Stadium Distric	0.60	468291137	E	cgh	1,025	0	0	0	0	0	0
3,758	Chinatown District	0.09	46707105T	U	cp	0	3,327	652	4,319	847	5,312	1,041
10,188	Cultural Arts/ South Stadium Distric	0.23	4682641	E	cgh	397	0	0	0	0	0	0
11,221	Cultural Arts/ South Stadium Distric	0.26	468286	VACANT	cgh	437	8,479	1,628	15,390	2,955	22,300	4,282
7,672	Cultural Arts/ South Stadium Distric	0.18	4682860-	0	cgh	299	0	0	0	0	0	0
37,593	Chinatown District	0.86	46706606	E	cgh	1,464	0	0	0	0	0	0
7,512	Chinatown District	0.17	46706612	U	cgh	292	6,650	1,303	8,634	1,692	10,617	2,081
21,938	Chinatown District	0.50	46707116	E	cgh	854	0	0	0	0	0	0
11,275	Chinatown District	0.26	46707106	U	cp	0	9,981	1,956	12,959	2,540	15,936	3,123
14,519	CBD 2	0.33	468262	0	cgh	565	0	0	0	0	0	0
18,904	CBD 2	0.43	4682262	0	il	736	0	0	0	0	0	0
11,131	Cultural Arts/ South Stadium Distric	0.26	468286057	0	cgh	433	0	0	0	0	0	0
15,025	Chinatown District	0.34	46710301	0	pqch	585	0	0	0	0	0	0
7,487	Cultural Arts/ South Stadium Distric	0.17	468264	U	cgh	292	5,658	1,086	10,269	1,972	14,880	2,857
7,246	CBD 2	0.17	468262	0	cgh	282	0	0	0	0	0	0
7,512	Chinatown District	0.17	46706611	VACANT	v	0	6,650	1,303	8,634	1,692	10,617	2,081
7,479	Cultural Arts/ South Stadium Distric	0.17	468286	E	cgh	291	0	0	0	0	0	0
22,549	Chinatown District	0.52	46707118	U	cgh	878	19,962	3,913	25,917	5,080	31,871	6,247
3,003	Cultural Arts/ South Stadium Distric	0.07	468264	U	cgh	117	2,269	436	4,119	791	5,968	1,146
14,492	CBD 2	0.33	468262	0	cgh	564	0	0	0	0	0	0
18,737	Chinatown District	0.43	46704007	VACANT	v	0	16,587	3,251	21,535	4,221	26,483	5,191
7,243	CBD 2	0.17	468262	VACANT	v	0	8,315	1,680	12,798	2,585	17,281	3,491
7,478	Cultural Arts/ South Stadium Distric	0.17	468286	E	cgh	291	0	0	0	0	0	0
18,798	Cultural Arts/ South Stadium Distric	0.43	468286	EU	cgh	732	14,205	2,727	25,781	4,950	37,358	7,173
20,906	Cultural Arts/ South Stadium Distric	0.48	468291	U	cgh	814	15,798	3,033	28,672	5,505	41,547	7,977
26,077	CBD 2	0.60	468265	U	cgh	1,015	29,936	6,047	46,078	9,308	62,220	12,568
8,216	Cultural Arts/ South Stadium Distric	0.19	468264	U	cgh	320	6,209	1,192	11,268	2,164	16,328	3,135
7,513	Chinatown District	0.17	46710302	EU	cgh	293	6,651	1,304	8,635	1,693	10,619	2,081
7,516	Chinatown District	0.17	46707115	E	cgh	293	0	0	0	0	0	0
11,277	Cultural Arts/ South Stadium Distric	0.26	468291	U	cgh	439	8,522	1,636	15,466	2,970	22,411	4,303
26,162	Cultural Arts/ South Stadium Distric	0.60	468286	0	cgh	1,019	0	0	0	0	0	0
3,995	Chinatown District	0.09	46707401	E1	cgh	156	0	0	0	0	0	0
23,743	Proposed Open Space	0.55	46704023ST	0	il	924	0	0	0	0	0	0
7,514	Chinatown District	0.17	46710303	E	cgh	293	0	0	0	0	0	0
5,466	Chinatown District	0.13	46707113	0	cgh	213	0	0	0	0	0	0
14,475	CBD 2	0.33	468262	0	il	564	0	0	0	0	0	0
20,471	CBD 2	0.47	468263	0	il	797	0	0	0	0	0	0
14,278	Chinatown District	0.33	46707402	E1	cgh	556	0	0	0	0	0	0
22,566	Cultural Arts/ South Stadium Distric	0.52	468291	U	cgh	879	17,053	3,274	30,950	5,942	44,847	8,611
22,351	Chinatown District	0.51	46704006	0	il	870	0	0	0	0	0	0
3,508	Chinatown District	0.08	46707413	E1	v	0	0	0	0	0	0	0
11,271	Chinatown District	0.26	46710304	0	cgh	439	0	0	0	0	0	0
4,165	Chinatown District	0.10	46707112	0	cgh	162	0	0	0	0	0	0
47,825	Cultural Arts/ South Stadium Distric	1.10	468265	U	cgh	1,862	36,140	6,939	65,593	12,594	95,045	18,249
3,483	Cultural Arts/ South Stadium Distric	0.08	468291	VACANT	cgh	136	2,632	505	4,777	917	6,922	1,329
2,050	Chinatown District	0.05	46707114	0	cgh	80	0	0	0	0	0	0
10,449	Cultural Arts/ South Stadium Distric	0.24	468291	0	cgh	407	0	0	0	0	0	0
11,267	Chinatown District	0.26	46707110	U	cgh	439	9,975	1,955	12,950	2,538	15,925	3,121
7,567	Chinatown District	0.17	46707201	0	cgh	295	0	0	0	0	0	0
5,362	CBD 2	0.12	468265	0	rm	385	0	0	0	0	0	0
4,509	Chinatown District	0.10	46707403	0	cgh	176	0	0	0	0	0	0
9,017	Chinatown District	0.21	46710305	VACANT	v	0	7,983	1,565	10,364	2,031	12,745	2,498
3,350	Chinatown District	0.08	46707111	0	cgh	130	0	0	0	0	0	0
15,098	Cultural Arts/ South Stadium Distric	0.35	468294	0	cgh	588	0	0	0	0	0	0
15,007	Chinatown District	0.34	46707412	VACANT	v	0	13,285	2,604	17,248	3,381	21,211	4,157
7,476	Cultural Arts/ South Stadium Distric	0.17	468286	VACANT	cgh	291	5,650	1,085	10,254	1,969	14,858	2,853
5,512	CBD 2	0.13	468265	0	rm	395	0	0	0	0	0	0

SHERWOOD Design Engineers

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AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	LAND USE (COF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)
7,514	Chinatown District	0.17	46707404	0	cgh	293	0	0	0	0	0	0
52,627	Chinatown District	1.21	46707202	VACANT	v	0	46,590	9,132	60,487	11,855	74,384	14,579
10,447	Cultural Arts/ South Stadium Distric	0.24	4682910	0	cgh	407	0	0	0	0	0	0
9,768	Chinatown District	0.22	46710306	VACANT	v	0	8,647	1,695	11,226	2,200	13,806	2,706
30,547	Chinatown District	0.70	467040055	0	v	0	0	0	0	0	0	0
7,249	CBD 2	0.17	46826507	VACANT	v	0	8,322	1,681	12,805	2,587	17,296	3,494
7,514	Chinatown District	0.17	467074057	U	cp	0	6,652	1,304	8,636	1,693	10,620	2,081
15,640	CBD 2	0.36	4682630	0	il	609	0	0	0	0	0	0
7,547	Cultural Arts/ South Stadium Distric	0.17	4682940	0	cgh	294	0	0	0	0	0	0
7,520	Chinatown District	0.17	46707411	VACANT	v	0	6,657	1,305	8,643	1,694	10,629	2,083
10,875	CBD 2	0.25	4682650	E	cgh	423	0	0	0	0	0	0
10,403	Cultural Arts/ South Stadium Distric	0.24	4682910	U	cgh	405	7,861	1,509	14,268	2,739	20,674	3,969
7,513	Chinatown District	0.17	467074067	U	cp	0	6,651	1,304	8,635	1,693	10,619	2,081
15,062	Chinatown District	0.35	46707208	0	cgh	586	0	0	0	0	0	0
59,749	Cultural Arts/ South Stadium Distric	1.37	4682940	0	cgh	2,326	0	0	0	0	0	0
15,091	Cultural Arts/ South Stadium Distric	0.35	4682940	E	cgh	588	0	0	0	0	0	0
15,042	Chinatown District	0.35	467074107	E	cp	0	0	0	0	0	0	0
40,916	Cultural Arts/ South Stadium Distric	0.94	4682920	U	cgh	1,593	36,222	6,955	47,027	9,029	57,831	11,104
11,271	Chinatown District	0.26	46707407	0	cgh	439	0	0	0	0	0	0
45,097	Chinatown District	1.04	46711114	0	cgh	1,756	0	0	0	0	0	0
7,513	Chinatown District	0.17	46707207	EU	cgh	293	6,651	1,304	8,635	1,692	10,618	2,081
7,544	Cultural Arts/ South Stadium Distric	0.17	4682940	E	cgh	294	0	0	0	0	0	0
7,522	Chinatown District	0.17	46707409	0	cgh	293	0	0	0	0	0	0
7,247	Cultural Arts/ South Stadium Distric	0.17	4682650	0	cgh	282	0	0	0	0	0	0
7,514	Chinatown District	0.17	46707206	E	cgh	293	6,652	1,304	8,636	1,693	10,620	2,081
19,459	CBD 2	0.45	4682661	0	il	758	0	0	0	0	0	0
32,454	Cultural Arts/ South Stadium Distric	0.75	4682920	U	cgh	1,264	24,525	4,709	44,511	8,546	64,497	12,383
15,083	Cultural Arts/ South Stadium Distric	0.35	4682940	U	cgh	587	11,398	2,188	20,687	3,972	29,976	5,755
15,048	Chinatown District	0.35	46707408	0	cgh	586	0	0	0	0	0	0
9,997	0	0.23	467040185	0	v	0	0	0	0	0	0	0
7,815	Chinatown District	0.18	46707205	E1	cgh	304	6,918	1,356	8,982	1,760	11,046	2,165
11,133	Chinatown District	0.26	46707501	0	co	434	0	0	0	0	0	0
40,158	Proposed Open Space	0.92	467050218	VACANT	v	0	0	0	0	0	0	0
15,999	Chinatown District	0.37	46711111	0	cgh	623	0	0	0	0	0	0
7,215	Chinatown District	0.17	46707210	E1	cgh	281	6,387	1,252	8,292	1,625	10,197	1,999
7,426	Chinatown District	0.17	46707502	0	cgh	289	0	0	0	0	0	0
13,491	CBD 2	0.31	4682662	0	il	525	0	0	0	0	0	0
15,027	Chinatown District	0.34	46707203	EU	cgh	585	13,304	2,607	17,272	3,385	21,240	4,163
5,987	Cultural Arts/ South Stadium Distric	0.14	4682661	0	il	233	0	0	0	0	0	0
14,624	Cultural Arts/ South Stadium Distric	0.34	4682920	VACANT	pqch	569	11,051	2,122	20,058	3,851	29,064	5,580
7,428	Chinatown District	0.17	46707503	U	cp	0	6,576	1,289	8,538	1,673	10,499	2,058
18,973	Chinatown Industrial Distric	0.44	46707301	0	il	739	0	0	0	0	0	0
22,095	Cultural Arts/ South Stadium Distric	0.51	4682662	0	il	525	0	0	0	0	0	0
5,037	Chinatown District	0.12	46707512	U	cp	0	4,459	874	5,789	1,135	7,119	1,395
38,284	Cultural Arts/ South Stadium Distric	0.88	4682950	U	cgh	1,491	28,931	5,555	52,508	10,081	76,085	14,608
15,069	Chinatown District	0.35	46711113	0	cgh	587	0	0	0	0	0	0
7,431	Chinatown District	0.17	46707504	0	cgh	289	0	0	0	0	0	0
59,991	Cultural Arts/ South Stadium Distric	1.38	467050195	U	il	2,336	0	0	0	0	0	0
24,995	Chinatown District	0.57	46707513	U	cgh	973	22,126	4,337	28,726	5,630	35,325	6,924
3,531	Cultural Arts/ South Stadium Distric	0.08	4682920	0	cgh	137	0	0	0	0	0	0
17,655	Cultural Arts/ South Stadium Distric	0.41	4682920	VACANT	v	0	13,341	2,562	24,214	4,649	35,086	6,737
7,433	Chinatown District	0.17	46707505	U	cgh	289	6,580	1,290	8,543	1,674	10,506	2,059
14,671	0	0.34	46704004	0	il	571	0	0	0	0	0	0
140,282	0	3.22	467050241	0	ilv	5,462	0	0	0	0	0	0
7,526	Chinatown Industrial Distric	0.17	46707302	E	cgh	293	0	0	0	0	0	0
18,617	Chinatown District	0.43	46707506	U	cgh	725	16,481	3,230	21,397	4,194	26,313	5,157
33,908	Chinatown Industrial Distric	0.78	46707317	EU	il	1,320	12,640	1,896	31,835	4,776	51,039	7,656
8,244	Cultural Arts/ South Stadium Distric	0.19	4682930	VACANT	v	0	6,230	1,196	11,307	2,171	16,383	3,146
7,524	Chinatown Industrial Distric	0.17	46707303	E	cgh	293	0	0	0	0	0	0
27,015	Cultural Arts/ South Stadium Distric	0.62	4682950	E	il	1,052	0	0	0	0	0	0
14,949	Chinatown District	0.34	46707509	0	rh	1,899	0	0	0	0	0	0
92,379	Chinatown District	2.12	46711701	E	pqch	3,597	0	0	0	0	0	0
3,188	Cultural Arts/ South Stadium Distric	0.07	4682931	VACANT	v	0	2,409	463	4,373	840	6,336	1,217
3,762	Chinatown Industrial Distric	0.09	46707304	E	cgh	146	0	0	0	0	0	0
3,761	Chinatown Industrial Distric	0.09	46707305	E	cgh	146	0	0	0	0	0	0
7,522	Chinatown Industrial Distric	0.17	46707306T	VACANT	v	0	2,804	421	7,063	1,059	11,322	1,698
7,514	Cultural Arts/ South Stadium Distric	0.17	46829507	VACANT	ilv	293	5,678	1,090	10,305	1,979	14,932	2,867
3,734	Chinatown District	0.09	46707508	E	cgh	145	0	0	0	0	0	0
2,618	Cultural Arts/ South Stadium Distric	0.06	4682931	U	il	102	1,978	380	3,590	689	5,202	999
11,282	Chinatown Industrial Distric	0.26	46707307T	VACANT	v	0	4,206	631	10,594	1,589	16,982	2,547
11,162	Chinatown District	0.26	46707507	U	cgh	435	0	0	0	0	0	0
11,271	Cultural Arts/ South Stadium Distric	0.26	4682950	VACANT	ilv	439	8,517	1,635	15,458	2,968	22,398	4,301
141,020	Chinatown Industrial Distric	3.24	46707615	0	il	5,491	0	0	0	0	0	0
63,774	Cultural Arts/ South Stadium Distric	1.46	467050135	0	il	2,483	0	0	0	0	0	0
30,060	Cultural Arts/ South Stadium Distric	0.69	4682950	0	il	1,170	0	0	0	0	0	0

SHERWOOD Design Engineers

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AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	LAND USE (COF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)
26,251	Chinatown Industrial Distric	0.60	46707316T	VACANT	v	0	9,785	1,468	24,650	3,697	39,514	5,927
4,632	Cultural Arts/ South Stadium Distric	0.11	4682931	0	il	180	0	0	0	0	0	0
19,309	Cultural Arts/ South Stadium Distric	0.44	4682930	0	il	752	0	0	0	0	0	0
14,936	Chinatown Industrial Distric	0.34	46708116T	VACANT	v	0	5,568	835	14,025	2,104	22,482	3,372
8,180	Cultural Arts/ South Stadium Distric	0.19	4682960	0	il	319	0	0	0	0	0	0
181,134	0	4.16	46705024U	0	ilv	5,462	0	0	0	0	0	0
7,439	Cultural Arts/ South Stadium Distric	0.17	4682960	0	il	290	0	0	0	0	0	0
29,894	Chinatown Industrial Distric	0.69	46708118	E	il	1,164	0	0	0	0	0	0
5,264	Cultural Arts/ South Stadium Distric	0.12	4682930	0	il	205	0	0	0	0	0	0
22,327	Cultural Arts/ South Stadium Distric	0.51	4682961	E	il	869	0	0	0	0	0	0
2,907	Chinatown Industrial Distric	0.07	46708115	0	rm	209	0	0	0	0	0	0
7,022	Cultural Arts/ South Stadium Distric	0.16	4682930	0	il	273	0	0	0	0	0	0
75,097	Proposed Open Space	1.72	46705017S	0	il	2,924	0	0	0	0	0	0
7,066	Chinatown Industrial Distric	0.16	46711703	0	cp	0	0	0	0	0	0	0
42,159	Cultural Arts/ South Stadium Distric	0.97	4682961	0	il	1,642	0	0	0	0	0	0
8,612	Chinatown Industrial Distric	0.20	46708114	E	rm	618	0	0	0	0	0	0
70,019	Chinatown Industrial Distric	1.61	46711702	0	il	2,726	0	0	0	0	0	0
5,633	Chinatown Industrial Distric	0.13	46708113	0	rm	404	0	0	0	0	0	0
5,635	Chinatown Industrial Distric	0.13	46708112	0	rm	404	0	0	0	0	0	0
143,371	Chinatown Industrial Distric	3.29	467050238	0	v	0	0	0	0	0	0	0
5,584	Cultural Arts/ South Stadium Distric	0.13	4682960	0	il	217	0	0	0	0	0	0
7,516	Chinatown Industrial Distric	0.17	46708111	0	rm	539	0	0	0	0	0	0
15,018	Chinatown Industrial Distric	0.34	46708115	0	cgh	585	0	0	0	0	0	0
141,559	Chinatown Industrial Distric	3.25	4670842	0	ilv	5,512	0	0	0	0	0	0
5,584	Cultural Arts/ South Stadium Distric	0.13	4682960	0	il	217	0	0	0	0	0	0
7,519	Chinatown Industrial Distric	0.17	46708110	0	rm	539	0	0	0	0	0	0
7,447	Cultural Arts/ South Stadium Distric	0.17	4682960	E	il	290	0	0	0	0	0	0
8,726	Chinatown Industrial Distric	0.20	46708109	0	il	340	0	0	0	0	0	0
2,776	Chinatown Industrial Distric	0.06	46708105	E	rmh	353	0	0	0	0	0	0
14,955	Cultural Arts/ South Stadium Distric	0.34	4682960	E	il	582	0	0	0	0	0	0
26,461	Chinatown Industrial Distric	0.61	46708201	0	il	1,030	0	0	0	0	0	0
2,772	Chinatown Industrial Distric	0.06	46708106	0	rmh	352	0	0	0	0	0	0
131,247	Proposed Open Space	3.01	467050528T	VACANT	il	5,110	0	0	0	0	0	0
6,982	Chinatown Industrial Distric	0.16	46708108	U	rmh	887	2,602	390	6,556	983	10,509	1,576
1,364	Chinatown Industrial Distric	0.03	46708107	VACANT	rmh	173	508	76	1,280	192	2,053	308
13,165	Chinatown Industrial Distric	0.30	46708212	VACANT	v	0	4,908	736	12,362	1,854	19,817	2,973
33,650	Chinatown Industrial Distric	0.77	46708220	U	il	1,310	12,543	1,881	0	0	50,650	7,597
10,737	Cultural Arts/ South Stadium Distric	0.25	46830504	VACANT	v	0	8,114	1,558	14,726	2,827	21,339	4,097
3,000	Chinatown Industrial Distric	0.07	46712101	0	co	117	0	0	0	0	0	0
5,641	Chinatown Industrial Distric	0.13	46708208	VACANT	rm	405	2,103	315	5,297	794	8,491	1,274
6,179	Chinatown Industrial Distric	0.14	46712111	0	il	241	0	0	0	0	0	0
3,701	Chinatown Industrial Distric	0.08	46712118	0	v	0	0	0	0	0	0	0
22,554	Chinatown Industrial Distric	0.52	46708211	EU	il	878	8,407	1,261	21,178	3,177	33,949	5,092
5,657	Chinatown Industrial Distric	0.13	46712115	VACANT	v	0	2,109	316	5,312	797	8,515	1,277
2,848	Chinatown Industrial Distric	0.07	46708501	VACANT	rmh	362	1,061	159	2,674	401	4,286	643
5,135	Chinatown Industrial Distric	0.12	46712113	VACANT	v	0	1,914	287	4,822	723	7,729	1,159
5,628	Chinatown Industrial Distric	0.13	46708502	0	rm	404	0	0	0	0	0	0
2,793	Chinatown Industrial Distric	0.06	467085171	VACANT	cgh	109	1,041	156	2,622	393	4,204	631
6,723	Chinatown Industrial Distric	0.15	46712112	VACANT	v	0	2,506	376	6,313	947	10,120	1,518
7,515	Chinatown Industrial Distric	0.17	46708204	0	v	0	0	0	0	0	0	0
7,503	Chinatown Industrial Distric	0.17	46708503	0	rm	538	0	0	0	0	0	0
63,754	0	1.46	46705050U	0	ilv	2,482	0	0	0	0	0	0
11,269	Chinatown Industrial Distric	0.26	46708205	0	v	0	0	0	0	0	0	0
7,502	Chinatown Industrial Distric	0.17	46708504	VACANT	rml	538	2,797	419	7,045	1,057	11,293	1,694
48,959	Chinatown Industrial Distric	1.12	46708316	0	il	1,906	0	0	0	0	0	0
8,675	Chinatown Industrial Distric	0.20	46712117	VACANT	v	0	3,234	485	8,146	1,222	13,058	1,959
15,241	Chinatown Industrial Distric	0.35	46708516	VACANT	v	0	5,681	852	14,311	2,147	22,941	3,441
7,502	Chinatown Industrial Distric	0.17	46708505	0	rml	538	0	0	0	0	0	0
7,351	Chinatown Industrial Distric	0.17	46708506	0	rml	527	0	0	0	0	0	0
7,514	Chinatown Industrial Distric	0.17	46708515	VACANT	v	0	2,801	420	7,056	1,058	11,310	1,697
3,900	Chinatown Industrial Distric	0.09	46708507	0	v	0	0	0	0	0	0	0
96,587	Chinatown Industrial Distric	2.22	46702017	0	ilv	3,761	0	0	0	0	0	0
74,650	Chinatown Industrial Distric	1.71	46708334	0	il	2,907	0	0	0	0	0	0
7,515	Chinatown Industrial Distric	0.17	46708514	0	rml	539	0	0	0	0	0	0
7,500	Chinatown Industrial Distric	0.17	46708508	0	cgh	292	0	0	0	0	0	0
420	0	0.01	46702039U	0	v	0	0	0	0	0	0	0
6,764	Chinatown Industrial Distric	0.16	4670851	0	rml	485	0	0	0	0	0	0
7,596	Chinatown Industrial Distric	0.17	46708509	0	cgh	296	0	0	0	0	0	0
6,389	Chinatown Industrial Distric	0.15	46708512	0	rml	458	0	0	0	0	0	0
9,021	Chinatown Industrial Distric	0.21	46708511	0	cgh	351	0	0	0	0	0	0
5,651	Chinatown Industrial Distric	0.13	46708303	0	il	220	0	0	0	0	0	0
7,535	Chinatown Industrial Distric	0.17	467083271	U	pps	293	0	0	0	0	0	0
8,183	Chinatown Industrial Distric	0.19	4670851	0	rh	1,040	0	0	0	0	0	0
5,654	Chinatown Industrial Distric	0.13	46708304	0	il	220	0	0	0	0	0	0
7,530	Chinatown Industrial Distric	0.17	4670832	0	rml	540	0	0	0	0	0	0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING			MIN PROPOSED FAR		MED PROPOSED FAR		MAX PROPOSED FAR	
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	LAND USE (COF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)	TOTAL BUILDING AREA (SF)	AVERAGE DAILY FLOW (gpd)
24,066	Chinatown Industrial Distric	0.55	46708335	0	il	937	0	0	0	0	0	0
138,138	Chinatown Industrial Distric	3.17	46709234	0	rmh	17,551	0	0	0	0	0	0
33,233	Chinatown Industrial Distric	0.76	467083337	VACANT	obp	1,975	12,388	1,858	31,205	4,681	50,022	7,503
10,009	Chinatown Industrial Distric	0.23	46708331	0	cgh	390	0	0	0	0	0	0
17,693	Chinatown Industrial Distric	0.41	46702018	0	il	689	0	0	0	0	0	0
9,872	Chinatown Industrial Distric	0.23	46708330	0	cgh	384	0	0	0	0	0	0
13,809	Chinatown Industrial Distric	0.32	46708329	0	cgh	538	0	0	0	0	0	0
230,365	CBD 1	5.29	46504033S1	0	ilv	8,970	394,692	80,517	898,839	183,363	1,402,986	286,209
48,531	CBD 1	1.11	46703034U	0	road	1,890	83,150	16,963	189,360	38,629	295,569	60,296
125,367	CBD 1	2.88	4670303IS1	0	ilv	4,881	214,796	43,818	489,158	99,788	763,521	155,758
61,286	CBD 1	1.41	467030038	0	il	2,386	105,003	21,421	239,126	48,782	373,248	76,143
57,985	CBD 1	1.33	46704025S1	0	il	2,258	99,348	20,267	226,247	46,154	353,145	72,042

ATTACHMENT 2

Sherwood Design Engineers Fire Flow Projections

SHERWOOD Design Engineers

DISTRICT	BUILDING TYPE (MAX FAR)	CONSTRUCTION TYPE
CBD 1	Tower on Podium	1A
CBD 2	Tower on Podium	1A
Civic Center		1A
Chinatown District	Flex block	3B
Cultural Arts/ South Stadium District	Flex block	3B
Chinatown Industrial District	Flex block	3B
Neighborhood General	Rowhouse	5B
Neighborhood General Preservation	Live/Work	3B
Special District	Flex block	3B
Proposed Open Space		0
0		0
District		3B

NOTES:

1. Proposed building square footage as provided by Moule & Polyzoides program received 1/3/11. Building area represents maximum possible building area by Floor Area Ratio (FAR).
2. Building Types assigned to each parcel per zone based on the land use with the maximum FAR. Building types based on 2007 California Building Code.
3. Flow rates as provided by 2007 California Fire Code, Table B105.1.
4. Fire Flow is only calculated for underutilized parcels. All other parcels are assumed not to change.

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
34,259	Cultural Arts/ South Stadium District	0.79	46502002	VACANT	0	0	0	0	0	0	3B	0
8,955	Cultural Arts/ South Stadium District	0.21	46502001	U	RETAIL	0	1640.38	1	1,640	17,797	3B	2,750
20,514	Cultural Arts/ South Stadium District	0.47	46613117	U	RESTAURANT	0	3774.54	1	3,775	40,769	3B	4,250
12,679	Cultural Arts/ South Stadium District	0.29	46610332	VACANT	0	0	0	0	0	25,198	3B	3,250
100,753	Cultural Arts/ South Stadium District	2.31	46618245S	0	RESIDENTIAL	0	0	0	0	0	3B	0
5,904	Cultural Arts/ South Stadium District	0.14	46610321	0	0	0	0	0	0	0	3B	0
26,089	Cultural Arts/ South Stadium District	0.60	46610331	0	CIVIC	OFFICE	0	0	0	0	3B	0
18,226	Cultural Arts/ South Stadium District	0.42	46610326	0	CIVIC	CHURCH	0	0	0	0	3B	0
17,599	Cultural Arts/ South Stadium District	0.40	46613344	0	COMMERCIAL	0	0	0	0	0	3B	0
350,138	Proposed Open Space	8.04	46502008U	VACANT	0	0	0	0	0	0	0	0
15,830	Cultural Arts/ South Stadium District	0.36	46618229	E	0	0	0	0	0	0	3B	0
6,130	Cultural Arts/ South Stadium District	0.14	46613343	0	PARKING	0	0	0	0	0	3B	0
10,733	Cultural Arts/ South Stadium District	0.25	46613333	EU	0	0	2427.52	1	2,428	21,329	3B	3,000
12,714	Cultural Arts/ South Stadium District	0.29	46613327	0	RESIDENTIAL	0	0	0	0	0	3B	0
9,941	Cultural Arts/ South Stadium District	0.23	46610122	E	RESIDENTIAL	0	0	0	0	0	3B	0
13,271	Cultural Arts/ South Stadium District	0.30	46613328	VACANT	0	0	0	0	0	26,375	3B	3,500
4,385	Cultural Arts/ South Stadium District	0.10	46613118	VACANT	0	0	0	0	0	8,714	3B	2,000
5,846	Cultural Arts/ South Stadium District	0.13	46613119	VACANT	0	0	0	0	0	11,617	3B	2,250
10,229	Cultural Arts/ South Stadium District	0.23	46613123	U	COMMERCIAL	0	6305.37	1	6,305	20,330	3B	3,000
14,730	Cultural Arts/ South Stadium District	0.34	46613124	VACANT	0	0	0	0	0	29,274	3B	3,500
3,926	Cultural Arts/ South Stadium District	0.09	46618101T	0	OPEN SPACE	0	0	0	0	0	3B	0
25,983	Cultural Arts/ South Stadium District	0.60	46618320	U	RETAIL	0	4866.97	1	4,867	51,638	3B	4,750
19,841	Cultural Arts/ South Stadium District	0.46	46618315	U	COMMERCIAL	0	3686.85	1	3,687	39,431	3B	4,250
11,992	Neighborhood General Preservation	0.28	46610312	0	RESIDENTIAL	0	0	0	0	0	3B	0
14,746	Cultural Arts/ South Stadium District	0.34	46618316	0	INDUSTRIAL	0	0	0	0	0	3B	0
18,674	Cultural Arts/ South Stadium District	0.43	46618325	U	INDUSTRIAL	0	7476.85	1	7,477	37,112	3B	4,000
9,962	Cultural Arts/ South Stadium District	0.23	46613336	0	CIVIC	CHURCH	0	0	0	0	3B	0
2,111	Cultural Arts/ South Stadium District	0.05	46613108	0	COMMERCIAL	0	0	0	0	0	3B	0
5,953	Cultural Arts/ South Stadium District	0.14	46613107	E	COMMERCIAL	0	0	0	0	0	3B	0
2,917	Cultural Arts/ South Stadium District	0.07	46613104	0	COMMERCIAL	0	0	0	0	0	3B	0
6,502	Cultural Arts/ South Stadium District	0.15	46613116	0	COMMERCIAL	0	0	0	0	0	3B	0
3,411	Cultural Arts/ South Stadium District	0.08	46613303	0	RETAIL	0	0	0	0	0	3B	0
13,568	Cultural Arts/ South Stadium District	0.31	46618240	EU	0	0	6436.13	1	6,436	26,964	3B	3,500
59,532	Neighborhood General	1.37	46610106	0	CIVIC	0	0	0	0	0	5B	0
9,878	Neighborhood General Preservation	0.23	46610304	EU	0	0	1847.44	1	1,847	7,260	3B	1,750
2,498	Cultural Arts/ South Stadium District	0.06	46613105	E	CIVIC	CHURCH	0	0	0	0	3B	0
9,713	Cultural Arts/ South Stadium District	0.22	46613304	0	RETAIL	0	0	0	0	0	3B	0
28,935	Neighborhood General Preservation	0.66	46610329	U	COMMERCIAL	0	0	0	0	21,266	3B	3,000
6,216	Neighborhood General Preservation	0.14	46610303	E	RESIDENTIAL	0	0	0	0	0	3B	0
5,981	Neighborhood General Preservation	0.14	46610302	0	RESIDENTIAL	0	0	0	0	0	3B	0
55,600	Cultural Arts/ South Stadium District	1.28	46613339	0	RESIDENTIAL	0	0	0	0	0	3B	0
19,347	Cultural Arts/ South Stadium District	0.44	46618323	U	INDUSTRIAL	0	3366.68	1	3,367	38,449	3B	4,250
4,978	Neighborhood General Preservation	0.11	46610310	VACANT	0	0	0	0	0	3,658	3B	1,500
15,016	Cultural Arts/ South Stadium District	0.34	46618239	0	HOSPITALITY	0	0	0	0	0	3B	0
11,238	Neighborhood General Preservation	0.26	46613201	E	0	0	0	0	0	0	3B	0
9,991	Cultural Arts/ South Stadium District	0.23	46613106	0	COMMERCIAL	0	0	0	0	0	3B	0
9,026	Cultural Arts/ South Stadium District	0.21	46613338	0	CIVIC	COMM CTR	0	0	0	17,938	3B	2,750
4,983	Neighborhood General Preservation	0.11	46610309	VACANT	0	0	0	0	0	0	3B	0
9,084	Cultural Arts/ South Stadium District	0.21	46613305	E	0	0	0	0	0	0	3B	0
26,894	Cultural Arts/ South Stadium District	0.62	46618415	0	INDUSTRIAL	0	0	0	0	0	3B	0
3,747	Cultural Arts/ South Stadium District	0.09	46618307	U	INDUSTRIAL	0	1992.98	1	1,993	7,448	3B	1,750
7,489	Neighborhood General Preservation	0.17	46613202	VACANT	0	0	0	0	0	5,504	3B	1,500
7,570	Cultural Arts/ South Stadium District	0.17	46613306	0	COMMERCIAL	0	0	0	0	0	3B	0
7,493	Neighborhood General Preservation	0.17	46613203	0	COMMERCIAL	0	0	0	0	0	3B	0
59,935	Neighborhood General	1.38	46610417	0	RESIDENTIAL	0	0	0	0	0	5B	0
11,269	Cultural Arts/ South Stadium District	0.26	46613213	VACANT	0	0	0	0	0	22,395	3B	3,250
15,199	Cultural Arts/ South Stadium District	0.35	46613324	U	COMMERCIAL	0	9633.94	1	9,634	30,206	3B	3,750

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
14,996	Neighborhood General Preservation	0.34	46613204	0	COMMERCIAL	0	0	0	0	0	3B	0
22,449	Cultural Arts/ South Stadium District	0.52	46619112	0	CIVIC	MUSEUM	0	0	0	0	3B	0
3,754	Cultural Arts/ South Stadium District	0.09	46613212	0	COMMERCIAL	0	0	0	0	0	3B	0
14,982	Cultural Arts/ South Stadium District	0.34	46618410	0	INDUSTRIAL	0	0	0	0	0	3B	0
7,508	Cultural Arts/ South Stadium District	0.17	46613211	U	INDUSTRIAL	0	0	0	0	14,922	3B	2,500
10,664	Cultural Arts/ South Stadium District	0.24	46618414	EU	0	0	7746.21	1	7,746	21,194	3B	3,000
15,074	Neighborhood General Preservation	0.35	46610415	0	COMMERCIAL	0	0	0	0	0	3B	0
11,256	Neighborhood General Preservation	0.26	46613205	E	0	0	0	0	0	0	3B	0
11,265	Cultural Arts/ South Stadium District	0.26	46613210	U	INDUSTRIAL	0	2121.38	1	2,121	22,387	3B	3,250
8,342	Cultural Arts/ South Stadium District	0.19	46618403	E	0	0	0	0	0	0	3B	0
26,218	Cultural Arts/ South Stadium District	0.60	46618412	0	INDUSTRIAL	0	0	0	0	0	3B	0
7,501	Cultural Arts/ South Stadium District	0.17	46613401	0	PARKING	0	0	0	0	0	3B	0
6,725	Neighborhood General Preservation	0.15	46613206	0	COMMERCIAL	0	0	0	0	0	3B	0
10,479	Cultural Arts/ South Stadium District	0.24	46619111	VACANT	0	0	0	0	0	20,826	3B	3,000
7,480	Cultural Arts/ South Stadium District	0.17	46619103	U	COMMERCIAL	0	3082.89	1	3,083	14,866	3B	2,500
18,780	Cultural Arts/ South Stadium District	0.43	46613214	0	COMMERCIAL	0	0	0	0	0	3B	0
22,578	Neighborhood General Preservation	0.52	46610409	0	COMMERCIAL	0	0	0	0	0	3B	0
14,781	Cultural Arts/ South Stadium District	0.34	46618413	VACANT	0	0	0	0	0	29,375	3B	3,750
5,621	Cultural Arts/ South Stadium District	0.13	46613402	0	COMMERCIAL	0	0	0	0	0	3B	0
22,359	Proposed Open Space	0.51	46502009U	0	INDUSTRIAL	0	0	0	0	0	0	0
44,483	Neighborhood General	1.02	46610215	0	CIVIC	CHURCH	0	0	0	0	5B	0
7,479	Cultural Arts/ South Stadium District	0.17	46619119	U	CIVIC	OFFICE	7334.75	1	7,335	14,864	3B	2,500
5,621	Cultural Arts/ South Stadium District	0.13	46613403	EU	0	0	1835.87	1	1,836	11,170	3B	2,250
13,961	Cultural Arts/ South Stadium District	0.32	46619110	0	HOSPITALITY	0	0	0	0	0	3B	0
7,479	Cultural Arts/ South Stadium District	0.17	46619118	U	CIVIC	OFFICE	7334.75	1	7,335	14,863	3B	2,500
7,494	Cultural Arts/ South Stadium District	0.17	46613404	E	0	0	0	0	0	0	3B	0
7,736	Neighborhood General Preservation	0.18	46614101	0	RESIDENTIAL	0	0	0	0	0	3B	0
7,512	Cultural Arts/ South Stadium District	0.17	46613418	VACANT	0	0	0	0	0	14,930	3B	2,500
6,783	Cultural Arts/ South Stadium District	0.16	46613207	U	RESTAURANT	0	1580.14	1	1,580	13,479	3B	2,500
18,437	Cultural Arts/ South Stadium District	0.42	46618416	U	INDUSTRIAL	0	5147.63	1	5,148	36,642	3B	4,000
14,858	Cultural Arts/ South Stadium District	0.34	46619119	U	CIVIC	OFFICE	6479.36	1	6,479	29,528	3B	3,750
11,241	Cultural Arts/ South Stadium District	0.26	46613405	U	PARKING	0	0	0	0	22,339	3B	3,250
11,275	Neighborhood General Preservation	0.26	46610417	U	PARKING	0	0	0	0	8,286	3B	2,000
45,045	Neighborhood General Preservation	1.03	46614108	0	COMMERCIAL	0	0	0	0	0	3B	0
13,950	Cultural Arts/ South Stadium District	0.32	46619109	0	HOSPITALITY	0	0	0	0	0	3B	0
22,507	Cultural Arts/ South Stadium District	0.52	46613417	U	CIVIC	SOCIAL SERVICE	9352.5	1	9,353	44,730	3B	4,500
22,485	Cultural Arts/ South Stadium District	0.52	46619401	0	RETAIL	0	0	0	0	0	3B	0
11,783	Proposed Open Space	0.27	46502010U	0	INDUSTRIAL	0	0	0	0	0	0	0
10,491	Cultural Arts/ South Stadium District	0.24	46613406	0	COMMERCIAL	0	0	0	0	0	3B	0
22,463	Cultural Arts/ South Stadium District	0.52	46614110	0	COMMERCIAL	0	0	0	0	0	3B	0
11,172	Neighborhood General Preservation	0.26	46610407	0	RESIDENTIAL	0	0	0	0	0	3B	0
24,024	Neighborhood General	0.55	46610524	U	PARKING	0	0	0	0	16,952	5B	3,500
17,386	Cultural Arts/ South Stadium District	0.40	46619108	U	PARKING	0	0	0	0	34,553	3B	4,000
12,030	Cultural Arts/ South Stadium District	0.28	46613407	0	COMMERCIAL	0	0	0	0	0	3B	0
7,200	Cultural Arts/ South Stadium District	0.17	46613411	U	PARKING	0	0	0	0	14,308	3B	2,500
22,457	Cultural Arts/ South Stadium District	0.52	46619201	E	0	0	0	0	0	0	3B	0
6,494	Cultural Arts/ South Stadium District	0.15	46614111	0	COMMERCIAL	0	0	0	0	0	3B	0
7,497	Cultural Arts/ South Stadium District	0.17	46619410	VACANT	0	0	0	0	0	14,900	3B	2,500
7,491	Cultural Arts/ South Stadium District	0.17	46619402	0	INDUSTRIAL	0	0	0	0	0	3B	0
14,747	Neighborhood General	0.34	46610208	E	0	0	0	0	0	0	5B	0
11,546	Cultural Arts/ South Stadium District	0.27	46613410	0	CIVIC	CHURCH	0	0	0	0	3B	0
46,363	Cultural Arts/ South Stadium District	1.06	46614104	0	COMMERCIAL	0	0	0	0	0	3B	0
8,020	Neighborhood General	0.18	46610523	U	PARKING	0	0	0	0	5,659	5B	2,000
7,492	Cultural Arts/ South Stadium District	0.17	46619409	VACANT	0	0	0	0	0	14,889	3B	2,500
39,959	Neighborhood General	0.92	46610525	U	PARKING	0	0	0	0	0	5B	0
29,992	Cultural Arts/ South Stadium District	0.69	46619419	0	RESIDENTIAL	0	0	0	0	0	3B	0
7,998	Neighborhood General	0.18	46610522	U	PARKING	0	0	0	0	5,643	5B	2,000
29,980	Cultural Arts/ South Stadium District	0.69	46619418	0	RESIDENTIAL	0	0	0	0	0	3B	0
3,755	Cultural Arts/ South Stadium District	0.09	46613408	E	0	0	0	0	0	0	3B	0
33,717	Cultural Arts/ South Stadium District	0.77	46614408	0	COMMERCIAL	0	0	0	0	0	3B	0
11,880	Cultural Arts/ South Stadium District	0.27	46619210	EU	0	0	3083.43	1	3,083	23,610	3B	3,250
26,211	Cultural Arts/ South Stadium District	0.60	46619216	VACANT	0	0	0	0	0	52,090	3B	4,750
11,993	Neighborhood General	0.28	46610521	0	RESIDENTIAL	0	0	0	0	0	5B	0
7,511	Cultural Arts/ South Stadium District	0.17	46613409	U	COMMERCIAL	0	3853.47	1	3,853	14,926	3B	2,500
210,125	Proposed Open Space	4.82	46503013U	0	0	0	0	0	0	0	0	0
19,917	Neighborhood General	0.46	46611124	0	0	0	0	0	0	0	5B	0
35,826	Neighborhood General	0.82	46610520	U	PARKING	0	0	0	0	25,280	5B	4,250
12,581	Cultural Arts/ South Stadium District	0.29	46619211	U	PARKING	0	0	0	0	25,002	3B	3,250
7,506	Neighborhood General	0.17	46614201	U	PARKING	0	0	0	0	5,297	5B	2,000
37,462	Cultural Arts/ South Stadium District	0.86	46614407	U	CIVIC	FARMERS MARKET	0	0	0	74,451	3B	5,750
43,860	Neighborhood General	1.01	46611125	0	CIVIC	SUPERIOR COURT	0	0	0	0	5B	0
7,499	Neighborhood General	0.17	46614202	U	PARKING	0	0	0	0	5,292	5B	2,000

SHERWOOD Design Engineers

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AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
15,016	Cultural Arts/ South Stadium District	0.34	46619419	0	RESIDENTIAL	0	0	0	0	0	3B	0
6,989	Cultural Arts/ South Stadium District	0.16	46619207	U	PARKING	0	0	0	0	13,889	3B	2,500
11,244	Cultural Arts/ South Stadium District	0.26	46619203	E	0	0	0	0	0	0	3B	0
29,820	Cultural Arts/ South Stadium District	0.68	46619501	0	INDUSTRIAL	0	0	0	0	0	3B	0
26,189	Cultural Arts/ South Stadium District	0.60	46614403T	0	PARKING	0	0	0	0	0	3B	0
14,994	Neighborhood General	0.34	46614203	U	PARKING	0	0	0	0	10,580	5B	2,750
6,988	Cultural Arts/ South Stadium District	0.16	46619206	E	0	0	0	0	0	0	3B	0
15,040	Neighborhood General	0.35	46611401	U	PARKING	0	0	0	0	10,613	5B	2,750
26,234	Cultural Arts/ South Stadium District	0.60	46614212	0	COMMERCIAL	0	0	0	0	0	3B	0
10,482	Cultural Arts/ South Stadium District	0.24	46619205	U	PARKING	0	902.33	1	902	20,832	3B	3,000
8,993	Neighborhood General	0.21	46614204	VACANT	RESIDENTIAL	0	0	0	0	6,346	5B	2,250
8,244	Cultural Arts/ South Stadium District	0.19	46619301	E	0	0	0	0	0	0	3B	0
14,991	Cultural Arts/ South Stadium District	0.34	46619507	0	INDUSTRIAL	0	0	0	0	0	3B	0
18,752	Neighborhood General	0.43	46611412	U	INDUSTRIAL	0	0	0	0	13,232	5B	3,000
6,996	Cultural Arts/ South Stadium District	0.16	46619204	U	PARKING	0	0	0	0	13,904	3B	2,500
9,739	Neighborhood General	0.22	46614214	VACANT	0	0	0	0	0	6,872	5B	2,250
22,459	Cultural Arts/ South Stadium District	0.52	46614406	EU	RETAIL	0	7661.61	1	7,662	44,633	3B	4,500
17,971	Cultural Arts/ South Stadium District	0.41	46619302	E	0	0	0	0	0	0	3B	0
14,970	Neighborhood General	0.34	46611411	U	PARKING	0	0	0	0	10,563	5B	2,750
18,685	Cultural Arts/ South Stadium District	0.43	46619502	0	COMMERCIAL	0	0	0	0	0	3B	0
14,979	Cultural Arts/ South Stadium District	0.34	46614209	0	INDUSTRIAL	0	0	0	0	0	3B	0
11,171	Neighborhood General	0.26	46614215	VACANT	0	0	0	0	0	7,883	5B	2,500
11,228	Cultural Arts/ South Stadium District	0.26	46619506	0	INDUSTRIAL	0	0	0	0	0	3B	0
36,236	Cultural Arts/ South Stadium District	0.83	46614501T	0	CIVIC	MUSEUM	0	0	0	0	3B	0
26,181	Neighborhood General	0.60	46611415	U	COMMERCIAL	0	23882.48	1	23,882	18,474	5B	3,750
18,748	Cultural Arts/ South Stadium District	0.43	46619320	U	PARKING	0	0	0	0	37,259	3B	4,000
44,753	Neighborhood General	1.03	46611414	U	COMMERCIAL	0	15348.78	2	30,698	31,579	5B	4,750
6,469	Cultural Arts/ South Stadium District	0.15	46619303	E	COMMERCIAL	0	0	0	0	0	3B	0
7,478	Cultural Arts/ South Stadium District	0.17	46619505	0	INDUSTRIAL	0	0	0	0	0	3B	0
11,284	Cultural Arts/ South Stadium District	0.26	46619503	E	0	0	0	0	0	0	3B	0
41,162	Neighborhood General	0.94	46611215T	0	CIVIC	FUSD	0	0	0	0	5B	0
7,487	Cultural Arts/ South Stadium District	0.17	46614208	0	RETAIL	0	0	0	0	0	3B	0
4,762	Cultural Arts/ South Stadium District	0.11	46619304	E	COMMERCIAL	0	0	0	0	0	3B	0
26,103	Cultural Arts/ South Stadium District	0.60	46619504	U	INDUSTRIAL	0	11213.67	1	11,214	51,877	3B	4,750
11,978	Cultural Arts/ South Stadium District	0.27	46619308	0	COMMERCIAL	0	0	0	0	0	3B	0
11,206	Cultural Arts/ South Stadium District	0.26	46614207	0	RETAIL	0	0	0	0	0	3B	0
18,726	Neighborhood General	0.43	46614301	0	CIVIC	CHURCH	0	0	0	0	5B	0
14,976	Cultural Arts/ South Stadium District	0.34	46614508T	VACANT	0	0	0	0	0	29,763	3B	3,750
12,694	Cultural Arts/ South Stadium District	0.29	46619310	0	RESIDENTIAL	0	0	0	0	0	3B	0
240,428	Proposed Open Space	5.52	46503012U	0	0	0	0	0	0	0	0	0
10,476	Cultural Arts/ South Stadium District	0.24	46619309	E	COMMERCIAL	0	0	0	0	0	3B	0
14,959	Cultural Arts/ South Stadium District	0.34	46619601	EU	0	0	3689.57	1	3,690	29,729	3B	3,750
24,440	Cultural Arts/ South Stadium District	0.56	46619306	U	RETAIL	0	5151.09	1	5,151	48,570	3B	4,750
13,171	Cultural Arts/ South Stadium District	0.30	46614502T	VACANT	OPEN SPACE	0	0	0	0	26,175	3B	3,500
7,484	Cultural Arts/ South Stadium District	0.17	46614507T	E	0	0	0	0	0	0	3B	0
7,494	Neighborhood General	0.17	46614302	U	PARKING	0	0	0	0	5,288	5B	2,000
11,225	Neighborhood General	0.26	46611501	EU	0	0	6014.14	1	6,014	7,920	5B	2,500
10,292	CBD 1	0.24	46614313	0	COMMERCIAL	0	0	0	0	0	1A	0
3,741	Cultural Arts/ South Stadium District	0.09	46614506T	EU	0	0	2583.37	1	2,583	0	3B	0
7,496	Neighborhood General	0.17	46614303	0	CIVIC	CHURCH	0	0	0	0	5B	0
14,969	Cultural Arts/ South Stadium District	0.34	46619602	VACANT	0	0	0	0	0	29,748	3B	3,750
14,960	Cultural Arts/ South Stadium District	0.34	46614505T	EU	0	0	9900.76	1	9,901	29,731	3B	3,750
10,487	Cultural Arts/ South Stadium District	0.24	46614503T	VACANT	PARKING	0	0	0	0	20,841	3B	3,000
11,227	Neighborhood General	0.26	46611502	0	RESIDENTIAL	0	0	0	0	0	5B	0
7,508	Neighborhood General	0.17	46611207	U	0	0	0	0	0	5,298	5B	2,000
22,473	Cultural Arts/ South Stadium District	0.52	46620115	0	CIVIC	CORNERSTONE	0	0	0	0	3B	0
49,669	CBD 1	1.14	46614315	U	COMMERCIAL	0	26559.96	2	53,120	302,495	1A	6,000
26,299	Neighborhood General	0.60	46614314	0	COMMERCIAL	0	0	0	0	0	5B	0
54,918	Cultural Arts/ South Stadium District	1.26	46619604	0	INDUSTRIAL	0	0	0	0	0	3B	0
11,261	Neighborhood General	0.26	46611206	U	COMMERCIAL	0	7516.49	1	7,516	7,946	5B	2,500
7,465	Neighborhood General	0.17	46611512	U	CIVIC	OFFICE	3176.56	1	3,177	5,268	5B	2,000
14,975	Neighborhood General	0.34	46611503	0	RESIDENTIAL	0	0	0	0	0	5B	0
29,924	Cultural Arts/ South Stadium District	0.69	46619603	0	RESIDENTIAL	0	0	0	0	0	3B	0
18,710	Cultural Arts/ South Stadium District	0.43	46614504	EU	0	0	19180.01	2	38,360	37,183	3B	4,000
52,105	Proposed Open Space	1.20	46503021U	0	INDUSTRIAL	0	0	0	0	0	0	0
7,468	Neighborhood General	0.17	46611511	U	PARKING	0	0	0	0	5,269	5B	2,000
37,408	CBD 1	0.86	46614615U	0	COMMERCIAL	0	0	0	0	0	1A	0
20,940	Cultural Arts/ South Stadium District	0.48	46620114	U	PARKING	0	0	0	0	41,615	3B	4,250
25,933	Cultural Arts/ South Stadium District	0.60	46620116	0	CIVIC	CORNERSTONE	0	0	0	0	3B	0
11,208	Neighborhood General	0.26	46611510	U	PARKING	0	0	0	0	7,909	5B	2,500
22,570	Neighborhood General	0.52	46611513T	0	PARKING	0	0	0	0	0	5B	0
22,441	CBD 2	0.52	46611307	U	COMMERCIAL	0	12182.66	2	24,365	53,544	1A	2,500

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
14,956	Neighborhood General	0.34	46611509	0	COMMERCIAL	0	0	0	0	0	5B	0
29,983	Neighborhood General	0.69	46615114	U	PARKING	0	0	0	0	21,157	5B	4,000
18,688	CBD 1	0.43	46614614	U	COMMERCIAL	0	6086.41	2	12,173	113,814	1A	3,750
6,984	Cultural Arts/ South Stadium District	0.16	46620108	U	PARKING	0	0	0	0	13,880	3B	2,500
4,988	Cultural Arts/ South Stadium District	0.11	46619605	0	INDUSTRIAL	0	0	0	0	0	3B	0
11,651	Cultural Arts/ South Stadium District	0.27	46620104	0	RETAIL	0	0	0	0	0	3B	0
18,813	Neighborhood General	0.43	46611515	U	PARKING	0	0	0	0	13,275	5B	3,000
6,986	Cultural Arts/ South Stadium District	0.16	46620107	U	PARKING	0	0	0	0	13,884	3B	2,500
12,000	CBD 2	0.28	46611306	U	COMMERCIAL	0	6323.36	1	6,323	28,631	1A	1,750
29,977	Cultural Arts/ South Stadium District	0.69	46620410	U	INDUSTRIAL	0	10860.27	1	10,860	59,575	3B	5,250
22,518	CBD 1	0.52	46614613	U	PARKING	0	0	0	0	137,141	1A	4,000
8,492	CBD 2	0.19	46611614T	0	0	0	0	0	0	0	1A	0
59,867	CBD 2	1.37	46611613T	0	CIVIC	DETENTION	0	0	0	0	1A	0
21,026	Cultural Arts/ South Stadium District	0.48	46620112	U	PARKING	0	0	0	0	41,786	3B	4,250
7,477	CBD 1	0.17	46614609	0	CIVIC	CHURCH	0	0	0	0	1A	0
10,785	CBD 1	0.25	46615114	0	CIVIC	OFFICE	0	0	0	0	1A	0
25,563	CBD 2	0.59	46611308	VACANT	0	0	0	0	0	60,992	1A	2,750
33,730	CBD 1	0.77	46614616	0	CIVIC	WARNORS THEAT	0	0	0	0	1A	0
7,491	Neighborhood General	0.17	46615103	U	PARKING	0	0	0	0	5,286	5B	2,000
20,625	CBD 1	0.47	46620201	0	CIVIC	CHURCH	0	0	0	0	1A	0
7,937	CBD 1	0.18	46615110	E	0	0	0	0	0	0	1A	0
37,479	Cultural Arts/ South Stadium District	0.86	46620407	0	INDUSTRIAL	0	0	0	0	0	3B	0
7,489	Neighborhood General	0.17	46615104	U	PARKING	0	0	0	0	5,284	5B	2,000
7,487	CBD 1	0.17	46615109	0	RETAIL	0	0	0	0	0	1A	0
59,815	CBD 2	1.37	46611613T	U	PARKING	0	0	0	0	142,718	1A	4,000
29,510	Cultural Arts/ South Stadium District	0.68	46620409	U	CIVIC	CORNERSTONE	18596.01	1	18,596	58,647	3B	5,250
127,656	Civic Center	2.93	46612101T	0	CIVIC	OFFICE	0	0	0	0	1A	0
15,064	Neighborhood General	0.35	46615105	U	COMMERCIAL	0	7562.77	1	7,563	10,630	5B	2,750
7,486	CBD 1	0.17	46615108	0	RETAIL	0	0	0	0	0	1A	0
7,495	CBD 1	0.17	46620202	0	CIVIC	CHURCH	0	0	0	0	1A	0
13,976	CBD 1	0.32	46620220	E	0	0	0	0	0	0	1A	0
6,737	CBD 1	0.15	46615107	0	COMMERCIAL	0	0	0	0	0	1A	0
255,106	0	5.86	46504034U	0	0	0	0	0	0	0	0	0
20,595	CBD 1	0.47	46620221	0	RETAIL	0	0	0	0	0	1A	0
19,541	CBD 1	0.45	46615106	0	RETAIL	0	0	0	0	0	1A	0
10,474	CBD 1	0.24	46620219	E	0	0	0	0	0	0	1A	0
11,225	CBD 2	0.26	46615201	0	COMMERCIAL	0	0	0	0	0	1A	0
14,953	Cultural Arts/ South Stadium District	0.34	46620406	0	INDUSTRIAL	0	0	0	0	0	3B	0
22,912	CBD 1	0.53	46615315	0	PARKING	0	0	0	0	0	1A	0
27,921	CBD 1	0.64	46615318	0	PARKING	0	0	0	0	0	1A	0
10,467	CBD 1	0.24	46620208	U	PARKING	0	0	0	0	63,748	1A	2,750
11,269	CBD 1	0.26	46620205	EI	0	0	0	0	0	0	1A	0
28,486	CBD 2	0.65	46615202	U	PARKING	0	0	0	0	67,968	1A	2,750
11,222	CBD 1	0.26	46620523	VACANT	0	0	0	0	0	68,347	1A	2,750
7,437	Cultural Arts/ South Stadium District	0.17	46620405	0	INDUSTRIAL	0	0	0	0	0	3B	0
10,460	CBD 1	0.24	46620207	0	RETAIL	0	0	0	0	0	1A	0
17,854	CBD 1	0.41	46615312	U	COMMERCIAL	0	17895.84	2	35,792	108,735	1A	3,500
26,172	CBD 1	0.60	46615211	0	RETAIL	0	0	0	0	0	1A	0
607,022	Civic Center	13.94	46616001T	0	CIVIC	OFFICE	0	0	0	0	1A	0
7,488	CBD 1	0.17	46620524	VACANT	0	0	0	0	0	45,602	1A	2,250
60,644	CBD 1	1.39	46620656T	U	CIVIC	OFFICE	12830.73	3	38,492	369,340	1A	6,000
10,468	CBD 1	0.24	46620206	U	PARKING	0	0	0	0	63,752	1A	2,750
14,977	CBD 1	0.34	46620503	VACANT	0	0	0	0	0	91,217	1A	3,250
85,119	District	1.95	46504023S	0	PARKING	0	0	0	0	0	3B	0
10,821	CBD 1	0.25	46620514	0	INDUSTRIAL	0	0	0	0	0	1A	0
23,915	CBD 1	0.55	46615314	U	RETAIL	0	23956.85	1	23,957	145,647	1A	4,000
20,179	CBD 2	0.46	46615203	0	COMMERCIAL	0	0	0	0	0	1A	0
26,224	Civic Center	0.60	46612201T	0	CIVIC	OFFICE	0	0	0	0	1A	0
7,473	CBD 1	0.17	46620513	0	INDUSTRIAL	0	0	0	0	0	1A	0
7,490	CBD 1	0.17	46620504	VACANT	0	0	0	0	0	45,614	1A	2,250
33,659	CBD 1	0.77	46615210	0	RETAIL	0	0	0	0	0	1A	0
35,180	CBD 1	0.81	46615419T	0	RETAIL	0	0	0	0	0	1A	0
19,852	CBD 1	0.46	46620512	0	RETAIL	0	0	0	0	0	1A	0
7,490	CBD 1	0.17	46620505	E	0	0	0	0	0	0	1A	0
57,293	CBD 1	1.32	46620650T	0	PARKING	0	0	0	0	0	1A	0
11,241	CBD 1	0.26	46620506	U	PARKING	0	0	0	0	68,463	1A	2,750
2,579	CBD 1	0.06	46620651T	0	0	0	0	0	0	0	1A	0
24,456	Civic Center	0.56	46612203	0	CIVIC	OFFICE	0	0	0	0	1A	0
66,752	Civic Center	1.53	46612202T	0	CIVIC	FUSD	0	0	0	0	1A	0
8,178	CBD 1	0.19	46620511	0	INDUSTRIAL	0	0	0	0	0	1A	0
4,391	CBD 1	0.10	46620637	0	0	0	0	0	0	0	1A	0
11,191	CBD 1	0.26	46615414	0	COMMERCIAL	0	0	0	0	0	1A	0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
58,732	CBD 1	1.35	46620648	0	CIVIC	OFFICE	0	0	0	0	1A	0
12,679	CBD 1	0.29	46620518	0	INDUSTRIAL	0	0	0	0	0	1A	0
25,483	Special District	0.59	46504006	U	INDUSTRIAL	0	14225.26	1	14,225	27,323	3B	3,500
7,451	CBD 1	0.17	46615413	0	RETAIL	0	0	0	0	0	1A	0
11,602	CBD 1	0.27	46620638	0	0	0	0	0	0	0	1A	0
21,854	CBD 1	0.50	46615421	0	RETAIL	0	0	0	0	0	1A	0
18,582	CBD 1	0.43	46615412	0	RETAIL	0	0	0	0	0	1A	0
46,094	Special District	1.06	46508426	0	INDUSTRIAL	0	0	0	0	0	3B	0
8,135	0	0.19	46504031S	0	0	0	0	0	0	0	0	0
25,379	CBD 1	0.58	46620647	0	CIVIC	OFFICE	0	0	0	0	1A	0
18,327	CBD 1	0.42	46621112	0	CIVIC	OFFICE	0	0	0	0	1A	0
30,028	CBD 1	0.69	46620649	0	PARKING	0	0	0	0	0	1A	0
47,087	0	1.08	46504035U	0	0	0	0	0	0	0	0	0
11,971	0	0.27	46504005T	0	0	0	0	0	0	0	0	0
11,462	CBD 1	0.26	46615431	0	PARKING	0	0	0	0	0	1A	0
173,378	Special District	3.98	46508424	0	INDUSTRIAL	0	0	0	0	0	3B	0
57,263	0	1.31	46504036U	0	0	0	0	0	0	0	0	0
5,278	CBD 1	0.12	46621120	0	RETAIL	0	0	0	0	0	1A	0
33,734	CBD 2	0.77	46504004	0	RETAIL	0	0	0	0	0	1A	0
10,737	CBD 1	0.25	46615411	0	CIVIC	OFFICE	0	0	0	0	1A	0
20,969	CBD 1	0.48	46621113T	0	PARKING	0	0	0	0	0	1A	0
1,406	CBD 1	0.03	46625007U	0	RETAIL	0	0	0	0	0	1A	0
14,754	CBD 1	0.34	46621103T	0	CIVIC	OFFICE	0	0	0	0	1A	0
31,428	CBD 1	0.72	46625008T	0	CIVIC	FRESNO COUNTY	0	0	0	0	1A	0
29,716	CBD 1	0.68	46620654T	U	PARKING	0	0	0	0	180,980	1A	4,500
40,825	CBD 2	0.94	46821116	0	COMMERCIAL	0	0	0	0	0	1A	0
2,081	CBD 1	0.05	46621119T	0	0	0	0	0	0	0	1A	0
11,112	CBD 1	0.26	46621104T	0	CIVIC	OFFICE	0	0	0	0	1A	0
16,735	CBD 1	0.38	46626001	0	COMMERCIAL	0	0	0	0	0	1A	0
5,775	CBD 1	0.13	46621115T	0	0	0	0	0	0	0	1A	0
22,478	CBD 1	0.52	46621401	E	0	0	0	0	0	0	1A	0
3,258	CBD 1	0.07	46621105	0	RETAIL	0	0	0	0	0	1A	0
26,201	CBD 2	0.60	46504003	0	INDUSTRIAL	0	0	0	0	0	1A	0
29,325	CBD 1	0.67	46621117	0	RESIDENTIAL	0	0	0	0	0	1A	0
18,952	CBD 2	0.44	46509120	U	INDUSTRIAL	0	14373.55	1	14,374	45,219	1A	2,250
4,282	CBD 1	0.10	46621106	0	0	0	0	0	0	0	1A	0
13,367	CBD 1	0.31	46617114	0	RETAIL	0	0	0	0	0	1A	0
127,021	CBD 2	2.92	46821410T	0	CIVIC	OFFICE	0	0	0	0	1A	0
18,701	CBD 1	0.43	46625008T	0	CIVIC	FRESNO COUNTY	0	0	0	0	1A	0
1,908	CBD 1	0.04	46620629T	0	0	0	0	0	0	0	1A	0
25,305	CBD 2	0.58	46818520	U	PARKING	0	0	0	0	60,378	1A	2,750
29,755	CBD 2	0.68	46509135	0	RETAIL	0	0	0	0	0	1A	0
18,769	CBD 2	0.43	46509134	U	INDUSTRIAL	0	0	0	0	44,783	1A	2,250
1,829	CBD 1	0.04	46620631T	0	0	0	0	0	0	0	1A	0
18,758	CBD 2	0.43	46821115	0	RETAIL	0	0	0	0	0	1A	0
6,008	CBD 1	0.14	46617113	0	RETAIL	0	0	0	0	0	1A	0
7,504	CBD 1	0.17	46621201	0	CIVIC	OFFICE	0	0	0	0	1A	0
3,387	CBD 1	0.08	46621417T	0	0	0	0	0	0	0	1A	0
12,016	CBD 1	0.28	46617112	0	RETAIL	0	0	0	0	0	1A	0
96,009	CBD 2	2.20	46821219T	0	CIVIC	CONVENTION CTR	0	0	0	0	1A	0
7,496	CBD 1	0.17	46621217	0	RETAIL	0	0	0	0	0	1A	0
55,688	CBD 1	1.28	46621417T	0	PARKING	0	0	0	0	0	1A	0
25,253	CBD 2	0.58	46818518	U	PARKING	0	0	0	0	60,254	1A	2,750
7,495	CBD 1	0.17	46621216	0	CIVIC	OFFICE	0	0	0	0	1A	0
615	CBD 1	0.01	46621417T	0	0	0	0	0	0	0	1A	0
17,251	CBD 2	0.40	46509133	U	PARKING	0	0	0	0	41,160	1A	2,250
21,963	CBD 2	0.50	46504022S	0	INDUSTRIAL	0	0	0	0	0	1A	0
132,552	CBD 1	3.04	46703035ST	0	0	0	0	0	0	0	1A	0
12,007	CBD 1	0.28	46617111	0	RETAIL	0	0	0	0	0	1A	0
537	CBD 1	0.01	46621118T	0	0	0	0	0	0	0	1A	0
18,908	CBD 1	0.43	46624003	0	HOSPITALITY	0	0	0	0	0	1A	0
14,022	CBD 1	0.32	46621212	0	CIVIC	CREST THEATER	0	0	0	0	1A	0
14,987	CBD 1	0.34	46621203	0	RETAIL	0	0	0	0	0	1A	0
30,258	CBD 2	0.69	46509136	0	COMMERCIAL	0	0	0	0	0	1A	0
22,554	CBD 2	0.52	46509323	0	RETAIL	0	0	0	0	0	1A	0
633,183	CBD 2	14.54	46840001T	0	CIVIC	PRFM ARTS CTR	0	0	0	0	1A	0
231	CBD 2	0.01	46821449U	0	0	0	0	0	0	0	1A	0
231	CBD 2	0.01	46821442U	0	0	0	0	0	0	0	1A	0
51,021	CBD 1	1.17	46621220	0	PARKING	0	0	0	0	0	1A	0
12,510	CBD 1	0.29	46621204	0	RETAIL	0	0	0	0	0	1A	0
35,958	Special District	0.83	46513119	U	INDUSTRIAL	0	12350.3	1	12,350	38,555	3B	4,250
4,000	CBD 2	0.09	46509501T	0	0	0	0	0	0	0	1A	0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
36,621	CBD 2	0.84	46504021S	0	INDUSTRIAL	0	0	0	0	0	1A	0
26,287	CBD 2	0.60	46825111	0	COMMERCIAL	0	0	0	0	0	1A	0
36,112	CBD 1	0.83	46624008	0	RETAIL	0	0	0	0	0	1A	0
17,639	CBD 1	0.40	46617212	0	HOSPITALITY	0	0	0	0	0	1A	0
16	0	0.00	46509317T	0	0	0	0	0	0	0		0
37,020	CBD 2	0.85	46509321	U	COMMERCIAL	0	5411.91	1	5,412	88,328	1A	3,250
33,814	CBD 2	0.78	46509327	U	COMMERCIAL	0	8483.35	1	8,483	80,680	1A	3,000
67,184	0	1.54	46703036U	0	0	0	0	0	0	0		0
9,997	CBD 1	0.23	46621213T	0	PARKING	0	0	0	0	0	1A	0
54,387	CBD 2	1.25	46509218	U	INDUSTRIAL	0	22202.43	1	22,202	129,768	1A	4,000
123,511	CBD 1	2.84	46621520T	0	PARKING	0	0	0	0	0	1A	0
231	CBD 2	0.01	46821428U	0	0	0	0	0	0	0	1A	0
32,056	CBD 2	0.74	46821220T	VACANT	0	0	0	0	0	76,486	1A	3,000
51,518	CBD 2	1.18	46821527	0	RETAIL	0	0	0	0	0	1A	0
11,269	CBD 1	0.26	46825110	0	COMMERCIAL	0	0	0	0	0	1A	0
32,425	0	0.74	46703013U	0	0	0	0	0	0	0		0
6,980	CBD 1	0.16	46627001	0	RETAIL	0	0	0	0	0	1A	0
1,752	CBD 1	0.04	46627X02	0	0	0	0	0	0	0	1A	0
14,140	CBD 2	0.32	46825112	0	COMMERCIAL	0	0	0	0	0	1A	0
6,758	CBD 1	0.16	46617215	0	RETAIL	0	0	0	0	0	1A	0
57,195	0	1.31	46703022U	0	0	0	0	0	0	0		0
231	CBD 2	0.01	46821435U	0	0	0	0	0	0	0	1A	0
21,476	CBD 2	0.49	46509221	U	COMMERCIAL	0	8034.18	1	8,034	51,242	1A	2,500
10,860	CBD 1	0.25	46621325T	0	0	0	0	0	0	0	1A	0
11,279	CBD 1	0.26	46825109	E	COMMERCIAL	0	0	0	0	0	1A	0
675	CBD 1	0.02	46627X01	0	0	0	0	0	0	0	1A	0
231	CBD 2	0.01	46821429U	0	0	0	0	0	0	0	1A	0
18,335	CBD 1	0.42	46617208	0	RETAIL	0	0	0	0	0	1A	0
64,835	CBD 2	1.49	46513219	U	RETAIL	0	26498.46	1	26,498	154,696	1A	4,250
8,406	CBD 2	0.19	46825113	0	PARKING	0	0	0	0	0	1A	0
43,372	CBD 2	1.00	46821528	0	PARKING	0	0	0	0	0	1A	0
3,444	CBD 1	0.08	46621324	0	RETAIL	0	0	0	0	0	1A	0
26,140	CBD 2	0.60	46509325	0	COMMERCIAL	0	0	0	0	0	1A	0
26,324	CBD 1	0.60	46825114	U	RETAIL	0	22986.18	1	22,986	160,323	1A	4,250
8,238	CBD 1	0.19	46621302	0	RETAIL	0	0	0	0	0	1A	0
11,288	CBD 2	0.26	46825104	0	RETAIL	0	0	0	0	0	1A	0
14,467	CBD 2	0.33	46703023S	0	INDUSTRIAL	0	7235.73	1	7,236	34,517	1A	2,000
37,725	CBD 2	0.87	46509215	0	RETAIL	0	0	0	0	0	1A	0
18,742	CBD 1	0.43	46825402	VACANT	0	0	0	0	0	114,145	1A	3,750
7,968	CBD 1	0.18	46617207	0	RESTAURANT	0	0	0	0	0	1A	0
7,491	CBD 1	0.17	46621303	0	RETAIL	0	0	0	0	0	1A	0
800	CBD 2	0.02	46513218T	U	UTILITY	0	0	0	0	1,909	1A	1,500
34,138	CBD 1	0.78	46621332	0	COMMERCIAL	0	0	0	0	0	1A	0
2,200	CBD 2	0.05	46513211T	U	UTILITY	0	0	0	0	5,249	1A	1,500
199	CBD 2	0.00	46513216T	U	0	0	0	0	0	476	1A	1,500
3,971	CBD 1	0.09	46621304	0	RETAIL	0	0	0	0	0	1A	0
127,340	CBD 2	2.92	46509436U	U	INDUSTRIAL	0	29407.16	1	29,407	303,832	1A	6,000
15,069	CBD 2	0.35	46703019S	0	INDUSTRIAL	0	8180.29	1	8,180	35,954	1A	2,000
19,030	CBD 2	0.44	46821530	0	PARKING	0	0	0	0	0	1A	0
3,729	CBD 1	0.09	46825401	VACANT	0	0	0	0	0	22,713	1A	1,750
132	0	0.00	46509326T	0	0	0	0	0	0	0		0
7,269	CBD 1	0.17	46621305	0	RETAIL	0	0	0	0	0	1A	0
11,302	CBD 1	0.26	46825105	0	COMMERCIAL	0	0	0	0	0	1A	0
18,827	CBD 2	0.43	46825211	U	PARKING	0	0	0	0	44,922	1A	2,250
3,748	CBD 1	0.09	46621306	0	RETAIL	0	0	0	0	0	1A	0
27,130	CBD 1	0.62	46825410	0	RETAIL	0	0	0	0	0	1A	0
15,336	CBD 1	0.35	46825403	EU	0	0	15317.62	1	15,318	93,400	1A	3,250
90,676	CBD 1	2.08	46621333	0	COMMERCIAL	0	0	0	0	0	1A	0
14,995	CBD 1	0.34	46621307	E	0	0	0	0	0	0	1A	0
29,590	CBD 2	0.68	46703025S	0	COMMERCIAL	0	0	0	0	0	1A	0
34,263	CBD 1	0.79	46621330T	0	PARKING	0	0	0	0	0	1A	0
11,242	CBD 2	0.26	46825202	0	RETAIL	0	0	0	0	0	1A	0
18,254	CBD 2	0.42	46706116	0	INDUSTRIAL	0	0	0	0	0	1A	0
14,249	CBD 2	0.33	46821529	0	PARKING	0	0	0	0	0	1A	0
7,180	CBD 1	0.16	46825413	U	COMMERCIAL	0	2548.82	1	2,549	43,728	1A	2,250
117,060	CBD 2	2.69	46821617T	0	PARKING	0	0	0	0	0	1A	0
15,069	CBD 1	0.35	46825210	0	PARKING	0	0	0	0	0	1A	0
3,753	CBD 1	0.09	46825405	0	RESTAURANT	0	0	0	0	0	1A	0
11,279	CBD 1	0.26	46825406	0	RESTAURANT	0	0	0	0	0	1A	0
30,056	CBD 2	0.69	46825204	U	HOSPITALITY	0	12201.5	2	24,403	71,714	1A	3,000
25,726	CBD 2	0.59	46706121	0	COMMERCIAL	0	0	0	0	0	1A	0
12,976	CBD 2	0.30	46706113	E	0	0	0	0	0	0	1A	0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED			
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type		Fire Flow (gpm)
60,284	CBD 1	1.38	46621334	U	PARKING	0	0	0	0	367,149	1A		6,000
6,662	CBD 1	0.15	46825409	0	RETAIL	0	0	0	0	0	1A		0
182,716	0	4.19	46703032U	0	0	0	0	0	0	0		0	0
24,797	CBD 1	0.57	46828101	E	0	0	0	0	0	0	1A		0
7,518	CBD 1	0.17	46825408	0	RETAIL	0	0	0	0	0	1A		0
11,298	CBD 1	0.26	46825209T	U	COMMERCIAL	0	11016.97	1	11,017	68,806	1A		2,750
67,823	CBD 2	1.56	46513312	U	INDUSTRIAL	0	38107.18	1	38,107	161,824	1A		4,250
2,290	0	0.05	46513313T	U	0	0	0	0	0	0		0	0
18,808	CBD 1	0.43	46825407	0	RETAIL	0	0	0	0	0	1A		0
19,846	CBD 2	0.46	46706115	0	RETAIL	0	0	0	0	0	1A		0
144,811	CBD 2	3.32	46706414	U	RETAIL	0	58231.38	1	58,231	345,518	1A		6,000
11,295	CBD 1	0.26	46825208T	EU	0	0	3591.86	1	3,592	68,787	1A		2,750
28,734	CBD 1	0.66	46825514	0	COMMERCIAL	0	0	0	0	0	1A		0
34,310	CBD 2	0.79	46706120	U	RETAIL	0	7269.35	1	7,269	81,863	1A		3,000
38,958	CBD 1	0.89	46703017	E	0	0	0	0	0	0	1A		0
7,648	CBD 1	0.18	46828441	0	RETAIL	0	0	0	0	0	1A		0
7,513	CBD 1	0.17	46828102	0	RETAIL	0	0	0	0	0	1A		0
6,026	CBD 1	0.14	46825207	E	0	0	0	0	0	0	1A		0
8,366	CBD 1	0.19	46828442	0	RETAIL	0	0	0	0	0	1A		0
5,266	CBD 1	0.12	46825206	E	0	0	0	0	0	0	1A		0
7,618	CBD 1	0.17	46828103	0	RETAIL	0	0	0	0	0	1A		0
11,300	CBD 1	0.26	46825205	E	0	0	0	0	0	0	1A		0
180,475	CBD 2	4.14	46822426	0	HOSPITALITY	0	0	0	0	0	1A		0
6,001	CBD 2	0.14	46825301	0	COMMERCIAL	0	0	0	0	0	1A		0
135,222	CBD 1	3.10	46828443T	0	CIVIC	0	0	0	0	0	1A		0
7,089	CBD 1	0.16	46828104	0	RETAIL	0	0	0	0	0	1A		0
30,099	CBD 1	0.69	46825507	0	RETAIL	0	0	0	0	0	1A		0
5,975	CBD 1	0.14	46825513	U	RESTAURANT	0	4848.18	1	4,848	36,391	1A		2,000
35,254	CBD 2	0.81	46825319	0	COMMERCIAL	0	0	0	0	0	1A		0
220,413	CBD 1	5.06	46828444T	0	CIVIC	CHUKCHANSI PAR	0	0	0	0	1A		0
11,596	CBD 1	0.27	46828105	0	RETAIL	0	0	0	0	0	1A		0
11,299	CBD 1	0.26	46706211	0	RESTAURANT	0	0	0	0	0	1A		0
25,276	CBD 1	0.58	46825511T	0	PARKING	0	0	0	0	0	1A		0
11,271	CBD 1	0.26	46706203	U	PARKING	0	0	0	0	68,641	1A		2,750
22,522	CBD 2	0.52	46825316	U	PARKING	0	0	0	0	53,736	1A		2,500
28,596	CBD 1	0.66	46703004	0	RETAIL	0	0	0	0	0	1A		0
26,633	CBD 2	0.61	46710112	0	COMMERCIAL	0	0	0	0	0	1A		0
22,594	Chinatown District	0.52	46706210	U	RETAIL	0	1103.64	1	1,104	31,934	3B		3,750
10,595	CBD 1	0.24	46828221T	0	RETAIL	0	0	0	0	0	1A		0
30,110	CBD 1	0.69	46825515T	0	RETAIL	0	0	0	0	0	1A		0
11,271	CBD 1	0.26	46706204U	0	0	0	0	0	0	0	1A		0
18,769	CBD 2	0.43	46825318	E	0	0	0	0	0	0	1A		0
15,714	CBD 1	0.36	46828219	E	0	0	0	0	0	0	1A		0
7,514	CBD 1	0.17	46706205	VACANT	0	0	0	0	0	45,763	1A		2,250
15,022	CBD 2	0.34	46825311T	U	PARKING	0	0	0	0	35,842	1A		2,000
38,288	CBD 2	0.88	46710113	U	COMMERCIAL	0	11034.21	1	11,034	91,355	1A		3,250
11,271	CBD 1	0.26	46706206	EU	0	0	7450.98	1	7,451	68,646	1A		2,750
30,026	CBD 2	0.69	46825601	0	RETAIL	0	0	0	0	0	1A		0
390,921	0	8.97	46704021U	0	0	0	0	0	0	0		0	0
26,328	Chinatown District	0.60	46706209	U	INDUSTRIAL	0	8124.75	1	8,125	37,212	3B		4,000
3,759	CBD 1	0.09	46828222T	E	RETAIL	0	0	0	0	0	1A		0
7,512	CBD 2	0.17	46825315T	U	PARKING	0	0	0	0	17,924	1A		1,500
7,520	Chinatown District	0.17	46706501	0	RETAIL	0	0	0	0	0	3B		0
8,898	CBD 2	0.20	46706415	U	RETAIL	0	0	0	0	21,231	1A		1,500
7,518	CBD 1	0.17	46706207	VACANT	0	0	0	0	0	45,787	1A		2,250
3,759	CBD 1	0.09	46828205	0	RETAIL	0	0	0	0	0	1A		0
21,560	CBD 2	0.49	46822218	U	INDUSTRIAL	0	11625.35	1	11,625	51,443	1A		2,500
26,308	CBD 1	0.60	46828223T	0	PARKING	0	0	0	0	0	1A		0
52,649	CBD 1	1.21	46704024S	0	CIVIC	FIRE DEPT	0	0	0	0	1A		0
15,028	CBD 2	0.34	46825309	E	0	0	0	0	0	0	1A		0
3,752	Chinatown District	0.09	46706510	0	RETAIL	0	0	0	0	0	3B		0
13,024	CBD 2	0.30	46822212T	0	RETAIL	0	0	0	0	0	1A		0
39,432	CBD 1	0.91	46703029S	0	PARKING	0	0	0	0	0	1A		0
59,990	CBD 2	1.38	46826118	U	RETAIL	0	12051.22	1	12,051	143,136	1A		4,000
7,504	Chinatown District	0.17	46706509	U	COMMERCIAL	0	2629.58	1	2,630	10,606	3B		2,250
11,263	Cultural Arts/ South Stadium District	0.26	46825610	U	RETAIL	0	5128.42	1	5,128	22,383	3B		3,250
11,287	Chinatown District	0.26	46706208	0	HOSPITALITY	0	0	0	0	0	3B		0
3,752	Chinatown District	0.09	46706503	0	RETAIL	0	0	0	0	0	3B		0
11,301	CBD 1	0.26	46706338	VACANT	0	0	0	0	0	68,825	1A		2,750
7,506	CBD 2	0.17	46825612	0	RETAIL	0	0	0	0	0	1A		0
60,115	Chinatown District	1.38	46706508T	U	CIVIC	FIRE DEPT	0	0	0	84,967	3B		6,250
16,813	CBD 2	0.39	46710111	0	RETAIL	0	0	0	0	0	1A		0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
11,258	Chinatown District	0.26	46706511	E	0	0	0	0	0	0	3B	0
7,508	Cultural Arts/ South Stadium District	0.17	46825609	E	0	0	0	0	0	0	3B	0
7,506	CBD 2	0.17	46825611	0	RETAIL	0	0	0	0	0	1A	0
11,261	Cultural Arts/ South Stadium District	0.26	46825608	0	RETAIL	0	0	0	0	0	3B	0
3,757	CBD 1	0.09	46706303	VACANT	0	0	0	0	0	22,880	1A	1,750
11,288	CBD 2	0.26	46826114	0	RETAIL	ART GALLERY	0	0	0	0	1A	0
57,031	CBD 2	1.31	46822519	0	CIVIC	CHURCH	0	0	0	0	1A	0
7,506	Chinatown District	0.17	46706506	VACANT	0	0	0	0	0	10,609	3B	2,250
1,878	CBD 1	0.04	46706304	VACANT	0	0	0	0	0	11,440	1A	1,500
15,022	CBD 2	0.34	46825603	0	RETAIL	0	0	0	0	0	1A	0
11,945	CBD 1	0.27	46706344	VACANT	0	0	0	0	0	72,750	1A	3,000
7,525	CBD 2	0.17	46822209	U	INDUSTRIAL	0	4323.61	1	4,324	17,955	1A	1,500
117,099	CBD 1	2.69	46828445T	0	CIVIC	0	0	0	0	0	1A	0
18,775	Chinatown District	0.43	46706507	VACANT	0	0	0	0	0	26,536	3B	3,500
18,868	Chinatown District	0.43	46706334	U	PARKING	0	0	0	0	26,668	3B	3,500
30,078	Cultural Arts/ South Stadium District	0.69	46828314	EU	0	0	9601.44	1	9,601	59,777	3B	5,250
7,507	Cultural Arts/ South Stadium District	0.17	46825607	0	RETAIL	0	0	0	0	0	3B	0
7,523	CBD 2	0.17	46826116	E	RETAIL	ART GALLERY	0	0	0	0	1A	0
15,015	CBD 2	0.34	46822217	0	RETAIL	0	0	0	0	35,826	1A	2,000
4,958	CBD 1	0.11	46706339	VACANT	0	0	0	0	0	30,195	1A	1,750
7,506	Cultural Arts/ South Stadium District	0.17	46825606	U	PARKING	0	0	0	0	14,918	3B	2,500
7,523	CBD 2	0.17	46826117	VACANT	0	0	0	0	0	17,950	1A	1,500
22,534	Chinatown District	0.52	46710201	0	RETAIL	0	0	0	0	0	3B	0
3,756	CBD 1	0.09	46706311	VACANT	0	0	0	0	0	22,874	1A	1,750
43,669	CBD 2	1.00	46822520	U	RETAIL	0	13742.47	1	13,742	104,194	1A	3,500
7,506	Cultural Arts/ South Stadium District	0.17	46825605	E	0	0	0	0	0	0	3B	0
11,266	CBD 1	0.26	46706312	VACANT	0	0	0	0	0	68,615	1A	2,750
7,523	CBD 2	0.17	46826112	0	RESIDENTIAL	0	0	0	0	0	1A	0
3,763	Chinatown District	0.09	46706333	0	RESIDENTIAL	0	0	0	0	0	3B	0
60,225	Chinatown District	1.38	46704012S	0	INDUSTRIAL	0	0	0	0	0	3B	0
22,558	CBD 2	0.52	46826414	U	PARKING	0	0	0	0	53,824	1A	2,500
13,985	Cultural Arts/ South Stadium District	0.32	46828312	E	0	0	0	0	0	0	3B	0
1,881	Chinatown District	0.04	46706332	VACANT	0	0	0	0	0	2,659	3B	1,500
7,513	Cultural Arts/ South Stadium District	0.17	46825604	VACANT	0	0	0	0	0	14,930	3B	2,500
7,523	CBD 2	0.17	46826111	VACANT	0	0	0	0	0	17,949	1A	1,500
1,881	Chinatown District	0.04	46706331	E	0	0	0	0	0	0	3B	0
3,762	Chinatown District	0.09	46706330	VACANT	0	0	0	0	0	5,318	3B	1,500
6,158	CBD 1	0.14	46706335	VACANT	0	0	0	0	0	37,506	1A	2,000
191,242	Proposed Open Space	4.39	46704020ST	0	0	0	0	0	0	0	0	0
686	0	0.02	46828434T	0	CIVIC	0	0	0	0	0	0	0
26,285	CBD 2	0.60	46822320T	VACANT	0	0	0	0	0	62,716	1A	2,750
7,524	Chinatown District	0.17	46706329	VACANT	0	0	0	0	0	10,634	3B	2,250
9,414	Chinatown District	0.22	46706615	U	INDUSTRIAL	0	0	0	0	13,306	3B	2,500
7,526	Cultural Arts/ South Stadium District	0.17	46828303	EU	0	0	0	0	0	14,957	3B	2,500
18,767	CBD 2	0.43	46826110	U	RETAIL	0	3763.74	1	3,764	44,778	1A	2,250
3,520	CBD 1	0.08	46706337	0	RETAIL	0	0	0	0	0	1A	0
28,464	Proposed Open Space	0.65	46704022ST	0	0	0	0	0	0	0	0	0
15,023	Chinatown District	0.34	46710202	VACANT	0	0	0	0	0	21,234	3B	3,000
3,495	Cultural Arts/ South Stadium District	0.08	46828311	0	RETAIL	0	0	0	0	0	3B	0
1,225	Chinatown District	0.03	46706328	VACANT	0	0	0	0	0	1,731	3B	1,500
22,587	Cultural Arts/ South Stadium District	0.52	46828304	E	0	0	0	0	0	0	3B	0
1,881	Chinatown District	0.04	46706326	VACANT	0	0	0	0	0	2,658	3B	1,500
5,632	Chinatown District	0.13	46706613	U	INDUSTRIAL	0	2457.21	1	2,457	7,961	3B	2,000
3,494	Cultural Arts/ South Stadium District	0.08	46828310	0	RETAIL	0	0	0	0	0	3B	0
7,523	Chinatown District	0.17	46706325	VACANT	0	0	0	0	0	10,633	3B	2,250
1,584	CBD 1	0.04	46706318	VACANT	0	0	0	0	0	9,647	1A	1,500
31,030	Cultural Arts/ South Stadium District	0.71	46826412	E	INDUSTRIAL	0	0	0	0	0	3B	0
11,279	CBD 2	0.26	46826404	U	RETAIL	0	2354.86	1	2,355	26,912	1A	1,750
9,610	CBD 2	0.22	46826220	0	RETAIL	0	0	0	0	0	1A	0
17,465	Cultural Arts/ South Stadium District	0.40	46828315	0	RETAIL	0	0	0	0	0	3B	0
15,021	Chinatown District	0.34	46706602	U	INDUSTRIAL	0	3035.98	1	3,036	21,231	3B	3,000
22,558	Chinatown District	0.52	46710203	0	COMMERCIAL	0	0	0	0	0	3B	0
6,370	CBD 2	0.15	46826202	VACANT	0	0	0	0	0	15,199	1A	1,500
3,149	Chinatown District	0.07	46706319	VACANT	0	0	0	0	0	4,451	3B	1,500
7,533	Chinatown District	0.17	46707101	0	RETAIL	0	0	0	0	0	3B	0
656	Chinatown District	0.02	46706327	0	0	0	0	0	0	0	3B	0
7,020	Cultural Arts/ South Stadium District	0.16	46828601	VACANT	0	0	0	0	0	13,952	3B	2,500
11,279	Chinatown District	0.26	46706608	U	RETAIL	0	2520.16	1	2,520	15,942	3B	2,750
26,316	CBD 2	0.60	46826413S	U	RETAIL	0	1142.26	1	1,142	62,790	1A	2,750
6,500	CBD 2	0.15	46826203	E	0	0	0	0	0	0	1A	0
750	Chinatown District	0.02	46706320	VACANT	0	0	0	0	0	1,060	3B	1,500
1,879	Chinatown District	0.04	46707102	0	RETAIL	0	0	0	0	0	3B	0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
11,557	CBD 2	0.27	46822521	U	PARKING	0	0	0	0	27,576	1A	1,750
1,499	Chinatown District	0.03	46706321	VACANT	0	0	0	0	0	2,119	3B	1,500
5,882	Chinatown District	0.14	46706336	U	RETAIL	0	6051.98	1	6,052	8,313	3B	2,000
9,394	Chinatown District	0.22	46707103T	0	PARKING	0	0	0	0	0	3B	0
14,955	CBD 2	0.34	46822624	U	PARKING	0	0	0	0	35,682	1A	2,000
7,511	Chinatown District	0.17	46706603	0	RETAIL	0	0	0	0	0	3B	0
8,031	Cultural Arts/ South Stadium District	0.18	46828611	E	0	0	0	0	0	0	3B	0
6,982	Cultural Arts/ South Stadium District	0.16	46828307	0	RETAIL	0	0	0	0	0	3B	0
11,274	Chinatown District	0.26	46706607	0	RETAIL	0	0	0	0	0	3B	0
18,851	CBD 2	0.43	46826215	U	PARKING	0	0	0	0	44,977	1A	2,250
10,890	CBD 2	0.25	46826217	0	INDUSTRIAL	0	0	0	0	0	1A	0
7,523	Cultural Arts/ South Stadium District	0.17	46828603	E	0	0	0	0	0	0	3B	0
7,511	Chinatown District	0.17	46706604	VACANT	0	0	0	0	0	10,617	3B	2,250
3,758	Chinatown District	0.09	46707104T	U	PARKING	0	0	0	0	5,311	3B	1,500
10,463	Cultural Arts/ South Stadium District	0.24	46828313	U	RETAIL	0	3806.46	1	3,806	20,794	3B	3,000
4,377	Chinatown District	0.10	46707117	E	0	0	0	0	0	0	3B	0
26,328	Cultural Arts/ South Stadium District	0.60	46829113T	E	RETAIL	0	0	0	0	0	3B	0
3,758	Chinatown District	0.09	46707105T	U	PARKING	0	0	0	0	5,312	3B	1,500
10,188	Cultural Arts/ South Stadium District	0.23	46826411	E	PARKING	0	0	0	0	0	3B	0
11,221	Cultural Arts/ South Stadium District	0.26	46828612	VACANT	0	0	0	0	0	22,300	3B	3,250
7,672	Cultural Arts/ South Stadium District	0.18	46828604	0	RETAIL	0	0	0	0	0	3B	0
37,593	Chinatown District	0.86	46706606	E	RETAIL	0	0	0	0	0	3B	0
7,512	Chinatown District	0.17	46706612	U	RETAIL	0	4408.18	1	4,408	10,617	3B	2,250
21,938	Chinatown District	0.50	46707116	E	0	0	0	0	0	0	3B	0
11,275	Chinatown District	0.26	46707106	U	PARKING	0	0	0	0	15,936	3B	2,750
14,519	CBD 2	0.33	46826218	0	INDUSTRIAL	0	0	0	0	0	1A	0
18,904	CBD 2	0.43	46822623	0	INDUSTRIAL	0	0	0	0	0	1A	0
11,131	Cultural Arts/ South Stadium District	0.26	46828605T	0	RETAIL	0	0	0	0	0	3B	0
15,025	Chinatown District	0.34	46710301	0	CIVIC	CHURCH	0	0	0	0	3B	0
7,487	Cultural Arts/ South Stadium District	0.17	46826410	U	RETAIL	0	0	0	0	14,880	3B	2,500
7,246	CBD 2	0.17	46826214	0	INDUSTRIAL	0	0	0	0	0	1A	0
7,512	Chinatown District	0.17	46706611	VACANT	0	0	0	0	0	10,617	3B	2,250
7,479	Cultural Arts/ South Stadium District	0.17	46828610	E	0	0	0	0	0	0	3B	0
22,549	Chinatown District	0.52	46707118	U	RETAIL	0	11744.86	1	11,745	31,871	3B	3,750
3,003	Cultural Arts/ South Stadium District	0.07	46826408	U	RETAIL	0	0	0	0	5,968	3B	1,750
14,492	CBD 2	0.33	46826216	0	INDUSTRIAL	0	0	0	0	0	1A	0
18,737	Chinatown District	0.43	46704007	VACANT	0	0	0	0	0	26,483	3B	3,500
7,243	CBD 2	0.17	46826209	VACANT	0	0	0	0	0	17,281	1A	1,500
7,478	Cultural Arts/ South Stadium District	0.17	46828609	E	0	0	0	0	0	0	3B	0
18,798	Cultural Arts/ South Stadium District	0.43	46828606	EU	0	0	2389.19	1	2,389	37,358	3B	4,000
20,906	Cultural Arts/ South Stadium District	0.48	46829111	U	RETAIL	0	7055.18	1	7,055	41,547	3B	4,250
26,077	CBD 2	0.60	46826518	U	RETAIL	0	3444.8	1	3,445	62,220	1A	2,750
8,216	Cultural Arts/ South Stadium District	0.19	46826409	U	RETAIL	0	2718.86	1	2,719	16,328	3B	2,750
7,513	Chinatown District	0.17	46710302	EU	0	0	2832.25	1	2,832	10,619	3B	2,250
7,516	Chinatown District	0.17	46707115	E	0	0	0	0	0	0	3B	0
11,277	Cultural Arts/ South Stadium District	0.26	46829115	U	PARKING	0	0	0	0	22,411	3B	3,250
26,162	Cultural Arts/ South Stadium District	0.60	46828608	0	INDUSTRIAL	0	0	0	0	0	3B	0
3,995	Chinatown District	0.09	46707401	EI	RETAIL	0	0	0	0	0	3B	0
23,743	Proposed Open Space	0.55	46704023ST	0	INDUSTRIAL	0	0	0	0	0	0	0
7,514	Chinatown District	0.17	46710303	E	0	0	0	0	0	0	3B	0
5,466	Chinatown District	0.13	46707113	0	RETAIL	0	0	0	0	0	3B	0
14,475	CBD 2	0.33	46826219	0	INDUSTRIAL	0	0	0	0	0	1A	0
20,471	CBD 2	0.47	46826307	0	RETAIL	0	0	0	0	0	1A	0
14,278	Chinatown District	0.33	46707402	EI	0	0	0	0	0	0	3B	0
22,566	Cultural Arts/ South Stadium District	0.52	46829116	U	RETAIL	0	3466.63	1	3,467	44,847	3B	4,500
22,351	Chinatown District	0.51	46704006	0	INDUSTRIAL	0	0	0	0	0	3B	0
3,508	Chinatown District	0.08	46707413	EI	0	0	0	0	0	0	3B	0
11,271	Chinatown District	0.26	46710304	0	RETAIL	0	0	0	0	0	3B	0
4,165	Chinatown District	0.10	46707112	0	RETAIL	0	0	0	0	0	3B	0
47,825	Cultural Arts/ South Stadium District	1.10	46826519	U	RETAIL	0	9531.64	1	9,532	95,045	3B	6,500
3,483	Cultural Arts/ South Stadium District	0.08	46829110	VACANT	0	0	0	0	0	6,922	3B	1,750
2,050	Chinatown District	0.05	46707114	0	RETAIL	0	0	0	0	0	3B	0
10,449	Cultural Arts/ South Stadium District	0.24	46829109	0	INDUSTRIAL	0	0	0	0	0	3B	0
11,267	Chinatown District	0.26	46707110	U	RETAIL	0	11067.55	1	11,068	15,925	3B	2,750
7,567	Chinatown District	0.17	46707201	0	RETAIL	0	0	0	0	0	3B	0
5,362	CBD 2	0.12	46826505	0	RESIDENTIAL	0	0	0	0	0	1A	0
4,509	Chinatown District	0.10	46707403	0	RETAIL	0	0	0	0	0	3B	0
9,017	Chinatown District	0.21	46710305	VACANT	0	0	0	0	0	12,745	3B	2,500
3,350	Chinatown District	0.08	46707111	0	RETAIL	0	0	0	0	0	3B	0
15,098	Cultural Arts/ South Stadium District	0.35	46829401	0	INDUSTRIAL	0	0	0	0	0	3B	0
15,007	Chinatown District	0.34	46707412	VACANT	0	0	0	0	0	21,211	3B	3,000
7,476	Cultural Arts/ South Stadium District	0.17	46828607	VACANT	0	0	0	0	0	14,858	3B	2,500

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
5,512	CBD 2	0.13	46826506	0	RESIDENTIAL	0	0	0	0	0	1A	0
7,514	Chinatown District	0.17	46707404	0	RETAIL	0	0	0	0	0	3B	0
52,627	Chinatown District	1.21	46707202	VACANT	0	0	0	0	0	74,384	3B	5,750
10,447	Cultural Arts/ South Stadium District	0.24	46829108	0	INDUSTRIAL	0	0	0	0	0	3B	0
9,768	Chinatown District	0.22	46710306	VACANT	0	0	0	0	0	13,806	3B	2,500
30,547	Chinatown District	0.70	46704005S	0	0	0	0	0	0	0	3B	0
7,249	CBD 2	0.17	46826507	VACANT	0	0	0	0	0	17,296	1A	1,500
7,514	Chinatown District	0.17	46707405T	U	PARKING	0	0	0	0	10,620	3B	2,250
15,640	CBD 2	0.36	46826305	0	PARKING	0	0	0	0	0	1A	0
7,547	Cultural Arts/ South Stadium District	0.17	46829402	0	RETAIL	0	0	0	0	0	3B	0
7,520	Chinatown District	0.17	46707411	VACANT	0	0	0	0	0	10,629	3B	2,250
10,875	CBD 2	0.25	46826508	E	0	0	0	0	0	0	1A	0
10,403	Cultural Arts/ South Stadium District	0.24	46829107	U	RETAIL	0	3957.88	1	3,958	20,674	3B	3,000
7,513	Chinatown District	0.17	46707406T	U	PARKING	0	0	0	0	10,619	3B	2,250
15,062	Chinatown District	0.35	46707208	0	RETAIL	0	0	0	0	0	3B	0
59,749	Cultural Arts/ South Stadium District	1.37	46829406	0	CIVIC	SKATING RINK	0	0	0	0	3B	0
15,091	Cultural Arts/ South Stadium District	0.35	46829403	E	0	0	0	0	0	0	3B	0
15,042	Chinatown District	0.35	46707410T	E	PARKING	0	0	0	0	0	3B	0
40,916	Cultural Arts/ South Stadium District	0.94	46829208	U	RETAIL	0	20056.78	1	20,057	57,831	3B	5,000
11,271	Chinatown District	0.26	46707407	0	RETAIL	0	0	0	0	0	3B	0
45,097	Chinatown District	1.04	46711114	0	RETAIL	0	0	0	0	0	3B	0
7,513	Chinatown District	0.17	46707207	EU	0	0	7678.26	1	7,678	10,618	3B	2,250
7,544	Cultural Arts/ South Stadium District	0.17	46829404	E	0	0	0	0	0	0	3B	0
7,522	Chinatown District	0.17	46707409	0	INDUSTRIAL	0	0	0	0	0	3B	0
7,247	Cultural Arts/ South Stadium District	0.17	46826509	0	INDUSTRIAL	0	0	0	0	0	3B	0
7,514	Chinatown District	0.17	46707206	E	0	0	0	0	0	10,620	3B	2,250
19,459	CBD 2	0.45	46826616	0	RETAIL	0	0	0	0	0	1A	0
32,454	Cultural Arts/ South Stadium District	0.75	46829207	U	RETAIL	0	6015.39	1	6,015	64,497	3B	5,250
15,083	Cultural Arts/ South Stadium District	0.35	46829405	U	RETAIL	0	1462.81	1	1,463	29,976	3B	3,750
15,048	Chinatown District	0.35	46707408	0	RETAIL	0	0	0	0	0	3B	0
9,997	0	0.23	46704018S	0	0	0	0	0	0	0	0	0
7,815	Chinatown District	0.18	46707205	EI	0	0	0	0	0	11,046	3B	2,250
11,133	Chinatown District	0.26	46707501	0	RETAIL	0	0	0	0	0	3B	0
40,158	Proposed Open Space	0.92	46705021S	VACANT	0	0	0	0	0	0	0	0
15,999	Chinatown District	0.37	46711111	0	0	0	0	0	0	0	3B	0
7,215	Chinatown District	0.17	46707210	EI	0	0	0	0	0	10,197	3B	2,250
7,426	Chinatown District	0.17	46707502	0	RETAIL	0	0	0	0	0	3B	0
13,491	CBD 2	0.31	46826629	0	0	0	0	0	0	0	1A	0
15,027	Chinatown District	0.34	46707203	EU	INDUSTRIAL	0	3241.55	1	3,242	21,240	3B	3,000
5,987	Cultural Arts/ South Stadium District	0.14	46826613	0	INDUSTRIAL	0	0	0	0	0	3B	0
14,624	Cultural Arts/ South Stadium District	0.34	46829204	VACANT	0	0	0	0	0	29,064	3B	3,500
7,428	Chinatown District	0.17	46707503	U	PARKING	0	0	0	0	10,499	3B	2,250
18,973	Chinatown Industrial District	0.44	46707301	0	RETAIL	0	0	0	0	0	3B	0
22,093	Cultural Arts/ South Stadium District	0.51	46826629	0	INDUSTRIAL	0	0	0	0	0	3B	0
5,037	Chinatown District	0.12	46707512	U	PARKING	0	0	0	0	7,119	3B	1,750
38,284	Cultural Arts/ South Stadium District	0.88	46829501	U	RETAIL	0	19722.94	1	19,723	76,085	3B	5,750
15,069	Chinatown District	0.35	46711113	0	RESTAURANT	0	0	0	0	0	3B	0
7,431	Chinatown District	0.17	46707504	0	RETAIL	0	0	0	0	0	3B	0
59,991	Cultural Arts/ South Stadium District	1.38	46705019S	U	RETAIL	0	17837.47	1	17,837	0	3B	0
24,993	Chinatown District	0.57	46707513	U	CIVIC	CHURCH	16416.2	1	16,416	35,325	3B	4,000
3,531	Cultural Arts/ South Stadium District	0.08	46829206	0	INDUSTRIAL	0	0	0	0	0	3B	0
17,655	Cultural Arts/ South Stadium District	0.41	46829205	VACANT	0	0	0	0	0	35,086	3B	4,000
7,433	Chinatown District	0.17	46707505	U	PARKING	0	0	0	0	10,506	3B	2,250
14,671	0	0.34	46704004	0	INDUSTRIAL	0	0	0	0	0	0	0
140,282	0	3.22	46705024U	0	0	0	0	0	0	0	0	0
7,526	Chinatown Industrial District	0.17	46707302	E	0	0	0	0	0	0	3B	0
18,617	Chinatown District	0.43	46707506	U	PARKING	0	0	0	0	26,313	3B	3,500
33,908	Chinatown Industrial District	0.78	46707317	EU	0	0	9590.56	1	9,591	51,039	3B	4,750
8,244	Cultural Arts/ South Stadium District	0.19	46829301	VACANT	0	0	0	0	0	16,383	3B	2,750
7,524	Chinatown Industrial District	0.17	46707303	E	0	0	0	0	0	0	3B	0
27,015	Cultural Arts/ South Stadium District	0.62	46829506	E	0	0	0	0	0	0	3B	0
14,949	Chinatown District	0.34	46707509	0	RESIDENTIAL	0	0	0	0	0	3B	0
92,379	Chinatown District	2.12	46711701	E	CIVIC	CHURCH	0	0	0	0	3B	0
3,188	Cultural Arts/ South Stadium District	0.07	46829319	VACANT	0	0	0	0	0	6,336	3B	1,750
3,762	Chinatown Industrial District	0.09	46707304	E	0	0	0	0	0	0	3B	0
3,761	Chinatown Industrial District	0.09	46707305	E	0	0	0	0	0	0	3B	0
7,522	Chinatown Industrial District	0.17	46707306T	VACANT	0	0	0	0	0	11,322	3B	2,250
7,514	Cultural Arts/ South Stadium District	0.17	46829507	VACANT	INDUSTRIAL	0	0	0	0	14,932	3B	2,500
3,734	Chinatown District	0.09	46707508	E	0	0	0	0	0	0	3B	0
2,618	Cultural Arts/ South Stadium District	0.06	46829312	U	INDUSTRIAL	0	848.47	1	848	5,202	3B	1,500
11,282	Chinatown Industrial District	0.26	46707307T	VACANT	0	0	0	0	0	16,982	3B	2,750
11,162	Chinatown District	0.26	46707507	U	PARKING	0	0	0	0	0	3B	0

SHERWOOD Design Engineers

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AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
11,271	Cultural Arts/ South Stadium District	0.26	46829503	VACANT	INDUSTRIAL	0	0	0	0	22,399	3B	3,250
141,020	Chinatown Industrial District	3.24	46707615	0	INDUSTRIAL	0	0	0	0	0	3B	0
63,774	Cultural Arts/ South Stadium District	1.46	46705013S	0	RETAIL	0	0	0	0	0	3B	0
30,060	Cultural Arts/ South Stadium District	0.69	46829505	0	INDUSTRIAL	0	0	0	0	0	3B	0
26,251	Chinatown Industrial District	0.60	46707316T	VACANT	0	0	0	0	0	39,514	3B	4,250
4,632	Cultural Arts/ South Stadium District	0.11	46829317	0	0	0	0	0	0	0	3B	0
19,309	Cultural Arts/ South Stadium District	0.44	46829309	0	INDUSTRIAL	0	0	0	0	0	3B	0
14,936	Chinatown Industrial District	0.34	46708116T	VACANT	0	0	0	0	0	22,482	3B	3,250
8,180	Cultural Arts/ South Stadium District	0.19	46829601	0	RETAIL	0	0	0	0	0	3B	0
181,134	0	4.16	46705024U	0	0	0	0	0	0	0	0	0
7,439	Cultural Arts/ South Stadium District	0.17	46829602	0	RETAIL	0	0	0	0	0	3B	0
29,894	Chinatown Industrial District	0.69	46708118	E	INDUSTRIAL	0	0	0	0	0	3B	0
5,264	Cultural Arts/ South Stadium District	0.12	46829308	0	RETAIL	0	0	0	0	0	3B	0
22,327	Cultural Arts/ South Stadium District	0.51	46829611	E	0	0	0	0	0	0	3B	0
2,907	Chinatown Industrial District	0.07	46708115	0	RESIDENTIAL	0	0	0	0	0	3B	0
7,022	Cultural Arts/ South Stadium District	0.16	46829307	0	RETAIL	0	0	0	0	0	3B	0
75,097	Proposed Open Space	1.72	46705017S	0	INDUSTRIAL	0	0	0	0	0	0	0
7,066	Chinatown Industrial District	0.16	46711703	0	0	0	0	0	0	0	3B	0
42,159	Cultural Arts/ South Stadium District	0.97	46829610	0	INDUSTRIAL	0	0	0	0	0	3B	0
8,612	Chinatown Industrial District	0.20	46708114	E	COMMERCIAL	0	0	0	0	0	3B	0
70,019	Chinatown Industrial District	1.61	46711702	0	INDUSTRIAL	0	0	0	0	0	3B	0
5,633	Chinatown Industrial District	0.13	46708113	0	RESIDENTIAL	0	0	0	0	0	3B	0
5,635	Chinatown Industrial District	0.13	46708112	0	RESIDENTIAL	0	0	0	0	0	3B	0
143,371	Chinatown Industrial District	3.29	46705023S	0	0	0	0	0	0	0	3B	0
5,584	Cultural Arts/ South Stadium District	0.13	46829606	0	INDUSTRIAL	0	0	0	0	0	3B	0
7,516	Chinatown Industrial District	0.17	46708111	0	RESIDENTIAL	0	0	0	0	0	3B	0
15,018	Chinatown Industrial District	0.34	46708119	0	RETAIL	0	0	0	0	0	3B	0
141,559	Chinatown Industrial District	3.25	46708422	0	INDUSTRIAL	0	0	0	0	0	3B	0
5,584	Cultural Arts/ South Stadium District	0.13	46829607	0	RETAIL	0	0	0	0	0	3B	0
7,519	Chinatown Industrial District	0.17	46708110	0	RESTAURANT	0	0	0	0	0	3B	0
7,447	Cultural Arts/ South Stadium District	0.17	46829608	E	0	0	0	0	0	0	3B	0
8,726	Chinatown Industrial District	0.20	46708109	0	RESTAURANT	0	0	0	0	0	3B	0
2,776	Chinatown Industrial District	0.06	46708105	E	0	0	0	0	0	0	3B	0
14,955	Cultural Arts/ South Stadium District	0.34	46829609	E	0	0	0	0	0	0	3B	0
26,461	Chinatown Industrial District	0.61	46708201	0	COMMERCIAL	0	0	0	0	0	3B	0
2,772	Chinatown Industrial District	0.06	46708106	0	RESIDENTIAL	0	0	0	0	0	3B	0
131,247	Proposed Open Space	3.01	46705052ST	VACANT	0	0	0	0	0	0	0	0
6,982	Chinatown Industrial District	0.16	46708108	U	RESIDENTIAL	0	3851.2	1	3,851	10,509	3B	2,250
1,364	Chinatown Industrial District	0.03	46708107	VACANT	0	0	0	0	0	2,053	3B	1,500
13,165	Chinatown Industrial District	0.30	46708212	VACANT	0	0	0	0	0	19,817	3B	3,000
33,650	Chinatown Industrial District	0.77	46708220	U	PARKING	0	0	0	0	50,650	3B	4,750
10,737	Cultural Arts/ South Stadium District	0.25	46830504	VACANT	0	0	0	0	0	21,339	3B	3,000
3,000	Chinatown Industrial District	0.07	46712101	0	COMMERCIAL	0	0	0	0	0	3B	0
5,641	Chinatown Industrial District	0.13	46708208	VACANT	0	0	0	0	0	8,491	3B	2,000
6,179	Chinatown Industrial District	0.14	46712111	0	UTILITY	0	0	0	0	0	3B	0
3,701	Chinatown Industrial District	0.08	46712118	0	PARKING	0	0	0	0	0	3B	0
22,554	Chinatown Industrial District	0.52	46708211	EU	0	0	3131	1	3,131	33,949	3B	4,000
5,657	Chinatown Industrial District	0.13	46712115	VACANT	0	0	0	0	0	8,515	3B	2,000
2,848	Chinatown Industrial District	0.07	46708501	VACANT	0	0	0	0	0	4,286	3B	1,500
5,135	Chinatown Industrial District	0.12	46712113	VACANT	0	0	0	0	0	7,729	3B	1,750
5,628	Chinatown Industrial District	0.13	46708502	0	RESIDENTIAL	0	0	0	0	0	3B	0
2,793	Chinatown Industrial District	0.06	46708517T	VACANT	0	0	0	0	0	4,204	3B	1,500
6,723	Chinatown Industrial District	0.15	46712112	VACANT	0	0	0	0	0	10,120	3B	2,250
7,515	Chinatown Industrial District	0.17	46708204	0	CIVIC	COMM GARDEN	0	0	0	0	3B	0
7,503	Chinatown Industrial District	0.17	46708503	0	RESIDENTIAL	0	0	0	0	0	3B	0
63,754	0	1.46	46705050U	0	0	0	0	0	0	0	0	0
11,269	Chinatown Industrial District	0.26	46708203	0	CIVIC	COMM GARDEN	0	0	0	0	3B	0
7,502	Chinatown Industrial District	0.17	46708504	VACANT	0	0	0	0	0	11,293	3B	2,250
48,959	Chinatown Industrial District	1.12	46708316	0	CIVIC	SOCIAL SERVICE	0	0	0	0	3B	0
8,675	Chinatown Industrial District	0.20	46712117	VACANT	0	0	0	0	0	13,058	3B	2,500
15,241	Chinatown Industrial District	0.35	46708516	VACANT	0	0	0	0	0	22,941	3B	3,250
7,502	Chinatown Industrial District	0.17	46708505	0	RESIDENTIAL	0	0	0	0	0	3B	0
7,351	Chinatown Industrial District	0.17	46708506	0	RESIDENTIAL	0	0	0	0	0	3B	0
7,514	Chinatown Industrial District	0.17	46708515	VACANT	0	0	0	0	0	11,310	3B	2,250
3,900	Chinatown Industrial District	0.09	46708507	0	RESIDENTIAL	0	0	0	0	0	3B	0
96,587	Chinatown Industrial District	2.22	46702017	0	CIVIC	RESCUE MISSION	0	0	0	0	3B	0
74,650	Chinatown Industrial District	1.71	46708334	0	0	0	0	0	0	0	3B	0
7,515	Chinatown Industrial District	0.17	46708514	0	RESIDENTIAL	0	0	0	0	0	3B	0
7,500	Chinatown Industrial District	0.17	46708508	0	INDUSTRIAL	0	0	0	0	0	3B	0
420	0	0.01	46702039U	0	0	0	0	0	0	0	0	0
6,764	Chinatown Industrial District	0.16	46708513	0	RESIDENTIAL	0	0	0	0	0	3B	0
7,596	Chinatown Industrial District	0.17	46708509	0	INDUSTRIAL	0	0	0	0	0	3B	0

SHERWOOD Design Engineers

PARCEL INFO				EXISTING						PROPOSED		
AREA (sf)	ZONE	AREA (ac)	APN	BUILDING CONDITION	GROUND FLOOR USE	SUB_USE	FIRST FLOOR S.F.	BLDG STORIES	total bldg s.f.	Maximum Building Area (sf)	Construction Type	Fire Flow (gpm)
6,389	Chinatown Industrial District	0.15	46708512	0	RESIDENTIAL	0	0	0	0	0	3B	0
9,021	Chinatown Industrial District	0.21	46708511	0	RESIDENTIAL	0	0	0	0	0	3B	0
5,651	Chinatown Industrial District	0.13	46708303	0	CIVIC	SOCIAL SERVICE	0	0	0	0	3B	0
7,535	Chinatown Industrial District	0.17	46708327T	U	0	0	0	0	0	0	3B	0
8,183	Chinatown Industrial District	0.19	46708510	0	RESIDENTIAL	0	0	0	0	0	3B	0
5,654	Chinatown Industrial District	0.13	46708304	0	CIVIC	SOCIAL SERVICE	0	0	0	0	3B	0
7,530	Chinatown Industrial District	0.17	46708326	0	0	0	0	0	0	0	3B	0
24,066	Chinatown Industrial District	0.55	46708335	0	0	0	0	0	0	0	3B	0
138,138	Chinatown Industrial District	3.17	46709234	0	CIVIC	RESCUE MISSION	0	0	0	0	3B	0
33,233	Chinatown Industrial District	0.76	46708333T	VACANT	0	0	0	0	0	50,022	3B	4,750
10,009	Chinatown Industrial District	0.23	46708331	0	0	0	0	0	0	0	3B	0
17,693	Chinatown Industrial District	0.41	46702018	0	CIVIC	RESCUE MISSION	0	0	0	0	3B	0
9,872	Chinatown Industrial District	0.23	46708330	0	0	0	0	0	0	0	3B	0
13,809	Chinatown Industrial District	0.32	46708329	0	0	0	0	0	0	0	3B	0
230,365	CBD 1	5.29	46504033ST	0	0	0	0	0	0	1,402,986	1A	6,250
48,531	CBD 1	1.11	46703034U	0	0	0	0	0	0	295,569	1A	5,750
125,367	CBD 1	2.88	46703031ST	0	COMMERCIAL	0	46701	1	46,701	763,521	1A	6,000
61,286	CBD 1	1.41	46703003S	0	TRANSPORTATION	GREYHOUND	24915	1	24,915	373,248	1A	6,000
57,985	CBD 1	1.33	46704025ST	0	0	0	0	0	0	353,145	1A	6,000

ATTACHMENT 3

Recommended Pipeline Improvements

Recommended Pipeline Improvements

Street Name	Cross Street 1	Cross Street 2	New or Replacement	Length, feet	Diameter, inches
Amador Street	Fulton/Van Ness All*	I/Van Ness Alley	Replace	399	8
Amador Street	H Street	Broadway/Fulton Alley	Replace	390	8
Amador Street	H Street	Broadway/Fulton Alley	New	190	8
Calaveras Street	H Street	Broadway/Fulton Alley	Replace	390	8
Calaveras Street	H Street	Broadway/Fulton Alley	New	261	8
E Street	Mono Street	Ventura Street	New	487	8
Fulton Street	Divisadero Street	Sacramento Street	New	309	8
H Street	H Street	Ventura Street	New	424	8
H Street	San Joaquin Street	Amador Street	New	444	8
Inyo Street	China Alley	G Street	New	177	8
Inyo Street	Hwy 99	Fagan Alley	New	397	8
M Street	Tulare Street	Fresno Street	New	1,007	8
Mariposa Street	Fagan Alley	G Street	New	625	8
Mariposa Street	Hwy 99	E Street	New	299	8
Mono Street	Fagan Alley	G Street	New	596	8
Sacramento Street	Broadway/H Alley	Broadway Street	New	218	8
San Joaquin Street	H Street	Broadway/Fulton Alley	Replace	225	8
San Joaquin Street	H Street	Broadway/Fulton Alley	New	390	8
San Joaquin Street	I/Van Ness Alley	I/M Alley	New	394	8
Santa Clara Street	Broadway/H Alley	Broadway/Fulton Alley	New	411	8
Tulare Street	Hwy 99	E Street	New	1,029	8
			Total	9,063	

Appendix 7: Sewer System Model Report

City of Fresno

Department Of Public Utilities

Utilities Planning and Engineering

Sewer Capacity Study

Of

Fulton Corridor Specific Plan Project Area

July 2011

City of FRESNO

Department of Public Utilities

Administration Division
2600 Fresno Street, Room 3065
Fresno, California 93721-3624
559-621-8600 – FAX 559-498-1304
www.fresno.gov

Providing Life's Essential Services

July 15, 2011

Michael Amodeo
Project Manager
Sherwood Design Engineers

Subject: Fulton Corridor Specific Plan Sewer Capacity Study – Bounded by E. Divisadero Street and HWY 41 between "N" Street and 99 HWY

Dear Mr. Amodeo:

The Department of Public Utilities Planning and Engineering Section (UP&E) has completed the Sewer Capacity review of the Fulton Corridor Specific Plan project area and its impacts on the City of Fresno Sanitary Sewer System. The wastewater demands within the Fulton Corridor were based on the projected building areas and maximum Floor Area Ratios (max FARs) as developed by Moule & Polyzoides and the planning team. UP&E staff analyzed and modeled the updated wastewater flows provided by Sherwood Design Engineers by using GIS sewer facility data, associated Trunk Sewer Service Basins, and the 2025 General Plan Sewer Model data.

The Fulton Corridor Specific Plan falls within six Trunk Sewer Service Areas. These areas are identified as Walnut 9, North Central 7, North Central 8, South Central 2, North Central 10, and South Central 3. By using the provided wastewater data from Sherwood Design Engineers, staff has identified issues based on sewer capacity. Four of the six Trunk Sewer Service Areas have sewer mains identified with insufficient pipe capacity based on the wastewater flow data provided. (See attached Exhibit "A"). Also, included within Exhibit "A" are the recommended pipe size upgrades that shall support the projected wastewater flows from the Fulton Corridor Specific Plan area.

Recommendations

Exhibit "A" identifies the sewer mains impacted by the projected wastewater flows provided by Sherwood Design Engineers. Specific sewer mains where identified which were deemed insufficient to accept the added wastewater flows from the Fulton Corridor. The upgraded pipe diameters listed in Exhibit "A" shall be able to accommodate the increased sewer capacity flows generated by the Fulton Corridor Specific Plan. Capacity, age, and condition of the existing sewer facilities within the Fulton Corridor Specific Plan area shall be considered in order to determine upgrades, replacement, and rehabilitation.

Sincerely,

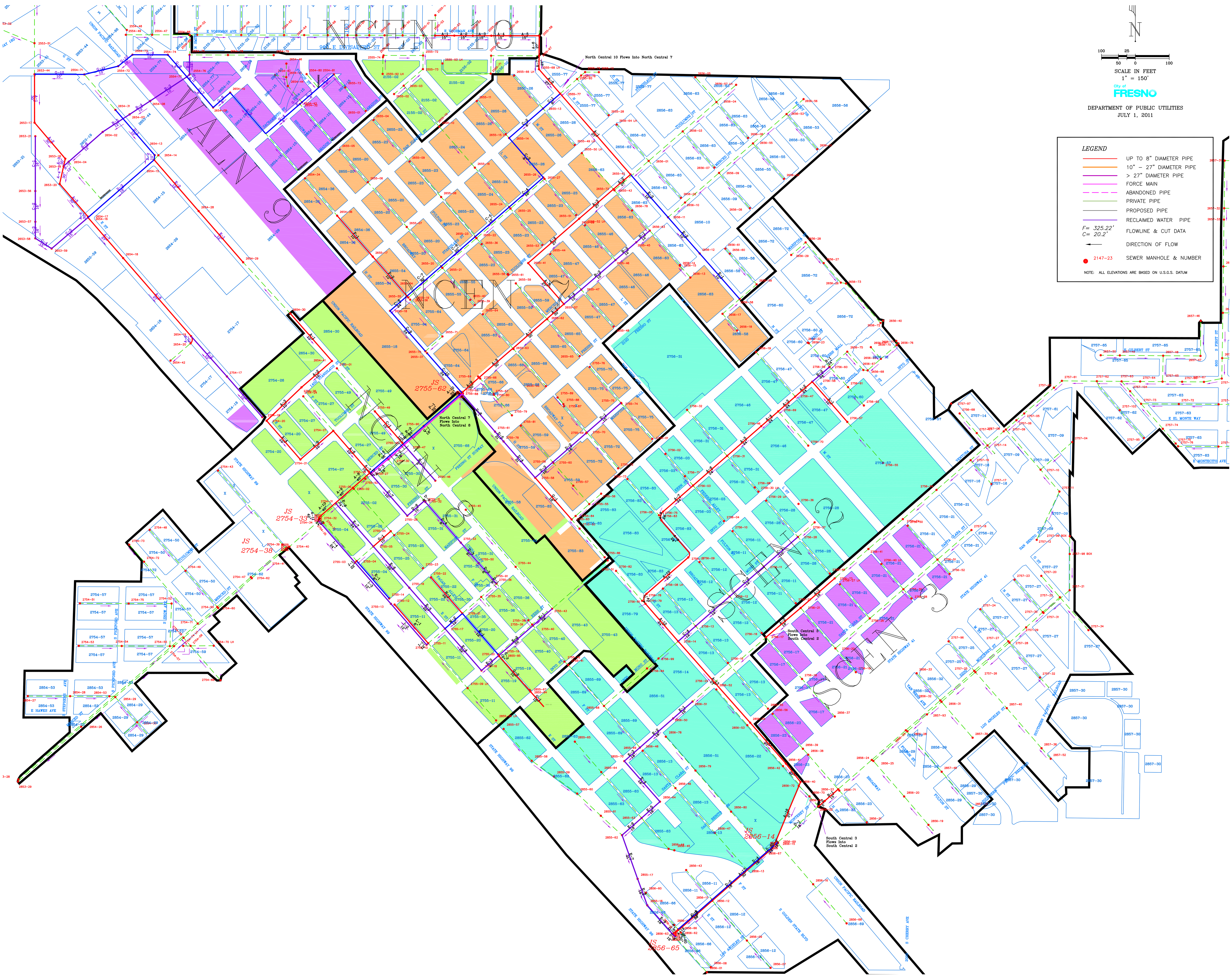
Doug Hecker
Supervising Engineering Technician

cc: Patrick N. Wiemiller, Director
Robert Andersen, Assistant Director (Department of Public Utilities)
Steve Hogg, Assistant Director (Wastewater)
Doug Hecker, Supervising Engineering Technician (Sewer)

Exhibit "A"

FULTON CORRIDOR PIPE SEGMENTS OVER CAPACITY

PIPE SEGMENT		LENGTH	PIPE DIAM.	PIPE SLOPE	PROJECTED AVERAGE DAILY FLOW	RUNNING FLOW TOTAL	DESIGN PEAK FLOW CAPACITY	DESIGN MIN. PEAK FACTOR	MAX. DESIGN AVG. FLOW DEPTH	DESIGN AVERAGE FLOW CAPACITY	ADJUSTED DESIGN AVERAGE FLOW CAPACITY	Upgraded Pipe Diameter Sizes	Standard Design Slope
UP-STREAM NODE	DOWN-STREAM NODE	(FEET)	(IN)	(FT/FT)	(MGD)		(MGD)		(d/D)	(MGD)	(MGD)		
SUB-SERVICE BASIN WALNUT 9													
PIPE RUN G:													
2654-43	2654-32	24.00	8	0.0008	0.0268	0.0693	0.2208	3.00	0.45	0.0736	0.0589	10	0.0024
2654-32	2654-11	399.23	8	0.0006	0.0347	0.1040	0.1912	3.00	0.45	0.0637	0.0510	10	0.0024
2654-11	2654-10	479.89	8	0.0016	0.0553	0.1593	0.3123	3.00	0.45	0.1041	0.0833	10	0.0024
2654-10	2654-09	199.60	8	0.0042	0.0112	0.1705	0.5060	3.00	0.45	0.1687	0.1350	10	0.0024
2654-09	2554-77	402.00	8	0.0014	0.0071	0.1776	0.2921	3.00	0.45	0.0974	0.0779	10	0.0024
2554-77	2554-74	220.00	8	0.0018	0.0164	0.1940	0.3312	3.00	0.45	0.1104	0.0883	10	0.0024
NORTH CENTRAL 7													
PIPE RUN A:													
2555-77	2655-42	947.46	27	0.0008	2.8675	2.8675	5.6596	1.80	0.59	3.1442	2.5154	30	0.0010
NORTH CENTRAL 8													
PIPE RUN A:													
2754-27	2755-26	486.00	10	0.0024	0.1336	0.1336	0.6935	2.5	0.49	0.2774	0.2219	12	0.0020
2755-26	SN27550004	13.00	10	0.0008	0.0000	0.1336	0.4004	2.5	0.49	0.1602	0.1282	12	0.0020
PIPE RUN D:													
2755-50	2755-33	239.90	8	0.0016	0.0549	0.0549	0.3123	3.0	0.45	0.1041	0.0833	10	0.0024
2755-33	2755-32	476.92	8	0.0023	0.0812	0.1361	0.3744	3.0	0.45	0.1248	0.0998	10	0.0024
2755-32	2755-31	13.00	8	0.0038	0.0000	0.1361	0.4813	3.0	0.45	0.1604	0.1283	10	0.0024
2755-27	SN27550004	13.00	10	0.0008	0.0000	0.1361	0.4004	2.5	0.49	0.1602	0.1282	12	0.0020
NORTH CENTRAL 10													
PIPE RUN A:													
2555-56	2555-58	253.13	15	0.0001	0.0157	0.0157	0.4174	2.00	0.56	0.2087	0.1670	18	0.0011
2555-58	2555-67	176.93	27	0.0007	2.6424	2.6581	5.2940	1.80	0.59	2.9411	2.3529	30	0.0010
2555-67	2555-68	118.71	27	0.0008	0.0248	2.6829	5.6596	1.80	0.59	3.1442	2.5154	30	0.0010
2555-68	2555-77	277.15	27	0.0008	0.0000	2.6829	5.6596	1.80	0.59	3.1442	2.5154	30	0.0010
	Total	**4,739.92**											



N
100 25
50 0 100
SCALE IN FEET
1" = 150'
City of
FRESNO
DEPARTMENT OF PUBLIC UTILITIES
JULY 1, 2011
LEGEND
UP TO 8" DIAMETER PIPE
10" - 27" DIAMETER PIPE
> 27" DIAMETER PIPE
FORCE MAIN
ABANDONED PIPE
PRIVATE PIPE
PROPOSED PIPE
RECLAIMED WATER PIPE
F= 325.22'
C= 20.2'
FLOWLINE & CUT DATA
DIRECTION OF FLOW
2147-23
SEWER MANHOLE & NUMBER
NOTE: ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM
NCEN 10
NCEN 7
NCEN 8
SCEN 2
SCEN 3
North Central 10 Flows Into North Central 7
North Central 7 Flows Into North Central 8
South Central 3 Flows Into South Central 2
JS 2755-62
JS 2754-33
JS 2754-38
JS 2856-14
JS 2856-65

Fulton Corridor Sewer Basin Dependencies

North Central 10 Flows into North Central 7:

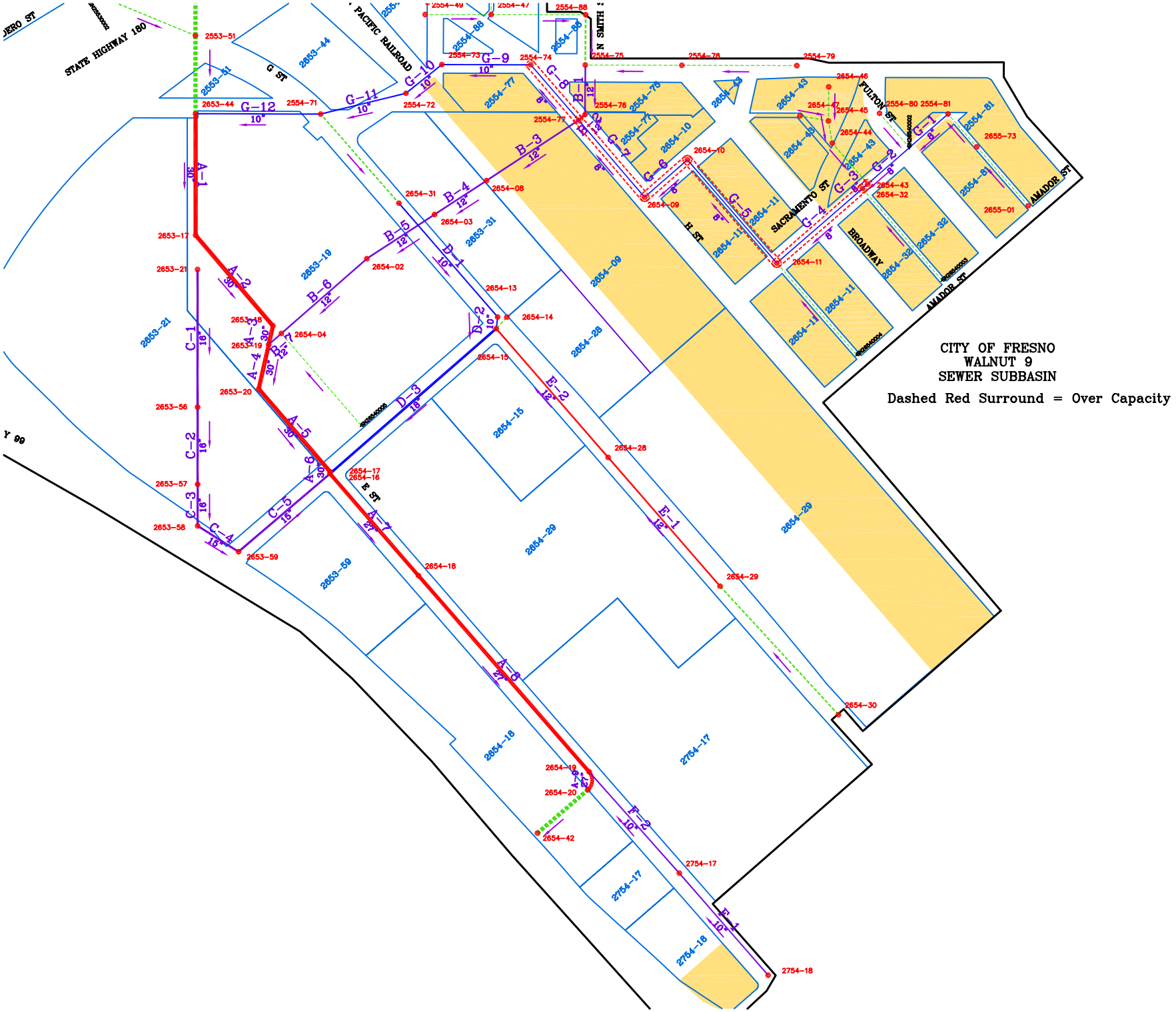
1) At Manhole 2555-77

North Central 7 Flows into North Central 8

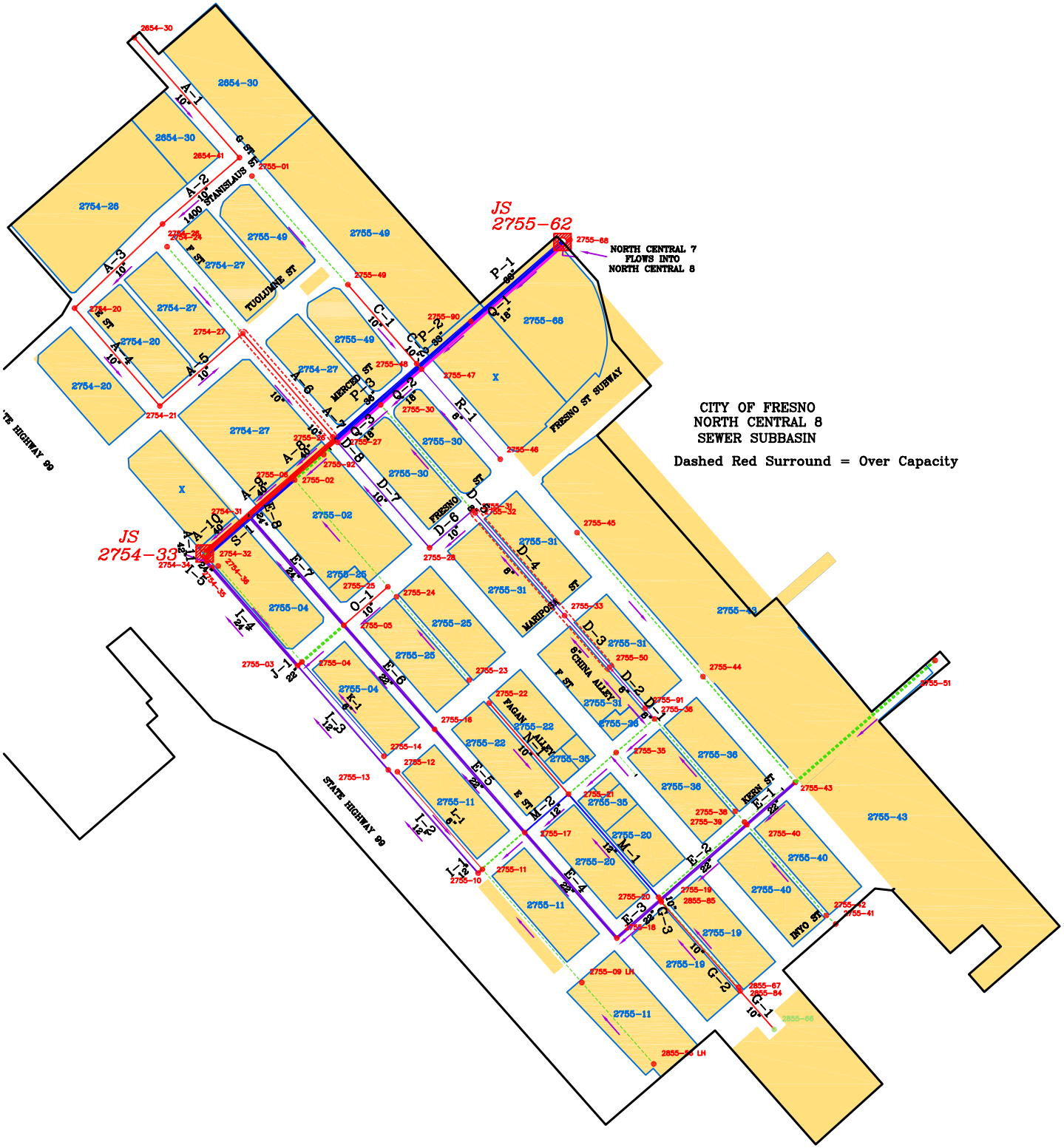
1) At Manhole 2755-62

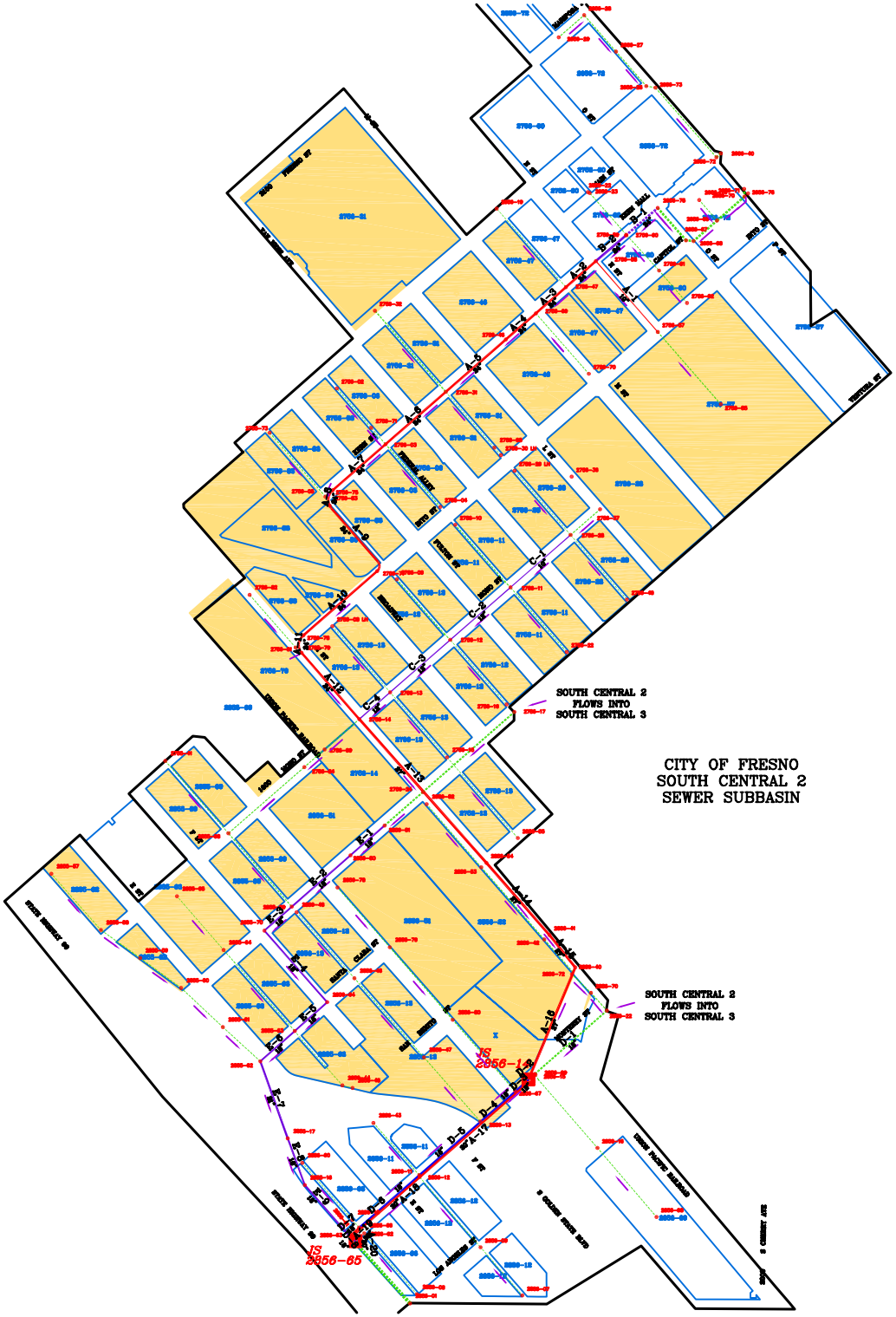
South Central 3 Flows into South Central 2 at 2 locations:

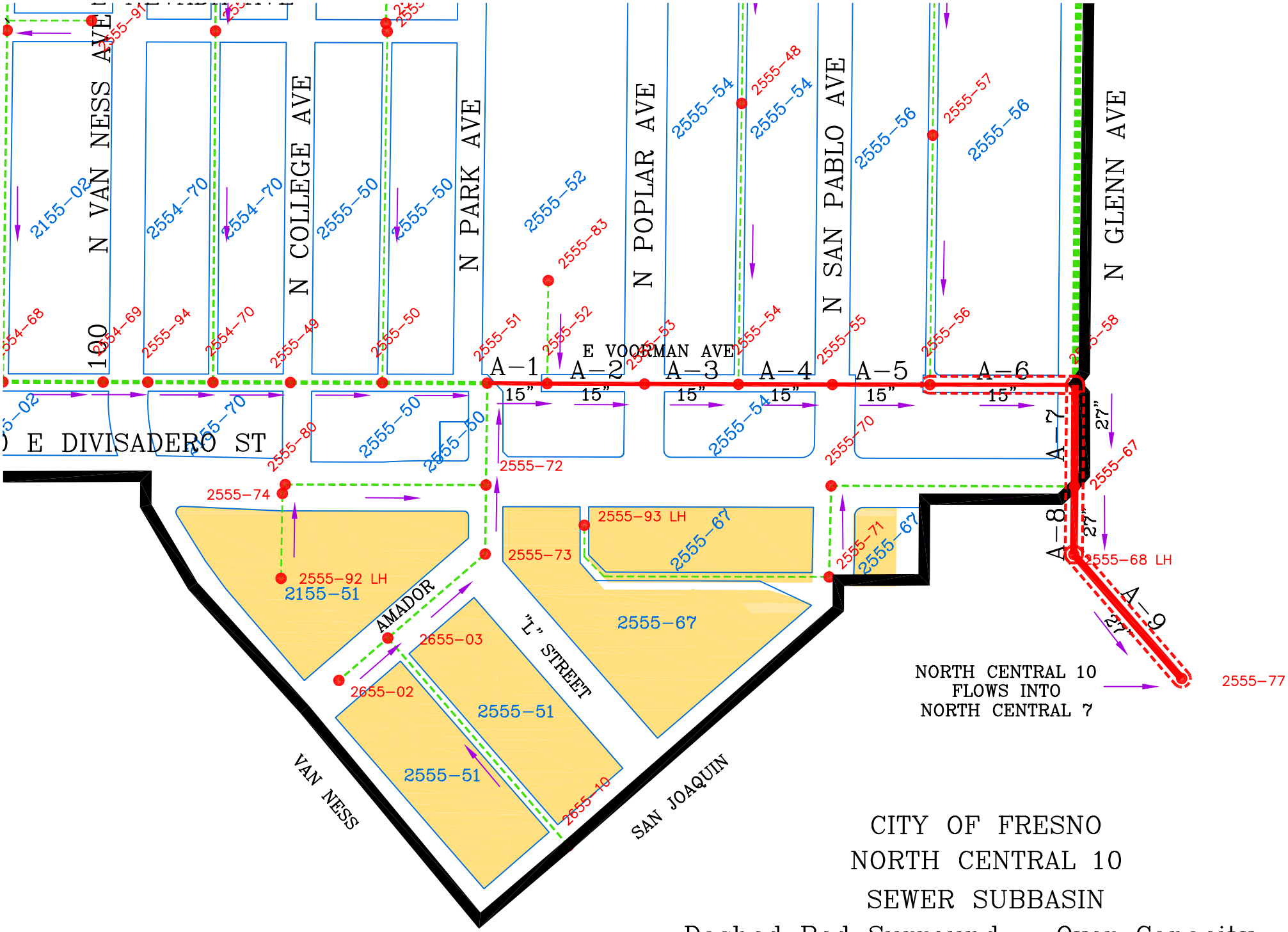
1) At Manhole 2856-22
2) At Manhole 2856-51

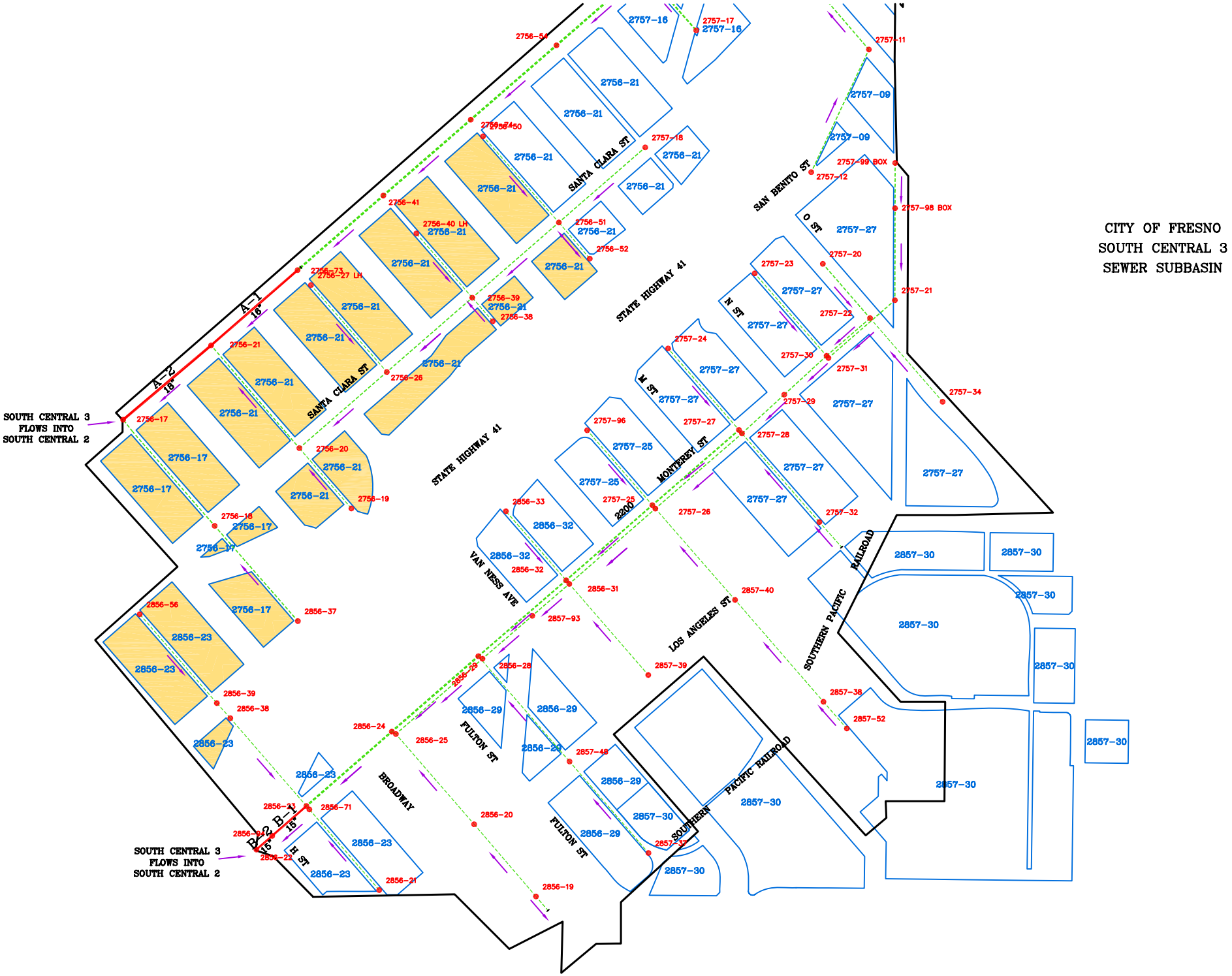

CITY OF FRESNO
WALNUT 9
SEWER SUBBASIN
Dashed Red Surround = Over Capacity
STATE HIGHWAY 180
G ST
PACIFIC RAILROAD
N SMITH
FULTON ST
SACRAMENTO ST
H ST
BROADWAY
AMADOR ST
E ST

NORTH CENTRAL 10
FLOWS INTO
NORTH CENTRAL 7
NORTH CENTRAL 7
FLOWS INTO
NORTH CENTRAL 8
JS
2755-62
CITY OF FRESNO
NORTH CENTRAL 7
SEWER SUBBASIN
Dashed Red Surround = Over Capactiy
UNION PACIFIC RAILROAD
SAN JOAQUIN ST
STANISLAUS ST
TUOLUMNE ST
MERCED ST
FRESNO ST
MARIPOSA
BROADWAY
BROADWAY PLZ
FULTON ST
VAN NESS AVE
H ST
L ST
M ST
N ST
O ST


CITY OF FRESNO
NORTH CENTRAL 8
SEWER SUBBASIN
Dashed Red Surround = Over Capacity
JS 2755-62
JS 2754-33
NORTH CENTRAL 7 FLOWS INTO NORTH CENTRAL 8
STATE HIGHWAY 99
FRESNO ST SUBWAY
TUOLUMNE ST
MERCED ST
FRESNO ST
MARIPOSA ST
F ST
E ST
G ST
STANISLAUS ST
CHINA ALLEY
PAGAN ALLEY
KERN ST
INYO ST


SOUTH CENTRAL 2
FLOWS INTO
SOUTH CENTRAL 3
CITY OF FRESNO
SOUTH CENTRAL 2
SEWER SUBBASIN
SOUTH CENTRAL 2
FLOWS INTO
SOUTH CENTRAL 3
IS
2856-13
IS
2856-65


N VAN NESS AVE
N COLLEGE AVE
N PARK AVE
N POPLAR AVE
N SAN PABLO AVE
N GLENN AVE
100
E VOORMAN AVE
E DIVISADERO ST
A-1
A-2
A-3
A-4
A-5
A-6
A-7
A-8
A-9
15"
27"
2555-72
2555-74
2555-92 LH
2155-51
2555-93 LH
2555-73
2555-67
2555-71
2555-68 LH
2555-77
2655-03
2655-02
2555-51
2555-10
AMADOR
"L" STREET
VAN NESS
SAN JOAQUIN
NORTH CENTRAL 10
FLOWS INTO
NORTH CENTRAL 7
CITY OF FRESNO
NORTH CENTRAL 10
SEWER SUBBASIN
Dashed Red Surround = Over Capacity


CITY OF FRESNO
SOUTH CENTRAL 3
SEWER SUBBASIN
SOUTH CENTRAL 3
FLOWS INTO
SOUTH CENTRAL 2
SOUTH CENTRAL 3
FLOWS INTO
SOUTH CENTRAL 2
A-1
18"
A-2
18"
B-1
15"
B-2
15"
SANTA CLARA ST
STATE HIGHWAY 41
SAN BENITO ST
O ST
N ST
M ST
MONTEREY ST
VAN NESS AVE
LOS ANGELES ST
SOUTHERN PACIFIC RAILROAD
FULTON ST
BROADWAY
H ST
2200
2756-17
2756-21
2756-27
2757-27
2757-25
2856-23
2856-29
2856-32
2857-30

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