Appendix M

Utility Report

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6136 WEST MANCHESTER AVENUE

(6136 WEST MANCHESTER AVENUE, LOS ANGELES, CA 90045)

UTILITY INFRASTRUCTURE TECHNICAL REPORT: WATER, WASTEWATER AND ENERGY

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Table of Contents

Appendix

1. INTRODUCTION

1.1. PROJECT DESCRIPTION

The Project Site is located at 6136 W. Manchester Avenue and 8651 S. La Tijera Boulevard within the Westchester–Playa del Rey Community Plan area of the City of Los Angeles (City). The Project Site is triangularly shaped and comprised of two parcels. The Project Site is generally bounded by Manchester Avenue to the north, La Tijera Boulevard to the southeast, and Truxton Avenue to the southwest.

The Project would include the development of a new approximately 416,915-square-foot building comprised of 441 residential units, including six live-work units and 66 dwelling units set aside for Very Low-Income Households, and 16,120 square feet of ground-floor commercial space. The proposed uses would be located within an eight-story building with a maximum height of 96 feet. In accordance with the LAMC, the Project would provide 549 vehicular parking spaces (inclusive of 501 residential spaces and 48 commercial spaces) that would be located within two subterranean parking levels and buffered into the first and second level of the building. In addition, the Project would include approximately 47,550 square feet of open space, including 40,250 square feet of common open space and 7,300 square feet of private open space. As part of the Project, the existing commercial structures totaling 21,911 square feet of floor area would be removed. The Project would result in a total floor area of approximately 416,915 square feet with a floor area ratio (FAR) of 4:1.

1.2. SCOPE OF WORK

The purpose of this report is to analyze the potential impact of the Project to the existing water, wastewater, and energy infrastructure system.

2. REGULATORY FRAMEWORK

2.1. WATER

The City of Los Angeles Department of Water and Power (LADWP) is responsible for providing water supply to the City while complying with Local, State, and Federal regulations.

Below are the State and Regional water supply regulations:

- California Code of Regulations (CCR), Title 20, Chapter 4, Article 4, Section 1605 establishes water efficiency standards for all new plumbing fixtures and Section 1608 prohibits the sale of fixtures that do not comply with the regulations.

- 2013 California Green Building Standards Code, CCR, Title 24, Part 11, adopted on January 1, 2014 (CALGreen), requires a water use reduction of 20% above the baseline cited in the CALGreen code book. The code applies to family homes, state buildings, health facilities, and commercial buildings.

- California Urban Water Management Planning Act of 1984 requires water suppliers to adopt an Urban Water Management Plan (UWMP).

- Metropolitan Water District (MWD) official reports and policies as outlined in its Regional UWMP, Water Surplus and Drought Management Plan, Water Supply Allocation Plan, and Integrated Resources Plan.

- LADWP's 2020 UWMP outlines the City's long-term water resources management strategy. The 2020 UWMP was approved by the LADWP Board of Water and Power Commissioners on May 25, 2021.

- Senate Bill 610 and Senate Bill 221, approved on October 9, 2001, require land use agencies to perform a detailed analysis of available water supply when approving large developments. Historically, public water suppliers (PWS) simply provided a "will serve" letter to developers. SB 610, Public Resources Code (PRC) and Section 10910-10915 of the State Water Code requires lead agencies to request a Water Supply Assessment (WSA) from the local water purveyor prior to project approval. If the projected water demand associated with a proposed development is included in the most recent UWMP, the development is considered to have sufficient water supply per California Water Code Section 10910, and a WSA is not required. All projects that meet any of the following criteria require a WSA:

    1) A proposed residential development of more than 500 dwelling units.
    2) A proposed shopping center or business establishment of more than 500,000 square feet of floor space or employing more than 1,000 persons
    3) A proposed commercial office building of more than 250,000 square feet of floor space or employing more than 1,000 persons
    4) A proposed hotel or motel of more than 500 rooms
    5) A proposed industrial, manufacturing, or processing plant or industrial park of more than 40 acres of land, more than 650,000 square feet of floor area, or employing more than 1,000 persons
    6) A mixed-use project that falls in one or more of the above-identified categories
    7) A project not falling in one of the above-identified categories but that would demand water equal or greater than the amount required by a 500-dwelling unit project.

Per correspondence with LADWP, if the tentative scope of work's total estimated water demand exceeds that of 500 two-bedroom units (75,000 GPD), a WSA would generally be required. This mixed-use development project is anticipated to generate a total of 71,079 GPD of water use. Therefore, a WSA will not be required for this project because this project does not fall in any of the categories identified above. Refer to Exhibit 2B for the correspondence with LADWP and Table 3 for a detailed breakdown of the project's water demand.

2.2. WASTEWATER

The City of Los Angeles has one of the largest sewer systems in the world including more than 6,600 miles of sewers serving a population of more than four million. The Los Angeles sewer system is comprised of three systems: Hyperion Sanitary Sewer System, Terminal Island Water Reclamation Plant Sanitary Sewer System, and Regional Sanitary Sewer System. To comply with Waste Discharge Requirements (WDRs), a Sewer System Management Plan (SSMP) was prepared for each of these systems.

The Project Site lies within the Hyperion Service Area served by the Hyperion Sanitary Sewer System. In January 2019, a Sewer System Management Plan (SSMP) was prepared for the Hyperion Sanitary Sewer System pursuant to the State Water Control Board's (SWRCB) May 2, 2006 Statewide General Waste Discharge Requirements (WDRs)[1].

Sewer permit allocation for projects that discharge into the Hyperion Treatment Plant is regulated by Ordinance No. 166,060 adopted by the City in 1990. The Ordinance established an additional annual allotment of 5.0 million gallons per day, of which 34.5 percent (1.725 million gallons per day) is allocated for priority Projects, 8 percent (0.4 million gallons per day) for public benefit Projects, and 57.5 percent (2.875 million gallons per day) for non-priority Projects (of which 65 percent is for residential Project and 35 percent for non-residential Projects).

The City of Los Angeles Municipal Code (LAMC) includes regulations that allow the City to assure available sewer capacity for new Projects and fees for improvements to the infrastructure system. LAMC Section 64.15 requires that the City perform a Sewer Capacity Availability Request (SCAR) when any person seeks a sewer permit to connect a property to the City's sewer collection system, proposes additional discharge through their existing public sewer connection, or proposes a future sewer connection or future development that is anticipated to generate 10,000 gallons or more of sewage per day. A SCAR is an analysis of the existing sewer collection system to determine if there is adequate capacity existing in the sewer collection system to safely convey the newly generated sewage to the appropriate sewage treatment plant.

LAMC Section 64.11.2 requires the payment of fees for new connections to the sewer system to assure the sufficiency of sewer infrastructure. New connections to the sewer system are assessed a Sewerage Facilities Charge. The rate structure for the Sewerage Facilities Charge is based upon wastewater flow strength, as well as volume. The determination of wastewater strength for each applicable Project is based on City guidelines for the average wastewater concentrations of two parameters (biological oxygen demand and suspended solids) for each type of land use. Fees paid to the Sewerage Facilities Charge fees are deposited in the City's Sewer Construction and Maintenance

[1] City of Los Angeles Department of Public Works, LA Sanitation, Sewer System Management Plan, Hyperion Sanitary Sewer System, January 2019.

Fund for sewer and sewage-related purposes, including but not limited to industrial waste control and water reclamation purposes.

In addition, the City establishes design criteria for sewer systems to assure that new infrastructure provides sewer capacity and operating characteristics to meet City Standards (Bureau of Engineering Special Order No. SO06-0691). Per the Special Order, laterals sewers, which are sewers 18 inches or less in diameter, must be designated for a planning period of 100 years. The Special Order also requires that sewers be designated so that the peak dry weather flow depth during their planning period shall not exceed one-half the pipe diameter.[2]

The One Water LA 2040 Plan (Plan) takes a holistic and collaborative approach to consider all of the City's water resources from surface water, groundwater, potable water, wastewater, recycled water, dryweather runoff, and stormwater as "One Water." Per section ES.3.3 Long-Term Collection System Improvements of the One Water LA – Wastewater Facilities Plan, in anticipation of future flows, LASAN has currently identified one major conveyance project for the future, namely the San Fernando Relief Sewer. This project would consist of approximately 4 miles of 48-inch diameter sewer to provide redundancy to the North Outfall Sewer (NOS). The relief sewer would also provide capacity to facilitate a shutdown of the Los Angeles-Glendale Water Reclamation Plant (LAGWRP) during a storm event, if necessary.[3]

2.3. ENERGY

2.3.1. ELECTRICITY

The *2017 Power Strategic Long-Term Resource Plan* (SLTRP) [4] document serves as a comprehensive 20-year roadmap that guides the Los Angeles Department of Water and Power's (LADWP) Power System in its efforts to supply reliable electricity in an environmentally responsible and cost-effective manner. The 2017 SLTRP re-examines and expands its analysis on the 2016 IRP recommended case with updates in line with latest regulatory framework, and updates to case scenario assumptions that include a 65 percent renewable portfolio standard by 2050.

The 2017 SLTRP provides detailed analysis and results of several new IRP resource cases which investigated the economic and environmental impact of increased local solar and various levels of transportation electrification. In analyzing the IRP cases and recommending a strategy to best meet the future electric needs of Los Angeles, the SLTRP uses system modeling tools to analyze and determine the long-term economic, environmental, and operational impact of alternative resource portfolios by simulating the

[2] City of Los Angeles, L.A. CEQA Thresholds Guide, Your Resource for Planning CEQA Analysis in Los Angeles, M-Public Utilities, 2006. http://www.environmentla.org/programs/thresholds/M-Public%20Utilities.pdf

[3] One Water LA 2040 Plan, Volume 2 Wastewater Facilities Plan dated April 2018, Section ES.3.3.

[4] LADWP, 2017 Power Strategic Long-Term Resource Plan, December 2017.

integration of new resource alternatives within our existing mix of assets and providing the analytic results to inform the selection of a recommended case.

The SLTRP also includes a general assessment of the revenue requirements and rate impacts that support the recommended resource plan through 2037. While this assessment will not be as detailed and extensive as the financial analysis to be completed for the ongoing rate action for the 2018/19 fiscal year and beyond, it clearly outlines the general requirements. As a long-term planning process, the SLTRP examines a 20-year horizon in order to secure adequate supplies of electricity. In that respect, it is LADWP's desire that the SLTRP contribute towards future rate actions, by presenting and discussing the programs and Projects required to fulfill our City Charter mandate of delivering reliable electric power to the City of Los Angeles.

Regulatory interpretations of primary regulations and state laws affecting the Power System, including AB 32, SB 1368, SB 1, SB 2 (1X), SB 350, SB 32, US EPA Rule 316(b), and US Clean Power Plan continue to evolve particularly with certification requirements of existing renewable Projects and their applicability towards meeting in-state or out-of-state qualifications. This year's SLTRP attempts to incorporate the latest interpretation of these major regulations and state laws as we understand them today.

2.3.2. NATURAL GAS

The *2022 California Gas Report*[5] presents a comprehensive outlook for natural gas requirements and supplies for California through the year 2035. This report is prepared in even-numbered years, followed by a supplemental report in odd-numbered years, in compliance with California Public Utilities Commission Decision D.95-01-039. The Projections in the California Gas Report are for long-term planning and do not necessarily reflect the day-to-day operational plans of the utilities.

Utility-served, statewide natural gas demand is projected to decrease at an annual average rate of 1.1 percent per year through 2035. The decline is 0.1 percent faster than what had been projected in the 2020 California Gas Report (CGR). More aggressive energy efficiency and fuel substitution have accelerated the decline in forecasted throughput for the 2022 CGR relative to the 2020 findings. In this Report, fuel substitution refers to the conversion of all or a portion of existing energy uses from one fuel type to another with the goal of reducing greenhouse gas emissions such as replacing a gas water heater with an electric water heater.

The projected decline comes from less gas demand in the major market segment areas of residential, electric generation (EG), commercial and wholesale markets. Total Statewide residential gas demand is projected to decrease at an annual average rate of 2.4 percent per year, a faster decline than the 1.7 percent annual rate of decline that had been forecasted in the 2020 Report. EG demand is projected to decrease at an annual rate of 1.1 percent per year, which is a slightly less rapid rate than the 1.5 percent annual decline that had been forecasted in 2020. The statewide commercial demand is projected to decrease at an annual

[5] California Gas and Electric Utilities, 2022 California Gas Report, 2022.

average rate of 1.8 percent per year, which is slightly more accelerated than the 1.5 percent annual decline from the 2020 CGR. The aggregate statewide wholesale market segment is expected to decline at an annual average rate of 0.25 percent per year. The segments where growth in demand is expected are the natural gas vehicle (NGV) sector and the industrial market segments. The industrial market segment and the NGV sectors are expected to grow at an annual average rate of 0.16 percent and 2.3 percent per year over the forecast period.

Aggressive energy efficiency programs and fuel substitution are expected to dampen gas demand in these sectors. Statewide efforts to minimize greenhouse gas (GHG) emissions are depressing EG demand through aggressive programs that pursue demand side reductions and the acquisition of preferred power generation resources that produce few or no carbon emissions. Nevertheless, for the foreseeable future, gas-fired generation and gas storage will continue to be important technologies that support long-term electric demand growth and growing integration of intermittent renewable resource generation.

In 2015, the state enacted legislation intended to improve air quality, provide aggressive reductions in energy dependency and boost the employment of renewable power. The first legislation, the 2015 Clean Energy and Pollution Reduction Act, also known as Senate Bill (SB) 350, requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030. SB 350 establishes annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses by January 1, 2030. Second, the Energy Efficiency Act (AB 802) provides aggressive state directives to increase the energy efficiency of existing buildings, requires that access to building performance data for nonresidential buildings be provided by energy utilities and encourages pay-for performance incentive-based programs. This paradigm shift will allow California building owners a better and more effective way to access whole-building information and at the same time will help to address climate change and deliver cost-effective savings for ratepayers. Last, the Energy Efficiency Act (AB 793) is intended to promote and provide incentives to residential or small and medium-sized business utility customers that acquire energy management technology for use in their home or place of business. AB 793 requires energy utilities to develop a plan to educate residential customers and small and medium business customers about the incentive program.

Last, California Global Warming Solutions Act of 2006 (SB 32) requires the state board to ensure that statewide greenhouse gas emissions are reduced to at least 40% below the1990 level by 2030.

3. ENVIRONMENTAL SETTING

The Project Site consists of an approximately 105,276.59 square feet (2.42 Acre) of site area per the survey provided by Partner Engineering and Science, Inc. dated December 17, 2021. The site is bounded by Manchester Avenue to the north, La Tijera Boulevard to the southeast,

and Truxton Avenue to the southwest. The Project Site is currently occupied by an auto shop and repair garage, a single-story fast-food restaurant, and an asphalt parking lot.

3.1. WATER

LADWP is responsible for providing water supply to the City while complying with County, State, and Federal regulations.

3.1.1. REGIONAL

Primary sources of water for the LADWP service area are the Los Angeles Aqueducts (LAA), State Water Project (supplied by MWD) and local groundwater. The Los Angeles Aqueduct has been the primary source of the City's water supply. In recent years, however, the amount of water supplies from the Los Angeles Aqueduct has been limited due to environmental concerns, and the City's water supply relied heavily (average of 57% in recent years) on the purchased water from MWD delivered from the Colorado River or from the Sacramento-San Joaquin Delta. Local ground water has been a reliable water source, providing an average of 12% of the total water supply, but there have been concerns in recent years due to declining groundwater level and contamination issues. Lastly, the City's recycled water supply is limited to specific Projects within the City at this time.[6]

3.1.2. LOCAL

The Los Angeles Department of Water and Power (LADWP) maintains water infrastructure to the Project Site. The following information is based on water service maps provided by City of Los Angeles Bureau of Engineering:

- **Truxton Avenue:** There is one 6-inch water main in Truxton Avenue per Substructure Map 7926-2 and LADWP Water Service Map W096-168. The existing fast-food restaurant appears to be connected to this 6-inch water main via a 1-inch connection along the east side of Truxton Avenue per LADWP Water Service Map W096-168.

- **Manchester Avenue:** There is an 8-inch water main in Manchester Avenue per Substructure Map 7926-2 and LADWP Water Service Map W096-168. The existing auto shop and repair garage appears to be connected to this 8-inch water main via a 2-inch connection for domestic water and 8-inch connection for fire water along the south side of Manchester Avenue.

The Project Site consist of an auto shop and repair garage, a single-story fast-food restaurant, and an asphalt parking lot. Existing water consumption estimates have been prepared based on 100 percent of the City of Los Angeles Bureau of Sanitation (LASAN) sewerage generation factors, shown below in Table 1. The total Existing Water Consumption is estimated to be 5,252 GPD, based on existing LASAN Sewer Generation

[6] C.A. Legislative Assembly, SB 32, 2015-2016.

Rates Table (2012) for the existing auto shop and repair garage and single-story fast-food restaurant.

Table 1 – Estimated Existing Water Consumption			
Building Use	**Units**	**Generation Rate (GPD/Unit)[1]**	**Total Water Consumption (GPD)**
Auto Shop and Repair Garage	19,708 SF	80 GPD per KGSF	1,577
Fast-Food Restaurant: Single-Story[2]	147 SEATS	25/SEAT	3,675
Existing Total Water Consumption			**5,252**

[1]Based on sewage generation rates provided by LASAN Sewer Generation Rates Table (2012).
[2]Restaurant: Fast-Food Indoor Seating 25/SEAT. Considers 1 seat = 15 SF. Area per Survey = 2,203 SF/15 = 147 SEATS

3.1.3 EXISTING FIRE INFRASTRUCTURE

Based on information provided on the City's NavigateLA website, there are several existing fire hydrants in the immediate vicinity of the Project Site. The locations of the fire hydrants are described below:

- **Truxton Avenue:** There are two existing fire hydrants located along Truxton Avenue within the Project Site vicinity: one on the southwestern corner of the Truxton Avenue and Manchester Avenue intersection and another on the southwestern corner of the Truxton Avenue and 87th Street intersection.
- **Manchester Avenue:** There is one existing fire hydrant along Manchester Avenue within the project vicinity that is located at the southwest corner of the Manchester Avenue and La Tijera Boulevard intersection.

3.2. WASTEWATER

3.2.1. REGIONAL

The Bureau of Sanitation (BOS) operates and maintains the wastewater treatment, reclamation and collection facilities serving most of the City of Los Angeles incorporated areas as well as several other cities and unincorporated areas in the Los Angeles basin and San Fernando Valley. The collection infrastructure consists of over 6,700 miles of local, trunk, mainline and major interceptor sewers, five major outfall sewers, and 46 pumping plants. The wastewater generated by the Project ultimately flows to the Hyperion Treatment Plant (HTP) System. The existing design capacity of the Hyperion Service Area

is approximately 550 million gallons per day (MGD) and the existing average daily flow for the system is approximately 260 MGD.[7]

3.2.2. LOCAL

Sanitary sewer system is provided by the City of Los Angeles Bureau of Sanitation (BOS). The following sewer mains located in the vicinity will serve the Project site. Refer to Exhibit 4A – City of Los Angeles Wastewater Will Serve Letter, Exhibit 4B – Approved SCAR, and Exhibit 1 for Existing Wastewater Infrastructure Exhibit.

- **First Alley South of Manchester Avenue:** There is an 8-inch vitrified clay pipe (VCP) sewer line in the intersection of Truxton Avenue and the first alley south of Manchester Avenue that flows westward. The most upstream segment of the existing VCP sewer line slopes at 9.12% per substructure map D-13636. There are two existing manholes along this section of the main line: the intersection of Truxton Avenue and the first alley south of Manchester Avenue (MH ID: 56304073) and 73 feet to the west (MH ID: 56304072).

- **First Alley Northwest of South La Tijera Boulevard:** There is an 8-inch vitrified clay pipe (VCP) sewer line in the first alley northwest of South La Tijera Boulevard that flows to the southwest. The existing VCP sewer line slopes at 2.08%. There are two existing manholes along this section of the main line: the southwestern side of the Truxton Avenue and 87th Street intersection (MH ID: 56304097) and 285 feet southwest of the Truxton Avenue and 87th Street intersection (MH ID: 56304114).

In accordance with L.A. CEQA Thresholds Guide, the base estimated sewer flows were based on the City of LA Bureau of Sanitation sewerage generation factors for the existing uses, shown below in Table 2. The existing waste-water generation is estimated to be 5,252 GPD.

[7] City of Los Angeles Department of Public Works, Bureau of Sanitation, Sewer System Management Plan Hyperion Sanitary Sewer System, February 2017.

Table 2 – Estimated Existing Wastewater Generation			
Building Use	**Units**	**Generation Rate (GPD/Unit)[1]**	**Total Water Consumption (GPD)**
Auto Shop and Repair Garage	19,708 SF	80 GPD per KGSF	1,577
Fast-Food Restaurant: Single-Story[2]	147 SEATS	25/SEAT	3,675
Existing Total Wastewater Generation			**5,252**

[1]Based on sewage generation rates provided by LASAN Sewer Generation Rates Table (2012).
[2]Restaurant: Fast-Food Indoor Seating 25/SEAT. Considers 1 seat = 15 SF. Area per Survey = 2,203 SF/15 = 147 SEATS

3.3. ENERGY

3.3.1. ELECTRICITY

LADWP is responsible for providing power supply to the City while complying with County, State, and Federal regulations.

3.3.2 REGIONAL

LADWP's Power system is the nation's largest municipal electric utility and serves a 465-square-mile area in Los Angeles and much of the Owens Valley. The system supplies more than 26 million megawatt-hours (MWh) of electricity a year for the City of Los Angeles' 1.5 million residential and business customers as well as over 5,000 customers in the Owens Valley. LADWP has over 6,502 megawatts (MW) of generation capacity from a diverse mix of energy sources including Renewable energy, Natural Gas, Nuclear, Large Hydro, coal and other sources. The distribution network includes 6,752 miles of overhead distribution lines and 3,626 miles of underground distribution cables.[8]

3.4 NATURAL GAS

SoCal Gas is responsible for providing natural gas supply to the City and is regulated by the California Public Utilities Commission and other state and federal agencies.

[8] LADWP, 2017 Power Strategic Long-Term Resource Plan, December 2017.

3.4.1 REGIONAL

California utilities continue to focus on conservation and energy efficiency. The IOUs are committed to helping their customers make the best possible energy decisions and helping customers identify and implement ways to benefit environmentally and financially from energy efficiency investments. An important role of the energy efficiency programs includes services, administered by the respective utilities, to help customers evaluate their energy efficiency options and adopt recommended solutions, as well as equipment-retrofit improvements, such as rebates for new hot water heaters and space heaters.

Gas demand for electric power generation is expected to be dampened by statewide GHG reduction goals and electric energy efficiency programs and additional renewable power generation. Both demand forecasts assume that renewable power will meet the CPUC 2021 Integrated Resource Plan Preferred System Plan (IRP PSP).

Renewable power capacity additions are driven, in part, by Senate Bill (SB) 100. Passed in 2018, SB 100 increased and accelerated the Renewables Portfolio Standard (RPS) targets and established the policy goal that zero carbon energy resources supply 100 percent of electric retail sales to end-use customers by the year 2045. One major milestone will occur by 2030, when renewable power generation will generate at least 60 percent of retail electric sales. The currently approved IRP PSP helps the state move towards attainment of this goal.[9]

4 SIGNIFICANCE THRESHOLDS

4.1 WATER

Appendix G of the State of California's California Environmental Quality Act (CEQA) Guidelines (CEQA Guidelines) provides a set of sample questions that address impacts regarding water supply. These questions are as follows:

> Would the Project:
>
> - Require or result in the relocation or construction of new water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities or expansion of existing facilities, the construction or relocation of which would cause significant environmental effects?
>
> - Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

In the context of the above questions from the Appendix G of the CEQA Guidelines, the City of Los Angeles CEQA Thresholds Guide (*L.A. CEQA Thresholds Guide*) states that

[9] California Gas and Electric Utilities, 2022 California Gas Report, 2022.

the determination of significance with regard to impacts on water shall be made on a case-by-case basis, considering the following factors:

- The total estimated water demand for the Project;
- Whether sufficient capacity exists in the water infrastructure that would serve the Project, taking into account the anticipated conditions at Project buildout;
- The amount by which the Project would cause the Projected growth in population, housing or employment for the Community Plan area to be exceeded in the year of the Project completion; and
- The degree to which scheduled water infrastructure improvements or Project design features would reduce or offset service impacts.

Based on these factors, the Project would have a significant impact if the City's water supplies would not adequately serve the Project or water distribution capacity would be inadequate to serve the proposed use after appropriate infrastructure improvements have been installed.

4.2 WASTEWATER

Appendix G of the CEQA Guidelines provides a set of sample questions that address impacts with regard to wastewater. These questions are as follows:

Would the Project:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?
- Result in a determination by the wastewater treatment provider, which serves or may serve the Project, that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

In the context of the above questions from the CEQA Guidelines, the *L.A. CEQA Thresholds Guide* states that a Project would normally have a significant wastewater impact if:

- The Project would cause a measurable increase in wastewater flows at a point where, and a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained; or
- The Project's additional wastewater flows would substantially or incrementally exceed the future scheduled capacity of any one treatment plant by generating flows greater than those anticipated in the Wastewater Facilities Plan or General Plan and its elements.

These thresholds are applicable to the Project and as such are used to determine if the Project would have significant wastewater impacts.

4.3 ENERGY

Appendix F of the CEQA Guidelines states that the potentially significant energy implications of a Project should be considered in an EIR. Environmental impacts, as noted in Appendix F, may include:

- The Project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the Project's life cycle including construction, operation, maintenance and/or removal. if appropriate, the energy intensiveness of materials may be discussed;

- The effects of the Project on local and regional energy supplies and on requirements for additional capacity;

- The effects of the Project on peak and base period demands for electricity and other forms of energy;

- The degree to which the Project complies with existing energy standards;

- The effects of the Project on energy resources;

- The Project's Projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Appendix G of the CEQA Guidelines has the following questions:

- Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction.

- Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

In the context of the above thresholds, the *L.A. CEQA Thresholds Guide* states that a determination of significance shall be made on a case-by case basis, considering the following factors:

- The extent to which the Project would require new (off-site) energy supply facilities and distribution infrastructure; or capacity enhancing alterations to existing facilities;

- Whether and when the needed infrastructure was anticipated by adopted plans; and

- The degree to which the Project design and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

Based on these factors, the Project would have a significant impact on energy resources if the Project would result in an increase in demand for electricity or natural gas that exceeds available supply or distribution infrastructure capabilities, or the design of the Project fails to incorporate energy conservation measures that go beyond existing requirements.

5 METHODOLOGY

5.1 WATER

The methodology for determining the significance of a Project as it relates to a Project's impact on water supply and distribution infrastructure is based on the *L.A. CEQA Thresholds Guide*. This methodology involves a review of the Project's environmental setting, Project impacts, cumulative impacts, and mitigation measures (if required). The following has been considered as part of the determination for this Project:

Environmental Setting

- Description of major water infrastructure serving the Project site, including the type of facilities, location and sizes, and any planned improvements.
- Description of the water conditions for the Project area and known improvement plans.

Project Impacts

- Evaluate the Project's water demand, taking into account design or operational features that would reduce or offset water demand.
- Determine what improvements would be needed, if any, to adequately serve the Project.
- Describe the degree to which presently scheduled off-site improvements offset impacts.

This report analyzes the potential impacts of the Project on the existing public water infrastructure by comparing the estimated Project demand with the calculated available capacity of the existing facilities.

The existing water demand is based on existing water meter readings and the proposed water demand is based upon available site and Project information, and utilizes 100 percent of the BOS sewerage generation factors, deducting required water saving ordinances and additional voluntary water conservation measures.

LADWP performed a hydraulic analysis of their water system to determine if adequate fire flow is available to the fire hydrants surrounding the Project Site. LADWP's approach consists of analyzing their water system model near the Project Site. Based on the results, LADWP determines whether they can meet the Project fire hydrant flow needs based on existing infrastructure. See Exhibit 3A for the results of the Information of Fire Flow

Availability Request (IFFAR) and Exhibit 3B for correspondence from the LAFD inspector accepting the fire flow results.

In addition, LADWP performed a flow test to determine if available water conveyance exists for future development. LADWP's approach consists of data ranging from available static pressure (meaning how much pressure is available at the source before applying the Project's demand), to the available pressure at the maximum demand needed for the Project. Based on the results, LADWP determines whether they can meet the Project needs based on existing infrastructure. See Exhibit 2A for the results of the Service Advisory Request (SAR) and Will Serve Letter

5.2 WASTEWATER

The methodology for determining the significance of a Project as it relates to a Project's impact on wastewater collection and treatment infrastructure is based on the *L.A. CEQA Thresholds Guide*. This methodology involves a review of the Project's environmental setting, Project impacts, cumulative impacts, and mitigation measures (if required). The following has been considered as part of the determination for this Project:

Environmental Setting

- Location of the Project and appropriate points of connection to the wastewater collection system on the pertinent Wye Map;
- Description of the existing wastewater system which would serve the Project, including its capacity and current flows.
- Summary of adopted wastewater-related plans and policies that are relevant to the Project area.

Project Impacts

- Evaluate the Project wastewater needs (anticipated daily average wastewater flow), taking into account design or operational features that would reduce or offset service impacts;
- Compare the Project's wastewater needs to the appropriate sewer's capacity and/or the wastewater flows anticipated in the Wastewater Facilities Plan or General Plan.

This report analyzes the potential impacts of the Project on the existing public sewer infrastructure by comparing the estimated Project wastewater generation with the calculated available capacity of the existing facilities.

Pursuant to LAMC Section 64.15 BOS Wastewater Engineering Division made a preliminary analysis of the local and regional sewer conditions to determine if available wastewater conveyance and treatment capacity exists for future development of the Project Site. BOS's approach consisted of the study of a worst-case scenario envisioning peak demands from the relevant facilities occurring simultaneously on the wastewater system.

A combination of flow gauging data and computed results from the City's hydrodynamic model were used to Project current and future impacts due to additional sewer discharge. The data used in this report are based on the findings of the BOS preliminary analysis. Refer to Exhibit 4A for the Wastewater Will Serve Letter prepared by the City of Los Angeles Bureau of Sanitation and Exhibit 4B for approved SCAR.

5.3 ENERGY

The methodology for determining the significance of a Project as it relates to a Project's impact on wastewater collection and treatment infrastructure is based on the *L.A. CEQA Thresholds Guide*. This methodology involves a review of the Project's environmental setting, Project impacts, cumulative impacts, and mitigation measures as required. The following has been considered as part of the determination for this Project:

Environmental Setting

- Description of the electricity and natural gas supply and distribution infrastructure serving the Project site. Include plans for new transmission facilities or expansion of existing facilities; and

- Summary of adopted energy conservation plans and policies relevant to the Project

Project Impacts

- Evaluation of the new energy supply and distribution systems which the Project would require.

- Describe the energy conservation features that would be incorporated into Project design and/or operation that go beyond City requirements, or that would reduce the energy demand typically expected for the type of Project proposed.

- Consult with the DWP or The Gas Company, if necessary to gauge the anticipated supply and demand conditions at Project buildout.

This report analyzes the potential impacts of the Project on existing energy infrastructure by comparing the estimated Project energy demand with the available capacity. Will-serve letters from LADWP and SoCal Gas (Exhibits 5 and 6) demonstrate the availability of sufficient energy resources to supply the Project's demand.

In addition, potential energy impacts were analyzed by evaluating the energy demand and energy conserving features of the Project to determine whether the Project would involve the wasteful, inefficient, and unnecessary use of energy resources.

6 PROJECT IMPACTS

6.1 CONSTRUCTION

6.1.1 WATER

Water demand for construction of the Project would be required but not limited to dust control, cleaning of equipment, excavation/export, removal and re-compaction, etc. Based on a review of construction project of similar size and duration, a conservative estimate of construction water use ranges from 500 to 1,000 gallons per day (gpd). Considering temporary construction water use will be less than the existing water consumption at the Project Site, it is anticipated that the existing water infrastructure would meet the limited and temporary water demand associated with construction of the Project. Impacts on the water infrastructure due to construction activity would therefore be less than significant.

The Project will also require construction of new, on-site water distribution lines to serve new buildings and facilities of the proposed Project. Construction impacts associated with the installation of water distribution lines would primarily involve trenching in order to place the water distribution lines below surface and would be limited to on-site water distribution, and minor off-site work associated with connection to the public main if required. Prior to ground disturbance, Project contractors would coordinate with LADWP to identify the locations and depth of all lines. Further, LADWP would be notified in advance of proposed ground disturbance activities to avoid water lines and disruption of water service.

6.1.2 WASTEWATER

Construction activities for the Project would not result in wastewater generation as construction workers would typically utilize portable restrooms, which would not contribute to wastewater flows to the City's wastewater system. Thus, wastewater generation from Project construction activities is not anticipated to cause a measurable increase in wastewater flows. Therefore, Project impacts associated with construction-period wastewater generation would be less than significant.

The Project will require construction of new on-site infrastructure to serve the new buildings. Construction impacts associated with wastewater infrastructure would primarily be confined to trenching for connections to public infrastructure. Installation of wastewater infrastructure will be limited to on-site wastewater distribution, and minor off-site work associated with connections to the public main, if required. No upgrades to the public main are anticipated. A Construction Management Plan would be implemented to reduce any temporary pedestrian and traffic impacts. The contractor would implement the Construction Management Plan, which would ensure safe pedestrian access and vehicle travel and emergency vehicle access throughout the construction phase. Overall, when considering impacts resulting from the installation of any required wastewater infrastructure, all impacts are of a relatively short-term duration (i.e. months) and would cease to occur once the installation is complete. Therefore, Project impacts on wastewater associated with construction activities would be less than significant.

6.1.3 ENERGY

Electrical power would be consumed to construct the new buildings and facilities of the Project. Typical uses include but not limited to temporary power for lighting, equipment, construction trailers. The demand would be supplied from existing electrical services within the Project Site and would not affect other services. Overall, demolition and construction activities would require minimal electricity consumption and would not be expected to have any adverse impact on available electricity supplies and infrastructure. Construction equipment and trailers typically do not use natural gas; therefore, no natural gas usage is expected to occur during construction.

Construction impacts associated with the Project's electrical and gas infrastructure upgrades would primarily be confined to trenching. Infrastructure improvements will comply with all applicable requirements and regulations, which are expected to and would ensure that there is no impact to the systems or adjacent properties. To reduce any temporary pedestrian access and traffic impacts during any necessary off-site energy infrastructure improvements, a construction management plan would be implemented to ensure safe pedestrian and vehicular travel.

6.2 OPERATION

6.2.1 WATER

When analyzing the Project for infrastructure capacity, the Projected demands for both fire suppression and domestic water are considered. Although domestic water demand is the Project's main contributor to water consumption, fire flow demands have a much greater instantaneous impact on infrastructure, and therefore are the primary means for analyzing infrastructure capacity. Nevertheless, conservative analysis for both fire suppression and domestic water flows has been competed by LADWP for the Project. Refer to Exhibit 2A and Exhibit 3A for the results of the SAR and IFFAR, respectively, which together demonstrate that adequate water infrastructure capacity exists.

6.2.1.1 FIRE WATER DEMAND

The Project must comply with fire flow requirements set forth in Section 57.507.3 of the Los Angeles Municipal Code (LAMC), and as determined by the Los Angeles Fire Department (LAFD). The Project Site is zoned as [Q]C2-1-CDO, classified as "Community Commercial" which includes tire shops and restaurants. The required fire flow is as follows: 6,000 to 9,000 GPM from four to six fire hydrants flowing simultaneously with a residual pressure of 20 psi. An IFFAR was submitted to LADWP regarding available fire hydrant flow to demonstrate compliance. The results indicate five hydrants flowing simultaneously at 7,100 GPM with an average residual pressure of 78.4 pounds per square inch. Based on the results provided by LADWP on December 23, 2022, 7,100 GPM is within the acceptable range to provide 6,000 to 9,000 GPM in order to meet the requirement per the fire department inspector's response on January 23, 2023. See Exhibit 3A for IFFAR results and Exhibit 3B for correspondence from the LAFD inspector accepting the fire flow results.

As shown by the IFFAR, the Project Site has adequate fire flow available to demonstrate compliance with Section 57.507.3 of the LAMC (Exhibit 3A).

Furthermore, the Section 57.513 of the LAMC, Supplemental Fire Protection, states that:

> *Where the Chief determines that any or all of the supplemental fire protection equipment or systems described in this section may be substituted in lieu of the requirements of this chapter with respect to any facility, structure, group of structures or premises, the person owning or having control thereof shall either conform to the requirements of this chapter or shall install such supplemental equipment or systems. Where the Chief determines that any or all of such equipment or systems is necessary in addition to the requirements of this chapter as to any facility, structure, group of structures or premises, the owner thereof shall install such required equipment or systems.*

The Project would incorporate a fire sprinkler suppression system to reduce the public hydrant demands, which would be subject to LAFD review and approval during the design and permitting of the Project. It is anticipated that LAFD might require a new public hydrant on La Tijera Boulevard closer to Truxton Avenue, in which case, further coordination will be needed with LADWP to extend the existing 6-inch water main from Truxton Avenue to serve the new fire hydrant. Based on Section 94.2020.0 of the LAMC that adopts by reference the National Fire Protection Association (NFPA) 14-2013 including Section 7.10.1.1.5, the maximum allowable fire sprinkler demand for a fully or partially sprinklered building would be 1,250 GPM. As noted, an SAR was submitted to LADWP in order to determine if the existing public water infrastructure could meet the demands of the Project. The approved SAR can be found in Exhibit 2A along with the Will Serve Letter. The results are summarized below.

- The SAR for the domestic and fire water service off Truxton Avenue shows that a static pressure of 71 pounds per square inch (psi) and a flow of up to 1,400 GMP can be delivered with a residual pressure of 61 psi.

6.2.1.2 DOMESTIC WATER DEMAND

Water consumption estimates have been prepared based on 100 percent of the City of LA Bureau of Sanitation sewerage generation factors for commercial categories and are summarized in Table 3 below. As mentioned, the existing infrastructure is sufficient to meet the water consumption of the Project. The water consumption is approximately 71,079 gallons per day (GPD), the existing total water consumption is estimated to be 5,252 GPD. The net increase in water consumption is 65,828 GPD.

Table 3 – Estimated Proposed Water Consumption			
Description	**No. of Units/Floor Area**	**Water Use Factor (gpd/unit)[1]**	**Water Consumption (GPD)**
EXISTING TO BE REMOVED			
Auto Shop & Repair Garage[2]	19,708 sf	0.08	1,577
Restaurant: Fast-Food Indoor Seating[3]	147 seats	25	3,675
		Subtotal Existing	**5,252**
PROPOSED			
Residential			
Studio Apartment[4]	125 du	75	9,375
One-Bedroom Apartment[5]	196 du	110	21,560
Two-Bedroom Apartment[6]	120 du	150	18,000
Total Residential	441 du		
Commercial Space			
Restaurant[7]	717 seats	30	21,510
Retail[8]	5,373 sf	0.025	134
Residential Amenities			
Swimming Pool (Commercial with backwash filters)[9]	-	-	500
		Subtotal Proposed	**71,079**
Net Water Consumption (Proposed – Existing)			**65,828**

DU = Dwelling Units, GPD = Gallons Per Day, KGSF = 1,000 Gross Square Feet

* The average daily flow based on 100% of City of Los Angeles sewerage generation factors.

[1] LASAN Sewage Generation Factor Exhibit 7.

[2]Auto Shop & Repair Garage considered as “Auto Mfg., Service Maintenance”. Refer to Exhibit 7.

[3]Restaurant: Fast-Food Indoor Seating considered as “Restaurant: Fast-Food Indoor Seat”. Refer to Exhibit 7.

[4]Studio unit considered as "Residential: Apt - Bachelor" for water generation purposes. Refer to Exhibit 7.

[5]1 Bedroom units considered as "Residential: Apt - 1 BDR" for water generation purposes. Refer to Exhibit 7.

[6]2 Bedroom units considered as "Residential: Apt - 2 BDR" for water generation purposes. Refer to Exhibit 7.

[7]Restaurant considered as " Restaurant: Full Service Indoor Seat " for water generation purposes. Refer to Exhibit 7.

[8]Retail considered as “Retail Area (less than 100,000 SF)” for water generation purposes. Refer to Exhibit 7.

[9]500 GPD can be taken as a typical value for daily consumption based on the implementation of backwash filters.

Note: Water consumption for residential amenities is not included in the estimated proposed water consumption per correspondence with LADWP in Exhibit 2B.

6.2.2 WASTEWATER

6.2.2.1 SEWER GENERATION

In accordance with the *L.A. CEQA Thresholds Guide*, the future wastewater generation was estimated based on the proposed Project's uses. Based on the type of use and generation factors, the total Project will generate approximately 178,327 GPD. The existing wastewater generation is 5,252 GPD and the net increase in wastewater is approximately 173,076 GPD**.** Wastewater generation estimates have been prepared based on the City of LA Bureau of Sanitation sewerage generation factors for residential and commercial categories and are summarized in Table 4 below.

Table 4 – Estimated Proposed Wastewater Generation

Description	No. of Units/Floor Area	Water Use Factor (gpd/unit)[1]	Water Consumption (GPD)
EXISTING TO BE REMOVED			
Auto Shop & Repair Garage	19,708 sf	0.08	1,577
Restaurant: Fast-Food Indoor Seating[2]	147 seats	25	3,675
		Subtotal Existing	**5,252**
PROPOSED			
Residential			
Studio Apartment	125 du	75	9,375
One-Bedroom Apartment	196 du	110	21,560
Two-Bedroom Apartment	120 du	150	18,000
Total Residential	441 du		
Commercial Space			
Restaurant[3]	717 seats	30	21,510
Retail[4]	5,373 sf	0.025	134
Residential Amenities			
Swimming Pool (Commercial with backwash filters)[6]	107,748 gal	1	107,748
		Subtotal Proposed	178,327
Net Increase in Wastewater Generation			**173,076**

[1]LASAN Generation Factor Exhibit 7.
[2]Restaurant: Fast-Food Indoor Seating 25/SEAT. Considers 1 seat = 15 SF. Area per Survey = 2,203 SF/15 = 147 SEATS
[3]Restaurant assumed to be Restaurant: Full Service Indoor Seat. Considers 30/SEAT.
[4]Retail assumed to be Retail Area (less than 100,000 SF). Considers 25/1000 Gr. SF
[5]Recreation Room assumed to be Health Club/Spa. Considers 650/1000 Gr. SF.
[6]Swimming Pool is conservatively assumed to be drained in one day. Assumed area = 2,220 SF. Assumed Depth = 6.5 FT. LADWP Evapotranspiration Assumption = 189 GPD. 1 GAL = 7.48 CF

A Wastewater Will Serve Letter in Exhibit 4A has been provided by City of Los Angeles on February 24, 2023 to state the sewer system is able to accommodate the total flow for the proposed project. Additionally, an approved SCAR has been issued by City of Los Angeles on February 23, 2023. Refer to Exhibit 4B. The approved SCAR shows a higher approved discharge amount because it was obtained using very highly conservative sewer generation assumptions.

As further discussed above, the existing design capacity of the Hyperion Service Area is approximately 550 million gallons a day (MGD) (consisting of 450 MGD at the Hyperion Treatment Plant, 80 MGD at the Donald C. Tillman Water Reclamation Plant, and 20 MGD at the Los Angeles–Glendale Water Reclamation Plant).[10] The Project's proposed gross wastewater generation is approximately 0.162 MGD. This is equal to substantially less than one percent of the Hyperion Service Area capacity where the Project's wastewater would be treated. The Hyperion Treatment Plant has the capacity to treat the additional wastewater flows generated from the Project.

The existing sewer gauging information from BOS has been summarized in Table 5 below. Additionally, sewer capacity analysis has been performed to determine the impact of adding the Project's anticipated sewage generation as shown in the tables above.

Table 5 – Estimated Proposed Wastewater Generation

Diameter (in)	Pipe Location	Existing Gauging d/D (%)[1]	Existing GPD as Gauged	50% Design Capacity (GPD)[2]	75% Design Capacity (GPD)[3]	50% of Proposed Project (GPD)[4]	d/D with Project (%)[5]
8	First Alley South of Manchester Ave.	2.2	1,577	1,022,013.56	1,863,902.72	91,756.5	14.5
8	First Alley North of La Tijera Blvd	4.5	3,675	488,079.88	890,138.30	91,756.5	20.7

[1]Percentage of d/D with the exiting GPD flowing in the existing sewer pipe. Calculations shown in Exhibit 9.
[2]50% Design Capacity calculated for the existing sewer pipe using a normal depth of half of the pipe size. Calculations shown in Exhibit 9.
[3]75% Design Capacity calculated for the existing sewer pipe using a normal depth of half of the pipe size. Calculations shown in Exhibit 9.
[4]Assumed the proposed sewer flow discharges evenly to two proposed sewer connections.
[5]Percent full of the proposed project sewer generation discharges to the existing sewer pipe. Calculations shown in Exhibit 9.

Based on the City of Los Angeles Sewer Design Manual Part-F, the trigger flow in a sanitary sewer is the quantity of flow that, once reached, would initiate the planning for a relief or replacement sewer. Currently, this trigger flow is considered when the depth of flow reaches three-fourths of the pipe diameter, or a d/D of 75%. As shown in the above analysis, the Project's additional sewer flow is not anticipated to exceed this trigger flow

[10] The average projected load based on estimates from CalEEMod.

in any of the sewer lines included in the approved SCAR. Therefore, impacts to sewer infrastructure would be less than significant.

6.2.3 ENERGY

6.2.3.1 ELECTRICITY

The Project may increase the demand for electricity resources. Based on the values provided, the estimated electrical use for the proposed project is 4,107,592 kWH per year[11] as shown in Table 6. As a preliminary design the LADWP onsite transformation will be outdoors on a 9x12 transformer pad with switch pad.

Table 6 – Estimated Electrical Demand by Land Use (Mitigated)

Land Uses	**kWH/yr**
Apartments Mid Rise	2,764,847
High Turnover (Sit Down Restaurant)	376,592
Strip Mall	130,413
Unenclosed Parking with Elevator	835,740
Total	**4,107,592**

A will serve letter was sent to LADWP to determine if there is sufficient capacity to serve the Project. Based on the response from LADWP (see Exhibit 5), electrical service is available and can be served to the Project.

6.2.3.2 NATURAL GAS

The Project may increase the demand for natural gas resources. Based on concept review of a 441 Unit Multi-Family Development, a preliminary gas demand budget is estimated to be 718,513 cubic feet per year as shown in Table 7.

[11] 1 kW (kilowatt) = 1,000 Watts.

Table 7 – Estimated Gas Demand by Land Use (Mitigated)		
Land Uses	**kBTU/yr**	**cu ft/year**
Apartments Mid Rise	0	0
High Turnover (Sit Down Restaurant)	754,439	718,513
Strip Mall	0	0
Unenclosed Parking with Elevator	0	0
Total	754,439	**718,513**

A will serve letter was sent to SoCal Gas to determine if there is sufficient capacity to serve the Project. Based on the response from SoCal Gas (see Exhibit 6), available capacity to serve the Project exists. As such, impacts related to gas would be less than significant.

6.3 CUMULATIVE IMPACTS

6.3.1 WATER

The geographic context for the cumulative impact analysis on water supply is the LADWP service area (i.e., the City). LADWP, as a public water service provider, is required to prepare and periodically update an Urban Water Management Plan to plan and provide for water supplies to serve existing and Projected demands. The 2020 UWMP prepared by LADWP accounts for existing development within the City, as well as Projected growth through the year 2040.

Additionally, under the provisions of Senate Bill 610, LADWP is required to prepare a comprehensive water supply assessment for every new development "project" (as defined by Section 10912 of the Water Code) within its service area that reaches certain thresholds. The types of projects that are subject to the requirements of Senate Bill 610 tend to be larger projects that may or may not have been included within the growth Projections of the 2020 UWMP. The water supply assessment for projects would evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed. As stated above, the Project and related Projects would be required to comply with all applicable water supply assessment requirements, and meet Green Building Code, which requires all Projects to reduce the overall potable water use by 20 percent. The baseline used for the 20 percent reduction is the maximum allowable water use per the Plumbing Code.

Furthermore, through LADWP's 2020 UWMP process and the City's Securing L.A.'s Water Supply, the City will meet all new demand for water due to Projected population growth to the year of 2050, through a combination of water conservation and water recycling. These plans outline the creation of sustainable sources of water for the City of Los Angeles to reduce dependence on imported supplies. LADWP is planning to achieve these goals by expanding its water conservation program. To increase recycled water use,

LADWP is expanding the recycled water distribution system to provide water for irrigation, industrial use, and groundwater recharge.

6.3.2 WASTEWATER

The Proposed Project will result in the additional generation of sewer flow. However, as discussed above the Bureau of Sanitation will conduct an analysis of existing and planned capacity and will determine that adequate capacity exists to serve the Project. Related projects connecting to the same sewer system are required to obtain a sewer connection permit and submit a Sewer Capacity Availability Request to the Bureau of Sanitation as part of the related project's development review. Impact determination will be provided following the completion of the SCAR analysis. If system upgrades are required as a result of a given project's additional flow, arrangements would be made between the related project and the Bureau of Sanitation to construct the necessary improvements.

Wastewater generated by the Proposed Project would be conveyed via the existing wastewater conveyance systems for treatment at the Hyperion Treatment Plant system. As previously stated, based on information from the Bureau of Sanitation, the existing design capacity of the Hyperion Service Area is approximately 550 million gallons per day (MGD) and the existing average daily flow for the system is approximately 260 MGD (million gallons per day)[12]. The estimated wastewater generation of the Proposed Project is 178,327 GPD, representing a net increase of 173,076 GPD, which is far less than the available capacity in the system and roughly 0.07% of the allotted annual wastewater flow increase for the Hyperion Treatment Plant. It is expected that the related projects would also be required to adhere to the Bureau of Sanitation's annual wastewater flow increase allotment.

Based on these forecasts the Project's increase in wastewater generation would be adequately accommodated within the Hyperion Service Area. In addition, the City Bureau of Sanitation's analysis confirms that the Hyperion Treatment Plant has sufficient capacity and regulatory allotment for the Proposed Project. Thus, operation of the Project would have a less than significant impact on wastewater treatment facilities.

6.3.3 ENERGY

The geographic context for the cumulative analysis of electricity is LADWP's service area and the geographic context for the cumulative analysis of natural gas is SoCal Gas' service area. Similarly, transportation energy use is the City of Los Angeles. Growth within these collective areas is anticipated to increase the demand for electricity, natural gas, and transportation energy, as well as the need for energy infrastructure, such as new or expanded energy facilities.

Buildout of the Project, the related Projects, and additional growth forecasted to occur in the City would increase electricity consumption during Project construction and operation

[12] City of Los Angeles Department of Public Works, Bureau of Sanitation, Sewer System Management Plan Hyperion Sanitary Sewer System, January 2019.

and thus, cumulatively increase the need for energy supplies and infrastructure capacity, such as new or expanded energy facilities the 2027-2028 fiscal year (the Project buildout year) will be 24,078 gigawatt-hours. (GWh)[13] Based on the Project's estimated net new electrical consumption of 3,733,373 kWH/yr. The Project would account for approximately 0.016 % of LADWP's Projected sales for the Project's build-out year. Although future development would result in the irreversible use of renewable and non-renewable electricity resources during Project construction and operation which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with growth expectations for LADWP's service area. Furthermore, like the Project, during construction and operation, other future development Projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate mitigation measures, as necessary. Accordingly, the Project's contribution to cumulative impacts related to electricity consumption would not be cumulatively considerable and, thus, would be less than significant.

Electricity infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by LADWP are ongoing. As described in LADWP's 2017 Power Integrated Resource Plan, LADWP would continue to expand delivery capacity as needed to meet demand increases within its service area at the lowest cost and risk consistent with LADWP's environmental priorities and reliability standards. LADWP has indicated that the Power Integrated Resource Plan incorporates the estimated electricity requirement for the Project. The Power Integrated Resource Plan takes into account future energy demand, advances in renewable energy resources and technology, energy efficiency, conservation, and forecast changes in regulatory requirements. Development projects within the LADWP service area would also be anticipated to incorporate site-specific infrastructure improvements, as necessary. Each of the related Projects would be reviewed by LADWP to identify necessary power facilities and service connections to meet the needs of their respective projects. Project applicants would be required to provide for the needs of their individual projects, thereby contributing to the electrical infrastructure in the project area. As such, the Project's contribution to cumulative impacts with respect to electricity infrastructure would not be cumulatively considerable and, thus, would be less than significant.

Buildout of the Project and related projects in SoCal Gas' service area is expected to increase natural gas consumption during Project construction and operation and thus, cumulatively increase the need for natural gas supplies and infrastructure capacity. Based on the 2022 California Gas Report, the California Energy Commission estimates natural gas consumption within SoCal Gas' planning area will be approximately 3,435 million cubic feet/day in 2027.[14] The Project's 2,645,302 cubic feet/year would account for approximately 0.0002 % of the 2022 forecasted consumption in SoCal Gas's planning area. SoCal Gas' forecasts consider Projected population growth and development based on

[13] LADWP, 2017 Power Integrated Resource Plan, Appendix A, Table A-1.

[14] California Gas and Electric Utilities, 2022 California Gas Report, p. 186.

local and regional plans. Although future development projects would result in the irreversible use of natural gas resources which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with regional and local growth expectations for SoCal Gas' service area. Furthermore, like the Project, during construction and operation other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate mitigation measures, as necessary. Accordingly, the Project's contribution to cumulative impacts related to natural gas consumption would not be cumulatively considerable and, thus, would be less than significant.

Natural gas infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by SoCal Gas occur as needed. It is expected that SoCal Gas would continue to expand delivery capacity if necessary to meet demand increases within its service area. Development projects within its service area would also be anticipated to incorporate site-specific infrastructure improvements, as appropriate. As such, cumulative impacts with respect to natural gas infrastructure would not be cumulatively considerable and, thus, would be less than significant.

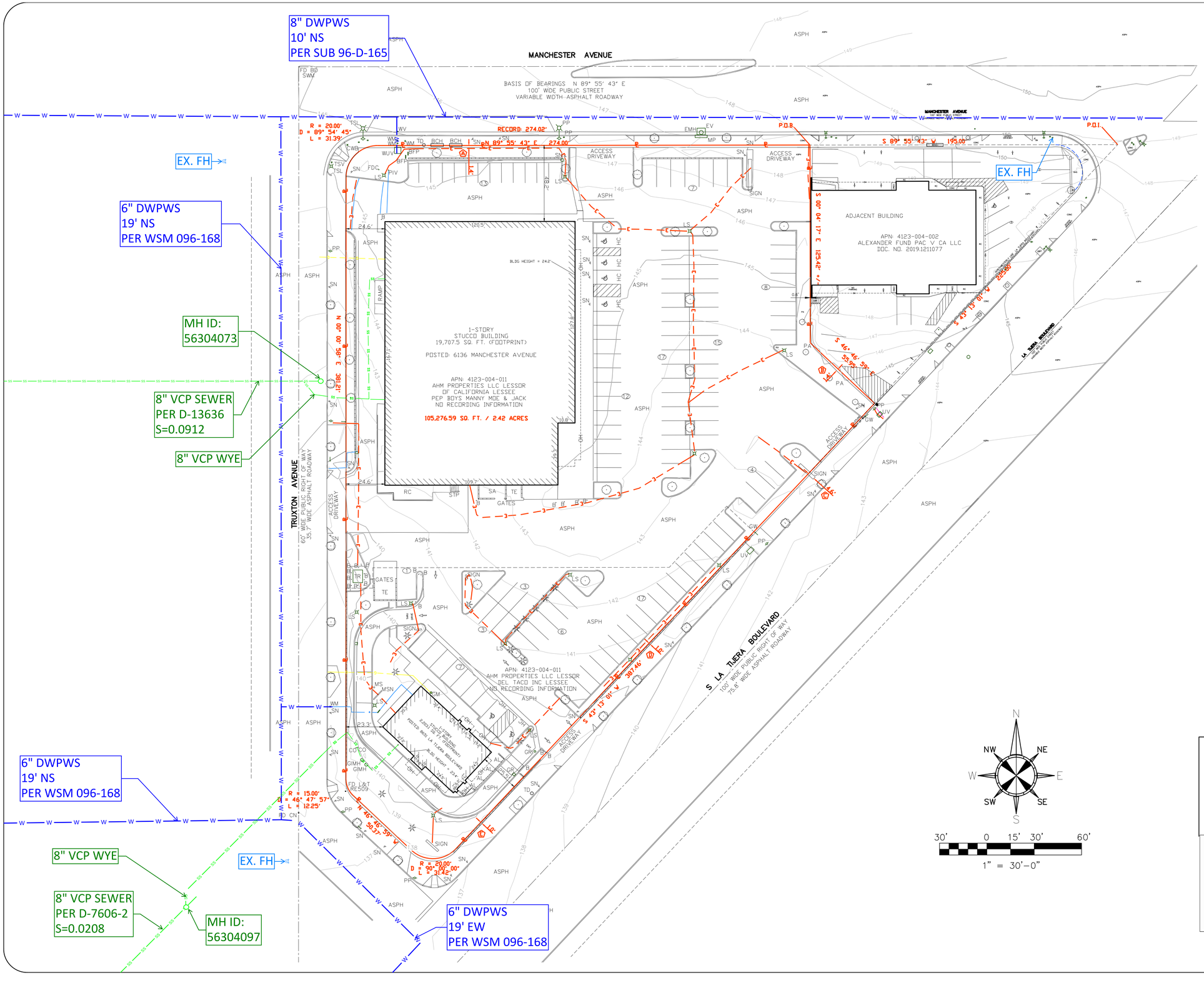
7 LEVEL OF SIGNIFICANCE

Based on the analysis contained in this report the existing municipal water, wastewater and energy infrastructure is adequate to meet the demand of the Project.

EXHIBIT 1

Existing Water and Wastewater Infrastructure Exhibit

EXHIBIT 1- Existing Water and Wastewater Infrastructure Exhibit



LEGEND

	AL	AREA LIGHT
	APN	ASSESSOR'S PARCEL NUMBER
	ASPH	ASPHALT
○	B	BOLLARD
	BD	BRASS DISK
▭	BCH	BENCH
▭	BFP	BACK FLOW VALVE
	CN	C NAIL
○	CO	CLEAN OUT
⊠	CWB	CROSSWALK BUTTON
	D	DELTA ANGLE OF CURVE
	DOC.	DOCUMENT
◯	EMH	ELECTRIC UTILITY MANHOLE
▭	EV	ELECTRIC UTILITY VAULT
●	FD	FOUND MONUMENT - AS NOTED
◯	GIMH	GREASE INTERCEPTOR MANHOLE
▣	GM	GAS METER
▭	GR	GRATE
⟶	GW	GUY WIRE
	HC	HANDICAP
	L	LENGTH OF CURVE
	L&T	LEAD AND TAG
⋈ OR ⋈	LS	LIGHT STANDARD
▭	MP	METAL PLATE
▭	MS	MENU SPEAKER
▭	MSN	MENU SIGN
▭	OH	OVERHANG
▭	P.O.B.	POINT OF BEGINNING
	P.O.I.	POINT OF INTERSECTION
	PL	PROPERTY LINE
	PP	POWER PLE
	R	RADIUS OF CURVE
	RC	RAISED CONCRETE
	SA	STORAGE AREA
⊢	SN	SIGN
▽	SQ. FT.	SQUARE FEET
	STP	STEPS
◯	TD	TRASH DISPENSER
	TE	TRASH ENCLOSURE
	TR	TRANSFORMER
⋈ OR ⋈	TSL	TRAFFIC SIGNAL LIGHT
▭	TSV	TRAFFIC SIGNAL VAULT
▭	UV	UTILITY VAULT
▭	WM	WATER METER
▭	WUV	WATER UTILITY VAULT
○	WV	WATER VALVE
		BLOCK WALL - TYPICAL
⬭		PARKING SPACE COUNTER
-o-o-		FENCE - WROUGHT IRON
98		CONTOUR LINES
		USA - GAS
		USA - ELECTRIC
		USA - SEWER
		USA - WATER
		TREE - DECIDUOUS
		TREE - PALM

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EXHIBIT 2A

LADWP "Service Advisory Report" (SAR) Results and Water Will Serve Letter

EXHIBIT 2A- LADWP "Service Advisory Report" (SAR) Results

City of Los Angeles

Los Angeles Department of Water and Power - Water System

SAR NUMBER **99429**

Fire Service Pressure Flow Report

SERVICE NUMBER **640004**

For: **6136 W MANCHESTER AVE** Approved Date: **8-22-2022**

Proposed Service **6 INCH** off of the

6 inch main in **TRUXTON AVE** on the **EAST** side approximately

160 feet **SOUTH** of **SOUTH** of **MANCHESTER AVE** The System maximum pressure is

123 psi based on street curb elevation of **142** feet above sea level at this location.

The distance from the DWP street main to the property line is **41** feet

System maximum pressure should be used only for determining class of piping and fittings.

Residual Flow/Pressure Table for water system street main at this location

Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	71				
405	70				
585	69				
730	68				
855	67				
965	66				
1065	65				
1155	64				
1240	63				
1325	62				
1400	61				

These values are subject to change due to changes in system facilities or demands.

Notes: 6" FS only. Do not sell combo service.

Meter Assembly Capacities

Domestic Meters	
1 inch =	56 gpm
1-1/2 inch =	96 gpm
2 inch =	160 gpm
3 inch =	220 gpm
4 inch =	400 gpm
6 inch =	700 gpm
8 inch =	1500 gpm
10 inch =	2500 gpm

Fire Service	
2 inch =	250 gpm
4 inch =	600 gpm
6 inch =	1400 gpm
8 inch =	2500 gpm
10 inch =	5000 gpm

FM Services	
8 inch =	2500 gpm
10 inch =	5000 gpm

This information will be sent to the Department of Building and Safety for plan checking.

This SAR is valid for one year from 08-22-22. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **WESTERN (213) 367-1225**

MARK PATTERSON	**MARK PATTERSON**	**096-168**
Prepared by	**Approved by**	**Water Service Map**

EXHIBIT 2A- LADWP Water Will Serve Letter

Los Angeles Department of Water & Power

BUILDING A STRONGER L.A.

August 10, 2022

Map No. 096-168

Joseph Garcia (KPFF)
700 South Flower Street, Suite 2100
Los Angeles, CA 90017

Dear Mr. Garcia:

Subject: Water Availability - Will Serve
6136 West Manchester Avenue
APN 4123-004-010 and 4123-004-011, Rancho Sausal Redondo Tract, Lot PT LT 38

This is in reply to your request regarding water availability for the above-mentioned location. This property can be supplied with water from the municipal system subject to the Water System rules of the Los Angeles Department of Water and Power (LADWP). It is also subject to all conditions set by LADWP.

Should you require additional information, please contact Ms. Stella Kim at (213) 367-0247. Correspondence may be addressed to:

LADWP
111 North Hope Street, Room 1425
Los Angeles, California 90012

Sincerely,

Liz Gonzalez
Manager-Business Arrangements
Water Distribution Engineering

SK:kc
c: Ms. Stella Kim

EXHIBIT 2B

LADWP Water Supply Analysis (WSA) Threshold Correspondence

EXHIBIT 2B- LADWP Water Supply Analysis (WSA) Threshold Correspondence (1/5)

From: Hwang, Jin <Jin.Hwang@ladwp.com>
Sent: Wednesday, December 7, 2022 7:24 AM
To: Ashley Munoz
Cc: Kim, Theresa
Subject: RE: [EXTERNAL] WSA 500 Unit Threshold

Hi Ashley,

The CEQA Lead Agency, such as the City Planning Department, determines if a proposed project meets the criteria of the California Water Code Section 10912 and requests LADWP for a Water Supply Assessment. The CEQA lead agency may consult with LADWP prior to confirming the project is subject to a WSA.

Yes, the approach you mentioned is still the latest. If the tentative scope of work's estimated water demand (total water demand, not the net total water demand) exceeds 84 AFY (water demand for 500 dwelling units of 2 bedroom multi-family residential), a WSA would generally be required. LADWP would recommend that you work with the CEQA Lead Agency to determine whether a WSA would be required for your project.

Please let me know if you have questions. Thank you.

Jin Hwang
Civil Engineering Associate
Los Angeles Department of Water and Power
Water Resources Division/ Resources Development & Supply Assessment
111 N. Hope St. Room 308
Los Angeles, CA 90012
213-367-4845

Please note that every other Friday is my day off.

From: Ashley Munoz <a.munoz@eyestoneeir.com>
Sent: Tuesday, December 6, 2022 2:56 PM
To: Hwang, Jin <Jin.Hwang@ladwp.com>
Subject: [EXTERNAL] WSA 500 Unit Threshold

Hi, Jin!

Back in 2020 we reached out to LADWP about the 500 du demand assumptions. Per LADWP, a 500-du development is assumed to be comprised of 2-Bedroom Apartments for which the rate is 150

gpd/du. As such, 500 du x 150 gpd/du = 75,000 gpd. Just want to make sure that this approach is still the latest. Also, is this based on the proposed demand or the net?

EXHIBIT 2B- LADWP Water Supply Analysis (WSA) Threshold Correspondence (3/5)

From: Kim, Theresa <Theresa.Kim@ladwp.com>
Sent: Monday, January 9, 2023 9:35 AM
To: Ashley Munoz; Hwang, Jin
Cc: Laura Rodriguez
Subject: RE: [EXTERNAL] 6136 W. Manchester SCEA - Water Demand

Ashley,

The highlighted items are not used in the determination of a WSA.

-Theresa Kim

From: Ashley Munoz <a.munoz@eyestoneeir.com>
Sent: Friday, January 6, 2023 10:09 AM
To: Kim, Theresa <Theresa.Kim@ladwp.com>; Hwang, Jin <Jin.Hwang@ladwp.com>
Cc: Laura Rodriguez <l.rodriguez@eyestoneeir.com>
Subject: [EXTERNAL] 6136 W. Manchester SCEA - Water Demand

Hi – as discussed, below is the estimated water demand table for the Project. Please confirm which of the highlighted uses should be removed from the total. Thank you!

Estimated Project Water Demand

	No. of Units/ Floor Area	Water Use Factor (gpd/unit)[a]	Water Consumption (gpd)
PROPOSED			
Residential			
Studio Apartment	125 du	75	9,375
One-Bedroom Apartment	196 du	110	21,560
Two-Bedroom Apartment	120 du	150	18,000
Commercial			
Restaurant	10,747 sf[b]	30	21,494
Retail	5,373 sf	0.025	134
Residential Amenities			
Leasing Lobby	2,795 sf	0.05	140
Mail Room	1,390 sf	0.12	167
Lobby	280 sf	0.05	14
Covered Exterior	1,660 sf	—	—
Recreation Room	2,965 sf	0.065	1,927
Recreation Room	3,225 sf	0.65	2,096
Recreation Room	1,280 sf	0.65	832
Lounge	510 sf	0.05	26
Swimming Pool	—	—	500
Total Proposed			**76,265**

sf = square feet

du = dwelling unit

gpd = gallons per day

[a] *Based on sewage generation rates provided by LASAN Sewer Generation Rates Table (2012).*

[b] *Restaurant space is assumed to be all full-service restaurant and assumed to be equivalent to 15 sf per seat for a conservative water demand estimate.*

Ashley Munoz
Planner

eyestone ENVIRONMENTAL

2121 Rosecrans Avenue, Suite 3355
El Segundo, CA 90245
T (424) 207-5337 (direct)

T (424) 207-5333
F (424) 207-5349
Email a.munoz@eyestoneeir.com

EXHIBIT 3A

LADWP "Information of Fire Flow Availability Request" (IFFAR)

EXHIBIT 3A- LADWP Information of Fire Flow Availability (IFFAR) (1/2)

City of Los Angeles

Los Angeles Department of Water and Power - Water System

INFORMATION OF FIRE FLOW AVAILABILITY

Water Service Map No.: W096-168

LAFD Fire Flow Requirement: 6,000 to 9,000 gpm from 4-6 fire hydrants flowing simultaneously.

LAFD Signature:

Date Signed:

Applicant: Joseph Garcia

Company Name: KPFF Consulting Engineers

Address: 700 S Flower Street, Suite 2100, Los Angeles 90017

Telephone: (213) 266-5238

Email Address: joseph.garcia@kpff.com

KATHRINE CRUZ
DEC 07 2022

	F-40049	F-31783	F-31782
Location:	SOUTHWEST CORNER OF MANCHESTER AVE AND LA TIJERA BLVD.	SOUTHWEST CORNER OF TRUXTON AVE. AND MANCHESTER AVE.	SOUTHWEST CORNER OF TRUXTON AVE. AND 87TH ST.
Distance from Neareast Pipe Location (feet):	15'	45'	14'
Hydrant Size:	2 1/2 X 4D	2 1/2 X 4D	2 1/2 X 4D
Water Main Size (in):	8"	6"	6"
Static Pressure (psi):	76 max	78 max	82 max
Residual Pressure (psi):	68 psi	71 psi	74 psi
Flow at 20 psi (gpm):	1500 gpm	1300 gpm	1400 gpm

NOTE: Data obtained from hydraulic analysis using peak hour.

Remarks:

ECMR No. W2022120800 7

5 fire hydrants: F-40049 F-31783 F-31782 F-81925 F-31786 flowing simultaneously for 7100 gpm combined flow.

Water Purveyor: **Los Angeles Department of Water & Power**

Date: 12/23/2022

Signtature: Mark Patterson

Title: Civil Engineering Associate

Requests must be made by submitting this completed application, along with a $271.00 check payable to:
"Los Angeles Department of Water and Power", and mailed to:
Los Angeles Department of Water and Power
Distribution Engineering Section - Water
Attn: Business Arrangements
P.O. Box 51111 - Room 1425
Los Angeles, CA 90051-5700

*** If you have any questions, please contact us at (213) 367-2130 or visit our web site at http://www.ladwp.com.**

EXHIBIT 3A- LADWP Information of Fire Flow Availability (IFFAR) (2/2)

City of Los Angeles

Los Angeles Department of Water and Power - Water System

INFORMATION OF FIRE FLOW AVAILABILITY

Water Service Map No.: W096-168

LAFD Fire Flow Requirement: 6,000 to 9,000 gpm from 4-6 fire hydrants flowing simultaneously.

LAFD Signature:

Date Signed:

Applicant: Joseph Garcia

Company Name: KPFF Consulting Engineers

Address: 700 S Flower Street, Suite 2100, Los Angeles 90017

Telephone: (213) 266-5238

Email Address: joseph.garcia@kpff.com

KATHRINE CR...
DEC 0 ... 2022

	F-81925	F- 31786	
Location:	NORTH SIDE OF MANCHESTER AVE, 4' EAST OF CROYDON WALK	SOUTHWEST CORNER OF KITTYHAWK AVE AND BLERIOT AVE	
Distance from Neareast Pipe Location (feet):	20'	35'	
Hydrant Size:	2 1/2 X 4D	2 1/2 S	
Water Main Size (in):	6"	8"	
Static Pressure (psi):	76 max	80 max	
Residual Pressure (psi):	67 psi	70 psi	
Flow at 20 psi (gpm):	1400 gpm	1500 gpm	

NOTE: Data obtained from hydraulic analysis using peak hour.

Remarks: ECMR No. W2022208009

5 fire hydrants: F-40049 F-31783 F-31782 F-81925 F-31786 flowing simultaneously for 7100 gpm combined flow.

Water Purveyor: **Los Angeles Department of Water & Power** *Date:* 12/23/2022

Signtature: Mark Patterson *Title:* Civil Engineering Associate

Requests must be made by submitting this completed application, along with a $271.00 check payable to:
"Los Angeles Department of Water and Power", and mailed to:
Los Angeles Department of Water and Power
Distribution Engineering Section - Water
Attn: Business Arrangements
P.O. Box 51111 - Room 1425
Los Angeles, CA 90051-5700

*** If you have any questions, please contact us at (213) 367-2130 or visit our web site at http://www.ladwp.com.**

EXHIBIT 3B

Los Angeles Fire Department (LAFD) Acceptance of IFFAR Results

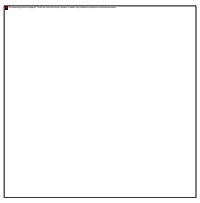
EXHIBIT 3B- LAFD Acceptance of IFFAR Results (1/2)

From: Matthew Craig <Matthew.Craig@lacity.org>
Sent: Monday, January 23, 2023 9:17 AM
To: Ashley Munoz
Cc: Laura Rodriguez; Brian Powers; Joseph Garcia; Summer Su
Subject: Re: 6136 W. Manchester - Fire Flow

Ashley

The IFARR is within the acceptable range to provide 6-9000 GPM in order to meet the requirement.
Thank you
Matthew Craig, Inspector II
Hydrants and Access
213 264 9827
Los Angeles Fire Department

Please note: I am off on Fridays



On Fri, Jan 20, 2023 at 12:02 PM Ashley Munoz <a.munoz@eyestoneeir.com> wrote:

> Hi, Inspector Craig!
>
> Attached please find the Information of Fire Flow Availability results for the analysis flowing 5 hydrants simultaneously for a total of 7,100 GPM.
>
> Based on the LAFD response letter dated September 23, 2022 (see Word file attached), the required fire flow for the 6136 W. Manchester Project was set at 6,000 to 9,000 GPM from 4 to 6 fire hydrants flowing simultaneously. Please confirm whether the 7,100 GPM from 5 hydrants is enough for the Project to comply with the requirements identified for the Project.

EXHIBIT 3B- LAFD Acceptance of IFFAR Results (2/2)

Thank you.

Ashley Munoz
Planner

eyestone ENVIRONMENTAL

2121 Rosecrans Avenue, Suite 3355

El Segundo, CA 90245

T (424) 207-5337 (direct)

T (424) 207-5333

F (424) 207-5349

Email a.munoz@eyestoneeir.com

EXHIBIT 4A

City of Los Angeles Wastewater Will Serve Letter

EXHIBIT 4A- City of Los Angeles Wastewater Will Serve Letter (1/3)

CITY OF LOS ANGELES
CALIFORNIA

KAREN BASS
MAYOR

DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

TED ALLEN, PE
CITY ENGINEER

1149 S BROADWAY, SUITE 700
LOS ANGELES, CA 90015-2213

http://eng.lacity.org

02/24/2023

JOSEPH GARCIA
700 S FLOWER ST., SUITE 2100
LOS ANGELES, CA, 90045

Dear Joseph Garcia,

SEWER AVAILABILITY: 6136 W. Manchester Ave.

The Bureau of Sanitation has reviewed your request of 02/08/2023 for sewer availability at **6136 W. MANCHESTER AVE.**. Based on their analysis, it has been determined on 02/24/2023 that there is capacity available to handle the anticipated discharge from your proposed project(s) as indicated in the attached copy of the Sewer Capacity Availability Request (SCAR) .

This determination is valid for 180 days from the date shown on the Sewer Capacity Availability request (SCAR) approved by the Bureau of Sanitation.

While there is hydraulic capacity available in the local sewer system at this time, availability of sewer treatment capacity will be determined at the Bureau of Engineering Public Counter upon presentation of this letter. A Sewer Connection Permit may also be obtained at the same counter provided treatment capacity is available at the time of application.

A Sewerage Facilities Charge is due on all new buildings constructed within the City. The amount of this charge will be determined when application is made for your building permit and the Bureau of Engineering has the opportunity to review the building plans. To facilitate this determination a preliminary set of plans should be submitted to Bureau of Engineering District Office, Public Counter.

Provision for a clean out structure and/or a sewer trap satisfactory to the Department of Building and Safety may be required as part of the sewer connection permit.

Lateral connection of development shall adhere to Bureau of Engineering Sewer Design Manual Section F 480. **If not listed in the Proposed Facility Description section of the SCAR, sewer ejector use is prohibited.**

Scar Request Number: 5070

Sincerely,

Anthony Mainez

West LA District, Bureau of Engineering

EXHIBIT 4A- City of Los Angeles Wastewater Will Serve Letter (3/3)

City of Los Angeles
Bureau of Engineering

SEWER CAPACITY AVAILABILITY REVIEW FEE (SCARF) - Frequently Asked Questions

SCAR stands for Sewer Capacity Availability Review that is performed by the Department of Public Works, Bureau of Sanitation. This review evaluates the existing sewer system to determine if there is adequate capacity to safely convey sewage from proposed development projects, proposed construction projects, proposed groundwater dewatering projects and proposed increases of sewage from existing facilities. The SCAR Fee (SCARF) recovers the cost, incurred by the City, in performing the review for any SCAR request that is expected to generate 10,000 gallons per day (gpd) of sewage.

The SCARF is based on the effort required to perform data collection and engineering analysis in completing a SCAR. A brief summary of that effort includes, but is not limited to, the following:

1. Research and trace sewer flow levels upstream and downstream of the point of connection.
2. Conduct field surveys to observe and record flow levels. Coordinate with maintenance staff to inspect sewer maintenance holes and conduct smoke and dye testing if necessary.
3. Review recent gauging data and in some cases closed circuit TV inspection (CCTV) videos.
4. Perform gauging and CCTV inspection if recent data is not available.
5. Research the project location area for other recently approved SCARs to evaluate the cumulated impact of all known SCARs on the sewer system.
6. Calculate the impact of the proposed additional sewage discharge on the existing sewer system as it will be impacted from the approved SCARs from Item 6 above. This includes tracing the cumulative impacts of all known SCARs, along with the subject SCAR, downstream to insure sufficient capacity exist throughout the system.
7. Correspond with the applicant for additional information and project and clarification as necessary.
8. Work with the applicant to find alternative sewer connection points and solutions if sufficient capacity does not exist at the desired point of connection.

Questions and Answers:

1. **When is the SCARF applied, or charged?**
   It applies to all applicants seeking a Sewer Capacity Availability Review (SCAR). SCARs are generally required for Sewer Facility Certificate applications exceeding 10,000 gpd, or request from a property owner seeking to increase their discharge thru their existing connection by 10,000 gpd or more, or any groundwater related project that discharges 10,000 gpd or more, or any proposed or future development for a project that could result in a discharge of 10,000 gpd.
2. **Why is the SCARF being charged now when it has not been in the past?**
   The City has seen a dramatic increase in the number of SCARs over 10,000 gpd in the last few years and has needed to increase its resources, i.e., staff and gauging efforts, to respond to them. The funds collected thru SCARF will help the City pay for these additional resources and will be paid by developers and property owners that receive the benefit from the SCAR effort.
3. **Where does the SCARF get paid?**
   The Department of Public Works, Bureau of Engineering (BOE) collects the fee at its public counters. Once the fee is paid then BOE prepares a SCAR request and forwards it to the BOS where it is reviewed and then returned to BOE. BOE then informs the applicant of the result. In some cases, BOS works directly with the applicant during the review of the SCAR to seek additional information and work out alternative solutions

Scar Request Number: 5070

EXHIBIT 4B

Approved Sewer Capacity Availability Report (SCAR)

EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (1/13)

City of Los Angeles
Bureau of Engineering

Sewer Capacity Availability Request (SCAR)

To: Bureau of Sanitation
The following request is submitted to you on behalf of the applicant requesting to connect to the public sewer system. Please verify that the capacity exists at the requested location for the proposed developments shown below. The results are good for 180 days from the date the sewer capacity approval from the Bureau of Sanitation. Lateral connection of development shall adhere to Bureau of Engineering Sewer Design Manual Section F 480. **If not listed in the Proposed Facility Description section of the SCAR, sewer ejector use is prohibited.**

Job Address:	**6136 W. Manchester Ave.**	Sanitation Scar ID:	**70-6471-0223**
Date Submitted	02/08/2023	Request Will Serve Letter?	Yes
BOE District:	West LA District		
Applicant:	Joseph Garcia		
Address:	700 S Flower St., Suite 2100	City :	Los Angeles
State:	CA	Zip:	90045
Phone:	213-266-5238	Fax:	
Email:	joseph.garcia@kpff.com	BPA No.	
S-Map:	563, 564	Wye Map:	7927-6

SIMM Map - Maintenance Hole Locations

No.	Street Name	U/S MH	D/S MH	Diam. (in)	Approved Flow %	Notes
1	TRUXTON AVE	56304073	56304072	8	50.00	MAXIMUM PARTIAL DISCHARGE 91,764 GPD.
2	ALLEY NORTHWEST LA TIJERA BLVD	56304097	56304114	8	50.00	MAXIMUM PARTIAL DISCHARGE 91,764 GPD.

Proposed Facility Description

No.	Proposed Use Description	Sewage Generation (GPD)	Unit	Qty	GPD
1	RESIDENTIAL: APT - BACHELOR	75	DU	125	9,375
2	RESIDENTIAL: APT - 1 BDRM. *6	110	DU	196	21,560
3	RESIDENTIAL: APT - 2 BDRMS *6	150	DU	120	18,000
4	RESTAURANT: FULL SERVICE INDOOR SEAT	30	SEAT	717	21,510
5	RETAIL AREA (LESS THAN 100,000 SF)	25	KGSF	5,357	134
6	LOBBY OF RETAIL AREA *1	50	KGSF	2,795	140
7	POST OFFICE: FULL SERVICE *14	120	KGSF	1,390	167
8	LOBBY OF RETAIL AREA *1	50	KGSF	280	14
9	HEALTH CLUB/SPA *10	650	KGSF	7,470	4,856
10	LOUNGE *1	50	KGSF	510	26
11	SWIMMING POOL (COMMERCIAL WITH BACKWASH FILTERS)		GPD	107,748	107,748
				Proposed Total Flow (gpd):	**183,528**

Scar Request Number: 5070

EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (2/13)

Remarks 1] Approved for the maximum allowable capacity of 183,528 GPD (127.45 gpm). 2] Maximum partial discharges as indicated on SCAR notes. 3] IWMD permit required.

Note: Results are good for 180 days from the date of approval by the Bureau of Sanitation

Date Processed: 02/23/2023 JRA

Expires On: 08/22/2023

Processed by:

Bureau of Sanitation
Phone: 323-342-6207
Sanitation Status: SAN Review Completed
Reviewed by: Ricardo Avendano
on 02/23/2023

Submitted by: Anthony Mainez
Bureau of Engineering
West LA District
Phone:

Fees Collected	Yes	SCAR FEE (W:37 / QC:706)	$2,282.50
Date Collected	02/16/2023	SCAR Status:	**SAN Review Completed**

A

Scar Request Number: 5070

EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (3/13)

SCARS CHECKLIST - BUREAU OF SANITATION

JOB ADDRESS	6136 W. Manchester Ave.		
SCAR ID#:	70-6471-0223	**LAST RELATED SCAR ID#**	NOT APPLICABLE
DATE RECEIVED	02/22/2023	**DATE COMPLETED**	02/23/2023

☑ **Sewer Flows**

Calculate proposed sewer flows. If the flows stated on the SCAR application are less than calculated flows, use calculated flows.

Reviewer: RA

Hours: 6.00

BASIN: A 03

Sewer Capacity Evaluation

☑ **Trace downstream sewer network for proposed project.**

Note sewer diameter and slope changes

☑ **Check for existing gauging and CCTV data.**

If existing gauging and CCTV is not available, then request for gauging.

☐ **Request for gauging** Date requested & emailed developer: NOT APPLICABLE

Date received & logged into GIS data table: NOT APPLICABLE

☑ **Use Manning's Equation to verify if capacity is available**

If all pipes have capacity, then approve.

☑ **If total proposed flow is greater than 30,000 GPD:**

- Inform Primary Group (emailed date): SENT ON 02/23/2023

- If mixed-use project, inquire from developer on sewer ejectors & include in SCAR form (date inputted): NOT APPLICABLE

☑ **Send to IWMD** SENT ON 02/23/2023

Email if SCAR is related to groundwater discharge or industrial waste permit.

Special Approval (if applicable)

Collection Div. Approval: NOT APPLICABLE

WESD Sr. Eng. Approval: NOT APPLICABLE

☑ **Input into SCAR Log**

☑ **SCAR Approved**

COMMENTS:

1] Approved for the maximum allowable capacity of 183,528 GPD (127.45 gpm). 2] Maximum partial discharges as indicated on SCAR notes. 3] IWMD permit required.

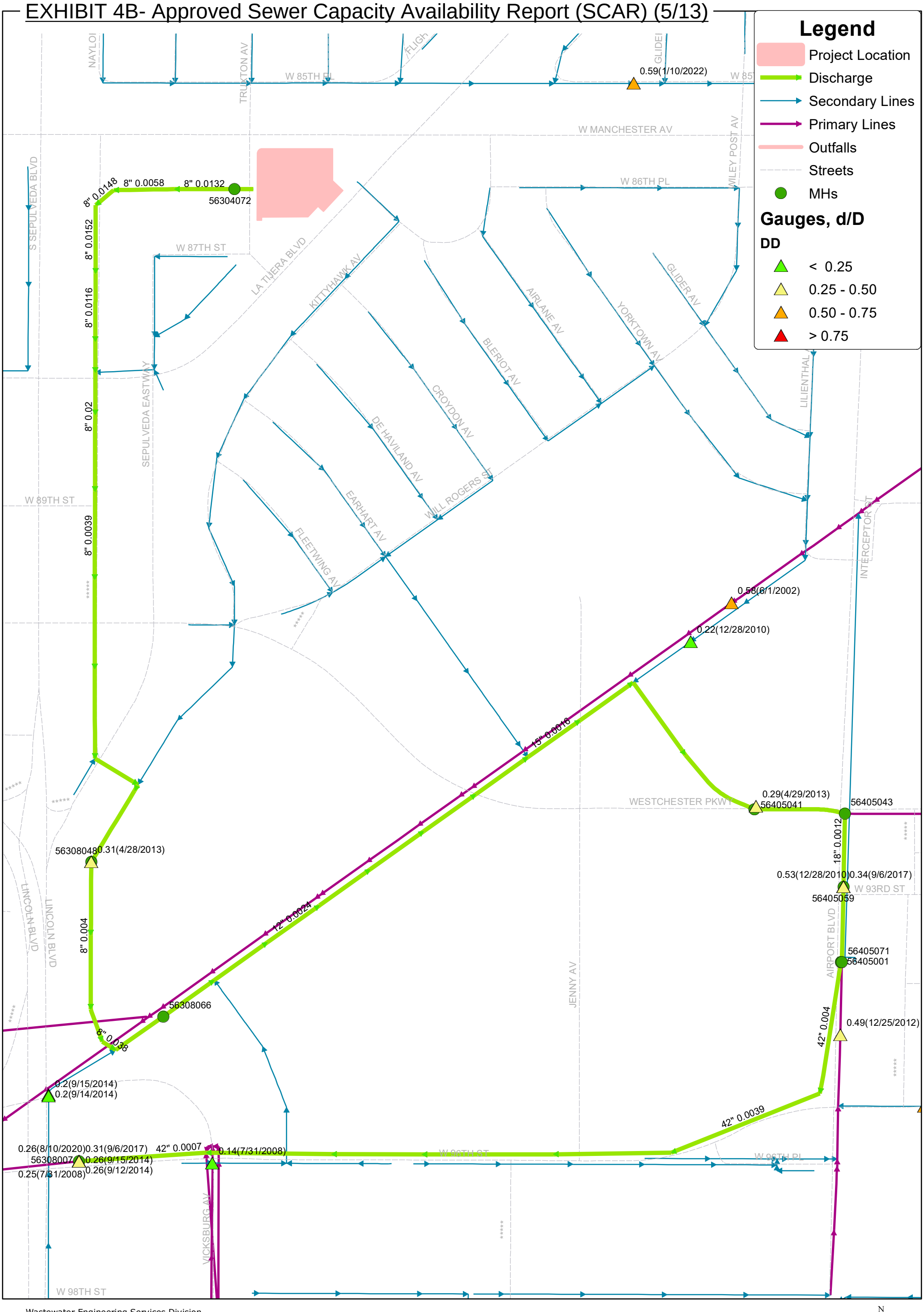
EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (4/13)

SCAR ID	7064710223-1
SCAR Location	6136 W MANCHESTER AVE
Total Proposed Flow	183528
Units Used	GPD

General Notes
TRUXTON AVE HYDRAULIC ANALYSIS

D/S MH#	Diam. (in)	Slope	Street	dD@ 50% Full	Existing dD	Source dD	Q(Existing)	Q(Proposed)	Existing SCARS	Additional Flows	Q (Total)	Projected dD
56304072	8	0.0912	TRUXTON AVE	1,095,001		D/S MH 56308048 FLOW	93,697	183,528	0		277,225	0.24
56308048	8	0.004	KITTYHAWK AV	229,323	0.3063	04/01/2013 GAUGING	93,697	183,528	0		277,225	0.56
56308066	12	0.0024	INTERCEPTOR ST	523,720		D/S MH 56405041 FLOW	700,540	183,528	0		884,068	0.7
56405041	15	0.0016	CROYDON AVE	775,319	0.4711	03/16/2021 GAUGING	700,540	183,528	446,400		1,330,468	0.71
56405043	15	0.0044	CROYDON AVE	1,285,721		U/S MH 56405041 FLOW	700,540	183,528	734,400		1,618,468	0.58
56405059	18	0.0012	AIRPORT BLVD	1,091,845	0.3378	09/05/2017 GAUGING	538,468	183,528	734,400		1,456,396	0.6
56405071	18	0.0012	AIRPORT BLVD	1,091,845		U/S MH 56405059 FLOW	538,468	183,528	734,400		1,456,396	0.6
56405001	36	0.004	AIRPORT BLVD	12,657,474		D/S MH 56308007 FLOW	2,320,883	183,528	734,400		3,238,811	0.24
56308007	42	0.0007	96TH ST	7,987,131	0.2571	08/10/2020 GAUGING	2,320,883	183,528	734,400		3,238,811	0.31

EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (5/13)



Wastewater Engineering Services Division
Bureau of Sanitation
City of Los Angeles

Figure 1
6136 W MANCHESTER AVE
TRUXTON AVE HYDRAULIC ANALYSIS
Sewer Map

N W E S

0 125 250 500 750 1,000 Feet

Thomas Brother Data reproduced with permission granted by THOMAS BROS MAP

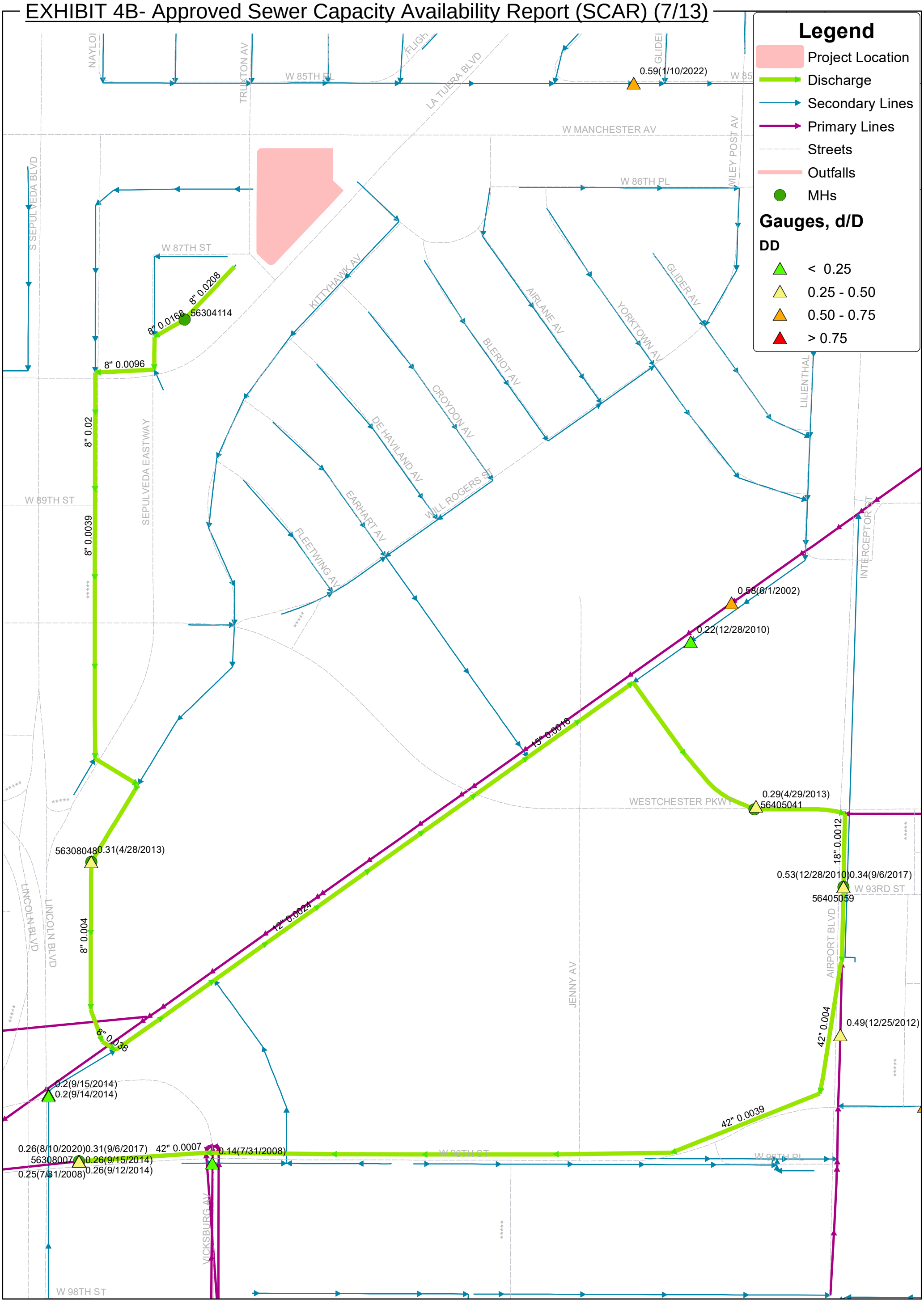
EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (6/13)

SCAR ID	7064710223-2
SCAR Location	6136 W MANCHESTER AVE
Total Proposed Flow	183528
Units Used	GPD

General Notes
TRUXTON AVE ALLEY HYDRAULIC ANALYSIS

D/S MH#	Diam. (in)	Slope	Street	dD@ 50% Full	Existing dD	Source dD	Q(Existing)	Q(Proposed)	Existing SCARS	Additional Flows	Q (Total)	Projected dD
56304114	8	0.0208	TRUXTON AV ALLEY	522,936		D/S MH 56308048 FLOW	93,697	183,528	0		277,225	0.35
56308048	8	0.004	KITTYHAWK AV	229,323	0.3063	04/01/2013 GAUGING	93,697	183,528	0		277,225	0.56
56405041	15	0.0016	CROYDON AVE	775,319	0.4711	03/16/2021 GAUGING	700,540	183,528	446,400		1,330,468	0.71
56405059	18	0.0012	AIRPORT BLVD	1,091,845	0.3378	09/05/2017 GAUGING	538,468	183,528	734,400		1,456,396	0.6
56308007	42	0.0007	96TH ST	7,987,131	0.2571	08/10/2020 GAUGING	2,320,883	183,528	734,400		3,238,811	0.31

EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (7/13)



Wastewater Engineering Services Division
Bureau of Sanitation
City of Los Angeles

Figure 2
6136 W MANCHESTER AVE
TRUXTON AVE ALLEY ANALYSIS
Sewer Map

N
W E
S

0 125 250 500 750 1,000
Feet

EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (8/13)

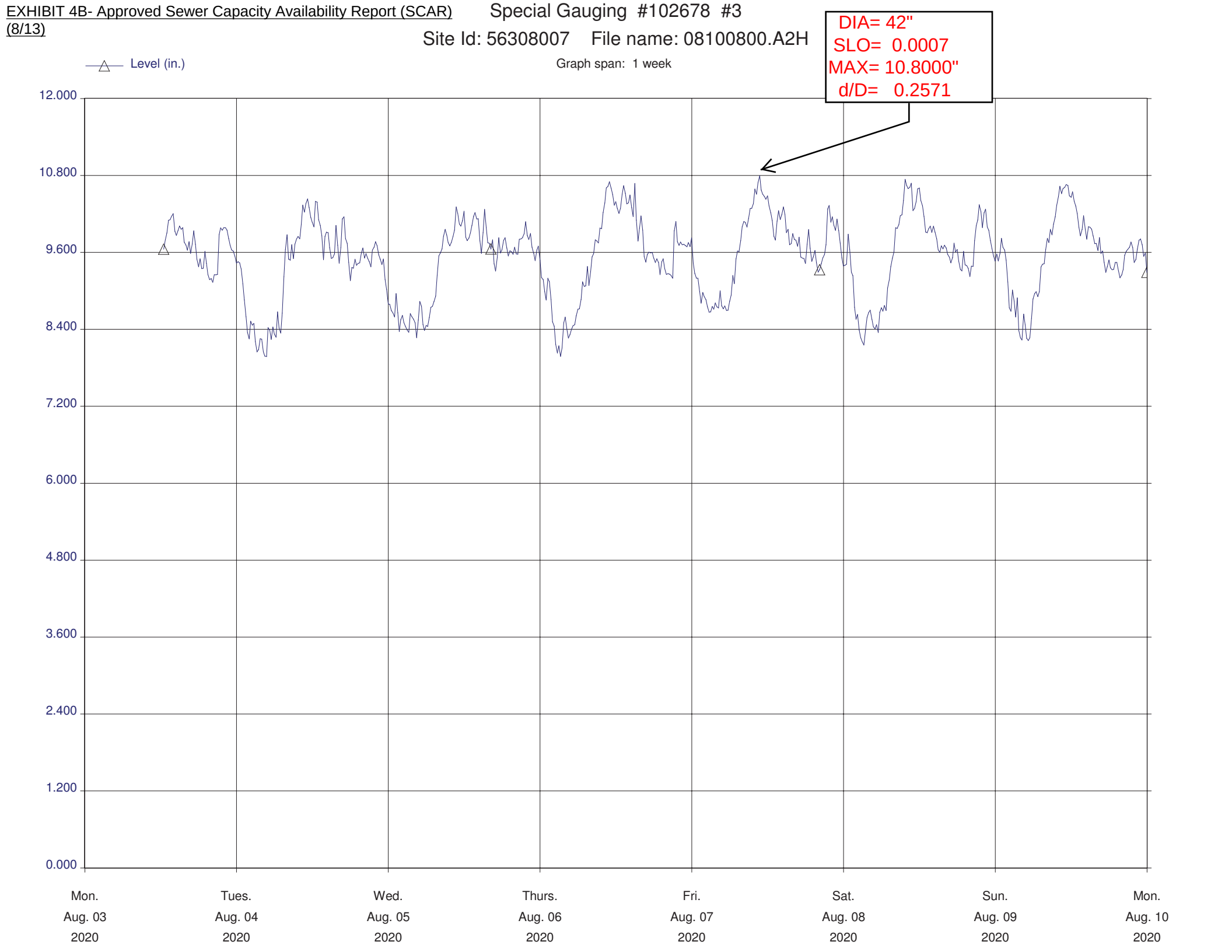


EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (9/13)

SPECIAL GAUGING 95307 (#1)

Site Id: 56308048 File name: 04011015.HQS

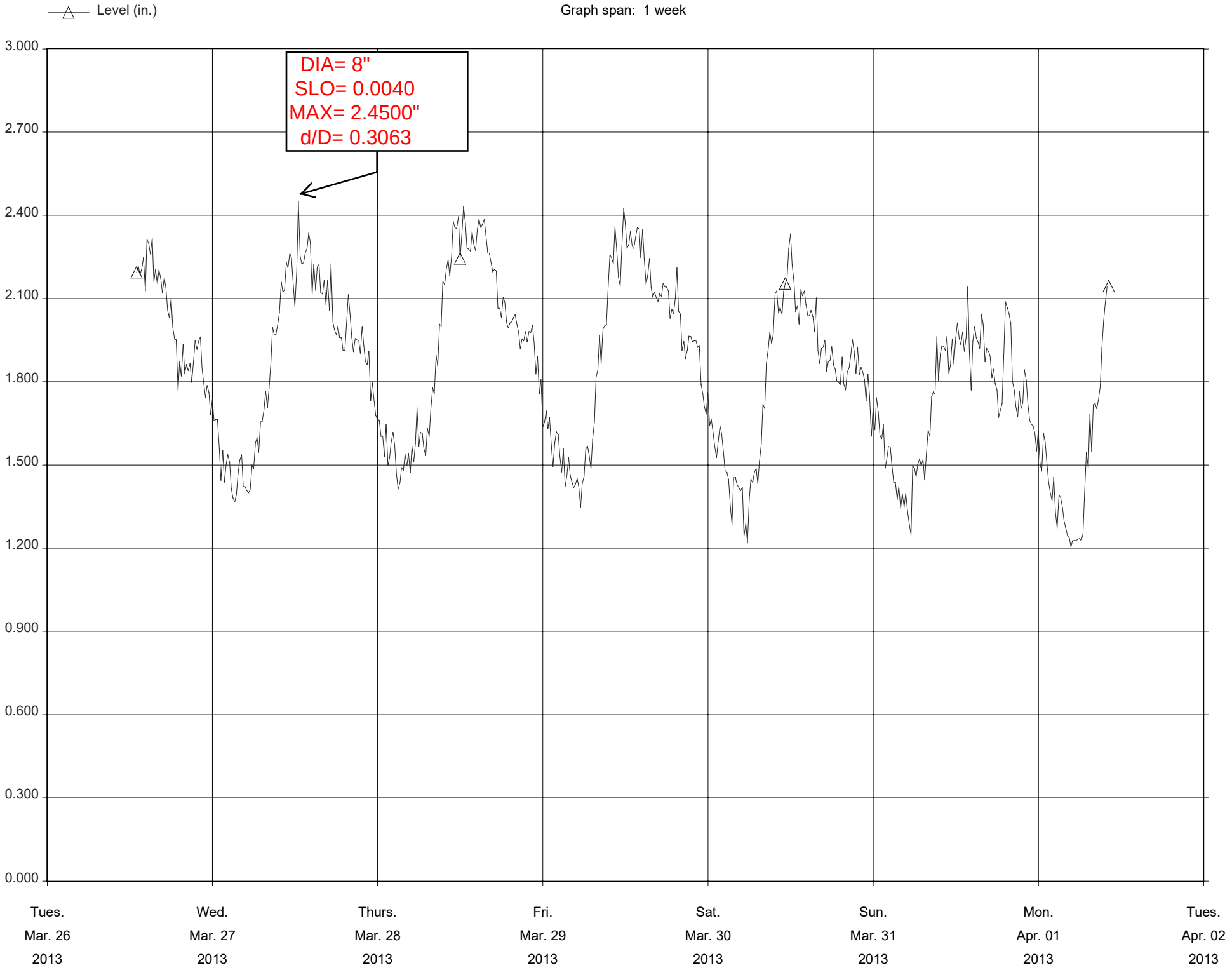


EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (10/13)

Special Gauging 103264

Site Id: 56405041 File name: 03160745.J48

Graph span: 1 week

DIA= 15"
SLO= 0.0016
MAX= 7.0667"
d/D= 0.4711

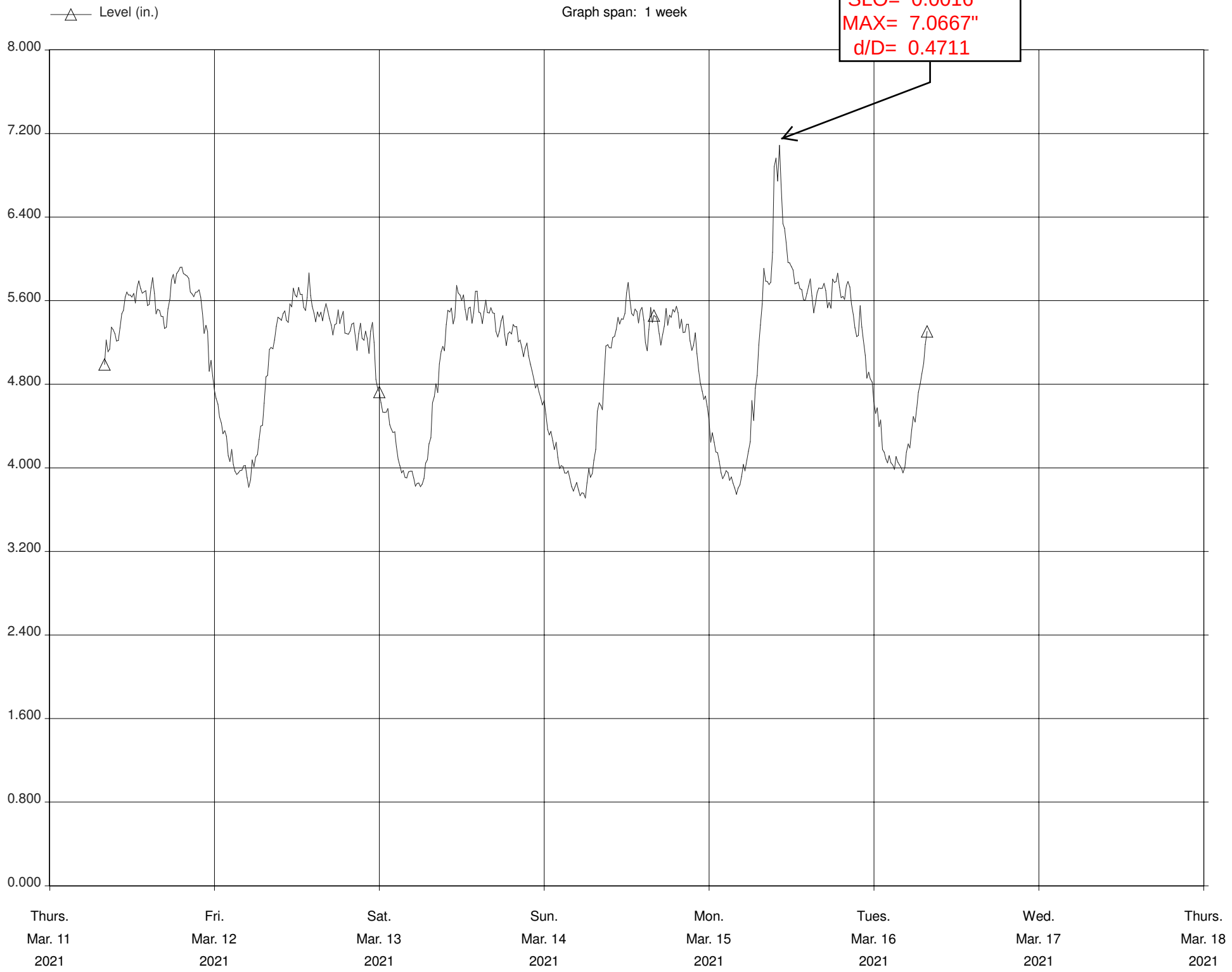
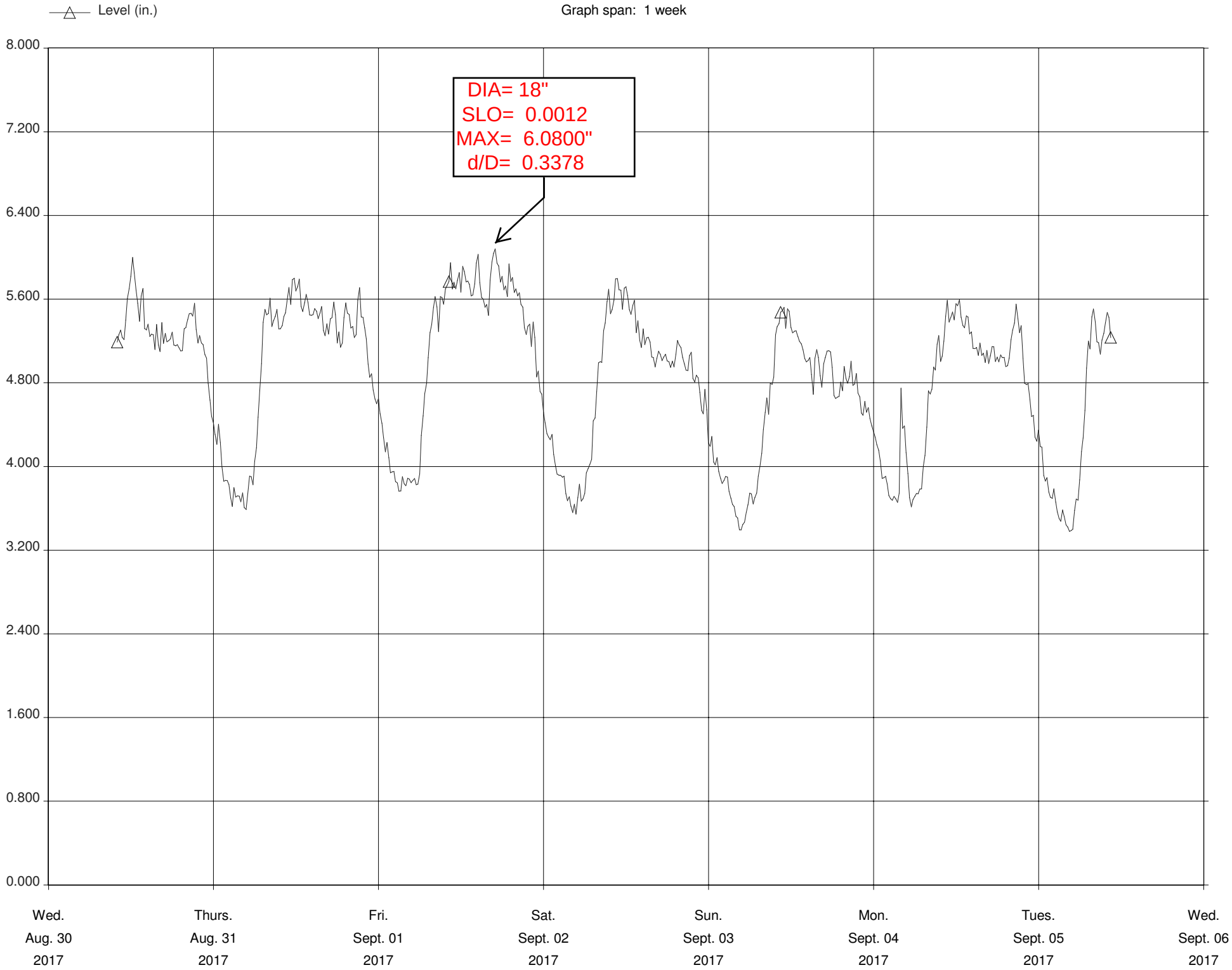


EXHIBIT 4B- Approved Sewer Capacity Availability Report (SCAR) (11/13)

Special Gauging #99595 #3

Site Id: 56405059 File name: 09051030.G35



Ricardo Avendano <ricardo.avendano@lacity.org>

70-6471-0223 6136 W MANCHESTER AVE- IWMD PERMIT REQUIRED

1 message

Ricardo Avendano <ricardo.avendano@lacity.org> Thu, Feb 23, 2023 at 12:09 PM
To: Luis Durruty <luis.durruty@lacity.org>, Jose Uy <jose.uy@lacity.org>, Crissini Sison <crissini.sison@lacity.org>, Cecile Dominguez <cecile.dominguez@lacity.org>, Julian Green <julian.green@lacity.org>, Theodore Higgins <theodore.higgins@lacity.org>
Cc: Albert Lew <albert.lew@lacity.org>

Good morning.
Please review the attached SCAR letter for IWP.
Thank you.

José Ricardo Avendaño

Bureau of Sanitation

Wastewater Engineering Services Division
Office # 323-342-6227
ricardo.avendano@lacity.org

70-6471-0223 6136 W MANCHESTER AVE - SCAR PRINT FORM.pdf
202K

Ricardo Avendano <ricardo.avendano@lacity.org>

70-6471-0223 6136 W MANCHESTER AVE - PRIMARY GROUP APPROVAL REQUIRED

1 message

Ricardo Avendano <ricardo.avendano@lacity.org> Thu, Feb 23, 2023 at 12:15 PM
To: George Pantages <george.pantages@lacity.org>
Cc: Albert Lew <albert.lew@lacity.org>

Good afternoon, George.
Please review the following project discharge for approval.

SCAR REFERENCE NUMBER: 5070
SCAR IDENTIFICATION NUMBER: 70-6471-0223
ADDRESS: 6136 W MANCHESTER AVE

Connection: PERMANENT (RESIDENTIAL APARTMENT UNITS + RESTAURANT + RETAIL AREA +LOBBY +POST OFFICE + HEALTH CLUB/SPA + LOUNGE + SWIMMING POOL)
Primary Basin: HOLLYWOOD

Proposed Flow (GPD): 183,528
Primary Sewer MH: 56405059
d/D: 0.60

COMMENTS:
1] Approved for the maximum allowable capacity of 183,528 GPD (127.45 gpm). 2] Maximum partial discharges as indicated on SCAR notes. 3] IWMD permit required.

Thanks,

José Ricardo Avendaño

Bureau of Sanitation

Wastewater Engineering Services Division
Office # 323-342-6227
ricardo.avendano@lacity.org

EXHIBIT 5

Electricity Will Serve Response Letter

EXHIBIT 5- Electricity Will Serve Response Letter

August 11, 2022

Mr. Joseph Garcia

KPFF, Inc.

700 South Flower Street, Suite 2100
Los Angeles, CA 90017

Subject: 6136 West Manchester Avenue,

Los Angeles, CA 90045, New Permanent Service

Dear Mr. Garcia:

This is in response to your submittal regarding electric service for the proposed project located at the above address.

Electric Service is available and will be provided in accordance with the Los Angeles Department of Water and Power's Rules Governing Water and Electric Service. The availability of electricity is dependent upon adequate generating capacity and adequate fuel supplies. The estimated power requirement for this proposed project is part of the total load growth forecast for the City of Los Angeles and has been taken into account in the planned growth of the City's power system.

If you have any questions regarding this matter, please contact me at (213) 556-8050.

Sincerely,

For ED

M.r.Bashiri

Eduardo Illingworth
Engineer of Customer Station Design

MRB: mrb

FileNet

EXHIBIT 6

Natural Gas Will Serve Letter

EXHIBIT 6- Natural Gas Will Serve Letter

701 N. Bullis Rd.
Compton, CA 90224-9099

August 18, 2022

Kpff
700 South Flower Street, Suite 2100
Los Angeles, CA 90017
Attn: Joseph Garcia

Subject: Will Serve - 6136 West Manchester Boulevard, Los Angeles, CA 90045

Thank you for inquiring about the availability of natural gas service for your project. We are pleased to inform you that Southern California Gas Company (SoCalGas) has facilities in the area where the above named project is being proposed. The service would be in accordance with SoCalGas' policies and extension rules on file with the California Public Utilities Commission (CPUC) at the time contractual arrangements are made.

This letter should not be considered a contractual commitment to serve the proposed project, and is only provided for informational purposes only. The availability of natural gas service is based upon natural gas supply conditions and is subject to changes in law or regulation. As a public utility, SoCalGas is under the jurisdiction of the Commission and certain federal regulatory agencies, and gas service will be provided in accordance with the rules and regulations in effect at the time service is provided. Natural gas service is also subject to environmental regulations, which could affect the construction of a main or service line extension (for example, if hazardous wastes were encountered in the process of installing the line). Applicable regulations will be determined once a contract with SoCalGas is executed.

If you need assistance choosing the appropriate gas equipment for your project, or would like to discuss the most effective applications of energy efficiency techniques, please contact our area Service Center at 800-427-2200.

Thank you again for choosing clean, reliable, and safe natural gas, your best energy value.

Sincerely,

J.Sum

Jason Sum
Planning Associate
SoCalGas - Compton HQ

EXHIBIT 7

LASAN Sewage Generation Factor Table

EXHIBIT 7- LASAN Sewage Generation Factor Table (1/10)

SEWERAGE FACILITIES CHARGE
SEWAGE GENERATION FACTOR FOR
RESIDENTIAL AND COMMERCIAL CATEGORIES

EFFECTIVE DATE: April 6, 2012

Line No.	FACILITY DESCRIPTION	PROPOSED SGF IN GPD	BOD (mg/l)	SS (mg/l)
1	Acupuncture Office/Clinic	120/1,000 Gr SF	265	275
2	Arcade - Video Games	50/1,000 Gr SF	265	275
3	Auditorium (a)	3/Seat	265	275
4	Auto Parking (a)	20/1,000 Gr SF	265	275
5	Auto Mfg., Service Maintenance (b)	Actual	1,260	1,165
6	Bakery	280/1,000 Gr SF	3,020	2,540
7	Bank: Headquarters	120/1,000 Gr SF	265	275
8	Bank: Branch	50/1,000 Gr SF	265	275
9	Ballroom	350/1,000 Gr SF	265	275
10	Banquet Room	350/1,000 Gr SF	265	275
11	Bar: Cocktail, Fixed Set (a) (c)	15/Seat	265	275
12	Bar: Juice, No Baking Facilities (d)	720/1,000 Gr SF	265	275
13	Bar: Juice, with Baking Facilities (d)	720/1,000 Gr SF	265	275
14	Bar: Cocktail, Public Table Area (c)	720/1,000 Gr SF	265	275
15	Barber Shop	120/1,000 Gr SF	265	275
16	Barber Shop (s)	15/Stall	265	275
17	Beauty Parlor	425/1,000 Gr SF	265	275
18	Beauty Parlor (s)	50/Stall	265	275
19	Bldg. Const/Field Office (e)	120/Office	265	275
20	Bowling Alley: Alley, Lanes & Lobby Area	50/1,000 Gr SF	265	275
21	Bowling Facility: Arcade/Bar/Restaurant/Dancing	Total	Average	Average
22	Cafeteria: Fixed Seat	30/Seat	1,000	600
23	Car Wash: Automatic (b)	Actual	265	285
24	Car Wash: Coin Operated Bays (b)	Actual	265	285
25	Car Wash: Hand Wash (b)	Actual	265	285
26	Car Wash: Counter & Sales Area	50/1,000 Gr SF	265	275
27	Chapel: Fixed Seat	3/Seat	265	275
28	Chiropractic Office	120/1,000 Gr SF	265	275
29	Church: Fixed Seat	3/Seat	265	275
30	Church School: Day Care/Elem	9/Occupant	265	275
31	Church School: One Day Use (s)	9/Occupant	265	275
32	Cocktail Lounge: Fixed Seat (f)	15/Seat	265	275
33	Coffee House: No Food Preparation (d)	720/1,000 Gr SF	265	275
34	Coffee House: Pastry Baking Only (d)	720/1,000 Gr SF	265	275
35	Coffee House: Serves Prepared Food (d)	25/Seat	1,000	600
36	Cold Storage: No Sales (g)	30/1,000 Gr SF	265	275
37	Cold Storage: Retail Sales (g)	50/1,000 Gr SF	265	275
38	Comfort Station: Public	80/Fixture	265	275
39	Commercial Use (a)	50/1,000 Gr SF	265	275

EXHIBIT 7- LASAN Sewage Generation Factor Table (2/10)

SEWERAGE FACILITIES CHARGE
SEWAGE GENERATION FACTOR FOR
RESIDENTIAL AND COMMERCIAL CATEGORIES

EFFECTIVE DATE: April 6, 2012

Line No.	FACILITY DESCRIPTION	PROPOSED SGF IN GPD	BOD (mg/l)	SS (mg/l)
40	Community Center	3/Occupant	265	275
41	Conference Room of Office Bldg.	120/1,000 Gr SF	265	275
42	Counseling Center (h)	120/1,000 Gr SF	265	275
43	Credit Union	120/1,000 Gr SF	265	275
44	Dairy	Average Flow	1,510	325
45	Dairy: Barn	Average Flow	1,510	325
46	Dairy: Retail Area	50/1,000 Gr SF	265	275
47	Dancing Area (of Bars or Nightclub) (c)	350/1,000 Gr SF	265	275
48	Dance Studio (i)	50/1,000 Gr SF	265	275
49	Dental Office/Clinic	250/1,000 Gr SF	265	275
50	Doughnut Shop	280/1,000 Gr SF	1,000	600
51	Drug Rehabilitation Center (h)	120/1,000 Gr SF	265	275
52	Equipment Booth	30/1,000 Gr SF	265	275
53	Film Processing (Retail)	50/1,000 Gr SF	265	275
54	Film Processing (Industrial)	Actual	265	275
55	Food Processing Plant (b)	Actual	2,210	1,450
56	Gas Station: Self Service	100/W.C.	265	275
57	Gas Station: Four Bays Max	430/Station	1,950	1,175
58	Golf Course Facility: Lobby/Office/Restaurant/Bar	Total	700	450
59	Gymnasium: Basketball, Volleyball (k)	200/1,000 Gr SF	265	275
60	Hanger (Aircraft)	50/1,000 Gr SF	265	275
61	Health Club/Spa (k)	650/1,000 Gr SF	265	275
62	Homeless Shelter	70/Bed	265	275
63	Hospital	70/Bed	820	1,230
64	Hospital: Convalescent (a)	70/Bed	265	275
65	Hospital: Animal	300/1,000 Gr SF	820	1,230
66	Hospital: Psychiatric	70/Bed	265	275
67	Hospital: Surgical (a)	360/Bed	265	275
68	Hotel: Use Guest Rooms Only (a)	120/Room	265	275
69	Jail	85/Inmate	265	275
70	Kennel: Dog Kennel/Open	100/1,000 Gr SF	265	275
71	Laboratory: Commercial	250/1,000 Gr SF	265	275
72	Laboratory: Industrial	Actual	265	275
73	Laundromat	185/Machine	550	370
74	Library: Public Area	50/1,000 Gr SF	265	275
75	Library: Stacks, Storage	30/1,000 Gr SF	265	275
76	Lobby of Retail Area (l)	50/1,000 Gr SF	265	275
77	Lodge Hall	3/Seat	265	275
78	Lounge (l)	50/1,000 Gr SF	265	275

EXHIBIT 7- LASAN Sewage Generation Factor Table (3/10)

SEWERAGE FACILITIES CHARGE
SEWAGE GENERATION FACTOR FOR
RESIDENTIAL AND COMMERCIAL CATEGORIES

EFFECTIVE DATE: April 6, 2012

Line No.	FACILITY DESCRIPTION	PROPOSED SGF IN GPD	BOD (mg/l)	SS (mg/l)
79	Machine Shop (No Industrial Waste Permit Required) (b)	50/1,000 Gr SF	265	275
80	Machine Shop (Industrial)	Actual	265	275
81	Mfg or Industrial Facility (No IW Permit Required) (b)	50/1,000 Gr SF	265	275
82	Mfg or Industrial Facility (Industrial)	Actual	265	275
83	Massage Parlor	250/1,000 Gr SF	265	275
84	Medical Building (a)	225/1,000 Gr SF	265	275
85	Medical: Lab in Hospital	250/1,000 Gr SF	340	275
86	Medical Office/Clinic	250/1,000 Gr SF	265	275
87	Mini-Mall (No Food)	50/1,000 Gr SF	265	275
88	Mortuary: Chapel	3/Seat	265	275
89	Mortuary: Embalming	300/1,000 Gr SF	800	800
90	Mortuary: Living Area	50/1,000 Gr SF	265	275
91	Motel: Use Guest Room Only (a)	120/Room	265	275
92	Museum: All Area	30/1,000 Gr SF	265	275
93	Museum: Office Over 15%	120/1,000 Gr SF	265	275
94	Museum: Sales Area	50/1,000 Gr SF	265	275
95	Office Building (a)	120/1,000 Gr SF	265	275
96	Office Bldg w/Cooling Tower	170/1,000 Gr SF	265	275
97	Plating Plant (No IW Permit Required) (b)	50/1,000 Gr SF	265	275
98	Plating Plant (Industrial) (b)	Actual	265	275
99	Pool Hall (No Alcohol)	50/1,000 Gr SF	265	275
100	Post Office: Full Service (m)	120/1,000 Gr SF	265	275
101	Post Office: Private Mail Box Rental	50/1,000 Gr SF	265	275
102	Prisons	175/Inmate	265	275
103	Residential Dorm: College or Residential (n)	70/Student	265	275
104	Residential: Boarding House	70/Bed	265	275
105	Residential: Apt - Bachelor (a)	75/DU	265	275
106	Residential: Apt - 1 BDR (a) (o)	110/DU	265	275
107	Residential: Apt - 2 BDR (a) (o)	150/DU	265	275
108	Residential: Apt - 3 BDR (a) (o)	190/DU	265	275
109	Residential: Apt - >3 BDR (o)	40/BDR	265	275
110	Residential: Condo - 1 BDR (o)	110/DU	265	275
111	Residential: Condo - 2 BDR (o)	150/DU	265	275
112	Residential: Condo - 3 BDR (o)	190/DU	265	275
113	Residential: Condo - >3 BDR (o)	40/BDR	265	275
114	Residential: Duplex/Townhouse - 1 BR (o)	110/DU	265	275
115	Residential: Duplex/Townhouse - 2 BR (o)	150/DU	265	275
116	Residential: Duplex/Townhouse - 3 BR (o)	190/DU	265	275
117	Residential: Duplex/Townhouse - >3 BR (o)	40/BDR	265	275

EXHIBIT 7- LASAN Sewage Generation Factor Table (4/10)

SEWERAGE FACILITIES CHARGE
SEWAGE GENERATION FACTOR FOR
RESIDENTIAL AND COMMERCIAL CATEGORIES

EFFECTIVE DATE: April 6, 2012

Line No.	FACILITY DESCRIPTION	PROPOSED SGF IN GPD	BOD (mg/l)	SS (mg/l)
118	Residential: SFD - 1 BR (o)	140/DU	265	275
119	Residential: SFD - 2 BR (o)	185/DU	265	275
120	Residential: SFD - 3 BR (o)	230/DU	265	275
121	Residential: SFD - >3 BR (o)	45/BDR	265	275
122	Residential Room Addition: Bedroom (o)	45/BDR	265	275
123	Residential Room Conversion: Into a Bedroom (o)	45/BDR	265	275
124	Residential: Mobile Home	Same as Apt	265	275
125	Residential: Artist (2/3 Area)	75/DU	265	275
126	Residential: Artist Residence	75/DU	265	275
127	Residential: Guest Home w/ Kitchen	Same as Apt	265	275
128	Residential: Guest Home w/o Kitchen	45/BDR	265	275
129	Rest Home	70/Bed	555	490
130	Restaurant: Drive-In	50/Stall	1000	600
131	Restaurant: Drive-In Seating Area	25/Seat	1000	600
132	Restaurant: Fast Food Indoor Seat	25/Seat	1000	600
133	Restaurant: Fast Food Outdoor Seat	25/Seat	1000	600
134	Restaurant: Full Service Indoor Seat (a)	30/Seat	1000	600
135	Restaurant: Full Service Outdoor Seat	30/Seat	1000	600
136	Restaurant: Take Out	300/1,000 Gr SF	1000	600
137	Retail Area (greater than 100,000 SF)	50/1,000 Gr SF	265	275
138	Retail Area (less than 100,000 SF)	25/1,000 Gr SF	265	275
139	Rifle Range: Shooting Stalls/Lanes, Lobby	50/1,000 Gr SF	265	275
140	Rifle Range Facility: Bar/Restaurant	Total	Average	Average
141	School: Arts/Dancing/Music (i)	11/Student	265	275
142	School: Elementary/Jr. High (a) (p)	9/Student	265	275
143	School: High School (a) (p)	11/Student	265	275
144	School: Kindergarten (s)	9/Student	265	275
145	School: Martial Arts (i)	9/Student	265	275
146	School: Nursery-Day Care (p)	9/Child	265	275
147	School: Special Class (p)	9/Student	265	275
148	School: Trade or Vocational (p)	11/Student	265	275
149	School: Training (p)	11/Student	265	275
150	School: University/College (a) (p)	16/Student	265	275
151	School: Dormitory (a) (n)	70/Student	265	275
152	School: Stadium, Pavilion	3/Seat	265	275
153	Spa/Jacuzzi (Commercial with backwash filters)	Total	265	275
154	Storage: Building/Warehouse	30/1,000 Gr SF	265	275
155	Storage: Self-Storage Bldg	30/1,000 Gr SF	265	275
156	Store: Ice Cream/Yogurt	25/1,000 Gr SF	1000	600

EXHIBIT 7- LASAN Sewage Generation Factor Table (5/10)

SEWERAGE FACILITIES CHARGE
SEWAGE GENERATION FACTOR FOR
RESIDENTIAL AND COMMERCIAL CATEGORIES

EFFECTIVE DATE: April 6, 2012

Line No.	FACILITY DESCRIPTION	PROPOSED SGF IN GPD	BOD (mg/l)	SS (mg/l)
157	Store: Retail (l)	50/1,000 Gr SF	265	275
158	Studio: Film/TV - Audience Viewing Room (q)	3/Seat	265	275
159	Studio: Film/TV - Regular Use Indoor Filming Area (q)	50/1,000 Gr SF	265	275
160	Studio: Film/TV - Ind. Use Film Process/Machine Shop (q)	50/1,000 Gr SF	265	275
161	Studio: Film/TV - Ind. Use Film Process/Machine Shop	Total	265	275
162	Studio: Recording	50/1,000 Gr SF	265	275
163	Swimming Pool (Commercial with backwash filters)	Total	265	275
164	Tanning Salon: Independent, No Shower (r)	50/1,000 Gr SF	265	275
165	Tanning Salon: Within a Health Spa/Club	640/1,000 Gr SF	265	275
166	Theater: Drive-In	6/Vehicle	265	275
167	Theater: Live/Music/Opera	3/Seat	265	275
168	Theater: Cinema	3/Seat	265	275
169	Tract: Commercial/Residential	1/Acre	265	275
170	Trailer: Const/Field Office (e)	120/Office	265	275
171	Veterinary Clinic/Office	250/1,000 Gr SF	265	275
172	Warehouse	30/1,000 Gr SF	265	275
173	Warehouse w/ Office	Total	265	275
174	Waste Dump: Recreational	400/Station	2650	2750
175	Wine Tasting Room: Kitchen	200/1,000 Gr SF	265	275
176	Wine Tasting Room: All Area	50/1,000 Gr SF	265	275

EXHIBIT 7- LASAN Sewage Generation Factor Table (6/10)

SEWERAGE FACILITIES CHARGE GUIDE
RESIDENTIAL AND COMMERCIAL CATEGORIES

(GR.SQ.FT.) = Gross Square Feet: area included within the exterior of the surrounding walls of a building excluding court.

EFFECTIVE DATE: April 6, 2012

Line No.	**FACILITY DESCRIPTION**	**FEE RATE**
1	Acupuncture Office/Clinic	$495/1000 GR.SQ.FT.
2	Arcade - Video Games	$206/1000 GR.SQ.FT.
3	Auditorium (a)	$12/SEAT
4	Auto Parking (a)	$83/1000 GR.SQ.FT.
5	Auto Mfg., Service Maintenance (b)	Actual
6	Bakery	$2956/1000 GR.SQ.FT.
7	Bank: Headquarters	$495/1000 GR.SQ.FT.
8	Bank: Branch	$206/1000 GR.SQ.FT.
9	Ballroom	$1445/1000 GR.SQ.FT.
10	Banquet Room	$1445/1000 GR.SQ.FT.
11	Bar: Cocktail, Fixed Seat (a) (c)	$62/SEAT
12	Bar: Juice, No Baking Facilities (d)	$2973/1000 GR.SQ.FT.
13	Bar: Juice, with Baking Facilities (d)	$2973/1000 GR.SQ.FT.
14	Bar: Cocktail, Public Table Area (c)	$2973/1000 GR.SQ.FT.
15	Barber Shop	$495/1000 GR.SQ.FT.
16	Barber Shop (s)	$62/STALL.
17	Beauty Parlor	$1755/1000 GR.SQ.FT.
18	Beauty Parlor (s)	$206/STALL.
19	Bldg. Const/Field Office (e)	$495/OFFICE
20	Bowling Alley: Alley, Lanes & Lobby Area	$206/1000 GR.SQ.FT.
21	Bowling Facility: Arcade/Bar/Restaurant/Dancing	Total
22	Cafeteria: Fixed Seat	$165/SEAT
23	Car Wash: Automatic (b)	Actual
24	Car Wash: Coin Operated Bays (b)	Actual
25	Car Wash: Hand Wash (b)	Actual
26	Car Wash: Counter & Sales Area	$206/1000 GR.SQ.FT.
27	Chapel: Fixed Seat	$12/SEAT
28	Chiropractic Office	$495/1000 GR.SQ.FT.
29	Church: Fixed Seat	$12/SEAT
30	Church School: Day Care/Elem	$37/OCCUPANT
31	Church School: One Day Use (s)	$37/OCCUPANT
32	Cocktail Lounge: Fixed Seat (f)	$62/SEAT
33	Coffee House: No Food Preparation (d)	$2973/1000 GR.SQ.FT.
34	Coffee House: Pastry Baking Only (d)	$2973/1000 GR.SQ.FT.
35	Coffee House: Serves Prepared Food (d)	$138/SEAT
36	Cold Storage: No Sales (g)	$124/1000 GR.SQ.FT.
37	Cold Storage: Retail Sales (g)	$206/1000 GR.SQ.FT.

EXHIBIT 7- LASAN Sewage Generation Factor Table (7/10)

SEWERAGE FACILITIES CHARGE GUIDE
RESIDENTIAL AND COMMERCIAL CATEGORIES

(GR.SQ.FT.) = Gross Square Feet: area included within the exterior of the surrounding walls of a building excluding court.

EFFECTIVE DATE: April 6, 2012

38	Comfort Station: Public	$330/FIXTURE
39	Commercial Use (a)	$206/1000 GR.SQ.FT.
40	Community Center	$12/OCCUPANT
41	Conference Room of Office Bldg.	$495/1000 GR.SQ.FT.
42	Counseling Center (h)	$495/1000 GR.SQ.FT.
43	Credit Union	$495/1000 GR.SQ.FT.
44	Dairy	Average Flow
45	Dairy: Barn	Average Flow
46	Dairy: Retail Area	$206/1000 GR.SQ.FT.
47	Dancing Area (of Bars or Nightclub) (c)	$1445/1000 GR.SQ.FT.
48	Dance Studio (i)	$206/1000 GR.SQ.FT.
49	Dental Office/Clinic	$1032/1000 GR.SQ.FT.
50	Doughnut Shop	$1540/1000 GR.SQ.FT.
51	Drug Rehabilitation Center (h)	$495/1000 GR.SQ.FT.
52	Equipment Booth	$124/1000 GR.SQ.FT.
53	Film Processing (Retail)	$206/1000 GR.SQ.FT.
54	Film Processing (Industrial)	Actual
55	Food Processing Plant (b)	Actual
56	Gas Station: Self Service	$413/W.C.
57	Gas Station: Four Bays Max	$3211/STATION
58	Golf Course Facility: Lobby/Office/Restaurant/Bar	Total
59	Gymnasium: Basketball, Volleyball (k)	$826/1000 GR.SQ.FT.
60	Hanger (Aircraft)	$206/1000 GR.SQ.FT.
61	Health Club/Spa (k)	$2684/1000 GR.SQ.FT.
62	Homeless Shelter	$289/BED
63	Hospital	$422/BED
64	Hospital: Convalescent (a)	$289/BED
65	Hospital: Animal	$1811/1000 GR.SQ.FT.
66	Hospital: Psychiatric	$289/BED
67	Hospital: Surgical (a)	$1486/BED
68	Hotel: Use Guest Rooms Only (a)	$495/ROOM
69	Jail	$351/INMATE
70	Kennel: Dog Kennel/Open	$413/1000 GR.SQ.FT.
71	Laboratory: Commercial	$1032/1000 GR.SQ.FT.
72	Laboratory: Industrial	Actual
73	Laundromat	$855/MACHINE
74	Library: Public Area	$206/1000 GR.SQ.FT.
75	Library: Stacks, Storage	$124/1000 GR.SQ.FT.
76	Lobby of Retail Area (l)	$206/1000 GR.SQ.FT.

EXHIBIT 7- LASAN Sewage Generation Factor Table (8/10)

SEWERAGE FACILITIES CHARGE GUIDE
RESIDENTIAL AND COMMERCIAL CATEGORIES

(GR.SQ.FT.) = Gross Square Feet: area included within the exterior of the surrounding walls of a building excluding court.

EFFECTIVE DATE: April 6, 2012

77	Lodge Hall	$12/SEAT
78	Lounge (l)	$206/1000 GR.SQ.FT.
79	Machine Shop (No Industrial Waste Permit Required) (b)	$206/1000 GR.SQ.FT.
80	Machine Shop (Industrial)	Actual
81	Mfg or Industrial Facility (No IW Permit Required) (b)	$206/1000 GR.SQ.FT.
82	Mfg or Industrial Facility (Industrial)	Actual
83	Massage Parlor	$1032/1000 GR.SQ.FT.
84	Medical Building (a)	$929/1000 GR.SQ.FT.
85	Medical: Lab in Hospital	$1057/1000 GR.SQ.FT.
86	Medical Office/Clinic	$1032/1000 GR.SQ.FT.
87	Mini-Mall (No Food)	$206/1000 GR.SQ.FT.
88	Mortuary: Chapel	$12/SEAT
89	Mortuary: Embalming	$1644/1000 GR.SQ.FT.
90	Mortuary: Living Area	$206/1000 GR.SQ.FT.
91	Motel: Use Guest Room Only (a)	$495/ROOM
92	Museum: All Area	$124/1000 GR.SQ.FT.
93	Museum: Office Over 15%	$495/1000 GR.SQ.FT.
94	Museum: Sales Area	$206/1000 GR.SQ.FT.
95	Office Building (a)	$495/1000 GR.SQ.FT.
96	Office Bldg w/Cooling Tower	$702/1000 GR.SQ.FT.
97	Plating Plant (No IW Permit Required) (b)	$206/1000 GR.SQ.FT.
98	Plating Plant (Industrial) (b)	Actual
99	Pool Hall (No Alcohol)	$206/1000 GR.SQ.FT.
100	Post Office: Full Service (m)	$495/1000 GR.SQ.FT.
101	Post Office: Private Mail Box Rental	$206/1000 GR.SQ.FT.
102	Prisons	$722/INMATE
103	Residential Dorm: College or Residential (n)	$289/STUDENT
104	Residential: Boarding House	$289/BED
105	Residential: Apt - Bachelor (a)	$310/DU
106	Residential: Apt - 1 BDR (a) (o)	$454/DU
107	Residential: Apt - 2 BDR (a) (o)	$619/DU
108	Residential: Apt - 3 BDR (a) (o)	$784/DU
109	Residential: Apt - >3 BDR (o)	$165 PER ADDITIONAL BEDROOM
110	Residential: Condo - 1 BDR (o)	$454/DU
111	Residential: Condo - 2 BDR (o)	$619/DU
112	Residential: Condo - 3 BDR (o)	$784/DU
113	Residential: Condo - >3 BDR (o)	$165 PER ADDITIONAL BEDROOM
114	Residential: Duplex/Townhouse - 1 BR (o)	$454/DU
115	Residential: Duplex/Townhouse - 2 BR (o)	$619/DU

EXHIBIT 7- LASAN Sewage Generation Factor Table (9/10)

SEWERAGE FACILITIES CHARGE GUIDE
RESIDENTIAL AND COMMERCIAL CATEGORIES

(GR.SQ.FT.) = Gross Square Feet: area included within the exterior of the surrounding walls of a building excluding court.

EFFECTIVE DATE: April 6, 2012

116	Residential: Duplex/Townhouse - 3 BR (o)	$784/DU
117	Residential: Duplex/Townhouse - >3 BR (o)	$165 PER ADDITIONAL BEDROOM
118	Residential: SFD - 1 BR (o)	$578/DU
119	Residential: SFD - 2 BR (o)	$764/DU
120	Residential: SFD - 3 BR (o)	$950/DU
121	Residential: SFD - >3 BR (o)	$186/BDR
122	Residential Room Addition: Bedroom (o)	$186/BDR
123	Residential Room Conversion: Into a Bedroom (o)	$186/BDR
124	Residential: Mobile Home	Same as Apt
125	Residential: Artist (2/3 Area)	$310/DU
126	Residential: Artist Residence	$310/DU
127	Residential: Guest Home w/ Kitchen	Same as Apt
128	Residential: Guest Home w/o Kitchen	$186/BDR
129	Rest Home	$334/BED
130	Restaurant: Drive-In	$275/STALL
131	Restaurant: Drive-In Seating Area	$138/SEAT
132	Restaurant: Fast Food Indoor Seat	$138/SEAT
133	Restaurant: Fast Food Outdoor Seat	$138/SEAT
134	Restaurant: Full Service Indoor Seat (a)	$165/SEAT
135	Restaurant: Full Service Outdoor Seat	$165/SEAT
136	Restaurant: Take Out	$1650/1000 GR.SQ.FT.
137	Retail Area (greater than 100,000 SF)	$206/1000 GR.SQ.FT.
138	Retail Area (less than 100,000 SF)	$103/1000 GR.SQ.FT.
139	Rifle Range: Shooting Stalls/Lanes, Lobby	$206/1000 GR.SQ.FT.
140	Rifle Range Facility: Bar/Restaurant	Total
141	School: Arts/Dancing/Music (i)	$45/1000 GR.SQ.FT.
142	School: Elementary/Jr. High (a) (p)	$37/STUDENT
143	School: High School (a) (p)	$45/STUDENT
144	School: Kindergarten (s)	$37/STUDENT
145	School: Martial Arts (i)	$37/STUDENT
146	School: Nursery-Day Care (p)	$37/CHILD
147	School: Special Class (p)	$37/STUDENT
148	School: Trade or Vocational (p)	$45/STUDENT
149	School: Training (p)	$45/STUDENT
150	School: University/College (a) (p)	$66/STUDENT
151	School: Dormitory (a) (n)	$289/STUDENT
152	School: Stadium, Pavilion	$12/SEAT
153	Spa/Jacuzzi (Commercial with backwash filters)	Total
154	Storage: Building/Warehouse	$124/1000 GR.SQ.FT.

EXHIBIT 7- LASAN Sewage Generation Factor Table (10/10)

SEWERAGE FACILITIES CHARGE GUIDE
RESIDENTIAL AND COMMERCIAL CATEGORIES

(GR.SQ.FT.) = Gross Square Feet: area included within the exterior of the surrounding walls of a building excluding court.

EFFECTIVE DATE: April 6, 2012

155	Storage: Self-Storage Bldg	$124/1000 GR.SQ.FT.
156	Store: Ice Cream/Yogurt	$138/1000 GR.SQ.FT.
157	Store: Retail (l)	$206/1000 GR.SQ.FT.
158	Studio: Film/TV - Audience Viewing Room (q)	$12/SEAT
159	Studio: Film/TV - Regular Use Indoor Filming Area (q)	$206/1000 GR.SQ.FT.
160	Studio: Film/TV - Ind. Use Film Process/Machine Shop (q)	$206/1000 GR.SQ.FT.
161	Studio: Film/TV - Ind. Use Film Process/Machine Shop	Total
162	Studio: Recording	$206/1000 GR.SQ.FT.
163	Swimming Pool (Commercial with backwash filters)	Total
164	Tanning Salon: Independent, No Shower (r)	$206/1000 GR.SQ.FT.
165	Tanning Salon: Within a Health Spa/Club	$2642/1000 GR.SQ.FT.
166	Theater: Drive-In	$25/VEHICLE
167	Theater: Live/Music/Opera	$12/SEAT
168	Theater: Cinema	$12/SEAT
169	Tract: Commercial/Residential	$4/ACRE
170	Trailer: Const/Field Office (e)	$495/OFFICE
171	Veterinary Clinic/Office	$1032/1000 GR.SQ.FT.
172	Warehouse	$124/1000 GR.SQ.FT.
173	Warehouse w/ Office	Total
174	Waste Dump: Recreational	$4130/STATION
175	Wine Tasting Room: Kitchen	$826/1000 GR.SQ.FT.
176	Wine Tasting Room: All Area	$206/1000 GR.SQ.FT.

EXHIBIT 8

Pool Water Efficient Landscape Worksheet

EXHIBIT 8

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) 50.1

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq, ft,)	ETAF x Area	Estimated Total Water Use (ETWU)[e]	Daily ETWU
Regular Landscape Areas								
POOL	1	NA	1	1	2,220	2,220	68,958	189
				Totals	0 2,220	0 2,220	68,958	189
Special Landscape Areas								
				1				
				1				
				1				
				Totals	0 (C)	0 (D)		
						ETWU Total	68,958	
						Maximum Allowed Water Allowance (MAWA)[e]	68,958	189

[a] ***Hydrozone #/Planting Description***
E.g
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b] ***Irrigation Method***
overhead spray or drip

[c] ***Irrigation Efficiency***
0.75 for spray head
0.81 for drip

[d] ***ETWU*** **(Annual Gallons Required) =**
Eto x 0.62 x ETAF x Area
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e] ***MAWA (Annual Gallons Allowed) = (****Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

gallon/sf/year * (1year/365days) = gallon/sf/day

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	(B)	2,220
Total Area	(A)	2,220
Average ETAF	**B ÷ A**	1

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)	2,220
Total Area	(A+C)	2,220
Sitewide ETAF	**(B+D) ÷ (A+C)**	1

EXHIBIT 9

FlowMaster Calculations for Sewer Pipe Capacities

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley South of Manchester Ave. (1/16)

First Alley South of Manchester Ave. Current Discharge

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.09120	ft/ft
Diameter	8.00	in
Discharge	1577.00	gal/day

Results

Normal Depth	0.17	in
Flow Area	0.00	ft²
Wetted Perimeter	0.20	ft
Hydraulic Radius	0.11	in
Top Width	0.19	ft
Critical Depth	0.02	ft
Percent Full	2.2	%
Critical Slope	0.01399	ft/ft
Velocity	1.30	ft/s
Velocity Head	0.03	ft
Specific Energy	0.04	ft
Froude Number	2.33	
Maximum Discharge	3.40	ft³/s
Discharge Full	3.16	ft³/s
Slope Full	0.00000	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	2.17	%
Downstream Velocity	Infinity	ft/s

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley South of Manchester Ave. (2/16)

First Alley South of Manchester Ave. Current Discharge

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.17	in
Critical Depth	0.02	ft
Channel Slope	0.09120	ft/ft
Critical Slope	0.01399	ft/ft

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley South of Manchester Ave. (3/16)

First Alley South of Manchester Ave. 50% Capacity

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.09120	ft/ft
Normal Depth	4.00	in
Diameter	8.00	in

Results

Discharge	1022013.56	gal/day
Flow Area	0.17	ft²
Wetted Perimeter	1.05	ft
Hydraulic Radius	2.00	in
Top Width	0.67	ft
Critical Depth	0.58	ft
Percent Full	50.0	%
Critical Slope	0.02061	ft/ft
Velocity	9.06	ft/s
Velocity Head	1.28	ft
Specific Energy	1.61	ft
Froude Number	3.12	
Maximum Discharge	3.40	ft³/s
Discharge Full	3.16	ft³/s
Slope Full	0.02280	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	50.00	%
Downstream Velocity	Infinity	ft/s

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley South of Manchester Ave. (4/16)

First Alley South of Manchester Ave. 50% Capacity

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	4.00	in
Critical Depth	0.58	ft
Channel Slope	0.09120	ft/ft
Critical Slope	0.02061	ft/ft

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley South of Manchester Ave. (5/16)

First Alley South of Manchester Ave. 75% Capacity

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.09120	ft/ft
Normal Depth	6.00	in
Diameter	8.00	in

Results

Discharge	1863902.72	gal/day
Flow Area	0.28	ft²
Wetted Perimeter	1.40	ft
Hydraulic Radius	2.41	in
Top Width	0.58	ft
Critical Depth	0.66	ft
Percent Full	75.0	%
Critical Slope	0.06869	ft/ft
Velocity	10.27	ft/s
Velocity Head	1.64	ft
Specific Energy	2.14	ft
Froude Number	2.60	
Maximum Discharge	3.40	ft³/s
Discharge Full	3.16	ft³/s
Slope Full	0.07583	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	75.00	%
Downstream Velocity	Infinity	ft/s

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley South of Manchester Ave. (6/16)

First Alley South of Manchester Ave. 75% Capacity

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	6.00	in
Critical Depth	0.66	ft
Channel Slope	0.09120	ft/ft
Critical Slope	0.06869	ft/ft

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley South of Manchester Ave. (7/16)

First Alley South of Manchester Ave. Proposed Discharge

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.09120	ft/ft
Diameter	8.00	in
Discharge	91756.50	gal/day

Results

Normal Depth	1.16	in
Flow Area	0.03	ft²
Wetted Perimeter	0.52	ft
Hydraulic Radius	0.72	in
Top Width	0.47	ft
Critical Depth	0.17	ft
Percent Full	14.5	%
Critical Slope	0.00857	ft/ft
Velocity	4.56	ft/s
Velocity Head	0.32	ft
Specific Energy	0.42	ft
Froude Number	3.12	
Maximum Discharge	3.40	ft³/s
Discharge Full	3.16	ft³/s
Slope Full	0.00018	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	14.46	%
Downstream Velocity	Infinity	ft/s

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley South of Manchester Ave. (8/16)

First Alley South of Manchester Ave. Proposed Discharge

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	1.16	in
Critical Depth	0.17	ft
Channel Slope	0.09120	ft/ft
Critical Slope	0.00857	ft/ft

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley North of La Tijera Blvd. (9/16)

First Alley North of La Tijera Blvd Current Discharge

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.02080	ft/ft
Diameter	8.00	in
Discharge	3675.00	gal/day

Results

Normal Depth	0.36	in
Flow Area	0.01	ft²
Wetted Perimeter	0.28	ft
Hydraulic Radius	0.23	in
Top Width	0.28	ft
Critical Depth	0.03	ft
Percent Full	4.5	%
Critical Slope	0.01205	ft/ft
Velocity	1.03	ft/s
Velocity Head	0.02	ft
Specific Energy	0.05	ft
Froude Number	1.29	
Maximum Discharge	1.62	ft³/s
Discharge Full	1.51	ft³/s
Slope Full	0.00000	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	4.45	%
Downstream Velocity	Infinity	ft/s

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley North of La Tijera Blvd. (10/16)

First Alley North of La Tijera Blvd Current Discharge

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.36	in
Critical Depth	0.03	ft
Channel Slope	0.02080	ft/ft
Critical Slope	0.01205	ft/ft

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley North of La Tijera Blvd. (11/16)

First Alley North of La Tijera Blvd 50% Capacity

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.02080	ft/ft
Normal Depth	4.00	in
Diameter	8.00	in

Results

Discharge	488079.88	gal/day
Flow Area	0.17	ft²
Wetted Perimeter	1.05	ft
Hydraulic Radius	2.00	in
Top Width	0.67	ft
Critical Depth	0.41	ft
Percent Full	50.0	%
Critical Slope	0.01063	ft/ft
Velocity	4.33	ft/s
Velocity Head	0.29	ft
Specific Energy	0.62	ft
Froude Number	1.49	
Maximum Discharge	1.62	ft³/s
Discharge Full	1.51	ft³/s
Slope Full	0.00520	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	50.00	%
Downstream Velocity	Infinity	ft/s

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley North of La Tijera Blvd. (12/16)

First Alley North of La Tijera Blvd 50% Capacity

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	4.00	in
Critical Depth	0.41	ft
Channel Slope	0.02080	ft/ft
Critical Slope	0.01063	ft/ft

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley North of La Tijera Blvd. (13/16)

First Alley North of La Tijera Blvd 75% Capacity

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.02080	ft/ft
Normal Depth	6.00	in
Diameter	8.00	in

Results

Discharge	890138.30	gal/day
Flow Area	0.28	ft²
Wetted Perimeter	1.40	ft
Hydraulic Radius	2.41	in
Top Width	0.58	ft
Critical Depth	0.55	ft
Percent Full	75.0	%
Critical Slope	0.01696	ft/ft
Velocity	4.90	ft/s
Velocity Head	0.37	ft
Specific Energy	0.87	ft
Froude Number	1.24	
Maximum Discharge	1.62	ft³/s
Discharge Full	1.51	ft³/s
Slope Full	0.01730	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	75.00	%
Downstream Velocity	Infinity	ft/s

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley North of La Tijera Blvd. (14/16)

First Alley North of La Tijera Blvd 75% Capacity

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	6.00	in
Critical Depth	0.55	ft
Channel Slope	0.02080	ft/ft
Critical Slope	0.01696	ft/ft

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley North of La Tijera Blvd. (15/16)

First Alley North of La Tijera Blvd Proposed Discharge

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.015	
Channel Slope	0.02080	ft/ft
Diameter	8.00	in
Discharge	91756.50	gal/day

Results

Normal Depth	1.66	in
Flow Area	0.05	ft²
Wetted Perimeter	0.63	ft
Hydraulic Radius	1.00	in
Top Width	0.54	ft
Critical Depth	0.17	ft
Percent Full	20.7	%
Critical Slope	0.00859	ft/ft
Velocity	2.72	ft/s
Velocity Head	0.11	ft
Specific Energy	0.25	ft
Froude Number	1.54	
Maximum Discharge	1.62	ft³/s
Discharge Full	1.51	ft³/s
Slope Full	0.00018	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	20.71	%
Downstream Velocity	Infinity	ft/s

EXHIBIT 9- FlowMaster calculations for sewer pipe capacities Location: First Alley North of La Tijera Blvd. (16/16)

First Alley North of La Tijera Blvd Proposed Discharge

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	1.66	in
Critical Depth	0.17	ft
Channel Slope	0.02080	ft/ft
Critical Slope	0.00859	ft/ft