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ATTORNEYS

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REPLY TO:
☑ ROSEVILLE ☐ ONTARIO

December 22, 2022

VIA E-MAIL AND U.S. MAIL
RBARTOLI@SMCGOV.ORG

Rob Bartoli, Executive Director
San Mateo Local Agency Formation Commission
455 County Center, 2nd Floor
Redwood City, California 94063-1663

Re: LAFCo File No. 22-09: East Palo Alto Sanitary District's Response and Opposition to the Proposal to Establish the East Palo Alto Sanitary District as a Subsidiary of the City of East Palo Alto

Dear Mr. Bartoli:

As you know my office represents the East Palo Alto Sanitary District ("EPASD" or "District") with respect to the pending proposal before the San Mateo Local Agency Formation Commission ("LAFCo") by the City of East Palo Alto ("City") to establish the EPASD as a subsidiary of the City.

In response to your November 17, 2022 letter to San Mateo County Affected agencies regarding LAFCo File No. 22-09: Proposal to Establish the East Palo Alto Sanitary District as a Subsidiary of the City of East Palo Alto ("Proposal"), EPASD submits the following comments in response and opposition.[1]

On December 8, 2022, the District, by unanimous vote of the District Board, adopted Resolution No. 1327 objecting to and opposing the Proposal.[2] As set forth in this letter and the referenced documents, LAFCo should reject the Proposal for the following main reasons.

1. For over 80 years, the District has provided its customers with low cost high quality service while building a reserve fund to help pay for structural improvements.

[1] On December 12, 2022 the District discovered that LAFCo determined additional information from the City was required prior to the application being deemed complete. In light of this, Ronald J. Scholar, legal counsel for the District requested that LAFCo provide additional time to prepare a single response to the application after it was completed by the City. While additional time to respond to the initial Proposal was provided, the request to submit a unified response was denied. Therefore, EPASD, in submitting these initial comments, reserves the right to provide additional or amended comments in the future.

[2] Attachment 1 (EPASD, *Resolution No. 1327*, December 8, 2022)

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2. For profit, new development, not existing customers, should be required to pay for the increased District capacity and expansion new development requires.

3. The City's Proposal, which is based upon flawed and incomplete data, will balance the increased capacity required by new development on the backs of EPASD's current customers in the form of increased rates.

4. The City will not even run its new subsidiary district opting instead to contract the service out to a for profit contractor. As the community has experienced with City water, this has resulted in poor service quality with increased costs to cover contractor profits and unrestricted use City fees, while failing to reinvest in infrastructure needs.

A. BACKGROUND AND HISTORICAL INFORMATION

Established in 1939, the EPASD is an independent, community owned and operated public agency. It's mission is provide safe, efficient and cost effective wastewater collection and treatment services to customers in the City of East Palo Alto ("City") and a portion of the City of Menlo Park. The District is governed by a duly elected five member Board of Directors whose sole focus is to ensure that the District fulfills its mission. This provides District customers with the benefit of control and management of a single public service, without distractions and comingling of interests caused by competing services.

The District operates and maintains a gravity based collection system in compliance with the State Water Resources Control Board. Its customer base is primarily residential with several commercial and industrial parcels. The District's high quality of service is exemplified in that it has not experienced any sanitary sewer overflows ("SSO") for at least 16 years while building a reserve fund of approximately $23 million for structural repairs and improvements and keeping service costs down.

With respect to growth and expansion, the EPASD is not against development within the District. However, it strongly believes that for profit development should be funded by the developers and not at the expense of EPASD's customers in the form of higher rates, costs and/or fees.

B. EPASD RESPONDS TO THE CITY'S 2035 GENERAL PLAN AND DEVELOPERS SEEKING WILL SERVE LETTERS

The City published its 2035 General Plan in March 2017. Thereafter, in or about 2020, several large commercial developers approached the District for Will Serve Letters for their various for profit, mostly commercial development projects. A Will Serve Letter is a document issued by the District confirming that the applicant's property is within the District service area and that, subject to specified terms and conditions, it is able to provide wastewater services to the property.

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1. EPASD Assesses Its Capacity And Amends Its Master Plan To Account For New Development Projects

Because the new development projects would impose substantial new burdens on the District's then existing capacity, the EPASD retained the civil engineering firm of Freyer & Lauretta, Inc. ("F&L"), to perform a hydraulic impact assessment and prepare an Addendum to the March 2015 District Master Plan.[3] The purpose of the assessment was to review the existing system, evaluate the impacts of the proposed development identified in the City's 2035 General Plan and identify capital improvements. The conclusion reached by F&L was that the District lacked the capacity to serve these development projects without substantial upgrades.[4] This includes a restoration of the trunk sewer pipeline to its existing operating conditions by constructing a parallel pipeline made necessary by the additional system load caused by new development.[5]

The 2021 Amendment to the Master Plan prepared by F&L concluded that in order to service the new development projects, the District will be required to implement a Capital Improvement Plan in excess of $35 million in order to expand and upgrade the existing sanitary system.[6]

2. The 2022 Capacity Charge Study

The new development projects will require new connections to the system. As part of determining the cost of the additional burdens caused by the new development projects, the District needed to reassess its current connection fee, also known as a Capacity Charge. A Capacity Charge is the one-time charge paid by new development for capacity in the sanitary system. This includes both collection and treatment facilities. The previous fee amount of $6,060 per equivalent dwelling unit ("EDU"), was based upon the findings of a 2018 Capacity Charge Study conducted prior to the 2021 Sewer Master Plan Amendment.[7]

The District retained Hildebrand Financial Services, LLC, ("Hildebrand") to conduct a Capacity Charge Study taking into account the 2021 Amendment to the 2015 Sewer Master Plan. The purpose of the Capacity Charge Study was to review the District's existing Capacity

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[3] Attachment 2 (F&L, *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update*, April 28, 2021.)
[4] Attachment 2 (F&L, *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update*, April 28, 2021, pp. 4-9)
[5] Attachment 2 (F&L, *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update*, April 28, 2021, pp. 6-7)
[6] Attachment 2 (F&L, *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update*, April 28, 2021, p. 7, Table 17)
[7] Attachment 3 (Bartle Wells Associates, *Wastewater Capacity Charge Update*, December 7, 2018)

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Charges and update those charges to incorporate the costs to expand the sewer system's capacity to accommodate the new development projects as described in a 2021 Amendment to the 2015 Sewer Master Plan. Following an analysis, which included the current capacity of the District, the differential in service costs based upon sewer strength (waste concentration), a new, second trunk line, required only because of the expansion, appliable financing costs and that the driving force behind the projects is expansion and not rehabilitation, Hildebrand determined the new Capacity Charge in order to serve all of the new development projects to be $14,464 per EDU.[8]

3. The Developers Response

Once the new connection fee was determined, EPASD notified the developers and offered them their Will Serve Letters. To date, only one developer has shown any interest paying the Capacity Charge fee and receiving a Will Serve Letter.

In an effort to foster a better understanding of the District's position, allow the developers an opportunity to share any concerns they had and engage the development community in dialogue, developers were invited to an October 6, 2022, meeting with District consultant Government Financial Strategies, Inc. Very few developers attended the meeting.

Rather than engage in dialog with the District about paying their fair share for their for profit development, the developers appear to have decided that it would be more cost efficient for them to prompt the City to engage in the now pending hostile takeover of the District. As discussed below, rather than pay the Capacity Charge, the City, with its developer backers, will instead balance the increased capacity equation on the backs of EPASD's current customers in the form of increased rates.

4. The City's Refusal To Work With The District

Until recently, the City had worked cooperatively with the District through an intergovernmental committee where representatives of the two organizations met approximately once a month to coordinate projects. That intergovernmental cooperation was ended by the City when it stopped attending the meetings.

Additionally, in September 2022, the District requested that the City engage in a Joint Special Study Session regarding infrastructure financing to assist the City in approving new development.[9] The City never responded.

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[8] Attachment 4 (Hildebrand, *Capacity Charge Study*, September 7, 2022, pp. 1, 2, 4-6)
[9] Attachment 9 (EPASD, *Letter from Board President Bethzabe Yanez to City*, September 2022)

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C. EPASD STRUCTURAL UPGRADES WITHOUT NEW DEVELOPMENT BURDENS

As part of its review of its system, the District retained Sierra West Consultants, Inc. ("Sierra") to conduct a closed circuit television ("CCTV") surveys of the District's wastewater collection system.[10] Presently, approximately 75 percent of the District's pipes have been surveyed. Based on these results, the District has approximately $53 million in structural upgrades and repairs upgrades to the system that would be required without the additional burdens of the new development. This includes $9.1 million in capacity upgrades that will be made to those pipes that have structural issues requiring replacement.[11]

D. EPASD CAPACITY ONLY UPGRADES REQUIRED DUE TO NEW DEVELOPMENT BURDENS

Isolating costs associated with capacity only upgrades required by new development under the 2021 Amendment to the 2015 Master Plan reveals required additional expenditures in excess of $12.9 million.[12] This figure only represents part of costs associated with adding system capacity for new development as Sierra West still has 25 percent of the system to survey before a final figure can be calculated. Further, this figure neither includes the $13 million cost of restoring the trunk sewer pipeline to its existing operating conditions by constructing a parallel pipeline, nor does it include the $5 million purchase of additional treatment plant capacity from the Palo Alto Regional Water Quality Control Plant ("RWQCP") made necessary by the additional system load caused by new development.[13] Thus, the total financial burden, at least as it can be currently calculated is approximately $40 million.[14]

D. EPASD MANAGEMENT AS COMPARED TO THE CITY'S PROPOSED MANAGEMENT

The EPASD has served its customers well for over 80 years. The District's high quality of service is exemplified in that it has not experienced any sanitary sewer overflows ("SSO") for at least 16 years while building a reserve fund of $23 million for structural repairs and improvements while keeping service costs down. The District is currently in the process of awarding approximately $10 million from the reserve fund for construction to rehabilitate sewer infrastructure. Further, unlike the City, which has multiple departments calling for its attention and dollars, District customers enjoy the benefits of control and management of a single public service.

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[10] Attachment 5 (Sierra, *CCTV Survey Evaluation*, October 31, 2022)
[11] Attachment 5 (Sierra, *CCTV Survey Evaluation*, October 31, 2022, pp. 2, 9)
[12] Attachment 5 (Sierra, *CCTV Survey Evaluation*, October 31, 2022, p. 4)
[13] Attachment 2 (F&L, *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update*, April 28, 2021, pp. 6-7); Attachment 6 (Government Financial Strategies, Inc. ("GFSI"), *Memorandum: Financing Sanitary System Infrastructure*, December 14, 2022, p. 3)
[14] Attachment 6 (GFSI, *Memorandum: Financing Sanitary System Infrastructure*, December 14, 2022, p. 3)

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The City's Proposal states that it will not even run the subsidiary sanitary district. Under the pretense of providing better service in the public interest, the City proposes to absorb the District and then promptly contract it out to an unidentified third party public entity or for profit company. To date, neighboring West Bay Sanitary District has shown no interest in taking over the District on behalf of the City. Instead, the City is expected to do what it already does with its water service since rather than run its own water service, the City contracts that vital service out to a for profit corporation.

The City and its for profit contractor's failures to provide clean, safe and drinkable water to its residents is well known throughout the community where many residents buy bottled water to avoid drinking City water. Even the most cursory online search for issues with City water reveals numerous negative responses with citizens complaining of water that burns their eyes, tastes bad, has a strong odor and comes out of the tap brown. Additionally, the City is already working under a Corrective Action Plan with the State Water Resources Control Board. Only this year has the City finally begun to address its water issues through the development of a 2022 Water System Master Plan.[15]

The City's current water contract dates back to 2001. It is with Veolia North America, LLC ("Veolia") which assumed the agreement in January 2021.[16] According to the agreement, Veolia is guaranteed "an after-tax rate of return of eight percent (8%) on Gross Revenues."[17] In addition to the eight percent in profits paid to Veolia, the City itself is guaranteed to receive "an annual Lease Payment in an amount equal to six percent (6%) of the annual Gross Revenues generated by the Water System" and "an annual Franchise Fee in an amount equal to five percent (5%) of the annual Gross Revenues generated by the Water System." [18] Thus, the City has turned its public water utility into a for profit enterprise not just for its contractor, but also for the City. In so doing, it has taken what would have otherwise been protected funds to be reinvested back into the water system and converted them into general funds to use as the City deems fit. Put another way, the City is required to charge its water customers an additional 19 percent in fees to cover the for profit nature of its water utility. Given the problematic issues with City water, one is left to wonder what improvements for the benefit of its residents the City could have done had it reinvested over 20 years of profits back into the water system.

Past performance is an indicator of future success. In this regard, the District has a proven track record of providing excellent service at a reasonable cost. It does so without the added burdens of managing other services, paying guaranteed percentage based profits and profiting from its own system to pay for other services like the City does with its water service.

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[15] Attachment 11 (City of East Palo Alto Staff Report, *2022 Water System Master Plan*, October 4, 2022)
[16] Attachment 7 (City of East Palo Alto, *Resolution No. 56-2020*, April 21, 2020)
[17] Attachment 8 (City of East Palo Alto, *Agreement for Lease of Real Property (Water System)*, April 9, 2021, p. 6 [Section 8.A.])
[18] Attachment 8 (City of East Palo Alto, *Agreement for Lease of Real Property (Water System)*, April 9, 2021, p. 4 [Sections 5.A and B.])

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E. ANALYSIS OF THE CITY'S APPLICATION

Section A.3

The City claims that making the District a City subsidiary will result in more efficient operation, coordinated planning, transparency, accountability, and environmental health. There are no facts in the proposal indicating that the District is not successfully accomplishing these goals. To the contrary, as described above, the District has a long history of providing efficient and effective service at a reasonable cost. There have been no public health issues and as a public agency, the District remains transparent and directly accountable to the voters. The District has responded to impending growth and development by studying its capacity and formulating a plan that requires new development to pay its own way instead of funding expansion on the backs of existing, mostly residential ratepayers. The District tried to work with the City and development community but with few minimal exceptions, those efforts were ignored. The factors listed by the City are non-issue catchphrases made without any factual basis.

The City's Proposal begs the question of how the City can run the sanitary system better than the District. This is left a mystery in the Proposal as the City cannot even identify who or what entity will actually be running the District. The City has no expertise or experience in running a sanitary district. It states that it will contract the service out to either another public entity or a private, for-profit company. Neighboring West Bay Sanitary District has no interest in taking over the EPASD. Therefore, the most likely result is the City will do with the District what it has done with its water service and contract with a for profit company. This way, the City can reap the benefits of leasing and franchise fees paid for by District customers who will also be paying guaranteed profits to the contractor.

Section C.4

The City claims it has not been able to issue building permits without confirmation of capacity from EPASD. The City's claim is vague and undefined. It is also incorrect. EPASD, after studying and identifying the additional capacity that will be required to accommodate new development projects, calculated a new Capacity Charge in the amount of $14,464 per EDU. The Capacity Charge is consistent with the District's philosophy that new development is welcome, but should pay for the increased capacity burdens it will impose on the system. The City and development community are well aware that the District has offered Will Serve letters provided the Capacity Charge is paid.

Section C.10

EPASD is already in the process of implementing structural repairs and is ready to increase capacity, provided those that are demanding capacity pay the Capacity Charge.

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F. ANALYSIS OF THE CITY'S PLAN FOR PROVIDING SERVICES

Section B.2

The operating and maintenance budget presented by the City is inaccurate because West Bay Sanitary District ("WBSD") data was used. The two systems are not the same. WBSD is part gravity and part forced main system whereas the District is gravity only. As such, the maintenance requirements are different. Additionally, the systems employ different treatment plants that utilize different wastewater treatment technology. As such, they are not comparable on a budgetary basis. These differences result in an underestimation of operating and maintenance costs in an effort to justify diverting reserve funds from needed structural improvements to increased capacity costs from new development.

Section B.4

In the Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update, F&L determined that the District lacked the capacity to serve these development projects without substantial upgrades.[19] This included a restoration of the trunk sewer pipeline to its existing operating conditions by constructing a parallel pipeline made necessary by the additional system load caused by new development.[20] This will cost approximately $13 million.[21] The current plan by the City omits this necessary, increased capacity related expenditure. Doing so raises the risk of SSO events. This places the District at increased risk of imposition of substantial fines from the State Water Resources Control Board and mandatory repairs on accelerated timelines which add extra costs. Thus, contrary to the City's assertions, its plan will actually increase the risks to public health and safety.

Section B.5

Proposed Operating and Maintenance Plan

The City's plan will result in a private, for profit company operating the District. This will increase costs in the form of guaranteed profits for the operating company and unrestricted lease and franchise fees to the City. Also, the City's proposed budget is based on ratios calculated using the WBSD Balance Sheet. This is inaccurate and misleading as the two systems are not the same. As discussed above, the sewer systems and liabilities associated with each are different.

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[19] Attachment 2 (F&L, *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update*, April 28, 2021, pp. 4-9)
[20] Attachment 2 (F&L, *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update*, April 28, 2021, pp. 6-7)
[21] Attachment 6 (GFSI, *Memorandum: Financing Sanitary System Infrastructure*, December 14, 2022, p. 3)

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Annual Sewer Service Charge

The Annual Sewer Service Charge ("ASC") included in the Proposal includes an immediate 15 percent increase of the ASC from $600 to $690 with five percent annual increases until it reaches $1,171. Thus, the City proposes to nearly double the ASC over the next 8 years. Further, these figures only hold true if the Capacity Charge limitations that are part of the Proposal are accurate. As discussed throughout this letter, the City's Capacity Charge analysis is deeply flawed and will result in substantial shortfalls that will need to be made up through more rapid and greater increases in the ASC. This means that the District's current ratepayers will be required to pay for development capacity expansion.[22]

Connection Fee (Capacity Charge)

The Proposal recommends that the Capacity Charge be kept virtually the same at $6,060 with five percent annual increases. The analysis is flawed for several reasons. First, it sets the total cost of improvements due to development at $9.5 million. This is a gross understatement of the financial liabilities associated with development driven new capacity. Capacity only upgrades required by new development under the 2021 Amendment to the 2015 Master Plan, when factoring in the remainder of the pipe Sierra West still needs to study via CCTV, the new $13 million trunk line and the $5 million purchase of additional treatment plant capacity from the RWQCP at least as it can be currently calculated is approximately $40 million.[23] After taking into account the current capacity of the District, the differential in service costs based upon sewer strength (waste concentration), a new, second trunk line, required only because of the expansion, appliable financing costs and that the driving force behind the projects is expansion and not rehabilitation, Hildebrand determined the new Capacity Charge in order to serve all of the new development projects to be $14,464 per EDU.[24]

Annual Budget Cash Flow

The City's analysis of the District's cash flow is also flawed. No sensitivity analysis was performed to determine how budgetary issues might change depending upon changed economic conditions. Further, F&L's assumptions relating to the reserve fund are incorrect. The reserve fund is currently at $23 million, but the District is currently in the process of awarding approximately $10 million from the reserve fund for construction to rehabilitate sewer

[22] Attachment 10 (EPASD, *Technical Memorandum in Response to Sanitary Sewer Capital and Improvement Plan Prepared by F&L*, December 3, 2022)
[23] Attachment 6 (GFSI, *Memorandum: Financing Sanitary System Infrastructure*, December 14, 2022, p. 3)
[24] Attachment 4 (Hildebrand, *Capacity Charge Study*, September 7, 2022, pp. 1, 2, 4-6)

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infrastructure. The analysis also fails to properly account for the effect of the approximately $40 million in development driven capacity upgrades.[25]

Section B.6

The City's takeover of the EPASD will not make it "whole as a land use agency and utility provider" as it claims because the City does not run its water utility and it will not be running the sanitary district. Instead, the City is content to contract out these vital public services to for profit corporations in return for license and franchise fees which it can use as it pleases.

The Draft MSR, upon which the City relies, is a flawed and biased report. The District believes that the funding source for the Draft MSR is related to the same developers behind the EPASD takeover attempt. Further, it was prepared without any engineering input from any entity, including the District and the District's comments submitted after it was published have been ignored. It also contains factual inaccuracies intimating that the District cannot properly serve its customers such as the claim that citizens cannot obtain Will Serve letters for Accessory Dwelling Units. This is false. The District has issued Will Serve letters for all ADU applications in the past five years.

G. CONCLUSION

Since 1939, EPASD has provided its customers with low cost high quality service while building a reserve fund to help pay for structural improvements. It has responded responsibly in recent years to the prospects of new development by studying the matter, offering to engage with the development community and the City and establishing updated, accurate Capacity Charges.

As a matter of philosophy and good government, the District believes that for profit, new development, not existing customers, should be required to pay for the increased District capacity and expansion new development requires. The City's Proposal, which is based upon flawed and incomplete data, will balance the increased capacity required by new development on the backs of EPASD's current customers in the form of increased rates. Indeed, the City will not even run its new subsidiary district opting instead to contract the service out to a for profit contractor. As the community has experienced with City water, this has resulted in poor service quality with increased costs to cover contractor profits and unrestricted use City fees, while failing to reinvest in infrastructure needs. As such, the City's Proposal to make the EPASD a subsidiary district should be rejected.

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[25] Attachment 10 (EPASD, *Technical Memorandum in Response to Sanitary Sewer Capital and Improvement Plan Prepared by F&L*, December 3, 2022)

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Sincerely,

Ronald J. Scholar
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cc: Client

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ATTACHMENTS

1. East Palo Alto Sanitary District, *Resolution No. 1327*, December 8, 2022

2. Freyer & Laureta, Inc., *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update*, April 28, 2021

3. Bartle Wells Associates, *Wastewater Capacity Charge Update*, December 7, 2018

4. Hildebrand Financial Services, LLC, *Capacity Charge Study*, September 7, 2022

5. Sierra West, *CCTV Survey Evaluation*, October 31, 2022

6. Government Financial Strategies, Inc., *Memorandum: Financing Sanitary System Infrastructure*, December 14, 2022

7. City of East Palo Alto, *Resolution No. 56-2020*, April 21, 2020

8. City of East Palo Alto, *Agreement for Lease of Real Property (Water System)*, April 9, 2021

9. East Palo Alto Sanitary District, *Letter from Board President Bethzabe Yanez to City*, September 2022

10. East Palo Alto Sanitary District, *Technical Memorandum in Response to Sanitary Sewer Capital and Improvement Plan Prepared by Freyer and Lauretta, Inc.*, December 3, 2022

11. City of East Palo Alto Staff Report, *2022 Water System Master Plan*, October 4, 2022

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RESOLUTION NO. 1327

A RESOLUTION OF THE EAST PALO ALTO SANITARY DISTRICT ("EPASD") OPPOSING THE PROPOSAL THE CITY OF EAST PALO ALTO ("CITY") SUBMITTED TO THE SAN MATEO LOCAL AGENCY FORMATION COMMISSION ("SMLAFCo") WHEREBY THE CITY SEEKS TO HAVE SMLAFCo ESTABLISH EPASD AS A SUBSIDIARY DISTRICT OF THE CITY

EAST PALO ALTO SANITARY DISTRICT

RESOLUTION NO. 1327

A RESOLUTION OF THE EAST PALO ALTO SANITARY DISTRICT ("EPASD") OPPOSING THE PROPOSAL THE CITY OF EAST PALO ALTO ("CITY") SUBMITTED TO THE SAN MATEO LOCAL AGENCY FORMATION COMMISSION ("SMLAFCo") WHEREBY THE CITY SEEKS TO HAVE SMLAFCo ESTABLISH EPASD AS A SUBSIDIARY DISTRICT OF THE CITY

WHEREAS, the EPASD was established in 1939 as a California Special District to provide safe, reliable and effective sanitary sewer services for its customers in the cities of East Palo Alto and Menlo Park;

WHEREAS, the EPASD has and continues to fulfill its purpose while providing services to its customers at a reasonable cost;

WHEREAS, on October 18, 2022, the CITY passed Resolution No. 137-2022, requesting that SMLAFCo take proceedings to establish the EPASD as a subsidiary district of the CITY pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000;

WHEREAS, on November 10, 2022, the CITY submitted to SMLAFCo a proposal to SMLAFCo, which SMLAFCo has identified as LAFCo File No. 22-09, requesting that SMLAFCo take proceedings to establish the EPASD as a subsidiary district of the CITY ("Proposal");

WHEREAS, SMLAFCo has issued notices that the CITY's Proposal has been submitted for consideration to SMLAFCo;

WHEREAS, while the EPASD is not against development within the EPASD, it strongly believes that for profit development should be funded by the developers and not at the expense of EPASD's customers in the form of higher rates, costs and/or fees;

WHEREAS, the CITY's analysis in support of its Proposal is flawed in that if implemented, the Proposal would result in a substantial benefit to new, for profit and primarily commercial developer projects within the EPASD while substantially burdening EPASD customers with higher rates to offset the increased costs caused by the for profit development;

WHEREAS, if the CITY's Proposal was approved, the customers of EPASD would see immediate, continuing and substantial rate increases which are otherwise avoidable if for profit development is required to pay the actual costs of the additional burdens they will place on the EPASD sewer system;

NOW, THEREFORE, BE IT RESOLVED that for the reasons set forth above, the EPASD objects to and opposes the CITY's Proposal to SMLAFCo File No. 22-09 and objects to and opposes that the EPASD be established as a subsidiary district of the CITY.

PASSED AND ADOPTED by the EPASD on the 8th day of December, 2022, by the following vote:

AYES: Betsy Yanez, Glenda Savage, Joan Sykes-Miessi, Martha Stryker, Dennis Scherzer

NOES:

ABSENT:

ABSTAIN:

Betsy Yanez, President
East Palo Alto Sanitary District

ATTEST

Glenda Savage, Secretary
East Palo Alto Sanitary District

FREYER & LAURETA, INC. CIVIL ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS

TECHNICAL MEMORANDUM

FINAL – April 28, 2021

To: Akin Okupe, MBA, P.E. (East Palo Alto Sanitary District)

From: Jeffrey Tarantino, P.E. (Freyer & Laureta, Inc.)

Copy: None

RE: Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update

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Freyer & Laureta, Inc. (F&L) is pleased to present this technical memorandum to the East Palo Alto Sanitary District (District) to serve as an addendum to the District's Master Plan Update dated March 2015 (F&L, 2015), herein referred to as "2015 MP Update."

1 Background

1.1 District Collection System Information

The District currently provides wastewater collection service to portions of the communities of Menlo Park and East Palo Alto, located in San Mateo County in the San Francisco Bay Area. The District's service area is primarily residential with several commercial and industrial parcels.

The District's service area, shown on Figure 1, encompasses nearly 1,230 acres, or 1.92 square miles. The District's collection system is a gravity system with approximately 70-percent of the existing pipelines being six-inch (6-in) diameter. The larger collector lines range between 8-in diameter and 24-in diameter including a siphon beneath the San Francisquito Creek. The District replaced the siphon with two new, parallel siphons in 2017.

The District operates and maintains the collection system in accordance with the requirements of the State Water Resources Control Board, as administered through the Statewide SSO Waste Discharge Requirements and RWQCB Sewer System Management Plan guidelines.

According to the District, the existing collection system has not experienced any SSOs for the past 16-years[1]. The District General Manager reports status of any SSOs to the Board of Directors during each monthly regular board meeting.

[1] Telephone discussions between Akin Okupe, MBA, P.E. (District General Manager) and Jeffrey Tarantino, P.E. (Freyer & Laureta, Inc.) on April 22, 2021.

1.2 Existing Sanitary Sewer Flows

The 2015 MP Update (F&L, 2015) included documentation of the existing flows observed in the collection system based on a flow monitoring study completed in 2011 and 2012. Please refer to the Appendix L of the 2015 MP Update (F&L, 2015) for the 2011-2012 Sanitary Sewer Flow Monitoring and Inflow/Infiltration Study prepared by V&A Consultants dated June 2012, referred to herein as "I/I study" (VA, 2012).

Table 1 provides the location of each of the flow monitoring sites used for the I/I Study including the approximate size of the basin with Figure 2 showing the limits of each of the basins. Table 2 presents a summary of the flow monitoring results including identification of the average dry weather flow (ADWF), peak dry weather flow (PDWF), and peak wet weather flow (PWWF) plus select calculated peaking factors. The PWWF is based on the 10 year, 24-hour design storm event. Please refer to the I/I Study (VA, 2012) for a detailed presentation of the flow monitoring results including calculation of the design storm flows.

1.3 Existing Hydraulic Model

The District maintains a mathematical model of the existing collection system using the computer software program, HYDRA7. The mathematic model using HYDRA was first developed as part of the Master Plan Update prepared by Kennedy/Jenks Consultants dated September 2002 (K/J, 2002), referred to herein as "2002 MP Update." F&L's scope for the 2015 MP Update included updating the existing model to reflect the results of the I/I Study. The current HYDRA7 model reflects the existing conditions of the District's collection system without consideration of future development.

2 Existing Conditions Evaluation

2.1 Identify System Capacity Deficiencies

The District requested that F&L evaluate the existing conditions of the collection system based on the PWWF information presented in Table 2. The District requested that F&L identified pipeline segments where surcharging is predicated to occur and manholes where sanitary sewer overflows (SSOs) are predicated to occur to determine where the existing system does not have adequate capacity to convey PWWF.

In prior studies, the District had directed F&L to identify portions of the existing system that were predicted to experience SSOs during PWWF and improvements required to reduce the potential for predicated SSOs. The previous evaluations (F&L, 2015) developed potential capital improvements that would result in eliminating predicated SSOs but the collection system was allowed to flow under surcharged conditions. As part of this amendment, the District has updated its standards to allow the collection system to flow full but not under surcharged conditions.

For purposes of this addendum, F&L identified all pipeline segments where the depth over diameter (d/D) is predicated by the HYDRA7 model to be 1.0, which indicates that the pipeline segment is flowing under surcharged conditions. Table 3 identifies all segments in the existing

collection system that are predicated to be flowing surcharged under PWWF conditions as well as identifying the downstream manhole rim elevation and predicated hydraulic grade line (HGL) to further identify which manholes may experience SSOs. Where the downstream HGL is predicated to be above the downstream manhole rim elevation, the hydraulic model results indicate the potential for a SSO to occur at the manhole location.

Figure 3 highlights the pipeline segments under existing conditions that are predicated to flow under surcharge conditions during a PWWF. The manholes where a SSO is predicated to occur are also highlighted on Figure 3.

F&L notes that portions of the existing trunk sewer between Manhole T13 and Manhole T1 where flows are discharged to the Palo Alto Regional Water Quality Control Plant are predicated to flow under surcharged conditions but SSOs are not predicated to occur. As shown in Attachment 1, the HGL under current PWWF is shown to vary throughout the alignment and portions of the trunk sewer flow under surcharge but SSOs are not predicted to occur. The District directed an iterative evaluation of the potential available capacity of the trunk sewer between Manhole T13 and Manhole T1 was evaluated to determine the number of Equivalent Dwelling Units (EDUs) that could be connected to the District's collection system before the HGL is predicted to result in excessive surcharge. An iterative evaluation using increments of 100,000 gallons per day (gpd) of additional flows were added to the HYDRA7 model up to 300,000 gpd with the injection occurring at Manhole T14 and the results are presented in Attachment 1. The District used the results of the iterative evaluation to determine that the District will allow an additional 100,000 gpd, which is 415 EDUs[2], to be connected to the collection system before improvements to the trunk sewer are required to eliminate predicated excessive surcharging that could lead to SSOs.

2.2 Identify Existing System Improvements.

F&L performed an iterative evaluation of the existing collection system to identify potential capital improvements to eliminate all surcharging and SSOs identified in Table 3 from occurring during PWWF for the existing collection system. The District determined that predicated surcharging within the trunk sewer between Manhole T13 and Manhole T1 was an acceptable condition because the District has not reported any SSOs along the referenced portion of the trunk sewer.

The proposed improvements identified during the hydraulic model evaluation to eliminate surcharging and SSOs are presented in Table 4. The limits of the proposed improvements are presented on Figure 4.

2.3 Opinion of Probable Project Cost

Based on the existing system improvements, F&L developed conceptual opinion of probable project cost (OPPC) for the planning, design, and construction of the identified improvements including District staff administrative and management budgets. The OPPC includes:

[2] One EDU is equal to 240 gpd based on Section B1.03.2.b of the East Palo Alto Sanitary District Specifications for Design and Construction of Sanitary Collection and Conveyance Facilities dated June 6. 2002.

- Construction budget for proposed pipeline and manhole replacement based on unit pricing for similar projects.
- A construction contingency of 30-percent to reflect the limited level of detail developed for the proposed improvements.
- Allowances for engineering and administrative costs based on industry standards including:
    - 10-percent of construction budget for design;
    - 10-percent of construction budget for environmental and permitting;
    - 15-percent of construction budget for construction management, inspection, and special inspection, and;
    - Five-percent of construction budget for District Administration.

The conceptual OPPC for the proposed improvements described in Section 2.2 is presented in Table 5. Note that the OPPC for the proposed conditions evaluations described in Section 3 follow the same methodology and assumptions for OPPCs.

3 Proposed Conditions Evaluation

3.1 City of East Palo Alto Land Use Changes

The following paragraphs document changes in land use identified in the City of East Palo Alto's (City') 2035 General Plan and the land use at the time of the preparation of the 2015 MP Update. At the time the 2015 MP Update was prepared, the City was beginning the process to update its previous 1999 General Plan and Zoning Ordinance, but the City had not developed a draft general plan update for District's review and comment. Therefore, the 2015 MP Update was based on existing land use information and select specific plans that had been prepared by developers and approved by City Council. The City adopted the 2035 General Plan on October 4, 2016 with the final version being published in March 2017 (2035 General Plan).

Figure 5 presents the zoning at the time of the 2015 MP Update for those parcels where zoning has changed as part of the City's 2035 General Plan with the revised zoning shown on Figure 6. If a parcel is not highlighted on either figure, the zoning at the time of the 2015 Master Plan Update is the same in the 2035 General Plan. To allow easy comparison between the land use changes, the zoning classification shown on Figure 5 utilized the zoning classification from the City's 2035 General Plan. A summary of changes for each parcel is presented in Table 5.

Generally, the changes between the zoning shown on Figure 5 and Figure 6 is changing commercial and office zoning to mixed use or mixed use corridor. The primary changes occurred along University Avenue between Bay Road and Donohoe Street and the existing Target shopping center. Furthermore, some residential zoning changes within the Ravenswood Business District were modified from low density and commercial to high density along Maple Street. Finally, the area along University Avenue west of Highway 101 included changes from commercial to office, mixed use, and medium density residential.

3.2 Calculated Additional Sanitary Sewer Flows

Based on the revised zoning changes, F&L calculated the estimated additional sanitary sewer flows for each of the parcels identified in Table 6. Because the District does not monitor flows

from each of the individual parcels, a multiple step process was followed to calculate the incremental, additional flow by parcel.

The following steps were taken to estimate incremental additional flow by parcel:

1. Existing flow from each parcel was estimated as follows and presented in Table 7;
   1.1. The 2019 Tax Year Billing Charges were reviewed to identify the individual parcel billings.
   1.2. Based on the individual billings, the Equivalent Dwelling Units (EDU) was calculated by dividing the parcel bill by $575 per EDU.
   1.3. The calculated number of EDUs by parcel was then multiplied by 240 gallons per EDU to estimate the existing sanitary sewer flow from each parcel.
2. Total flow from each parcel based on the 2035 General Plan revised zoning was estimated as follows and presented in Table 8;
   2.1. The Maximum and Minimum Allowable Density and Floor to Area (FAR) ratio for each zoning category was identified in the 2035 General Plan;
   2.2. Using 50-percent of the range between maximum and minimum allowable density and FAR for each parcel, the estimated total sanitary sewer flow for residential and non-residential was calculated using the unit flow rates from the Section B1.03.2.b of the East Palo Alto Sanitary District Standard Specifications for Design and Construction of Sanitary Collection and Conveyance Facilities date June 6, 2002, herein referred to as "Standard Specifications" (District, 2002).
3. Total ***additional*** flow by parcel for both ADWF and PDWF is calculated as follows and presented in Table 9;
   3.1. All parcels identified in Table 5 are sorted by Sewer Basin;
   3.2. ADWF for existing conditions presented in Table 7 is subtracted from ADWF for future zoning changes presented in Table 8 separated in residential and non-residential flows, and;
   3.3. PDWF is calculated by multiplying the ADWF for each parcel by the Sewer Basin PDWF Peaking Factor from Table 2.

The additional ADWF and PDWF by parcel is summarized in Table 9 with the total additional ADWF and PDWF presented at the bottom of the table. The projected total ADWF increase of 1.08 million gallons per day (MGD) is consistent with the projected additional potable water demand of 1.07 MGD presented in the City's 2035 General Plan.

The additional ADWF and PDWF presented in Table 9 are then injected into the HYDRA7 model at the locations shown on Figure 7. In addition, Figure 7 highlights all of the parcels listed in Table 5 including the additional ADWF and PDWF by parcel.

3.3 Identify Development PDWF Impacts and Improvements

The District requested that F&L evaluate the impacts of the proposed developments identified in the 2035 General Plan. The District determined that PDWF operating conditions impacts will

be determined by identifying where the proposed developments result in an increase in the d/D in the District's collection system. The evaluation methodology utilizes the marginal costing technique and will allow the District to determine the potential cost share for each development. The cost share determined by the marginal costing technique would allow the District to potentially develop reimbursement agreement with the developer that requires the accelerated CIP so that as new developments are approved that the future development cost share can be collected to reimburse the first developer. The District will develop the reimbursement that will consider the market value of the existing pipe to be replaced. Similar to the evaluation described in Section 2.2, an iterative evaluation to identify the proposed improvements was performed.

Table 10 presents the results of the PDWF impact evaluation and includes:

- Pipeline segments identified to have the d/D increased by the proposed developments;
- Existing pipeline diameter;
- Existing d/D without the additional flows injected;
- Predicted d/D with the additional flows;
- Proposed pipeline diameter for new improvements, and;
- Predicted d/D with the additional flows and proposed pipeline diameter.

The location and limits of the proposed improvements listed in Table 10 are shown in Figure 8. The conceptual OPPC for the proposed improvements is presented in Table 11 using similar assumptions as described in Section 2.3.

3.4 Identify Development PWWF Impacts and Improvements

The proposed developments impacts during PWWF were also evaluated to determine the improvements that may be required in addition to the existing capacity deficiencies due to the updated District design criteria as described in Section 2. The PDWF injections added during the evaluation described in Section 3.3 were added to the PWWF scenario evaluation described in Section 2.1. The PWWF impacts not only include the District's collection system upstream of the existing siphon (Manhole T33) but full buildout anticipated with the new development also requires the construction of a parallel wet weather trunk sewer pipeline to eliminate surcharging between Manhole T12 and Manhole T1.

Table 12 presents the results of the PWWF impact evaluation for the collection system upstream of Manhole T33 and includes:

- Pipeline segments identified to have the d/D increased by the proposed developments;
- Existing pipeline diameter;
- Existing d/D without the additional flows injected;
- Predicted d/D with the additional flows;
- Proposed pipeline diameter for new improvements, and;
- Predicted d/D with the additional flows and proposed pipeline diameter.

The results of the hydraulic evaluation for the trunkline sewer between Manhole T12 and Manhole T1 is presented in Table 14. The table presents the length, diameter, existing PWWF

d/D, and predicated PWWF d/D with full buildout. The proposed improvement to restore the trunkline to existing operating conditions is to construct a parallel pipeline that will convey PWWF that are greater than experienced under existing conditions.

The location and limits of the proposed improvements listed in Table 12 are shown in Figure 9. The conceptual OPPC for the proposed improvements is presented in Table 13 using similar assumptions as described in Section 2.3.

4 Recommended Capital Improvement Program

The final Capital Improvement Program (CIP) will be determined by the District Board of Directors but it is anticipated to be a compilation of the improvements required to accommodate the new developments as identified in Section 3.3 for PDWF improvements and Section 3.4 for PWWF improvements. The proposed CIP is largely to address the PWWF impacts from development and there are select PDWF improvements where required to restore the d/D under the full build out condition to match existing PDWF d/D.

The recommended CIP is presented in Table 15 and the location of the proposed improvements are shown on Figure 10. The conceptual OPPC for the recommended CIP is presented in Table 16. The final CIP will be determined by the District based on the priorities for City approved developments that have completed its new service application process with the District.

5 Capital Improvement Program Implementation Schedule

The sequence and timing of implementing the CIP will be driven by the proposed developments schedule. As the District receives new service applications, the proposed developments flow path can be evaluated in order to identify the improvements that would be required to accommodate the additional flows. The District can evaluate the individual development's proposed sanitary sewer flows and determine when sufficient number of developments receive approval to discharge to the District's collection system that would require construction of the CIP.

If the District chooses to begin implementing the CIP based on operational conditions, the District would likely begin implementing the improvements beginning upstream of the siphon (Manhole T13). The sequence of construction would likely be driven by District's observations of existing pipe conditions.

6 Next Steps

F&L understands that the Master Plan Addendum will be presented to District Board of Directors for final direction on the CIP.

7 References

District, 2002 *East Palo Alto Sanitary District Standard Specifications for Design and Construction of Sanitary Collection and Conveyance Facilities*, East Palo Alto Sanitary District, June 6, 2002

F&L, 2015 *East Palo Alto Sanitary District Master Plan Update*, Freyer & Laureta, Inc., March 2015

K/J, 2002 East Palo Alto Sanitary District Master Plan Update, Kennedy/Jenks Consultants, September 2002

VA, 2012 *2011-2012 Sanitary Sewer Flow Monitoring and Inflow/Infiltration Study,* V&A Consultants, June 2012

ATTACHMENTS

Tables

Figures

Table 1
Flow Monitoring Locations
East Palo Alto Sanitary District

Monitoring Site (1)	Location	Basin Size (Acres)
A15	Bay Rd, east of Demeter St.	118
B13	Intersection of Bay Rd and Poplar Ave	87
E1	Intersection of Cooley Ave and Green St.	101
E2	Cooley Ave, north of Donohoe St.	149
H3	Intersection of Clarke Ave and Beech St.	74
I3	East end of Beech St.	74
I12	Pulgas Ave, north of Sage St.	135
K4	Intersection O'Connor St and Larkspur Dr	107
K28	Larkspur Dr, south of O'Connor St.	95
T20	75 feet east of end of Cypress St.	171
T13	Along north edge of Palo Alto Municipal Golf Course	1,230

Notes
(1) Monitoring sites are identified in Table 3 of the East Palo Alto Sanitary District Sanitary Sewer Flow Monitoring and Inflow/Infiltration Study dated June 2012 prepared by V&A Consulting Engineers, Inc., referred to herein as "Flow Monitoring Study."

Table 2
Peaking Factor Calculations
East Palo Alto Sanitary District

Monitoring Site (1)	ADWF (MGD) (2)	PDWF (MGD) (3)	PWWF (MGD) (4)	PDWF Peaking Factor (5)	PWWF Peaking Factor (6)
A15	0.27	0.43	1.19	1.59	2.77
B13	0.06	0.11	0.52	1.83	4.73
E1	0.13	0.19	0.59	1.46	3.11
E2	0.25	0.43	1.45	1.72	3.37
H3	0.14	0.23	0.58	1.64	2.52
I3	0.83	1.22	2.76	1.47	2.26
I12	0.23	0.39	0.76	1.70	1.95
K4	0.22	0.35	0.99	1.59	2.83
K28	0.11	0.17	0.68	1.55	4.00
T20	0.40	0.60	1.55	1.50	2.58
T13	1.53	2.31	5.78	1.51	2.50

Notes
(1) Monitoring sites are identified in Table 3 of the East Palo Alto Sanitary District Sanitary Sewer Flow Monitoring and Inflow/Infiltratio Study dated June 2012 prepared by V&A Consulting Engineers, Inc., referred to herein as "Flow Monitoring Study."
(2) ADWF is presented in Table 5 of the Flow Monitoring Study
(3) PDWF is presented in Table 7-3 of the East Palo Alto Sanitary District Wastewater Collection System Master Plan Update dated March 2015 prepared by Freyer & Laureta, Inc., herein referred to as "Master Plan Update."
(4) PWWF is presented in Table 7-3 of the Master Plan Update.
(5) PDWF Peaking Factor is calculated by dividing the PDWF by the Overall ADWF.
(6) PWWF Peaking Factor is calculated by dividing the PWWF by the PDW

Abbreviations
ADWF: Average Dry Weather Flow
MGD: Million Gallons per Day
PDWF: Peak Dry Weather Flow
PWWF: Peak Wet Weather Flow

Table 3
Predicated Surcharge Under Existing PWWF
EPASD Master Plan Update
East Palo Alto, California

Segment (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Existing d/D (3)	Downstream Manhole Rim Elevation (feet) (4)	Downstream Manhole HGL (feet) (5)
I24-I13	237	6	1	5.54	5.28
L25-L24	342	8	1	2.38	1.38
L23-L3	351	8	1	3.05	0.983
L3-L2	83	10	1	2.72	0.469
L1-L21	223	10	1	2.74	-0.377
L21-K28	68	10	1	3.27	-0.538
K28-K4	242	10	1	3.55	-1.1
M5-M4	373	8	1	9.9	8.523
I11-I10	380	15	1	7.26	6.837
I10-I9	221	15	1	5.69	5.69
I9-I8	155	15	1	6.15	6.15
I7-I6	259	15	1	4.62	4.62
I6-I5	411	18	1	3.41	3.376
I5-I31	135	18	1	2.94	2.877
I31-I4	321	18	1	1.84	1.704
I4-I3	243	18	1	0.57	0.815
H36-H35	474	6	1	14.34	14.34
H34-H17	269	6	1	12.03	12.03
H17-H57	397	8	1	14.21	14.21
H16-H60	351	8	1	14.57	12.99
H60-H15	99	8	1	14.61	12.63
H14-H13	446	8	1	10.85	10.54
H13-H12	108	8	1	10.15	10.15
H12-H11	333	8	1	9.92	9.92
H11-H64	198	8	1	9.05	9.05
H64-H71	161	8	1	8.35	8.35
H71-H3	35	8	1	8.2	8.16
C12-C1	265	6	1	23.15	16.51
C48-C11	179	6	1	41.2	30.65
C9-C8	84	6	1	29.93	29.28
C8-C7	401	6	1	34.43	28.29
C7-C6	448	6	1	25.82	25.82
C6-C5	87	6	1	25.49	25.49
C5-C4	328	6	1	25.03	24.47
C4-C3	436	6	1	22.97	21.7
C3-C2	398	6	1	21.54	18.55
C2-C1	204	6	1	23.15	16.51
C1-B16	402	8	1	20.39	14.83
B16-B15	327	8	1	20.29	13.47

Table 3
Predicated Surcharge Under Existing PWWF
EPASD Master Plan Update
East Palo Alto, California

Segment (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Existing d/D (3)	Downstream Manhole Rim Elevation (feet) (4)	Downstream Manhole HGL (feet) (5)
B15-B49	331	8	1	17.11	12.09
B49-B14	328	8	1	15.47	10.57
B7-B6	380	12	1	18.29	7.97
B5-B52	176	12	1	20.58	7.33
B4-B3	465	12	1	18.59	5.46
B3-B2	239	12	1	16	4.84
A1-A2	80	12	1	15.82	4.133
A2-A5	244	12	1	14.53	3.45
A5-A8	124	15	1	13.85	3.34
A9-A10	181	15	1	11.42	3.11
A15-A16	435	15	1	8.08	2.38
A16-A21	296	15	1	7.13	2.05
D25-D24	301	6	1	24.01	24.01
D35-D34	178	6	1	33.45	30.14
D33-D24	450	6	1	24.01	24.01
D24-D23	350	8	1	22.62	22.62
D23-D22	73	8	1	22.23	22.23
D22-D21	149	8	1	20.93	20.93
D21-D19	391	8	1	21.54	21.54
D10-D3	489	8	1	21.78	21.78
D5-D4	70	8	1	19	19
D4-D3	296	8	1	18.91	18.91
D3-D2	363	12	1	17.54	17.54
D2-D1	53	12	1	17.33	17.33
D1-E4	354	12	1	16.28	16.28
E4-E3	357	12	1	15.11	14.87
E3-E2	280	12	1	13.48	13.48
E2-E1	283	12	1	12.09	12.09
E1-H9	270	12	1	11.84	11.84
H9-H73	246	12	1	11.36	11.36
H73-H74	101	12	1	11.16	11.16
H74-H8	113	12	1	10.95	10.95
H8-H7	233	12	1	10.51	10.51
H7-H75	90	12	1	10.09	10.09
H75-H6	260	12	1	8.89	8.89
H6-H5	9	12	1	8.95	8.89
H5-H4	260	15	1	8.95	8.97
H4-H3	7	15	1	8.2	8.16
H3-H2	31	15	1	7.99	7.99

Table 3
Predicated Surcharge Under Existing PWWF
EPASD Master Plan Update
East Palo Alto, California

Segment (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Existing d/D (3)	Downstream Manhole Rim Elevation (feet) (4)	Downstream Manhole HGL (feet) (5)
E8-E7	355	8	1	11.77	11.77
E7-E6	311	8	1	11.14	11.14
T28-T27	162	18	1	7.85	1.52
T27-T26	356	18	0.57	7.03	1.42
T26-T25	306	18	0.52	3.95	1.33
T25-T24	282	18	1	3.66	1.22
T19-T18	500	21	1	1.12	-0.42
T18-T17	540	21	1	0.96	-1.65
T17-T16	482	21	1	1.34	-2.74

Notes
(1) Segment indicates the upstream and downstream manholes used to find flow and Depth over Diameter value.
(2) Pipe Diameter directly downstream of upstream manhole.
(3) Calculated by dividing the depth of flow by pipe diameter. This value is evaluated directly downstream of specified manhole under the existing PWWF condition.
(4) Manhole rim elevation from HYDRA7 model.
(5) HGL from HYDRA7 model

Abbreviations
d/D: Depth over Diameter
HGL: Hydraulic Grade Line
PWWF: Peak Wet Weather Flow

Table 4
Capital Improvements to Eliminate
Surcharge and SSOs Under Existing PWWF
EPASD Master Plan Update
East Palo Alto, California

Segment (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Existing d/D (3)	Proposed Diameter (Inches) (2)	Proposed d/D (4)
I24-I13	237	6	1	6	0.72
L25-L24	342	8	1	10	0.53
L24-L23	386	8	0.72	10	0.43
L23-L3	351	8	1	10	0.53
L3-L2	83	10	1	10	0.74
L2-L1	179	10	0.72	10	0.6
L1-L21	223	10	1	12	0.64
L21-K28	68	10	1	14	0.55
K28-K4	242	10	1	14	0.65
M5-M4	373	8	1	8	0.69
H2-I11	37	15	0.53	24	0.24
I11-I10	380	15	1	24	0.39
I10-I9	221	15	1	24	0.36
I9-I8	155	15	1	24	0.47
I8-I7	238	15	0.77	24	0.32
I7-I6	259	15	1	24	0.34
I6-I5	411	18	1	24	0.57
I5-I31	135	18	1	24	0.57
I31-I4	321	18	1	24	0.57
I4-I3	243	18	1	24	0.57
H36-H35	474	6	1	8	0.63
H35-H34	322	6	0.72	8	0.42
H34-H17	269	6	1	8	0.48
H17-H57	397	8	1	10	0.77
H57-H16	40	8	0.57	10	0.36
H16-H60	351	8	1	10	0.48
H60-H15	99	8	1	10	0.48
H15-H62	201	8	0.63	10	0.38
H62-H14	233	8	0.63	10	0.38
H14-H13	446	8	1	12	0.38
H13-H12	108	8	1	12	0.38
H12-H11	333	8	1	12	0.42
H11-H64	198	8	1	12	0.44
H64-H71	161	8	1	12	0.52
H71-H3	35	8	1	12	0.46
C12-C1	265	6	1	8	0.57
C48-C11	179	6	1	6	0.8

Table 4
Capital Improvements to Eliminate
Surcharge and SSOs Under Existing PWWF
EPASD Master Plan Update
East Palo Alto, California

Segment (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Existing d/D (3)	Proposed Diameter (Inches) (2)	Proposed d/D (4)
C9-C8	84	6	1	6	0.72
C8-C7	401	6	1	6	0.8
C7-C6	448	6	1	6	0.72
C6-C5	87	6	1	6	0.72
C5-C4	328	6	1	8	0.51
C4-C3	436	6	1	8	0.48
C3-C2	398	6	1	8	0.51
C2-C1	204	6	1	8	0.78
C1-B16	402	8	1	10	0.48
B16-B15	327	8	1	10	0.5
B15-B49	331	8	1	10	0.5
B49-B14	328	8	1	10	0.5
B7-B6	380	12	1	14	0.81
B6-B5	158	12	0.52	14	0.36
B5-B52	176	12	1	14	0.58
B52-B4	360	12	0.8	14	0.5
B4-B3	465	12	1	14	0.55
B3-B2	239	12	1	14	0.69
B2-A1	181	12	0.82	14	0.51
A1-A2	80	12	1	14	0.63
A2-A5	244	12	1	14	0.63
A5-A8	124	15	1	16	0.77
A8-A9	61	15	0.43	16	0.35
A9-A10	181	15	1	16	0.81
A10-A15	299	15	0.62	16	0.48
A15-A16	435	15	1	16	0.78
A16-A21	296	15	1	16	0.61
A21-A23	155	15	0.59	16	0.47
A23-A22	14	15	0.38	16	0.3
D25-D24	301	6	1	6	0.78
D35-D34	178	6	1	8	0.78
D34-D33	293	6	0.76	8	0.42
D33-D24	450	6	1	8	0.51
D24-D23	350	8	1	10	0.55
D23-D22	73	8	1	10	0.58
D22-D21	149	8	1	10	0.58
D21-D19	391	8	1	10	0.55

Table 4
Capital Improvements to Eliminate
Surcharge and SSOs Under Existing PWWF
EPASD Master Plan Update
East Palo Alto, California

Segment (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Existing d/D (3)	Proposed Diameter (Inches) (2)	Proposed d/D (4)
D19-D10	48	8	0.54	10	0.36
D10-D3	489	8	1	10	0.6
D5-D4	70	8	1	10	0.55
D4-D3	296	8	1	10	0.55
D3-D2	363	12	1	14	0.72
D2-D1	53	12	1	15	0.75
D1-E4	354	12	1	15	0.48
E4-E3	357	12	1	15	0.44
E3-E2	280	12	1	15	0.53
E2-E1	283	12	1	15	0.48
E1-H9	270	12	1	18	0.53
H9-H73	246	12	1	18	0.49
H73-H74	101	12	1	18	0.49
H74-H8	113	12	1	18	0.49
H8-H7	233	12	1	18	0.59
H7-H75	90	12	1	18	0.51
H75-H6	260	12	1	18	0.49
H6-H5	9	12	1	18	0.4
H5-H4	260	15	1	18	0.64
H4-H3	7	15	1	18	0.56
H3-H2	31	15	1	18	0.6
E8-E7	355	8	1	10	0.55
E7-E6	311	8	1	10	0.5
A29-T29	345	18	0.45	24	0.3
T29-T28	234	18	0.43	24	0.28
T28-T27	162	18	1	24	0.54
T27-T26	356	18	0.57	24	0.37
T26-T25	306	18	0.52	24	0.34
T25-T24	282	18	1	24	0.6
T24-T23	317	18	0.53	24	0.34
T23-T22	446	18	0.6	24	0.38
T20-T19	332	18	0.43	24	0.29
T19-T18	500	21	1	24	0.67

Table 4
Capital Improvements to Eliminate
Surcharge and SSOs Under Existing PWWF
EPASD Master Plan Update
East Palo Alto, California

Segment (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Existing d/D (3)	Proposed Diameter (Inches) (2)	Proposed d/D (4)
T18-T17	540	21	1	24	0.67
T17-T16	482	21	1	24	0.71

Notes
(1) Segment indicates the upstream and downstream manholes used to find flow and Depth over Diameter value.
(2) Pipe Diameter directly downstream of upstream manhole.
(3) Calculated by dividing the depth of flow by pipe diameter. This value is evaluated directly downstream of specified manhole under the existing PWWF condition.
(4) Calculated by dividing the depth of flow by pipe diameter. This value is evaluated directly downstream of specified manhole under the existing PWWF condition including pipe size upgrades.

Abbreviations
d/D: Depth over Diameter
PWWF: Peak Wet Weather Flow
SSOs: Sanitary Sewer Overflows

Table 5
Conceptual OPC Eliminating Surcharge Under Existing PWWF (1)
EPASD Master Plan Update
East Palo Alto, California

Item No.	Description	Units	Quantity (2)	Unit Price	Budget
Conceptual Opinion of Probable Construction Cost					
1	Mobilization	ls	1	$ 50,000	$ 50,000
2	Traffic Control	ls	1	$ 20,000	$ 20,000
3	Sheeting, Shoring, and Bracing	ls	1	$ 20,000	$ 20,000
4	6-inch DR 17 HDPE Pipe	lf	1,740	$ 150	$ 261,000
5	8-inch DR 17 HDPE Pipe	lf	3,990	$ 200	$ 798,000
6	10-inch DR 17 HDPE Pipe	lf	6,580	$ 250	$ 1,645,000
7	12-inch DR 17 HDPE Pipe	lf	1,500	$ 300	$ 450,000
8	14-inch DR 17 HDPE Pipe	lf	2,960	$ 350	$ 1,036,000
9	15-inch DR 17 HDPE Pipe	lf	1,330	$ 400	$ 532,000
10	16-inch DR 17 HDPE Pipe	lf	1,570	$ 450	$ 706,500
11	18-inch DR 17 HDPE Pipe	lf	1,620	$ 550	$ 891,000
12	24-inch DR 17 HDPE Pipe	lf	6,700	$ 800	$ 5,360,000
13	Manholes	ea	135	$ 10,000	$ 1,350,000
14	30% Contingency	%	30%	$ 13,119,500	$ 3,935,850
Subtotal - Conceptual Opinion of Probable Construction Cost					**$ 17,055,400**
Engineering and Administration Cost					
15	Design	%	10%	$ 17,055,400	$ 1,705,540
16	Environmental/Permitting	%	10%	$ 17,055,400	$ 1,705,540
17	Construction Management/ Inspection	%	15%	$ 17,055,400	$ 2,558,310
18	District Administration	%	5%	$ 17,055,400	$ 852,770
Subtotal - Engineering and Administration Cost					**$ 6,822,200**
Total Conceptual Opinion of Probable Project Cost					**$ 23,877,600**

Notes
(1) See Table 4 and Figure 4 for limits of improvements.
(2) Quantities rounded to nearest 10 feet.

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
63121400	2091 BAY RD, EAST PALO ALTO	Parks/Recreation/Conservation	Office
63122030	BAY RD, EAST PALO ALTO	Parks/Recreation/Conservation	Office
63132140	1905 BAY RD, EAST PALO ALTO	Parks/Recreation/Conservation	Mixed Use Corridor
63111250	1675 BAY RD, EAST PALO ALTO	Low Density Residential Office	Mixed Use High Mixed Use High
63111230		Parks/Recreation/Conservation	Mixed Use High
63103310	1585 BAY RD, EAST PALO ALTO	Office	Mixed Use High
113530999		Low Density Residential	High Density Residential
113530040	2426 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113530050	2428 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113530020	2422 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113530030	2424 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113530060	2430 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113530010	2420 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113710060	2450 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113710040	2446 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113710020	2442 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113710030	2444 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113710010	2440 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113710050	2448 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113710999		Low Density Residential	High Density Residential
113720999		Low Density Residential	High Density Residential
113720030	2464 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113720010	2460 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113720040	2466 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113720020	2462 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113740050	2478 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113740020	2472 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113740999		Low Density Residential	High Density Residential
113740070	2482 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113740080	2484 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113740030	2474 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113740010	2470 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113740040	2476 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
113740060	2480 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
63103440	2400 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential
63090020	1423-1425A BAY RD, EAST PALO ALTO	Medium Density Residential	Parks/Recreation/Conservation
63090060		Low Density Residential	Public/Institutional
63090080		Low Density Residential	Public/Institutional
63231220	1800 BAY RD, EAST PALO ALTO	Office	Mixed Use Corridor
63231240	1804 BAY RD, EAST PALO ALTO	Office	Mixed Use Corridor
63231250	1798 BAY RD, EAST PALO ALTO	Office	Mixed Use Corridor
63232350	901 WEEKS ST, EAST PALO ALTO	Office	Mixed Use High
63232210	WEEKS ST, EAST PALO ALTO	Office	High Density Residential
63232220	WEEKS ST, EAST PALO ALTO	Office	High Density Residential
63232230	WEEKS ST, EAST PALO ALTO	Office	High Density Residential
63232260	1001 WEEKS ST, EAST PALO ALTO	Office	High Density Residential
63232090	1003 WEEKS ST, EAST PALO ALTO	Office	High Density Residential
63232240	1045 WEEKS ST, EAST PALO ALTO	Office	High Density Residential
63232150	2421 PULGAS AVE, EAST PALO ALTO	Office	High Density Residential
63232300	1095 WEEKS ST, EAST PALO ALTO	Office	High Density Residential
63232250	1085 WEEKS ST, EAST PALO ALTO	Office	High Density Residential
63232160	2447 PULGAS AVE, EAST PALO ALTO	Office	High Density Residential
63221180	2371 CLARKE AVE, EAST PALO ALTO	Low Density Residential	High Density Residential
63221190	2369 CLARKE AVE, EAST PALO ALTO	Low Density Residential	High Density Residential
63221200	891 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
63221220	867 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221210	871 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221230	865 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221500	863 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221240		Low Density Residential	High Density Residential
63221250	831 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221260	819 JAMIE LN, EAST PALO ALTO	Low Density Residential	High Density Residential
63221270	823 JAMIE LN, EAST PALO ALTO	Low Density Residential	High Density Residential
63221280	827 JAMIE LN, EAST PALO ALTO	Low Density Residential	High Density Residential
63221320	817 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221310	815 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221300	813 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221290	811 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221380	809 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221370	807 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221360	805 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221350	803 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221340	801 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221390	791 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221550	785 CAROLE CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221540	779 CAROLE CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221530	773 CAROLE CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221520	767 CAROLE CT, EAST PALO ALTO	Low Density Residential	High Density Residential
63221510	761 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221410	731 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221420	717 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63221430	2360 COOLEY AVE, EAST PALO ALTO	Low Density Residential	High Density Residential
63221440	2362-2362 COOLEY AVE, EAST PALO ALTO	Low Density Residential	High Density Residential
63221450	2364 COOLEY AVE, EAST PALO ALTO	Low Density Residential	High Density Residential
63203210	585 WEEKS ST, EAST PALO ALTO	Commercial	Mixed Use High
63203220	579 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential
63203230	563 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential
63203240	549 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential
63203250	541 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential
63203260	533 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential
63203270		Commercial	Low Density Residential
63203390	1518 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203370	1508 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203350	1574 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203410	1568 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203400	1560 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203440	1554 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203360	1546 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203450	1538 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203430	1530 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential
63203380		Commercial	Medium Density Residential
63202280	2361-2369 UNIVERSITY AVE 101-308, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63202160	561 SACRAMENTO ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63202100	566 WEEKS ST, EAST PALO ALTO	High Density Residential	Low Density Residential
63202090	564 WEEKS ST, EAST PALO ALTO	High Density Residential	Low Density Residential
63202080	556 WEEKS ST, EAST PALO ALTO	High Density Residential	Low Density Residential
63201270	578 SACRAMENTO ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63201240	2343 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63201220	2337 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63201090	576 SACRAMENTO ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
63201080	566 SACRAMENTO ST, EAST PALO ALTO	High Density Residential	Low Density Residential
63201290	2331 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63201250	RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63201260	RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63210630	2358 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63210450	2377 COOLEY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63210410	2371 COOLEY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63210340	2369 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential
63210350	2365 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential
63210480	2361 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential
63210490	2355 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential
63210310	2346 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63210380	2354 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63210520	2338 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240070	2330 UNIVERSITY AVE # 160, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240200	2330 UNIVERSITY AVE # 290, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240020	2330 UNIVERSITY AVE # 110, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240010	2330 UNIVERSITY AVE # 100, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240260	2330 UNIVERSITY AVE # 350, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240170	2330 UNIVERSITY AVE # 260, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240050	2330 UNIVERSITY AVE # 140, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240280	2330 UNIVERSITY AVE # 370, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240060	2330 UNIVERSITY AVE # 150, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240300	2330 UNIVERSITY AVE # 390, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240270	2330 UNIVERSITY AVE # 360, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240110	2330 UNIVERSITY AVE # 200, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240090	2330 UNIVERSITY AVE # 180, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240080	2330 UNIVERSITY AVE # 170, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240100	2330 UNIVERSITY AVE # 190, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240290	2330 UNIVERSITY AVE # 380, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240160	2330 UNIVERSITY AVE # 250, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240230	2330 UNIVERSITY AVE # 320, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240190	2330 UNIVERSITY AVE # 280, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240150	2330 UNIVERSITY AVE # 240, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240040	2330 UNIVERSITY AVE # 130, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240180	2330 UNIVERSITY AVE # 270, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240220	2330 UNIVERSITY AVE # 310, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240240	2330 UNIVERSITY AVE # 330, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240250	2330 UNIVERSITY AVE # 340, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240120	2330 UNIVERSITY AVE # 210, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240210	2330 UNIVERSITY AVE # 300, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240030	2330 UNIVERSITY AVE # 120, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240140	2330 UNIVERSITY AVE # 230, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
114240130	2330 UNIVERSITY AVE # 220, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63210610	661 RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63210470	633 RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63210360	2300 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor
63302340	584 RUNNYMEDE ST, EAST PALO ALTO	Office	Mixed Use Corridor
63302170	2283 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor
63302180	2281 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor
63302470	2279 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor
63302460	2277 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor
63302210	2263 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor
63302220	2253 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor
63302230	2247 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor
63302330	2201 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
63302280	575A BELL ST, EAST PALO ALTO	Office	Mixed Use Corridor
63302290	565 BELL ST, EAST PALO ALTO	Office	Mixed Use Corridor
63331420	RUNNYMEDE ST, EAST PALO ALTO	Commercial	Public/Institutional
63331150	2284 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331140	2280 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331130	2276 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331120	2274 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331110	2272 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331100	2268 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331090	2264 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331080	2252 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331070	2248 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331060	2242 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331380	2240 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331410	2220 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331030	2212 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331370	2200 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331190	2291 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331200	2287 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331210	2285 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331220	2277 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331230	2267 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331240	2263 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331250	2255 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331260	2251 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331270	2249 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331280	2245 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331290	2239 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331300	2233 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331310	2227 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331320	2219 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331330	2217 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331340	2205 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63331350	643 BELL ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321180	612 BELL ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321190	616 BELL ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321200	644 BELL ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321210	2189 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321220	2187 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321230	2181 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321240	2171 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321250	2165 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321260	2161 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321270	2157 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321280	2153 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321290	2149 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321300	2145 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321310	2141 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321320	2133 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321330	2129 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321400	2194 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321140	2178 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321130	2172 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321120	2166 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321110	2164 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321100	2160 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
63321410	2148 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321080	2142 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321070		Commercial	Mixed Use Corridor
63321060	2126 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321050	2124 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63321420		Commercial	Office
63322150	2198 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322160	660 BELL ST, EAST PALO ALTO	Commercial	Medium Density Residential
63322140	2194 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322130	2184 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322340	2169 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322110	2162 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322500	2159 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322100	2154 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322090	2144 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322080	2142 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322070	2138 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322060	2134 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322050	2132 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322040	2124 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322580	2118 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63322560	DONOHOE ST, EAST PALO ALTO	High Density Residential	Office
63322410		High Density Residential	Office
63292380	2160 EUCLID AVE, EAST PALO ALTO	Low Density Residential	Mixed Use High
63292370	2117 UNIVERSITY AVE, EAST PALO ALTO	Office, High Density Residential	Mixed Use High
63292180	2101 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use High
63291010	1489 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low
63184010	1475 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low
63184020	2056 GLEN WAY, EAST PALO ALTO	Low Density Residential	Mixed Use Low
63184030	2070 GLEN WAY, EAST PALO ALTO	Low Density Residential	Mixed Use Low
63184040	2080 GLEN WAY, EAST PALO ALTO	Low Density Residential	Mixed Use Low
63183080	1435 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low
63183070	2045 GLEN WAY, EAST PALO ALTO	Commercial	Mixed Use Low
63183090		Commercial	Mixed Use Low
63183110	1401 E BAYSHORE RD 2, EAST PALO ALTO	Commercial	Mixed Use Low
63183010	2088 LINCOLN ST, EAST PALO ALTO	Commercial	Mixed Use Low
63181240	1385 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low
63181010	2110 DUMBARTON AVE, EAST PALO ALTO	Commercial	Mixed Use Low
63181230	2097 LINCOLN ST, EAST PALO ALTO	Low Density Residential	Mixed Use Low
63181220	2111 LINCOLN ST, EAST PALO ALTO	Low Density Residential	Mixed Use Low
63155190	2109 DUMBARTON AVE, EAST PALO ALTO	Commercial	Mixed Use Low
63155180	2123 DUMBARTON AVE, EAST PALO ALTO	Commercial	Mixed Use Low
63155010	2106 OAKWOOD DR, EAST PALO ALTO	Commercial	Mixed Use Low
63154260	2119 OAKWOOD DR, EAST PALO ALTO	Commercial	Mixed Use Low
63154200	2110 ADDISON AVE, EAST PALO ALTO	Commercial	Mixed Use Low
63153250	2119 ADDISON AVE, EAST PALO ALTO	Commercial	Mixed Use Low
63153010	1205 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low
63152230	1199 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low
63151170	2159 POPLAR AVE, EAST PALO ALTO	Commercial	Mixed Use Low
63151200	1001 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low
63154240		Parks/Recreation/Conservation	Public/Institutional
63271480		Parks/Recreation/Conservation	Industrial Buffer
63271370	1171 RUNNYMEDE ST, EAST PALO ALTO	Low Density Residential	High Density Residential
63272080	1286 RUNNYMEDE ST, EAST PALO ALTO	Low Density Residential	Public/Institutional
63381190		Low Density Residential	Public/Institutional
63341130	1063 GARDEN ST, EAST PALO ALTO	Low Density Residential	Public/Institutional

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
63341150	1039 GARDEN ST, EAST PALO ALTO	Low Density Residential	Public/Institutional
63600060	1266 BEECH ST, EAST PALO ALTO	Low Density Residential	Parks/Recreation/Conservation
63352170	980 MYRTLE ST, EAST PALO ALTO	Low Density Residential	Public/Institutional
63352480	1050 MYRTLE ST, EAST PALO ALTO	Low Density Residential	Public/Institutional
63491040	2033A PULGAS AVE, EAST PALO ALTO	Low Density Residential	Public/Institutional
63491030	951 OCONNOR ST, EAST PALO ALTO	Low Density Residential	Public/Institutional
63511240	896 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511260	890 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511020	2039 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511030	2035 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511040	2029 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511050	2027 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511060	2023 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511070	2017 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511080	2013 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511090	2009 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511660	899 OCONNOR ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511220	862 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511250	860 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511210	864 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511200	866 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511190	872 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460020	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460090	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460030	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460170	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460060	1765 EAST BAYSHORE RD 206, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460100	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460270	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460260	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460140	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114450060	1765 EAST BAYSHORE RD A1&A2, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460210	1765 EAST BAYSHORE RD 221, EAST PALO ALTO	Commercial	Mixed Use Corridor
114450020	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460040	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114450040	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460200	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114450010	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460050	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460180	1765 EAST BAYSHORE RD 218, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460250	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460110	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460150	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114450050	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460160	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460280	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460120	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114450030	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460010	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460220	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460240	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460290	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460070	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460130	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460300	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
114460190	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460230	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
114460080	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
63511520	1761 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High
63511680	1751 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High
63511690	1745 E BAYSHORE BLVD, EAST PALO ALTO	Commercial	Mixed Use High
63511490	1731 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High
63511630	1721 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High
63511720	1775 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High
63312400		Commercial	Office
63665020	1960-1962 TATE ST, EAST PALO ALTO	Medium Density Residential	Parks/Recreation/Conservation
63676020	1960-1962 TATE ST, EAST PALO ALTO	Medium Density Residential	Parks/Recreation/Conservation
134241370		High Density Residential	Low Density Residential
134241090	1885 E BAYSHORE RD SPC 9, EAST PALO ALTO	High Density Residential	Low Density Residential
134241100	1885 E BAYSHORE RD SPC 10, EAST PALO ALTO	High Density Residential	Low Density Residential
134241360		High Density Residential	Low Density Residential
134241120		High Density Residential	Low Density Residential
134241891	1885 E BAYSHORE RD, EAST PALO ALTO	High Density Residential	Low Density Residential
134241400	1885 E BAYSHORE RD SPC 40, EAST PALO ALTO	High Density Residential	Low Density Residential
134241750	1885 E BAYSHORE RD SPC 75, EAST PALO ALTO	High Density Residential	Low Density Residential
134241680		High Density Residential	Low Density Residential
134241080		High Density Residential	Low Density Residential
134241650		High Density Residential	Low Density Residential
134241791	1885 E BAYSHORE RD SPC 79, EAST PALO ALTO	High Density Residential	Low Density Residential
134241630	1885 E BAYSHORE RD, EAST PALO ALTO	High Density Residential	Low Density Residential
134241140	1885 E BAYSHORE RD #14, EAST PALO ALTO	High Density Residential	Low Density Residential
134241520		High Density Residential	Low Density Residential
134241720	1885 E BAYSHORE RD SPC 72, EAST PALO ALTO	High Density Residential	Low Density Residential
134241240	1885 E BAYSHORE RD SPC 24, EAST PALO ALTO	High Density Residential	Low Density Residential
134241340		High Density Residential	Low Density Residential
134241380		High Density Residential	Low Density Residential
134241810		High Density Residential	Low Density Residential
134241261	1885 E BAYSHORE RD SPC 26, EAST PALO ALTO	High Density Residential	Low Density Residential
134242180		High Density Residential	Low Density Residential
134241980	1885 E BAYSHORE RD SPC 98, EAST PALO ALTO	High Density Residential	Low Density Residential
134241221	1885 E BAYSHORE RD SPC 22, EAST PALO ALTO	High Density Residential	Low Density Residential
134241960	1885 E BAYSHORE RD #96, EAST PALO ALTO	High Density Residential	Low Density Residential
134241580	1885 E BAYSHORE RD SPC 58, EAST PALO ALTO	High Density Residential	Low Density Residential
134241870		High Density Residential	Low Density Residential
134241350	1885 E BAYSHORE RD, EAST PALO ALTO	High Density Residential	Low Density Residential
134241991		High Density Residential	Low Density Residential
134241780	1885 E BAYSHORE RD SPC 78, EAST PALO ALTO	High Density Residential	Low Density Residential
134241550	1885 E BAYSHORE BLVD #55, EAST PALO ALTO	High Density Residential	Low Density Residential
134241200	1885 E BAYSHORE RD SPC 20, EAST PALO ALTO	High Density Residential	Low Density Residential
134241770	1885 E BAYSHORE RD SPC 77, EAST PALO ALTO	High Density Residential	Low Density Residential
134242070		High Density Residential	Low Density Residential
134241660	1885 E BAYSHORE RD SPC 66, EAST PALO ALTO	High Density Residential	Low Density Residential
134241150		High Density Residential	Low Density Residential
134242131	1885 E BAYSHORE RD SPC 112, EAST PALO ALTO	High Density Residential	Low Density Residential
134242110		High Density Residential	Low Density Residential
134241530	1885 E BAYSHORE RD SPC 53, EAST PALO ALTO	High Density Residential	Low Density Residential
134241070		High Density Residential	Low Density Residential
134241640	1885 E BAYSHORE RD SPC 64, EAST PALO ALTO	High Density Residential	Low Density Residential
134241590	1885 E BAYSHORE RD #59, EAST PALO ALTO	High Density Residential	Low Density Residential
134241160	1885 E BAYSHORE RD #16, EAST PALO ALTO	High Density Residential	Low Density Residential
134241790		High Density Residential	Low Density Residential

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
134241560	1885 E BAYSHORE RD SPC 56, EAST PALO ALTO	High Density Residential	Low Density Residential
134241060		High Density Residential	Low Density Residential
134241921	1885 E BAYSHORE RD SPC 92, EAST PALO ALTO	High Density Residential	Low Density Residential
134241390		High Density Residential	Low Density Residential
134241010	1885 E BAYSHORE RD SPC 1, EAST PALO ALTO	High Density Residential	Low Density Residential
134242140		High Density Residential	Low Density Residential
134241330	1885 E BAYSHORE RD SPC 33, EAST PALO ALTO	High Density Residential	Low Density Residential
134241300		High Density Residential	Low Density Residential
134241850		High Density Residential	Low Density Residential
134241670	1885 E BAYSHORE RD SPC 67, EAST PALO ALTO	High Density Residential	Low Density Residential
134242050		High Density Residential	Low Density Residential
134241800		High Density Residential	Low Density Residential
134241510	1885 E BAYSHORE RD SPC 51, EAST PALO ALTO	High Density Residential	Low Density Residential
134241311	1855 E BAYSHORE RD #31, EAST PALO ALTO	High Density Residential	Low Density Residential
134241050	1885 E BAYSHORE RD SPC 5, EAST PALO ALTO	High Density Residential	Low Density Residential
134241831	1885 E BAYSHORE RD SPC 83, EAST PALO ALTO	High Density Residential	Low Density Residential
134241110	1885 E BAYSHORE RD SPC 11, EAST PALO ALTO	High Density Residential	Low Density Residential
134241950	1885 E BAYSHORE RD SPC 95, EAST PALO ALTO	High Density Residential	Low Density Residential
134241860		High Density Residential	Low Density Residential
134241700	1885 E BAYSHORE RD #70, EAST PALO ALTO	High Density Residential	Low Density Residential
134241930	1885 E BAYSHORE RD SPC 93, EAST PALO ALTO	High Density Residential	Low Density Residential
134241821	1885 E BAYSHORE RD SPC 82, EAST PALO ALTO	High Density Residential	Low Density Residential
134242040	1885 E BAYSHORE RD #103, EAST PALO ALTO	High Density Residential	Low Density Residential
134241681		High Density Residential	Low Density Residential
134241290	1885 E BAYSHORE RD SPC 29, EAST PALO ALTO	High Density Residential	Low Density Residential
134241470	1885 E BAYSHORE RD SPC 47, EAST PALO ALTO	High Density Residential	Low Density Residential
134241690	1885 E BAYSHORE RD SPC 69, EAST PALO ALTO	High Density Residential	Low Density Residential
134241410		High Density Residential	Low Density Residential
134241900	1885 E BAYSHORE RD SPC 90, EAST PALO ALTO	High Density Residential	Low Density Residential
134241420	1885 E BAYSHORE RD SPC 42, EAST PALO ALTO	High Density Residential	Low Density Residential
134241910	1885 E BAYSHORE RD SPC 91, EAST PALO ALTO	High Density Residential	Low Density Residential
134241190	1885 E BAYSHORE RD SPC 19, EAST PALO ALTO	High Density Residential	Low Density Residential
134241230		High Density Residential	Low Density Residential
134241270	1885 E BAYSHORE RD SPC 27, EAST PALO ALTO	High Density Residential	Low Density Residential
134241210		High Density Residential	Low Density Residential
134242150		High Density Residential	Low Density Residential
134241490	1885 E BAYSHORE RD SPC 49, EAST PALO ALTO	High Density Residential	Low Density Residential
134241801	1885 E BAYSHORE RD #80, EAST PALO ALTO	High Density Residential	Low Density Residential
134241280	1885 E BAYSHORE RD SPC 28, EAST PALO ALTO	High Density Residential	Low Density Residential
134242060	1885 E BAYSHORE RD SPC 105, EAST PALO ALTO	High Density Residential	Low Density Residential
134241880		High Density Residential	Low Density Residential
134241180		High Density Residential	Low Density Residential
134242100		High Density Residential	Low Density Residential
134241761		High Density Residential	Low Density Residential
63492270	1885 E BAYSHORE RD, EAST PALO ALTO	High Density Residential	Low Density Residential
134241310		High Density Residential	Low Density Residential
134241570	1885 E BAYSHORE RD SPC 57, EAST PALO ALTO	High Density Residential	Low Density Residential
134241020	1885 E BAYSHORE RD SPC 2, EAST PALO ALTO	High Density Residential	Low Density Residential
63492280	1933 PULGAS AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63492070	1927 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
63492480	1895 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
63571090	1905 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
63571080	1961 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
63571060	1985 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
63571070	1981 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor
63501020	1874 W BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
63501030	1870 W BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low
63501040	1879 WOODLAND AVE, EAST PALO ALTO	Commercial	Mixed Use Low
63501050	1875 WOODLAND AVE, EAST PALO ALTO	Commercial	Mixed Use Low
63515060	1821 CLARKE AVE, EAST PALO ALTO	High Density Residential	Low Density Residential
63515070	1805 CLARKE AVE, EAST PALO ALTO	High Density Residential	Low Density Residential
63515080	1787 WOODLAND AVE, EAST PALO ALTO	High Density Residential	Low Density Residential
63515230	1785 WOODLAND AVE, EAST PALO ALTO	High Density Residential	Low Density Residential
63484130	1957 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential
63484090	1949 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential
63484100	1941 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential
63484110	685 SCOFIELD AVE, EAST PALO ALTO	Commercial	High Density Residential
63484060	1934 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential
63484050	1920 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential
63484040	1916 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential
63484030	1908 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential
63484020	1902 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential
63484010	655 SCOFIELD AVE, EAST PALO ALTO	Commercial	High Density Residential
63483040	1943 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential
63483050	1609 WOODLAND AVE, EAST PALO ALTO	Commercial	High Density Residential
63483030	1909 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63482030	611 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential
63482020	621 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential
63482010	641 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential
63481120	660 SCOFIELD AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481130	610 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential
63481140	620 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential
63481150	630 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential
63481160	640 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential
63481170	650 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential
63481110	652 SCOFIELD AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481100	644 SCOFIELD AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481090	1621 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481080	1629 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481070	1637 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481060	1643 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481050	1651 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481040	1669 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481030	1671 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481020	1681 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481010	1699 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481210	1901 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481220	1905 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481190	1909 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63481180	1917 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential
63680050		Commercial	Office
63680150	2050 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office
63680130	2000 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office
63680020	1900 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office
63680100		Commercial	Office
63680110		Commercial	Office
63680190	2000 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office
63680090		Commercial	Office
63680180		Commercial	Office
63680060		Commercial	Office
63282080	2033 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential
63282090	2001 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential

Table 6
Land Use Changes - 2014 Zoning versus Proposed 2035 Zoning
EPASD Master Plan Update
East Palo Alto, California

APN	Address	2014 Zoning	2035 Zoning
63473150	1995 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential
63473160	1991 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential
63473170	1965 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential
63473180	1955 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential
63473190	1919 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential
63473200	1901 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential
63442360	330 DONOHOE ST, EAST PALO ALTO	Low Density Residential	High Density Residential

Notes
(1) Assessor Parcel Number (APNs) for all parcels is provided and street addresses are included when the parcel has an assigned address. If no address is available, the cell is left blank.
(2) 2014 zoning is the zoning for the parcel at the time of the preparation of the 2015 Master Plan for the East Palo Alto Sanitary District.
(3) 2035 Zoning is for the City of East Palo Alto's recently adopted General Plan.

Table 7
2014 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Land Use from EDS (2)	Equivalent Dwelling Units (3)	Average Daily Flow for Residential , GPD (4)
063-103-310	1585 BAY RD, EAST PALO ALTO	Restaurant	30	7,240
063-103-440	2400 GLORIA WAY, EAST PALO ALTO	Res-Multpl	40	9,600
063-111-230	BETWEEN 1585 AND 1675 BAY RD, EAST PALO ALTO	Public	0	0
063-111-250	1675 BAY RD, EAST PALO ALTO	Commercial	1	240
063-121-400	2091 BAY RD, EAST PALO ALTO	Commercial	1	240
063-122-030	1990 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-132-140	1905 BAY RD, EAST PALO ALTO	Industrial	1	240
063-151-170	2159 POPLAR AVE, EAST PALO ALTO	Res-Multpl	2	480
063-151-200	1001 E BAYSHORE RD, EAST PALO ALTO	Res-Single	1	240
063-152-230	1199 E BAYSHORE RD, EAST PALO ALTO	Church	1	240
063-153-010	1205 E BAYSHORE RD, EAST PALO ALTO	No hookup	0	0
063-153-250	2119 ADDISON AVE, EAST PALO ALTO	Manual	0	0
063-154-200	2110 ADDISON AVE, EAST PALO ALTO	Commercial	1	240
063-154-260	2119 OAKWOOD DR, EAST PALO ALTO	Res-Multpl	1	240
063-155-010	2106 OAKWOOD DR, EAST PALO ALTO	Commercial	1	240
063-155-180	2123 DUMBARTON AVE, EAST PALO ALTO	Res-Single	1	240
063-155-190	2109 DUMBARTON AVE, EAST PALO ALTO	Res-Multpl	1	240
063-181-010	2110 DUMBARTON AVE, EAST PALO ALTO	Res-Multpl	1	240
063-181-220	2111 LINCOLN ST, EAST PALO ALTO	Res-Single	1	240
063-181-230	2097 LINCOLN ST, EAST PALO ALTO	Res-Single	1	240
063-181-240	1385 E BAYSHORE RD, EAST PALO ALTO	No hookup	0	0
063-183-010	2088 LINCOLN ST, EAST PALO ALTO	Res-Multpl	1	240
063-183-070	2045 GLEN WAY, EAST PALO ALTO	Res-Multpl	1	240
063-183-080	1441 E BAYSHORE RD, EAST PALO ALTO	Commercial	1	240
063-183-090	, EAST PALO ALTO	No hookup	0	0
063-183-110	1401 E BAYSHORE RD 2, EAST PALO ALTO	Res-Multpl	0	0
063-184-010	1475 E BAYSHORE RD, EAST PALO ALTO	Commercial	0	0
063-184-020	2056 GLEN WAY, EAST PALO ALTO	Res-Multpl	0	0
063-184-030	2070 GLEN WAY, EAST PALO ALTO	Res-Multpl	0	0
063-184-040	2080 GLEN WAY, EAST PALO ALTO	Manual	0	0
063-201-080	566 SACRAMENTO ST, EAST PALO ALTO	Res-Multpl	1	240
063-201-090	576 SACRAMENTO ST, EAST PALO ALTO	Res-Single	1	240
063-201-220	2337 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-201-240	2343 UNIVERSITY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-201-250	RUNNYMEDE ST, EAST PALO ALTO	Res-Multpl	1	240
063-201-260	RUNNYMEDE ST, EAST PALO ALTO	Res-Single	1	240
063-201-270	578 SACRAMENTO ST, EAST PALO ALTO	Res-Multpl	1	240
063-201-290	2331 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-202-080	556 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-202-090	564 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-202-100	566 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-202-160	561 SACRAMENTO ST, EAST PALO ALTO	Res-Multpl	1	240
063-202-280	2361-2369 UNIVERSITY AVE 101-308, EAST PALO ALTO	Res-Multpl	1	240
063-203-210	585 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-203-220	579 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-203-230	563 WEEKS ST, EAST PALO ALTO	Res-Multpl	1	240
063-203-240	549 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-203-250	541 WEEKS ST, EAST PALO ALTO	Res-Multpl	1	240
063-203-260	533 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-203-270	, EAST PALO ALTO	No hookup	0	0
063-203-350	1574 BAY RD, EAST PALO ALTO	Res-Single	1	240

Table 7
2014 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Land Use from EDS (2)	Equivalent Dwelling Units (3)	Average Daily Flow for Residential , GPD (4)
063-203-360	1546 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-203-370	1508 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-203-380	, NO DATA	No hookup	0	0
063-203-390	1518 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-203-400	1560 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-203-410	1568 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-203-430	1530 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-203-440	1554 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-203-450	1538 BAY RD, EAST PALO ALTO	Res-Single	1	240
063-210-310	2346 UNIVERSITY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-210-340	2369 COOLEY AVE, EAST PALO ALTO	Res-Single	1	240
063-210-350	2365 COOLEY AVE, EAST PALO ALTO	Res-Single	1	240
063-210-360	2300 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-210-380	2354 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-210-410	2371 COOLEY AVE, EAST PALO ALTO	Res-Single	1	240
063-210-450	2377 COOLEY AVE, EAST PALO ALTO	Res-Single	1	240
063-210-470	633 RUNNYMEDE ST, EAST PALO ALTO	Res-Single	1	240
063-210-480	2361 COOLEY AVE, EAST PALO ALTO	Res-Single	1	240
063-210-490	2355 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-210-520	2338 UNIVERSITY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-210-610	661 RUNNYMEDE ST, EAST PALO ALTO	Res-Single	1	240
063-210-630	2358 UNIVERSITY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-221-180	2371 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-221-190	2369 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-221-200	891 WEEKS ST, EAST PALO ALTO	Church	1	240
063-221-210	871 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-220	867 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-230	865 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-240	, NO DATA	No hookup	0	0
063-221-250	831 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-260	819 JAMIE LN, EAST PALO ALTO	No hookup	0	0
063-221-270	823 JAMIE LN, EAST PALO ALTO	No hookup	0	0
063-221-280	827 JAMIE LN, EAST PALO ALTO	No hookup	0	0
063-221-290	811 PAUL ROBESON CT, EAST PALO ALTO	Res-Single	1	240
063-221-300	813 PAUL ROBESON CT, EAST PALO ALTO	Res-Single	1	240
063-221-310	815 PAUL ROBESON CT, EAST PALO ALTO	Res-Single	1	240
063-221-320	817 PAUL ROBESON CT, EAST PALO ALTO	Res-Single	1	240
063-221-340	801 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-350	803 PAUL ROBESON CT, EAST PALO ALTO	Res-Single	1	240
063-221-360	805 PAUL ROBESON CT, EAST PALO ALTO	Res-Single	1	240
063-221-370	807 PAUL ROBESON CT, EAST PALO ALTO	Res-Single	1	240
063-221-380	809 PAUL ROBESON CT, EAST PALO ALTO	Res-Single	1	240
063-221-390	791 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-410	731 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-420	717 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-430	2360 COOLEY AVE, EAST PALO ALTO	Res-Single	1	240
063-221-440	2362-2362 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-221-450	2364 COOLEY AVE, EAST PALO ALTO	Res-Single	1	240
063-221-500	863 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-510	761 WEEKS ST, EAST PALO ALTO	Res-Single	1	240
063-221-520	767 CAROLE CT, EAST PALO ALTO	Res-Single	1	240
063-221-530	773 CAROLE CT, EAST PALO ALTO	Res-Single	1	240
063-221-540	779 CAROLE CT, EAST PALO ALTO	Res-Single	1	240

Table 7
2014 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Land Use from EDS (2)	Equivalent Dwelling Units (3)	Average Daily Flow for Residential , GPD (4)
063-221-550	785 CAROLE CT, EAST PALO ALTO	Res-Single	1	240
063-231-220	1800 BAY RD, EAST PALO ALTO	Commercial	1	240
063-231-240	1804 BAY RD, EAST PALO ALTO	Commercial	1	240
063-231-250	1798 BAY RD, EAST PALO ALTO	Medical	1	240
063-232-090	1003 WEEKS ST, EAST PALO ALTO	Commercial	11	2,743
063-232-150	2421 PULGAS AVE, EAST PALO ALTO	Restaurant	6	1,545
063-232-160	2447 PULGAS AVE, EAST PALO ALTO	Commercial	1	302
063-232-210	WEEKS ST, EAST PALO ALTO	No hookup	0	0
063-232-220	WEEKS ST, EAST PALO ALTO	Commercial	0	0
063-232-230	WEEKS ST, EAST PALO ALTO	No hookup	0	0
063-232-240	1045 WEEKS ST, EAST PALO ALTO	Commercial	1	240
063-232-250	1085 WEEKS ST, EAST PALO ALTO	Manual	0	0
063-232-260	1001 WEEKS ST, EAST PALO ALTO	Church	1	240
063-232-300	1095 WEEKS ST, EAST PALO ALTO	Commercial	1	336
063-232-350	901 WEEKS ST, EAST PALO ALTO	Public	0	0
063-271-370	1171 RUNNYMEDE ST, EAST PALO ALTO	Church	1	240
063-271-480	, EAST PALO ALTO	No hookup	0	0
063-282-080	2033 MANHATTAN AVE, EAST PALO ALTO	Res-Multpl	1	240
063-282-090	2001 MANHATTAN AVE, EAST PALO ALTO	Res-Multpl	1	240
063-291-010	1489 E BAYSHORE RD, EAST PALO ALTO	Commercial	1	240
063-292-180	2101 UNIVERSITY AVE, EAST PALO ALTO	Industrial	2	474
063-292-370	2117 UNIVERSITY AVE, EAST PALO ALTO	#N/A	5	1,209
063-292-380	2160 EUCLID AVE, EAST PALO ALTO	#N/A	5	1,209
063-302-170	2283 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-302-180	2281 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-302-210	2263 UNIVERSITY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-302-220	2253 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-302-230	2247 UNIVERSITY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-302-280	575A BELL ST, EAST PALO ALTO	Res-Single	1	240
063-302-290	565 BELL ST, EAST PALO ALTO	Res-Single	1	240
063-302-330	2201 UNIVERSITY AVE, EAST PALO ALTO	Church	1	240
063-302-340	584 RUNNYMEDE ST, EAST PALO ALTO	Res-Single	1	240
063-302-460	2277 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-302-470	2279 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-312-400	, NO DATA	#N/A	1	240
063-321-050	2124 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-321-060	2126 UNIVERSITY AVE, EAST PALO ALTO	Manual	0	0
063-321-070	, EAST PALO ALTO	No hookup	0	0
063-321-080	2142 UNIVERSITY AVE, EAST PALO ALTO	Commercial	1	240
063-321-100	2160 UNIVERSITY AVE, EAST PALO ALTO	Commercial	2	388
063-321-110	2164 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-321-120	2166 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-321-130	2172 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-321-140	2178 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-321-180	612 BELL ST, EAST PALO ALTO	Res-Single	1	240
063-321-190	616 BELL ST, EAST PALO ALTO	Res-Single	1	240
063-321-200	644 BELL ST, EAST PALO ALTO	Res-Multpl	1	240
063-321-210	2189 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-220	2187 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-230	2181 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-240	2171 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-250	2165 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-260	2161 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240

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East Palo Alto Sanitary District

APN (1)	Address (1)	Land Use from EDS (2)	Equivalent Dwelling Units (3)	Average Daily Flow for Residential , GPD (4)
063-321-270	2157 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-280	2153 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-290	2149 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-300	2145 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-310	2141 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-320	2133 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-330	2129 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-321-400	2194 UNIVERSITY AVE, EAST PALO ALTO	Commercial	1	240
063-321-410	2148 UNIVERSITY AVE, EAST PALO ALTO	Restaurant	1	240
063-321-420	, NO DATA	#N/A	1	240
063-322-040	2124 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-322-050	2132 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-322-060	2134 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-322-070	2138 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-322-080	2142 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-322-090	2144 CAPITOL AVE, EAST PALO ALTO	Res-Multpl	1	240
063-322-100	2154 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-322-110	2162 CAPITOL AVE, EAST PALO ALTO	Church	1	240
063-322-130	2184 CAPITOL AVE, EAST PALO ALTO	Church	1	240
063-322-140	2194 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-322-150	2198 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-322-160	660 BELL ST, EAST PALO ALTO	Res-Single	1	240
063-322-340	2169 COOLEY AVE, EAST PALO ALTO	Church	1	344
063-322-410	, NO DATA	0	0	0
063-322-500	2159 COOLEY AVE, EAST PALO ALTO	Res-Single	1	240
063-322-560	DONOHOE ST, EAST PALO ALTO	Res-Single	1	240
063-322-580	2118 CAPITOL AVE, EAST PALO ALTO	#N/A	0	0
063-331-030	2212 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-060	2242 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-070	2248 UNIVERSITY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-331-080	2252 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-090	2264 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-100	2268 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-110	2272 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-120	2274 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-130	2276 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-140	2280 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-150	2284 UNIVERSITY AVE, EAST PALO ALTO	Res-Single	1	240
063-331-190	2291 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-200	2287 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-210	2285 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-220	2277 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-230	2267 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-240	2263 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-250	2255 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-260	2251 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-270	2249 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-280	2245 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-290	2239 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-300	2233 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-310	2227 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-320	2219 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-330	2217 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240

Table 7
2014 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Land Use from EDS (2)	Equivalent Dwelling Units (3)	Average Daily Flow for Residential , GPD (4)
063-331-340	2205 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-331-350	643 BELL ST, EAST PALO ALTO	Res-Single	1	240
063-331-370	2200 UNIVERSITY AVE, EAST PALO ALTO	Office	1	358
063-331-380	2240 UNIVERSITY AVE, EAST PALO ALTO	Commercial	1	240
063-331-410	2220 UNIVERSITY AVE, EAST PALO ALTO	Restaurant	7	1,695
063-442-360	330 DONOHOE ST, EAST PALO ALTO	Church	1	240
063-473-150	1995 MANHATTAN AVE, EAST PALO ALTO	Res-Multpl	14	3,418
063-473-160	1991 MANHATTAN AVE, EAST PALO ALTO	Res-Multpl	14	3,418
063-473-170	1965 MANHATTAN AVE, EAST PALO ALTO	Res-Multpl	14	3,418
063-473-180	1955 MANHATTAN AVE, EAST PALO ALTO	Res-Multpl	14	3,418
063-473-190	1919 MANHATTAN AVE, EAST PALO ALTO	Res-Multpl	14	3,418
063-473-200	1901 MANHATTAN AVE, EAST PALO ALTO	Res-Multpl	14	3,418
063-481-010	1699 WOODLAND AVE, EAST PALO ALTO	Res-Single	1	240
063-481-020	1681 WOODLAND AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-030	1671 WOODLAND AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-040	1669 WOODLAND AVE, EAST PALO ALTO	Res-Single	1	240
063-481-050	1651 WOODLAND AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-060	1643 WOODLAND AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-070	1637 WOODLAND AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-080	1629 WOODLAND AVE, EAST PALO ALTO	Res-Single	1	240
063-481-090	1621 WOODLAND AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-100	644 SCOFIELD AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-110	652 SCOFIELD AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-120	660 SCOFIELD AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-130	610 CIRCLE DR, EAST PALO ALTO	Res-Multpl	1	240
063-481-140	620 CIRCLE DR, EAST PALO ALTO	Res-Multpl	1	240
063-481-150	630 CIRCLE DR, EAST PALO ALTO	Res-Single	1	240
063-481-160	640 CIRCLE DR, EAST PALO ALTO	Res-Single	1	240
063-481-170	650 CIRCLE DR, EAST PALO ALTO	Res-Single	1	240
063-481-180	1917 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-190	1909 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-210	1901 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-481-220	1905 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-482-010	641 CIRCLE DR, EAST PALO ALTO	Res-Single	1	240
063-482-020	621 CIRCLE DR, EAST PALO ALTO	Res-Multpl	1	240
063-482-030	611 CIRCLE DR, EAST PALO ALTO	Res-Multpl	1	240
063-483-030	1909 CAPITOL AVE, EAST PALO ALTO	Res-Multpl	1	240
063-483-040	1943 CAPITOL AVE, EAST PALO ALTO	Res-Multpl	1	240
063-483-050	1609 WOODLAND AVE, EAST PALO ALTO	Res-Multpl	1	240
063-484-010	655 SCOFIELD AVE, EAST PALO ALTO	Res-Multpl	1	240
063-484-020	1902 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-484-030	1908 CAPITOL AVE, EAST PALO ALTO	Res-Single	1	240
063-484-040	1916 CAPITOL AVE, EAST PALO ALTO	Res-Multpl	1	240
063-484-050	1920 CAPITOL AVE, EAST PALO ALTO	Res-Multpl	1	240
063-484-060	1934 CAPITOL AVE, EAST PALO ALTO	Res-Multpl	1	240
063-484-090	1949 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-484-100	1941 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-484-110	685 SCOFIELD AVE, EAST PALO ALTO	Res-Multpl	1	240
063-484-130	1957 COOLEY AVE, EAST PALO ALTO	Res-Multpl	1	240
063-492-070	1927 E BAYSHORE RD, EAST PALO ALTO	Res-Single	1	240
063-492-280	1933 PULGAS AVE, EAST PALO ALTO	Commercial	1	240
063-492-480	1895 E BAYSHORE RD, EAST PALO ALTO	Res-Single	1	240
063-501-020	1874 W BAYSHORE RD, EAST PALO ALTO	Commercial	1	240

Table 7
2014 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Land Use from EDS (2)	Equivalent Dwelling Units (3)	Average Daily Flow for Residential , GPD (4)
063-501-030	1870 W BAYSHORE RD, EAST PALO ALTO	Commercial	1	240
063-501-040	1879 WOODLAND AVE, EAST PALO ALTO	Res-Multpl	1	240
063-501-050	1875 WOODLAND AVE, EAST PALO ALTO	Res-Single	1	240
063-511-020	2039 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-511-030	2035 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-511-040	2029 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-511-050	2027 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-511-060	2023 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-511-070	2017 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-511-080	2013 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-511-090	2009 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-511-190	872 DONOHOE ST, EAST PALO ALTO	Res-Single	1	240
063-511-200	866 DONOHOE ST, EAST PALO ALTO	Res-Single	1	240
063-511-210	864 DONOHOE ST, EAST PALO ALTO	Res-Single	1	240
063-511-220	862 DONOHOE ST, EAST PALO ALTO	Res-Single	1	240
063-511-240	896 DONOHOE ST, EAST PALO ALTO	Res-Single	1	240
063-511-250	860 DONOHOE ST, EAST PALO ALTO	Res-Single	1	240
063-511-260	890 DONOHOE ST, EAST PALO ALTO	Res-Single	1	240
063-511-490	1731 E BAYSHORE RD, EAST PALO ALTO	Restaurant	23	5,615
063-511-520	1761 E BAYSHORE RD, EAST PALO ALTO	Commercial	1	240
063-511-630	1721 E BAYSHORE RD, EAST PALO ALTO	Restaurant	21	4,925
063-511-660	899 OCONNOR ST, EAST PALO ALTO	Commercial	1	240
063-511-680	1751 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	1	240
063-511-690	1745 E BAYSHORE BLVD, EAST PALO ALTO	Commercial	6	1,467
063-511-720	1775 E BAYSHORE RD, EAST PALO ALTO	Commercial	6	1,499
063-515-060	1821 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-515-070	1805 CLARKE AVE, EAST PALO ALTO	Res-Single	1	240
063-515-080	1787 WOODLAND AVE, EAST PALO ALTO	Res-Single	1	240
063-515-230	1785 WOODLAND AVE, EAST PALO ALTO	Res-Single	1	240
063-571-060	1985 E BAYSHORE RD, EAST PALO ALTO	Commercial	1	240
063-571-070	1981 E BAYSHORE RD, EAST PALO ALTO	No hookup	0	0
063-571-080	1961 E BAYSHORE RD, EAST PALO ALTO	Commercial	1	240
063-571-090	1905 E BAYSHORE RD, EAST PALO ALTO	Industrial	1	240
063-680-020	1900 UNIVERSITY AVE, EAST PALO ALTO	Office	15	3,500
063-680-050	, NO DATA	#N/A	15	3,500
063-680-060	, NO DATA	#N/A	15	3,500
063-680-090	, EAST PALO ALTO	No hookup	0	0
063-680-100	, EAST PALO ALTO	Commercial	1	240
063-680-110	, EAST PALO ALTO	Commercial	1	240
063-680-130	2000 UNIVERSITY AVE, EAST PALO ALTO	Office	19	4,567
063-680-150	2050 UNIVERSITY AVE, EAST PALO ALTO	Motel	19	4,567
063-680-180	, EAST PALO ALTO	No hookup	0	0
063-680-190	2000 UNIVERSITY AVE, EAST PALO ALTO	Office	1	240

Table 7
2014 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Land Use from EDS (2)	Equivalent Dwelling Units (3)	Average Daily Flow for Residential , GPD (4)
113-530-010 to 113-530-999	2420 GLORIA WAY, EAST PALO ALTO	Res-Multpl	7	1,680
113-710-010 to 113-710-999	2440 GLORIA WAY, EAST PALO ALTO	Res-Multpl	7	1,680
113-720-010 to 113-720-999	2460 GLORIA WAY, EAST PALO ALTO	Res-Multpl	5	1,200
113-740-010 to 113-740-999	2470 GLORIA WAY, EAST PALO ALTO	Res-Multpl	9	2,160
114-240-010 to 114-240-300	2330 UNIVERSITY AVE, EAST PALO ALTO	Res-Multpl	30	7,200
114-450-010 to 114-460-300	1765 EAST BAYSHORE RD, EAST PALO ALTO	Res-Multpl	36	8,640

Notes:

(1) Properties that have changed Zoning Figure 4-12: General Plan Land Use and Figure 4-16: Ravenswood / 4 Corners TOP Specific Plan Land Use City of East Palo Alto General Plan "Existing Conditions Report, February 2014" Vs Figure 4-2: General Plan Land Use Designations City of East Palo Alto General Plan "Vista 2035, Final Version: March 2017"

(2) Land use from EDS (Engineering Data Services) Service Fee Calculation sheet.

(3) Equivalent Dwelling Units. Unit= (Past Billing amount from EDS)/$575

(4) ADWF Equivalent Dwellings, calculated by multiplying 240 gallons per dwelling unit per day by the total number of units. Based on Section B1.03.2.b of the East Palo Alto Sanitary District Standard Specifications for Design and Construction of Sanitary Collection and Conveyance Facilities date June 6, 2002. Units converted from GPD (Gallons Per Day) to CFS. Based Based off 24 hours in a day, 60 minutes in a hour, and 60 seconds in a minute.

Abbreviations

ADWF: Average Dry Weather Flow
APN: Assessors Parcel Number
CFS: Cubic Feet per Second
MGD: Million Gallons Per Day
PDWF: Peak Dry Weather Flow

Table 8
2035 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Current EPA General Plan Zoning	Maximum Density and FAR Extents (2)	Acres per Parcel (3)	Average du per Parcel (4)	Average Non-Residential Development, SF (5)	Average Daily Flow Residential, GPD (6)	Average Daily Flow Non-Residential, GPD (7)
063-103-310	1585 BAY RD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	0.81	35	43,891	8,319	4,389
063-103-440	2400 GLORIA WAY, EAST PALO ALTO	High Density Residential	22-43 du/a	2.00	43	0	10,342	0
063-111-230	BETWEEN 1585 AND 1675 BAY RD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	0.23	10	12,513	2,372	1,251
063-111-250	1675 BAY RD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	6.03	259	328,120	62,189	32,812
063-121-400	2091 BAY RD, EAST PALO ALTO	Office	3.0 FAR	0.83	0	54,548	0	5,455
063-122-030	1990 BAY RD, EAST PALO ALTO	Office	3.0 FAR	4.71	0	307,727	0	30,773
063-132-140	1905 BAY RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.43	14	16,202	3,316	1,620
063-151-170	2159 POPLAR AVE, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.13	1	2,929	355	293
063-151-200	1001 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.08	1	1,773	215	177
063-152-230	1199 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.26	3	5,605	679	561
063-153-010	1205 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.12	1	2,648	321	265
063-153-250	2119 ADDISON AVE, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.12	1	2,572	312	257
063-154-200	2110 ADDISON AVE, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.15	2	3,331	404	333
063-154-260	2119 OAKWOOD DR, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.27	3	5,878	712	588
063-155-010	2106 OAKWOOD DR, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.17	2	3,747	454	375
063-155-180	2123 DUMBARTON AVE, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.11	1	2,454	297	245
063-155-190	2109 DUMBARTON AVE, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.17	2	3,742	454	374
063-181-010	2110 DUMBARTON AVE, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.22	2	4,705	570	470
063-181-220	2111 LINCOLN ST, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.12	1	2,660	322	266
063-181-230	2097 LINCOLN ST, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.11	1	2,488	302	249
063-181-240	1385 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.10	1	2,232	270	223
063-183-010	2088 LINCOLN ST, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.11	1	2,476	300	248
063-183-070	2045 GLEN WAY, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.18	2	3,894	472	389
063-183-080	1441 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.24	3	5,172	627	517
063-183-090	, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.09	1	1,898	230	190
063-183-110	1401 E BAYSHORE RD 2, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.21	2	4,512	547	451
063-184-010	1475 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.23	3	5,053	612	505
063-184-020	2056 GLEN WAY, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.21	2	4,526	549	453
063-184-030	2070 GLEN WAY, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.18	2	3,872	469	387
063-184-040	2080 GLEN WAY, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.19	2	4,205	510	420
063-201-080	566 SACRAMENTO ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.19	1	0	272	0
063-201-090	576 SACRAMENTO ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.22	7	8,209	1,680	821
063-201-220	2337 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.13	4	4,964	1,016	496
063-201-240	2343 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	5	5,292	1,083	529
063-201-250	RUNNYMEDE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.35	11	13,216	2,705	1,322
063-201-260	RUNNYMEDE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.11	4	4,295	879	430
063-201-270	578 SACRAMENTO ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,553	1,136	555
063-201-290	2331 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.45	15	17,157	3,511	1,716
063-202-080	556 WEEKS ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.18	1	0	252	0
063-202-090	564 WEEKS ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.17	1	0	249	0
063-202-100	566 WEEKS ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.17	1	0	244	0
063-202-160	561 SACRAMENTO ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.52	17	19,723	4,036	1,972
063-202-280	2361-2369 UNIVERSITY AVE 101-308, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	1.01	33	38,579	7,895	3,858
063-203-210	585 WEEKS ST, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	0.15	6	7,995	1,515	800
063-203-220	579 WEEKS ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.15	1	0	213	0
063-203-230	563 WEEKS ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.44	3	0	637	0
063-203-240	549 WEEKS ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.15	1	0	213	0
063-203-250	541 WEEKS ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.14	1	0	209	0
063-203-260	533 WEEKS ST, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.14	1	0	204	0
063-203-270	, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.13	1	0	194	0
063-203-350	1574 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.17	2	0	442	0
063-203-360	1546 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.15	2	0	404	0
063-203-370	1508 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.25	3	0	666	0
063-203-380	, NO DATA	Medium Density Residential	12-22 du/a	0.12	1	0	312	0
063-203-390	1518 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.33	4	0	869	0
063-203-400	1560 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.15	2	0	386	0
063-203-410	1568 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.15	2	0	409	0
063-203-430	1530 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	411	0
063-203-440	1554 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.13	1	0	356	0
063-203-450	1538 BAY RD, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.14	2	0	368	0
063-210-310	2346 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.21	7	7,835	1,603	783
063-210-340	2369 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.12	3	0	614	0
063-210-350	2365 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.12	3	0	637	0
063-210-360	2300 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.20	7	7,627	1,561	763
063-210-380	2354 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.17	6	6,548	1,340	655
063-210-410	2371 COOLEY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.11	4	4,228	865	423
063-210-450	2377 COOLEY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.09	3	3,257	666	326
063-210-470	633 RUNNYMEDE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.11	4	4,256	871	426
063-210-480	2361 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.16	3	0	817	0
063-210-490	2355 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.17	4	0	856	0
063-210-520	2338 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.22	7	8,249	1,688	825
063-210-610	661 RUNNYMEDE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.23	8	8,831	1,807	883
063-210-630	2358 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.17	6	6,659	1,363	666
063-221-180	2371 CLARKE AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.13	3	0	693	0
063-221-190	2369 CLARKE AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.15	3	0	761	0
063-221-200	891 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.29	6	0	1,482	0
063-221-210	871 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.13	3	0	675	0
063-221-220	867 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.19	4	0	961	0
063-221-230	865 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.19	4	0	992	0

Table 8
2035 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Current EPA General Plan Zoning	Maximum Density and FAR Extents (2)	Acres per Parcel (3)	Average du per Parcel (4)	Average Non-Residential Development, SF (5)	Average Daily Flow Residential, GPD (6)	Average Daily Flow Non-Residential, GPD (7)
063-221-240	, NO DATA	High Density Residential	22-43 du/a	0.65	14	0	3,375	0
063-221-250	831 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.19	4	0	982	0
063-221-260	819 JAMIE LN, EAST PALO ALTO	High Density Residential	22-43 du/a	0.11	2	0	591	0
063-221-270	823 JAMIE LN, EAST PALO ALTO	High Density Residential	22-43 du/a	0.15	3	0	777	0
063-221-280	827 JAMIE LN, EAST PALO ALTO	High Density Residential	22-43 du/a	0.19	4	0	1,002	0
063-221-290	811 PAUL ROBESON CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.12	3	0	609	0
063-221-300	813 PAUL ROBESON CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.10	2	0	515	0
063-221-310	815 PAUL ROBESON CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.11	2	0	555	0
063-221-320	817 PAUL ROBESON CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.11	2	0	563	0
063-221-340	801 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.11	2	0	566	0
063-221-350	803 PAUL ROBESON CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.11	2	0	570	0
063-221-360	805 PAUL ROBESON CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.09	2	0	477	0
063-221-370	807 PAUL ROBESON CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.11	2	0	590	0
063-221-380	809 PAUL ROBESON CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.11	2	0	551	0
063-221-390	791 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.89	19	0	4,576	0
063-221-410	731 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.30	7	0	1,564	0
063-221-420	717 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.22	5	0	1,149	0
063-221-430	2360 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.14	3	0	744	0
063-221-440	2362-2362 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.14	3	0	700	0
063-221-450	2364 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.16	3	0	818	0
063-221-500	863 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.13	3	0	675	0
063-221-510	761 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.17	4	0	892	0
063-221-520	767 CAROLE CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.14	3	0	747	0
063-221-530	773 CAROLE CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.13	3	0	677	0
063-221-540	779 CAROLE CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.13	3	0	662	0
063-221-550	785 CAROLE CT, EAST PALO ALTO	High Density Residential	22-43 du/a	0.13	3	0	679	0
063-231-220	1800 BAY RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.23	7	8,613	1,763	861
063-231-240	1804 BAY RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.90	29	34,383	7,036	3,438
063-231-250	1798 BAY RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	1.38	45	52,467	10,737	5,247
063-232-090	1003 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.58	12	0	2,999	0
063-232-150	2421 PULGAS AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.77	17	0	3,966	0
063-232-160	2447 PULGAS AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.32	7	0	1,666	0
063-232-210	WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	1.13	24	0	5,850	0
063-232-220	WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.64	14	0	3,319	0
063-232-230	WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.90	19	0	4,631	0
063-232-240	1045 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.98	21	0	5,062	0
063-232-250	1085 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.11	2	0	553	0
063-232-260	1001 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.35	8	0	1,807	0
063-232-300	1095 WEEKS ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.21	4	0	1,070	0
063-232-350	901 WEEKS ST, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	0.46	20	24,865	4,713	2,487
063-271-370	1171 RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.90	19	0	4,622	0
063-271-480	, EAST PALO ALTO	Industrial Buffer	0.75 to 3.0 FAR	0.83	0	45,961	0	4,596
063-282-080	2033 MANHATTAN AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.51	11	0	2,631	0
063-282-090	2001 MANHATTAN AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.69	15	0	3,568	0
063-291-010	1489 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.45	5	9,783	1,186	978
063-292-180	2101 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	0.33	14	17,860	3,385	1,786
063-292-370	2117 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	0.77	33	41,778	7,918	4,178
063-292-380	2160 EUCLID AVE, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	3.99	172	217,239	41,174	21,724
063-302-170	2283 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.24	8	9,103	1,863	910
063-302-180	2281 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.21	7	7,997	1,636	800
063-302-210	2263 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.46	15	17,653	3,613	1,765
063-302-220	2253 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.21	7	7,983	1,634	798
063-302-230	2247 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.30	10	11,258	2,304	1,126
063-302-280	575A BELL ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.20	6	7,476	1,530	748
063-302-290	565 BELL ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.19	6	7,242	1,482	724
063-302-330	2201 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	1.41	46	53,812	11,012	5,381
063-302-340	584 RUNNYMEDE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.39	13	14,888	3,047	1,489
063-302-460	2277 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.36	12	13,569	2,777	1,357
063-302-470	2279 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.23	7	8,788	1,798	879
063-312-400	, NO DATA	Office	3.0 FAR	0.35	0	22,556	0	2,256
063-321-050	2124 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.28	9	10,643	2,178	1,064
063-321-060	2126 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.23	7	8,711	1,783	871
063-321-070	, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.05	2	1,984	406	198
063-321-080	2142 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.19	6	7,128	1,459	713
063-321-100	2160 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.37	12	13,973	2,859	1,397
063-321-110	2164 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.18	6	6,772	1,386	677
063-321-120	2166 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.17	6	6,661	1,363	666
063-321-130	2172 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.17	6	6,660	1,363	666
063-321-140	2178 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.17	5	6,371	1,304	637
063-321-180	612 BELL ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.11	4	4,282	876	428
063-321-190	616 BELL ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.12	4	4,548	931	455
063-321-200	644 BELL ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,729	1,172	573
063-321-210	2189 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	5	5,402	1,106	540
063-321-220	2187 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.12	4	4,432	907	443
063-321-230	2181 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.17	6	6,626	1,356	663
063-321-240	2171 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,776	1,182	578
063-321-250	2165 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,590	1,144	559
063-321-260	2161 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,779	1,183	578
063-321-270	2157 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,850	1,197	585
063-321-280	2153 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,682	1,163	568
063-321-290	2149 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	5,921	1,212	592

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East Palo Alto Sanitary District

APN (1)	Address (1)	Current EPA General Plan Zoning	Maximum Density and FAR Extents (2)	Acres per Parcel (3)	Average du per Parcel (4)	Average Non-Residential Development, SF (5)	Average Daily Flow Residential, GPD (6)	Average Daily Flow Non-Residential, GPD (7)
063-321-300	2145 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	5,988	1,225	599
063-321-310	2141 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,901	1,208	590
063-321-320	2133 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,669	1,160	567
063-321-330	2129 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.11	3	4,007	820	401
063-321-400	2194 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.43	14	16,237	3,323	1,624
063-321-410	2148 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.25	8	9,620	1,969	962
063-321-420	, NO DATA	Office	3.0 FAR	1.64	0	107,405	0	10,740
063-322-040	2124 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	419	0
063-322-050	2132 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.17	2	0	455	0
063-322-060	2134 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	421	0
063-322-070	2138 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	419	0
063-322-080	2142 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	414	0
063-322-090	2144 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	435	0
063-322-100	2154 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.20	2	0	520	0
063-322-110	2162 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.22	2	0	573	0
063-322-130	2184 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.19	2	0	510	0
063-322-140	2194 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.24	3	0	645	0
063-322-150	2198 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.13	1	0	356	0
063-322-160	660 BELL ST, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.13	1	0	343	0
063-322-340	2169 COOLEY AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.69	8	0	1,810	0
063-322-410	, NO DATA	Office	3.0 FAR	0.17	0	11,099	0	1,110
063-322-500	2159 COOLEY AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.22	2	0	593	0
063-322-560	DONOHOE ST, EAST PALO ALTO	Office	3.0 FAR	0.72	0	46,920	0	4,692
063-322-580	2118 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	431	0
063-331-030	2212 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.20	7	7,656	1,567	766
063-331-060	2242 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	6,118	1,252	612
063-331-070	2248 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	6,105	1,249	610
063-331-080	2252 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	6,092	1,247	609
063-331-090	2264 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	6,078	1,244	608
063-331-100	2268 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	6,065	1,241	606
063-331-110	2272 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	6,052	1,238	605
063-331-120	2274 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.21	7	8,187	1,675	819
063-331-130	2276 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	5	5,449	1,115	545
063-331-140	2280 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	5	5,443	1,114	544
063-331-150	2284 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	5	5,436	1,113	544
063-331-190	2291 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,555	1,137	556
063-331-200	2287 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,592	1,144	559
063-331-210	2285 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,629	1,152	563
063-331-220	2277 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	5	5,333	1,091	533
063-331-230	2267 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.13	4	5,120	1,048	512
063-331-240	2263 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	4	5,149	1,054	515
063-331-250	2255 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	4	5,179	1,060	518
063-331-260	2251 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	4	5,208	1,066	521
063-331-270	2249 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	4	5,238	1,072	524
063-331-280	2245 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	4	5,267	1,078	527
063-331-290	2239 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.18	6	6,726	1,376	673
063-331-300	2233 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.18	6	6,808	1,393	681
063-331-310	2227 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,530	1,132	553
063-331-320	2219 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	5	5,465	1,118	547
063-331-330	2217 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.12	4	4,464	914	446
063-331-340	2205 CAPITOL AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	6,151	1,259	615
063-331-350	643 BELL ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	5,924	1,212	592
063-331-370	2200 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.40	13	15,313	3,134	1,531
063-331-380	2240 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.24	8	9,056	1,853	906
063-331-410	2220 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.44	14	16,713	3,420	1,671
063-442-360	330 DONOHOE ST, EAST PALO ALTO	High Density Residential	22-43 du/a	0.98	21	0	5,056	0
063-473-150	1995 MANHATTAN AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.17	4	0	870	0
063-473-160	1991 MANHATTAN AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.38	8	0	1,957	0
063-473-170	1965 MANHATTAN AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.28	6	0	1,449	0
063-473-180	1955 MANHATTAN AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.34	7	0	1,738	0
063-473-190	1919 MANHATTAN AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.46	10	0	2,355	0
063-473-200	1901 MANHATTAN AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.58	13	0	3,003	0
063-481-010	1699 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.17	2	0	441	0
063-481-020	1681 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	414	0
063-481-030	1671 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	432	0
063-481-040	1669 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.18	2	0	475	0
063-481-050	1651 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.24	3	0	637	0
063-481-060	1643 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.18	2	0	484	0
063-481-070	1637 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.19	2	0	508	0
063-481-080	1629 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.17	2	0	461	0
063-481-090	1621 WOODLAND AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.17	2	0	436	0
063-481-100	644 SCOFIELD AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.21	2	0	556	0
063-481-110	652 SCOFIELD AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.15	2	0	386	0
063-481-120	660 SCOFIELD AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.18	2	0	475	0
063-481-130	610 CIRCLE DR, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.18	2	0	475	0
063-481-140	620 CIRCLE DR, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.19	2	0	498	0
063-481-150	630 CIRCLE DR, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.18	2	0	465	0
063-481-160	640 CIRCLE DR, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.18	2	0	479	0
063-481-170	650 CIRCLE DR, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.21	2	0	553	0
063-481-180	1917 COOLEY AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.21	2	0	564	0
063-481-190	1909 COOLEY AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.21	2	0	548	0

Table 8
2035 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Current EPA General Plan Zoning	Maximum Density and FAR Extents (2)	Acres per Parcel (3)	Average du per Parcel (4)	Average Non-Residential Development, SF (5)	Average Daily Flow Residential, GPD (6)	Average Daily Flow Non-Residential, GPD (7)
063-481-210	1901 COOLEY AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.20	2	0	529	0
063-481-220	1905 COOLEY AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.18	2	0	488	0
063-482-010	641 CIRCLE DR, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.15	2	0	387	0
063-482-020	621 CIRCLE DR, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.16	2	0	430	0
063-482-030	611 CIRCLE DR, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.19	2	0	497	0
063-483-030	1909 CAPITOL AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	0.23	2	0	595	0
063-483-040	1943 CAPITOL AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.25	5	0	1,281	0
063-483-050	1609 WOODLAND AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.50	11	0	2,603	0
063-484-010	655 SCOFIELD AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.09	2	0	489	0
063-484-020	1902 CAPITOL AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.12	2	0	596	0
063-484-030	1908 CAPITOL AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.21	5	0	1,088	0
063-484-040	1916 CAPITOL AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.33	7	0	1,689	0
063-484-050	1920 CAPITOL AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.20	4	0	1,038	0
063-484-060	1934 CAPITOL AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.54	12	0	2,793	0
063-484-090	1949 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.31	7	0	1,582	0
063-484-100	1941 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.34	7	0	1,757	0
063-484-110	685 SCOFIELD AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.41	9	0	2,091	0
063-484-130	1957 COOLEY AVE, EAST PALO ALTO	High Density Residential	22-43 du/a	0.74	16	0	3,836	0
063-492-070	1927 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.19	6	7,139	1,461	714
063-492-280	1933 PULGAS AVE, EAST PALO ALTO	Medium Density Residential	12-22 du/a	2.14	24	0	5,646	0
063-492-480	1895 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.25	8	9,521	1,948	952
063-501-020	1874 W BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.50	5	10,818	1,311	1,082
063-501-030	1870 W BAYSHORE RD, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.23	3	5,052	612	505
063-501-040	1879 WOODLAND AVE, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.24	3	5,119	620	512
063-501-050	1875 WOODLAND AVE, EAST PALO ALTO	Mixed Use Low	22 du/a; 1.0 FAR	0.20	2	4,456	540	446
063-511-020	2039 CLARKE AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.12	4	4,698	961	470
063-511-030	2035 CLARKE AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.13	4	5,094	1,043	509
063-511-040	2029 CLARKE AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.26	8	9,897	2,025	990
063-511-050	2027 CLARKE AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.12	4	4,482	917	448
063-511-060	2023 CLARKE AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.14	4	5,275	1,079	527
063-511-070	2017 CLARKE AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.13	4	4,908	1,004	491
063-511-080	2013 CLARKE AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.13	4	4,857	994	486
063-511-090	2009 CLARKE AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.13	4	4,834	989	483
063-511-190	872 DONOHOE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.21	7	8,007	1,639	801
063-511-200	866 DONOHOE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.18	6	6,898	1,412	690
063-511-210	864 DONOHOE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.15	5	5,844	1,196	584
063-511-220	862 DONOHOE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.11	3	4,040	827	404
063-511-240	896 DONOHOE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.11	4	4,244	868	424
063-511-250	860 DONOHOE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.16	5	6,145	1,258	615
063-511-260	890 DONOHOE ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.12	4	4,566	934	457
063-511-490	1731 E BAYSHORE RD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	2.51	108	136,888	25,945	13,689
063-511-520	1761 E BAYSHORE RD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	2.64	114	143,790	27,253	14,379
063-511-630	1721 E BAYSHORE RD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	0.67	29	36,236	6,868	3,624
063-511-660	899 OCONNOR ST, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.08	2	2,872	588	287
063-511-680	1751 EAST BAYSHORE RD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	4.24	182	231,026	43,787	23,103
063-511-690	1745 E BAYSHORE BLVD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	0.67	29	36,743	6,964	3,674
063-511-720	1775 E BAYSHORE RD, EAST PALO ALTO	Mixed Use High	86 du/a; 2.5 FAR	6.12	263	333,269	63,165	33,327
063-515-060	1821 CLARKE AVE, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.19	1	0	272	0
063-515-070	1805 CLARKE AVE, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.35	2	0	509	0
063-515-080	1787 WOODLAND AVE, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.18	1	0	261	0
063-515-230	1785 WOODLAND AVE, EAST PALO ALTO	Low Density Residential	0-12 du/a	0.35	2	0	507	0
063-571-060	1985 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	1.38	45	52,597	10,764	5,260
063-571-070	1981 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.66	21	25,211	5,159	2,521
063-571-080	1961 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	1.44	47	54,786	11,212	5,479
063-571-090	1905 E BAYSHORE RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.25	8	9,439	1,932	944
063-680-020	1900 UNIVERSITY AVE, EAST PALO ALTO	Office	3.0 FAR	2.31	0	150,737	0	15,074
063-680-050	, NO DATA	Office	3.0 FAR	0.02	0	1,566	0	157
063-680-060	, NO DATA	Office	3.0 FAR	0.02	0	1,566	0	157
063-680-090	, EAST PALO ALTO	Office	3.0 FAR	0.13	0	8,177	0	818
063-680-100	, EAST PALO ALTO	Office	3.0 FAR	0.13	0	8,273	0	827
063-680-110	, EAST PALO ALTO	Office	3.0 FAR	0.35	0	22,595	0	2,259
063-680-130	2000 UNIVERSITY AVE, EAST PALO ALTO	Office	3.0 FAR	2.14	0	139,586	0	13,959
063-680-150	2050 UNIVERSITY AVE, EAST PALO ALTO	Office	3.0 FAR	3.35	0	218,937	0	21,894
063-680-180	, EAST PALO ALTO	Office	3.0 FAR	0.01	0	533	0	53
063-680-190	2000 UNIVERSITY AVE, EAST PALO ALTO	Office	3.0 FAR	3.92	0	256,076	0	25,608

Table 8
2035 Zoning Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Current EPA General Plan Zoning	Maximum Density and FAR Extents (2)	Acres per Parcel (3)	Average du per Parcel (4)	Average Non-Residential Development, SF (5)	Average Daily Flow Residential, GPD (6)	Average Daily Flow Non-Residential, GPD (7)
113-530-010 to 113-530-999	2420 GLORIA WAY, EAST PALO ALTO	High Density Residential	22-43 du/a	0.47	10	0	2,443	0
113-710-010 to 113-710-999	2440 GLORIA WAY, EAST PALO ALTO	High Density Residential	22-43 du/a	0.25	5	0	1,277	0
113-720-010 to 113-720-999	2460 GLORIA WAY, EAST PALO ALTO	High Density Residential	22-43 du/a	0.21	4	0	1,074	0
113-740-010 to 113-740-999	2470 GLORIA WAY, EAST PALO ALTO	High Density Residential	22-43 du/a	0.33	7	0	1,683	0
114-240-010 to 114-240-300	2330 UNIVERSITY AVE, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	0.46	15	17,593	3,600	1,759
114-450-010 to 114-460-300	1765 EAST BAYSHORE RD, EAST PALO ALTO	Mixed Use Corridor	65 du/a; 1.75 FAR	1.04	34	39,597	8,103	3,960

Notes:
(1) Properties that have changed Zoning Figure 4-12: General Plan Land Use and Figure 4-16: Ravenswood / 4 Corners TOP Specific Plan Land Use City of East Palo Alto General Plan "Existing Conditions Report, February 2014" Vs Figure 4-2: General Plan Land Use Designations City of East Palo Alto General Plan "Vista 2035, Final Version: March 2017"
(2) du/a and FAR based on Section 4 Table 4-2 of City of East Palo Alto General Plan "Vista 2035, Final Version: March 2017"
(3) Square footage of parcel divided 43,560 feet (1 Acre Equivalent).
(4) Average Dwelling units per number of acres in parcel is calculated to be 50% of the maximum number of units allowed in the General Plan.
(5) Calculated by multiplying 50% of the maximum FAR for the land use allowed by the General Plan and square feet of parcel.
(6) ADWF Residential Dwellings, calculated by multiplying 240 gallons per dwelling unit per day by the total number of units. Based on Section B1.03.2.b of the East Palo Alto Sanitary District Standard Specifications for Design and Construction of Sanitary Collection and Conveyance Facilities date June 6, 2002. Units converted from GPD (Gallons Per Day) to CFS. Based off 24 hours in a day, 60 minut a hour, and 60 seconds in a minute.
(7) ADWF Non-Residential , calculated by multiplying 0.1 gallons per day per square foot. Based on Section B1.03.3 for Office and Retail of the East Palo Alto Sanitary District Standard Specifications for Design and Construction of Sanitray Collection and Conveyance Facilities dated June 6, 2002. Units converted from GPD (Gallons Per Day) to CFS assuming flows are discharged over 24 hours in a day.

Abbreviations
ADWF: Average Dry Weather Flow
APN: Assessors Parcel Number
CFS: Cubic Feet per Second
MGD: Million Gallons Per Day
PDWF: Peak Dry Weather Flow

Table 9
Proposed Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Sanitary Sewer Sub-Basins	Peaking Factor (2)	Delta Residential Average Daily Flow, GPD (3)	Delta Non-Residential Average Daily Flow, GPD (4)	Residential ADWF, CFS (5)	Non-Residential ADWF, CFS (6)	Residential PDWF, CFS (7)	Non-Residential PDWF, CFS (8)	Total ADWF, CFS	Total PDWF, CFS
063-231-220	1800 BAY RD, EAST PALO ALTO	A15	1.59	1,523	861	0.0023	0.0013	0.0037	0.0021	0.0037	0.0058
063-231-240	1804 BAY RD, EAST PALO ALTO	A15	1.59	6,796	3,438	0.0105	0.0053	0.0166	0.0084	0.0158	0.0251
063-231-250	1798 BAY RD, EAST PALO ALTO	A15	1.5	10,497	5,247	0.0162	0.0081	0.0242	0.0121	0.0242	0.0364
063-103-310	1585 BAY RD, EAST PALO ALTO	A15	1.59	1,079	4,389	0.0017	0.0068	0.0026	0.0107	0.0084	0.0134
063-103-440	2400 GLORIA WAY, EAST PALO ALTO	A15	1.59	742	0	0.0011	0.0000	0.0018	0.0000	0.0011	0.0018
063-111-230	BETWEEN 1585 AND 1675 BAY RD, EAST PALO ALTO	A15	1.59	2,372	1,251	0.0037	0.0019	0.0058	0.0031	0.0056	0.0089
063-111-250	1675 BAY RD, EAST PALO ALTO	A15	1.59	61,949	32,812	0.0954	0.0505	0.1517	0.0803	0.1459	0.2320
063-203-350	1574 BAY RD, EAST PALO ALTO	A15	1.59	202	0	0.0003	0.0000	0.0005	0.0000	0.0003	0.0005
063-203-360	1546 BAY RD, EAST PALO ALTO	A15	1.59	164	0	0.0003	0.0000	0.0004	0.0000	0.0003	0.0004
063-203-380	, NO DATA	A15	1.59	312	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-203-400	1560 BAY RD, EAST PALO ALTO	A15	1.59	146	0	0.0002	0.0000	0.0004	0.0000	0.0002	0.0004
063-203-410	1568 BAY RD, EAST PALO ALTO	A15	1.59	169	0	0.0003	0.0000	0.0004	0.0000	0.0003	0.0004
063-203-430	1530 BAY RD, EAST PALO ALTO	A15	1.59	171	0	0.0003	0.0000	0.0004	0.0000	0.0003	0.0004
063-203-440	1554 BAY RD, EAST PALO ALTO	A15	1.59	116	0	0.0002	0.0000	0.0003	0.0000	0.0002	0.0003
063-203-450	1538 BAY RD, EAST PALO ALTO	A15	1.59	128	0	0.0002	0.0000	0.0003	0.0000	0.0002	0.0003
113-530-010 to 113-530-999	2420 GLORIA WAY, EAST PALO ALTO	A15	1.59	763	0	0.0012	0.0000	0.0019	0.0000	0.0012	0.0019
113-710-010 to 113-710-999	2440 GLORIA WAY, EAST PALO ALTO	A15	1.59	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
113-720-010 to 113-720-999	2460 GLORIA WAY, EAST PALO ALTO	A15	1.59	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
113-740-010 to 113-740-999	2470 GLORIA WAY, EAST PALO ALTO	A15	1.59	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-151-170	2159 POPLAR AVE, EAST PALO ALTO	B13	1.83	0	293	0.0000	0.0005	0.0000	0.0008	0.0005	0.0008
063-151-200	1001 E BAYSHORE RD, EAST PALO ALTO	B13	1.83	0	177	0.0000	0.0003	0.0000	0.0005	0.0003	0.0005
063-152-230	1199 E BAYSHORE RD, EAST PALO ALTO	B13	1.83	439	561	0.0007	0.0009	0.0012	0.0016	0.0015	0.0028
063-153-010	1205 E BAYSHORE RD, EAST PALO ALTO	B13	1.83	321	265	0.0005	0.0004	0.0009	0.0007	0.0009	0.0017
063-153-250	2119 ADDISON AVE, EAST PALO ALTO	B13	1.83	312	257	0.0005	0.0004	0.0009	0.0007	0.0009	0.0016
063-154-200	2110 ADDISON AVE, EAST PALO ALTO	B13	1.83	164	333	0.0003	0.0005	0.0005	0.0009	0.0008	0.0014
063-154-260	2119 OAKWOOD DR, EAST PALO ALTO	B13	1.72	472	588	0.0007	0.0009	0.0013	0.0016	0.0016	0.0028
063-322-500	2159 COOLEY AVE, EAST PALO ALTO	E1	1.46	353	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-321-190	616 BELL ST, EAST PALO ALTO	E1	1.46	691	455	0.0011	0.0007	0.0016	0.0010	0.0018	0.0026
063-321-200	644 BELL ST, EAST PALO ALTO	E1	1.46	932	573	0.0014	0.0009	0.0021	0.0013	0.0023	0.0034
063-321-210	2189 CAPITOL AVE, EAST PALO ALTO	E1	1.46	866	540	0.0013	0.0008	0.0019	0.0012	0.0022	0.0032
063-321-220	2187 CAPITOL AVE, EAST PALO ALTO	E1	1.46	667	443	0.0010	0.0007	0.0015	0.0010	0.0017	0.0025
063-321-230	2181 CAPITOL AVE, EAST PALO ALTO	E1	1.46	1,116	663	0.0017	0.0010	0.0025	0.0015	0.0027	0.0040
063-321-240	2171 CAPITOL AVE, EAST PALO ALTO	E1	1.46	942	578	0.0015	0.0009	0.0021	0.0013	0.0023	0.0034
063-321-250	2165 CAPITOL AVE, EAST PALO ALTO	E1	1.46	904	559	0.0014	0.0009	0.0020	0.0013	0.0023	0.0033
063-321-260	2161 CAPITOL AVE, EAST PALO ALTO	E1	1.46	943	578	0.0015	0.0009	0.0021	0.0013	0.0023	0.0034
063-321-270	2157 CAPITOL AVE, EAST PALO ALTO	E1	1.46	957	585	0.0015	0.0009	0.0022	0.0013	0.0024	0.0035
063-321-280	2153 CAPITOL AVE, EAST PALO ALTO	E1	1.46	923	568	0.0014	0.0009	0.0021	0.0013	0.0023	0.0034
063-321-290	2149 CAPITOL AVE, EAST PALO ALTO	E1	1.46	972	592	0.0015	0.0009	0.0022	0.0013	0.0024	0.0035
063-321-300	2145 CAPITOL AVE, EAST PALO ALTO	E1	1.46	985	599	0.0015	0.0009	0.0022	0.0013	0.0024	0.0036
063-321-310	2141 CAPITOL AVE, EAST PALO ALTO	E1	1.46	968	590	0.0015	0.0009	0.0022	0.0013	0.0024	0.0035
063-321-320	2133 CAPITOL AVE, EAST PALO ALTO	E1	1.46	920	567	0.0014	0.0009	0.0021	0.0013	0.0023	0.0033
063-321-330	2129 CAPITOL AVE, EAST PALO ALTO	E1	1.46	580	401	0.0009	0.0006	0.0013	0.0009	0.0015	0.0022
063-322-040	2124 CAPITOL AVE, EAST PALO ALTO	E1	1.46	179	0	0.0003	0.0000	0.0004	0.0000	0.0003	0.0004
063-322-050	2132 CAPITOL AVE, EAST PALO ALTO	E1	1.46	215	0	0.0003	0.0000	0.0005	0.0000	0.0003	0.0005
063-322-060	2134 CAPITOL AVE, EAST PALO ALTO	E1	1.46	181	0	0.0003	0.0000	0.0004	0.0000	0.0003	0.0004
063-322-070	2138 CAPITOL AVE, EAST PALO ALTO	E1	1.46	179	0	0.0003	0.0000	0.0004	0.0000	0.0003	0.0004
063-322-080	2142 CAPITOL AVE, EAST PALO ALTO	E1	1.46	174	0	0.0003	0.0000	0.0004	0.0000	0.0003	0.0004
063-322-090	2144 CAPITOL AVE, EAST PALO ALTO	E1	1.46	195	0	0.0003	0.0000	0.0004	0.0000	0.0003	0.0004
063-322-100	2154 CAPITOL AVE, EAST PALO ALTO	E1	1.46	280	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-322-110	2162 CAPITOL AVE, EAST PALO ALTO	E1	1.46	333	0	0.0005	0.0000	0.0007	0.0000	0.0005	0.0007
063-322-130	2184 CAPITOL AVE, EAST PALO ALTO	E1	1.46	270	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-322-140	2194 CAPITOL AVE, EAST PALO ALTO	E1	1.46	405	0	0.0006	0.0000	0.0009	0.0000	0.0006	0.0009
063-322-150	2198 CAPITOL AVE, EAST PALO ALTO	E1	1.46	116	0	0.0002	0.0000	0.0003	0.0000	0.0002	0.0003
063-322-160	660 BELL ST, EAST PALO ALTO	E1	1.46	103	0	0.0002	0.0000	0.0002	0.0000	0.0002	0.0002
063-322-340	2169 COOLEY AVE, EAST PALO ALTO	E1	1.46	1,466	0	0.0023	0.0000	0.0033	0.0000	0.0023	0.0033
063-322-580	2118 CAPITOL AVE, EAST PALO ALTO	E1	1.47	431	0	0.0007	0.0000	0.0010	0.0000	0.0007	0.0010
063-321-050	2124 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,938	1,064	0.0030	0.0016	0.0044	0.0024	0.0046	0.0068
063-321-060	2126 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,783	871	0.0027	0.0013	0.0040	0.0020	0.0041	0.0060
063-321-070	, EAST PALO ALTO	E1	1.46	406	198	0.0006	0.0003	0.0009	0.0004	0.0009	0.0014
063-321-080	2142 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,219	713	0.0019	0.0011	0.0027	0.0016	0.0030	0.0043
063-321-100	2160 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	2,472	1,397	0.0038	0.0022	0.0056	0.0031	0.0060	0.0087
063-321-110	2164 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,146	677	0.0018	0.0010	0.0026	0.0015	0.0028	0.0041
063-321-120	2166 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,123	666	0.0017	0.0010	0.0025	0.0015	0.0028	0.0040
063-321-130	2172 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,123	666	0.0017	0.0010	0.0025	0.0015	0.0028	0.0040
063-321-140	2178 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,064	637	0.0016	0.0010	0.0024	0.0014	0.0026	0.0038
063-321-180	612 BELL ST, EAST PALO ALTO	E1	1.46	636	428	0.0010	0.0007	0.0014	0.0010	0.0016	0.0024
063-321-400	2194 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	3,083	1,624	0.0047	0.0025	0.0069	0.0037	0.0072	0.0106
063-321-410	2148 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,729	962	0.0027	0.0015	0.0039	0.0022	0.0041	0.0060

Table 9
Proposed Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Sanitary Sewer Sub-Basins	Peaking Factor (2)	Delta Residential Average Daily Flow, GPD (3)	Delta Non-Residential Average Daily Flow, GPD (4)	Residential ADWF, CFS (5)	Non-Residential ADWF, CFS (6)	Residential PDWF, CFS (7)	Non-Residential PDWF, CFS (8)	Total ADWF, CFS	Total PDWF, CFS
063-292-380	2160 EUCLID AVE, EAST PALO ALTO	E1	1.46	39,965	21,724	0.0615	0.0335	0.0899	0.0488	0.0950	0.1387
063-155-010	2106 OAKWOOD DR, EAST PALO ALTO	E1	1.46	214	375	0.0003	0.0006	0.0005	0.0008	0.0009	0.0013
063-155-180	2123 DUMBARTON AVE, EAST PALO ALTO	E1	1.46	57	245	0.0001	0.0004	0.0001	0.0006	0.0005	0.0007
063-155-190	2109 DUMBARTON AVE, EAST PALO ALTO	E1	1.46	214	374	0.0003	0.0006	0.0005	0.0008	0.0009	0.0013
063-181-010	2110 DUMBARTON AVE, EAST PALO ALTO	E1	1.46	330	470	0.0005	0.0007	0.0007	0.0011	0.0012	0.0018
063-181-220	2111 LINCOLN ST, EAST PALO ALTO	E1	1.46	82	266	0.0001	0.0004	0.0002	0.0006	0.0005	0.0008
063-181-230	2097 LINCOLN ST, EAST PALO ALTO	E1	1.46	62	249	0.0001	0.0004	0.0001	0.0006	0.0005	0.0007
063-181-240	1385 E BAYSHORE RD, EAST PALO ALTO	E1	1.46	270	223	0.0004	0.0003	0.0006	0.0005	0.0008	0.0011
063-302-170	2283 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,623	910	0.0025	0.0014	0.0036	0.0020	0.0039	0.0057
063-302-180	2281 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,396	800	0.0022	0.0012	0.0031	0.0018	0.0034	0.0049
063-302-210	2263 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	3,373	1,765	0.0052	0.0027	0.0076	0.0040	0.0079	0.0116
063-302-220	2253 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,394	798	0.0021	0.0012	0.0031	0.0018	0.0034	0.0049
063-302-230	2247 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	2,064	1,126	0.0032	0.0017	0.0046	0.0025	0.0049	0.0072
063-302-280	575A BELL ST, EAST PALO ALTO	E1	1.46	1,290	748	0.0020	0.0012	0.0029	0.0017	0.0031	0.0046
063-302-290	565 BELL ST, EAST PALO ALTO	E1	1.46	1,242	724	0.0019	0.0011	0.0028	0.0016	0.0030	0.0044
063-302-330	2201 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	10,772	5,381	0.0166	0.0083	0.0242	0.0121	0.0249	0.0363
063-302-340	584 RUNNYMEDE ST, EAST PALO ALTO	E1	1.46	2,807	1,489	0.0043	0.0023	0.0063	0.0033	0.0066	0.0097
063-302-460	2277 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	2,537	1,357	0.0039	0.0021	0.0057	0.0031	0.0060	0.0088
063-302-470	2279 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,558	879	0.0024	0.0014	0.0035	0.0020	0.0038	0.0055
063-331-030	2212 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,327	766	0.0020	0.0012	0.0030	0.0017	0.0032	0.0047
063-331-060	2242 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,012	612	0.0016	0.0009	0.0023	0.0014	0.0025	0.0037
063-331-070	2248 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,009	610	0.0016	0.0009	0.0023	0.0014	0.0025	0.0036
063-331-080	2252 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,007	609	0.0016	0.0009	0.0023	0.0014	0.0025	0.0036
063-331-090	2264 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,004	608	0.0015	0.0009	0.0023	0.0014	0.0025	0.0036
063-331-100	2268 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,001	606	0.0015	0.0009	0.0023	0.0014	0.0025	0.0036
063-331-110	2272 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	998	605	0.0015	0.0009	0.0022	0.0014	0.0025	0.0036
063-331-120	2274 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,435	819	0.0022	0.0013	0.0032	0.0018	0.0035	0.0051
063-331-130	2276 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	875	545	0.0013	0.0008	0.0020	0.0012	0.0022	0.0032
063-331-140	2280 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	874	544	0.0013	0.0008	0.0020	0.0012	0.0022	0.0032
063-331-150	2284 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	873	544	0.0013	0.0008	0.0020	0.0012	0.0022	0.0032
063-331-370	2200 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	2,775	1,531	0.0043	0.0024	0.0062	0.0034	0.0066	0.0097
063-331-380	2240 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,613	906	0.0025	0.0014	0.0036	0.0020	0.0039	0.0057
063-331-410	2220 UNIVERSITY AVE, EAST PALO ALTO	E1	1.46	1,725	1,671	0.0027	0.0026	0.0039	0.0038	0.0052	0.0076
063-331-190	2291 CAPITOL AVE, EAST PALO ALTO	E1	1.46	897	556	0.0014	0.0009	0.0020	0.0012	0.0022	0.0033
063-331-200	2287 CAPITOL AVE, EAST PALO ALTO	E1	1.46	904	559	0.0014	0.0009	0.0020	0.0013	0.0023	0.0033
063-331-210	2285 CAPITOL AVE, EAST PALO ALTO	E1	1.46	912	563	0.0014	0.0009	0.0021	0.0013	0.0023	0.0033
063-331-220	2277 CAPITOL AVE, EAST PALO ALTO	E1	1.46	851	533	0.0013	0.0008	0.0019	0.0012	0.0021	0.0031
063-331-230	2267 CAPITOL AVE, EAST PALO ALTO	E1	1.46	808	512	0.0012	0.0008	0.0018	0.0012	0.0020	0.0030
063-331-240	2263 CAPITOL AVE, EAST PALO ALTO	E1	1.46	814	515	0.0013	0.0008	0.0018	0.0012	0.0020	0.0030
063-331-250	2255 CAPITOL AVE, EAST PALO ALTO	E1	1.46	820	518	0.0013	0.0008	0.0018	0.0012	0.0021	0.0030
063-331-260	2251 CAPITOL AVE, EAST PALO ALTO	E1	1.46	826	521	0.0013	0.0008	0.0019	0.0012	0.0021	0.0030
063-331-270	2249 CAPITOL AVE, EAST PALO ALTO	E1	1.46	832	524	0.0013	0.0008	0.0019	0.0012	0.0021	0.0030
063-331-280	2245 CAPITOL AVE, EAST PALO ALTO	E1	1.46	838	527	0.0013	0.0008	0.0019	0.0012	0.0021	0.0031
063-331-290	2239 CAPITOL AVE, EAST PALO ALTO	E1	1.46	1,136	673	0.0018	0.0010	0.0026	0.0015	0.0028	0.0041
063-331-300	2233 CAPITOL AVE, EAST PALO ALTO	E1	1.46	1,153	681	0.0018	0.0010	0.0026	0.0015	0.0028	0.0041
063-331-310	2227 CAPITOL AVE, EAST PALO ALTO	E1	1.46	892	553	0.0014	0.0009	0.0020	0.0012	0.0022	0.0032
063-331-320	2219 CAPITOL AVE, EAST PALO ALTO	E1	1.46	878	547	0.0014	0.0008	0.0020	0.0012	0.0022	0.0032
063-331-330	2217 CAPITOL AVE, EAST PALO ALTO	E1	1.46	674	446	0.0010	0.0007	0.0015	0.0010	0.0017	0.0025
063-331-340	2205 CAPITOL AVE, EAST PALO ALTO	E1	1.46	1,019	615	0.0016	0.0009	0.0023	0.0014	0.0025	0.0037
063-331-350	643 BELL ST, EAST PALO ALTO	E1	1.46	972	592	0.0015	0.0009	0.0022	0.0013	0.0024	0.0035
063-282-080 (18)	2033 MANHATTAN AVE, EAST PALO ALTO	E2	1.72	2,391	0	0.0037	0.0000	0.0063	0.0000	0.0118	0.0203
063-282-090 (18)	2001 MANHATTAN AVE, EAST PALO ALTO	E2	1.72	3,328	0	0.0051	0.0000	0.0088	0.0000	0.0118	0.0203
063-282-070 (18)	2054 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-282-060 (18)	2044 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-282-050 (18)	2040 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-282-040 (18)	2036 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-282-030 (18)	2032 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-282-020 (18)	2012 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-282-010 (18)	501 OCONNOR ST, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-281-110 (18)	420 E OKEEFE ST, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-281-100 (18)	2043 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-281-040 (18)	2031 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-281-030 (18)	2025 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-281-020 (18)	2021 EUCLID AVE, EAST PALO ALTO	E2	1.72							0.0118	0.0203
063-183-010	2088 LINCOLN ST, EAST PALO ALTO	E2	1.72	60	248	0.0001	0.0004	0.0002	0.0007	0.0005	0.0008
063-183-070	2045 GLEN WAY, EAST PALO ALTO	E2	1.72	232	389	0.0004	0.0006	0.0006	0.0010	0.0010	0.0016
063-183-080	1441 E BAYSHORE RD, EAST PALO ALTO	E2	1.72	387	517	0.0006	0.0008	0.0010	0.0014	0.0014	0.0024
063-183-090	, EAST PALO ALTO	E2	1.72	230	190	0.0004	0.0003	0.0006	0.0005	0.0006	0.0011
063-183-110	1401 E BAYSHORE RD 2, EAST PALO ALTO	E2	1.72	547	451	0.0008	0.0007	0.0014	0.0012	0.0015	0.0026
063-184-010	1475 E BAYSHORE RD, EAST PALO ALTO	E2	1.72	612	505	0.0009	0.0008	0.0016	0.0013	0.0017	0.0030
063-184-020	2056 GLEN WAY, EAST PALO ALTO	E2	1.72	549	453	0.0008	0.0007	0.0015	0.0012	0.0015	0.0027
063-184-030	2070 GLEN WAY, EAST PALO ALTO	E2	1.72	469	387	0.0007	0.0006	0.0012	0.0010	0.0013	0.0023

Table 9
Proposed Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Sanitary Sewer Sub-Basins	Peaking Factor (2)	Delta Residential Average Daily Flow, GPD (3)	Delta Non-Residential Average Daily Flow, GPD (4)	Residential ADWF, CFS (5)	Non-Residential ADWF, CFS (6)	Residential PDWF, CFS (7)	Non-Residential PDWF, CFS (8)	Total ADWF, CFS	Total PDWF, CFS
063-184-040	2080 GLEN WAY, EAST PALO ALTO	E2	1.72	510	420	0.0008	0.0006	0.0013	0.0011	0.0014	0.0025
063-291-010	1489 E BAYSHORE RD, EAST PALO ALTO	E2	1.72	946	978	0.0015	0.0015	0.0025	0.0026	0.0030	0.0051
063-473-150 (19)	1995 MANHATTAN AVE, EAST PALO ALTO	E2	1.72	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-473-160 (19)	1991 MANHATTAN AVE, EAST PALO ALTO	E2	1.72	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-473-170 (19)	1965 MANHATTAN AVE, EAST PALO ALTO	E2	1.72	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-473-180 (19)	1955 MANHATTAN AVE, EAST PALO ALTO	E2	1.72	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-473-190 (19)	1919 MANHATTAN AVE, EAST PALO ALTO	E2	1.72	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-473-200 (19)	1901 MANHATTAN AVE, EAST PALO ALTO	E2	1.72	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-442-360 (19)	330 DONOHOE ST, EAST PALO ALTO	E2	1.72	4,816	0	0.0074	0.0000	0.0128	0.0000	0.0074	0.0128
063-292-180	2101 UNIVERSITY AVE, EAST PALO ALTO	E2	1.46	2,911	1,786	0.0045	0.0028	0.0065	0.0040	0.0072	0.0106
063-292-370 (9)	2117 UNIVERSITY AVE, EAST PALO ALTO	E2	1.46	6,709	4,178	0.0103	0.0064	0.0151	0.0094	0.0154	0.0225
063-312-400 (13)	, NO DATA	E2	1.72	0	2,256	0.0000	0.0035	0.0000	0.0060	0.0000	0.0000
063-321-420 (11)	, NO DATA	E2	1.46	0	10,740	0.0000	0.0165	0.0000	0.0241	0.0070	0.0102
063-322-410 (11)	, NO DATA	E2	1.47	0	1,110	0.0000	0.0017	0.0000	0.0025	0.0070	0.0103
063-322-560 (11)	DONOHOE ST, EAST PALO ALTO	E2	1.47	0	4,692	0.0000	0.0072	0.0000	0.0106	0.0070	0.0103
063-680-020 (13)	1900 UNIVERSITY AVE, EAST PALO ALTO	E2	1.72	0	15,074	0.0000	0.0232	0.0000	0.0399	0.0000	0.0000
063-680-050 (13)	, NO DATA	E2	1.72	0	157	0.0000	0.0002	0.0000	0.0004	0.0000	0.0000
063-680-060 (13)	, NO DATA	E2	1.72	0	157	0.0000	0.0002	0.0000	0.0004	0.0000	0.0000
063-680-090 (13)	, EAST PALO ALTO	E2	1.72	0	818	0.0000	0.0013	0.0000	0.0022	0.0000	0.0000
063-680-100 (13)	, EAST PALO ALTO	E2	1.72	0	827	0.0000	0.0013	0.0000	0.0022	0.0000	0.0000
063-680-110 (13)	, EAST PALO ALTO	E2	1.72	0	2,259	0.0000	0.0035	0.0000	0.0060	0.0000	0.0000
063-680-130 (13)	2000 UNIVERSITY AVE, EAST PALO ALTO	E2	1.72	0	13,959	0.0000	0.0215	0.0000	0.0370	0.0000	0.0000
063-680-150 (13)	2050 UNIVERSITY AVE, EAST PALO ALTO	E2	1.72	0	21,894	0.0000	0.0337	0.0000	0.0580	0.0000	0.0000
063-680-180 (13)	, EAST PALO ALTO	E2	1.72	0	53	0.0000	0.0001	0.0000	0.0001	0.0000	0.0000
063-680-190 (13)	2000 UNIVERSITY AVE, EAST PALO ALTO	E2	1.72	0	25,608	0.0000	0.0394	0.0000	0.0678	0.0000	0.0000
063-210-340	2369 COOLEY AVE, EAST PALO ALTO	H3	1.64	374	0	0.0006	0.0000	0.0009	0.0000	0.0006	0.0009
063-210-350	2365 COOLEY AVE, EAST PALO ALTO	H3	1.64	397	0	0.0006	0.0000	0.0010	0.0000	0.0006	0.0010
063-210-410	2371 COOLEY AVE, EAST PALO ALTO	H3	1.64	625	423	0.0010	0.0007	0.0016	0.0011	0.0016	0.0026
063-210-450	2377 COOLEY AVE, EAST PALO ALTO	H3	1.64	426	326	0.0007	0.0005	0.0011	0.0008	0.0012	0.0019
063-210-480	2361 COOLEY AVE, EAST PALO ALTO	H3	1.64	577	0	0.0009	0.0000	0.0015	0.0000	0.0009	0.0015
063-210-490	2355 COOLEY AVE, EAST PALO ALTO	H3	1.64	616	0	0.0009	0.0000	0.0016	0.0000	0.0009	0.0016
063-221-430	2360 COOLEY AVE, EAST PALO ALTO	H3	1.5	504	0	0.0008	0.0000	0.0012	0.0000	0.0008	0.0012
063-221-440	2362-2362 COOLEY AVE, EAST PALO ALTO	H3	1.5	460	0	0.0007	0.0000	0.0011	0.0000	0.0007	0.0011
063-221-450	2364 COOLEY AVE, EAST PALO ALTO	H3	1.5	578	0	0.0009	0.0000	0.0013	0.0000	0.0009	0.0013
063-201-080	566 SACRAMENTO ST, EAST PALO ALTO	H3	1.64	32	0	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001
063-201-090	576 SACRAMENTO ST, EAST PALO ALTO	H3	1.64	1,440	821	0.0022	0.0013	0.0036	0.0021	0.0035	0.0057
063-201-220	2337 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	776	496	0.0012	0.0008	0.0020	0.0013	0.0020	0.0032
063-201-240	2343 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	843	529	0.0013	0.0008	0.0021	0.0013	0.0021	0.0035
063-201-250	RUNNYMEDE ST, EAST PALO ALTO	H3	1.64	2,465	1,322	0.0038	0.0020	0.0062	0.0033	0.0058	0.0096
063-201-260	RUNNYMEDE ST, EAST PALO ALTO	H3	1.64	639	430	0.0010	0.0007	0.0016	0.0011	0.0016	0.0027
063-201-270	578 SACRAMENTO ST, EAST PALO ALTO	H3	1.64	896	555	0.0014	0.0009	0.0023	0.0014	0.0022	0.0037
063-201-290 (10)	2331 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	3,271	1,716	0.0050	0.0026	0.0083	0.0043	0.0097	0.0159
063-202-160	561 SACRAMENTO ST, EAST PALO ALTO	H3	1.64	3,796	1,972	0.0058	0.0030	0.0096	0.0050	0.0089	0.0146
063-202-280	2361-2369 UNIVERSITY AVE 101-308, EAST PALO ALTO	H3	1.64	7,655	3,858	0.0118	0.0059	0.0193	0.0097	0.0177	0.0291
063-210-310	2346 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	1,363	783	0.0021	0.0012	0.0034	0.0020	0.0033	0.0054
063-210-360	2300 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	1,321	763	0.0020	0.0012	0.0033	0.0019	0.0032	0.0053
063-210-380	2354 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	1,100	655	0.0017	0.0010	0.0028	0.0017	0.0027	0.0044
063-210-470	633 RUNNYMEDE ST, EAST PALO ALTO	H3	1.64	631	426	0.0010	0.0007	0.0016	0.0011	0.0016	0.0027
063-210-520	2338 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	1,448	825	0.0022	0.0013	0.0037	0.0021	0.0035	0.0057
063-210-610	661 RUNNYMEDE ST, EAST PALO ALTO	H3	1.64	1,567	883	0.0024	0.0014	0.0040	0.0022	0.0038	0.0062
063-210-630	2358 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	1,123	666	0.0017	0.0010	0.0028	0.0017	0.0028	0.0045
114-240-010 to 114-240-300	2330 UNIVERSITY AVE, EAST PALO ALTO	H3	1.64	0	1,759	0.0000	0.0027	0.0000	0.0044	0.0027	0.0044
063-202-080	556 WEEKS ST, EAST PALO ALTO	H3	1.64	12	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-202-090	564 WEEKS ST, EAST PALO ALTO	H3	1.64	9	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-202-100	566 WEEKS ST, EAST PALO ALTO	H3	1.64	4	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-203-210	585 WEEKS ST, EAST PALO ALTO	H3	1.64	1,275	800	0.0020	0.0012	0.0032	0.0020	0.0032	0.0052
063-203-220	579 WEEKS ST, EAST PALO ALTO	H3	1.64	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-203-230	563 WEEKS ST, EAST PALO ALTO	H3	1.64	397	0	0.0006	0.0000	0.0010	0.0000	0.0006	0.0010
063-203-240	549 WEEKS ST, EAST PALO ALTO	H3	1.64	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-203-250	541 WEEKS ST, EAST PALO ALTO	H3	1.64	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-203-260	533 WEEKS ST, EAST PALO ALTO	H3	1.64	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
063-203-270	, EAST PALO ALTO	H3	1.64	194	0	0.0003	0.0000	0.0005	0.0000	0.0003	0.0005
063-203-370	1508 BAY RD, EAST PALO ALTO	H3	1.59	426	0	0.0007	0.0000	0.0010	0.0000	0.0007	0.0010
063-203-390	1518 BAY RD, EAST PALO ALTO	H3	1.59	629	0	0.0010	0.0000	0.0015	0.0000	0.0010	0.0015
063-511-490	1731 E BAYSHORE RD, EAST PALO ALTO	I12	1.47	20,330	13,689	0.0313	0.0211	0.0460	0.0310	0.0524	0.0770
063-511-520	1761 E BAYSHORE RD, EAST PALO ALTO	I12	1.47	27,013	14,379	0.0416	0.0221	0.0612	0.0326	0.0637	0.0937
063-511-630	1721 E BAYSHORE RD, EAST PALO ALTO	I12	1.7	1,943	3,624	0.0030	0.0056	0.0051	0.0095	0.0086	0.0146
063-511-660	899 OCONNOR ST, EAST PALO ALTO	I12	1.7	348	287	0.0005	0.0004	0.0009	0.0008	0.0010	0.0017
063-511-680	1751 EAST BAYSHORE RD, EAST PALO ALTO	I12	1.7	43,547	23,103	0.0671	0.0356	0.1140	0.0605	0.1026	0.1745
063-511-690	1745 E BAYSHORE BLVD, EAST PALO ALTO	I12	1.7	5,497	3,674	0.0085	0.0057	0.0144	0.0096	0.0141	0.0240
063-511-720	1775 E BAYSHORE RD, EAST PALO ALTO	I12	1.7	61,666	33,327	0.0950	0.0513	0.1614	0.0872	0.1463	0.2487

Table 9
Proposed Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Sanitary Sewer Sub-Basins	Peaking Factor (2)	Delta Residential Average Daily Flow, GPD (3)	Delta Non-Residential Average Daily Flow, GPD (4)	Residential ADWF, CFS (5)	Non-Residential ADWF, CFS (6)	Residential PDWF, CFS (7)	Non-Residential PDWF, CFS (8)	Total ADWF, CFS	Total PDWF, CFS
063-483-030	1909 CAPITOL AVE, EAST PALO ALTO	I12	1.7	355	0	0.0005	0.0000	0.0009	0.0000	0.0005	0.0009
063-483-040	1943 CAPITOL AVE, EAST PALO ALTO	I12	1.7	1,041	0	0.0016	0.0000	0.0027	0.0000	0.0016	0.0027
063-483-050	1609 WOODLAND AVE, EAST PALO ALTO	I12	1.7	2,363	0	0.0036	0.0000	0.0062	0.0000	0.0036	0.0062
063-484-010	655 SCOFIELD AVE, EAST PALO ALTO	I12	1.7	249	0	0.0004	0.0000	0.0007	0.0000	0.0004	0.0007
063-484-020	1902 CAPITOL AVE, EAST PALO ALTO	I12	1.7	356	0	0.0005	0.0000	0.0009	0.0000	0.0005	0.0009
063-484-030	1908 CAPITOL AVE, EAST PALO ALTO	I12	1.7	848	0	0.0013	0.0000	0.0022	0.0000	0.0013	0.0022
063-484-040	1916 CAPITOL AVE, EAST PALO ALTO	I12	1.7	1,449	0	0.0022	0.0000	0.0038	0.0000	0.0022	0.0038
063-484-050	1920 CAPITOL AVE, EAST PALO ALTO	I12	1.7	798	0	0.0012	0.0000	0.0021	0.0000	0.0012	0.0021
063-484-060	1934 CAPITOL AVE, EAST PALO ALTO	I12	1.7	2,553	0	0.0039	0.0000	0.0067	0.0000	0.0039	0.0067
063-482-010	641 CIRCLE DR, EAST PALO ALTO	I12	1.7	147	0	0.0002	0.0000	0.0004	0.0000	0.0002	0.0004
063-482-020	621 CIRCLE DR, EAST PALO ALTO	I12	1.7	190	0	0.0003	0.0000	0.0005	0.0000	0.0003	0.0005
063-482-030	611 CIRCLE DR, EAST PALO ALTO	I12	1.7	257	0	0.0004	0.0000	0.0007	0.0000	0.0004	0.0007
063-484-090	1949 COOLEY AVE, EAST PALO ALTO	I12	1.7	1,342	0	0.0021	0.0000	0.0035	0.0000	0.0021	0.0035
063-484-100	1941 COOLEY AVE, EAST PALO ALTO	I12	1.7	1,517	0	0.0023	0.0000	0.0040	0.0000	0.0023	0.0040
063-484-110	685 SCOFIELD AVE, EAST PALO ALTO	I12	1.7	1,851	0	0.0029	0.0000	0.0048	0.0000	0.0029	0.0048
063-484-130	1957 COOLEY AVE, EAST PALO ALTO	I12	1.7	3,596	0	0.0055	0.0000	0.0094	0.0000	0.0055	0.0094
063-481-010	1699 WOODLAND AVE, EAST PALO ALTO	I12	1.7	201	0	0.0003	0.0000	0.0005	0.0000	0.0003	0.0005
063-481-020	1681 WOODLAND AVE, EAST PALO ALTO	I12	1.7	174	0	0.0003	0.0000	0.0005	0.0000	0.0003	0.0005
063-481-030	1671 WOODLAND AVE, EAST PALO ALTO	I12	1.7	192	0	0.0003	0.0000	0.0005	0.0000	0.0003	0.0005
063-481-040	1669 WOODLAND AVE, EAST PALO ALTO	I12	1.7	235	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-481-050	1651 WOODLAND AVE, EAST PALO ALTO	I12	1.7	397	0	0.0006	0.0000	0.0010	0.0000	0.0006	0.0010
063-481-060	1643 WOODLAND AVE, EAST PALO ALTO	I12	1.7	244	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-481-070	1637 WOODLAND AVE, EAST PALO ALTO	I12	1.7	268	0	0.0004	0.0000	0.0007	0.0000	0.0004	0.0007
063-481-080	1629 WOODLAND AVE, EAST PALO ALTO	I12	1.7	221	0	0.0003	0.0000	0.0006	0.0000	0.0003	0.0006
063-481-090	1621 WOODLAND AVE, EAST PALO ALTO	I12	1.7	196	0	0.0003	0.0000	0.0005	0.0000	0.0003	0.0005
063-481-100	644 SCOFIELD AVE, EAST PALO ALTO	I12	1.7	316	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-481-110	652 SCOFIELD AVE, EAST PALO ALTO	I12	1.7	146	0	0.0002	0.0000	0.0004	0.0000	0.0002	0.0004
063-481-120	660 SCOFIELD AVE, EAST PALO ALTO	I12	1.7	235	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-481-130	610 CIRCLE DR, EAST PALO ALTO	I12	1.7	235	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-481-140	620 CIRCLE DR, EAST PALO ALTO	I12	1.7	258	0	0.0004	0.0000	0.0007	0.0000	0.0004	0.0007
063-481-150	630 CIRCLE DR, EAST PALO ALTO	I12	1.7	225	0	0.0003	0.0000	0.0006	0.0000	0.0003	0.0006
063-481-160	640 CIRCLE DR, EAST PALO ALTO	I12	1.7	239	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-481-170	650 CIRCLE DR, EAST PALO ALTO	I12	1.7	313	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-481-180	1917 COOLEY AVE, EAST PALO ALTO	I12	1.7	324	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-481-190	1909 COOLEY AVE, EAST PALO ALTO	I12	1.7	308	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-481-210	1901 COOLEY AVE, EAST PALO ALTO	I12	1.7	289	0	0.0004	0.0000	0.0008	0.0000	0.0004	0.0008
063-481-220	1905 COOLEY AVE, EAST PALO ALTO	I12	1.7	248	0	0.0004	0.0000	0.0007	0.0000	0.0004	0.0007
063-511-020	2039 CLARKE AVE, EAST PALO ALTO	I3	1.47	721	470	0.0011	0.0007	0.0016	0.0011	0.0018	0.0027
063-511-030	2035 CLARKE AVE, EAST PALO ALTO	I3	1.47	803	509	0.0012	0.0008	0.0018	0.0012	0.0020	0.0030
063-511-040	2029 CLARKE AVE, EAST PALO ALTO	I3	1.47	1,785	990	0.0027	0.0015	0.0040	0.0022	0.0043	0.0063
063-511-050	2027 CLARKE AVE, EAST PALO ALTO	I3	1.47	677	448	0.0010	0.0007	0.0015	0.0010	0.0017	0.0025
063-511-060	2023 CLARKE AVE, EAST PALO ALTO	I3	1.47	839	527	0.0013	0.0008	0.0019	0.0012	0.0021	0.0031
063-511-070	2017 CLARKE AVE, EAST PALO ALTO	I3	1.47	764	491	0.0012	0.0008	0.0017	0.0011	0.0019	0.0028
063-511-080	2013 CLARKE AVE, EAST PALO ALTO	I3	1.47	754	486	0.0012	0.0007	0.0017	0.0011	0.0019	0.0028
063-511-090	2009 CLARKE AVE, EAST PALO ALTO	I3	1.47	749	483	0.0012	0.0007	0.0017	0.0011	0.0019	0.0028
063-511-190	872 DONOHOE ST, EAST PALO ALTO	I3	1.47	1,399	801	0.0022	0.0012	0.0032	0.0018	0.0034	0.0050
063-511-200	866 DONOHOE ST, EAST PALO ALTO	I3	1.47	1,172	690	0.0018	0.0011	0.0027	0.0016	0.0029	0.0042
063-511-210	864 DONOHOE ST, EAST PALO ALTO	I3	1.47	956	584	0.0015	0.0009	0.0022	0.0013	0.0024	0.0035
063-511-220	862 DONOHOE ST, EAST PALO ALTO	I3	1.47	587	404	0.0009	0.0006	0.0013	0.0009	0.0015	0.0022
063-511-240	896 DONOHOE ST, EAST PALO ALTO	I3	1.47	628	424	0.0010	0.0007	0.0014	0.0010	0.0016	0.0024
063-511-250	860 DONOHOE ST, EAST PALO ALTO	I3	1.47	1,018	615	0.0016	0.0009	0.0023	0.0014	0.0025	0.0037
063-511-260	890 DONOHOE ST, EAST PALO ALTO	I3	1.47	694	457	0.0011	0.0007	0.0016	0.0010	0.0018	0.0026
114-450-010 to 114-460-300	1765 EAST BAYSHORE RD, EAST PALO ALTO	I3	1.72	0	3,960	0.0000	0.0061	0.0000	0.0105	0.0061	0.0105
063-571-060	1985 E BAYSHORE RD, EAST PALO ALTO	K28	1.55	10,524	5,260	0.0162	0.0081	0.0251	0.0126	0.0243	0.0377
063-571-070	1981 E BAYSHORE RD, EAST PALO ALTO	K28	1.55	5,159	2,521	0.0079	0.0039	0.0123	0.0060	0.0118	0.0183
063-571-080	1961 E BAYSHORE RD, EAST PALO ALTO	K28	1.55	10,972	5,479	0.0169	0.0084	0.0262	0.0131	0.0253	0.0393
063-571-090	1905 E BAYSHORE RD, EAST PALO ALTO	K28	1.55	1,692	944	0.0026	0.0015	0.0040	0.0023	0.0041	0.0063
063-492-350 (14)	1805 E BAYSHORE RD #1-94, EAST PALO ALTO	K4	1.59							0.0338	0.0537
063-492-070	1927 E BAYSHORE RD, EAST PALO ALTO	K4	1.59	1,221	714	0.0019	0.0011	0.0030	0.0017	0.0030	0.0047
063-492-280	1933 PULGAS AVE, EAST PALO ALTO	K4	1.59	5,406	0	0.0083	0.0000	0.0132	0.0000	0.0083	0.0132
063-492-480	1895 E BAYSHORE RD, EAST PALO ALTO	K4	1.59	1,708	952	0.0026	0.0015	0.0042	0.0023	0.0041	0.0065
063-515-070	1805 CLARKE AVE, EAST PALO ALTO	K4	1.59	269	0	0.0004	0.0000	0.0007	0.0000	0.0004	0.0007
063-515-080	1787 WOODLAND AVE, EAST PALO ALTO	K4	1.59	21	0	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001
063-515-230	1785 WOODLAND AVE, EAST PALO ALTO	K4	1.59	267	0	0.0004	0.0000	0.0007	0.0000	0.0004	0.0007
063-501-020	1874 W BAYSHORE RD, EAST PALO ALTO	K4	1.59	1,071	1,082	0.0016	0.0017	0.0026	0.0026	0.0033	0.0053
063-501-030	1870 W BAYSHORE RD, EAST PALO ALTO	K4	1.59	372	505	0.0006	0.0008	0.0009	0.0012	0.0014	0.0021
063-501-040	1879 WOODLAND AVE, EAST PALO ALTO	K4	1.59	380	512	0.0006	0.0008	0.0009	0.0013	0.0014	0.0022
063-501-050	1875 WOODLAND AVE, EAST PALO ALTO	K4	1.59	300	446	0.0005	0.0007	0.0007	0.0011	0.0011	0.0018
063-515-060	1821 CLARKE AVE, EAST PALO ALTO	K4	1.59	32	0	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001
063-132-140	1905 BAY RD, EAST PALO ALTO	T20	1.5	3,076	1,620	0.0047	0.0025	0.0071	0.0037	0.0072	0.0108
063-131-350 (17)	2519 PULGAS AVE, EAST PALO ALTO	T20	1.5							0.0091	0.0137

Table 9
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EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Sanitary Sewer Sub-Basins	Peaking Factor (2)	Delta Residential Average Daily Flow, GPD (3)	Delta Non-Residential Average Daily Flow, GPD (4)	Residential ADWF, CFS (5)	Non-Residential ADWF, CFS (6)	Residential PDWF, CFS (7)	Non-Residential PDWF, CFS (8)	Total ADWF, CFS	Total PDWF, CFS
063-121-400	2091 BAY RD, EAST PALO ALTO	T20	1.5	0	5,455	0.0000	0.0084	0.0000	0.0126	0.0084	0.0126
063-122-030	1990 BAY RD, EAST PALO ALTO	T20	1.5	0	30,773	0.0000	0.0474	0.0000	0.0711	0.0474	0.0711
063-221-180	2371 CLARKE AVE, EAST PALO ALTO	T20	1.5	453	0	0.0007	0.0000	0.0010	0.0000	0.0007	0.0010
063-221-190	2369 CLARKE AVE, EAST PALO ALTO	T20	1.5	521	0	0.0008	0.0000	0.0012	0.0000	0.0008	0.0012
063-221-200	891 WEEKS ST, EAST PALO ALTO	T20	1.5	1,242	0	0.0019	0.0000	0.0029	0.0000	0.0019	0.0029
063-221-210	871 WEEKS ST, EAST PALO ALTO	T20	1.5	435	0	0.0007	0.0000	0.0010	0.0000	0.0007	0.0010
063-221-220	867 WEEKS ST, EAST PALO ALTO	T20	1.5	721	0	0.0011	0.0000	0.0017	0.0000	0.0011	0.0017
063-221-230	865 WEEKS ST, EAST PALO ALTO	T20	1.5	752	0	0.0012	0.0000	0.0017	0.0000	0.0012	0.0017
063-221-240	, NO DATA	T20	1.5	3,375	0	0.0052	0.0000	0.0078	0.0000	0.0052	0.0078
063-221-250	831 WEEKS ST, EAST PALO ALTO	T20	1.5	742	0	0.0011	0.0000	0.0017	0.0000	0.0011	0.0017
063-221-260	819 JAMIE LN, EAST PALO ALTO	T20	1.5	591	0	0.0009	0.0000	0.0014	0.0000	0.0009	0.0014
063-221-270	823 JAMIE LN, EAST PALO ALTO	T20	1.5	777	0	0.0012	0.0000	0.0018	0.0000	0.0012	0.0018
063-221-280	827 JAMIE LN, EAST PALO ALTO	T20	1.5	1,002	0	0.0015	0.0000	0.0023	0.0000	0.0015	0.0023
063-221-290	811 PAUL ROBESON CT, EAST PALO ALTO	T20	1.5	369	0	0.0006	0.0000	0.0009	0.0000	0.0006	0.0009
063-221-300	813 PAUL ROBESON CT, EAST PALO ALTO	T20	1.5	275	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-221-310	815 PAUL ROBESON CT, EAST PALO ALTO	T20	1.5	315	0	0.0005	0.0000	0.0007	0.0000	0.0005	0.0007
063-221-320	817 PAUL ROBESON CT, EAST PALO ALTO	T20	1.5	323	0	0.0005	0.0000	0.0007	0.0000	0.0005	0.0007
063-221-340	801 WEEKS ST, EAST PALO ALTO	T20	1.5	326	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-221-350	803 PAUL ROBESON CT, EAST PALO ALTO	T20	1.5	330	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-221-360	805 PAUL ROBESON CT, EAST PALO ALTO	T20	1.5	237	0	0.0004	0.0000	0.0005	0.0000	0.0004	0.0005
063-221-370	807 PAUL ROBESON CT, EAST PALO ALTO	T20	1.5	350	0	0.0005	0.0000	0.0008	0.0000	0.0005	0.0008
063-221-380	809 PAUL ROBESON CT, EAST PALO ALTO	T20	1.5	311	0	0.0005	0.0000	0.0007	0.0000	0.0005	0.0007
063-221-500	863 WEEKS ST, EAST PALO ALTO	T20	1.5	435	0	0.0007	0.0000	0.0010	0.0000	0.0007	0.0010
063-221-390	791 WEEKS ST, EAST PALO ALTO	T20	1.5	4,336	0	0.0067	0.0000	0.0100	0.0000	0.0067	0.0100
063-221-410	731 WEEKS ST, EAST PALO ALTO	T20	1.5	1,324	0	0.0020	0.0000	0.0031	0.0000	0.0020	0.0031
063-221-420	717 WEEKS ST, EAST PALO ALTO	T20	1.5	909	0	0.0014	0.0000	0.0021	0.0000	0.0014	0.0021
063-221-510	761 WEEKS ST, EAST PALO ALTO	T20	1.5	652	0	0.0010	0.0000	0.0015	0.0000	0.0010	0.0015
063-221-520	767 CAROLE CT, EAST PALO ALTO	T20	1.5	507	0	0.0008	0.0000	0.0012	0.0000	0.0008	0.0012
063-221-530	773 CAROLE CT, EAST PALO ALTO	T20	1.5	437	0	0.0007	0.0000	0.0010	0.0000	0.0007	0.0010
063-221-540	779 CAROLE CT, EAST PALO ALTO	T20	1.5	422	0	0.0006	0.0000	0.0010	0.0000	0.0006	0.0010
063-221-550	785 CAROLE CT, EAST PALO ALTO	T20	1.5	439	0	0.0007	0.0000	0.0010	0.0000	0.0007	0.0010
063-253-320 (15)	965 WEEKS STREET, EAST PALO ALTO	T20	1.5							0.0037	0.0056
063-232-090	1003 WEEKS ST, EAST PALO ALTO	T20	1.5	257	0	0.0004	0.0000	0.0006	0.0000	0.0004	0.0006
063-232-150	2421 PULGAS AVE, EAST PALO ALTO	T20	1.5	2,421	0	0.0037	0.0000	0.0056	0.0000	0.0037	0.0056
063-232-160	2447 PULGAS AVE, EAST PALO ALTO	T20	1.5	1,364	0	0.0021	0.0000	0.0032	0.0000	0.0021	0.0032
063-232-210 (12)	WEEKS ST, EAST PALO ALTO	T20	1.5	5,850	0	0.0090	0.0000	0.0135	0.0000	0.0168	0.0253
063-232-220 (12)	WEEKS ST, EAST PALO ALTO	T20	1.5	3,319	0	0.0051	0.0000	0.0077	0.0000	0.0168	0.0253
063-232-230 (12)	WEEKS ST, EAST PALO ALTO	T20	1.5	4,631	0	0.0071	0.0000	0.0107	0.0000	0.0168	0.0253
063-232-240	1045 WEEKS ST, EAST PALO ALTO	T20	1.5	4,822	0	0.0074	0.0000	0.0111	0.0000	0.0074	0.0111
063-232-250	1085 WEEKS ST, EAST PALO ALTO	T20	1.5	553	0	0.0009	0.0000	0.0013	0.0000	0.0009	0.0013
063-232-260	1001 WEEKS ST, EAST PALO ALTO	T20	1.5	1,567	0	0.0024	0.0000	0.0036	0.0000	0.0024	0.0036
063-232-300	1095 WEEKS ST, EAST PALO ALTO	T20	1.5	734	0	0.0011	0.0000	0.0017	0.0000	0.0011	0.0017
063-232-350	901 WEEKS ST, EAST PALO ALTO	T20	1.5	4,713	2,487	0.0073	0.0038	0.0109	0.0057	0.0111	0.0166

Table 9
Proposed Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN (1)	Address (1)	Sanitary Sewer Sub-Basins	Peaking Factor (2)	Delta Residential Average Daily Flow, GPD (3)	Delta Non-Residential Average Daily Flow, GPD (4)	Residential ADWF, CFS (5)	Non-Residential ADWF, CFS (6)	Residential PDWF, CFS (7)	Non-Residential PDWF, CFS (8)	Total ADWF, CFS	Total PDWF, CFS
063-271-370	1171 RUNNYMEDE ST, EAST PALO ALTO	T20	1.5	4,382	0	0.0067	0.0000	0.0101	0.0000	0.0067	0.0101
063-271-090 (16)	1201 RUNNYMEDE ST, EAST PALO ALTO	T20	1.5							0.0053	0.0080
063-271-480	, EAST PALO ALTO	T20	1.5	0	4,596	0.0000	0.0071	0.0000	0.0106	0.0071	0.0106

Notes:
(1) Properties that have changed Zoning Figure 4-12: General Plan Land Use and Figure 4-16: Ravenswood / 4 Corners TOP Specific Plan Land Use City of East Palo Alto General Plan "Existi
Report, February 2014" Vs Figure 4-2: General Plan Land Use Designations City of East Palo Alto General Plan "Vista 2035, Final Version: March 2017"
(2) Per Section 5.3.2 of the "East Palo Alto Sanitary District Master Plan Update, March 2015". For modeling scenarios, peak sanitary flows based on the collected data. Collected data for P
for each sub-basin are shown in Table 2.
(3) Delta Residential Flows is calculated by taking the Average Daily Flow for Residential areas from Table 8 minus the Average Daily Flow for Residential area from Table 7. If calculation re
decrease of flow, the flow change is shown as "0" because it is not anticipated that the land use changes will result in flow reductions.
(4) Delta Non-Residential Flows is calculated by taking the Average Faily Flow for Non-Residential areas from Table 8 minus the Average Daily Flow for Non-Residential areas from Table 7.
(5) ADWF Residential Dwellings, calculated by multiplying 240 gallons per dwelling unit per day by the total number of units. Based on Section B1.03.2.b of the East Palo Alto Sanitary Distı
Specifications for Design and Construction of Sanitary Collection and Conveyance Facilities date June 6, 2002. Units converted from GPD (Gallons Per Day) to CFS based off 24 hours in
in a hour, and 60 seconds in a minute.
(6) ADWF Non-Residential , calculated by multiplying 0.1 gallons per day per square foot. Based on Section B1.03.3 for Office and Retail of the East Palo Alto Sanitary District Standard Spe
Design and Construction of Sanitray Collection and Conveyance Facilities dated June 6, 2002. Units converted from GPD (Gallons Per Day) to CFS. Based off 24 hours in a day, 60 minute
seconds in a minute.
(7) PDWF Residential Dwellings, calculated by multiplying Average Dry Weather Flows (5) by the Peaking Factor (2). Units converted from GPD to CFS. Based off 24 hours a day, 60 minutes
60 seconds in a minute.
(8) PDWF Non-Residential, calculated by multiplying Average Dry Weather Flows (6) by the Peaking Factor (2). Units converted from GPD to CFS. Based off 24 hours a day, 60 minutes in a
seconds in a minute.
(9) ADWF based on sewer demand documented in the January 7, 2020 University Plaza Phase 2 memorandum, the project is anticipated to increase ADWF by 9,946 gpd.
(10) ADWF based on sewer demand documented in the July 30, 2019 2331 University Ave Engineering Proposal , the project is anticipated to increase ADWF by 7,680 gpd.
(11) ADWF identified in the fee calculation for the University Plaza Phase 1 project included in the June 29, 2015 email from Freyer & Laureta, Inc. Anticipated increase to ADWF by 13,528
projected ADWF was split between the three parcels.
(12) ADWF based on sewer demand documented in the December 18, 2019 Mid-Pen Housing Engineering Proposal , the project is anticipated to increase ADWF by 32,640 gpd. The proje
split between the three parcels.
(13) Development has already occurred or not possible at proposed parcel.
(14) ADWF based on sewer demand documented in the March 4, 2020 Light Tree Apartments memorandum, the project is anticipated to increase ADWF by 21,841 gpd.
(15) ADWF based on sewer demand documented in July 8, 2020 Weeks Street Townhomes Sewer Flow Evaluation Tables. ADWF is anticipated to increase 2,400 gpd.
(16) ADWF based on sewer demand documented in May 8, 2018 1201 Runnymede Water Demand Analysis by Engineering Consultants Inc. ADWF is anticipated to increase 3,615 gpd.
(17) ADWF based on sewer demand documented in August 20, 2020 2519 Pulgas Ave memorandum. ADWF is anticipated to increase 5,881 gpd.
(18) ADWF based on sewer demand documented in August 19, 2020 Woodland Park Apartments memorandum. ADWF is anticipated to increase 106,560 gpd. The projected ADWF was s
fourteen parcels.

Abbreviations
ADWF: Average Dry Weather Flow
APN: Assessors Parcel Number
CFS: Cubic Feet per Second
MGD: Million Gallons Per Day
PDWF: Peak Dry Weather Flow

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-103-310	1585 BAY RD, EAST PALO ALTO	Low Density Residential	Mixed Use High	0.0037	0.0058
063-103-440	2400 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0158	0.0251
063-111-230	BETWEEN 1585 AND 1675 BAY RD, EAST PALO ALTO	Parks/Recreation/Conservation	Mixed Use High	0.0242	0.0364
063-111-250	1675 BAY RD, EAST PALO ALTO	Low Density Residential Office	Mixed Use High Mixed Use High	0.0084	0.0134
063-121-400	2091 BAY RD, EAST PALO ALTO	Parks/Recreation/Conservation	Office	0.0011	0.0018
063-122-030	BAY RD, EAST PALO ALTO	Parks/Recreation/Conservation	Office	0.0056	0.0089
063-131-350	2519 PULGAS AVE, EAST PALO ALTO	(4)	(4)	0.0037	0.0056
063-132-140	1905 BAY RD, EAST PALO ALTO	Parks/Recreation/Conservation	Mixed Use Corridor	0.0009	0.0013
063-151-170	2159 POPLAR AVE, EAST PALO ALTO	Commercial	Mixed Use Low	0.1459	0.2320
063-151-200	1001 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0003	0.0005
063-152-230	1199 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0003	0.0004
063-153-010	1205 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0005	0.0008
063-153-250	2119 ADDISON AVE, EAST PALO ALTO	Commercial	Mixed Use Low	0.0002	0.0004
063-154-200	2110 ADDISON AVE, EAST PALO ALTO	Commercial	Mixed Use Low	0.0003	0.0004
063-154-260	2119 OAKWOOD DR, EAST PALO ALTO	Commercial	Mixed Use Low	0.0003	0.0004
063-155-010	2106 OAKWOOD DR, EAST PALO ALTO	Commercial	Mixed Use Low	0.0002	0.0003
063-155-180	2123 DUMBARTON AVE, EAST PALO ALTO	Commercial	Mixed Use Low	0.0012	0.0019
063-155-190	2109 DUMBARTON AVE, EAST PALO ALTO	Commercial	Mixed Use Low	0.0000	0.0000
063-181-010	2110 DUMBARTON AVE, EAST PALO ALTO	Commercial	Mixed Use Low	0.0000	0.0000
063-181-220	2111 LINCOLN ST, EAST PALO ALTO	Low Density Residential	Mixed Use Low	0.0000	0.0000
063-181-230	2097 LINCOLN ST, EAST PALO ALTO	Low Density Residential	Mixed Use Low	0.0005	0.0008
063-181-240	1385 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0003	0.0005
063-183-010	2088 LINCOLN ST, EAST PALO ALTO	Commercial	Mixed Use Low	0.0015	0.0028
063-183-070	2045 GLEN WAY, EAST PALO ALTO	Commercial	Mixed Use Low	0.0009	0.0017
063-183-080	1435 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0009	0.0016
063-183-090	BETWEEN 1401 AND 1435 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0008	0.0014
063-183-110	1401 E BAYSHORE RD 2, EAST PALO ALTO	Commercial	Mixed Use Low	0.0005	0.0008
063-184-010	1475 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0018	0.0026
063-184-020	2056 GLEN WAY, EAST PALO ALTO	Low Density Residential	Mixed Use Low	0.0023	0.0034
063-184-030	2070 GLEN WAY, EAST PALO ALTO	Low Density Residential	Mixed Use Low	0.0022	0.0032
063-184-040	2080 GLEN WAY, EAST PALO ALTO	Low Density Residential	Mixed Use Low	0.0017	0.0025
063-201-080	566 SACRAMENTO ST, EAST PALO ALTO	High Density Residential	Low Density Residential	0.0027	0.0040
063-201-090	576 SACRAMENTO ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0023	0.0034
063-201-220	2337 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0118	0.0203
063-201-240	2343 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0118	0.0203
063-201-250	RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0023	0.0033
063-201-260	RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0023	0.0034
063-201-270	578 SACRAMENTO ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0024	0.0035

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-201-290	2331 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0023	0.0034
063-202-080	556 WEEKS ST, EAST PALO ALTO	High Density Residential	Low Density Residential	0.0024	0.0035
063-202-090	564 WEEKS ST, EAST PALO ALTO	High Density Residential	Low Density Residential	0.0024	0.0036
063-202-100	566 WEEKS ST, EAST PALO ALTO	High Density Residential	Low Density Residential	0.0024	0.0035
063-202-160	561 SACRAMENTO ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0023	0.0033
063-202-280	2361-2369 UNIVERSITY AVE 101-308, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0015	0.0022
063-203-210	585 WEEKS ST, EAST PALO ALTO	Commercial	Mixed Use High	0.0003	0.0004
063-203-220	579 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential	0.0003	0.0005
063-203-230	563 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential	0.0003	0.0004
063-203-240	549 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential	0.0003	0.0004
063-203-250	541 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential	0.0003	0.0004
063-203-260	533 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential	0.0003	0.0004
063-203-270	BETWEEN 1518 BAY RD AND 533 WEEKS ST, EAST PALO ALTO	Commercial	Low Density Residential	0.0004	0.0006
063-203-350	1574 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0005	0.0007
063-203-360	1546 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0006
063-203-370	1508 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0006	0.0009
063-203-380	BETWEEN 1518 AND 1530 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0002	0.0003
063-203-390	1518 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0002	0.0002
063-203-400	1560 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0023	0.0033
063-203-410	1568 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0007	0.0010
063-203-430	1530 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0046	0.0068
063-203-440	1554 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0041	0.0060
063-203-450	1538 BAY RD, EAST PALO ALTO	Commercial	Medium Density Residential	0.0009	0.0014
063-210-310	2346 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0030	0.0043
063-210-340	2369 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0060	0.0087
063-210-350	2365 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0028	0.0041
063-210-360	2300 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0028	0.0040
063-210-380	2354 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0028	0.0040
063-210-410	2371 COOLEY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0026	0.0038
063-210-450	2377 COOLEY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0016	0.0024
063-210-470	633 RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0072	0.0106
063-210-480	2361 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0041	0.0060
063-210-490	2355 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0950	0.1387
063-210-520	2338 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0009	0.0013
063-210-610	661 RUNNYMEDE ST, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0005	0.0007
063-210-630	2358 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0009	0.0013
063-221-180	2371 CLARKE AVE, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0010	0.0016
063-221-190	2369 CLARKE AVE, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0012	0.0018

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-221-200	891 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0005	0.0008
063-221-210	871 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0005	0.0007
063-221-220	867 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0008	0.0011
063-221-230	865 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0039	0.0057
063-221-240	BETWEEN 831 AND 863 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0034	0.0049
063-221-250	831 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0079	0.0116
063-221-260	819 JAMIE LN, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0034	0.0049
063-221-270	823 JAMIE LN, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0049	0.0072
063-221-280	827 JAMIE LN, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0031	0.0046
063-221-290	811 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0030	0.0044
063-221-300	813 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0249	0.0363
063-221-310	815 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0066	0.0097
063-221-320	817 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0060	0.0088
063-221-340	801 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0032	0.0047
063-221-350	803 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0025	0.0037
063-221-360	805 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0025	0.0036
063-221-370	807 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0025	0.0036
063-221-380	809 PAUL ROBESON CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0025	0.0036
063-221-390	791 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0025	0.0036
063-221-410	731 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0025	0.0036
063-221-420	717 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0035	0.0051
063-221-430	2360 COOLEY AVE, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0022	0.0032
063-221-440	2362-2362 COOLEY AVE, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0022	0.0032
063-221-450	2364 COOLEY AVE, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0022	0.0032
063-221-500	863 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0066	0.0097
063-221-510	761 WEEKS ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0039	0.0057
063-221-520	767 CAROLE CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0052	0.0076
063-221-530	773 CAROLE CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0022	0.0033
063-221-540	779 CAROLE CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0023	0.0033
063-221-550	785 CAROLE CT, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0023	0.0033
063-231-220	1800 BAY RD, EAST PALO ALTO	Office	Mixed Use Corridor	0.0021	0.0031
063-231-240	1804 BAY RD, EAST PALO ALTO	Office	Mixed Use Corridor	0.0020	0.0030
063-231-250	1798 BAY RD, EAST PALO ALTO	Office	Mixed Use Corridor	0.0020	0.0030
063-232-090	1003 WEEKS ST, EAST PALO ALTO	Office	High Density Residential	0.0021	0.0030
063-232-150	2421 PULGAS AVE, EAST PALO ALTO	Office	High Density Residential	0.0021	0.0030
063-232-160	2447 PULGAS AVE, EAST PALO ALTO	Office	High Density Residential	0.0021	0.0030
063-232-210	WEEKS ST, EAST PALO ALTO	Office	High Density Residential	0.0021	0.0031
063-232-220	WEEKS ST, EAST PALO ALTO	Office	High Density Residential	0.0028	0.0041
063-232-230	WEEKS ST, EAST PALO ALTO	Office	High Density Residential	0.0028	0.0041
063-232-240	1045 WEEKS ST, EAST PALO ALTO	Office	High Density Residential	0.0022	0.0032

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-232-250	1085 WEEKS ST, EAST PALO ALTO	Office	High Density Residential	0.0022	0.0032
063-232-260	1001 WEEKS ST, EAST PALO ALTO	Office	High Density Residential	0.0017	0.0025
063-232-300	1095 WEEKS ST, EAST PALO ALTO	Office	High Density Residential	0.0025	0.0037
063-232-350	901 WEEKS ST, EAST PALO ALTO	Office	Mixed Use High	0.0024	0.0035
063-253-320	965 WEEKS STREET, EAST PALO ALTO	(4)	(4)	0.0037	0.0056
063-271-090	1201 RUNNYMEDE ST, EAST PALO ALTO	(4)	(4)	0.0004	0.0006
063-271-370	1171 RUNNYMEDE ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0016	0.0028
063-271-480	1199 WEEKS ST, EAST PALO ALTO	Parks/Recreation/Conservation	Industrial Buffer	0.0118	0.0203
063-281-020	2021 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0071	0.0106
063-281-030	2025 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0053	0.0080
063-281-040	2031 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0067	0.0101
063-281-100	2043 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0111	0.0166
063-281-110	420 E OKEEFE ST, EAST PALO ALTO	(4)	(4)	0.0011	0.0017
063-282-010	501 OCONNOR ST, EAST PALO ALTO	(4)	(4)	0.0024	0.0036
063-282-020	2012 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0009	0.0013
063-282-030	2032 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0074	0.0111
063-282-040	2036 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0168	0.0253
063-282-050	2040 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0168	0.0253
063-282-060	2044 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0168	0.0253
063-282-070	2054 EUCLID AVE, EAST PALO ALTO	(4)	(4)	0.0021	0.0032
063-282-080	2033 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0118	0.0203
063-282-090	2001 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0118	0.0203
063-291-010	1489 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0118	0.0203
063-292-180	2101 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use High	0.0118	0.0203
063-292-370	2117 UNIVERSITY AVE, EAST PALO ALTO	Office, High Density Residential	Mixed Use High	0.0118	0.0203
063-292-380	2160 EUCLID AVE, EAST PALO ALTO	Low Density Residential	Mixed Use High	0.0118	0.0203
063-302-170	2283 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor	0.0118	0.0203
063-302-180	2281 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor	0.0118	0.0203
063-302-210	2263 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor	0.0118	0.0203
063-302-220	2253 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor	0.0118	0.0203
063-302-230	2247 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor	0.0118	0.0203
063-302-280	575A BELL ST, EAST PALO ALTO	Office	Mixed Use Corridor	0.0005	0.0008
063-302-290	565 BELL ST, EAST PALO ALTO	Office	Mixed Use Corridor	0.0015	0.0026
063-302-330	2201 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor	0.0017	0.0030
063-302-340	584 RUNNYMEDE ST, EAST PALO ALTO	Office	Mixed Use Corridor	0.0015	0.0027
063-302-460	2277 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor	0.0013	0.0023
063-302-470	2279 UNIVERSITY AVE, EAST PALO ALTO	Office	Mixed Use Corridor	0.0014	0.0025
063-312-400	WEST OF 2033 COOLEY AVE, EAST PALO ALTO	Commercial	Office	0.0030	0.0051
063-321-050	2124 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-060	2126 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-321-070	BETWEEN 2142 AND 2126 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-080	2142 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-100	2160 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-110	2164 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-120	2166 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0074	0.0128
063-321-130	2172 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0072	0.0106
063-321-140	2178 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0154	0.0225
063-321-180	612 BELL ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-190	616 BELL ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0070	0.0102
063-321-200	644 BELL ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0017	0.0025
063-321-210	2189 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0070	0.0103
063-321-220	2187 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0070	0.0103
063-321-230	2181 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-240	2171 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-250	2165 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-260	2161 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-270	2157 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-280	2153 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-290	2149 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-300	2145 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-310	2141 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-320	2133 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-321-330	2129 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0006	0.0009
063-321-400	2194 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0006	0.0010
063-321-410	2148 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0016	0.0026
063-321-420	BETWEEN 2124 UNIVERSITY AVE AND 630 DONOHOE ST, EAST PALO ALTO	Commercial	Office	0.0012	0.0019
063-322-040	2124 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0009	0.0015
063-322-050	2132 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0009	0.0016
063-322-060	2134 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0008	0.0012
063-322-070	2138 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0007	0.0011
063-322-080	2142 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0000	0.0001
063-322-090	2144 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0035	0.0057
063-322-100	2154 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0020	0.0032
063-322-110	2162 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0021	0.0035
063-322-130	2184 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0058	0.0096
063-322-140	2194 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0016	0.0027
063-322-150	2198 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0022	0.0037
063-322-160	660 BELL ST, EAST PALO ALTO	Commercial	Medium Density Residential	0.0089	0.0146
063-322-340	2169 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0177	0.0291

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-322-410	SOUTH OF 2119 COOLEY AVE, EAST PALO ALTO	High Density Residential	Office	0.0033	0.0054
063-322-500	2159 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0032	0.0053
063-322-560	DONOHOE ST, EAST PALO ALTO	High Density Residential	Office	0.0027	0.0044
063-322-580	2118 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0016	0.0027
063-331-030	2212 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0035	0.0057
063-331-060	2242 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-331-070	2248 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-331-080	2252 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-331-090	2264 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0032	0.0052
063-331-100	2268 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-331-110	2272 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0006	0.0010
063-331-120	2274 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-331-130	2276 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-331-140	2280 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0000
063-331-150	2284 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0003	0.0005
063-331-190	2291 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0007	0.0010
063-331-200	2287 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0010	0.0015
063-331-210	2285 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0097	0.0159
063-331-220	2277 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0524	0.0770
063-331-230	2267 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0637	0.0937
063-331-240	2263 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0086	0.0146
063-331-250	2255 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0010	0.0017
063-331-260	2251 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.1026	0.1745
063-331-270	2249 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0141	0.0240
063-331-280	2245 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.1463	0.2487
063-331-290	2239 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0005	0.0009
063-331-300	2233 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0016	0.0027
063-331-310	2227 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0036	0.0062
063-331-320	2219 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0004	0.0007
063-331-330	2217 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0005	0.0009
063-331-340	2205 CAPITOL AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0013	0.0022
063-331-350	643 BELL ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0022	0.0038
063-331-370	2200 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0012	0.0021
063-331-380	2240 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0039	0.0067
063-331-410	2220 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0002	0.0004
063-442-360	330 DONOHOE ST, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0003	0.0005
063-473-150	1995 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0004	0.0007
063-473-160	1991 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0021	0.0035
063-473-170	1965 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0023	0.0040
063-473-180	1955 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0029	0.0048

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-473-190	1919 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0055	0.0094
063-473-200	1901 MANHATTAN AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0003	0.0005
063-481-010	1699 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0003	0.0005
063-481-020	1681 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0006	0.0010
063-481-030	1671 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0006
063-481-040	1669 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0007
063-481-050	1651 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0003	0.0006
063-481-060	1643 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0003	0.0005
063-481-070	1637 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0014	0.0024
063-481-080	1629 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0006	0.0011
063-481-090	1621 WOODLAND AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0038	0.0055
063-481-100	644 SCOFIELD AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0005	0.0008
063-481-110	652 SCOFIELD AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0002	0.0004
063-481-120	660 SCOFIELD AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0006
063-481-130	610 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0006
063-481-140	620 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0007
063-481-150	630 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential	0.0003	0.0006
063-481-160	640 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0006
063-481-170	650 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential	0.0005	0.0008
063-481-180	1917 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0005	0.0008
063-481-190	1909 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0005	0.0008
063-481-210	1901 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0008
063-481-220	1905 COOLEY AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0004	0.0007
063-482-010	641 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential	0.0018	0.0027
063-482-020	621 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential	0.0020	0.0030
063-482-030	611 CIRCLE DR, EAST PALO ALTO	Commercial	Medium Density Residential	0.0043	0.0063
063-483-030	1909 CAPITOL AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0003	0.0005
063-483-040	1943 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0004	0.0006
063-483-050	1609 WOODLAND AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0021	0.0031
063-484-010	655 SCOFIELD AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0019	0.0028
063-484-020	1902 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0019	0.0028
063-484-030	1908 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0019	0.0028
063-484-040	1916 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0034	0.0050
063-484-050	1920 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0029	0.0042
063-484-060	1934 CAPITOL AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0024	0.0035
063-484-090	1949 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0015	0.0022
063-484-100	1941 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0016	0.0024
063-484-110	685 SCOFIELD AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0025	0.0037
063-484-130	1957 COOLEY AVE, EAST PALO ALTO	Commercial	High Density Residential	0.0018	0.0026
063-492-070	1927 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0061	0.0105
063-492-280	1933 PULGAS AVE, EAST PALO ALTO	Commercial	Medium Density Residential	0.0243	0.0377

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-492-350	1805 E BAYSHORE RD #1-94, EAST PALO ALTO	(4)	(4)	0.0007	0.0010
063-492-480	1895 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0118	0.0183
063-501-020	1874 W BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0253	0.0393
063-501-030	1870 W BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Low	0.0041	0.0063
063-501-040	1879 WOODLAND AVE, EAST PALO ALTO	Commercial	Mixed Use Low	0.0338	0.0537
063-501-050	1875 WOODLAND AVE, EAST PALO ALTO	Commercial	Mixed Use Low	0.0030	0.0047
063-511-020	2039 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0083	0.0132
063-511-030	2035 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0041	0.0065
063-511-040	2029 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0004	0.0007
063-511-050	2027 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0001
063-511-060	2023 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0004	0.0007
063-511-070	2017 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0033	0.0053
063-511-080	2013 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0014	0.0021
063-511-090	2009 CLARKE AVE, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0014	0.0022
063-511-190	872 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0011	0.0018
063-511-200	866 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0000	0.0001
063-511-210	864 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0072	0.0108
063-511-220	862 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0091	0.0137
063-511-240	896 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0084	0.0126
063-511-250	860 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0474	0.0711
063-511-260	890 DONOHOE ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0007	0.0010
063-511-490	1731 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High	0.0008	0.0012
063-511-520	1761 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High	0.0019	0.0029
063-511-630	1721 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High	0.0007	0.0010
063-511-660	899 OCONNOR ST, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0011	0.0017
063-511-680	1751 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High	0.0012	0.0017
063-511-690	1745 E BAYSHORE BLVD, EAST PALO ALTO	Commercial	Mixed Use High	0.0052	0.0078
063-511-720	1775 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use High	0.0011	0.0017
063-515-060	1821 CLARKE AVE, EAST PALO ALTO	High Density Residential	Low Density Residential	0.0009	0.0014
063-515-070	1805 CLARKE AVE, EAST PALO ALTO	High Density Residential	Low Density Residential	0.0038	0.0062
063-515-080	1787 WOODLAND AVE, EAST PALO ALTO	High Density Residential	Low Density Residential	0.0028	0.0045
063-515-230	1785 WOODLAND AVE, EAST PALO ALTO	High Density Residential	Low Density Residential	0.0027	0.0044
063-571-060	1985 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0012	0.0018
063-571-070	1981 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0015	0.0023
063-571-080	1961 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0006	0.0009
063-571-090	1905 E BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0004	0.0006
063-680-020	1900 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office	0.0005	0.0007
063-680-050	NORTH EAST OF 2050 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office	0.0005	0.0007
063-680-060	NORTH EAST OF 2050 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office	0.0002	0.0003

Table 10
Summary of Additional Sanitary Sewer Flows
EPASD Master Plan Update
East Palo Alto Sanitary District

APN	Address	2014 Zoning	2035 Zoning	ADWF Increase (CFS) (1) (2)	PDWF Increase (CFS) (1) (2)
063-680-090	BETWEEN 1546 AND 1586 WOODLAND AVE, EAST PALO ALTO	Commercial	Office	0.0005	0.0008
063-680-100	SOUTHEAST OF 1900 UNIVERISTY AVE, EAST PALO ALTO	Commercial	Office	0.0005	0.0008
063-680-110	SOUTHWEST OF 2000 UNIVERISTY AVE, EAST PALO ALTO	Commercial	Office	0.0004	0.0005
063-680-130	2000 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office	0.0005	0.0008
063-680-150	2050 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office	0.0005	0.0007
063-680-180	SOUTH OF 2000 UNIVERISTY AVE, EAST PALO ALTO	Commercial	Office	0.0007	0.0010
063-680-190	2000 UNIVERSITY AVE, EAST PALO ALTO	Commercial	Office	0.0067	0.0100
113-530-010 to 113-530-999	2420 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0020	0.0031
113-710-010 to 113-710-999	2440 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0014	0.0021
113-720-010 to 113-720-999	2460 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0010	0.0015
113-740-010 to 113-740-999	2470 GLORIA WAY, EAST PALO ALTO	Low Density Residential	High Density Residential	0.0008	0.0012
114-240-010 to 114-240-300	2330 UNIVERSITY AVE, EAST PALO ALTO	High Density Residential	Mixed Use Corridor	0.0007	0.0010
114-450-010 to 114-460-300	1765 EAST BAYSHORE RD, EAST PALO ALTO	Commercial	Mixed Use Corridor	0.0006	0.0010
			Total (CFS)	**1.6705**	**2.6297**
			Total (MGD) (3)	**1.08**	**1.70**

Notes:
(1) Increase in ADWF and PDWF is the difference between the estimated flows from 2014 presented in Table 7 and the projected flows based on the Vision 2035 General Plan Update presented in Table 8.
(2) ADWF and PDWF assumes that flows are contributed from all land uses over a standard 24-hour day.
(3) Total ADWF Increase in MGD is consistent with the projected increase in water demand in the Year 2040 presented in Section 3 of the City of East Palo Alto's 2015 Urban Water Management Plan date June 2016.The City of East Palo Alto water supply allocation from the San Francisco Public Utilities Commission was 1.96 MGD and the General Plan projects a maximum demand of 3.03 MGD in the Year 2040 representing an increase of 1.07 MGD in average day demand.
(4) Flows from parcels based on New Service Applications submitted to the District. Please see Table 8 for calculation of injected flows.

Abbreviations
ADWF: Average Dry Weather Flow
APN: Assessors Parcel Number
CFS: Cubic Feet per Second
MGD: Million Gallons Per Day
PDWF: Peak Dry Weather Flow

Table 11
Restoring d/D to Pre-development Conditions Under Proposed PDWF
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Existing PDWF d/D (3)	Predicted d/D (4)	Proposed Diameter (Inches) (2)	Proposed d/D (5)
C12-C1 (6)	265	6	0.64	0.72	6	0.6
B7-B6	380	12	1	1	15	0.46
B6-B5	158	12	0.38	0.38	15	0.24
B5-B52	176	12	0.6	0.6	15	0.37
B52-B4	360	12	0.52	0.52	15	0.32
B4-B3	465	12	0.56	0.68	15	0.42
B3-B2	239	12	0.7	1	15	0.5
B2-A1	181	12	0.52	0.62	15	0.38
A1-A2	80	12	0.66	0.82	15	0.46
A2-A5	244	12	0.66	1	15	0.46
A5-A8	124	15	0.67	1	18	0.49
A8-A9	61	15	0.32	0.37	18	0.25
A9-A10	181	15	0.7	1	18	0.53
A10-A15	300	15	0.43	0.51	18	0.35
A15-A16	435	15	0.69	1	18	0.52
A16-A21	296	15	0.54	0.67	18	0.43
A21-A23	155	15	0.42	0.5	18	0.33
A23-A22	14	15	0.27	0.32	18	0.23
A29-T29	345	18	0.32	0.39	21	0.32
T29-T28	234	18	0.31	0.37	21	0.3
T28-T27	162	18	0.59	0.77	21	0.57
T27-T26	356	18	0.4	0.49	21	0.39
T26-T25	306	18	0.36	0.45	21	0.35
T25-T24	282	18	0.63	1	24	0.53
T24-T23	317	18	0.36	0.47	24	0.47
T23-T22	446	18	0.39	0.52	24	0.52
T20-T19	332	18	0.29	0.37	24	0.37
T19-T18	500	21	0.56	0.78	26	0.53
T18-T17	540	21	0.55	0.78	26	0.53
T17-T16	482	21	0.58	1	26	0.55
D22-D21	149	8	0.6	0.78	10	0.48
D21-D19	391	8	0.57	0.72	10	0.46
D19-D10	48	8	0.39	0.45	10	0.31
D10-D3	489	8	0.66	1	10	0.5
D5-D4	70	8	0.78	0.84	10	0.46

Table 11
Restoring d/D to Pre-development Conditions Under Proposed PDWF
EPASD Master Plan Update
East Palo Alto, California

Manhole	Length (Feet)	Existing Diameter (Inches)	Existing PDWF d/D	Predicted d/D	Proposed Diameter (Inches)	Proposed d/D
D4-D3	296	8	0.78	0.84	10	0.46
D3-D2	363	12	0.8	1	15	0.51
D2-D1	53	12	1	1	15	0.67
D1-E4	354	12	0.66	0.82	15	0.46
E4-E3	357	12	0.58	0.7	15	0.42
E3-E2	280	12	0.74	1	15	0.5
E2-E1	283	12	0.66	0.82	15	0.46
E1-H9	270	12	0.8	1	15	0.62
H9-H73	246	12	0.72	1	15	0.58
H73-H74	101	12	0.72	1	15	0.58
H74-H8	113	12	0.72	1	15	0.58
H8-H7	233	12	1	1	15	0.67
H7-H75	90	12	0.74	1	15	0.59
H75-H6	260	12	0.72	1	15	0.58
H6-H5	9	12	0.58	1	15	0.46
H5-H4	260	15	0.67	1	18	0.57
H4-H3	7	15	0.58	0.82	18	0.51
H3-H2	31	15	0.56	0.77	18	0.49
H2-11	37	15	0.34	0.43	18	0.31
I11-I10	380	15	0.56	0.78	18	0.51
I10-I9	221	15	0.51	0.69	18	0.45
I9-I8	155	15	0.72	1	18	0.63
I8-I7	238	15	0.46	1	18	0.41
I7-I6	259	15	0.5	0.67	18	0.44
I6-I5	411	18	0.72	1	21	0.65
I5-I31	135	18	0.72	1	21	0.66
I31-I4	321	18	0.72	1	21	0.66
I4-I3	243	18	0.72	1	21	0.66
H36-H35 (6)	474	6	0.32	1	6	0.45
H17-H57	397	8	0.33	0.75	12	0.34
H57-H16	40	8	0.18	0.36	12	0.18
H16-H60	351	8	0.24	0.48	12	0.24
H60-H15	99	8	0.24	0.45	12	0.22
H15-H62	201	8	0.21	0.36	12	0.18
H62-H14	233	8	0.21	0.36	12	0.18
M38-M39	158	8	0.36	0.84	12	0.36
M39-M43	241	8	0.36	0.84	12	0.36
M43-M42	104	8	0.45	1	12	0.44
M42-M41	37	8	0.27	1	12	0.28

Table 11
Restoring d/D to Pre-development Conditions Under Proposed PDWF
EPASD Master Plan Update
East Palo Alto, California

Manhole	Length (Feet)	Existing Diameter (Inches)	Existing PDWF d/D	Predicted d/D	Proposed Diameter (Inches)	Proposed d/D
M41-M13	111	8	0.36	0.84	12	0.36
M13-M12	276	8	0.36	0.84	12	0.36
M12-M40	337	8	0.36	0.84	12	0.36
M40-M5	263	8	0.36	0.84	12	0.36
M5-M4	373	8	0.78	1	12	0.52
M4-M31	143	8	0.66	1	12	0.48
M31-M3	357	10	0.6	1	12	0.54
M3-M2	380	10	0.65	1	12	0.58
I43-I15	62	12	0.32	0.44	15	0.29
I15-I14	386	12	0.76	1	15	0.62
I14-I13	444	12	0.56	1	15	0.48
I13-I12	320	12	0.58	1	15	0.48
I12-I6	339	12	0.58	1	15	0.46
O9-O8 (6)	140	6	0.6	0.72	6	0.6
O7-O6 (6)	427	8	0.69	0.81	8	0.66
L53-L52 (6)	218	6	0.8	0.8	6	0.64
L52-L50	224	6	1	1	8	0.57
L50-L49	224	8	0.57	0.57	10	0.36
L49-L48	233	8	1	1	10	0.5
L7-L6 (6)	261	6	0.72	0.72	6	0.6
L9-L4 (6)	162	6	0.72	0.72	6	0.6
L23-L3(6)	351	8	0.69	0.69	8	0.6
L3-L2	83	10	1	1	12	0.58
L2-L1	179	10	0.77	0.77	12	0.48
L1-L21	223	10	1	1	14	0.55
L21-K28	68	10	1	1	14	0.6
K28-K4	242	10	1	1	15	0.64
K4-K3	238	12	1	1	15	0.51
K3-K2	190	12	1	1	15	0.58
K2-K1	451	14	0.69	0.74	15	0.54
D66-D65 (6)	413	6	0.72	0.72	6	0.6
C2-C1	204	6	1	1	8	0.48
D35-D34	178	6	1	1	8	0.54
D34-D33	292	6	0.56	0.56	8	0.3
D33-D24	450	6	0.72	0.72	8	0.39
N3-N21 (6)	89	10	0.55	0.7	10	0.6
N21-N14 (6)	196	10	0.58	0.74	10	0.624

Table 11
Restoring d/D to Pre-development Conditions Under Proposed PDWF
EPASD Master Plan Update
East Palo Alto, California

Manhole	Length (Feet)	Existing Diameter (Inches)	Existing PDWF d/D	Predicted d/D	Proposed Diameter (Inches)	Proposed d/D
N14-N2 (6)	88	10	0.6	0.77	10	0.624
N2-N1 (6)	296	10	0.58	0.72	10	0.6
E8-E7	355	8	0.48	1	12	0.38
E7-E6	311	8	0.42	1	12	0.36

Notes
(1) Manhole used to find flow and Depth over Diameter value.
(2) Pipe Diameter directly downstream of Manhole.
(3) Calculated by dividing the depth of flow by pipe diameter. This value is evaluated directly downstream of specified manhole under the existing PDWF condition.
(4) Calculated by dividing the depth of flow by pipe diameter. This value is evaluated directly downstream of specified manhole under the existing PDWF condition including proposed injection
(5) Calculated by dividing the depth of flow by pipe diameter. This value is evaluated directly downstream of specified manhole under the existing PDWF condition including proposed injection and pipe size upgrades.
(6) d/D improves with same size HDPE upgrade.
(7) Sizing of pipes in district map and model differed. Sizing found in model was used as basis for design.

Abbreviations
d/D: Depth over Diameter

Table 12

Conceptual OPPC Restoring d/D to Pre-development Conditions Under Proposed PDWF (1)

EPASD Master Plan Update

East Palo Alto, California

Item No.	Description	Units	Quantity (2)	Unit Price	Budget
Conceptual Opinion of Probable Construction Cost					
1	Mobilization	ls	1	$ 50,000	$ 50,000
2	Traffic Control	ls	1	$ 20,000	$ 20,000
3	Sheeting, Shoring, and Bracing	ls	1	$ 20,000	$ 20,000
4	6-inch DR 17 HDPE Pipe	lf	1,930	$ 150	$ 289,500
5	8-inch DR 17 HDPE Pipe	lf	2,130	$ 200	$ 426,000
6	10-inch DR 17 HDPE Pipe	lf	2,570	$ 250	$ 642,500
7	12-inch DR 17 HDPE Pipe	lf	5,030	$ 300	$ 1,509,000
8	14-inch DR 17 HDPE Pipe	lf	290	$ 350	$ 101,500
9	15-inch DR 17 HDPE Pipe	lf	7,970	$ 400	$ 3,188,000
10	18-inch DR 17 HDPE Pipe	lf	3,150	$ 550	$ 1,732,500
11	21-inch DR 17 HDPE Pipe	lf	2,510	$ 650	$ 1,631,500
12	24-inch DR 17 HDPE Pipe	lf	1,380	$ 800	$ 1,104,000
13	26-inch DR 17 HDPE Pipe	lf	1,520	$ 900	$ 1,368,000
14	Manholes	ea	147	$ 10,000	$ 1,470,000
15	30% Contingency	%	30%	$ 13,552,500	$ 4,065,750
Subtotal - Conceptual Opinion of Probable Construction Cost					**$ 17,618,300**
Engineering and Administration Cost					
16	Design	%	10%	$ 17,618,300	$ 1,761,830
17	Environmental/Permitting	%	10%	$ 17,618,300	$ 1,761,830
18	Construction Management/ Inspection	%	15%	$ 17,618,300	$ 2,642,745
19	District Administration	%	5%	$ 17,618,300	$ 880,915
Subtotal - Engineering and Administration Cost					**$ 7,047,300**
Total Conceptual Opinion of Probable Project Cost					**$ 24,665,600**

Notes

(1) See Table 11 and Figure 8 for limits of improvements.

(2) Quantities rounded to nearest 10 feet.

Table 13
Eliminating Surcharge Under Proposed PWWF
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Predicted d/D (3)	Proposed Diameter (Inches) (2)	Proposed d/D (4)
I24-I13	237	6	1	6	0.72
L25-L24	342	8	1	10	0.53
L24-L23	386	8	0.72	10	0.43
L23-L3	351	8	1	10	0.53
L3-L2	83	10	1	12	0.54
L2-L1	179	10	0.72	12	0.46
L1-L21	223	10	1	12	0.64
L21-K28	68	10	1	14	0.55
K28-K4	242	10	1	14	0.65
K4-K3	238	12	1	14	0.5
K3-K2	190	12	1	14	0.55
M38-M39	158	8	1	10	0.48
M39-M43	241	8	1	10	0.48
M43-M42	104	8	1	10	0.6
M42-M41	37	8	0.6	10	0.36
M41-M13	111	8	1	10	0.48
M13-M12	276	8	1	10	0.48
M12-M40	337	8	1	10	0.48
M40-M5	263	8	1	10	0.77
M5-M4	373	8	1	10	0.67
M4-M31	143	8	1	10	0.77
M31-M3	357	10	1	10	0.56
M3-M2	380	10	1	12	0.58
I15-I14	386	12	1	14	0.72
I14-I13	444	12	1	14	0.55
I13-I12	320	12	1	14	0.57
I12-I6	339	12	1	14	0.57
I6-I5	411	18	1	24	0.69
I5-I31	135	18	1	24	0.69
I31-I4	321	18	1	24	0.69
I4-I3	243	18	1	24	0.69
H36-H35	474	6	1	10	0.55
H35-H34	322	6	1	10	0.34
H34-H17	269	6	1	10	0.41
H17-H57	397	8	1	12	0.66
H57-H16	40	8	0.69	12	0.66
H16-H60	351	8	1	12	0.32
H60-H15	99	8	1	12	0.42

Table 13
Eliminating Surcharge Under Proposed PWWF
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Predicted d/D (3)	Proposed Diameter (Inches) (2)	Proposed d/D (4)
H15-H62	201	8	0.75	12	0.34
H62-H14	233	8	0.75	12	0.34
H14-H13	446	8	1	12	0.44
H13-H12	108	8	1	12	0.42
H12-H11	333	8	1	12	0.46
H11-H64	198	8	1	12	0.48
H64-H71	161	8	1	12	0.48
H71-H3	35	8	1	12	0.56
C12-C1	265	6	1	8	0.6
C48-C11	179	6	6	6	0.8
C9-C8	84	6	1	6	0.72
C8-C7	401	6	1	6	0.8
C7-C6	448	6	1	6	0.72
C6-C5	87	6	1	6	0.72
C5-C4	328	6	1	8	0.51
C4-C3	436	6	1	8	0.48
C3-C2	398	6	1	8	0.51
C2-C1	204	6	1	8	0.78
C1-B16 (5)	402	8	1	8	0.69
B16-B15 (5)	327	8	1	8	0.75
B15-B49 (5)	331	8	1	8	0.75
B49-B14 (5)	328	8	1	8	0.72
B7-B6	380	12	1	14	0.81
B6-B5	158	12	0.52	14	0.36
B5-B52	176	12	1	14	0.58
B52-B4	360	12	0.8	14	0.5
B4-B3	465	12	1	14	0.62
B3-B2	239	12	1	14	0.79
B2-A1	181	12	1	14	0.56
A1-A2	80	12	1	14	0.7
A2-A5	244	12	1	14	0.7
A5-A8	124	15	1	18	0.67
A8-A9	61	15	0.48	18	0.32
A9-A10	181	15	1	18	0.73
A10-A15	299	15	0.7	18	0.44
A15-A16	435	15	1	18	0.7
A16-A21	296	15	1	18	0.56
A21-A23	155	15	0.67	18	0.43

Table 13
Eliminating Surcharge Under Proposed PWWF
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Predicted d/D (3)	Proposed Diameter (Inches) (2)	Proposed d/D (4)
A23-A22	14	15	0.42	18	0.28
D25-D24	301	6	1	8	0.45
D35-D34	178	6	1	8	0.78
D34-D33	293	6	0.76	8	0.42
D33-D24	450	6	1	10	0.51
D24-D23	350	8	1	10	0.55
D23-D22	73	8	1	10	0.58
D22-D21	149	8	1	10	0.67
D21-D19	391	8	1	10	0.62
D19-D10	48	8	0.6	10	0.38
D10-D3	489	8	1	10	0.67
D5-D4	70	8	1	10	0.58
D4-D3	296	8	1	10	0.58
D3-D2	363	12	1	15	0.69
D2-D1	53	12	1	16	1
D1-E4	354	12	1	16	0.54
E4-E3	357	12	1	16	0.48
E3-E2	280	12	1	16	0.59
E2-E1	283	12	1	16	0.54
E1-H9	270	12	1	16	0.8
H9-H73	246	12	1	16	0.7
H73-H74	101	12	1	18	0.64
H74-H8	113	12	1	18	0.57
H8-H7	233	12	1	18	0.69
H7-H75	90	12	1	18	0.59
H75-H6	260	12	1	18	0.59
H6-H5	9	12	1	18	0.47
H5-H4	260	15	1	18	0.79
H4-H3	7	15	1	18	0.67
H3-H2	31	15	1	18	0.71
H2-I11	37	15	0.61	18	0.41
I11-I10	380	15	1	18	0.72
I10-I9	221	15	1	18	0.64
I9-I8	155	15	1	20	0.77
I8-I7	238	15	1	20	0.48
I7-I6	259	15	1	20	0.52
E8-E7	355	8	1	10	0.72
E7-E6	311	8	1	10	0.67

Table 13
Eliminating Surcharge Under Proposed PWWF
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	Predicted d/D (3)	Proposed Diameter (Inches) (2)	Proposed d/D (4)
A29-T29	345	18	0.51	24	0.33
T29-T28	234	18	0.48	24	0.32
T28-T27	162	18	1	24	0.62
T27-T26	356	18	0.65	24	0.42
T26-T25	306	18	0.6	24	0.38
T25-T24	282	18	1	24	0.73
T24-T23	317	18	0.63	24	0.4
T23-T22	446	18	0.72	24	0.44
T20-T19	332	18	0.49	28	0.27
T19-T18	500	21	1	28	0.62
T18-T17	540	21	1	28	0.61
T17-T16	482	21	1	28	0.64
T12-T1	5280	(6)	(6)	18	1

Notes
(1) Manhole used to find Q and Depth over Diameter value.
(2) Pipe Diameter directly downstream of Manhole.
(3) Calculated by dividing the depth of flow by pipe diameter.
This value is evaluated directly downstream of specified manhole
under the existing PWWF condition including proposed injections.
(4) Calculated by dividing the depth of flow by pipe diameter.
This value is evaluated directly downstream of specified
manhole under the existing PWWF condition including proposed
injections and pipe size upgrades.
(5) d/D improves with same size HDPE upgrade.
(6) The new 18-inch diameter pipeline is the wet weather parallel pipeline.
See Table 14 for model data.

Abbreviations
d/D: Depth over Diameter

Table 14
Trunkline d/D Pre-development vs Proposed Under PWWF
EPASD Master Plan Update
East Palo Alto, California

Manhole	Length (Feet)	Existing Diameter (Inches)	Existing PDWF d/D	Predicted d/D
(1)	--	(2)	(3)	(4)
T12-T11	482	24	1	1
T11-T10	326	24	0.68	1
T10-T9	447	24	1	1
T9-T8	498	24	1	1
T8-T7	502	24	1	1
T7-T6	481	24	0.68	1
T6-T5	382	24	1	1
T5-T4	352	24	1	1
T4-T3	475	24	0.48	0.56
T3-T2	500	24	1	1
T2-T1	506	24	0.76	1
T1-END	329	24	0.45	0.52

Notes
(1) Manhole used to find flow and Depth over Diameter value.
(2) Pipe Diameter directly downstream of Manhole.
(3) Calculated by dividing the depth of flow by pipe diameter. This value is evaluated directly downstream of specified manhole under the existing PDWF condition.
(4) Calculated by dividing the depth of flow by pipe diameter. This value is evaluated directly downstream of specified manhole under the existing PDWF condition including proposed injections.

Abbreviations
d/D: Depth over Diameter

Table 15
Conceptual OPPC Eliminating Surcharge Under Proposed PWWF (1)
EPASD Master Plan Update
East Palo Alto, California

Item No.	Description	Units	Quantity (2)	Unit Price	Budget
Conceptual Opinion of Probable Construction Cost					
1	Mobilization	ls	1	$ 50,000	$ 50,000
2	Traffic Control	ls	1	$ 20,000	$ 20,000
3	Sheeting, Shoring, and Bracing	ls	1	$ 20,000	$ 20,000
4	6-inch DR 17 HDPE Pipe	lf	1,440	$ 150	$ 216,000
5	8-inch DR 17 HDPE Pipe	lf	3,790	$ 200	$ 758,000
6	10-inch DR 17 HDPE Pipe	lf	7,530	$ 250	$ 1,882,500
7	12-inch DR 17 HDPE Pipe	lf	3,470	$ 300	$ 1,041,000
8	14-inch DR 17 HDPE Pipe	lf	4,510	$ 350	$ 1,578,500
9	15-inch DR 17 HDPE Pipe	lf	360	$ 400	$ 144,000
10	16-inch DR 17 HDPE Pipe	lf	1,840	$ 450	$ 828,000
11	18-inch DR 17 HDPE Pipe (3)	lf	8,590	$ 550	$ 4,724,500
12	20-inch DR 17 HDPE Pipe	lf	650	$ 600	$ 390,000
13	24-inch DR 17 HDPE Pipe	lf	3,560	$ 800	$ 2,848,000
14	28-inch DR 17 HDPE Pipe	lf	1,850	$ 950	$ 1,757,500
15	Manholes (3)	ea	168	$ 10,000	$ 1,680,000
16	30% Contingency	%	30%	$ 17,938,000	$ 5,381,400
Subtotal - Conceptual Opinion of Probable Construction Cost					**$ 23,319,400**
Engineering and Administration Cost					
17	Design	%	10%	$ 23,319,400	$ 2,331,940
18	Environmental/Permitting	%	10%	$ 23,319,400	$ 2,331,940
19	Construction Management/ Inspection	%	15%	$ 23,319,400	$ 3,497,910
20	District Administration	%	5%	$ 23,319,400	$ 1,165,970
Subtotal - Engineering and Administration Cost					**$ 9,327,800**
Total Conceptual Opinion of Probable Project Cost					**$ 32,647,200**

Notes
(1) See Table 13, Table 14 and Figure 9 for limits of improvements.
(2) Quantities rounded to nearest 10 feet.
(3) Includes new parallel wet weather sewer main.

Table 16
Proposed Capital Improvement Program
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	PDWF Predicted d/D (3)	PWWF Predicted d/D (3)	Proposed Diameter (Inches) (2)	PDWF Proposed d/D (4)	PWWF Proposed d/D (4)
I24-I13	237	6	0.48	1	6	0.44	0.72
L25-L24	342	8	0.69	1	10	0.43	0.53
L24-L23	386	8	0.54	0.72	10	0.36	0.43
L23-L3	351	8	0.69	1	10	0.43	0.53
L3-L2	83	10	1	1	12	0.58	0.54
L2-L1	179	10	0.77	0.72	12	0.48	0.46
L1-L21	223	10	1	1	14	0.55	0.5
L21-K28	68	10	1	1	14	0.6	0.55
K28-K4	242	10	1	1	15	0.64	0.58
K4-K3	238	12	1	1	15	0.51	0.45
K3-K2	190	12	1	1	15	0.58	0.5
K2-K1	451	14	0.74	0.74	15	0.54	0.48
N3-N21 (6)	89	10	0.7	0.58	10	0.6	0.38
N21-N14 (6)	196	10	0.74	0.6	10	0.624	0.38
N14-N2 (6)	88	10	0.77	0.6	10	0.624	0.4
N2-N1 (6)	296	10	0.72	0.58	10	0.6	0.38
O9-O8 (6)	140	6	0.72	0.68	6	0.6	0.56
O7-O6 (6)	427	8	0.81	0.66	8	0.66	0.57
L53-L52 (6)	218	6	0.8	0.52	6	0.64	0.48
L52-L50	224	6	1	0.76	8	0.57	0.42
L50-L49	224	8	0.57	76	10	0.36	0.26
L49-L48	233	8	1	0.6	10	0.5	0.38
L7-L6 (6)	261	6	0.72	0.4	6	0.6	0.32
L9-L4 (6)	162	6	0.72	0.8	6	0.6	0.64
M38-M39	158	8	0.84	1	12	0.36	0.36
M39-M43	241	8	0.84	1	12	0.36	0.36
M43-M42	104	8	1	1	12	0.44	0.46
M42-M41	37	8	1	0.6	12	0.28	0.28
M41-M13	111	8	0.84	1	12	0.36	0.36
M13-M12	276	8	0.84	1	12	0.36	0.36
M12-M40	337	8	0.84	1	12	0.36	0.36
M40-M5	263	8	0.84	1	12	0.36	0.36
M5-M4	373	8	1	1	12	0.52	0.54
M4-M31	143	8	1	1	12	0.48	0.48
M31-M3	357	10	1	1	12	0.54	0.56
M3-M2	380	10	1	1	12	0.58	0.58
I43-I15	62	12	0.44	0.44	15	0.29	0.29
I15-I14	386	12	1	1	15	0.62	0.64
I14-I13	444	12	1	1	15	0.48	0.48
I13-I12	320	12	1	1	15	0.48	0.51
I12-I6	339	12	1	1	15	0.46	0.51
I6-I5	411	18	1	1	24	0.52	0.69
I5-I31	135	18	1	1	24	0.53	0.69

Table 16
Proposed Capital Improvement Program
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	PDWF Predicted d/D (3)	PWWF Predicted d/D (3)	Proposed Diameter (Inches) (2)	PDWF Proposed d/D (4)	PWWF Proposed d/D (4)
I31-I4	321	18	1	1	24	0.53	0.69
I4-I3	243	18	1	1	24	0.52	0.69
H36-H35	474	6	1	1	10	0.34	0.55
H35-H34	322	6	0.44	1	10	0.22	0.34
H34-H17	269	6	0.52	1	10	0.24	0.41
H17-H57	397	8	0.75	1	12	0.34	0.66
H57-H16	40	8	0.36	0.69	12	0.18	0.66
H16-H60	351	8	0.48	1	12	0.24	0.32
H60-H15	99	8	0.45	1	12	0.22	0.42
H15-H62	201	8	0.36	0.75	12	0.18	0.34
H62-H14	233	8	0.36	0.75	12	0.18	0.34
H14-H13	446	8	0.45	1	12	0.24	0.44
H13-H12	108	8	0.42	1	12	0.22	0.42
H12-H11	333	8	0.48	1	12	0.24	0.46
H11-H64	198	8	0.48	1	12	0.24	0.48
H64-H71	161	8	0.57	1	12	0.28	0.48
H71-H3	35	8	0.51	1	12	0.26	0.56
C12-C1	265	6	0.72	1	8	0.39	0.6
C48-C11	179	6	0.56	6	6	0.48	0.8
C9-C8	84	6	0.52	1	6	0.44	0.72
C8-C7	401	6	0.56	1	6	0.48	0.8
C7-C6	448	6	0.52	1	6	0.44	0.72
C6-C5	87	6	0.52	1	6	0.44	0.72
C5-C4	328	6	0.56	1	8	0.33	0.51
C4-C3	436	6	0.56	1	8	0.33	0.48
C3-C2	398	6	0.56	1	8	0.33	0.51
C2-C1	204	6	1	1	8	0.48	0.78
C1-B16 (5)	402	8	0.51	1	8	0.45	0.69
B16-B15 (5)	327	8	0.54	1	8	0.48	0.75
B15-B49 (5)	331	8	0.54	1	8	0.48	0.75
B49-B14 (5)	328	8	0.54	1	8	0.45	0.72
B7-B6	380	12	1	1	15	0.46	0.46
B6-B5	158	12	0.38	0.52	15	0.24	0.24
B5-B52	176	12	0.6	1	15	0.37	0.37
B52-B4	360	12	0.52	0.8	15	0.32	0.32
B4-B3	465	12	0.68	1	15	0.42	0.42
B3-B2	239	12	1	1	15	0.5	0.5
B2-A1	181	12	0.62	1	15	0.38	0.38
A1-A2	80	12	0.82	1	15	0.46	0.46
A2-A5	244	12	1	1	15	0.46	0.46
A5-A8	124	15	1	1	18	0.49	0.67
A8-A9	61	15	0.37	0.48	18	0.25	0.32
A9-A10	181	15	1	1	18	0.53	0.73

Table 16
Proposed Capital Improvement Program
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	PDWF Predicted d/D (3)	PWWF Predicted d/D (3)	Proposed Diameter (Inches) (2)	PDWF Proposed d/D (4)	PWWF Proposed d/D (4)
A10-A15	299	15	0.51	0.7	18	0.35	0.44
A15-A16	435	15	1	1	18	0.52	0.7
A16-A21	296	15	0.67	1	18	0.43	0.56
A21-A23	155	15	0.5	0.67	18	0.33	0.43
A23-A22	14	15	0.32	0.42	18	0.23	0.28
D66-D65 (6)	413	6	0.72	0.68	6	0.6	0.6
D25-D24	301	6	0.36	1	8	0.21	0.45
D35-D34	178	6	1	1	8	0.54	0.78
D34-D33	293	6	0.56	0.76	8	0.3	0.42
D33-D24	450	6	0.72	1	10	0.39	0.51
D24-D23	350	8	0.57	1	10	0.38	0.55
D23-D22	73	8	0.66	1	10	0.38	0.58
D22-D21	149	8	0.78	1	10	0.48	0.67
D21-D19	391	8	0.72	1	10	0.46	0.62
D19-D10	48	8	0.45	0.6	10	0.31	0.38
D10-D3	489	8	1	1	10	0.5	0.67
D5-D4	70	8	0.84	1	10	0.46	0.58
D4-D3	296	8	0.84	1	10	0.46	0.58
D3-D2	363	12	1	1	15	0.51	0.69
D2-D1	53	12	1	1	16	0.6	1
D1-E4	354	12	0.82	1	16	0.42	0.54
E4-E3	357	12	0.7	1	16	0.38	0.48
E3-E2	280	12	1	1	16	0.45	0.59
E2-E1	283	12	0.82	1	16	0.42	0.54
E1-H9	270	12	1	1	16	0.56	0.8
H9-H73	246	12	1	1	16	0.51	0.7
H73-H74	101	12	1	1	18	0.48	0.64
H74-H8	113	12	1	1	18	0.43	0.57
H8-H7	233	12	1	1	18	0.51	0.69
H7-H75	90	12	1	1	18	0.44	0.59
H75-H6	260	12	1	1	18	0.44	0.59
H6-H5	9	12	1	1	18	0.36	0.47
H5-H4	260	15	1	1	18	0.57	0.79
H4-H3	7	15	0.82	1	18	0.51	0.67
H3-H2	31	15	0.77	1	18	0.49	0.71
H2-I11	37	15	0.43	0.61	18	0.31	0.41
I11-I10	380	15	0.78	1	18	0.51	0.72
I10-I9	221	15	0.69	1	18	0.45	0.64
I9-I8	155	15	1	1	20	0.53	0.77
I8-I7	238	15	1	1	20	0.36	0.48
I7-I6	259	15	0.67	1	20	0.38	0.52
E8-E7	355	8	1	1	12	0.38	0.52
E7-E6	311	8	1	1	12	0.36	0.48

Table 16
Proposed Capital Improvement Program
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	PDWF Predicted d/D (3)	PWWF Predicted d/D (3)	Proposed Diameter (Inches) (2)	PDWF Proposed d/D (4)	PWWF Proposed d/D (4)
A29-T29	345	18	0.39	0.51	24	0.26	0.33
T29-T28	234	18	0.37	0.48	24	0.25	0.32
T28-T27	162	18	0.77	1	24	0.47	0.62
T27-T26	356	18	0.49	0.65	24	0.32	0.42
T26-T25	306	18	0.45	0.6	24	0.3	0.38
T25-T24	282	18	1	1	24	0.53	0.73
T24-T23	317	18	0.47	0.63	24	0.31	0.4
T23-T22	446	18	0.52	0.72	24	0.34	0.44
T20-T19	332	18	0.37	0.49	28	0.21	0.27
T19-T18	500	21	0.78	1	28	0.47	0.62
T18-T17	540	21	0.78	1	28	0.46	0.61
T17-T16	482	21	1	1	28	0.49	0.64
T12-T1	6260	(6)	(6)	(6)	18	1	1

Notes
(1) Manhole used to find Q and Depth over Diameter value.
(2) Pipe Diameter directly downstream of Manhole.
(3) Calculated by dividing the depth of flow by pipe diameter.
This value is evaluated directly downstream of specified manhole
under the existing PWWF condition including proposed injections.
(4) Calculated by dividing the depth of flow by pipe diameter.
This value is evaluated directly downstream of specified
manhole under the existing PWWF condition including proposed
injections and pipe size upgrades.
(5) d/D improves with same size HDPE upgrade.
(6) The new 18-inch diameter pipeline is the wet weather parallel pipeline.

Abbreviations
d/D: Depth over Diameter

Table 17
Conceptual OPPC for Proposed CIP (1)
EPASD Master Plan Update
East Palo Alto, California

Item No.	Description	Units	Quantity (2)	Unit Price	Budget
Conceptual Opinion of Probable Construction Cost					
1	Mobilization	ls	1	$ 50,000	$ 50,000
2	Traffic Control	ls	1	$ 20,000	$ 20,000
3	Sheeting, Shoring, and Bracing	ls	1	$ 20,000	$ 20,000
4	6-inch DR 17 HDPE Pipe	lf	2,810	$ 150	$ 421,500
5	8-inch DR 17 HDPE Pipe	lf	4,440	$ 200	$ 888,000
6	10-inch DR 17 HDPE Pipe	lf	5,590	$ 250	$ 1,397,500
7	12-inch DR 17 HDPE Pipe	lf	6,320	$ 300	$ 1,896,000
8	14-inch DR 17 HDPE Pipe	lf	290	$ 350	$ 101,500
9	15-inch DR 17 HDPE Pipe	lf	5,310	$ 400	$ 2,124,000
10	16-inch DR 17 HDPE Pipe	lf	1,840	$ 450	$ 828,000
11	18-inch DR 17 HDPE Pipe (3)	lf	8,590	$ 550	$ 4,724,500
12	20-inch DR 17 HDPE Pipe	lf	650	$ 600	$ 390,000
13	24-inch DR 17 HDPE Pipe	lf	3,560	$ 800	$ 2,848,000
14	28-inch DR 17 HDPE Pipe	lf	1,850	$ 950	$ 1,757,500
15	Manholes (3)	ea	185	$ 10,000	$ 1,850,000
16	30% Contingency	%	30%	$ 19,316,500	$ 5,794,950
Subtotal - Conceptual Opinion of Probable Construction Cost					**$ 25,111,500**
Engineering and Administration Cost					
17	Design	%	10%	$ 25,111,500	$ 2,511,150
18	Environmental/Permitting	%	10%	$ 25,111,500	$ 2,511,150
19	Construction Management/ Inspection	%	15%	$ 25,111,500	$ 3,766,725
20	District Administration	%	5%	$ 25,111,500	$ 1,255,575
Subtotal - Engineering and Administration Cost					**$ 10,044,600**
Total Conceptual Opinion of Probable Project Cost					**$ 35,156,100**

Notes
(1) See Table 16 and Figure 10 for limits of improvements.
(2) Quantities rounded to nearest 10 feet.
(3) Includes new parallel wet weather sewer main.

EPASD SANITARY SEWER SERMCE AREA
EPASD MASTER PLAN UPDATE
EAST PALO ALTO, CA

HETCH–HETCHY AQUADUCT

LEGEND

SERVICE AREA BOUNDARY

FLOW PATH

MANHOLE

LAMPHOLE

MANHOLE/LAMPHOLE NUMBER C11

NOTE: ALL SEWERS ARE 6" IN DIAMETER, UNLESS DESIGNATED OTHERWISE.
* DIFFERENT SIZE IN MODEL

NORTH

SCALE
1" = 1000'

PALO ALTO AIRPORT

PALO ALTO PUMP STATION

PALO ALTO REGIONAL WATER POLLUTION CONTROL PLANT

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DATE:	4/28/2021
SCALE:	1" = 1000'
DESIGNED:	RAM
DRAWN:	RAM
CHECKED:	JF
PROJ. ENGR:	JJT

FIGURE
1

JOB NO.
2052

EPASD BASIN FLOW MONITORING SITES
EPASD MASTER PLAN UPDATE
EAST PALO ALTO, CA

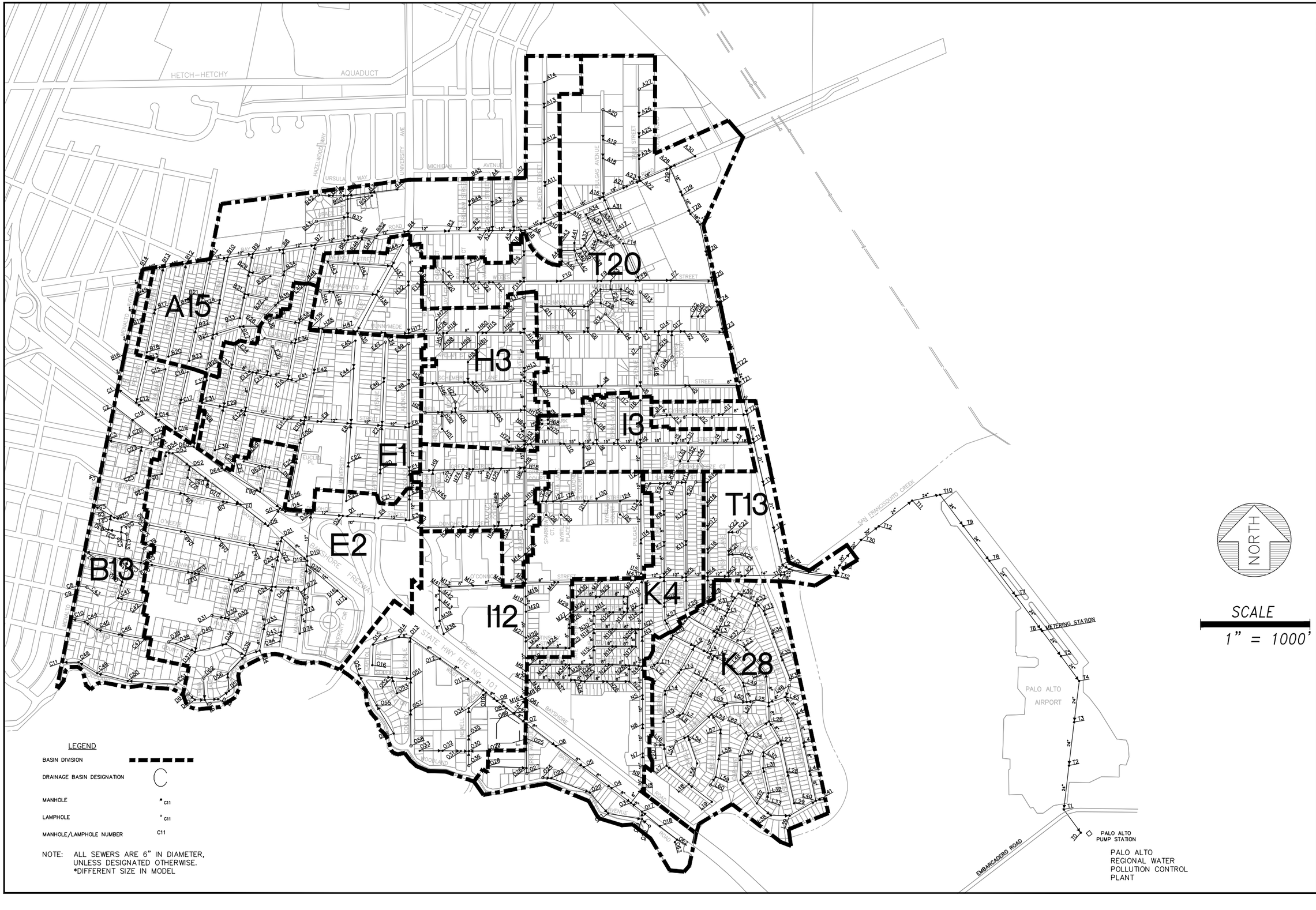

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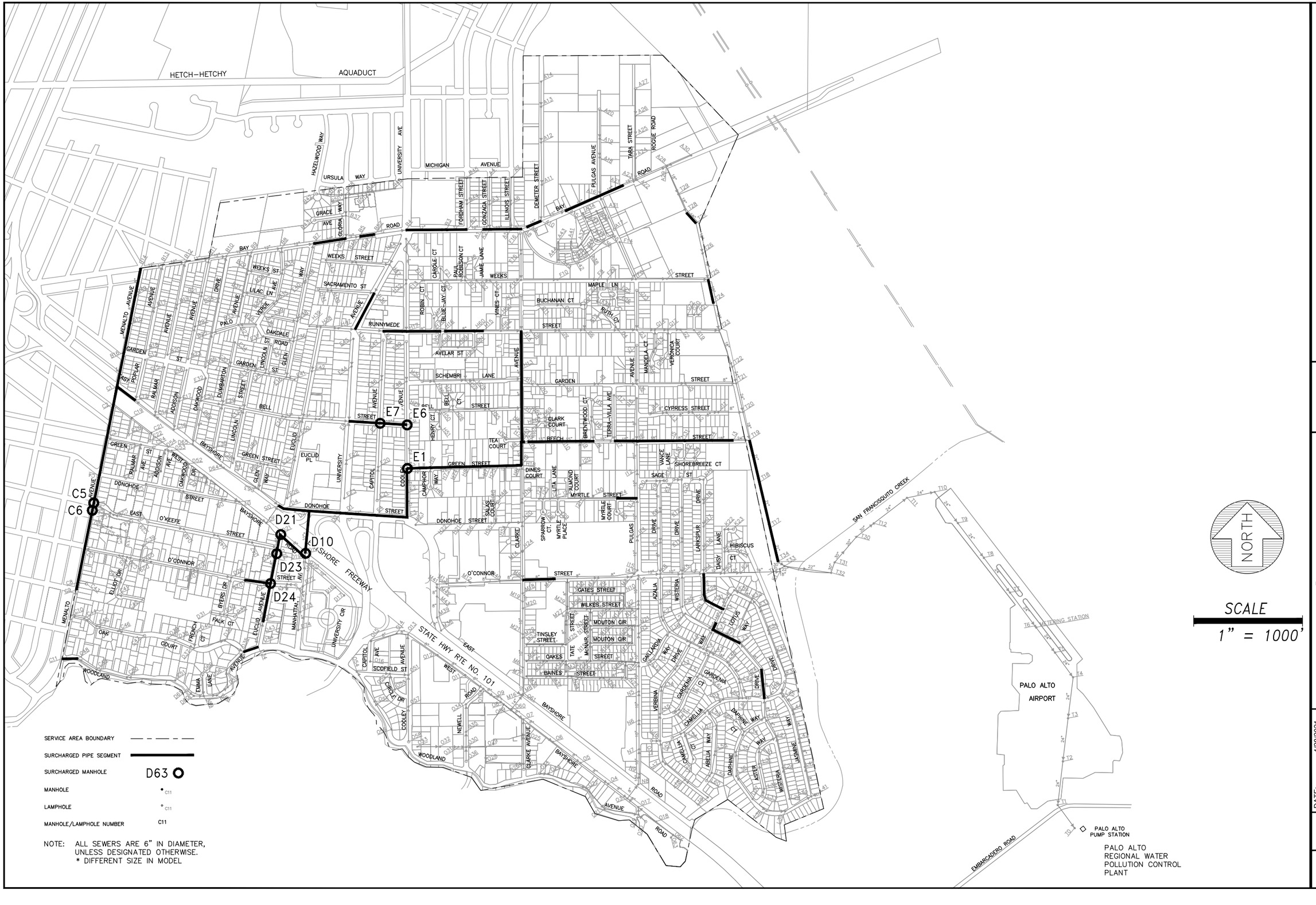
FIGURE 2

JOB NO. 2052

EXISTING PWWF CAPACITY DEFICIENCIES
EPASD MASTER PLAN UPDATE
EAST PALO ALTO, CA



NOTE: ALL SEWERS ARE 6" IN DIAMETER, UNLESS DESIGNATED OTHERWISE.
* DIFFERENT SIZE IN MODEL

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FIGURE 3

JOB NO. 2052

PROPOSED IMPROVEMENTS TO ELIMINATE SURCHARGING EXISTING CONDITIONS

EPASD MASTER PLAN UPDATE

EAST PALO ALTO, CA

REPLACE 1565LF WITH NEW HDPE 16" SS

REPLACE 2448LF WITH NEW HDPE 24" SS

REPLACE 2283LF WITH NEW HDPE 14" SS

REPLACE 1065LF WITH NEW HDPE 8" SS

REPLACE 1281LF WITH NEW HDPE 12" SS

REPLACE 1388LF WITH NEW HDPE 10" SS

REPLACE 265LF WITH NEW HDPE 8" SS

REPLACE 2602LF WITH NEW HDPE 10" SS

REPLACE 666LF WITH NEW HDPE 10" SS

REPLACE 2400LF WITH NEW HDPE 24" SS

T22–T20 EXISTING HDPE 24" SS

REPLACE 1854LF WITH NEW HDPE 24" SS

REPLACE 1620LF WITH NEW HDPE 18" SS

REPLACE 1366LF WITH NEW HDPE 8" SS

REPLACE 366LF WITH NEW HDPE 10" SS

REPLACE 237LF WITH NEW HDPE 6" SS

REPLACE 1327LF WITH NEW HDPE 15" SS

REPLACE 301LF WITH NEW HDPE 6" SS

REPLACE 363LF WITH NEW HDPE 14" SS

REPLACE 1500LF WITH NEW HDPE 10" SS

REPLACE 373LF WITH NEW HDPE 8" SS

REPLACE 310LF WITH NEW HDPE 14" SS

REPLACE 223LF WITH NEW HDPE 12" SS

REPLACE 1020LF WITH NEW HDPE 6" SS

REPLACE 921LF WITH NEW HDPE 8" SS

REPLACE 179LF WITH NEW HDPE 6" SS

REPLACE 1341LF WITH NEW HDPE 10" SS

HETCH–HETCHY AQUADUCT

BAYSHORE FREEWAY

STATE HWY RTE NO. 101

SAN FRANCISQUITO CREEK

METERING STATION

PALO ALTO AIRPORT

PALO ALTO PUMP STATION

EMBARCADERO ROAD

PALO ALTO REGIONAL WATER POLLUTION CONTROL PLANT

LEGEND

SERVICE AREA BOUNDARY

PROPOSED PIPE TO BE REPLACED

MANHOLE

LAMPHOLE

MANHOLE/LAMPHOLE NUMBER C11

NOTE: ALL SEWERS ARE 6" IN DIAMETER, UNLESS DESIGNATED OTHERWISE.
* DIFFERENT SIZE IN MODEL

UPSIZE TO 6"
UPSIZE TO 8"
UPSIZE TO 10"
UPSIZE TO 12"
UPSIZE TO 14"
UPSIZE TO 15"
UPSIZE TO 16"
UPSIZE TO 18"
UPSIZE TO 24"

NORTH

SCALE
1" = 1000'

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DATE:	4/28/2021
SCALE:	1" = 1000'
DESIGNED:	RAM
DRAWN:	RAM
CHECKED:	JF
PROJ. ENGR:	JJT

FIGURE
4

JOB NO.
2052

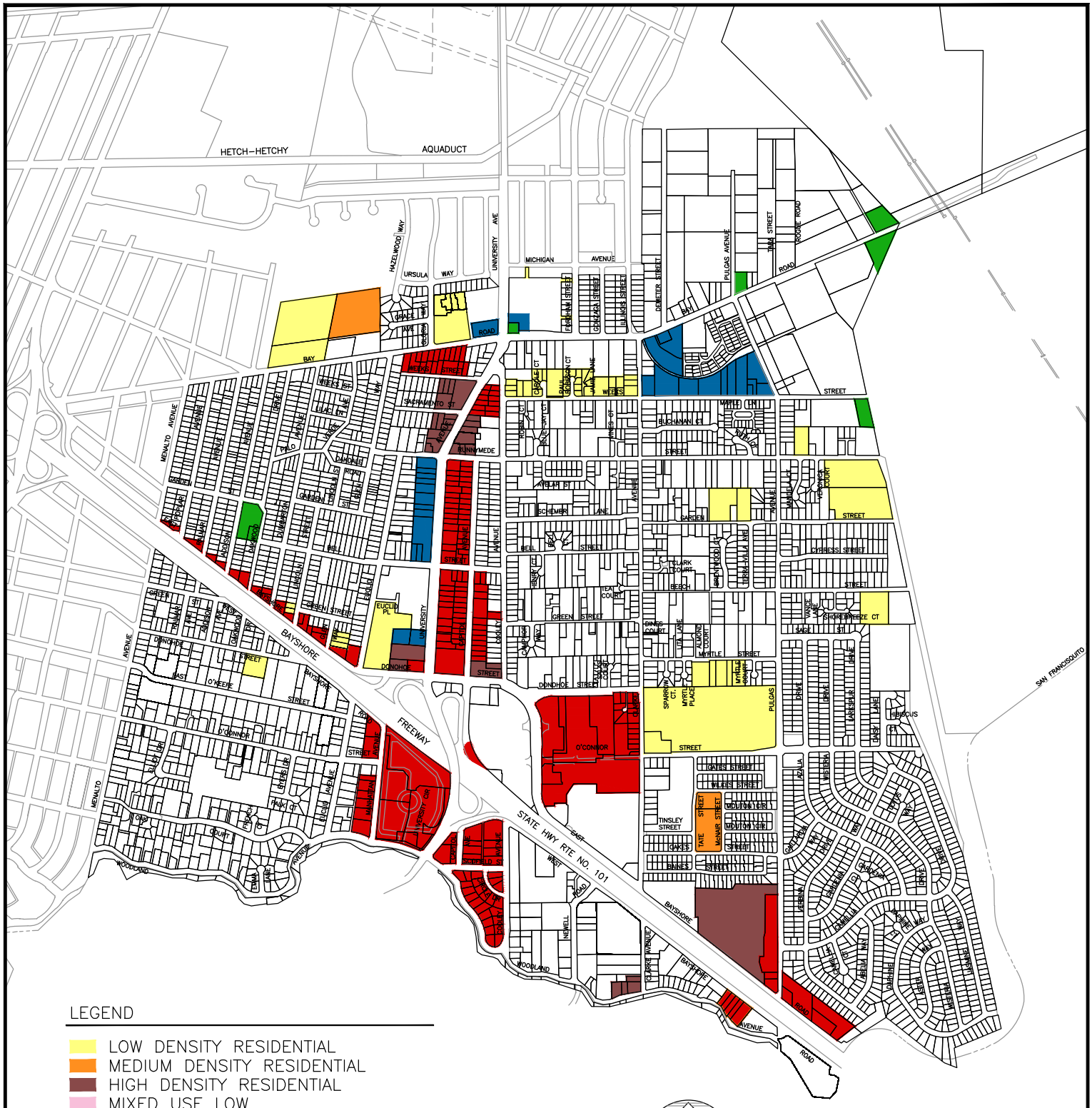

FIGURE 5

SCALE
1" = 1/4 Mile

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CITY OF EAST PALO ALTO

2014 LAND USE

MASTER PLAN UPDATE

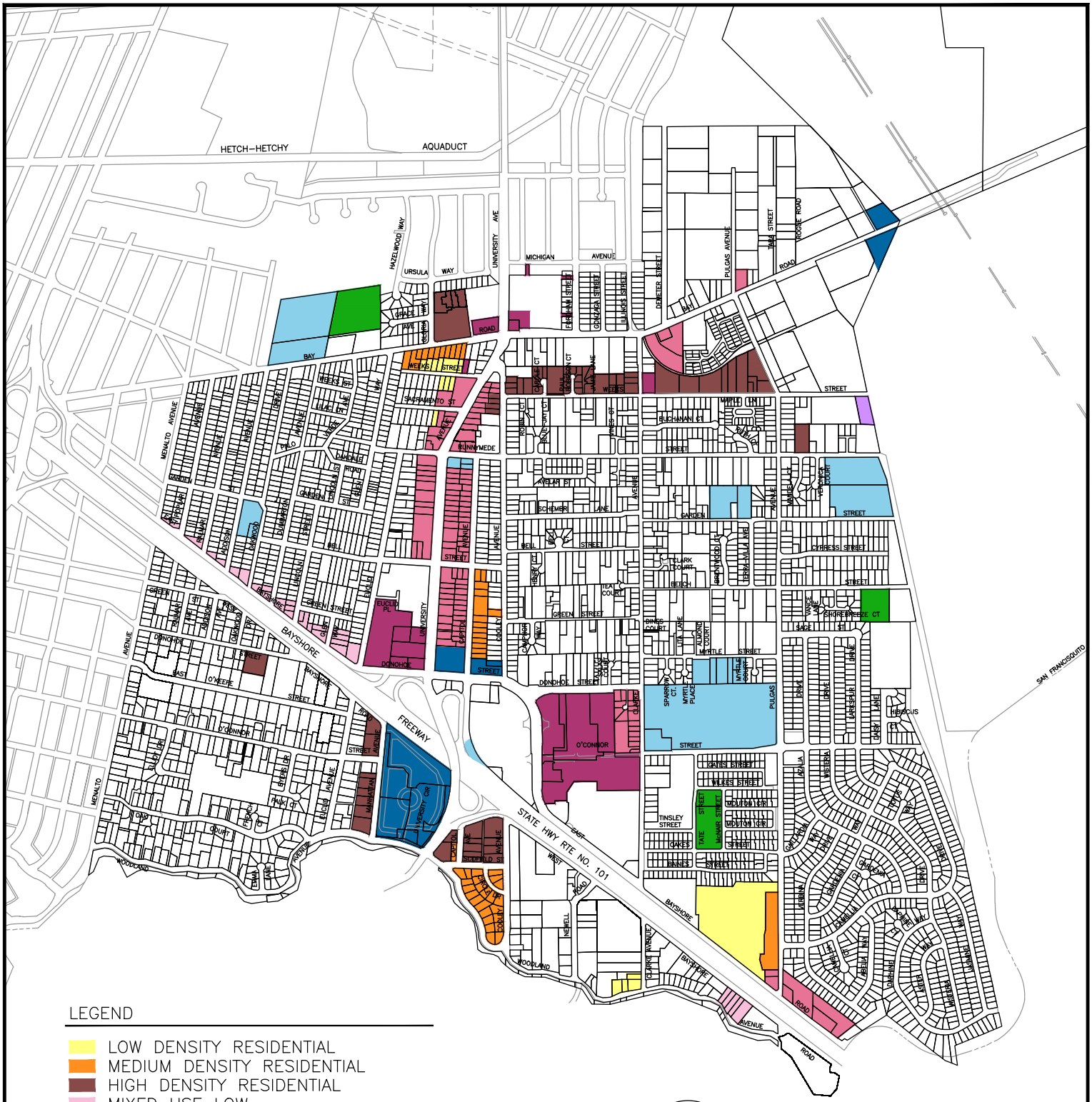

FIGURE 6

SCALE

1" = 1/4 Mile

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CITY OF EAST PALO ALTO

2035 LAND USE

MASTER PLAN UPDATE

MANHOLE INJECTION FLOW

MANHOLE	AVERAGE DRY WEATHER FLOW (CFS)	PEAK DRY WEATHER FLOW (CFS)
A8	0.0437	0.0673
A16	0.0072	0.0108
A18	0.0091	0.0137
A30	0.0558	0.0837
B4	0.1644	0.2614
C16	0.0064	0.0116
D1	0.0436	0.0637
D5	0.0140	0.0241
D8	0.0074	0.0128
D22	0.1649	0.2836
E1	0.0005	0.0008
E20	0.0403	0.0589
E22	0.0425	0.0621
E24	0.0950	0.1387
E30	0.0053	0.0077
E45	0.1148	0.1676
E47	0.0380	0.0554
F8	0.0796	0.1194
F11	0.0214	0.0321
F20	0.0176	0.0264
G2	0.0053	0.0080
G14	0.0067	0.0101
H24	0.0399	0.0601
H32	0.0082	0.0131
H36	0.0772	0.1266
H42	0.0058	0.0094
M32	0.0338	0.0537
M38	0.3887	0.6341
N8	0.0809	0.1261
O3	0.0072	0.0115
O16	0.0154	0.0262
O27	0.0009	0.0014
O51	0.0137	0.0233
O58	0.0081	0.0138
T25	0.0071	0.0106

ADDITIONAL SANITARY FLOWS INJECTION LOCATIONS

EPASD MASTER PLAN UPDATE

EAST PALO ALTO, CA

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DRAWN: RAM
CHECKED: JF
PROJ. ENGR: JJT

FIGURE 7

JOB NO. 2052

PDWF IMPROVEMENTS RESTORE d/D UNDER PROPOSED CONDITIONS

EPASD MASTER PLAN UPDATE

EAST PALO ALTO, CA

REPLACE 1566LF WITH NEW HDPE 18" SS

REPLACE 1403LF WITH NEW HDPE 21" SS

REPLACE 2283LF WITH NEW HDPE 15" SS

REPLACE 1045LF WITH NEW HDPE 24" SS

REPLACE 1321LF WITH NEW HDPE 12" SS

T22–T20 EXISTING HDPE 24" SS

REPLACE 265LF WITH NEW HDPE 6" SS

REPLACE 332LF WITH NEW HDPE 24" SS

REPLACE 413LF WITH NEW HDPE 6" SS

REPLACE 1522LF WITH NEW HDPE 26" SS

REPLACE 666LF WITH NEW HDPE 12" SS

REPLACE 1110LF WITH NEW HDPE 21" SS

REPLACE 474LF WITH NEW HDPE 8" SS

REPLACE 204LF WITH NEW HDPE 8" SS

REPLACE 1121LF WITH NEW HDPE 15" SS

REPLACE 366LF WITH NEW HDPE 10" SS

REPLACE 3012LF WITH NEW HDPE 15" SS

REPLACE 1588LF WITH NEW HDPE 18" SS

REPLACE 1077LF WITH NEW HDPE 10" SS

REPLACE 1551LF WITH NEW HDPE 15" SS

REPLACE 920LF WITH NEW HDPE 8" SS

REPLACE 2780LF WITH NEW HDPE 12" SS

REPLACE 291LF WITH NEW HDPE 14" SS

REPLACE 669LF WITH NEW HDPE 10" SS

REPLACE 262LF WITH NEW HDPE 12" SS

REPLACE 162LF WITH NEW HDPE 6" SS

REPLACE 351LF WITH NEW HDPE 8" SS

REPLACE 261LF WITH NEW HDPE 6" SS

REPLACE 218LF WITH NEW HDPE 6" SS

REPLACE 457LF WITH NEW HDPE 10" SS

REPLACE 224LF WITH NEW HDPE 8" SS

REPLACE 140LF WITH NEW HDPE 6" SS

REPLACE 427LF WITH NEW HDPE 8" SS

HETCH–HETCHY AQUADUCT

BAYSHORE FREEWAY

STATE HWY RTE NO. 101

SAN FRANCISQUITO CREEK

METERING STATION

PALO ALTO AIRPORT

PALO ALTO PUMP STATION

EMBARCADERO ROAD

PALO ALTO REGIONAL WATER POLLUTION CONTROL PLANT

LEGEND

SERVICE AREA BOUNDARY

PROPOSED PIPE TO BE REPLACED

MANHOLE

LAMPHOLE

MANHOLE/LAMPHOLE NUMBER C11

NOTE: ALL SEWERS ARE 6" IN DIAMETER, UNLESS DESIGNATED OTHERWISE.
* DIFFERENT SIZE IN MODEL

UPSIZE TO 6"
UPSIZE TO 8"
UPSIZE TO 10"
UPSIZE TO 12"
UPSIZE TO 14"
UPSIZE TO 15"
UPSIZE TO 18"
UPSIZE TO 21"
UPSIZE TO 24"
UPSIZE TO 26"

NORTH

SCALE
1" = 1000'

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DATE:	4/28/2021
SCALE:	1" = 1000'
DESIGNED:	RAM
DRAWN:	RAM
CHECKED:	JF
PROJ. ENGR:	JJT

FIGURE
8

JOB NO.
2052

PWWF IMPROVEMENTS NO SURCHARGE UNDER PROPOSED CONDITIONS

EPASD MASTER PLAN UPDATE

EAST PALO ALTO, CA

REPLACE 1565LF WITH NEW HDPE 18" SS

REPLACE 2448LF WITH NEW HDPE 24" SS

REPLACE 2283LF WITH NEW HDPE 14" SS

REPLACE 1065LF WITH NEW HDPE 10" SS

REPLACE 652LF WITH NEW HDPE 20" SS

T22–T20 EXISTING HDPE 24" SS

REPLACE 265LF WITH NEW HDPE 8" SS

REPLACE 2602LF WITH NEW HDPE 12" SS

REPLACE 666LF WITH NEW HDPE 10" SS

REPLACE 1742LF WITH NEW HDPE 18" SS

REPLACE 1854LF WITH NEW HDPE 28" SS

REPLACE 366LF WITH NEW HDPE 10" SS

REPLACE 2754LF WITH NEW HDPE 8" SS

REPLACE 237LF WITH NEW HDPE 6" SS

REPLACE 1110LF WITH NEW HDPE 24" SS

REPLACE 1843LF WITH NEW HDPE 16" SS

REPLACE 1489LF WITH NEW HDPE 14" SS

REPLACE 363LF WITH NEW HDPE 15" SS

REPLACE 1950LF WITH NEW HDPE 10" SS

REPLACE 380LF WITH NEW HDPE 12" SS

REPLACE 738LF WITH NEW HDPE 14" SS

NEW PARALELL 18" HDPE SS 6260 LF

REPLACE 485LF WITH NEW HDPE 12" SS

REPLACE 1020LF WITH NEW HDPE 6" SS

REPLACE 301LF WITH NEW HDPE 8" SS

REPLACE 471LF WITH NEW HDPE 8" SS

REPLACE 179LF WITH NEW HDPE 6" SS

REPLACE 2400LF WITH NEW HDPE 10" SS

REPLACE 1079LF WITH NEW HDPE 10" SS

HETCH–HETCHY AQUADUCT

SAN FRANCISQUITO CREEK

WATERING STATION

PALO ALTO AIRPORT

PALO ALTO PUMP STATION

PALO ALTO REGIONAL WATER POLLUTION CONTROL PLANT

EMBARCADERO ROAD

STATE HWY RTE NO. 101 BAYSHORE FREEWAY

NORTH

SCALE 1" = 1000'

LEGEND

- SERVICE AREA BOUNDARY
- PROPOSED PIPE TO BE REPLACED
- MANHOLE
- LAMPHOLE
- MANHOLE/LAMPHOLE NUMBER (C11)

NOTE: ALL SEWERS ARE 6" IN DIAMETER, UNLESS DESIGNATED OTHERWISE.
* DIFFERENT SIZE IN MODEL

- UPSIZE TO 6"
- UPSIZE TO 8"
- UPSIZE TO 10"
- UPSIZE TO 12"
- UPSIZE TO 14"
- UPSIZE TO 15"
- UPSIZE TO 16"
- UPSIZE TO 18"
- UPSIZE TO 20"
- UPSIZE TO 24"
- UPSIZE TO 28"

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DATE:	4/28/2021
SCALE:	1" = 1000'
DESIGNED:	RAM
DRAWN:	RAM
CHECKED:	JF
PROJ. ENGR:	JJT

FIGURE 9

JOB NO. 2052

COMBINED IMPROVEMENTS NO SURCHARGE UNDER PROPOSED CONDITIONS

EPASD MASTER PLAN UPDATE
EAST PALO ALTO, CA

REPLACE 1565LF WITH NEW HDPE 18" SS
REPLACE 2448LF WITH NEW HDPE 24" SS
REPLACE 2283LF WITH NEW HDPE 15" SS
REPLACE 1065LF WITH NEW HDPE 10" SS
REPLACE 652LF WITH NEW HDPE 20" SS
T22–T20 EXISTING HDPE 24" SS
REPLACE 265LF WITH NEW HDPE 8" SS
REPLACE 2602LF WITH NEW HDPE 12" SS
REPLACE 666LF WITH NEW HDPE 12" SS
REPLACE 1742LF WITH NEW HDPE 18" SS
REPLACE 1854LF WITH NEW HDPE 28" SS
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REPLACE 237LF WITH NEW HDPE 6" SS
REPLACE 1121LF WITH NEW HDPE 15" SS
REPLACE 1843LF WITH NEW HDPE 16" SS
REPLACE 1551LF WITH NEW HDPE 15" SS
REPLACE 363LF WITH NEW HDPE 15" SS
REPLACE 1950LF WITH NEW HDPE 10" SS
REPLACE 291LF WITH NEW HDPE 14" SS
REPLACE 2780LF WITH NEW HDPE 12" SS
REPLACE 669LF WITH NEW HDPE 10" SS
REPLACE 1020LF WITH NEW HDPE 6" SS
REPLACE 301LF WITH NEW HDPE 8" SS
REPLACE 471LF WITH NEW HDPE 8" SS
REPLACE 162LF WITH NEW HDPE 6" SS
REPLACE 179LF WITH NEW HDPE 6" SS
REPLACE 261LF WITH NEW HDPE 6" SS
REPLACE 1079LF WITH NEW HDPE 10" SS
REPLACE 218LF WITH NEW HDPE 6" SS
REPLACE 457LF WITH NEW HDPE 10" SS
REPLACE 224LF WITH NEW HDPE 8" SS
REPLACE 140LF WITH NEW HDPE 6" SS
REPLACE 427LF WITH NEW HDPE 8" SS
NEW PARALELL 18" HDPE SS 6260 LF

HETCH–HETCHY AQUADUCT
SAN FRANCISQUITO CREEK
WATERING STATION
PALO ALTO AIRPORT
PALO ALTO PUMP STATION
PALO ALTO REGIONAL WATER POLLUTION CONTROL PLANT
STATE HWY RTE NO. 101
BAYSHORE FREEWAY
EMBARCADERO ROAD

LEGEND

SERVICE AREA BOUNDARY
PROPOSED PIPE TO BE REPLACED
MANHOLE
LAMPHOLE
MANHOLE/LAMPHOLE NUMBER C11

NOTE: ALL SEWERS ARE 6" IN DIAMETER, UNLESS DESIGNATED OTHERWISE.
* DIFFERENT SIZE IN MODEL

UPSIZE TO 6"
UPSIZE TO 8"
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UPSIZE TO 14"
UPSIZE TO 15"
UPSIZE TO 16"
UPSIZE TO 18"
UPSIZE TO 20"
UPSIZE TO 24"
UPSIZE TO 28"

NORTH

SCALE
1" = 1000'

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DATE:	4/28/2021
SCALE:	1" = 1000'
DESIGNED:	RAM
DRAWN:	RAM
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PROJ. ENGR:	JJT

FIGURE
10

JOB NO.
2052

East Palo Alto Sanitary District



Wastewater Capacity Charge Update

December 2018

BARTLE WELLS ASSOCIATES
INDEPENDENT PUBLIC FINANCE ADVISORS

BARTLE WELLS ASSOCIATES
INDEPENDENT PUBLIC FINANCE ADVISORS

1889 Alcatraz Avenue
Berkeley, CA 94703
510 653 3399 fax: 510 653 3769
www.bartlewells.com

December 7, 2018

East Palo Alto Sanitary District
901 Weeks Street
East Palo Alto , CA 94303

Re: Wastewater Capacity Charge Update

Bartle Wells Associates is pleased to submit the attached *Wastewater Capacity Charge Update*. The study develops updated wastewater capacity charges designed to equitably recover the costs of existing wastewater system infrastructure and assets benefitting new development. The proposed capacity charges are designed to be adequate, fair, and comply with all legal requirements.

The proposed wastewater capacity charge for a new residential dwelling unit or equivalent dwelling unit (EDU) is $6,060. With the proposed update, EPASD's capacity charges will remain significantly below the regional average. Updated capacity charges for non-residential connections are based on the number of EDUs assigned to each connection based on the connection's estimated wastewater flow and strength.

I enjoyed working with the District on this assignment and appreciate the input and assistance received during the project. Please contact me anytime if you have questions about the recommendations presented in the report or other related issues.

Sincerely,

BARTLE WELLS ASSOCIATES

Alex Handlers, CIPMA
Principal/Vice-President

East Palo Alto Sanitary District
Wastewater Capacity Charge Update

Table of Contents

Appendices

1. Background, Objectives, & Government Code

Background

The East Palo Alto Sanitary District (EPASD or the District) is an independent, community-owned and operated public agency that provides wastewater service to residents and businesses in portions of the cities of East Palo Alto and adjacent areas of Menlo Park and San Mateo County. EPASD was established in 1939 and is governed by a 5-member board of directors elected at large from the community.

EPASD owns and operates a wastewater collection system that includes over 30 miles of sanitary sewer pipelines. The District's sewage is conveyed to the Palo Alto Regional Water Quality Control Plant (PARWQCP) for treatment and disposal. The PARWQCP is a regional wastewater treatment plant owned and operated by the City of Palo Alto on behalf of a number of regional agencies. EPASD has a contractual agreement for 7.34% of the capacity in the PARWQCP.

EPASD currently levies capacity charges on new or expanded connections to the wastewater system. These charges are levied to recover the cost of capacity in existing wastewater system infrastructure and assets benefitting new development. These fees are referred to as "capacity charges" in California Government Code and are one-time fees paid as a condition of making a new or expanded connection. The District has not updated its wastewater capacity charges in many years.

Objectives

In 2018, the District retained Bartle Wells Associates to update its wastewater capacity charges with the goals of developing a new charge that:

- Recovers the full costs of wastewater system infrastructure and assets benefitting new development to help ensure that growth pays its own way and does not place a financial burden on existing customers;
- Equitably recovers costs based on the new or increased capacity needs of each new development or redevelopment project;
- Is consistent with industry-standard practices and methodologies;
- Complies with government code.

Government Code

Water and sewer capacity charges are governed by California Government Code Section 66013. This section of the Code is part of the Mitigation Fee Act which was primarily established by Assembly Bill 1600 (AB 1600) in 1987.

Section 66013 specifically governs water and wastewater capacity charges and defines a "capacity charge" to mean "*a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged, including supply or capacity contracts for rights or entitlements, real property interests, and entitlements and other rights of the local agency involving capital expense related to its use of existing or new public facilities.*"

Section 66013 distinguishes "capacity charges" from "connection fees" which are defined as fees for the physical facilities necessary to make a water or sewer connection, such as costs related to installation of meters and pipelines from a new building to a water or sewer main.

According to the Section 66013, a water or wastewater capacity charge "*shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed*" unless approved by a two-thirds vote. As such, the updated capacity charges calculated in this report represent the maximum charges that the District can levy. Section 66013 does not detail any specific methodology for calculating capacity charges.

Other sections of the Government Code that apply to water and wastewater capacity charges includes Section 66016, 66022 and 660123. Section 66016 of the Code identifies the procedural requirements for adopting or increasing water and wastewater capacity charges. Section 66022 summarizes the general process by which the charges can be legally challenged. And Section 66023 provides individuals with a process for requesting an audit to determine if a fee or charge is reasonable. The full texts of Sections 66013, 66016 and 66022 are attached in Appendix B.

2. Capacity Charge Components

Fee Methodology

The updated capacity charges proposed in this report are based on an *average buy-in approach* designed to recover a proportionate share costs for a) the District's wastewater collection system infrastructure, and b) the District's share of capacity in the regional wastewater treatment plant. A summary of the two components is listed below.

- **Wastewater Distribution System** - This fee component recovers a proportionate share of costs in the District's existing wastewater system facilities and assets. Under this approach, the total cost of the District's existing sewer collection system facilities, is divided by the total projected capacity the District is projected to serve through buildout resulting in an average cost per unit.

- **Wastewater Treatment Plant Capacity Rights** - This fee component recovers the cost of the District's capacity rights in the Palo Alto Regional Water Quality Control Plant. Each new or expanded connection is responsible for funding its share of capacity needed in the regional wastewater treatment plant.

Facility Valuation

There are a range of reasonable approaches used for estimating facility costs for recovery via capacity charges. The updated capacity charges proposed in this report are based on the cost of facilities in current dollars. This is an industry standard approach that a) does not reduce asset value to account for depreciation, but also b) excludes costs incurred for maintaining expansion capacity in facilities designed to serve growth, and c) excludes interest on debt and/or implied interest on funds internally advanced to prepay for expansion capacity in infrastructure built to accommodate projected future demands. Depreciation is not factored in to the calculation to ensure that the fee reflects the full cost, and not a reduced portion of the cost, of facilities that were funded and built in advance to serve future development.

The valuation method used in the fee calculation reflects the principle that agencies and their customers benefit from economies of scale by building infrastructure sized to meet projected future demands, which results in a lower average cost per unit of capacity than if infrastructure

was built on a piecemeal basis as growth occurs. The average cost per unit of capacity in a single larger pipeline, for example, is substantially lower than the cost of adding pipeline capacity on a unit by unit basis as growth occurs, which could entail tearing up streets to upsize pipelines or install parallel pipelines to provide adequate hydraulic capacity for new development. If the recoverable costs of facilities are continually reduced to account for depreciation, then agencies would not be able to recover the proportionate share of costs of infrastructure built in advance to accommodate future growth. This would result in a) financial subsidization of growth, b) economic disincentive for agencies to pursue the most cost-effective approach for building infrastructure based on longer-term needs, and c) potentially higher costs for new connections.

Facility valuations used to calculate updated capacity charges are based on the following:

- **Wastewater Distribution System** The recoverable cost of the District's sewer pipelines is based on current engineering cost estimates per linear foot provided by the District's engineering consultants.

- **Wastewater Treatment Plant Capacity Rights** The recoverable cost of the District's share of capacity rights in the Regional Water Quality Control Plant is based on the acquisition cost of each asset escalated in to current dollars based on the change in the Engineering News-Record (ENR) Construction Cost Index (20-Cities Average) from acquisition year to the index for June 2018. The ENR index is a widely used measure of construction cost inflation.

- **90% Cost Recovery Factor:** To both be conservative and exclude cost recovery for facilities that may not provide benefit to new wastewater connections, the updated fee calculation only includes 90% cost recovery for both the District's distribution system facilities as well as the District's share of capacity in the Palo Alto Regional Water Pollution Control Plant.

Wastewater Collection System Infrastructure

Table 1 shows a summary of the District's wastewater collection system pipelines and costs. Pipeline costs are calculated in current dollars based on the linear feet of pipeline per diameter, and updated engineering estimates of the cost per linear foot for pipeline construction provided by the District's engineering consultants. A full inventory of District pipelines is shown in Appendix A on Table A-1.

Table 1 – Wastewater Collection System Pipelines & Costs

Pipeline Diameter	Linear Feet	Linear Miles	% of Total	Unit Cost per LF[1]	Pipeline Construction	Engin. Design Admin/Misc[2]	Total Cost
6"	108,260	20.50	62.06%	$300	$32,478,000	$8,119,500	$40,597,500
8"	31,403	5.95	18.00%	300	9,420,900	2,355,225	11,776,125
10"	8,293	1.57	4.75%	325	2,695,225	673,806	3,369,031
12"	9,711	1.84	5.57%	350	3,398,850	849,713	4,248,563
14"	680	0.13	0.39%	365	248,200	62,050	310,250
15"	4,351	0.82	2.49%	375	1,631,625	407,906	2,039,531
18"	3,552	0.67	2.04%	400	1,420,800	355,200	1,776,000
21"	1,490	0.28	0.85%	425	633,250	158,313	791,563
24"	6,709	1.27	3.85%	450	3,019,050	754,763	3,773,813
Total	174,449	33.04	100.00%		54,945,900	13,736,475	68,682,375

1 Based on District Engineer's cost estimates for pipeline construction and installation, based on bid data from past five years for similar sanitary sewer replacement projects in San Mateo County.

2 Estimated at 25% of pipeline construction cost; includes costs for design, construction management, utility relocation, encroachment and other associated costs.

Wastewater Distribution System Buy-In Cost

Table 2 shows total costs for District infrastructure and assets included for fee recovery via the updated capacity charge. To both be conservative and exclude costs for pipelines that may be near the end of their useful lives, the updated fee calculation includes 90% cost recovery for existing District infrastructure and excludes interest payments made on debt previously issued to help fund some of the District's infrastructure.

Table 2 – District Costs for Fee Recovery

Recoverable Cost of Existing District Assets	
Existing Pipelines[1]	$68,682,375
Other District Assets[2]	2,500,000
Prior Interest Payments on Debt	Excluded
Subtotal	71,182,375
Cost Recovery % for Fee Calculation	90%
District Collection System Costs for Fee Recovery	**64,064,138**

1 Source: Table 1 - Wastewater Collection System Pipelines & Costs.
2 Conservative estimate of other District assets including admin building, vehicles/equipment, and other miscalleneous assets.

Wastewater System Capacity

Table 3 shows the District's capacity rights in the regional wastewater treatment plant. The District has contractual rights to 7.34% of total capacity in the Palo Alto Regional Water Quality Control Plant. This equates to 3.06 million gallons per day (mgd) of Average Annual Flow capacity. The District's wastewater capacity rights are considered to be more-than-adequate to handle the District's wastewater flows for the foreseeable future and are used to approximate total wastewater system capacity for purposes of the updated fee calculation.

Table 3 – Wastewater System Capacity

Wastewater System Capacity	
Capacity Rights in PARWQCP: Average Annual Flow (mgd)	3.06
Capacity Rights in PARWQCP: ADWF (gpd)	3,060,000

Wastewater Collection System Buy-In Cost per Unit

Table 4 calculates the cost per unit (gpd) for buying in to the District's wastewater collection system infrastructure by dividing a) the costs identified for fee recovery shown in Table 2 by b) wastewater system average annual flow capacity shown in Table 3, resulting in c) an average cost of approximately $20.936 per gpd of average annual wastewater generation. Under the proposed capacity charges, new and expanded connections would buy-in for their proportionate share of the District's wastewater collection system infrastructure with this fee component.

Table 4 – Wastewater Collection System Buy-In Cost per GPD

Collection System Buy-In Cost Per Unit of Capacity	
District Collection System Costs for Fee Recovery	$64,064,138
Wastewater System Capacity: Average Annual Flow (gpd)	3,060,000
Cost per Unit ($/gpd)	$20.936

Cost Recovery for Regional Water Quality Control Plant Capacity

The updated capacity charge is also designed to recover costs for the District's share of capacity in the Palo Alto Regional Water Quality Control Plant. Table 5 shows the recoverable cost of EPASD's share of treatment plant capacity based on a) cost of the regional wastewater treatment facilities escalated into current dollars, multiplied by b) EPASD's 7.34% share of capacity rights in the treatment plant.

Current treatment plant facility costs are calculated by adjusting the acquisition cost of facilities into current dollars based on the change in the Engineering News-Record (ENR) Construction Cost Index (20-Cities Average) from the acquisition date of each asset to the index for June 2018. The ENR index is a widely used measure of construction cost inflation.

The District's share of recoverable costs for capacity in the Palo Alto Regional Water Quality Control Plant totals approximately $15.4 million. To both be conservative and exclude facilities that are not related to wastewater treatment, the updated fee calculation includes 90% cost recovery for these facilities.

Table 5 – District Share of Regional Water Quality Control Plant Costs

Description	Acquisition Cost[1]	ENR Adjusted Cost[2] (June 2018 $)
Construction in Progress	$9,813,507	$15,866,493
Hydrants	69,031	89,156
Equipment, Treatment, and Disposal	44,088,805	78,995,061
Buildings and Structures	27,472,342	109,538,739
Recycled Water Pipelines	4,038,770	5,216,267
Valves	268,059	346,211
Total	85,750,513	210,051,927
EPASD Capacity %		7.34%
EPASD Capacity $		15,417,811
Cost Recovery % for Fee Calculation		90%
District Collection System Costs for Fee Recovery		**13,876,030**

1 Source: PARWQCP Fixed Asset Schedule, Table A-3.

2 Escalated based on the change in the Engineering News-Record Construction Cost Index (20-Cities Average Index) from the acquisition year of each asset to June 2018.

The Regional Water Quality Control Plant is designed to both provide wastewater treatment and handle the volume of wastewater flows from its member agencies. As such, costs for the treatment plant are allocated for recovery both from wastewater flow as well as from wastewater strength as measured by Biological Oxygen Demand (BOD) and Suspended Solids (SS), two industry-standard measures of wastewater strength used in rate and fee setting. This ensures that new customers with wastewater that contains higher-strength concentrations of BOD and SS will pay for their proportionate share of facility costs related to wastewater treatment.

Table 6 allocates the District's share of costs for its capacity rights in the Regional Water Quality Control Plant for cost-recovery via wastewater flow and strength resulting in unit costs per gpd of flow and per pound of BOD and SS. The cost allocations to Flow, BOD and SS are based on State Water Resources Control Board standard cost allocations for its prior Revenue Program Guidelines.

Table 6 – District Share of Regional Water Quality Control Plant Costs

EPASD Cost of Capacity Rights in the RWQCP (June 2018 $)							$13,876,030
Cost Allocation	Flow		BOD		SS		Total
Cost Allocation %	34.0%		33.0%		33.0%		100.0%
Cost Allocation $	$4,717,850		$4,579,090		$4,579,090		$13,876,030
RWQCP Capacity							
Wastewater Strength[1]			250	mg/l	225	mg/l	
EPASD Capacity[2]	2,886,792	gpd (ADWF)	2,196,921.23	lbs/year	1,977,229	lbs/year	
Unit Cost	$1.634	per gpd	$2.084	per lb	$2.316	per lb	

1 Based on historical influent wastewater strength at the wastewater treatment plant.

2 Wastewater strength capacities based on EPASD flow capacity and conservatively high estimate of RWQCP average loadings based on historical influent loadings at the wastewater treatment plant.

3. Proposed Capacity Charge

Proposed Wastewater Capacity Charge per EDU

Table 7 calculates an updated wastewater capacity charge of $6,060 per Equivalent Dwelling Unit (EDU). The updated charge is based on the capacity charge components developed in Tables 4 and 6 applied to the estimated wastewater demands of an EDU. An EDU represents the wastewater flow and strength loadings of a typical residential dwelling unit or equivalent. EDUs are assigned to non-residential connections based on the estimated wastewater flow and strength loading of each connection according the formula shown on the table.

Table 7 – Proposed Wastewater Capacity Charges

	Flow	BOD	SS
Equivalent Dwelling Unit (EDU) Loadings[1]	240 gpd	200 mg/l 0.4003 lbs/day	200 mg/l 0.4003 lbs/day
Cost Recovery per Unit			
District Facility Cost Recovery	$20.936	-	-
RWQCP Cost Recovery	1.634	2.084	2.316
Subtotal	22.570 per gpd	2.084 per lb	2.316 per lb
Capacity Charge per EDU			
Cost Recovery	$5,416.87	$304.55	$338.39
% of Total	89.4%	5.0%	5.6%
Capacity Charge per EDU			**$6,060**

EDU Formula for Non-Residential Connections[2]

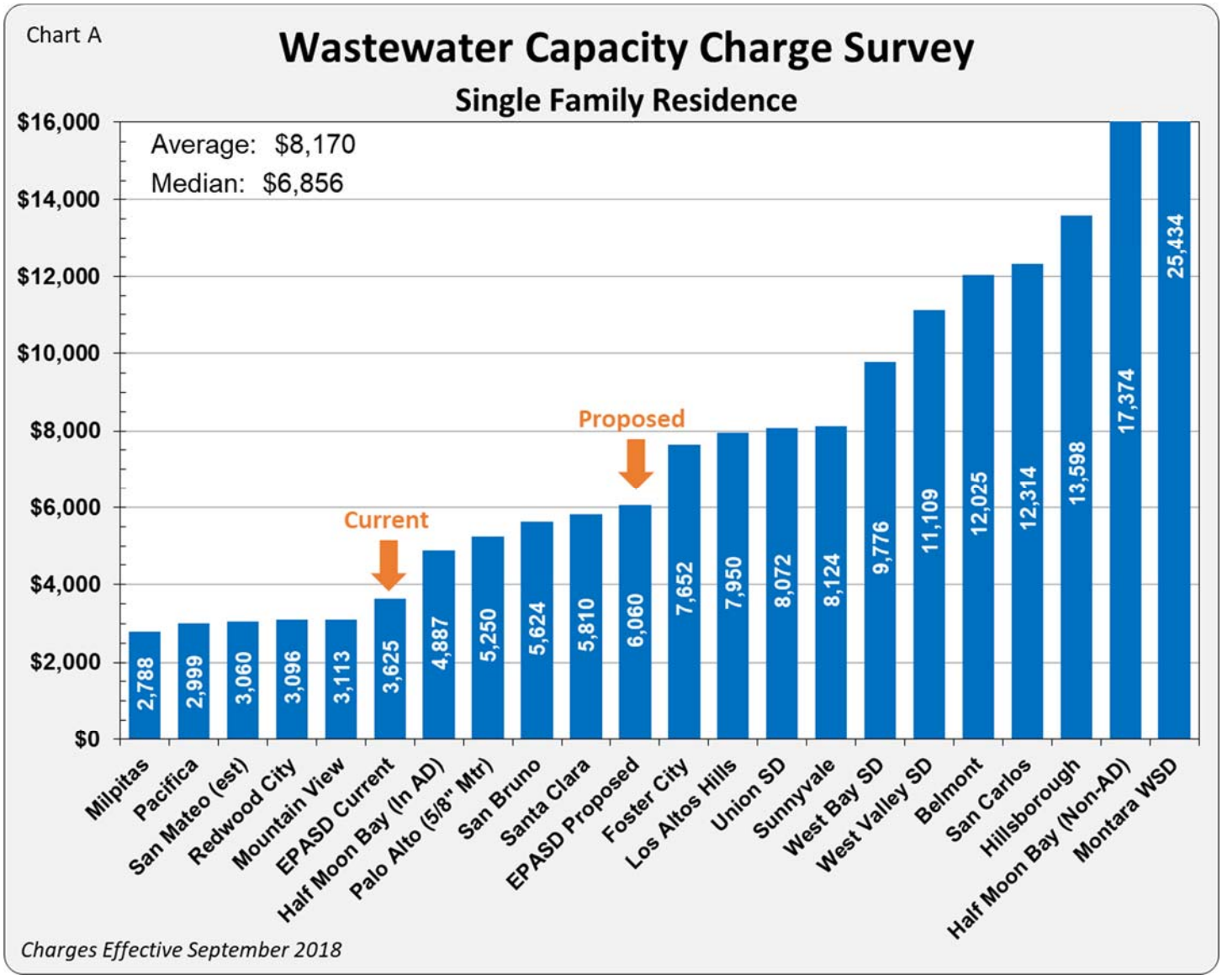
Number of EDUs = 0.871 x Flow / 240 gpd + 0.060 x BOD / 200 mg/l + 0.067 x SS / 200 mg/l

1 Based on current engineering design estimates (strength within SWRCB standards).

2 Used to calculate the number of equivalent dwelling units for new non-residential connections.

Survey of Regional Wastewater Capacity Charges

The following chart shows a comparison of regional wastewater capacity charges for a typical new single family home. The chart is shown for informational purposes only as capacity charges can vary from agency to agency based on a wide range of factors. With the proposed update, EPASD's capacity charges will remain significantly below the regional average.



4. Capacity Charge Application

This section highlights some key issues regarding the application and implementation of the updated capacity charges.

Capacity Charge Ordinance: Purpose of Charge

Pursuant to Government Code, revenues derived by capacity charges can only be used for the purpose for which the charges are collected. In order to maximize the District's flexibility for use of capacity charge revenues, BWA recommends that the resolution or ordinance adopting new charges broadly define the purpose of the charge, such as to recover costs for wastewater system infrastructure, wastewater treatment plant capacity, and any other wastewater utility assets benefitting new or expanded connections to the wastewater system.

Capacity Charge Credits for Redevelopment

Capacity charges for redevelopment projects and/or expansions should be based on the incremental increase in wastewater demand generated from each project. Under this approach, the fees for future redevelopment projects would be based on the incremental difference between the capacity charges that would apply to the current connection and the capacity charges applicable to the expanded connection.

Future Fee Adjustments

In future years, BWA recommends that the District update its capacity charges annually by adjusting the charges by the change in the Engineering News-Record Construction Cost Index (20-Cities Average) to account for future construction cost inflation. The fee adjustment should allow for a multi-year adjustment if an annual adjustment is ever deferred. The District's capacity charge resolution or ordinance can allow for automatic annual adjustments.

Additionally, the District should review and consider updating its capacity charges when substantial revisions are made to anticipated wastewater system capital improvement costs or funding, or to substantial changes in projected demand. In general, BWA recommends that capacity charges be independently reviewed and/or updated at least once every five years.

APPENDIX A

Wastewater Capacity Charge Update
Supporting Tables

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
A24	A22	Tara Street	6	255
A25	A24	Tara Street	6	244
A14	A13	Demeter Street	6	289
A11	A10	Demeter Street	6	419
A12	A11	Demeter Street	6	490
A17	A16	Pulgas Ave.	6	419
A26	A25	Tara Street	6	243
A7	A6	Illonois Street	6	410
A27	A26	Tara Street	6	308
A4	A3	Gonzaga Street	6	410
A18	A16	Pulgas Ave.	6	449
A13	A12	Demeter Street	6	413
A19	A18	Pulgas Ave.	6	220
A3	A2	Gonzaga Street	6	200
A6	A5	Illonois Street	6	200
A30	A29	Bay Road (East)	6	291
A20	A19	Pulgas Ave.	6	340
A5	A9	Bay Road Trunk	10	110
A2	A5	Bay Road Trunk	12	250
A1	A2	Bay Road Trunk	12	90
A10	A15	Bay Road Trunk	15	210
A16	A21	Bay Road Trunk	15	409
A9	A10	Bay Road Trunk	15	260
A15	A16	Bay Road Trunk	15	509
A21	A22	Bay Road Trunk	18	30
A22	A29	Bay Road Trunk	18	420
BASIN A SUBTOTAL				**7,888**
B40	B39	Ursula Way (East)	6	300
B43	B37	Grace Ave.	6	386
B19	B12	Ralmar Ave.	6	550
B34	B8	Palo Verde Ave. (North)	6	250
B20	B19	Ralmar Ave.	6	534
B23	B22	Addison Ave.	6	377
B21	B11	Addison Ave.	6	400
B25	B24	Oakwood Dr.	6	396
B39	B38	Ursula Way (East)	6	310
B27	B25	Palo Verde Ave. (West)	6	320
B42	B41	Ursula Way (West)	6	177
B29	B9	Dumbarton Ave.	6	228
B30	B29	Weeks St	6	250
B33	B31	Dumbarton Ave.	6	281
B32	B31	Lilac Ln.	6	250
B35	B34	Palo Verde Ave. (North)	6	360
B17	B13	Poplar Ave.	6	500
B18	B17	Poplar Ave.	6	498
B38	B37	Gloria Ave.	6	365
B24	B10	Oakwood Dr.	6	490
B37	B6	Gloria Ave.	6	256
B28	B27	Palo Verde Ave. (West)	6	210
B45	B44	Fordham Street	6	410
B36	B35	Palo Verde Ave. (North)	6	245
B44	B2	Fordham Street	6	200
B26	B25	Oakwood Dr.	6	410
B22	B21	Addison Ave.	6	400
B31	B29	Dumbarton Ave.	6	240

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
B37	B7	Glen Way	6	455
B41	B38	Ursula Way (West)	8	180
B16	B15	Menalto Ave and Bay Road	8	330
B15	B48	Menalto Ave and Bay Road	8	330
B48	B14	Menalto Ave and Bay Road	8	328
B3	B2	Menalto Ave and Bay Road	10	270
B2	B1	Menalto Ave and Bay Road	10	170
B12	B11	Menalto Ave and Bay Road	10	275
B10	B9	Menalto Ave and Bay Road	12	290
B9	B8	Menalto Ave and Bay Road	12	350
B8	B7	Menalto Ave and Bay Road	12	370
B13	B12	Menalto Ave and Bay Road	12	260
B7	B6	Menalto Ave and Bay Road	12	380
B11	B10	Menalto Ave and Bay Road	12	204
B6	B5	Menalto Ave and Bay Road	12	160
B14	B13	Menalto Ave and Bay Road	12	258
B4	B3	Menalto Ave and Bay Road	12	440
B5	B4	Menalto Ave and Bay Road	12	535
BASIN B SUBTOTAL				**15,178**
C41	C40	Elliot Dr.	6	192
C26	C40	Donohoe Street	6	520
C47	C46	Oak Ct.	6	302
C27	C5	E. O'Keefe St.	6	214
C3	C52	Menalto Ave	6	369
C52	C2	Menalto Ave	6	15
C28	C27	E. O'Keefe St.	6	60
C52	C4	Menalto Ave	6	328
C29	C28	E. O'Keefe St.	6	287
C7	C6	Menalto Ave	6	448
C35	C7	O'Connor St.	6	403
C9	C8	Menalto Ave	6	12
C36	C35	O'Connor St.	6	100
C11	C10	Menalto Ave	6	508
C37	C36	O'Connor St.	6	80
C49	C48	Woodland Ave.	6	247
C38	C37	O'Connor St.	6	146
C51	C50	Woodland Ave.	6	560
C39	C37	C2	6	85
C14	C12	Addison Ave.	6	282
C40	C36	Elliot Dr.	6	259
C17	C16	Addison Ave.	6	500
C20	C19	Poplar Ave.	6	200
C19	C2	West Bayshore Ave.	6	265
C23	C3	Green Street.	6	400
C25	C23	Ralmar Ave.	6	295
C42	C41	Elliot Dr.	6	310
C4	C3	Menalto Ave	6	436
C43	C8	C1	6	277
C8	C7	Menalto Ave	6	441
C44	C10	Oak Ct.	6	150
C48	C11	Woodland Ave.	6	180
C45	C44	Oak Ct.	6	170
C12	C1	Addison Ave.	6	266
C46	C45	Oak Ct.	6	152

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
C24	C23	Green Street.	6	151
C18	C17	Addison Ave.	6	178
C6	C5	Menalto Ave	6	88
C22	C21	West Bayshore Ave.	6	80
C50	C49	Woodland Ave.	6	360
C15	C14	Ralmar Ave.	6	564
C21	C19	West Bayshore Ave.	6	284
C16	C14	Addison Ave.	6	270
C10	C9	Menalto Ave	6	385
C13	C12	Poplar Ave.	6	475
C1	B16	Menalto Ave	8	404
C2	C1	Menalto Ave	8	230
BASIN C SUBTOTAL				**12,928**
D15	D14	University Ave.	6	420
D52	D51	West Bayshore	6	270
D70	D51	Lat 560-70	6	197
D60	D59	541 - 61	6	112
D71	D52	Oakwood Drive	6	250
D56	D35	541 - 61	6	288
D59	D58	541 - 61	6	154
D57	D56	541 - 61	6	198
D51	D7	West Bayshore	6	456
D18	D17	46 - 302	6	587
D69	D67	Green Street	6	230
D12	D11	529 - 45	6	22
D68	D67	Green Street	6	138
D45	D13	529 - 45	6	120
D67	D63	Green Street	6	290
D39	D38	Oak Ct.	6	120
D71	D9	Donohoe St. & W. Bayshore	6	437
D20	D19	Manhattan Ave.	6	240
D9	D8	Donohoe St. & W. Bayshore	6	496
D22	D21	Euclid Ave.	6	120
D8	D7	Donohoe St. & W. Bayshore	6	150
D7	D6	Donohoe St. & W. Bayshore	6	399
D42	D41	O'Connor St. 323 - 42	6	104
D62	D59	Emma Lane	6	248
D33	D24	Euclid Ave.	6	450
D41	D24	O'Connor St. 323 - 42	6	185
D35	D34	Oak Ct.	6	178
D43	D41	44 - 325	6	544
D37	D36	Oak Ct.	6	386
D44	D43	44 - 325	6	70
D38	D37	Oak Ct.	6	348
D54	D53	Addison Ave.	6	50
D65	D64	Oakwood Dr. & E. Bayshore Rd.	6	450
D61	D60	541 - 61	6	112
D64	D63	Oakwood Dr. & E. Bayshore Rd.	6	470
D17	D16	46 - 302	6	177
D25	D24	O'Connor St.	6	305
D13	D12	529 - 45	6	93
D26	D25	O'Connor St.	6	100
D58	D57	541 - 61	6	158
D30	D26	Falk Ct. -319	6	437

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
D50	D49	O'Keefe St.	6	420
D40	D37	French St.	6	200
D49	D48	O'Keefe St.	6	400
D53	D52	Addison Ave.	6	248
D48	D47	O'Keefe St.	6	400
D46	D18	46 - 302	6	90
D32	D30	Falk Ct. -319	6	120
D31	D30	Falk Ct.	6	154
D29	D28	O'Connor St.	6	540
D55	D54	Addison Ave.	6	305
D28	D27	O'Connor St.	6	290
D14	D13	University Ave.	6	320
D16	D11	46 - 302	6	130
D36	D35	Oak Ct.	6	252
D27	D26	O'Connor St.	6	160
D24	D23	Euclid Ave.	8	350
D23	D22	Euclid Ave.	8	66
D65	D66	Oakwood Dr. & E. Bayshore Rd.	8	410
D34	D33	Euclid Ave.	8	300
D6	D5	Donohoe St. & W. Bayshore	8	274
D63	D5	Oakwood Dr. & E. Bayshore Rd.	8	308
D21	D19	W. Bayshore	8	400
D4	D3	Oakwood Dr. & E. Bayshore Rd.	8	260
D47	D22	O'Keefe St.	8	306
D5	D4	Oakwood Dr. & E. Bayshore Rd.	8	96
D11	D10	46 - 302	8	444
D19	D10	Manhattan Ave.	10	59
D10	D3	46 - 302	10	490
D3	D2	46 - 302	12	50
D2	D1	46 - 302	12	56
D72	D2	46 - 302	12	300
BASIN D SUBTOTAL				**18,757**
E49	E6	Cooley Ave. North	6	500
E44	E50	University Ave. North	6	315
E50	E8	University Ave. North	6	325
E23	E22	University Ave. South	6	439
E35	E14	Lincoln Street	6	325
E22	E8	University Ave. South	6	450
E33	E13	Dumbarton Ave. & Garden St.	6	250
E47	E46	Capitol Ave. North	6	450
E30	E29	Dumbarton Ave. South	6	501
E46	E7	Capitol Ave. North	6	500
E27	E12	Lincoln St. South	6	576
E21	E20	Capitol Ave. South	6	385
E31	E29	Oakwood Dr. & Bell St.	6	245
E20	E7	Capitol Ave. South	6	500
E38	E42	Euclid Ave. North	6	517
E49	E48	Cooley Ave. North	6	450
E26	E25	Euclid Ave. South	6	488
E41	E15	Garden St. & Bell St.	6	83
E24	E9	E1	6	400
E19	E18	Capitol Ave.	6	160
E36	E15	Glen Way	6	420
E18	E4	Capitol Ave.	6	500

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
E33	E29	Dumbarton Ave. North	6	453
E17	E16	Cooley Ave. South	6	380
E32	E31	Oakwood Dr. & Bell St.	6	260
E16	E31	Cooley Ave. South	6	450
E42	E10	Euclid Ave. North	6	550
E38	E36	Glen Way	6	240
E45	E44	University Ave. North	6	320
E39	E38	Runnymede Street	6	300
E28	E27	Lincoln St. South	6	52
E37	E36	Oakdale Rd.	6	360
E25	E10	Euclid Ave. South	6	450
E29	E12	Oakwood Dr. & Bell St.	6	250
E34	E33	Dumbarton Ave. & Garden St.	6	276
E40	E38	Glen Way	6	450
E14	E13	Garden St. & Bell St.	8	160
E13	E12	Garden St. & Bell St.	8	450
E11	E10	Garden St. & Bell St.	8	198
E9	E8	Garden St. & Bell St.	8	343
E15	E14	Garden St. & Bell St.	8	250
E5	E4	Donohoe St. & Cooley Ave. Tnk.	10	354
E6	E1	Garden St. & Bell St.	12	500
E10	E9	Garden St. & Bell St.	12	190
E12	E11	Garden St. & Bell St.	12	496
E7	E6	Garden St. & Bell St.	12	310
E8	E7	Garden St. & Bell St.	12	358
E4	E3	Donohoe St. & Cooley Ave. Tnk.	12	355
E3	E2	Donohoe St. & Cooley Ave. Tnk.	12	285
E2	E1	Donohoe St. & Cooley Ave. Tnk.	12	279
BASIN E SUBTOTAL				**18,098**
F8	F7	Weeks Street	6	335
F11	F10	Weeks Street	6	463
F12	F11	Weeks Street	6	586
F10	F9	Weeks Street	6	450
F14	F8	Pulgas Ave.	6	465
F9	F23	Weeks Street	6	110
F23	F8	Weeks Street	6	327
F28	F27	Maple Lane	6	158
F27	F24	Maple Lane	6	118
F24	F23	Maple Lane	6	98
F26	F25	Maple Lane	6	118
F25	F24	Maple Lane	6	115
F16	F15	Clarke Ave.	6	173
F15	F11	Clarke Ave.	6	300
F13	F12	Weeks Street	6	548
F7	F2	Weeks Street	6	500
BASIN F SUBTOTAL				**4,864**
G13	G3	Pulgas Ave.	6	440
G6	G5	Runnymede Street	6	140
G11	G10	Buchanan Ct.	6	270
G5	G4	Runnymede Street	6	240
G9	G6	Buchanan Ct.	6	290
G4	G3	Runnymede Street	6	210
G8	G7	Runnymede Street	6	322

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
G3	G2	Runnymede Street	6	508
G10	G9	Buchanan Ct.	6	270
G7	G6	Runnymede Street	6	310
G12	G4	Ruth Ct.	6	265
G2	G1	Runnymede Street	6	450
BASIN G SUBTOTAL				**3,715**
H63	H62	Vines Ct.	6	170
H43	H42	Weeks St.	6	350
H27	H26	Bell Ct.	6	80
H28	H26	Bell St.	6	334
H36	H35	University Ave.	6	472
H26	H25	Bell St.	6	242
H20	H19	Clarke Ave.	6	330
H32	H17	Cooley Ave.	6	550
H21	H56	Donohoe St.	6	142
H56	H55	Donohoe St.	6	216
H55	H54	Donohoe St.	6	157
H54	H20	Donohoe St.	6	153
H48	H54	Salas Ct	6	217
H39	H38	Runnymede St.	6	100
H23	H22	Donohoe St.	6	565
H38	H35	Runnymede St.	6	400
H42	H37	Weeks St.	6	388
H35	H34	Runnymede St.	6	320
H40	H36	Sacramento St.	6	500
H34	H17	Runnymede St.	6	267
H37	H36	University Ave.	6	371
H31	H17	Clarke Ave. North	6	403
H24	H20	Clarke Ave.	6	255
H18	H5	Clarke Ave.	6	20
H45	H9	Camphor Way	6	220
H25	H11	Bell St.	6	550
H44	H37	University Ave.	6	272
H30	H46	Schembri St.	6	598
H46	H52	Schembri St.	6	361
H52	H29	Schembri St.	6	95
H22	H21	Donohoe St.	6	400
H19	H18	Clarke Ave.	6	320
H41	H40	Sacramento St.	6	145
H29	H12	Schembri St.	6	550
H61	H59	Avelar St.	6	195
H59	H58	Avelar St.	6	195
H58	H57	Avelar St.	6	185
H61	H60	Avelar St.	6	190
H69	H68	Clark Court	6	46
H68	H66	Clark Court	6	67
H66	H65	Clark Court	6	52
H65	H64	Clark Court	6	169
H70	H68	Clark Court	6	52
H67	H66	Clark Court	6	46
H72	H71	Tea Ct.	6	182
H32	H33	Cooley Ave.	8	464
H16	H15	Runnymede St.	8	450
H17	H57	Runnymede St.	8	439

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
H57	H16	Runnymede St.	8	40
H16	H60	Runnymede St.	8	351
H60	H15	Runnymede St.	8	99
H14	H13	Clarke Ave. North	8	440
H11	H64	Clarke Ave. North	8	398
H64	H71	Clarke Ave. North	8	161
H71	H3	Clarke Ave. North	8	35
H12	H11	Clarke Ave. North	8	330
H15	H62	Runnymede St.	8	202
H62	H14	Runnymede St.	8	233
H13	H12	Clarke Ave. North	8	120
H8	H7	Green St. Trunk Line	12	234
H7	H75	Green St. Trunk Line	12	90
H75	H6	Green St. Trunk Line	12	260
H1	H9	Green St. Trunk Line	12	273
H9	H74	Green St. Trunk Line	12	348
H74	H8	Green St. Trunk Line	12	114
H6	H5	Green St. Trunk Line	12	15
H5	H4	Green St. Trunk Line	15	300
H4	H2	Green St. Trunk Line	15	8
H3	H2	Green St. Trunk Line	15	20
H2	H11	Green St. Trunk Line	15	20
BASIN H SUBTOTAL				**17,336**
I18	I8	Brentwood Ct.	6	200
I17	I7	Terra-Villa Ave.	6	591
I22	I21	Myrtle Street	6	525
I19	I18	Brentwood Ct.	6	275
I21	I13	Myrtle Street	6	600
I20	I9	I 1	6	320
I15	I14	Pulgas Ave. North	8	493
I14	I13	Pugas Ave.	10	443
I13	I12	Pugas Ave.	10	308
I12	I6	Pugas Ave.	10	350
I15	I14	Pugas Ave.	12	428
I9	I8	Beech Street	15	126
I6	I5	Beech Street	15	415
I7	I6	Beech Street	15	262
I3	I19	Beech Street	15	120
I8	I7	Beech Street	15	223
I5	I4	Beech Street	15	450
I4	I3	Beech Street	15	330
I11	I10	Beech Street	15	439
I10	I9	Beech Street	15	250
BASIN I SUBTOTAL				**7,148**
J12	J11	Cypress Street	6	300
J10	J9	Garden Street	6	300
J9	J8	Garden Street	6	400
J8	J6	Garden Street	6	440
J7	J6	Pulgas Ave.	6	439
J11	J2	Cypress Street	6	300
J6	J5	Garden Street	6	560
J5	T21	Garden Street	8	600
J13	J12	Cypress Street	8	300

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
J14	J13	Cypress Street	8	185
J11	T20	Cypress Street	8	209
BASIN J SUBTOTAL				**4,033**
K10	K9	Sage St. & Azalea St.	6	200
K37	K32	Lotus Way	6	250
K18	K17	Sage & Larkspur	6	270
K33	K32	Camellia Dr. 364 - 36	6	130
K17	K16	Sage & Larkspur	6	270
K34	K33	Camellia Dr. 364 - 36	6	280
K13	K12	Sage & Wisteria	6	360
K35	K34	Camellia Dr. 364 - 36	6	280
K14	K13	Sage & Wisteria	6	125
K36	K35	Camellia Dr. 364 - 36	6	280
K20	K19	Sage & Larkspur	6	136
K26	K6	Azalia Dr. 27 - 446	6	300
K21	K3	Daisy Lane	6	240
K19	K18	Sage & Larkspur	6	266
K22	K21	Daisy Lane	6	257
K15	K9	Sage & Azalia Dr.	6	75
K23	K22	Daisy Lane	6	98
K24	K21	Hibiscus St.	6	145
K12	K11	Sage & Wisteria	6	360
K27	K26	Azalia Dr. 27 - 446	6	200
K11	K5	Sage & Wisteria	6	360
K16	K4	Sage & Larkspur	6	268
K32	K30	Lotus Way	8	230
K25	K5	Wisteria Dr. 439 - 25	8	370
K7	K6	Sage St. & Azalea St.	8	356
K9	K8	Sage St. & Azalea St.	8	356
K8	K7	Sage & Azalia Dr.	8	356
K31	K30	365 - 31	8	107
K28	K4	Larkspur Dr. 432 - 28	10	244
K30	K29	365 - 31	10	130
K29	K2	365 - 31	10	94
K3	K2	O'Connor St.	12	191
K1	K6	O'Connor St.	12	254
K6	K5	O'Connor St.	12	250
K4	K3	O'Connor St.	12	238
K5	K4	O'Connor St.	12	250
K1	K39	O'Connor St.	14	20
K2	K1	O'Connor St.	14	450
BASIN K SUBTOTAL				**9,046**
L13	L9	Verbena	6	311
L60	L59	Abelia Way	6	110
L9	L4	Verbena	6	162
L62	L34	Daphine Ct.	6	147
L8	L7	Gardenia 413 - 8	6	120
L46	L45	374 - 46	6	134
L7	L6	Gardenia 413 - 8	6	260
L18	L17	Verbena	6	332
L53	L52	Cameliia Dr. 408 - 55	6	222
L17	L16	Verbena	6	236
L41	L40	Jasmine Way 379 - 41	6	68

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
L16	L15	Verbena	6	311
L39	L40	Daphine & Jasmine Way	6	352
L15	L14	Verbena	6	311
L37	L36	Daphine Way 382 - 37	6	325
L14	L13	Verbena	6	300
L27	L26	Aster Way	6	260
L28	L27	Wisteria Dr.	6	365
L31	L30	Aster Way	6	176
L29	L28	Wisteria Dr.	6	365
L33	L32	Aster Way	6	87
L51	L50	Camellia Dr. 399 - 51	6	75
L22	L3	Wisteria Dr. 369	6	364
L52	L50	Camellia Dr. 408 - 55	6	227
L11	L10	Gailladia Way & Azalea	6	370
L6	L5	Gardenia 413 - 8	6	215
L20	L16	Camellia 419 - 20	6	100
L61	L5	Gardenia Ct. 410 - 61	6	152
L35	L34	Daphine Way 382 - 37	6	252
L5	L47	Gardenia Ct. 410 - 61	6	277
L38	L39	Daphine & Jasmine Way	6	215
L34	L26	Daphine Ct.	6	290
L30	L27	Aster Way	6	111
L59	L58	Abelia Way	6	250
L58	L57	Abelia Way	6	300
L10	L9	Gailladia Way & Azalea	6	274
L57	L53	Abelia Way	6	200
L36	L36	Daphine Way 382 - 37	6	288
L56	L54	Camellia Ct.	6	321
L32	L31	Aster Way	6	300
L55	L54	Camellia Dr. 408 - 55	6	148
L19	L18	Verbena	6	332
L12	L11	Gailladia Way & Azalea	6	125
L37	L38	Daphine & Jasmine Way	6	212
L54	L53	Camellia Dr. 408 - 55	6	373
L43	L44	Jasmine Way 379 - 41	8	330
L24	L23	374 - 46	8	380
L23	L3	374 - 46	8	358
L44	L45	Jasmine Way 379 - 41	8	263
L42	L43	Jasmine Way 379 - 41	8	330
L25	L24	374 - 46	8	345
L50	L49	Camellia Dr. 399 - 51	8	228
L47	L4	Camellia Dr. 399 - 51	8	88
L49	L48	Camellia Dr. 399 - 51	8	228
L26	L25	Daphine Ct.	8	215
L45	L25	374 - 46	8	202
L48	L47	Camellia Dr. 399 - 51	8	228
L40	L42	Jasmine Way 379 - 41	8	330
L21	L1	Larkspur Dr. 367	10	216
L4	L3	Gardenia Way	10	250
L1	L31	Gardenia Way	10	200
L2	L1	Gardenia Way	10	175
L3	L2	Gardenia Way	10	90
BASIN L SUBTOTAL				**15,181**
M13	M12	O'Connor Street	6	565

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
M10	M9	East Bayshore Rd. & Clarke Ave.	6	355
M12	M5	O'Connor Street	6	600
M9	M8A	East Bayshore Rd. & Clarke Ave.	6	352
M11	M10	East Bayshore Rd. & Clarke Ave.	6	355
M16	M11	East Bayshore Rd. & Clarke Ave.	6	360
M31	M3	O'Connor Street	8	357
M2	M43	O'Connor Street	8	105
M23	M24	Tinsley Street	8	195
M24	M25	Tinsley Street	8	260
M25	M26	Tate Street	8	270
M26	M27	Tate Street	8	135
M27	M29	Tate Street	8	35
M29	M31	Tate Street	8	322
M32	M33	Oakes Street	8	236
M33	M34	Oakes Street	8	220
M35	M34	Oakes Street	8	122
M34	N22	Oakes Street	8	280
M36	M37	Baines Street	8	270
M37	N24	Baines Street	8	250
M28	N11	Wilkes Street	8	240
M30	N29	Gates Street	8	265
M38	M39	Donohoe Street	8	160
M39	M43	Donohoe Street	8	240
M43	M42	Donohoe Street	8	105
M42	M41	Donohoe Street	8	40
M41	M13	O'Connor Street	8	105
M2	I15	O'Connor Street	8	130
M4	M31	O'Connor Street	8	143
M5	M4	O'Connor Street	8	422
M3	M2	O'Connor Street	8	350
M6	M5A	East Bayshore Rd. & Clarke Ave.	10	335
M5A	M5A	East Bayshore Rd. & Clarke Ave.	10	330
M14	M5	Clarke Ave. North	10	329
M8	M7	East Bayshore Rd. & Clarke Ave.	10	320
M8A	M8	East Bayshore Rd. & Clarke Ave.	10	20
M7	M6	East Bayshore Rd. & Clarke Ave.	10	335
BASIN M SUBTOTAL				**9,513**
N24	N25	Baines Street	8	130
N25	N26	Baines Street	8	255
N26	N27	Baines Street	8	255
N27	N28	Baines Street	8	185
N28	N4	Oakes Street	8	160
N22	N23	Oakes Street	8	210
N23	N28	Oakes Street	8	195
N28	N4	Oakes Street	8	150
N22	N15	McNair Street	8	210
N15	N18	McNair Street	8	200
N18	N19	Mouton Circle	8	255
N19	N20	Mouton Circle	8	225
N20	N21	Mouton Circle	8	72
N15	N16	Mouton Circle	8	255
N16	N17	Mouton Circle	8	225
N17	N20	Mouton Circle	8	200
N30	N11	McNair Street	8	150

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
N11	N12	Wilkes Street	8	220
N12	N13	Wilkes Street	8	165
N13	N14	Wilkes Street	8	167
N29	N10	Gates Street	8	320
N10	N13	Gates Street	8	176
N7	N6	Pulgas Ave.	10	330
N5	N4	Pulgas Ave.	10	335
N6	N5	Pulgas Ave.	10	331
N3	N21	Pulgas Ave.	10	90
N21	N14	Pulgas Ave.	10	200
N14	N2	Pulgas Ave.	10	90
N2	N1	Pulgas Ave.	10	300
N4	N3	Pulgas Ave.	10	335
N8	N7	Pulgas Ave.	10	385
BASIN N SUBTOTAL				**6,776**
O58	O57	Cooley Ave.	6	300
O27	O26	Clarke Ave.	6	70
O28	O26	O 1	6	445
O19	O17	O 5	6	100
O29	O28	O 1	6	170
O22	O21	O 5	6	348
O30	O29	O 1	6	285
O34	O10	Newell Rd.	6	253
O51	O59	Cooley Ave.	6	234
O59	O13	Cooley Ave.	6	234
O30	O35	Newell Rd.	6	185
O57	O13	Cooley Ave.	6	470
O25	O7	Clarke Ave.	6	220
O52	O51	Woodland Ave. & Scofield St.	6	213
O16	O15	West Bayshore Rd. West	6	235
O8	O60	off Clarke Avenue	6	105
O44	O43	off Clarke Avenue	6	68
O43	O42	off Clarke Avenue	6	180
O42	O39	off Clarke Avenue	6	50
O39	O37	off Clarke Avenue	6	40
O37	O25	off Clarke Avenue	6	80
O41	O40	off Clarke Avenue	6	45
O40	O39	off Clarke Avenue	6	40
O50	O49	off Clarke Avenue	6	170
O49	O47	off Clarke Avenue	6	70
O47	O45	off Clarke Avenue	6	70
O45	O8	off Clarke Avenue	6	65
O46	O45	off Clarke Avenue	6	210
O48	O47	off Clarke Avenue	6	120
O54	O52	Woodland Ave. & Scofield St.	6	378
O23	O22	O 5	6	440
O55	O54	Woodland Ave. & Scofield St.	6	400
O35	O30	Newell Rd.	6	155
O56	O55	Woodland Ave. & Scofield St.	6	377
O21	O19	O 5	6	384
O26	O25	Clarke Ave.	6	205
O35	O34	Newell Rd.	6	340
O53	O52	Circle Drive	6	223
O13	O12	West Bayshore Rd. West	8	415

Table A-1
East Palo Alto Sanitary District
District Pipeline Inventory

MH Up	MH Down	Pipeline Location	Pipeline Diameter	Length (feet)
O10	O9	West Bayshore Rd. West	8	180
O11	O10	West Bayshore Rd. West	8	265
O4	O3	West Bayshore Rd. West	8	276
O12	O11	West Bayshore Rd. West	8	394
O6	O5	West Bayshore Rd. West	8	398
O14	O13	West Bayshore Rd. West	8	132
O60	O7	West Bayshore Rd. West	8	180
O15	O14	West Bayshore Rd. West	8	307
O3	O2	West Bayshore Rd. West	8	220
O17	O3	West Bayshore Rd. West	8	161
O3	N8		8	205
O7	O6	West Bayshore Rd. West	8	428
O5	O4	West Bayshore Rd. West	8	399
O9	O8	West Bayshore Rd. West	8	120
O18	O17	West Bayshore Rd. West	8	420
O60	O61	off Clarke Avenue	14	210
BASIN O SUBTOTAL				**12,687**
T21	T20	Main Trunk - 30	18	339
T29	T28	Main Trunk - 30	18	390
T28	T27	Main Trunk - 30	18	140
T20	T19	Main Trunk - 30	18	332
T26	T25	Main Trunk - 30	18	300
T27	T26	Main Trunk - 30	18	355
T24	T23	Main Trunk - 30	18	300
T22	T21	Main Trunk - 30	18	199
T23	T22	Main Trunk - 30	18	447
T25	T24	Main Trunk - 30	18	300
T19	T18	Main Trunk - 30	21	470
T18	T17	Main Trunk - 30	21	520
T17	T16	Main Trunk - 30	21	480
T16	T15	Main Trunk - 30	21	20
T14	T13	Main Trunk - 30	24	500
T07	T99	Main Trunk - 30	24	500
T99	T06	Main Trunk - 30	24	20
T13	T12	Main Trunk - 30	24	505
T06	T05	Main Trunk - 30	24	360
T11	T10	Main Trunk - 30	24	300
T05	T04	Main Trunk - 30	24	350
T09	T08	Main Trunk - 30	24	500
T04	T03	Main Trunk - 30	24	482
T15	T14	Main Trunk - 30	24	288
T03	T02	Main Trunk - 30	24	501
T10	T09	Main Trunk - 30	24	448
T12	T11	Main Trunk - 30	24	510
T08	T07	Main Trunk - 30	24	500
T02	T01	Main Trunk - 30	24	505
T01	T00	Main Trunk - 30	24	440
BASIN T SUBTOTAL				**11,301**
TOTAL				**174,449**
				(33.04 miles)

Table A-2
East Palo Alto Sanitary District
RWQCP Fixed Asset Schedule & Cost
Assets Included for Fee Recovery

ENR-CCI (20-Cities), June 2018	11068.57

Asset ID	Asset Description	Acquisition Year	Acquisition ENR-CCI	Acquisition Price	ENR Adjusted Acquisition Cost
Construction in Progress					
50060300005	WQ-04011 Facility Cond-Constr	2003	6694	$1,823,819	$3,015,696
50060300007	WQ-80021 Plant Equip Repl	2003	6694	6,419,827	10,615,224
50060300008	WQ-80022 System Flow Meter	2003	6694	660,263	1,091,749
50060300015	WQ-10001 Plant Master Plan	2010	8802	909,598	1,143,825
Subtotal Construction in Progress				9,813,507	15,866,493
Hydrants					
50066500000	Blow-Off Assembly	2009	8570	69,031	89,156
Subtotal Hydrants				69,031	89,156
Equipment, Treatment, and Disposal					
50065000000	Treatment & Disposal Equipment	1991	4835	13,800	31,591
50065000001	Treatment & Disposal Equipment	1991	4835	1,090	2,496
50065000002	Treatment & Disposal Equipment	1991	4835	28,059	64,232
50065000003	Main Pumping	1995	5471	379,862	768,489
50065000004	Main Pumping	1994	5408	21,507	44,022
50065000005	Main Pumping	1993	5210	5,803	12,327
50065000006	Main Pumping	1993	5210	27,239	57,864
50065000007	Main Pumping	1993	5210	113,736	241,611
50065000008	Treatment & Disposal Equipment	1993	5210	142,381	302,461
50065000009	Treatment & Disposal Equipment	1991	4835	2,296	5,256
50065000010	Treatment & Disposal Equipment	1991	4835	34,366	78,672
50065000011	Treatment & Disposal Equipment	1991	4835	7,667	17,551
50065000012	Treatment & Disposal Equipment	1991	4835	21,794	49,890
50065000013	Treatment & Disposal Equipment	1991	4835	2,452	5,613
50065000014	Treatment & Disposal Equipment	1991	4835	23,641	54,120
50065000015	Treatment & Disposal Equipment	1991	4835	3,904	8,938
50065000016	Treatment & Disposal Equipment	1995	5471	280,311	567,090
50065000017	Main Pumping	1993	5210	145,551	309,196
50065000018	Laboratory	1994	5408	9,204	18,839
50065000019	Laboratory	1994	5408	16,863	34,515
50065000020	Laboratory	1993	5210	246,387	523,403
50065000023	Laboratory	1992	4985	6,733	14,950
50065000024	Laboratory	1992	4985	9,810	21,783
50065000026	Laboratory	1995	5471	34,177	69,143
50065000027	Main Pumping	1992	4985	36,499	81,043
50065000028	Main Pumping	1992	4985	127,216	282,477
50065000029	Main Pumping	1991	4835	370,388	847,901
50065000030	Main Pumping	1991	4835	629	1,440
50065000031	Main Pumping	1991	4835	2,380	5,448
50065000032	Main Pumping	1991	4835	1,415	3,240
50065000033	Laboratory	2000	6221	263,797	469,342
50065000034	Laboratory	1997	5825	194,977	370,487
50065000035	Treatment & Disposal Equipment	1995	5471	140,416	284,072
50065000036	Treatment & Disposal Equipment	1994	5408	129,825	265,735

Table A-2
East Palo Alto Sanitary District
RWQCP Fixed Asset Schedule & Cost
Assets Included for Fee Recovery

ENR-CCI (20-Cities), June 2018	11068.57

Asset ID	Asset Description	Acquisition Year	Acquisition ENR-CCI	Acquisition Price	ENR Adjusted Acquisition Cost
50065000037	Treatment & Disposal Equipment	1994	5408	18,440	37,744
50065000038	Treatment & Disposal Equipment	1993	5210	17,018	36,152
50065000042	Treatment & Disposal Equipment	1993	5210	190,806	405,332
50065000043	Treatment & Disposal Equipment	1995	5471	37,253	75,366
50065000044	Miscellaneous	2003	6694	433,422	716,666
50065000045	Treatment & Disposal Equipment	2002	6538	75,800	128,326
50065000046	Treatment & Disposal Equipment	2001	6343	53,537	93,422
50065000047	Treatment & Disposal Equipment	2000	6221	172,245	306,455
50065000048	Treatment & Disposal Equipment	1999	6060	10,635	19,426
50065000049	Treatment & Disposal Equipment	1997	5825	109,434	207,942
50065000050	Treatment & Disposal Equipment	1996	5622	21,175	41,688
50065000051	Treatment & Disposal Equipment	1996	5622	239,565	471,641
50065000052	Treatment & Disposal Equipment	1993	5210	14,281	30,337
50065000053	Treatment & Disposal Equipment	1991	4835	4,088	9,358
50065000054	Treatment & Disposal Equipment	1991	4835	66,557	152,364
50065000055	Treatment & Disposal Equipment	1991	4835	23,476	53,741
50065000056	Treatment & Disposal Equipment	1991	4835	81,830	187,326
50065000057	Treatment & Disposal Equipment	1991	4835	62,424	142,903
50065000058	Treatment & Disposal Equipment	1991	4835	47,227	108,113
50065000059	Treatment & Disposal Equipment	1991	4835	13,215	30,251
50065000060	Treatment & Disposal Equipment	1991	4835	23,698	54,251
50065000061	Treatment & Disposal Equipment	1991	4835	76,164	174,355
50065000062	Treatment & Disposal Equipment	1993	5210	21,973	46,677
50065000065	Treatment & Disposal Equipment	1992	4985	9,168	20,357
50065000066	Treatment & Disposal Equipment	1992	4985	27,750	61,619
50065000067	Treatment & Disposal Equipment	1992	4985	9,494	21,082
50065000068	Treatment & Disposal Equipment	1991	4835	6,176	14,138
50065000069	Treatment & Disposal Equipment	1991	4835	91,856	210,279
50065000070	Secondary Treatment-Phase I	2001	6343	1,467,156	2,560,195
50065000071	Secondary Treatment-Phase I	1998	5920	498,931	932,781
50065000072	Secondary Treatment-Phase I	1996	5622	439,773	865,798
50065000073	Secondary Treatment-Phase I	1995	5471	330,820	669,273
50065000074	Secondary Treatment-Phase I	1991	4835	860,236	1,969,270
50065000075	Secondary Treatment-Phase I	1991	4835	18,586	42,547
50065000076	Secondary Treatment-Phase I	1991	4835	9,641	22,071
50065000077	Secondary Treatment-Phase I	1991	4835	30,262	69,276
50065000078	Secondary Treatment-Phase Ii	1991	4835	186,689	427,371
50065000079	Secondary Treatment-Phase Ii	1999	6060	1,012,703	1,849,851
50065000080	Secondary Treatment-Phase Ii	1997	5825	193,562	367,798
50065000081	Secondary Treatment-Phase Ii	1997	5825	402,520	764,851
50065000082	Secondary Treatment-Phase Ii	1997	5825	294,938	560,428
50065000083	Secondary Treatment-Phase Ii	1991	4835	248,629	569,166
50065000084	Secondary Treatment-Phase Ii	1991	4835	21,287	48,730
50065000085	Secondary Treatment-Phase Ii	1991	4835	4,169,190	9,544,193
50065000086	Secondary Treatment-Phase Ii	1991	4835	2,682,788	6,141,492
50065000087	Secondary Treatment-Phase I	1991	4835	5,430	12,429

Table A-2
East Palo Alto Sanitary District
RWQCP Fixed Asset Schedule & Cost
Assets Included for Fee Recovery

ENR-CCI (20-Cities), June 2018	11068.57

Asset ID	Asset Description	Acquisition Year	Acquisition ENR-CCI	Acquisition Price	ENR Adjusted Acquisition Cost
50065000090	Standby Power Circuits - Wqcp	1988	4519	155,309	380,403
50065000091	Standby Power Circuits	1988	4519	88,547	216,881
50065000092	Buildings & Structures	1989	4615	30,134	72,272
50065000093	Buildings & Structures	1989	4615	3,295	7,904
50065000094	Buildings & Structures	1989	4615	25,537	61,248
50065000095	Buildings & Structures	1978	2776	27,472,342	109,538,739
50065000096	Primary Treatment	1991	4835	522,714	1,196,608
50065000097	Secondary Treatment-Phase I	1991	4835	3,656	8,370
50065000098	Secondary Treatment-Phase I	1991	4835	3,874	8,868
50065000099	Secondary Treatment-Phase I	1991	4835	10,403	23,815
50065000100	Primary Treatment	2000	6221	843,420	1,500,595
50065000101	Primary Treatment	1993	5210	19,758	41,971
50065000102	Primary Treatment	1992	4985	62,292	138,317
50065000103	Primary Treatment	1992	4985	51,702	114,802
50065000104	Primary Treatment	1992	4985	26,819	59,550
50065000105	Laboratory	1991	4835	9,346	21,395
50065000106	Laboratory	1991	4835	93,665	214,420
50065000107	Solids Disposal	2003	6694	1,410,338	2,332,003
50065000108	Solids Disposal	2001	6343	7,342,596	12,812,871
50065000109	Solids Disposal	1991	4835	41,058	93,990
50065000110	Solids Disposal	1991	4835	15,048	34,447
50065000111	Solids Disposal	1991	4835	27,543	63,051
50065000112	Solids Disposal	1991	4835	15,400	35,254
50065000113	Laboratory	1991	4835	450,545	1,031,398
50065000116	Laboratory	1992	4985	7,413	16,459
50065000117	Laboratory	1992	4985	14,786	32,831
50065000118	Laboratory	1992	4985	2,884	6,404
50065000119	Laboratory	1991	4835	15,422	35,304
50065000120	Laboratory	1991	4835	73,226	167,631
50065000121	Laboratory	1991	4835	203,501	465,858
50065000122	Disinfection	1991	4835	216,273	495,096
50065000123	Filtration	1991	4835	750	1,717
50065000124	Filtration	1991	4835	20,924	47,899
50065000125	Filtration	1991	4835	19,550	44,755
50065000126	Filtration	1991	4835	8,256	18,900
50065000127	Filtration	1991	4835	49,537	113,402
50065000128	Secondary Treatment-Phase Ii	2003	6694	866,844	1,433,332
50065000129	Secondary Treatment-Phase Ii	2001	6343	2,713	4,734
50065000130	Secondary Treatment-Phase Ii	2000	6221	1,218,790	2,168,446
50065000132	Disinfection	1991	4835	480,228	1,099,347
50065000133	Disinfection	1991	4835	20,694	47,372
50065000134	Disinfection	1991	4835	2,941	6,732
50065000135	Disinfection	1991	4835	2,752	6,299
50065000136	Disinfection	1991	4835	44,804	102,567
50065000137	Disinfection	1991	4835	6,591	15,087
50065000138	Disinfection	1991	4835	6,528	14,943

Table A-2
East Palo Alto Sanitary District
RWQCP Fixed Asset Schedule & Cost
Assets Included for Fee Recovery

ENR-CCI (20-Cities), June 2018	11068.57

Asset ID	Asset Description	Acquisition Year	Acquisition ENR-CCI	Acquisition Price	ENR Adjusted Acquisition Cost
50065000139	Filtration	2003	6694	433,422	716,666
50065000141	Main Pumping Plant Soil Bed Odor Filt	2004	7115	327,367	509,268
50065000142	Filter Duel media replacement	2004	7115	383,436	596,492
50065000143	Caustic Tank	2004	7115	59,520	92,592
50065000144	Effluent Line Modifications	2005	7446	106,220	157,896
50065000145	Portable Generator # 4614	2005	7446	108,823	161,765
50065000146	Miscellaneous- Inspect and Repair	2005	7446	158,846	236,124
50065000147	Rehab of Incinerator #1 & #2	2005	7446	123,085	182,966
50065000148	Installation of Landfill Gas Comprsr & F	2005	7446	506,257	752,549
50065000149	Hawk 5 million BTU afterburners	2006	7751	290,923	415,428
50065000150	B-125 Carrymaster Electric Cart	2006	7751	11,042	15,767
50065000151	Solids Disposal-Sewage Sludge Incine	2008	8310	122,090	162,619
50065000153	Bldg&Structures-Ultra Violet Disinfect F	2012	9308	2,355,435	2,800,956
50065000154	Standby Power Circuits	2012	9308	306,320	364,259
50065000155	Filtration	2012	9308	5,306,633	6,310,360
50065000156	Main Pumping	2012	9308	1,272,965	1,513,741
Subtotal Equipment, Treatment, and Disposal				71,561,147	188,533,800
Recycled Water Pipelines					
50065500000	Recycled Pipelines - 20"	2009	8570	675,242	872,108
50065500001	Recycled Pipelines - 24"	2009	8570	1,468,898	1,897,153
50065500002	Recycled Pipelines - 30"	2009	8570	1,894,629	2,447,006
Subtotal Recycled Water Pipelines				4,038,770	5,216,267
Valves					
50066000000	Air Release Valves - 3"	2009	8570	115,526	149,208
50066000001	Air Release Valves - 6"	2009	8570	18,898	24,407
50066000002	Isolation Valves - 24"	2009	8570	42,283	54,611
50066000003	Isolation Valves - 30"	2009	8570	91,351	117,985
Subtotal Valves				268,059	346,211
TOTAL RWQCP FIXED ASSETS INCLUDED FOR FEE RECOVERY				**85,750,513**	**210,051,927**

APPENDIX B

California Government Code:
Key Sections Pertaining to Water Capacity Charges

California Government Code
Key Sections Pertaining to Water & Wastewater Capacity Charges
Sections 66013, 66016, & 66022

66013

(a) Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount of the fee or charge imposed in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.

(b) As used in this section:

(1) “Sewer connection” means the connection of a structure or project to a public sewer system.

(2) “Water connection” means the connection of a structure or project to a public water system, as defined in subdivision (f) of Section 116275 of the Health and Safety Code.

(3) “Capacity charge” means a charge for public facilities in existence at the time a charge is imposed or charges for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged, including supply or capacity contracts for rights or entitlements, real property interests, and entitlements and other rights of the local agency involving capital expense relating to its use of existing or new public facilities. A “capacity charge” does not include a commodity charge.

(4) “Local agency” means a local agency as defined in Section 66000.

(5) “Fee” means a fee for the physical facilities necessary to make a water connection or sewer connection, including, but not limited to, meters, meter boxes, and pipelines from the structure or project to a water distribution line or sewer main, and that does not exceed the estimated reasonable cost of labor and materials for installation of those facilities.

(6) “Public facilities” means public facilities as defined in Section 66000.

(c) A local agency receiving payment of a charge as specified in paragraph (3) of subdivision (b) shall deposit it in a separate capital facilities fund with other charges received, and account for the charges in a manner to avoid any commingling with other moneys of the local agency, except for investments, and shall expend those charges solely for the purposes for which the charges were collected. Any interest income earned from the investment of moneys in the capital facilities fund shall be deposited in that fund.

(d) For a fund established pursuant to subdivision (c), a local agency shall make available to the public, within 180 days after the last day of each fiscal year, the following information for that fiscal year:

(1) A description of the charges deposited in the fund.

(2) The beginning and ending balance of the fund and the interest earned from investment of moneys in the fund.

(3) The amount of charges collected in that fiscal year.

(4) An identification of all of the following:

(A) Each public improvement on which charges were expended and the amount of the expenditure for each improvement, including the percentage of the total cost of the public improvement that was funded with those charges if more than one source of funding was used.

(B) Each public improvement on which charges were expended that was completed during that fiscal year.

(C) Each public improvement that is anticipated to be undertaken in the following fiscal year.

(5) A description of each interfund transfer or loan made from the capital facilities fund. The information provided, in the case of an interfund transfer, shall identify the public improvements on which the transferred moneys are, or will be, expended. The information, in the case of an interfund loan, shall include the date on which the loan will be repaid, and the rate of interest that the fund will receive on the loan.

(e) The information required pursuant to subdivision (d) may be included in the local agency's annual financial report.

(f) The provisions of subdivisions (c) and (d) shall not apply to any of the following:

(1) Moneys received to construct public facilities pursuant to a contract between a local agency and a person or entity, including, but not limited to, a reimbursement agreement pursuant to Section 66003.

(2) Charges that are used to pay existing debt service or which are subject to a contract with a trustee for bondholders that requires a different accounting of the charges, or charges that are used to reimburse the local agency or to reimburse a person or entity who advanced funds under a reimbursement agreement or contract for facilities in existence at the time the charges are collected.

(3) Charges collected on or before December 31, 1998.

(g) Any judicial action or proceeding to attack, review, set aside, void, or annul the ordinance, resolution, or motion imposing a fee or capacity charge subject to this section shall be brought pursuant to Section 66022.

(h) Fees and charges subject to this section are not subject to the provisions of Chapter 5 (commencing with Section 66000), but are subject to the provisions of Sections 66016, 66022, and 66023.

(i) The provisions of subdivisions (c) and (d) shall only apply to capacity charges levied pursuant to this section.

(Amended by Stats. 2007, Ch. 94, Sec. 1. Effective January 1, 2008.)

66016

(a) Prior to levying a new fee or service charge, or prior to approving an increase in an existing fee or service charge, a local agency shall hold at least one open and public meeting, at which oral or written presentations can be made, as part of a regularly scheduled meeting. Notice of the time and place of the meeting, including a general explanation of the matter to be considered, and a statement that the data required by this section is available, shall be mailed at least 14 days prior to the meeting to any interested party who files a written request with the local agency for mailed notice of the meeting on new or increased fees or service charges. Any written request for mailed notices shall be valid for one year from the date on which it is filed unless a renewal request is filed. Renewal requests for mailed notices shall be filed on or before April 1 of each year. The legislative body may establish a reasonable annual charge for sending notices based on the estimated cost of providing the service. At least 10 days prior to the meeting, the local agency shall make available to the public data indicating the amount of cost, or estimated cost, required to provide the service

for which the fee or service charge is levied and the revenue sources anticipated to provide the service, including General Fund revenues. Unless there has been voter approval, as prescribed by Section 66013 or 66014, no local agency shall levy a new fee or service charge or increase an existing fee or service charge to an amount which exceeds the estimated amount required to provide the service for which the fee or service charge is levied. If, however, the fees or service charges create revenues in excess of actual cost, those revenues shall be used to reduce the fee or service charge creating the excess.

(b) Any action by a local agency to levy a new fee or service charge or to approve an increase in an existing fee or service charge shall be taken only by ordinance or resolution. The legislative body of a local agency shall not delegate the authority to adopt a new fee or service charge, or to increase a fee or service charge.

(c) Any costs incurred by a local agency in conducting the meeting or meetings required pursuant to subdivision (a) may be recovered from fees charged for the services which were the subject of the meeting.

(d) This section shall apply only to fees and charges as described in Sections 51287, 56383, 65104, 65456, 65584.1, 65863.7, 65909.5, 66013, 66014, and 66451.2 of this code, Sections 17951, 19132.3, and 19852 of the Health and Safety Code, Section 41901 of the Public Resources Code, and Section 21671.5 of the Public Utilities Code.

(e) Any judicial action or proceeding to attack, review, set aside, void, or annul the ordinance, resolution, or motion levying a fee or service charge subject to this section shall be brought pursuant to Section 66022.

(Amended by Stats. 2006, Ch. 643, Sec. 19. Effective January 1, 2007.)

66022

(a) Any judicial action or proceeding to attack, review, set aside, void, or annul an ordinance, resolution, or motion adopting a new fee or service charge, or modifying or amending an existing fee or service charge, adopted by a local agency, as defined in Section 66000, shall be commenced within 120 days of the effective date of the ordinance, resolution, or motion.

If an ordinance, resolution, or motion provides for an automatic adjustment in a fee or service charge, and the automatic adjustment results in an increase in the amount of a fee or service charge, any action or proceeding to attack, review, set aside, void, or

annul the increase shall be commenced within 120 days of the effective date of the increase.

(b)Any action by a local agency or interested person under this section shall be brought pursuant to Chapter 9 (commencing with Section 860) of Title 10 of Part 2 of the Code of Civil Procedure.

(c) This section shall apply only to fees, capacity charges, and service charges described in and subject to Sections 66013, 66014, and 66016.

(Amended by Stats. 2006, Ch. 643, Sec. 20. Effective January 1, 2007.)

66023

(a) Any person may request an audit in order to determine whether any fee or charge levied by a local agency exceeds the amount reasonably necessary to cover the cost of any product, public facility, as defined in Section 66000, or service provided by the local agency. If a person makes that request, the legislative body of the local agency may retain an independent auditor to conduct an audit to determine whether the fee or charge is reasonable, but is not required to conduct the audit if an audit has been performed for the same fee within the previous 12 months.

(b) To the extent that the audit determines that the amount of any fee or charge does not meet the requirements of this section, the local agency shall adjust the fee accordingly. This subdivision does not apply to a fee authorized pursuant to Section 17620 of the Education Code, or Sections 65995.5 and 65995.7.

(c) The local agency shall retain an independent auditor to conduct an audit only if the person who requests the audit deposits with the local agency the amount of the local agency's reasonable estimate of the cost of the independent audit. At the conclusion of the audit, the local agency shall reimburse unused sums, if any, or the requesting person shall pay the local agency the excess of the actual cost of the audit over the sum which was deposited.

(d) Any audit conducted by an independent auditor to determine whether a fee or charge levied by a local agency exceeds the amount reasonably necessary to cover the cost of providing the product or service shall conform to generally accepted auditing standards.

(e) The procedures specified in this section shall be alternative and in addition to those specified in Section 54985.

(f) The Legislature finds and declares that oversight of local agency fees is a matter of statewide interest and concern. It is, therefore, the intent of the Legislature that this chapter shall supersede all conflicting local laws and shall apply in charter cities.

(g) This section shall not be construed as granting any additional authority to any local agency to levy any fee or charge which is not otherwise authorized by another provision of law, nor shall its provisions be construed as granting authority to any local agency to levy a new fee or charge when other provisions of law specifically prohibit the levy of a fee or charge.

(Amended by Stats. 2009, Ch. 507, Sec. 3. (AB 1084) Effective January 1, 2010.)

EAST PALO ALTO SANITARY DISTRICT

Capacity Charge Study

Final Report

September 7 , 2022

HILDEBRAND CONSULTING

Table of Contents

1. INTRODUCTION

The East Palo Alto Sanitary District (District) contracted with Hildebrand Consulting, LLC to conduct a Capital Charge Study (Study). The overall purpose of the Study is to review the District's existing Capacity Charges which apply to new sewer connections within the District's service area and update those charges as appropriate. Specifically, the update to the Capacity Charges are intended to incorporate the costs to expand the sewer system's capacity, as described in a 2021 amendment to the 2015 Sewer Master Plan.

Capacity Charges are the one-time charges paid by new development for capacity in the sewer system, including collection and treatment facilities. This report summarizes the analysis and proposed updates to the District's existing Capacity Charge, including the legal requirements and the Study's methodology for calculating the Capacity Charges.

In addition to updating the District's Capacity Charge, this Study recommend how to address circumstances when the cost of a pipeline expansion project to serve a proposed development far exceeds the Capacity Charge revenue that the new development would generate.

2. ACRONYMS

The acronyms used in this Study include:

ADU	accessory dwelling unit
BOD	biochemical oxygen demand
CCI	Engineering News Record's 20-cities Construction Cost Index
EDU	equivalent dwelling unit
ENR	Engineering News Record
EPASD	East Palo Alto Sanitary District
gpd	gallons per day
MGD	million gallons per day
PARWQCP	Palo Alto Regional Water Quality Control Plant
RCNLD	replacement cost new less depreciation
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
SS	total suspended solids

3. DISTRICT BACKGROUND

The EPASD is an independent, community-owned and operated public agency that provides wastewater collection and treatment service to East Palo Alto and adjacent areas of Menlo Park and San Mateo County. EPASD was established in 1939 and is governed by a 5-member board of directors elected at large from the community.

The District provides wastewater collection service to portions of the communities of Menlo Park and East Palo Alto, located in San Mateo County in the San Francisco Bay Area. The District's service area is primarily residential with several commercial and industrial parcels. The District's service area encompasses nearly 1,230 acres, or 1.92 square miles. The District's collection system is a gravity system with over 30 miles of sanitary sewer pipelines and is operated and maintained in accordance with the requirements of the State Water Resources Control Board (SWRCB), as administered through the Statewide Sanitary Sewer Overflow Waste Discharge Requirements and Regional Water Quality Control Board (RWQCB) Sewer System Management Plan guidelines.

The District's sewage is conveyed to the Palo Alto Regional Water Quality Control Plant (PARWQCP) for treatment and disposal. The PARWQCP is a regional wastewater treatment plant owned and operated by the City of Palo Alto on behalf of a number of regional agencies. EPASD currently owns 7.34 percent of the capacity in the PARWQCP.

4. PROJECT BACKGROUND

The District's last Capacity Charge study was conducted in 2018 and was, in part, based on the District's 2015 Sewer Master Plan, which was based on the City of East Palo Alto's 1999 General Plan and Zoning Ordinance. Since that time, the District's Master Plan has been amended[1] in order to capture changes in land use identified by the City of East Palo Alto's 2035 General Plan. Significantly, the 2035 General Plan reflects to the fact that the City has recently lifted a long-standing moratorium on growth.

The District's Amended 2015 Sewer Master Plan identifies approximately $35 million of pipeline up-sizings needed to accommodate flows from potential new development based on the 2035 General Plan & rezoning. The growth described by the 2035 General Plan would also require the District to purchase additional capacity in the PARWQCP (capacity of 1 million gallons per day (MGD) at a cost of $5 million). Most, if not all, of these expansion costs are expected to be debt financed by the District.

[1] Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update, dated April 28, 2021

5. CAPACITY CHARGE AUTHORITY

California state law gives the District broad authority to charge for capital facilities. The limitations of that authority are encompassed by the requirement that charges on new development bear a reasonable relationship to the needs created by, and the benefits accruing to that development. California courts use that reasonableness standard to evaluate the constitutionality of exactions on new development, including Capacity Charges.

Government Code Section 66013 (see Appendix A) contains specific requirements related to the imposition of capacity charges. In general, Capacity Charges must not exceed the estimated reasonable cost of providing service.

6. INTRODUCTION TO CAPACITY CHARGE METHODOLOGIES

There are various methods that can be used to calculate Capacity Charges. Each method has varying advantages and disadvantages, as well as applicability in a given situation. Within all of the available methodologies there are two primary approaches. Other methodologies are usually some variation or combination of these two methods. The two primary methods are described below to illustrate the different perspectives that can be used to determine appropriate fees.

6.1. SYSTEM BUY-IN METHODOLOGY

Many utility facilities are oversized when initially constructed in anticipation of future development, particularly infrastructure such as pumping facilities and wastewater treatment facilities. The system Buy-In method is based on the past investments in the capital facilities made by current customers. The 'Buy-In' concept means that existing system users, through Capacity Charges and user rates, have financed a valuable public capital facility. The Capacity Charge assessed to new customers is designed to recognize those previous investments into the system and equitably charge developers for "joining" the system. The Buy-In fee is calculated by establishing the system's current fixed asset value (accounting for inflation and depreciation), adding applicable assets (such as cash reserves designated for capital spending), and deducting relevant liabilities (principal owed on long-term debt). This value is then divided by the system's capacity, which yields the unit costs that are the basis for the Capacity Charges. By calculating the Capacity Charges in this manner, new development buys into the existing capital facilities on par with existing development. The cost of future repair and replacement of the existing assets are then shared equally by all customers going forward (through user rates).

Capacity Charges based on the Buy-In method are a reimbursement for past capital costs. Therefore, the use (as defined in the Government Code) of the fee is to reimburse the District. Once reimbursed, the District is able to spend fee revenue as it desires (normally on capital projects).

The system Buy-In method is best applied in areas where foreseeable growth can be served by existing infrastructure.

6.2. INCREMENTAL METHODOLOGY

The Incremental cost methodology is also a common approach for Capacity Charges, particularly for utilities that are at, or near, capacity and are expecting more growth. The approach is based on the cost of new or planned capital facilities. The cost of expanding the existing facilities is allocated to the new development based on their need for capacity. The premise is that the existing system is being used at full capacity by existing customers and that any new development will necessitate expansion of the system. As such, new customers pay for the Incremental costs for expanding the system. The cost of adding new capacity is usually derived from the District's capital improvement plan or master plan and may include the cost of financing the project (interest expenses).

Capacity Charges based on the Incremental cost methodology are subject to statutory accounting requirements because fee revenue must be accounted for until the specific capital improvements are constructed. For reference, Appendix A includes statutory requirements for accounting for Capacity Charges.

7. EXISTING CHARGES

Based on the findings of the 2018 Capacity Charge Study, the District currently charges $6,060 per equivalent dwelling unit (EDU), which assumes a flow of 240 gallons per day (gpd), and wastewater strength of 200 mg/L of biochemical oxygen demand (BOD) and 200 mg/L of total suspended solids (SS). BOD and SS are two industry-standard measures of wastewater strength used in rate and fee setting. Charging new connections based on sewer strength ensures that new customers with wastewater that contains higher-strength concentrations of BOD and SS will pay for their proportionate share of facility costs related to wastewater treatment.

The existing Capacity Charges were calculated using the Buy-In approach since the 2018 Capacity Charge study relied on the original 2015 Master Plan, which was informed by the City of East Palo Alto's 1999 General Plan. The more recent Addendum to the 2015 Master Plan incorporates the significant capital expansion identified in the 2035 General Plan.

8. PROPOSED STUDY METHODOLOGY

This Study proposes to use the Incremental methodology since the remains a very limited amount of available capacity and it is reasonable for the District to reserve that remaining capacity as a safety factor against sanitation sewer overflow (SSO) events. This is combined with the fact that the 2035 General Plan and the 2015 Sewer Master Plan describe the need for significant and imminent capacity expansion. As previously described, the Incremental methodology consists of dividing the estimated cost of system expansion projects by the amount of new capacity that those projects will create. In this case, there are two components: the collection system expansion and the purchase of more capacity at the wastewater treatment plan (PARWQCP)

Capacity Charge Equation:

$$\frac{Cost\ of\ Collection\ System\ Expansion}{Increase\ in\ Collection\ System\ Capacity} + \frac{Cost\ of\ PARWQCP\ Capacity}{Amount\ of\ PARWQCP\ \ Capacity}$$

The remainder of this report describes the data and methodology used to calculate the proposed Capacity Charges.

9. SOURCE DATA

The following data was used for calculating the proposed Capacity Charges:

- Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update, dated April 28, 2021
- Wastewater Capacity Charge Update, Bartle Wells Associates, December 2018
- Staff communications (email)

10. CAPACITY CHARGE CALCULATION

The Capacity Charge calculation is divided into a collection system component and a treatment plant component.

10.1. COLLECTION SYSTEM COMPONENT

For purposes of this Study, the assumed cost of expanding the collection system is based on the cost estimates provided by the Amended 2015 Sewer Master Plan, which describes an expansion of 1.08 MGD in collection system capacity (see page 5). As shown in Table 1 below, in addition to the direct costs of expanding the collection system, this Study includes the estimated future cost of debt financing the expansion projects since the District does not intend to use ratepayer-funded reserves to finance the projects.

In light of the proposed District policy that is discussed in Section 11, it is necessary to further divide the collection system costs into trunk costs (the trunk line that feeds the PARWQCP and serve all customers) and local collection system costs (the collection pipes that serve more specific areas). This is important because (as discussed in Section 11), some projects will be required to directly finance the cost of expanding local collection pipelines, which will be done in lieu of paying "Local Collection" Capacity Charges. Those customers, however, will still be required to pay "Trunk" Capacity Charges as well as the Treatment Plant Capacity Charge.

It should be noted that this Study acknowledges that the expansion-related projects for the local collection system will simultaneously rehabilitate or improve existing pipelines (for example, a 4" line with 40 years of remaining expected useful life is replaced with a new 6" line that has an expected useful life of 80 years). Significantly, the District has some discretion in how to allocate costs between expansion versus rehabilitation. This is because the vast amount of the cost of replacing a

pipe has nothing to do with the pipe itself, but rather the cost of opening the street, excavating the trench, filling the trench, and patching the street. The only real cost difference between a pipe expansion project and a pipe replacement project is the marginal cost between a smaller diameter pipe and a larger diameter pipe, which is a small fraction of the total project cost. As such, the majority of the costs typically allocated to the project "driver" (in other words, is (1) a healthy pipe being replaced early because a larger pipe is needed for development or (2) is a failing pipe being upsized in anticipation of growth that may happen in the future). In this case, most of the pipelines that are proposed to be upsized have a considerable amount of expected useful life remaining (per District staff), as such the *project driver is expansion*, not rehabilitation. As such, it is reasonable that the District recover 70 percent of the project costs from developers, while recovering 30 percent from rate payers in recognition of the rehabilitation benefits.

The two tables below provide the calculation of the unit costs for the Trunk Capacity Charge and the Local Collection Capacity Charge, based on the estimated costs of the projects and the amount of new capacity that will be created.

Table 1 - Trunk Incremental Cost Per Unit of Capacity

Estimated cost of Trunk expansion [1]:	$13,000,000
Projected interest expense [2]:	$12,370,060
Proposed additional Trunk System capacity [3] :	1,080,000
Cost recovery percent for fee calculation [4]:	100%
Trunk Unit cost ($/gpd):	$23.49

[1] Source: Amended 2015 Sewer Master Plan and email from District staff (Akin Okupe, July 1, 2022)
[2] Assumes 5 percent interest and 30 year repayment period
[3] Source: Amended 2015 Sewer Master Plan
[4] The Trunk expansion consists of adding a second trunk, which is entirely to serve growth.

Table 2 - Local Collection Incremental Cost Per Unit of Capacity

Estimated cost of Local Collection System expansion [1]:	$22,156,000
Projected interest expense [2]:	$21,082,388
Proposed additional Local Collection System capacity [3] :	1,080,000
Cost recovery percent for fee calculation [4]:	70%
Local Collection Unit cost ($/gpd):	$28.02

[1] Source: Amended 2015 Sewer Master Plan (total cost less Trunk cost)
[2] Assumes 5 percent interest and 30 year repayment period
[3] Source: Amended 2015 Sewer Master Plan
[4] District policy based on estimated rehabilitation value of replacing existing pipeline

10.2. TREATMENT PLANT COMPONENT

The proposed purchase of new PARWQCP capacity is 1.0 MGD, which is expected to cost $5 million (see Table 3). As with the collection system expansion costs, this Study includes the cost associated with debt financing these costs.

The treatment plant costs are allocated to both wastewater flows as well as to wastewater strength, as measured by BOD and SS. Consistent with the 2018 Capacity Charge study, the treatment costs are allocated 34 percent to flow, 33 percent to BOD, and 33 percent to SS. Also consistent with the 2018 Capacity Charge study, it is assumed that the average strength of flow at the PACWQCP is 250 mg/L of BOD and 225 mg/L of SS. Table 3 summarizes the resultant unit costs for flow, BOD and SS.

Table 3 - Treatment Plant - Incremental Cost Per Unit of Capacity

	Cost of Capacity Rights in the PARWQCP:	$5,000,000		
	Interest Expense:	$4,758,000		
	Cost recovery percent for fee calculation [2]:	100%		
Cost Allocation	Flow	BOD	SS	Total
Cost Allocation (%):	34.0%	33.0%	33.0%	100%
Cost Allocation ($):	$3,317,720	$3,220,140	$3,220,140	$9,758,000
Wastewater Strength at PARWQCP [2]:		250 mg/L	225 mg/L	
EPASD Buildout Capacity at PARWQCP:	1,000,000 gpd	761,518 lbs/year	685,367 lbs/year	
Unit Cost:	$3.318 per gpd	$4.229 per lb	$4.698 per lb	

[1] Source: 2018 Capacity Charge Study and based on historical influent wastewater strength at the wastewater treatment plant.

[2] The purchase of additional capacity at the treatment plant is entirely to serve new growth.

10.3. CAPACITY CHARGES FOR RESIDENTIAL ACCOUNTS

The total Capacity Charge is calculated by adding the Trunk Capacity Charge to the Local Collection Capacity Charge to the Treatment Plant component, as shown in Table 4. The total Capacity Charge is assessed to each residential dwelling unit. The assumed flow and strength of the wastewater for residential accounts is based on the assumptions from the 2018 Capacity Charge study, which relied on the District's engineering design estimates and standards as published by the State Water Resources Control Board (SWRCB).

Table 4 - Proposed Capacity Charge per EDU

	Flow	BOD	SS
Equivalent Dwelling Unit (EDU) Loadings [1]	240 gpd	200 mg/l 0.4006 lbs/day	200 mg/l 0.4006 lbs/day
Cost Recovery Components			
Trunk Expansion:	$23.49	-	-
Local Collection System Expansion:	$28.02	-	-
PARWQCP Buy-In Cost:	$3.318	$4.229	$4.698
Subtotal:	**$54.83 per gpd**	**$4.229 per lb**	**$4.698 per lb**
Capacity Charge per EDU			
Trunk Cost Recovery:	$5,637.79	-	-
Local Collection Cost Recovery:	$6,725.97		
Treatment Plant Cost Recovery:	$796.25	$618.69	$687.43
Total Cost Recovery:	**$13,160.02**	**$618.69**	**$687.43**
Percent of Total:	89.4%	5.0%	5.6%
		Trunk Capacity Charge (per EDU):	$5,637
		Local Collection Capacity Charge (per EDU):	$6,725
		TreatmentPlant Capacity Charge (per EDU):	$2,102
		Total Capacity Charge (per EDU):	**$14,464**

[1] Based on 2018 Capacity Charge study, which used current engineering design estimates and SWRCB standards

Per California state law, the District is not authorized to assess Capacity Charges on all accessory dwelling units (ADU). This area of the law currently in flux; therefore, the District should consult with legal counsel regarding the most current laws. For those ADUs that are eligible to be charged a Capacity Charge, the fee will be $964.00 per plumbing fixture (based on the District's estimate that an average single-family home has 15 plumbing fixtures).

10.4. CAPACITY CHARGES FOR NON-RESIDENTIAL ACCOUNTS

Capacity Charges are assessed to non-residential accounts based on the number of EDUs assigned to the connection, which are derived based on the estimated wastewater flow and strength loadings of each connection according to the formula shown in Figure 1. The fractions shown in Figure 1 (which effectively "weight" the relative importance of flow vs. BOD vs. SS) are taken from the percentages shown in Table 4.

Figure 1 – Calculation of Non-Residential EDUs

Number of EDUs = 0.894 x Flow / 240 gpd + 0.05 x BOD / 200 mg/l + 0.056 x SS / 200 mg/l

11. RECOMMENDED POLICY FOR DEVELOPER FINANCING

When building pipeline expansion projects to serve new development ("Pipeline Project"), it is the District's assumption that either (a) the proposed development is large enough to generate enough Capacity Charge revenue to justify the Pipeline Project or (b) the Pipeline Project serves an area where a material amount of additional subsequent development (and hence Capacity Charge revenue) is imminent. In some cases, however, relatively small developments may require Pipeline Projects whose costs are disproportionate to the amount Capacity Charge revenue that are expected to be generated. This would occur if the original development were relatively small and future additional development in the area is uncertain. For purposes of this Report, these types of proposed development projects are referred to as "Under Scaled" projects. While Capacity Charges are typically adequate to pay for the cost of expansion, Under Scaled projects are not large enough to justify the costs of the Pipeline Project.

Under Scaled projects put the District (i.e., existing ratepayers) in the position of taking a significant financial risk for the benefit of a limited number of new customers. While the District should work towards meeting the future wastewater service needs of the growing community (in part, as described by the City of Palo Alto's General Plan), the District may prioritize its right to protect its existing rate payers from subsidizing the cost of development. In order to both (1) financially protect existing rate payers and (2) give developers a means by which to proceed with Under Scaled projects, it is proposed that the District adopt a policy whereby the developers of Under Scaled projects are required to finance a significant portion of the Pipeline Project (a cost that would be, by definition, greater than the Local Collection Capacity Charges normally owed by the developer). Then, if and when future development does occur in the area served by the Pipeline Project, the original developer would recover the equivalent of the then-current Local Collection Capacity Charges from the subsequent developers.

The following terms are proposed to serve as a framework for detailing a formal District policy:

- The District is authorized to designate any development as being Under Scaled if the projected Local Collection Capacity Charge revenue is less than 50 percent of the cost of the required pipeline expansion project (including soft costs).

- The designation of a development as Under Scaled District would be influenced by the District's understanding of the potential for future development in the area. The District would have the discretion to determine whether that growth potential was sufficient to adequately fund the Pipeline Project (i.e., generate Local Collection Capacity Charge revenue equal to at least 50 percent of the cost of the pipeline project).

- The developer of an Under Scaled project would be required to pay for 50 percent of the cost of the Pipeline Project (hereafter referred to as the "Developer Finance Contribution").

- The difference between the Developer Finance Contribution and the amount that the developer would have otherwise paid through Local Collection Capacity Charges is the

amount that would be eligible to be reimbursed to the developer through the Local Collection Capacity Charges paid by future developers ("Reimbursable Amount").

12. ADMINISTRATION AND UPDATES

The following describes the District's on-going administrative responsibilities regarding the Capacity Charges.

12.1. REPORTING REQUIREMENTS

As previously discussed, when using the Incremental methodology, the District is responsible for reporting the use of the *Incremental portion* of the Capacity Charge revenue to demonstrate that the revenue is being used to fund expansion-related capital projects. For reference, Appendix A includes the statutory requirements for accounting for Capacity Charges. On an annual basis the District should report the annual Capacity Charge revenue, the use of funds, the beginning and ending balance of the designated fund, and a description of how the funds were used in the previous year. Additional reporting requirements are listed in Government Code Section 66018.

12.2. INFLATIONARY ADJUSTMENTS

The District may elect to annually adjust the Capacity Charges for the effects of inflation using the CCI. The Capacity Charges in Table 4 have been indexed to a CCI value of 13,111 (June 2022).

APPENDIX A – GOVERNMENT CODE SECTIONS 66013, 66016, 66022, AND 66023

66013. (a) Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount of the fee or charge imposed in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.

(b) As used in this section:

(1) "Sewer connection" means the connection of a structure or project to a public sewer system.

(2) "Water connection" means the connection of a structure or project to a public water system, as defined in subdivision (f) of Section 116275 of the Health and Safety Code.

(3) "Capacity charge" means a charge for facilities in existence at the time a charge is imposed or charges for new facilities to be constructed in the future that are of benefit to the person or property being charged.

(4) "Local agency" means a local agency as defined in Section 66000.

(5) "Fee" means a fee for the physical facilities necessary to make a water connection or sewer connection, including, but not limited to, meters, meter boxes, and pipelines from the structure or project to a water distribution line or sewer main, and that does not exceed the estimated reasonable cost of labor and materials for installation of those facilities.

(c) A local agency receiving payment of a charge as specified in paragraph (3) of subdivision (b) shall deposit it in a separate capital facilities fund with other charges received, and account for the charges in a manner to avoid any commingling with other moneys of the local agency, except for investments, and shall expend those charges solely for the purposes for which the charges were collected.

Any interest income earned from the investment of moneys in the capital facilities fund shall be deposited in that fund.

(d) For a fund established pursuant to subdivision (c), a local agency shall make available to the public, within 180 days after the last day of each fiscal year, the following information for that fiscal year:

(1) A description of the charges deposited in the fund.

(2) The beginning and ending balance of the fund and the interest earned from investment of moneys in the fund.

(3) The amount of charges collected in that fiscal year.

(4) An identification of all of the following:

(A) Each public improvement on which charges were expended and the amount of the expenditure for each improvement, including the percentage of the total cost of the public improvement that was funded with those charges if more than one source of funding was used.

(B) Each public improvement on which charges were expended that was completed during that fiscal year.

(C) Each public improvement that is anticipated to be undertaken in the following fiscal year.

(5) A description of each interfund transfer or loan made from the capital facilities fund. The information provided, in the case of an interfund transfer, shall identify the public improvements on which the transferred moneys are, or will be, expended. The information, in the case of an interfund loan, shall include the date on which the loan will be repaid, and the rate of interest that the fund will receive on the loan.

(e) The information required pursuant to subdivision (d) may be included in the local agency's annual financial report.

(f) The provisions of subdivisions (c) and (d) shall not apply to any of the following:

(1) Moneys received to construct public facilities pursuant to a contract between a local agency and a person or entity, including, but not limited to, a reimbursement agreement pursuant to Section 66003.

(2) Charges that are used to pay existing debt service or which are subject to a contract with a trustee for bondholders that requires a different accounting of the charges, or charges that are used to reimburse the local agency or to reimburse a person or entity who advanced funds under a reimbursement agreement or contract for facilities in existence at the time the charges are collected.

(3) Charges collected on or before December 31, 1998.

(g) Any judicial action or proceeding to attack, review, set aside, void, or annul the ordinance, resolution, or motion imposing a fee or capacity charge subject to this section shall be brought pursuant to Section 66022.

(h) Fees and charges subject to this section are not subject to the provisions of Chapter 5 (commencing with Section 66000), but are subject to the provisions of Sections 66016, 66022, and 66023.

(i) The provisions of subdivisions(c) and (d) shall only apply to capacity charges levied pursuant to this section.

66016. (a) Prior to levying a new fee or service charge, or prior to approving an increase in an existing fee or service charge, a local agency shall hold at least one open and public meeting, at which oral or written presentations can be made, as part of a regularly scheduled meeting. Notice of the time and place of the meeting, including a general explanation of the matter to be considered, and a statement that the data required by this section is available, shall be mailed at least 14 days prior to the meeting to any interested party who files a written request with the local agency for mailed notice of the meeting on new or increased fees or service charges. Any written request for mailed notices shall be valid for one year from the date on which it is filed unless a renewal request is filed. Renewal requests for mailed notices shall be filed on or before April 1 of each year. The legislative body may establish a reasonable annual charge for sending notices based on the estimated cost of providing the service. At least 10 days prior to the meeting, the local agency shall make available to the public data indicating the amount of cost, or estimated cost, required to provide the service for which the fee or service charge is levied and the revenue sources anticipated to provide the service, including General Fund revenues. Unless there has been voter approval, as prescribed by Section 66013 or 66014, no local agency shall levy a new fee or service charge or increase an existing fee or service charge to an amount which exceeds the estimated amount required to provide the service for which the fee or service charge is levied. If, however, the fees or service charges create revenues in excess of actual cost, those revenues shall be used to reduce the fee or service charge creating the excess.

(b) Any action by a local agency to levy a new fee or service charge or to approve an increase in an existing fee or service charge shall be taken only by ordinance or resolution. The legislative body of a local agency shall not delegate the authority to adopt a new fee or service charge, or to increase a fee or service charge.

(c) Any costs incurred by a local agency in conducting the meeting or meetings required pursuant to subdivision (a) may be recovered from fees charged for the services which were the subject of the meeting.

(d) This section shall apply only to fees and charges as described in Sections 51287, 56383, 57004, 65104, 65456, 65863.7, 65909.5, 66013, 66014, and 66451.2 of this code, Sections 17951, 19132.3, and 19852 of the Health and Safety Code, Section 41901 of the Public Resources Code, and Section 21671.5 of the Public Utilities Code.

(e) Any judicial action or proceeding to attack, review, set aside, void, or annul the ordinance, resolution, or motion levying a fee or service charge subject to this section shall be brought pursuant to Section 66022.

66022. (a) Any judicial action or proceeding to attack, review, set aside, void, or annul an ordinance, resolution, or motion adopting a new fee or service charge, or modifying or amending an existing fee or service charge, adopted by a local agency, as defined in Section 66000, shall be commenced within 120 days of the effective date of the ordinance, resolution, or motion.

If an ordinance, resolution, or motion provides for an automatic adjustment in a fee or service charge, and the automatic adjustment results in an increase in the amount of a fee or service charge, any action or proceeding to attack, review, set aside, void, or annul the increase shall be commenced within 120 days of the effective date of the increase.

(b) Any action by a local agency or interested person under this section shall be brought pursuant to Chapter 9 (commencing with Section 860) of Title 10 of Part 2 of the Code of Civil Procedure.

(c) This section shall apply only to fees, capacity charges, and service charges described in and subject to Sections 66013 and 66014.

66023. (a) Any person may request an audit in order to determine whether any fee or charge levied by a local agency exceeds the amount reasonably necessary to cover the cost of any product or service provided by the local agency. If a person makes that request, the legislative body of the local agency may retain an independent auditor to conduct an audit to determine whether the fee or charge is reasonable.

(b) Any costs incurred by a local agency in having an audit conducted by an independent auditor pursuant to subdivision (a) may be recovered from the person who requests the audit.

(c) Any audit conducted by an independent auditor to determine whether a fee or charge levied by a local agency exceeds the amount reasonably necessary to cover the cost of providing the product or service shall conform to generally accepted auditing standards.

(d) The procedures specified in this section shall be alternative and in addition to those specified in Section 54985.

(e) The Legislature finds and declares that oversight of local agency fees is a matter of statewide interest and concern. It is, therefore, the intent of the Legislature that this chapter shall supersede all conflicting local laws and shall apply in charter cities.

(f) This section shall not be construed as granting any additional authority to any local agency to levy any fee or charge which is not otherwise authorized by another provision of law, nor shall its provisions be construed as granting authority to any local agency to levy a new fee or charge when other provisions of law specifically prohibit the levy of a fee or charge.

TECHNICAL MEMORANDUM

Date: October 31, 2022
To: Akin Okupe, EPASD General Manager
From: Jeffrey C. Bensch, P.E.
Cc:

RE: CCTV Survey Results Evaluation and Pipeline Replacement Priorities Areas 1, 3, and 4

Sierra West Consultants, Inc. (Sierra West) is pleased to provide this evaluation of the closed-circuit television (CCTV) surveys of the wastewater collection system for East Palo Alto Sanitary District (EPASD). The surveys were conducted to clean, inspect and assess sewer pipelines throughout EPASD's service area. The service area was divided into four areas for organizational and contracting purposes (Figure 1). Over 500 pipelines were inspected in Areas 1, 3, and 4 by National Plant Services, Inc. (NPS), and a video recording with a summary report were made for each pipeline. Surveys for Area 2 and the trunk line were recently contracted and should begin in November 2022.

This technical memorandum evaluates the CCTV survey results for Areas 1, 3, and 4. The results are used to develop a priority list of pipelines to be replaced. This evaluation considers three alternative approaches to developing a priority list for future improvements:

1. Structural Upgrades
2. Structural plus Capacity Upgrades
3. High Priority Upgrades

The evaluation considers the degree of structural deficiencies based on the CCTV results. Pipeline capacity upgrades are based on the projected pipeline diameters to achieve the desired flow capacity. The high priority upgrades consider the most necessary improvements to be addressed under a limited budget. Opinions of probable cost for potential pipeline replacement programs are also presented.

Evaluation of CCTV Survey Results

The following CCTV surveys were completed:

Area	Pipeline Segments	Linear Feet Surveyed
1	182	39,337
3	158	36,832
4	213	41,420
Total	553	117,589

Details of the surveys in each area are provided in Attachments 1, 2, and 3. NPS evaluated each pipeline with respect to its structural integrity and operations and maintenance (O&M) functionality. These evaluations were made in accordance with National Association of Sewer Service Companies (NASSCO) and their Pipeline Assessment and Certification Program (PACP). NPS used PACP's Quick Rating approach by assigning a 4-digit code for a Structural grade and an O&M grade.

Each digit of the code represents the following:

- The first digit is recorded as 0 through 5 to represent the degree of severity of the encountered problem. 0 is no problem and 5 is the most severe.
- The second digit is how many times a problem of this severity was encountered in the pipeline segment. This ranges from 1 to 9, and then letters are used when there are more than nine problem locations. A represents 10 to 14 defects; B is 15 to 19; C is 20 to 24, etc.
- The third digit represents the second worst level of severity encountered.
- The fourth digit represents how many times the second severity of problem occurred.

Each of the four-digit codes is used to calculate a single score by multiplying the degree of severity by the number of occurrences, and then adding the two products. For instance, a Structural rating of 5432 would equal 26 (5*4 + 3*2).

The Structural rating addresses items that require pipeline repair to resolve, such as a cracked or broken pipe. The O&M rating addresses items that can be resolved by improved maintenance, such as a root ball or debris. The Structural and O&M calculated scores are shown on the spreadsheets, although only the Structural scores are used to evaluate pipeline repair or replacement needs.

Priority of Pipelines to be Replaced

Structural Upgrades

This replacement evaluation considers the Structural score augmented with an assessment of notable defects and sagging pipelines. The Structural ratings are developed by the CCTV inspection software and sometimes miss the significance of certain items, such as a collapsed pipe. As such, notable defects observed in the video recordings were incorporated into the assessment. Sagging pipelines were also given a score where the settlement was considered excessive. Consideration of the notable defects and sagging adding a substantial number of pipelines to be upgraded compared to only considering the software generated ratings.

The Structural, Notable Defects, and Sagging scores are added to create the Total Score for each pipeline segment. The Total Scores are ranked from highest to lowest to generate a priority list of pipelines to replace (Table 1). Pipelines with a score greater than 25 from each Area were selected as the group with significant structural defects needing replacement. A geographic information system (GIS) was used to generate Figure 2 showing the pipelines that need to be replaced to resolve structural defects in Areas 1, 3, and 4.

The pipeline segments needing structural upgrades may also be undersized and in need of increased capacity. Nonetheless, the pipelines considered under this alternative have substantial structural deficiencies that need to be addressed.

The priority list was sorted by pipeline diameter in Table 2 to evaluate probable costs. The Engineer's Opinion of Probable Cost for the project (Table 3) was developed using bid results from recent EPASD projects as a basis for unit price estimates. Published industry cost data and engineering judgement were also used where recent bid prices were incomplete.

As shown, approximately 76,00 linear feet of pipeline throughout Areas 1, 3, and 4 have a Total Score greater than 25. The opinion of probable construction cost is approximately $40.5M, with a total project cost opinion of $53.0M.

Structural and Capacity Upgrades

This evaluation considers the existing hydraulic capacity of each pipeline, along with the structural integrity. As such, this represents a maximum level of wastewater collection system improvements.

The *Addendum to the March 2015 East Palo Alto Sanitary District Master Plan Update* (Master Plan Update, Freyer & Laureta, April 28, 2021) was used to assess the hydraulic capacity and a score was applied to pipelines identified as under capacity in the Master Plan (Attachment 4 - Table 16 and Figure 10 from the Master Plan). For pipelines designated as undersized, a score was calculated as five times the diameter of the proposed pipeline upgrade.

The Structural, Notable Defects, and Sagging scores, and the Capacity score, are added to create the Total Score for each pipeline segment. The Total Scores are ranked from highest to lowest to generate a priority list of pipelines to replace. Pipelines with a Total Score greater than 25 were selected as pipelines for replacement (Table 4). The GIS was used to generate Figure 3 showing the pipelines that need to be replaced to resolve structural defects and capacity inadequacies in Areas 1, 3, and 4.

Capacity upgrades are considered independent of whether the pipeline has structural deficiencies. In many cases, pipeline segments may be structurally sound and included in this priority list only because they are undersized as defined in the Master Plan Update.

The priority list was sorted by pipeline diameter in Table 5 to evaluate probable costs. The Engineer's Opinion of Probable Cost for the project (Table 6) was developed using bid results from recent EPASD projects as a basis for unit price estimates. Published industry cost data and engineering judgement were also used where recent bid prices were incomplete.

As shown, approximately 90,000 linear feet of pipelines throughout Areas 1, 3, and 4 have a Total Score greater than 25. The opinion of probable construction cost is approximately $49.5M, with a total project cost opinion of $64.7M.

High Priority Upgrades

This evaluation considers the hydraulic capacity along with the structural integrity to develop a priority list under a funding limit of approximately $20M.

This evaluation is weighted to include large diameter pipelines with flow capacity upgrades that are critical to the overall performance of the wastewater collection system. It is also balanced with replacing significantly deteriorated pipelines in need of substantial structural repairs. Considering limited funding, a higher score threshold was used to select the highest priority pipeline segments.

Pipeline segments with a Total Score greater than 75 were selected as the group of pipelines to be replaced (Table 7). A geographic information system (GIS) was used to generate Figure 4 showing the pipelines that need to be replaced.

The priority list was sorted by pipeline diameter in Table 8 to evaluate probable costs. The Engineer's Opinion of Probable Cost for the project (Table 9) was prepared using bid results from recent EPASD projects as a basis for unit price estimates. Published industry cost data and engineering judgement were also used where recent bid prices were incomplete.

As shown, 25,500 linear feet of pipeline throughout Areas 1, 3, and 4 have a Total Score greater than 75. The opinion of probable construction cost is approximately $16.0M, while the opinion of total project cost is $20.9M.

Summary

The following table summarizes the opinions of costs presented above:

Program Alternative	Linear Feet	Opinion of Probable Cost (millions)
Structural Upgrades[1]	76,000	$53.0
Includes Capacity Upgrades[2]	13,000	$9.1
Structural + Capacity Upgrades	90,000	$64.7
Includes Capacity Upgrades	25,000	$22.0
Includes Capacity Only Upgrades[3]	13,000	$12.9
High Priority Program[4]	25,500	$20.9
Includes Capacity Upgrades	17,500	$14.3
Includes Capacity Only Upgrades	4,900	$4.9

1. Structural Upgrades = Replacement of Pipelines with Substantial Structural Defects (may include Capacity Upgrades)
2. Capacity Upgrades = Replacement of Pipelines with Larger Capacity Pipelines per the Master Plan Update (independent of Structural condition)
3. Capacity Only Upgrades = Replacement of Pipelines that are Structurally Sound with Larger Capacity Pipelines per the Master Plan Update
4. High Priority Program = $20M project to address High Priority pipelines considering both Structural and Capacity Upgrades

The Total Scores, GIS figures, and the opinion of probable costs can be used together to evaluate other project alternatives in terms of adding or eliminating pipelines to work within available resources. Further evaluations and secondary priority listings may be useful in developing or updating EPASD's current Capital Improvement Plan (CIP).

Tables

Figures

Attachments

SIERRA WEST
CONSULTANTS, INC.

Tables

Table 1
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of Pipelines for Structural Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
O	West Bayshore Road	O4 - O3		8	VCP	277	85% sag, 10% grease build up	86	0	0	25	**111**
J	Pulgas Avenue	J7 - J6		8	VCP	441	Pipe is broken at 124ft and 197ft	73	0	10	25	108
A	Demeter Street	A13 - A12		8	Unknown	412	Broken pipe at 129 ft and 139 ft with sags.	70	0	20	15	105
J	Garden Street	J9 - J9A		8	VCP	365	Pipe is broken at 8ft, 32ft, 81ft, 223ft & 318ft.	51	0	30	20	101
A	Pulgas Avenue	A18 - A16		8	VCP	442	Broken pipe at 44ft.	70	0	10	20	100
H	Runnymede Street	H35 - H34	10	12	VCP	322	Pipeline has a lot of sagging. The high water level	62	0	8	30	100
K	Larkspur Drive	K19 - K18		8	CP	272	Pipe is broken and soil is visible at 144ft, and	58	0	30	10	98
A	Gonzaga Street	A3 - A2		8	VCP	287	Broken pipe at 53, 141, 157, and 159 ft. Also, an	46	0	30	20	96
A	Bay Road	A2 - A5	15	16	Unknown	244	Sagging pipe 75%	70	0	0	25	95
J	Garden Street	J10 - J9		8	VCP	300	Pipe is broken at 228ft and 293ft	70	0	10	15	95
K	Larkspur Drive	K18 - K17		8	CP	269	SMW spots on the line.	80	0	15		95
A	Illinois Street	A6 - A5		8	VCP	287	Broken pipe at 15 and 75ft. Also, an offset joint at	49	0	30	15	94
K	Daisy Lane	K21 - K3		8	CP	246	Pipe has few locations with chunks of pipe missing	53	0	30	10	93
A	Illinois Street	A7 - A6		8	VCP	306	Broken pipe at 82 and 230 ft.	46	0	30	15	91
C	Menalto Avenue	C4 - C3	8	12	PE	436	This is the second inspection after heavy cleaning.	66	0	10	15	**91**
H	Clarke Avenue	H14 - H13	12	14	VCP	446	Broken at 425.5ft, 429ft with multiple cracks	66	0	0	25	91
K	Wisteria Drive	K13 - K12		8	VCP	362	Pipe is broken at 9ft and 91ft.	56	0	20	15	91
A	Bay Road	A5 - A8	18	20	PE	124	Sagging pipe 50%-100%	80	0	0	10	90
C	Elliot Drive	C41 - C40		8	VCP	191	substantial breakage throughout their entire	70	0	20		**90**
C	Elliot Drive	C42 - C41		8	VCP	300	substantial breakage throughout their entire	70	0	20		**90**
F	Weeks Street	F23 - F8		8	VCP	327	This pipeline was F9A-F8	70	0	0	20	90
C	Elliot Drive	C40 - C36		8	VCP	257	MSA/Root tap barrel. Reverse inspection	67	0	20		**87**
A	Tara Street	A27 - A26		8	VCP	311	Broken pipe and soil is visible at 254.10 ft at 11	35	0	30	20	85
C	Hwy 101	C21 - C19		8	VCP	284	MSA/Collapsed pipe. Reverse inspection	55	0	30		**85**
H	Clarke Avenue	H12 - H11	12	14	VCP	333	Broken at 111ft, 231ft, 331.9ft	70	0	0	15	85
L	Wisteria Drive	L29 - L28		8	VCP	366	Pipe is broken at 348ft, and soil is visible	35	0	30	20	85
D	Hwy 101	D10 - D3	10	12	Not Known	489	MSA/80% grease in line. No heavy cleaning	54	0	20	10	**84**
K	Larkspur Drive	K16 - K4		8	CP	274	SMW spots on the line	53	0	15	15	83
O	Woodland Avenue	O23 - O22		8	VCP	470	MSA/TBI. Reverse Inspection complete. Pipe had	62	0	20		**82**
A	Bay Road	A10 - A15	18	20	ACP	299	Surface Damage Roughness Increased	61	0	0	20	81
H	Clarke Avenue	H64 - H71	12	14	VCP	99	H60-H3. Line has about 30%-40% grease that is	42	0	24	15	81
I	Beech Street	I20 - I9		8	VCP	278	Pipe has MSA at 267 due to hard	40	0	20	20	80
D	Donohoe Street	D9 - D8		8	VCP	496	Broken at 21ft, multiple cracks	70	0	8		**78**
D	Donohoe Street	D8 - D7		8	VCP	158	broken pipe at 100.08 ft from upstream	37	0	30	10	**77**
A	Demeter Street	A12 - A11		8	VCP	485	Sagging pipeline 55%	55	0	0	20	75
A	Bay Road	A15 - A16	18	20	ACP	435	Surface damage roughness. Sagging 75%	50	0	0	25	75
D	West Bayshore Road	D7 - D6		8	VCP	398	5% grease build up and 90% sag	60	0	0	15	**75**
F	Weeks Street	F11 - F10		8	VCP	420	Broken at 176ft, 242ft	70	0	0	5	75
F	Weeks Street	F12 - F11		8	VCP	355	Broken at 414ft, multiple fractures and cracks	70	0	0	5	75
F	Weeks Street	F19 - F20		8	VCP	216	MH was F19 - F21	70	0	0	5	75
I	Pulgas Avenue	I15 - I14	15	16	PVC	386	Sagging pipe 85%	50	0	0	25	75
J	Garden Street	J8 - J6		8	VCP	442	Broken at 33ft, 81.4ft, 164ft, 223ft, 286ft, 318ft	70	0	0	5	75
C	Menalto Avenue	C43 - C8		8	VCP	101	Proteus. MSA/TBI. Heavy cleaning was performed.	58	0	16		**74**
G	Runnymede Street	G7 - G6		8	PVC	295	-	48	0	0	25	73
C	Menalto Avenue	C6 - C5	8	12	PE	87	Pipeline has lots of debris	42	0	20	10	**72**
K	Camellia Drive	K35 - K34		8	VCP	280	Broken pipe at 9ft.	42	0	10	20	72
C	Ralmar Avenue	C15 - C14		8	VCP	565	MSA/JAM. Camera is unable to get past this point.	50	0	20		**70**
C	Oak Court	C47 - C46		8	VCP	309	This is the second inspection after heavy cleaning	70	0	0		**70**
D	West Bayshore Road	D51 - D7		8	VCP	458	MSA/JOL. Camera cannot move any further.	45	0	20	5	**70**
F	Pulgas Avenue	F14 - F8		8	PVC	463	Sagging pipe up to 75%	50	0	0	20	70
O	Woodland Avenue	O20 - O19		8		116	After removing roots and debris from the exit of	50	0	20		**70**
H	Donohoe Street	H21A - H55		8	VCP	157	H21A - H21. Broken at 61ft, 101ft	48	0	0	20	68
K	Camellia Drive	K36 - K35		8	VCP	282	Broken pipe at 264ft.	38	0	20	10	68
C	O'Connor Street	C35 - C7		8	Unknown	403	Proteus. This is the second inspection. First	50	0	12	5	**67**
F	Weeks Street	F8 - F8A		8	VCP	281	New Line segment	46	0	0	20	66
O	Woodland Avenue	O21 - O19		8	VCP	394	MSA/Reverse Inspection performed.	46	0	20		**66**
M/I	Pulgas Avenue	I43 - I15		12	PVC	60	I15A - I15. Sagging pipe 90%	35	0	0	30	65
K	Azalia Drive	K9 - K8		8	VCP	356	Pipe is broken at 158ft, 183ft, 296ft. At 104ft a	25	0	40		65
H	Clarke Avenue	H13 - H12	12	14	VCP	108	Broken at 18ft with 55% sagging pipe	54	0	0	10	64
H	Clarke Avenue	H24 - H20		8	VCP	333	MSA/Broken pipe. The USMH is a cleanout so no	14	0	30	20	64
K	Wisteria Drive	K11 - K5		8	VCP	370	MSA/Joint offset. Reverse inspection performed	34	0	20	10	64
C	Hwy 101	C20 - C19		8	VCP	199	Broken at 5.1 ft, surface damage at 30 ft	42	0	20		**62**
D	Green Street	D68 - D67		8	VCP	139	Surface Damage at 94ft, pipeline has multiple cracks	50	0	12		**62**
I	Myrtle Street	I23 - I28		8	VCP	166	Broken at 59ft. This pipe line was I23 - I23A	32	0	30		62
L	Gaillardia Way	L11 - L10		8	VCP	360	Pipe is broken at 240ft and soil is visible	22	0	30	10	62
O/N	Highway 101	O3 - N8		12	Unknown	205	O3 was surcharged.	44	0	8	10	**62**
A	Bay Road	A1 - A2	15	16	Unknown	80	MH A1 does not exist. Inspection started from B2-	50	0	10	0	60
A	Bay Road	B2 - A2	15	16	PE	181	A1 is buried, operator surveyed B2-A2 for total of	50	0	0	10	60
D	West Bayshore Road	D21 - D19	10	12	HDPE	391	Heavy Cleaning/high flow. Night work. HDPE. This	40	0	20		**60**
G	Runnymede Street	G4 - G3		8	PVC	213	-	50	0	0	10	60
H	Runnymede Street	H34 - H17	10	12	VCP	269	Submerged pipe with a line down alignment.	34	0	16	10	60
J	Garden Street	J5C - T21		8	PVC	62	New Line Segment. Sagging pipe 75%	40	0	0	20	60
K	Daisy Lane	K22 - K21		8	CP	256	Surface Damage Missing Wall along the pipeline	60	0	0		60
K	Camellia Drive	K33 - K32		8	VCP	131	Sagging pipe 75%	40	0	0	20	60
K/L	Larkspur Drive	L21 - K28	14	16	PVC	68	Sagging pipe 75%	40	0	0	20	60
L	Wisteria Drive	L26 - L25		8	VCP	216	Pipe has a lot of sagging, and an offset joint	16	0	24	20	60
L	Jasmine Way	L43 - L44		8	PVC	334	Joint Separated Large at 331.7ft	60	0	0		60
O	Cooley Avenue	O51A - O13		8	VCP	236	5% grease build up, 60% sag	50	0	0	10	**60**
C	Menalto Avenue	C2 - C1	10	12	Unknown	204	MSA/Grease. Heavy grease blockage at 136.9	38	0	16	5	**59**

Table 1
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of Pipelines for Structural Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
C	Green Street	C23 - C3		8	VCP	400	Pipe has grease and is under water for about 360'	34	0	20	5	**59**
G	Runnymede Street	G14 - G17		8	VCP	151	Pipe is broken at 17ft.	14	0	20	25	59
O	West Bayshore Road	O5 - O4		8	Unknown	399	Noteable sagging	44	0	0	15	**59**
C	Oak Court	C44 - C10		8	VCP	155	MSA/LR. Camera cannot move past bend.	42	0	16		**58**
C	Oak Court	C46 - C45		8	VCP	256	Broken at 153ft with multiple cracks	58	0	0		**58**
D	O'Connor Street	D26 - D25		8	VCP	157	broken pipe due to tree roots between 23-26 ft.	38	0	20		**58**
D	East Bayshore Road	D65 - D64		8	VCP	448	Pipe is damaged. MSA/Crawler cannot move any	38	0	20		**58**
D	Oakwood Dive	D71 - D52		8	VCP	130	Proteus. This is the second inspection. First	46	0	12		**58**
C	Menalto Avenue	C7 - C6	8	12	PE	448	Pipeline has lots of debris	20	0	12	25	**57**
O	Capitol Avenue	O16 - O15		8	VCP	235	Broken at 131.9 ft	42	0	15		**57**
C/D	Donohoe Street	C26 - D9		8	VCP	436	This is the second inspection after heavy cleaning	36	0	20		**56**
D	French Court	D40 - D37		8	VCP	194	This is the second inspection after using a root	25	0	30		**55**
F	Weeks Street	F20 - F17		8	VCP	253	MH was F20 - F21	55	0	0		55
G	Runnymede Street	G6 - G4		8	PVC	388	-	50	0	0	5	55
K	Larkspur Drive	K17 - K16		8	CP	267	Surface Damage Missing Wall along the pipeline	55	0	0		55
C	Poplar Avenue	C13 - C12		8	Unknown	481	MSA/Lined pipe. Camera could not move any	34	0	20		**54**
C	Menalto Avenue	C2A - C2	8	12	VCP	28	New line segment - Broken at 19.9 ft	34	0	20		**54**
D	O'Connor Street	D29 - D28		8	VCP	465	Clogged, extensive cleaning required	46	0	8		**54**
D	Oak Court	D37 - D36		8	VCP	368	MSA/Reverse inspection complete	54	0	0		**54**
D	East O'Keefe Street	D43 - D41		8	VCP	517	MSA/Broken. Reverse inspection complete.broken	46	0	8		**54**
D	Woodland Avenue	D56 - D35		8	VCP	286	Offset joint 4' from MH	42	0	12		**54**
G	Buchanon Court	G10 - G9		8	CP	271	Pipe is broken and soil is visible at 10 ft and 221 ft	24	0	30		54
H	Donohoe Street	H21 - H56		8	VCP	151	H22 - H55. Broken at 14ft and 110ft	54	0	0		54
O	Woodland Avenue	O29 - O30		8	VCP	220	Surcharged MH with substantial crud on water	42	0	12		**54**
C	Oak Court	C45 - C44		8	VCP	166	Broken pipe at 6ft, 41ft, 24ft	43	0	10		**53**
O	Woodland Avenue	O22 - O21		8	VCP	348	broken at 81.02 ft, 311 ft, and 320 ft.	33	0	20		**53**
D	O'Connor Street	D25 - D24	8	12	VCP	301	large offset between joints and unable to video it	36	0	16		**52**
G	Mandela Court	G15 - G14		8	PVC	215	-	42	0	0	10	52
I	Myrtle Street	I21 - I13	8	12	VCP	600	As I24 should be between them as shown in the	47	0	0	5	52
D	East O'Keefe Street	D47 - D22		8	VCP	299	Grease build up at 269 ft	41	0	5	5	**51**
O	Woodland Avenue	O28 - O26		8	VCP	434	MSA/Reverse inspection complete. Proteous.	41	0	10		**51**
A	Demeter Street	A14 - A13		8	Unknown	288	-	50	0	0		50
A	Pulgas Avenue	A20 - A19		8	VCP	340	Broken pipe at 225ft, and separated joints at 281ft.	20	0	30		50
C	Addison Avenue	C18 - C17		8	VCP	370	MSA/Proteus could not crawl any farther due to	34	0	16		**50**
D	Manhattan Avenue	D19 - D10	10	12	PVC	48	Line is sagging. Camera was under water for most	30	0	0	20	**50**
D	O'Connor Street	D41 - D24		8	VCP	191	Broken at 51 ft and 122 ft	50	0	0		**50**
D	Addison Avenue	D55 - D54		8	VCP	252	MSA/Reverse inspection complete. broken at	34	0	16		**50**
F	Weeks Street	F10 - F9		8	VCP	463	Broken at 32.2ft & 247ft & 297ft & 314ft	45	0	0	5	50
F	Clarke Avenue	F15 - F11		8	VCP	301	Multiple cracks along the pipe	50	0	0		50
H	Donohoe Street	H23 - H22		8	VCP	405	H23 - H56. Broken at 133.9ft, 316.9ft	50	0	0		50
K/L	Gardenia Way	K31 - L1		8	PVC	148	-	30	0	0	20	50
L	Verbina Drive	L17 - L16		8	VCP	236		50	0	0		50
L	Daphine Way	L35 - L34		8	VCP	250		50	0	0		50
L	Azalia Drive	L47 - L4		8	VCP	88	Heavy grease was found on a sewer line cleaning	20	0	30		50
O	Clarke Avenue	O26 - O25		8	VCP	333	Broken at 125ft	50	0	0		**50**
O	Newell Road	O35 - O34		8	ACP	316		50	0	0		**50**
O	Scofield Street	O52 - O51		8	VCP	213	-	50	0	0		**50**
O	Woodland Avenue	O55 - O54		8	VCP	399	MSA/Reverse Inspection Complete.	42	0	8		**50**
M/I	Pulgas Avenue	M2 - I43		12	PVC	42	M2 - I15A. Sagging pipeline 100%	25	0	0	25	50
A	Bay Road	A16 - A21	18	20	ACP	296	-	44	0	0	5	49
G	Buchanon Court	G9 - G6		8	CP	291	Pipe is broken and soil is visible at 84 ft	14	0	30	5	49
J	Garden Street	J9A - J8		8	VCP	35	Pipe is broken at 115ft, 176ft, and 359ft.	19	0	30		49
O	West Bayshore Road	O59 - O7		8	VCP	182	Soil is visible at 167ft, 50% sag	9	0	30	10	**49**
D	Euclid Avenue	D23 - D22	10	12	PE	73	Pipeline had heavy grease	30	0	8	10	**48**
D	Green Street	D69 - D67		8	VCP	259	MSA/TBI. No reverse inspection performed	40	0	8		**48**
F	Weeks Street	F9 - F23		8	VCP	111	This pipeline was F9-F9A	43	0	0	5	48
O	Newell Road	O31 - O30		8	VCP	90	Visible soil	18	0	30		**48**
O	Woodland Avenue	O33 - O32		8	VCP	263	Visible soil	26	0	12	10	**48**
C	Palmar Avenue	C25 - C23		8	VCP	303	Medium Joint Offset	42	0	0	5	**47**
D	Glen Way	D67 - D63		8	VCP	294	Pipe broken at 231.1 ft	17	0	30		**47**
O	Cooley Avenue	O58 - O57		8	VCP	403	MSA/Tap break in intruding. No reverse inspection	17	0	30		**47**
C	Addison Avenue	C17 - C16		8	VCP	333	There's a JAM 3' from the DSMH. Camera is unable	38	0	8		**46**
C	Hwy 101	C19 - C2		8	VCP	264	MSA/OBM. Reverse Inspection performed. Pipeline	26	0	20		**46**
G	Pulgas Avenue	G13 - G3		8	PVC	453	Proteous	46	0	0		46
I	Beech Street	I7 - I6	20	22	CP	259	Surface damage roughness. Sagging 75%	26	0	0	20	46
K/L	Azalia Drive	L10 - K27		8	VCP	275	Broken connection of lateral at 28ft.	11	0	20	15	46
O	Cooley Avenue	O57 - O51		8	VCP	365	Cracks and surface damage along the pipe	46	0	0		**46**
C/D	O'Connor Street	D29 - C37		8	Unknown	130	Proteus	27	0	8	10	**45**
D	Oak Court	D36 - D35		8	VCP	251	MSA/Broken. Reverse inspection attempted.	29	0	16		**45**
D	East O'Keefe Street	D48 - D47		8	VCP	401	5% Grease build up at 335ft	28	0	12	5	**45**
C	East Bayshore	C14 - C12		8	PVC	282		44	0	0		**44**
C	Woodland Avenue	C51 - C50		8	Unknown	556	Proteous. MSA/Reverse inspection complete. Pipe	32	0	12		**44**
D	East Bayshore Road	D64 - D63		8	VCP	471	MSA/Reverse inspection complete	19	0	20	5	**44**
G	Veronica Court	G18 - G17		8	PVC	291	-	39	0	0	5	44
I	Terra Villa Avenue	I17 - I7		8	VCP	526	Broken at 520ft	34	0	0	10	44
L	Azalia Drive	L10 - L9		8	VCP	180		44	0	0		44
A	Pulgas Avenue	A17 - A31		8	VCP	241	This pipe line was A17 - A17A	43	0	0		43
A	Bay Road	A9 - A10	18	20	ACP	181	Broken at 172ft	28	0	0	15	43
D	West Bayshore Road	D53 - D52		8	VCP	248	Joint Separated Medium	38	0	0	5	**43**

Table 1
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Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
K	Azalia Drive	K7 - K6		8	VCP	362	-	23	0	0	20	43
O	Mission Drive	O41 - O40		8	Unknown	45	Proteous. seemed to be different material	27	0	16		**43**
O	Scofield Street	O54 - O52		8	VCP	380	Pipe is broken at 26.08 feet.	13	0	30		**43**
D	O'Connor Street	D27 - D26		8	VCP	392	Clogged, extensive cleaning required	34	0	8		**42**
F	Weeks Street	F7 - T25		8	VCP	477	Multiple cracks along the pipe	32	0	0	10	42
H	Runnymede Street	H17 - H76	12	14	VCP	397	H17 - H16. Broken pipe at 43.2ft, 144.9ft, 150ft	17	0	20	5	42
H	Donohoe Street	H56 - H21A		8	VCP	157	H55 - H21A. Broken at 1.5ft	42	0	0		42
I	Brentwood Court	I18 - I8		8	PVC	237	-	32	0	0	10	42
K	Hibiscus Court	K24 - K21		8	CP	149	Surface Damage Missing Wall	42	0	0		42
L	Abelia Way	L58 - L57		8	VCP	295	Broken at 13ft, 50ft, 87ft, 236ft	22	0	20		42
C	Woodland Avenue	C49 - C48		8	Unknown	248	Proteous	29	0	12		**41**
C	Woodland Avenue	C50 - C49		8	Unknown	361	Proteous	29	0	12		**41**
D	O'Connor Street	D28 - D27		8	VCP	81	Clogged, extensive cleaning required	28	0	8	5	**41**
H	Cooley Avenue	H32 - H17		8	VCP	550	Broken Soil Visible at 111ft. Broken at 213.8ft,	41	0	0		41
O	West Bayshore Road	O9 - O8	8	12	VCP	140	15% grease buildup at 96ft	36	0	0	5	**41**
C	East Bayshore	C16 - C14		8	PVC	273		40	0	0		**40**
G	Runnymede Street	G8 - G7		8	PVC	327	-	35	0	0	5	40
O	Newell Road	O34 - O10		8	ACP	268		40	0	0		**40**
A	Pulgas Avenue	A31 - A16		8	PVC	177	This pipe line was A17A - A16	34	0	0	5	39
C	Woodland Avenue	C48 - C11	8	12	Unknown	179	MSA/ Reverse Inspection complete	23	0	16		**39**
C	Menalto Avenue	C5 - C4	8	12	Unknown	328	Pipeline has lots of debris	29	0	10		**39**
D	Donohoe Street	D3 - D3A	16	18	VCP	11	Surface Damage Roughness Increased	34	0	0	5	**39**
D	Oak Court	D38 - D37		8	VCP	238	MSA/Broken. No reverse inspection can be	9	0	30		**39**
D	Oak Court	D39 - D37		8	Unknown	84	New line segment. Proteus was used to inspect this	9	0	30		**39**
G	Buchanon Court	G11 - G10		8	CP	266	Pipe is broken at 33 ft and 256 ft.	19	0	20		39
L	Verbina Drive	L13 - L9		8	VCP	311	Broken at 60.2ft	24	0	15		39
L	Verbina Drive	L16 - L15		8	VCP	311	Broken at169ft	24	0	15		39
L	Gardenia Way	L2 - L1	12	14	PVC	179	Joint Separated Large at 104.9ft, infiltration from	24	0	15		39
L	Aster Way	L31 - L30		8	VCP	179	Pipe is broken at 59ft, and soil is visible	9	0	30		39
O	Woodland Avenue	O32 - O31		8	VCP	258	Broken at 3.2 ft and 226 ft	9	0	30		**39**
C	Menalto Avenue	C10 - C8	8	12	PE	387	Modified line segment. Could not find C9	23	0	10	5	**38**
D	Woodland Avenue	D35 - D34	8	12	VCP	178	Fracture Multiple at 73ft	38	0	0		**38**
H	University Avenue	H37A - H36		8	VCP	149	New Line Segment. Broken 144.3ft, 145ft	38	0	0		38
H	Sacramento Street	H41 - H40		8	VCP	150	Broken at 38ft, 42ft	38	0	0		38
H	Weeks Street	H42 - H37		8	VCP	388	Broken at 304ft	38	0	0		38
H	Donohoe Street	H55 - H54		8	PVC	144	H21 - H54. Broken at 51ft	38	0	0		38
K	Sage Street	K20 - K19		8	CP	135	Surface Damage Missing Wall at 96.4ft	8	0	30		38
L	Camellia Drive	L20 - L16		8	VCP	101	Broken at 6.6ft	38	0	0		38
L	Daphine Way	L37 - L36		8	VCP	312	Hole at 252ft, 93.5ft	38	0	0		38
L	Camellia Drive	L54 - L53		8	VCP	369	Pipe is broken and soil is visible at 3.02ft.	8	0	30		38
M	O'Connor Street	M43 - M42		8	VCP	104	Broken at 109ft	38	0	0		38
N/K	O'Connor Street	N1 - K6		12	PE	253		38	0	0		38
O	Circle Drive	O53 - O52		8	VCP	188	Broken at 204ft	38	0	0		**38**
O	Woodland Avenue	O56 - O55		8	VCP	377	-	38	0	0		**38**
H/E	Euclid Avenue	H38 - E42		8	VCP	519	Broken pipe Soil Visible at 146ft, 197ft	17	0	20		37
K	Camellia Drive	K34 - K33		8	VCP	278	-	32	0	0	5	37
C	Menalto Avenue	C8 - C7	8	12	PE	401	broken pipe located 100.08 ft from upstream	20	0	16		**36**
G	Runnymede Street	G19 - T23		8	VCP	263	This pipeline was G2A-T23	36	0	0		36
H	Schembri Lane	H29 - H12		8	VCP	551	Broken pipe at 257ft, 349ft	16	0	20		36
L	Daphine Court	L62 - L34		8	VCP	147		36	0	0		36
H	Runnymede Street	H57 - H16	12	14	VCP	48	H16A - H16B. Broken at 20.9ft	20	0	15		35
I	Pulgas Avenue	I13 - I12	15	16	PVC	320	-	30	0	0	5	35
I	Beech Street	I3 - T19	24	26	PVC	188	Reported 24" dia; Actual 18"	30	0	0	5	35
L	Camellia Drive	L46 - L45		8	VCP	136	Broken pipe Soil Visible at 135.9ft	35	0	0		35
L	Daphine Way	L36 - L35		8	VCP	278	Hole at 38.4ft	24	0	10		34
D	Donohoe Street	D2 - D1	18	20	VCP	53		34	0	0		**34**
D	Donohoe Street	D3A - D2	16	18	VCP	355	Broken at 4.2ft	34	0	0		**34**
D	Donohoe Street	D4 - D3	10	12	VCP	296	Fracture Multiple at 131ft	34	0	0		**34**
D	O'Connor Street	D42 - D41		8	VCP	100	Crack Multiple at 7.6ft & 69.2ft	34	0	0		**34**
D	East O'Keefe Street	D44 - D43		8	VCP	113	Broken at 72.2ft	34	0	0		**34**
D	East O'Keefe Street	D50 - D49		8	VCP	422	Broken at 418.9 ft	34	0	0		**34**
D	West Bayshore Road	D54 - D53		8	VCP	75	-	34	0	0		**34**
D	Hwy 101	D6 - D5		8	Unknown	246	Joint Offset Large at 112ft	34	0	0		**34**
H	Clarke Avenue	H11 - H64	12	14	VCP	198	H11 - H60. Broken at 73.2ft	34	0	0		34
H	Runnymede Street	H38 - H47		8	VCP	205	Broken at 80.3ft	34	0	0		34
H	Weeks Street	H43 - H42		8	VCP	346	Broken at 4.7ft, 303.7ft	34	0	0		34
H	Runnymede Street	H47 - H35		8	VCP	192	Fracture at 8.6 with cracks along the pipeline	29	0	0	5	34
H	Runnymede Street	H76 - H57	12	14	VCP	73	H16 - H16A. Broken at 63.2ft	19	0	15		34
L	Verbina Drive	L19 - L18		8	VCP	333	Broken at 330ft	34	0	0		34
L	Wisteria Drive	L28 - L27		8	VCP	363	Hole at 310.2ft	34	0	0		34
L	Daphine Way	L37 - L38		8	VCP	212	Proteous. Hole at 140.7ft	24	0	10		34
M	O'Connor Street	M42 - M13	12	14	VCP	111	Surface Damage and cracks	34	0	0		34
A	Pulgas Avenue	A19 - A18		8	VCP	214	Fracture multiple alonge the pipeline	33	0	0		33
H	Donohoe Street	H22 - H21		8	VCP	216	H56 - H22. Broken pipe at 3.9ft, 137.4ft	13	0	20		33
C	O'Connor Street	C37 - C36		8	Unknown	153	Proteus. This is the second inspection because of	15	0	12	5	**32**
H	Schembri Lane	H30 - H46		8	VCP	135		32	0	0		32
L	Camellia Drive	L53 - L52	6	8	VCP	218	MSA/Reverse Inspection Complete	32	0	0		32
L	Camellia Court	L56 - L54		8	VCP	327		32	0	0		32
H	Clarke Avenue	H31 - H14		8	VCP	404	MSA/JOL. No reverse inspection performed	15	0	16		31

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K	Daisy Lane	K23 - K22		8	Unknown	100	Material change at 23ft and needs a mini camera	23	0	8		31
K	Azalia Drive	K26 - K6		8	VCP	294	Pipe is broken at 286ft	11	0	20		31
A	Bay Road	A22 - A29	18	18	ACP	369	Reported 18" dia; Actual 15"	30	0	0		30
A	Tara Street	A24 - A23		8	VCP	240	Broken pipe at 228 ft.	10	0	20		30
C	Green Street	C24 - C23		8	VCP	151	MSA/JOM. No reverse inspection performed	10	0	20		**30**
C	East O'Keefe Street	C30 - C27		8	VCP	163		30	0	0		**30**
C	East O'Keefe Street	C32 - C30		8	VCP	147		30	0			**30**
C	East O'Keefe Street	C34 - C32		8	VCP	82	-	30	0	0		**30**
C	O'Connor Street	C36 - C35		8	Unknown	92	Proteus. This is the second inspection. First	18	0	12		**30**
F	Weeks Street	F17 - F22		8	VCP	56	This pipe line was F17 - F17A	30	0	0		30
L	Gaillardia Way	L12 - L11		8	VCP	82		30	0	0		30
L	Gardenia Way	L3 - L2	12	14	PVC	83		30	0	0		30
G	Ruth Ct	G12 - G4		8	PVC	273	Broken at 47ft, 170ft	29	0	0		29
H	University Avenue	H37 - H37A		8	VCP	221	New Line Segment. Broken at 162ft	9	0	20		29
H	Sacramento Street	H40 - H36		8	VCP	496	MSA/JOL. Reverse Inspection performed.	29	0	0		29
H	Donohoe Street	H54 - H20		8	VCP	153	Fracture at 14.7ft	19	0	10		29
H	Green Street	H75 - H6	18	20	PE	259	H7C - H6	29	0	0		29
L	Wisteria Drive	L22 - L3		8	VCP	366	Broken at 48.6ft	14	0	15		29
L	Abelia Way	L59 - L58		8	VCP	250	Broken at 220ft, 245ft	9	0	20		29
O	West Bayshore Road	O10 - O9		8	VCP	157		29	0	0		**29**
D	Euclid Avenue	D24 - D23	10	12	PE	350	Pipeline had heavy grease	20	0	8		**28**
F	Paul Robeson Court	F18 - F17		8	PVC	198	-	23	0	0	5	28
H	University Avenue	H36 - H35	10	12	VCP	474		23	0	0	5	28
L	Aster Way	L33 - L32		8	VCP	91	Hole at 10.2ft	13	0	15		28
L	Jasmine Way	L40 - L42		8	VCP	346	Broken pipe soil visible at 184ft	8	0	20		28
L	Camellia Drive	L45 - L25		8	VCP	202		23	0	0	5	28
M	O'Connor Street	M13 - M12	12	14	VCP	276	Broken at 193	13	0	15		28
O	Woodland Avenue	O29 - O28		8	VCP	143	Surcharged MH with substantial crud on water	16	0	12		**28**
O	Mission Drive	O50 - O49		8	VCP	172	Joint Offset Large at 170 ft	28	0	0		**28**
D	Manhattan Avenue	D76 - D19		12	PVC	99	-	27	0	0		**27**
H	Camphor Way	H45 - H9		8	PVC	222	Broken at 103ft, 106ft, 167ft	27	0	0		27
L	Daphine Way	L34 - L26		8	VCP	287	Hole at 263.3ft	7	0	15	5	27
L	Gardenia Court	L61 - L5		8	VCP	152	Broken at 98.8	7	0	20		27
M	Clarke Avenue	M14A - M5		8	VCP	75	New Line Segment. Broken at 70.2ft	7	0	20		27
D	Euclid Avenue	D22 - D21	10	12	HDPE	149	Grease/surcharged. Requires heavy cleaning.	0	0	26		**26**
F	Weeks Street	F22 - F12		8	VCP	54	This pipe line was F17A - F12	26	0	0		26
H	Schembri Lane	H46 - H52		8	VCP	361	Broken at 344.2ft	11	0	15		26
I	Myrtle Street	I28 - I21		8	VCP	315	This pipe line was I23A - I21	26	0	0		26
J	Garden Street	J6 - J5		8	VCP	558	Crack at 404ft	11	0	0	15	26
L	Verbina Drive	L14 - L13		8	VCP	302		26	0	0		26
L	Verbina Drive	L15 - L14		8	VCP	310		26	0	0		26
L	Jasmine Way	L44 - L45		8	PVC	238		26	0	0		26
O	West Bayshore Road	O8 - O59		8	VCP	103	-	26	0	0		**26**
C	O'Connor Street	C39 - C37		8	VCP	164	Proteus. This is the second inspection. First	9	0	16		**25**
I	Pulgas Avenue	I16 - I6		8	PVC	493	-	20	0	0	5	25
I	Brentwood Court	I19 - I18		8	PVC	239	-	20	0	0	5	25
K	Camellia Drive	K30 - K31		8	PVC	108	-	20	0	0	5	25
L	Verbina Drive	L18 - L17		8	VCP	331	Broken at 135ft	10	0	15		25
L	Daphine Way	L39 - L40		8	VCP	346	Broken at 296.7ft	10	0	15		25
O	Mission Drive	O46 - O45		8	VCP	213	Broken at 3.7ft, Joint Separated Medium along the pipe	25	0	0		**25**
O	Cooley Avenue	O51 - O51A		8	VCP	234	10% grease build up	20	0	0	5	**25**

Table 2
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List Sorted by Diameter, Pipelines for Structural Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
I	Beech Street	I3 - T19	24	26	PVC	188	30	0	0	5	35
I	Beech Street	I7 - I6	20	22	CP	259	26	0	0	20	46
A	Bay Road	A5 - A8	18	20	PE	124	80	0	0	10	90
A	Bay Road	A10 - A15	18	20	ACP	299	61	0	0	20	81
A	Bay Road	A15 - A16	18	20	ACP	435	50	0	0	25	75
A	Bay Road	A16 - A21	18	20	ACP	296	44	0	0	5	49
A	Bay Road	A9 - A10	18	20	ACP	181	28	0	0	15	43
D	Donohoe Street	D2 - D1	18	20	VCP	53	34	0	0		**34**
H	Green Street	H75 - H6	18	20	PE	259	29	0	0		29
D	Donohoe Street	D3 - D3A	16	18	VCP	11	34	0	0	5	**39**
D	Donohoe Street	D3A - D2	16	18	VCP	355	34	0	0		**34**
A	Bay Road	A22 - A29	18	18	ACP	369	30	0	0		30
A	Bay Road	A2 - A5	15	16	Unknown	244	70	0	0	25	95
I	Pulgas Avenue	I15 - I14	15	16	PVC	386	50	0	0	25	75
A	Bay Road	A1 - A2	15	16	Unknown	80	50	0	10	0	60
A	Bay Road	B2 - A2	15	16	PE	181	50	0	0	10	60
K/L	Larkspur Drive	L21 - K28	14	16	PVC	68	40	0	0	20	60
I	Pulgas Avenue	I13 - I12	15	16	PVC	320	30	0	0	5	35
H	Clarke Avenue	H14 - H13	12	14	VCP	446	66	0	0	25	91
H	Clarke Avenue	H12 - H11	12	14	VCP	333	70	0	0	15	85
H	Clarke Avenue	H64 - H71	12	14	VCP	99	42	0	24	15	81
H	Clarke Avenue	H13 - H12	12	14	VCP	108	54	0	0	10	64
H	Runnymede Street	H17 - H76	12	14	VCP	397	17	0	20	5	42
L	Gardenia Way	L2 - L1	12	14	PVC	179	24	0	15		39
H	Runnymede Street	H57 - H16	12	14	VCP	48	20	0	15		35
H	Clarke Avenue	H11 - H64	12	14	VCP	198	34	0	0		34
H	Runnymede Street	H76 - H57	12	14	VCP	73	19	0	15		34
M	O'Connor Street	M42 - M13	12	14	VCP	111	34	0	0		34
L	Gardenia Way	L3 - L2	12	14	PVC	83	30	0	0		30
M	O'Connor Street	M13 - M12	12	14	VCP	276	13	0	15		28
H	Runnymede Street	H35 - H34	10	12	VCP	322	62	0	8	30	100
D	Hwy 101	D10 - D3	10	12	Not Known	489	54	0	20	10	**84**
M/I	Pulgas Avenue	I43 - I15		12	PVC	60	35	0	0	30	65
O/N	Highway 101	O3 - N8		12	Unknown	205	44	0	8	10	**62**
D	West Bayshore Road	D21 - D19	10	12	HDPE	391	40	0	20		**60**
H	Runnymede Street	H34 - H17	10	12	VCP	269	34	0	16	10	60
C	Menalto Avenue	C2 - C1	10	12	Unknown	204	38	0	16	5	**59**
D	Manhattan Avenue	D19 - D10	10	12	PVC	48	30	0	0	20	**50**
M/I	Pulgas Avenue	M2 - I43		12	PVC	42	25	0	0	25	50
D	Euclid Avenue	D23 - D22	10	12	PE	73	30	0	8	10	**48**
D	Donohoe Street	D4 - D3	10	12	VCP	296	34	0	0		**34**
D	Euclid Avenue	D24 - D23	10	12	PE	350	20	0	8		**28**
H	University Avenue	H36 - H35	10	12	VCP	474	23	0	0	5	28
D	Manhattan Avenue	D76 - D19		12	PVC	99	27	0	0		**27**
D	Euclid Avenue	D22 - D21	10	12	HDPE	149	0	0	26		**26**
C	Menalto Avenue	C4 - C3	8	10	PE	436	66	0	10	15	**91**
C	Menalto Avenue	C6 - C5	8	10	PE	87	42	0	20	10	**72**
C	Menalto Avenue	C7 - C6	8	10	PE	448	20	0	12	25	**57**
C	Menalto Avenue	C2A - C2	8	10	VCP	28	34	0	20		**54**
D	O'Connor Street	D25 - D24	8	10	VCP	301	36	0	16		**52**
I	Myrtle Street	I21 - I13	8	10	VCP	600	47	0	0	5	52
O	West Bayshore Road	O9 - O8	8	10	VCP	140	36	0	0	5	**41**
C	Woodland Avenue	C48 - C11	8	10	Unknown	179	23	0	16		**39**
C	Menalto Avenue	C5 - C4	8	10	Unknown	328	29	0	10		**39**
C	Menalto Avenue	C10 - C8	8	10	PE	387	23	0	10	5	**38**
D	Woodland Avenue	D35 - D34	8	10	VCP	178	38	0	0		**38**
C	Menalto Avenue	C8 - C7	8	10	PE	401	20	0	16		**36**
O	West Bayshore Road	O4 - O3		8	VCP	277	86	0	0	25	**111**

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J	Pulgas Avenue	J7 - J6		8	VCP	441	73	0	10	25	108
A	Demeter Street	A13 - A12		8	Unknown	412	70	0	20	15	105
J	Garden Street	J9 - J9A		8	VCP	365	51	0	30	20	101
A	Pulgas Avenue	A18 - A16		8	VCP	442	70	0	10	20	100
K	Larkspur Drive	K19 - K18		8	CP	272	58	0	30	10	98
A	Gonzaga Street	A3 - A2		8	VCP	287	46	0	30	20	96
J	Garden Street	J10 - J9		8	VCP	300	70	0	10	15	95
K	Larkspur Drive	K18 - K17		8	CP	269	80	0	15		95
A	Illinois Street	A6 - A5		8	VCP	287	49	0	30	15	94
K	Daisy Lane	K21 - K3		8	CP	246	53	0	30	10	93
A	Illinois Street	A7 - A6		8	VCP	306	46	0	30	15	91
K	Wisteria Drive	K13 - K12		8	VCP	362	56	0	20	15	91
C	Elliot Drive	C41 - C40		8	VCP	191	70	0	20		**90**
C	Elliot Drive	C42 - C41		8	VCP	300	70	0	20		**90**
F	Weeks Street	F23 - F8		8	VCP	327	70	0	0	20	90
C	Elliot Drive	C40 - C36		8	VCP	257	67	0	20		**87**
A	Tara Street	A27 - A26		8	VCP	311	35	0	30	20	85
C	Hwy 101	C21 - C19		8	VCP	284	55	0	30		**85**
L	Wisteria Drive	L29 - L28		8	VCP	366	35	0	30	20	85
K	Larkspur Drive	K16 - K4		8	CP	274	53	0	15	15	83
O	Woodland Avenue	O23 - O22		8	VCP	470	62	0	20		**82**
I	Beech Street	I20 - I9		8	VCP	278	40	0	20	20	80
D	Donohoe Street	D9 - D8		8	VCP	496	70	0	8		**78**
D	Donohoe Street	D8 - D7		8	VCP	158	37	0	30	10	**77**
A	Demeter Street	A12 - A11		8	VCP	485	55	0	0	20	75
D	West Bayshore Road	D7 - D6		8	VCP	398	60	0	0	15	**75**
F	Weeks Street	F11 - F10		8	VCP	420	70	0	0	5	75
F	Weeks Street	F12 - F11		8	VCP	355	70	0	0	5	75
F	Weeks Street	F19 - F20		8	VCP	216	70	0	0	5	75
J	Garden Street	J8 - J6		8	VCP	442	70	0	0	5	75
C	Menalto Avenue	C43 - C8		8	VCP	101	58	0	16		**74**
G	Runnymede Street	G7 - G6		8	PVC	295	48	0	0	25	73
K	Camellia Drive	K35 - K34		8	VCP	280	42	0	10	20	72
C	Ralmar Avenue	C15 - C14		8	VCP	565	50	0	20		**70**
C	Oak Court	C47 - C46		8	VCP	309	70	0	0		**70**
D	West Bayshore Road	D51 - D7		8	VCP	458	45	0	20	5	**70**
F	Pulgas Avenue	F14 - F8		8	PVC	463	50	0	0	20	70
O	Woodland Avenue	O20 - O19		8		116	50	0	20		**70**
H	Donohoe Street	H21A - H55		8	VCP	157	48	0	0	20	68
K	Camellia Drive	K36 - K35		8	VCP	282	38	0	20	10	68
C	O'Connor Street	C35 - C7		8	Unknown	403	50	0	12	5	**67**
F	Weeks Street	F8 - F8A		8	VCP	281	46	0	0	20	66
O	Woodland Avenue	O21 - O19		8	VCP	394	46	0	20		**66**
K	Azalia Drive	K9 - K8		8	VCP	356	25	0	40		65
H	Clarke Avenue	H24 - H20		8	VCP	333	14	0	30	20	64
K	Wisteria Drive	K11 - K5		8	VCP	370	34	0	20	10	64
C	Hwy 101	C20 - C19		8	VCP	199	42	0	20		**62**
D	Green Street	D68 - D67		8	VCP	139	50	0	12		**62**
I	Myrtle Street	I23 - I28		8	VCP	166	32	0	30		62
L	Gaillardia Way	L11 - L10		8	VCP	360	22	0	30	10	62
G	Runnymede Street	G4 - G3		8	PVC	213	50	0	0	10	60
J	Garden Street	J5C - T21		8	PVC	62	40	0	0	20	60
K	Daisy Lane	K22 - K21		8	CP	256	60	0	0		60
K	Camellia Drive	K33 - K32		8	VCP	131	40	0	0	20	60
L	Wisteria Drive	L26 - L25		8	VCP	216	16	0	24	20	60
L	Jasmine Way	L43 - L44		8	PVC	334	60	0	0		60
O	Cooley Avenue	O51A - O13		8	VCP	236	50	0	0	10	**60**
C	Green Street	C23 - C3		8	VCP	400	34	0	20	5	**59**

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G	Runnymede Street	G14 - G17		8	VCP	151	14	0	20	25	59
O	West Bayshore Road	O5 - O4		8	Unknown	399	44	0	0	15	**59**
C	Oak Court	C44 - C10		8	VCP	155	42	0	16		**58**
C	Oak Court	C46 - C45		8	VCP	256	58	0	0		**58**
D	O'Connor Street	D26 - D25		8	VCP	157	38	0	20		**58**
D	East Bayshore Road	D65 - D64		8	VCP	448	38	0	20		**58**
D	Oakwood Dive	D71 - D52		8	VCP	130	46	0	12		**58**
O	Capitol Avenue	O16 - O15		8	VCP	235	42	0	15		**57**
C/D	Donohoe Street	C26 - D9		8	VCP	436	36	0	20		**56**
D	French Court	D40 - D37		8	VCP	194	25	0	30		**55**
F	Weeks Street	F20 - F17		8	VCP	253	55	0	0		55
G	Runnymede Street	G6 - G4		8	PVC	388	50	0	0	5	55
K	Larkspur Drive	K17 - K16		8	CP	267	55	0	0		55
C	Poplar Avenue	C13 - C12		8	Unknown	481	34	0	20		**54**
D	O'Connor Street	D29 - D28		8	VCP	465	46	0	8		**54**
D	Oak Court	D37 - D36		8	VCP	368	54	0	0		**54**
D	East O'Keefe Street	D43 - D41		8	VCP	517	46	0	8		**54**
D	Woodland Avenue	D56 - D35		8	VCP	286	42	0	12		**54**
G	Buchanon Court	G10 - G9		8	CP	271	24	0	30		54
H	Donohoe Street	H21 - H56		8	VCP	151	54	0	0		54
O	Woodland Avenue	O29 - O30		8	VCP	220	42	0	12		**54**
C	Oak Court	C45 - C44		8	VCP	166	43	0	10		**53**
O	Woodland Avenue	O22 - O21		8	VCP	348	33	0	20		**53**
G	Mandela Court	G15 - G14		8	PVC	215	42	0	0	10	52
D	East O'Keefe Street	D47 - D22		8	VCP	299	41	0	5	5	**51**
O	Woodland Avenue	O28 - O26		8	VCP	434	41	0	10		**51**
A	Demeter Street	A14 - A13		8	Unknown	288	50	0	0		50
A	Pulgas Avenue	A20 - A19		8	VCP	340	20	0	30		50
C	Addison Avenue	C18 - C17		8	VCP	370	34	0	16		**50**
D	O'Connor Street	D41 - D24		8	VCP	191	50	0	0		**50**
D	Addison Avenue	D55 - D54		8	VCP	252	34	0	16		**50**
F	Weeks Street	F10 - F9		8	VCP	463	45	0	0	5	50
F	Clarke Avenue	F15 - F11		8	VCP	301	50	0	0		50
H	Donohoe Street	H23 - H22		8	VCP	405	50	0	0		50
K/L	Gardenia Way	K31 - L1		8	PVC	148	30	0	0	20	50
L	Verbina Drive	L17 - L16		8	VCP	236	50	0	0		50
L	Daphine Way	L35 - L34		8	VCP	250	50	0	0		50
L	Azalia Drive	L47 - L4		8	VCP	88	20	0	30		50
O	Clarke Avenue	O26 - O25		8	VCP	333	50	0	0		**50**
O	Newell Road	O35 - O34		8	ACP	316	50	0	0		**50**
O	Scofield Street	O52 - O51		8	VCP	213	50	0	0		**50**
O	Woodland Avenue	O55 - O54		8	VCP	399	42	0	8		**50**
G	Buchanon Court	G9 - G6		8	CP	291	14	0	30	5	49
J	Garden Street	J9A - J8		8	VCP	35	19	0	30		49
O	West Bayshore Road	O59 - O7		8	VCP	182	9	0	30	10	**49**
D	Green Street	D69 - D67		8	VCP	259	40	0	8		**48**
F	Weeks Street	F9 - F23		8	VCP	111	43	0	0	5	48
O	Newell Road	O31 - O30		8	VCP	90	18	0	30		**48**
O	Woodland Avenue	O33 - O32		8	VCP	263	26	0	12	10	**48**
C	Palmar Avenue	C25 - C23		8	VCP	303	42	0	0	5	**47**
D	Glen Way	D67 - D63		8	VCP	294	17	0	30		**47**
O	Cooley Avenue	O58 - O57		8	VCP	403	17	0	30		**47**
C	Addison Avenue	C17 - C16		8	VCP	333	38	0	8		**46**
C	Hwy 101	C19 - C2		8	VCP	264	26	0	20		**46**
G	Pulgas Avenue	G13 - G3		8	PVC	453	46	0	0		46
K/L	Azalia Drive	L10 - K27		8	VCP	275	11	0	20	15	46
O	Cooley Avenue	O57 - O51		8	VCP	365	46	0	0		**46**
C/D	O'Connor Street	D29 - C37		8	Unknown	130	27	0	8	10	**45**

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D	Oak Court	D36 - D35		8	VCP	251	29	0	16		**45**
D	East O'Keefe Street	D48 - D47		8	VCP	401	28	0	12	5	**45**
C	East Bayshore	C14 - C12		8	PVC	282	44	0	0		**44**
C	Woodland Avenue	C51 - C50		8	Unknown	556	32	0	12		**44**
D	East Bayshore Road	D64 - D63		8	VCP	471	19	0	20	5	**44**
G	Veronica Court	G18 - G17		8	PVC	291	39	0	0	5	44
I	Terra Villa Avenue	I17 - I7		8	VCP	526	34	0	0	10	44
L	Azalia Drive	L10 - L9		8	VCP	180	44	0	0		44
A	Pulgas Avenue	A17 - A31		8	VCP	241	43	0	0		43
D	West Bayshore Road	D53 - D52		8	VCP	248	38	0	0	5	**43**
K	Azalia Drive	K7 - K6		8	VCP	362	23	0	0	20	43
O	Mission Drive	O41 - O40		8	Unknown	45	27	0	16		**43**
O	Scofield Street	O54 - O52		8	VCP	380	13	0	30		**43**
D	O'Connor Street	D27 - D26		8	VCP	392	34	0	8		**42**
F	Weeks Street	F7 - T25		8	VCP	477	32	0	0	10	42
H	Donohoe Street	H56 - H21A		8	VCP	157	42	0	0		42
I	Brentwood Court	I18 - I8		8	PVC	237	32	0	0	10	42
K	Hibiscus Court	K24 - K21		8	CP	149	42	0	0		42
L	Abelia Way	L58 - L57		8	VCP	295	22	0	20		42
C	Woodland Avenue	C49 - C48		8	Unknown	248	29	0	12		**41**
C	Woodland Avenue	C50 - C49		8	Unknown	361	29	0	12		**41**
D	O'Connor Street	D28 - D27		8	VCP	81	28	0	8	5	**41**
H	Cooley Avenue	H32 - H17		8	VCP	550	41	0	0		41
C	East Bayshore	C16 - C14		8	PVC	273	40	0	0		**40**
G	Runnymede Street	G8 - G7		8	PVC	327	35	0	0	5	40
O	Newell Road	O34 - O10		8	ACP	268	40	0	0		**40**
A	Pulgas Avenue	A31 - A16		8	PVC	177	34	0	0	5	39
D	Oak Court	D38 - D37		8	VCP	238	9	0	30		**39**
D	Oak Court	D39 - D37		8	Unknown	84	9	0	30		**39**
G	Buchanon Court	G11 - G10		8	CP	266	19	0	20		39
L	Verbina Drive	L13 - L9		8	VCP	311	24	0	15		39
L	Verbina Drive	L16 - L15		8	VCP	311	24	0	15		39
L	Aster Way	L31 - L30		8	VCP	179	9	0	30		39
O	Woodland Avenue	O32 - O31		8	VCP	258	9	0	30		**39**
H	University Avenue	H37A - H36		8	VCP	149	38	0	0		38
H	Sacramento Street	H41 - H40		8	VCP	150	38	0	0		38
H	Weeks Street	H42 - H37		8	VCP	388	38	0	0		38
H	Donohoe Street	H55 - H54		8	PVC	144	38	0	0		38
K	Sage Street	K20 - K19		8	CP	135	8	0	30		38
L	Camellia Drive	L20 - L16		8	VCP	101	38	0	0		38
L	Daphine Way	L37 - L36		8	VCP	312	38	0	0		38
L	Camellia Drive	L54 - L53		8	VCP	369	8	0	30		38
M	O'Connor Street	M43 - M42		8	VCP	104	38	0	0		38
O	Circle Drive	O53 - O52		8	VCP	188	38	0	0		**38**
O	Woodland Avenue	O56 - O55		8	VCP	377	38	0	0		**38**
H/E	Euclid Avenue	H38 - E42		8	VCP	519	17	0	20		37
K	Camellia Drive	K34 - K33		8	VCP	278	32	0	0	5	37
G	Runnymede Street	G19 - T23		8	VCP	263	36	0	0		36
H	Schembri Lane	H29 - H12		8	VCP	551	16	0	20		36
L	Daphine Court	L62 - L34		8	VCP	147	36	0	0		36
L	Camellia Drive	L46 - L45		8	VCP	136	35	0	0		35
L	Daphine Way	L36 - L35		8	VCP	278	24	0	10		34
D	O'Connor Street	D42 - D41		8	VCP	100	34	0	0		**34**
D	East O'Keefe Street	D44 - D43		8	VCP	113	34	0	0		**34**
D	East O'Keefe Street	D50 - D49		8	VCP	422	34	0	0		**34**
D	West Bayshore Road	D54 - D53		8	VCP	75	34	0	0		**34**
D	Hwy 101	D6 - D5		8	Unknown	246	34	0	0		**34**
H	Runnymede Street	H38 - H47		8	VCP	205	34	0	0		34

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Priority List Sorted by Diameter, Pipelines for Structural Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
H	Weeks Street	H43 - H42		8	VCP	346	34	0	0		34
H	Runnymede Street	H47 - H35		8	VCP	192	29	0	0	5	34
L	Verbina Drive	L19 - L18		8	VCP	333	34	0	0		34
L	Wisteria Drive	L28 - L27		8	VCP	363	34	0	0		34
L	Daphine Way	L37 - L38		8	VCP	212	24	0	10		34
A	Pulgas Avenue	A19 - A18		8	VCP	214	33	0	0		33
H	Donohoe Street	H22 - H21		8	VCP	216	13	0	20		33
C	O'Connor Street	C37 - C36		8	Unknown	153	15	0	12	5	**32**
H	Schembri Lane	H30 - H46		8	VCP	135	32	0	0		32
L	Camellia Drive	L53 - L52	6	8	VCP	218	32	0	0		32
L	Camellia Court	L56 - L54		8	VCP	327	32	0	0		32
H	Clarke Avenue	H31 - H14		8	VCP	404	15	0	16		31
K	Daisy Lane	K23 - K22		8	Unknown	100	23	0	8		31
K	Azalia Drive	K26 - K6		8	VCP	294	11	0	20		31
A	Tara Street	A24 - A23		8	VCP	240	10	0	20		30
C	Green Street	C24 - C23		8	VCP	151	10	0	20		**30**
C	East O'Keefe Street	C30 - C27		8	VCP	163	30	0	0		**30**
C	East O'Keefe Street	C32 - C30		8	VCP	147	30	0			**30**
C	East O'Keefe Street	C34 - C32		8	VCP	82	30	0	0		**30**
C	O'Connor Street	C36 - C35		8	Unknown	92	18	0	12		**30**
F	Weeks Street	F17 - F22		8	VCP	56	30	0	0		30
L	Gaillardia Way	L12 - L11		8	VCP	93	30	0	0		30
G	Ruth Ct	G12 - G4		8	PVC	273	29	0	0		29
H	University Avenue	H37 - H37A		8	VCP	221	9	0	20		29
H	Sacramento Street	H40 - H36		8	VCP	496	29	0	0		29
H	Donohoe Street	H54 - H20		8	VCP	153	19	0	10		29
L	Wisteria Drive	L22 - L3		8	VCP	366	14	0	15		29
L	Abelia Way	L59 - L58		8	VCP	250	9	0	20		29
O	West Bayshore Road	O10 - O9		8	VCP	157	29	0	0		**29**
F	Paul Robeson Court	F18 - F17		8	PVC	198	23	0	0	5	28
L	Aster Way	L33 - L32		8	VCP	91	13	0	15		28
L	Jasmine Way	L40 - L42		8	VCP	346	8	0	20		28
L	Camellia Drive	L45 - L25		8	VCP	202	23	0	0	5	28
O	Woodland Avenue	O29 - O28		8	VCP	143	16	0	12		**28**
O	Mission Drive	O50 - O49		8	VCP	172	28	0	0		**28**
H	Camphor Way	H45 - H9		8	PVC	222	27	0	0		27
L	Daphine Way	L34 - L26		8	VCP	287	7	0	15	5	27
L	Gardenia Court	L61 - L5		8	VCP	152	7	0	20		27
M	Clarke Avenue	M14A - M5		8	VCP	75	7	0	20		27
F	Weeks Street	F22 - F12		8	VCP	54	26	0	0		26
H	Schembri Lane	H46 - H52		8	VCP	361	11	0	15		26
I	Myrtle Street	I28 - I21		8	VCP	315	26	0	0		26
J	Garden Street	J6 - J5		8	VCP	558	11	0	0	15	26
L	Verbina Drive	L14 - L13		8	VCP	302	26	0	0		26
L	Verbina Drive	L15 - L14		8	VCP	310	26	0	0		26
L	Jasmine Way	L44 - L45		8	PVC	238	26	0	0		26
O	West Bayshore Road	O8 - O59		8	VCP	103	26	0	0		**26**
C	O'Connor Street	C39 - C37		8	VCP	164	9	0	16		**25**
I	Pulgas Avenue	I16 - I6		8	PVC	493	20	0	0	5	25
I	Brentwood Court	I19 - I18		8	PVC	239	20	0	0	5	25
K	Camellia Drive	K30 - K31		8	PVC	108	20	0	0	5	25
L	Verbina Drive	L18 - L17		8	VCP	331	10	0	15		25
L	Daphine Way	L39 - L40		8	VCP	346	10	0	15		25
O	Mission Drive	O46 - O45		8	VCP	213	25	0	0		**25**
O	Cooley Avenue	O51 - O51A		8	VCP	234	20	0	0	5	**25**

Table 3
East Palo Alto Sanitary District
Areas 1, 3, and 4 Proposed Pipeline Replacements
Opinion of Probable Construction Cost - Structural Upgrades

ITEM NO.	ITEM	EST. QUANTITY	UNIT OF MEASURE	UNIT PRICE	TOTAL
1	Mobilization	1	LS	$1,928,000	$1,928,000
2	Traffic Control	1	LS	$814,000	$814,000
3	Project Signage	1	LS	$2,000	$2,000
4	City Permits	1	LS	$3,000	$3,000
5	Construction Staking	1	LS	$133,000	$133,000
6	Maintain Access for Services and Residents	1	LS	$30,000	$30,000
7	Safety, Sheeting, Shoring, and Bracing	1	LS	$20,000	$20,000
8	Dust Control	1	LS	$20,000	$20,000
9	Bypassing	287	EA	$2,000	$574,000
10	8-inch PVC	62,825	LF	$375	$23,559,390
11	10-inch PVC	3,513	LF	$410	$1,440,195
12	12-inch PVC	3,471	LF	$435	$1,509,885
13	14/15-inch PVE or HDPE	2,352	LF	$500	$1,175,880
14	16/18-inch PVC	2,014	LF	$525	$1,057,306
15	20/21-inch PVC	1,648	LF	$600	$988,628
16	22/24-inch PVC or HDPE	259	LF	$720	$186,458
17	26/27-inch PVE or HDPE	188	LF	$795	$149,746
18	Drain Rock	2,000	TONS	$50	$100,000
19	Utility Crossings	1,500	EA	$250	$375,000
20	Reconnect Laterals	800	EA	$850	$680,000
21	Dewatering	1	LS	$8,500	$8,500
22	CCTV Inspections	76,269	LF	$2.00	$152,539
23	Cold-Patch Asphalt for Temporary Surfacing	60	TON	$500	$30,000
24	Asphalt Repaving	305,078	SF	$5	$1,525,389
25	Slurry Seal	2,593,161	SF	$0.70	$1,815,212
26	Striping and Pavement Markings	2,593,161	SF	$0.85	$2,204,187
Subtotal - Opinion of Probable Construction Costs					**$40,482,315**
27	Contingency	%	20%	$40,482,315	$8,096,463
Engineering and Administrative				**Opinion of Construction Subtotal**	**$48,578,778**
	Design	%	2%		$971,576
	Environmental/Permitting	%	2%		$971,576
	Construction Management	%	3%		$1,457,363
	Administration	%	2%		$971,576
				OPINION OF TOTAL PROBABLE PROJECT COST:	**$52,950,868**

Table 4
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of Pipelines for Structural and Capacity Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ 5 *Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
A	Bay Road	A5 - A8	18	20	PE	124	Sagging pipe 50%-100%	80	90	0	10	180
A	Bay Road	A10 - A15	18	20	ACP	299	Surface Damage Roughness Increased	61	90	0	20	171
A	Bay Road	A2 - A5	15	18	Unknown	244	Sagging pipe 75%	70	75	0	25	170
A	Bay Road	A15 - A16	18	20	ACP	435	Surface damage roughness. Sagging 75%	50	90	0	25	165
I	Beech Street	I3 - T19	24	26	PVC	188	Upgrade to 24" per MP	30	120	0	5	155
H	Clarke Avenue	H14 - H13	12	14	VCP	446	Broken at 425.5ft, 429ft with multiple cracks	66	60	0	25	151
H	Runnymede Street	H35 - H34	10	12	VCP	322	Pipeline has a lot of sagging. The high water level	62	50	8	30	150
I	Pulgas Avenue	I15 - I14	15	18	PVC	386	Sagging pipe 85%	50	75	0	25	150
I	Beech Street	I7 - I6	20	22	CP	259	Surface damage roughness. Sagging 75%	26	100	0	20	146
H	Clarke Avenue	H12 - H11	12	14	VCP	333	Broken at 111ft, 231ft, 331.9ft	70	60	0	15	145
H	Clarke Avenue	H64 - H71	12	14	VCP	99	H60-H3. Line has about 30%-40% grease that is	42	60	24	15	141
A / T	Bay Trail	A29 - T29	24	26	ACP	345	-	20	120	0		140
A	Bay Road	A16 - A21	18	20	ACP	296	-	44	90	0	5	139
A	Bay Road	A1 - A2	15	18	Unknown	80	MH A1 does not exist. Inspection started from B2-	50	75	10	0	135
A	Bay Road	B2 - A2	15	18	PE	181	A1 is buried, operator surveyed B2-A2 for total of	50	75	0	10	135
D	Hwy 101	D10 - D3	10	12	Not Known	489	MSA/80% grease in line. No heavy cleaning	54	50	20	10	**134**
A	Bay Road	A9 - A10	18	20	ACP	181	Broken at 172ft	28	90	0	15	133
C	Menalto Avenue	C4 - C3	8	12	PE	436	This is the second inspection after heavy cleaning.	66	40	10	15	**131**
K/L	Larkspur Drive	L21 - K28	14	16	PVC	68	Sagging pipe 75%	40	70	0	20	130
D	Donohoe Street	D2 - D1	18	20	VCP	53		34	90	0		**124**
H	Clarke Avenue	H13 - H12	12	14	VCP	108	Broken at 18ft with 55% sagging pipe	54	60	0	10	124
I	Beech Street	I31 - I4	24	26	PVC	300	This pipe line was I5A-I4	0	120	0		120
I	Beech Street	I4 - I3	24	26	PVC	243	-	0	120	0		120
I	Beech Street	I5 - I31	24	26	PVC	154	This pipe line was I5-I5A	0	120	0		120
I	Beech Street	I6 - I5	24	26	PVC	411	-	0	120	0		120
D	Donohoe Street	D3 - D3A	16	18	VCP	11	Surface Damage Roughness Increased	34	80	0	5	**119**
H	Green Street	H75 - H6	18	20	PE	259	H7C - H6	29	90	0		119
I	Beech Street	I9 - I8	20	22	CP	155	-	18	100	0		118
D	Donohoe Street	D3A - D2	16	18	VCP	355	Broken at 4.2ft	34	80	0		**114**
C	Menalto Avenue	C6 - C5	8	12	PE	87	Pipeline has lots of debris	42	40	20	10	**112**
O	West Bayshore Road	O4 - O3		8	VCP	277	85% sag, 10% grease build up	86	0	0	25	**111**
D	West Bayshore Road	D21 - D19	10	12	HDPE	391	Heavy Cleaning/high flow. Night work. HDPE. This	40	50	20		**110**
H	Runnymede Street	H34 - H17	10	12	VCP	269	Submerged pipe with a line down alignment.	34	50	16	10	110
H	Green Street	H7 - H75	18	20	PE	91	H7B - H7C	20	90	0		110
H	Green Street	H73 - H74	18	20	PE	104	H8 - H7	20	90	0		110
H	Green Street	H74 - H8	18	20	PE	112	H7 - H7A	20	90	0		110
H	Green Street	H8 - H7	18	20	PE	235	H7A - H7B	20	90	0		110
I	Beech Street	I11 - I10	18	20	CP	380	-	20	90	0		110
I	Pulgas Avenue	I13 - I12	15	18	PVC	320	-	30	75	0	5	110
C	Menalto Avenue	C2 - C1	10	12	Unknown	204	MSA/Grease. Heavy grease blockage at 136.9	38	50	16	5	**109**
J	Pulgas Avenue	J7 - J6		8	VCP	441	Pipe is broken at 124ft and 197ft	73	0	10	25	108
A	Demeter Street	A13 - A12		8	Unknown	412	Broken pipe at 129 ft and 139 ft with sags.	70	0	20	15	105
H	Runnymede Street	H17 - H76	12	14	VCP	397	H17 - H16. Broken pipe at 43.2ft, 144.9ft, 150ft	17	60	20	5	102
J	Garden Street	J9 - J9A		8	VCP	365	Pipe is broken at 8ft, 32ft, 81ft, 223ft & 318ft.	51	0	30	20	101
A	Pulgas Avenue	A18 - A16		8	VCP	442	Broken pipe at 44ft.	70	0	10	20	100
D	Manhattan Avenue	D19 - D10	10	12	PVC	48	Line is sagging. Camera was under water for most	30	50	0	20	**100**
H/E	Green Street	E1 - H9	16	18	PE	270		20	80	0		100
H	Green Street	H9 - H73	16	18	PE	246	H9 - H8	20	80	0		100
I	Beech Street	I10 - I9	18	20	CP	221	-	10	90	0		100
I	Beech Street	I8 - I7	20	22	CP	238	-	0	100	0		100
L	Gardenia Way	L2 - L1	12	14	PVC	179	Joint Separated Large at 104.9ft, infiltration from	24	60	15		99
D	Euclid Avenue	D23 - D22	10	12	PE	73	Pipeline had heavy grease	30	50	8	10	**98**
K	Larkspur Drive	K19 - K18		8	CP	272	Pipe is broken and soil is visible at 144ft, and	58	0	30	10	98
C	Menalto Avenue	C7 - C6	8	12	PE	448	Pipeline has lots of debris	20	40	12	25	**97**
A	Gonzaga Street	A3 - A2		8	VCP	287	Broken pipe at 53, 141, 157, and 159 ft. Also, an	46	0	30	20	96
H	Runnymede Street	H57 - H16	12	14	VCP	48	H16A - H16B. Broken at 20.9ft	20	60	15		95
J	Garden Street	J10 - J9		8	VCP	300	Pipe is broken at 228ft and 293ft	70	0	10	15	95
K	Larkspur Drive	K18 - K17		8	CP	269	SMW spots on the line.	80	0	15		95
A	Illinois Street	A6 - A5		8	VCP	287	Broken pipe at 15 and 75ft. Also, an offset joint at	49	0	30	15	94
C	Menalto Avenue	C2A - C2	8	12	VCP	28	New line segment - Broken at 19.9 ft	34	40	20		**94**
H	Clarke Avenue	H11 - H64	12	14	VCP	198	H11 - H60. Broken at 73.2ft	34	60	0		94
H	Runnymede Street	H76 - H57	12	14	VCP	73	H16 - H16A. Broken at 63.2ft	19	60	15		94
M	O'Connor Street	M42 - M13	12	14	VCP	110	Surface Damage and cracks	34	60	0		94
K	Daisy Lane	K21 - K3		8	CP	246	Pipe has few locations with chunks of pipe missing	53	0	30	10	93
A	Bay Road	A23 - A22	18	20	ACP	14	-	2	90	0		92
D	O'Connor Street	D25 - D24	8	12	VCP	301	large offset between joints and unable to video it	36	40	16		**92**
I	Myrtle Street	I21 - I13	8	12	VCP	600	As I24 should be between them as shown in the	47	40	0	5	92
A	Illinois Street	A7 - A6		8	VCP	306	Broken pipe at 82 and 230 ft.	46	0	30	15	91

Table 4
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of Pipelines for Structural and Capacity Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ 5 *Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
K	Wisteria Drive	K13 - K12		8	VCP	362	Pipe is broken at 9ft and 91ft.	56	0	20	15	91
A	Bay Road	A21 - A23	18	20	ACP	168	New Line Segment. MH Name changed from A22	0	90	0		90
A	Bay Road	A21 - A23	18	20		155	A21 does not connect to A23 but it connects to	0	90	0		90
A	Bay Road	A8 - A9	18	20	PVC	61	-	0	90	0		90
C	Elliot Drive	C41 - C40		8	VCP	191	substantial breakage throughout their entire	70	0	20		**90**
C	Elliot Drive	C42 - C41		8	VCP	300	substantial breakage throughout their entire	70	0	20		**90**
F	Weeks Street	F23 - F8		8	VCP	327	This pipeline was F9A-F8	70	0	0	20	90
H/I	Beech Street	H2 - I11	18	20		37	Paved over	0	90	0		90
H	Beech Street	H3 - H2	18	20		31	Paved over	0	90	0		90
H	Clarke Avenue	H4 - H3	18	20		7	Paved over	0	90	0		90
H	Clarke Avenue	H5 - H4	18	20		259	Paved over	0	90	0		90
H	Green Street	H6 - H5	18	20		9	Paved over	0	90	0		90
L	Gardenia Way	L3 - L2	12	14	PVC	78		30	60	0		90
M	O'Connor Street	M13 - M12	12	14	VCP	276	Broken at 193	13	60	15		88
C	Elliot Drive	C40 - C36		8	VCP	257	MSA/Root tap barrel. Reverse inspection	67	0	20		**87**
A	Tara Street	A27 - A26		8	VCP	311	Broken pipe and soil is visible at 254.10 ft at 11	35	0	30	20	85
C	Hwy 101	C21 - C19		8	VCP	284	MSA/Collapsed pipe. Reverse inspection	55	0	30		**85**
L	Wisteria Drive	L29 - L28		8	VCP	366	Pipe is broken at 348ft, and soil is visible	35	0	30	20	85
D	Donohoe Street	D4 - D3	10	12	VCP	296	Fracture Multiple at 131ft	34	50	0		**84**
K	Larkspur Drive	K16 - K4		8	CP	274	SMW spots on the line	53	0	15	15	83
O	Woodland Avenue	O23 - O22		8	VCP	470	MSA/TBI. Reverse Inspection complete. Pipe had	62	0	20		**82**
O	West Bayshore Road	O9 - O8	8	12	VCP	140	15% grease buildup at 96ft	36	40	0	5	**81**
I	Beech Street	I20 - I9		8	VCP	278	Pipe has MSA at 267 due to hard	40	0	20	20	80
C	Woodland Avenue	C48 - C11	8	12	Unknown	179	MSA/ Reverse Inspection complete	23	40	16		**79**
C	Menalto Avenue	C5 - C4	8	12	Unknown	328	Pipeline has lots of debris	29	40	10		**79**
C	Menalto Avenue	C10 - C8	8	12	PE	387	Modified line segment. Could not find C9	23	40	10	5	**78**
D	Euclid Avenue	D24 - D23	10	12	PE	350	Pipeline had heavy grease	20	50	8		**78**
D	Woodland Avenue	D35 - D34	8	12	VCP	178	Fracture Multiple at 73ft	38	40	0		**78**
D	Donohoe Street	D9 - D8		8	VCP	496	Broken at 21ft, multiple cracks	70	0	8		**78**
H	Runnymede Street	H15 - H62	12	14	Other	201	H15 - H58	18	60	0		78
H	University Avenue	H36 - H35	10	12	VCP	474		23	50	0	5	78
D	Donohoe Street	D8 - D7		8	VCP	158	broken pipe at 100.08 ft from upstream	37	0	30	10	**77**
C	Menalto Avenue	C8 - C7	8	12	PE	401	broken pipe located 100.08 ft from upstream	20	40	16		**76**
D	Euclid Avenue	D22 - D21	10	12	HDPE	149	Grease/surcharged. Requires heavy cleaning.	0	50	26		**76**
A	Demeter Street	A12 - A11		8	VCP	485	Sagging pipeline 55%	55	0	0	20	75
D	West Bayshore Road	D7 - D6		8	VCP	398	5% grease build up and 90% sag	60	0	0	15	**75**
F	Weeks Street	F11 - F10		8	VCP	420	Broken at 176ft, 242ft	70	0	0	5	75
F	Weeks Street	F12 - F11		8	VCP	533	Broken at 414ft, multiple fractures and cracks	70	0	0	5	75
F	Weeks Street	F19 - F20		8	VCP	216	MH was F19 - F21	70	0	0	5	75
I	Pulgas Avenue	I12 - I6	15	18	PVC	338	-	0	75	0		75
I	Pulgas Avenue	I14 - I13	15	18	PVC	444	-	0	75	0		75
J	Garden Street	J8 - J6		8	VCP	442	Broken at 33ft, 81.4ft, 164ft, 223ft, 286ft, 318ft	70	0	0	5	75
K	Larkspur Drive	K28 - K4	15	18	PVC	242	-	0	75	0		75
L	Larkspur Drive	L1 - L21	14	16	PVC	223		0	70	0	5	75
C	Menalto Avenue	C43 - C8		8	VCP	101	Proteus. MSA/TBI. Heavy cleaning was performed.	58	0	16		**74**
M	East Bayshore Road	M41 - M42	12	14	PVC	104		14	60	0		74
D	Euclid Avenue	D33 - D24	10	12	PE	450	-	23	50	0		**73**
G	Runnymede Street	G7 - G6		8	PVC	295	-	48	0	0	25	73
K	Camellia Drive	K35 - K34		8	VCP	280	Broken pipe at 9ft.	42	0	10	20	72
C	Ralmar Avenue	C15 - C14		8	VCP	565	MSA/JAM. Camera is unable to get past this point.	50	0	20		**70**
C	Oak Court	C47 - C46		8	VCP	309	This is the second inspection after heavy cleaning	70	0	0		**70**
D	West Bayshore Road	D51 - D7		8	VCP	458	MSA/JOL. Camera cannot move any further.	45	0	20	5	**70**
F	Pulgas Avenue	F14 - F8		8	PVC	463	Sagging pipe up to 75%	50	0	0	20	70
L	Wisteria Drive	L25 - L24	10	12	PVC	342		20	50	0		70
L	Azalia Drive	L49 - L48	10	12	VCP	233		20	50	0		70
O	Woodland Avenue	O20 - O19		8		116	After removing roots and debris from the exit of	50	0	20		**70**
H	Runnymede Street	H62 - H14	12	12	Other	230	H58 -H14	9	60	0		69
M	O'Connor Street	M12 - M15	12	12	VCP	337		9	60	0		69
H	Donohoe Street	H21A - H55		8	VCP	157	H21A - H21. Broken at 61ft, 101ft	48	0	0	20	68
K	Camellia Drive	K36 - K35		8	VCP	282	Broken pipe at 264ft.	38	0	20	10	68
C	O'Connor Street	C35 - C7		8	Unknown	403	Proteus. This is the second inspection. First	50	0	12	5	**67**
F	Weeks Street	F8 - F8A		8	VCP	281	New Line segment	46	0	0	20	66
O	Woodland Avenue	O21 - O19		8	VCP	394	MSA/Reverse Inspection performed.	46	0	20		**66**
M/I	Pulgas Avenue	I43 - I15		12	PVC	60	I15A - I15. Sagging pipe 90%	35	0	0	30	65
K	Azalia Drive	K9 - K8		12	VCP	356	Pipe is broken at 158ft, 183ft, 296ft. At 104ft a	25	0	40		65
H	Runnymede Street	H16 - H60	12	14	PVC	346	H16B - H16C	4	60	0		64
H	Clarke Avenue	H24 - H20		8	VCP	333	MSA/Broken pipe. The USMH is a cleanout so no	14	0	30	20	64
K	Wisteria Drive	K11 - K5		8	VCP	370	MSA/Joint offset. Reverse inspection performed	34	0	20	10	64

Table 4
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Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ 5 *Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
C	Hwy 101	C20 - C19		8	VCP	199	Broken at 5.1 ft, surface damage at 30 ft	42	0	20		**62**
D	Green Street	D68 - D67		8	VCP	139	Surface Damage at 94ft, pipeline has multiple	50	0	12		**62**
I	Myrtle Street	I23 - I28		8	VCP	166	Broken at 59ft. This pipe line was I23 - I23A	32	0	30		62
L	Gaillardia Way	L11 - L10		8	VCP	360	Pipe is broken at 240ft and soil is visible	22	0	30	10	62
L	Camellia Drive	L53 - L52	6	8	VCP	218	MSA/Reverse Inspection Complete	32	30	0		62
O/N	Highway 101	O3 - N8		12	Unknown	205	O3 was surcharged.	44	0	8	10	**62**
C	East Bayshore	C12 - C1	8	12	PVC	265		20	40			**60**
G	Runnymede Street	G4 - G3		8	PVC	213	-	50	0	0	10	60
H	Runnymede Street	H60 - H15	12	14	PVC	107	H16C - H15	0	60	0		60
J	Garden Street	J5C - T21		8	PVC	62	New Line Segment. Sagging pipe 75%	40	0	0	20	60
K	Daisy Lane	K22 - K21		8	CP	256	Surface Damage Missing Wall along the pipeline	60	0	0		60
K	Camellia Drive	K33 - K32		8	VCP	131	Sagging pipe 75%	40	0	0	20	60
L	Wisteria Drive	L26 - L25		8	VCP	216	Pipe has a lot of sagging, and an offset joint	16	0	24	20	60
L	Jasmine Way	L43 - L44		8	PVC	334	Joint Separated Large at 331.7ft	60	0	0		60
M	O'Connor Street	M15 - M5	12	14	VCP	264		0	60	0		60
M	East Bayshore Road	M38 - M39	12	14	PVC	158		0	60	0		60
M	East Bayshore Road	M39 - M40	12	14	PVC	158		0	60	0		60
M	East Bayshore Road	M40 - M41	12	14	PVC	263		0	60	0		60
O	Cooley Avenue	O51A - O13		8	VCP	236	5% grease build up, 60% sag	50	0	0	10	**60**
C	Green Street	C23 - C3		8	VCP	400	Pipe has grease and is under water for about 360'	34	0	20	5	**59**
G	Runnymede Street	G14 - G17		8	VCP	151	Pipe is broken at 17ft.	14	0	20	25	59
O	West Bayshore Road	O5 - O4		8	Unknown	399	Noteable sagging	44	0	0	15	**59**
C	Oak Court	C44 - C10		8	VCP	155	MSA/LR. Camera cannot move past bend.	42	0	16		**58**
C	Oak Court	C46 - C45		8	VCP	256	Broken at 153ft with multiple cracks	58	0	0		**58**
D	O'Connor Street	D26 - D25		8	VCP	157	broken pipe due to tree roots between 23-26 ft.	38	0	20		**58**
D	East Bayshore Road	D5 - D4	10	12	Unknown	94	-	8	50	0		**58**
D	East Bayshore Road	D65 - D64		8	VCP	448	Pipe is damaged. MSA/Crawler cannot move any	38	0	20		**58**
D	Oakwood Dive	D71 - D52		8	VCP	130	Proteus. This is the second inspection. First	46	0	12		**58**
O	Capitol Avenue	O16 - O15		8	VCP	235	Broken at 131.9 ft	42	0	15		**57**
C/D	Donohoe Street	C26 - D9		8	VCP	436	This is the second inspection after heavy cleaning	36	0	20		**56**
D	French Court	D40 - D37		8	VCP	204	This is the second inspection after using a root	25	0	30		**55**
F	Weeks Street	F20 - F17		8	VCP	252	MH was F20 - F21	55	0	0		55
G	Runnymede Street	G6 - G4		8	PVC	388	-	50	0	0	5	55
K	Larkspur Drive	K17 - K16		8	CP	267	Surface Damage Missing Wall along the pipeline	55	0	0		55
C	Poplar Avenue	C13 - C12		8	Unknown	481	MSA/Lined pipe. Camera could not move any	34	0	20		**54**
D	O'Connor Street	D29 - D28		8	VCP	465	Clogged, extensive cleaning required	46	0	8		**54**
D	Oak Court	D37 - D36		8	VCP	368	MSA/Reverse inspection complete	54	0	0		**54**
D	East O'Keefe Street	D43 - D41		8	VCP	517	MSA/Broken. Reverse inspection complete.broken	46	0	8		**54**
D	Woodland Avenue	D56 - D35		8	VCP	286	Offset joint 4' from MH	42	0	12		**54**
G	Buchanon Court	G10 - G9		8	CP	271	Pipe is broken and soil is visible at 10 ft and 221 ft	24	0	30		54
H	Donohoe Street	H21 - H56		8	VCP	151	H22 - H55. Broken at 14ft and 110ft	54	0	0		54
O	Woodland Avenue	O29 - O30		8	VCP	220	Surcharged MH with substantial crud on water	42	0	12		**54**
C	Oak Court	C45 - C44		8	VCP	166	Broken pipe at 6ft, 41ft, 24ft	43	0	10		**53**
O	Woodland Avenue	O22 - O21		8	VCP	348	broken at 81.02 ft, 311 ft, and 320 ft.	33	0	20		**53**
G	Mandela Court	G15 - G14		8	PVC	215	-	42	0	0	10	52
L	Azalia Drive	L50 - L49	10	12	VCP	224		2	50	0		52
D	East O'Keefe Street	D47 - D22		8	VCP	299	Grease build up at 269 ft	41	0	5	5	**51**
O	Woodland Avenue	O28 - O26		8	VCP	434	MSA/Reverse inspection complete. Proteous.	41	0	10		**51**
A	Demeter Street	A14 - A13		8	Unknown	288	-	50	0	0		50
A	Pulgas Avenue	A20 - A19		8	VCP	340	Broken pipe at 225ft, and separated joints at	20	0	30		50
C	Addison Avenue	C18 - C17		8	VCP	370	MSA/Proteus could not crawl any farther due to	34	0	16		**50**
D	O'Connor Street	D41 - D24		8	VCP	191	Broken at 51 ft and 122 ft	50	0	0		**50**
D	Addison Avenue	D55 - D54		8	VCP	252	MSA/Reverse inspection complete. broken at	34	0	16		**50**
F	Weeks Street	F10 - F9		8	VCP	463	Broken at 32.2ft & 247ft & 297ft & 314ft	45	0	0	5	50
F	Clarke Avenue	F15 - F11		8	VCP	301	Multiple cracks along the pipe	50	0	0		50
H	Donohoe Street	H23 - H22		8	VCP	405	H23 - H56. Broken at 133.9ft, 316.9ft	50	0	0		50
K/L	Gardenia Way	K31 - L1		8	PVC	148	-	30	0	0	20	50
L	Verbina Drive	L17 - L16		8	VCP	236		50	0	0		50
L	Wisteria Drive	L23 - L3	10	12	PVC	351		0	50	0		50
L	Wisteria Drive	L24 - L23	10	12	PVC	386		0	50	0		50
L	Daphine Way	L35 - L34		8	VCP	250		50	0	0		50
L	Azalia Drive	L47 - L4		8	VCP	88	Heavy grease was found on a sewer line cleaning	20	0	30		50
O	Clarke Avenue	O26 - O25		8	VCP	333	Broken at 125ft	50	0	0		**50**
O	Newell Road	O35 - O34		8	ACP	316		50	0	0		**50**
O	Scofield Street	O52 - O51		8	VCP	213	-	50	0	0		**50**
O	Woodland Avenue	O55 - O54		8	VCP	399	MSA/Reverse Inspection Complete.	42	0	8		**50**
M/I	Pulgas Avenue	M2 - I43		12	PVC	42	M2 - I15A. Sagging pipeline 100%	25	0	0	25	50
G	Buchanon Court	G9 - G6		8	CP	291	Pipe is broken and soil is visible at 84 ft	14	0	30	5	49

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J	Garden Street	J9A - J8		8	VCP	35	Pipe is broken at 115ft, 176ft, and 359ft.	19	0	30		49
O	West Bayshore Road	O59 - O7		8	VCP	182	Soil is visible at 167ft, 50% sag	9	0	30	10	**49**
D	Green Street	D69 - D67		8	VCP	259	MSA/TBI. No reverse inspection performed	40	0	8		**48**
F	Weeks Street	F9 - F23		8	VCP	111	This pipeline was F9-F9A	43	0	0	5	48
O	Newell Road	O31 - O30		8	VCP	45	Visible soil	18	0	30		**48**
O	Woodland Avenue	O33 - O32		8	VCP	263	Visible soil	26	0	12	10	**48**
C	Palmar Avenue	C25 - C23		8	VCP	303	Medium Joint Offset	42	0	0	5	**47**
D	Glen Way	D67 - D63		8	VCP	294	Pipe broken at 231.1 ft	17	0	30		**47**
O	Cooley Avenue	O58 - O57		8	VCP	403	MSA/Tap break in intruding. No reverse	17	0	30		**47**
C	Addison Avenue	C17 - C16		8	VCP	333	There's a JAM 3' from the DSMH. Camera is	38	0	8		**46**
C	Hwy 101	C19 - C2		8	VCP	264	MSA/OBM. Reverse Inspection performed.	26	0	20		**46**
C	Menalto Avenue	C3 - C2A	8	12	PVC	370	New line segment	6	40	0		**46**
G	Pulgas Avenue	G13 - G3		8	PVC	453	Proteous	46	0	0		46
K/L	Azalia Drive	L10 - K27		8	VCP	275	Broken connection of lateral at 28ft.	11	0	20	15	46
L	Camellia Drive	L52 - L50	8	12	VCP	224		6	40	0		46
O	Cooley Avenue	O57 - O51		8	VCP	365	Cracks and surface damage along the pipe	46	0	0		**46**
C/D	O'Connor Street	D29 - C37		8	Unknown	130	Proteus	27	0	8	10	**45**
D	Oak Court	D36 - D35		8	VCP	251	MSA/Broken. Reverse inspection attempted.	29	0	16		**45**
D	East O'Keefe Street	D48 - D47		8	VCP	401	5% Grease build up at 335ft	28	0	12	5	**45**
C	East Bayshore	C14 - C12		8	PVC	282		44	0	0		**44**
C	Woodland Avenue	C51 - C50		8	Unknown	556	Proteous. MSA/Reverse inspection complete. Pipe	32	0	12		**44**
D	East Bayshore Road	D64 - D63		8	VCP	471	MSA/Reverse inspection complete	19	0	20	5	**44**
G	Veronica Court	G18 - G17		8	PVC	291	-	39	0	0	5	44
I	Terra Villa Avenue	I17 - I7		8	VCP	526	Broken at 520ft	34	0	0	10	44
L	Azalia Drive	L10 - L9		8	VCP	180		44	0	0		44
O	West Bayshore Road	O7 - O6	8	12	Unknown	427	-	4	40	0		**44**
A	Pulgas Avenue	A17 - A31		8	VCP	242	This pipe line was A17 - A17A	43	0	0		43
D	West Bayshore Road	D53 - D52		8	VCP	248	Joint Separated Medium	38	0	0	5	**43**
K	Azalia Drive	K7 - K6		8	VCP	362	-	23	0	0	20	43
O	Mission Drive	O41 - O40		8	Unknown	45	Proteous. seemed to be different material	27	0	16		**43**
O	Scofield Street	O54 - O52		8	VCP	380	Pipe is broken at 26.08 feet.	13	0	30		**43**
D	O'Connor Street	D27 - D26		8	VCP	392	Clogged, extensive cleaning required	34	0	8		**42**
F	Weeks Street	F7 - T25		8	VCP	477	Multiple cracks along the pipe	32	0	0	10	42
H	Donohoe Street	H56 - H21A		8	VCP	157	H55 - H21A. Broken at 1.5ft	42	0	0		42
I	Brentwood Court	I18 - I8		8	PVC	237	-	32	0	0	10	42
K	Hibiscus Court	K24 - K21		8	CP	149	Surface Damage Missing Wall	42	0	0		42
L	Abelia Way	L58 - L57		8	VCP	295	Broken at 13ft, 50ft, 87ft, 236ft	22	0	20		42
L	Gardenia Way	L7 - L6	6	8	VCP	261		12	30	0		42
L	Azalia Drive	L9 - L4	6	8	VCP	162		12	30	0		42
C	Woodland Avenue	C49 - C48		8	Unknown	248	Proteous	29	0	12		**41**
C	Woodland Avenue	C50 - C49		8	Unknown	361	Proteous	29	0	12		**41**
D	O'Connor Street	D28 - D27		8	VCP	81	Clogged, extensive cleaning required	28	0	8	5	**41**
H	Cooley Avenue	H32 - H17		8	VCP	550	Broken Soil Visible at 111ft. Broken at 213.8ft,	41	0	0		41
C	East Bayshore	C16 - C14		8	PVC	273		40	0	0		**40**
C	Menalto Avenue	C3 - C2	8	12		398	Line has an unchartered manhole, See C2A	0	40	0		**40**
D	Euclid Avenue	D34 - D33	8	12	PE	293		0	40	0		**40**
D	Oakwood Dive	D66 - D65	8	12	Unknown	413		0	40	0		**40**
G	Runnymede Street	G8 - G7		8	PVC	327	-	35	0	0	5	40
O	Newell Road	O34 - O10		8	ACP	268		40	0	0		**40**
A	Pulgas Avenue	A31 - A16		8	PVC	177	This pipe line was A17A - A16	34	0	0	5	39
D	Oak Court	D38 - D37		8	VCP	238	MSA/Broken. No reverse inspection can be	9	0	30		**39**
D	Oak Court	D39 - D37		8	Unknown	84	New line segment. Proteus was used to inspect	9	0	30		**39**
G	Buchanon Court	G11 - G10		8	CP	266	Pipe is broken at 33 ft and 256 ft.	19	0	20		39
L	Verbina Drive	L13 - L9		8	VCP	311	Broken at 60.2ft	24	0	15		39
L	Verbina Drive	L16 - L15		8	VCP	311	Broken at169ft	24	0	15		39
L	Aster Way	L31 - L30		8	VCP	179	Pipe is broken at 59ft, and soil is visible	9	0	30		39
O	Woodland Avenue	O32 - O31		8	VCP	258	Broken at 3.2 ft and 226 ft	9	0	30		**39**
H	University Avenue	H37A - H36		8	VCP	149	New Line Segment. Broken 144.3ft, 145ft	38	0	0		38
H	Sacramento Street	H41 - H40		8	VCP	150	Broken at 38ft, 42ft	38	0	0		38
H	Weeks Street	H42 - H37		8	VCP	388	Broken at 304ft	38	0	0		38
H	Donohoe Street	H55 - H54		8	PVC	144	H21 - H54. Broken at 51ft	38	0	0		38
K	Sage Street	K20 - K19		8	CP	135	Surface Damage Missing Wall at 96.4ft	8	0	30		38
L	Camellia Drive	L20 - L16		8	VCP	101	Broken at 6.6ft	38	0	0		38
L	Daphine Way	L37 - L36		8	VCP	312	Hole at 252ft, 93.5ft	38	0	0		38
L	Camellia Drive	L54 - L53		8	VCP	369	Pipe is broken and soil is visible at 3.02ft.	8	0	30		38
M	O'Connor Street	M43 - M42		8	VCP	104	Broken at 109ft	38	0	0		38
O	Circle Drive	O53 - O52		8	VCP	222	Broken at 204ft	38	0	0		**38**
O	Woodland Avenue	O56 - O55		8	VCP	377	-	38	0	0		**38**

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H/E	Euclid Avenue	H38 - E42		8	VCP	519	Broken pipe Soil Visible at 146ft, 197ft	17	0	20		37
K	Camellia Drive	K34 - K33		8	VCP	278	-	32	0	0	5	37
G	Runnymede Street	G19 -T23		8	VCP	263	This pipeline was G2A-T23	36	0	0		36
H	Schembri Lane	H29 - H12		8	VCP	551	Broken pipe at 257ft, 349ft	16	0	20		36
L	Daphine Court	L62 - L34		8	VCP	147		36	0	0		36
L	Camellia Drive	L46 - L45		8	VCP	136	Broken pipe Soil Visible at 135.9ft	35	0	0		35
D	O'Connor Street	D42 - D41		8	VCP	100	Crack Multiple at 7.6ft & 69.2ft	34	0	0		**34**
D	East O'Keefe Street	D44 - D43		8	VCP	75	Broken at 72.2ft	34	0	0		**34**
D	East O'Keefe Street	D50 - D49		8	VCP	422	Broken at 418.9 ft	34	0	0		**34**
D	West Bayshore Road	D54 - D53		8	VCP	75	-	34	0	0		**34**
D	Hwy 101	D6 - D5		8	Unknown	246	Joint Offset Large at 112ft	34	0	0		**34**
H	Runnymede Street	H38 - H47		8	VCP	205	Broken at 80.3ft	34	0	0		34
H	Weeks Street	H43 - H42		8	VCP	346	Broken at 4.7ft, 303.7ft	34	0	0		34
H	Runnymede Street	H47 - H35		8	VCP	192	Fracture at 8.6 with cracks along the pipeline	29	0	0	5	34
K	otus Way / Camellia Driv	K37 - K32		8	VCP	350	Joint Offset Large at 342.9ft	24	0	10		34
L	Verbina Drive	L19 - L18		8	VCP	333	Broken at 330ft	34	0	0		34
L	Wisteria Drive	L28 - L27		8	VCP	363	Hole at 310.2ft	34	0	0		34
L	Daphine Way	L36 - L35		8	VCP	278	Hole at 38.4ft	24	0	10		34
L	Daphine Way	L37 - L38		8	VCP	212	Proteous. Hole at 140.7ft	24	0	10		34
A	Pulgas Avenue	A19 - A18		8	VCP	214	Fracture multiple alonge the pipeline	33	0	0		33
A	Gonzaga Street	A4 - A3		8	VCP	312	Broken at 205.9ft, multiple fractures	18	0	15		33
H	Donohoe Street	H22 - H21		8	VCP	216	H56 - H22. Broken pipe at 3.9ft, 137.4ft	13	0	20		33
C	O'Connor Street	C37 - C36		8	Unknown	153	Proteus. This is the second inspection. First	15	0	12	5	**32**
H	Schembri Lane	H30 - H46		8	VCP	135		32	0	0		32
L	Camellia Court	L56 - L54		8	VCP	327		32	0	0		32
H	Clarke Avenue	H31 - H14		8	VCP	404	MSA/JOL. No reverse inspection performed	15	0	16		31
K	Daisy Lane	K23 - K22		8	Unknown	100	Material change at 23ft and needs a mini camera	23	0	8		31
K	Azalia Drive	K26 - K6		8	VCP	294	Pipe is broken at 286ft	11	0	20		31
A	Bay Road	A22 - A29		15	ACP	369	-	30	0	0		30
A	Tara Street	A24 - A23		8	VCP	240	Broken pipe at 228 ft.	10	0	20		30
C	Green Street	C24 - C23		8	VCP	151	MSA/JOM. No reverse inspection performed	10	0	20		**30**
C	East O'Keefe Street	C30 - C27		8	VCP	163		30	0	0		**30**
C	East O'Keefe Street	C32 - C30		8	VCP	147		30	0			**30**
C	East O'Keefe Street	C34 - C32		8	VCP	82	-	30	0	0		**30**
C	O'Connor Street	C36 - C35		8	Unknown	92	Proteus. This is the second inspection. First	18	0	12		**30**
F	Weeks Street	F17 - F22		8	VCP	56	This pipe line was F17 - F17A	30	0	0		30
L	Gaillardia Way	L12 - L11		8	VCP	93		30	0	0		30
G	Ruth Ct	G12 - G4		8	PVC	273	Broken at 47ft, 170ft	29	0	0		29
H	University Avenue	H37 - H37A		8	VCP	221	New Line Segment. Broken at 162ft	9	0	20		29
H	Sacramento Street	H40 - H36		8	VCP	496	MSA/JOL. Reverse Inspection performed.	29	0	0		29
H	Donohoe Street	H54 - H20		8	VCP	153	Fracture at 14.7ft	19	0	10		29
L	Wisteria Drive	L22 - L3		8	VCP	366	Broken at 48.6ft	14	0	15		29
L	Abelia Way	L59 - L58		8	VCP	250	Broken at 220ft, 245ft	9	0	20		29
O	West Bayshore Road	O10 - O9		8	VCP	157		29	0	0		**29**
F	Paul Robeson Court	F18 - F17		8	PVC	198	-	23	0	0	5	28
L	Aster Way	L33 - L32		8	VCP	91	Hole at 10.2ft	13	0	15		28
L	Jasmine Way	L40 - L42		8	VCP	346	Broken pipe soil visible at 184ft	8	0	20		28
L	Camellia Drive	L45 - L25		8	VCP	202		23	0	0	5	28
O	Woodland Avenue	O29 - O28		8	VCP	143	Surcharged MH with substantial crud on water	16	0	12		**28**
O	Mission Drive	O50 - O49		8	VCP	172	Joint Offset Large at 170 ft	28	0	0		**28**
D	Manhattan Avenue	D76 - D19		12	PVC	55	-	27	0	0		**27**
H	Camphor Way	H45 - H9		8	PVC	222	Broken at 103ft, 106ft, 167ft	27	0	0		27
L	Daphine Way	L34 - L26		8	VCP	287	Hole at 263.3ft	7	0	15	5	27
L	Gardenia Court	L61 - L5		8	VCP	152	Broken at 98.8	7	0	20		27
M	Clarke Avenue	M14A - M5		8	VCP	75	New Line Segment. Broken at 70.2ft	7	0	20		27
D	East O'Keefe Street	D49 - D48		8	VCP	400	Broken at 264 ft, 90% blockage by a root ball at	11	0	15		**26**
F	Weeks Street	F22 - F12		8	VCP	54	This pipe line was F17A - F12	26	0	0		26
H	Schembri Lane	H46 - H52		8	VCP	361	Broken at 344.2ft	11	0	15		26
I	Myrtle Street	I28 - I21		8	VCP	315	This pipe line was I23A - I21	26	0	0		26
J	Garden Street	J6 - J5		8	VCP	558	Crack at 404ft	11	0	0	15	26
L	Verbina Drive	L14 - L13		8	VCP	302		26	0	0		26
L	Verbina Drive	L15 - L14		8	VCP	310		26	0	0		26
L	Jasmine Way	L44 - L45		8	PVC	238		26	0	0		26
O	Woodland Avenue	O19 - O17		8	VCP	86	Broken at 83 ft	16	0	10		**26**
O	Mission Drive	O48 - O47		8	VCP	122	Surface Damage at 119ft	14	0	12		**26**
O	West Bayshore Road	O8 - O59		8	VCP	103	-	26	0	0		**26**
C	O'Connor Street	C39 - C37		8	VCP	164	Proteus. This is the second inspection. First	9	0	16		**25**
I	Pulgas Avenue	I16 - I6		8	PVC	493	-	20	0	0	5	25

Table 4
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of Pipelines for Structural and Capacity Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ 5 *Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
I	Brentwood Court	I19 - I18		8	PVC	239	-	20	0	0	5	25
K	Camellia Drive	K30 - K31		8	PVC	108	-	20	0	0	5	25
L	Verbina Drive	L18 - L17		8	VCP	331	Broken at 135ft	10	0	15		25
L	Daphine Way	L39 - L40		8	VCP	346	Broken at 296.7ft	10	0	15		25
O	Mission Drive	O46 - O45		8	VCP	213	Broken at 3.7ft, Joint Separated Medium along the	25	0	0		**25**
O	Cooley Avenue	O51 - O51A		8	VCP	234	10% grease build up	20	0	0	5	**25**

Table 5
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List Sorted by Diameter, Pipelines for Structural and Capacity Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Diameter	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
A / T	Bay Trail	A29 - T29	18	24	26	ACP	345	20	120	0		140
I	Beech Street	I3 - T19	18	24	26	PVC	188	30	120	0	5	155
I	Beech Street	I31 - I4	18	24	26	PVC	300	0	120	0		120
I	Beech Street	I4 - I3	18	24	26	PVC	243	0	120	0		120
I	Beech Street	I5 - I31	18	24	26	PVC	154	0	120	0		120
I	Beech Street	I6 - I5	18	24	26	PVC	411	0	120	0		120
I	Beech Street	I7 - I6	15	20	22	CP	259	26	100	0	20	146
I	Beech Street	I8 - I7	15	20	22	CP	238	0	100	0		100
I	Beech Street	I9 - I8	15	20	22	CP	155	18	100	0		118
A	Bay Road	A10 - A15	15	18	20	ACP	299	61	90	0	20	171
A	Bay Road	A15 - A16	15	18	20	ACP	435	50	90	0	25	165
A	Bay Road	A16 - A21	15	18	20	ACP	296	44	90	0	5	139
A	Bay Road	A21 - A23	15	18	20	ACP	168	0	90	0		90
A	Bay Road	A21 - A23		18	20		155	0	90	0		90
A	Bay Road	A23 - A22	8	18	20	ACP	14	2	90	0		92
A	Bay Road	A5 - A8	12	18	20	PE	124	80	90	0	10	180
A	Bay Road	A8 - A9	12	18	20	PVC	61	0	90	0		90
A	Bay Road	A9 - A10	15	18	20	ACP	181	28	90	0	15	133
D	Donohoe Street	D2 - D1	10	18	20	VCP	53	34	90	0		**124**
H/I	Beech Street	H2 - I11	15	18	20		37	0	90	0		90
H	Beech Street	H3 - H2	15	18	20		31	0	90	0		90
H	Clarke Avenue	H4 - H3	15	18	20		7	0	90	0		90
H	Clarke Avenue	H5 - H4	15	18	20		259	0	90	0		90
H	Green Street	H6 - H5	12	18	20		9	0	90	0		90
H	Green Street	H7 - H75	12	18	20	PE	91	20	90	0		110
H	Green Street	H73 - H74	12	18	20	PE	104	20	90	0		110
H	Green Street	H74 - H8	12	18	20	PE	112	20	90	0		110
H	Green Street	H75 - H6	12	18	20	PE	259	29	90	0		119
H	Green Street	H8 - H7	12	18	20	PE	235	20	90	0		110
I	Beech Street	I10 - I9	15	18	20	CP	221	10	90	0		100
I	Beech Street	I11 - I10	15	18	20	CP	380	20	90	0		110
A	Bay Road	A1 - A2	12	15	18	Unknown	80	50	75	10	0	135
A	Bay Road	A2 - A5	12	15	18	Unknown	244	70	75	0	25	170
A	Bay Road	B2 - A2	12	15	18	PE	181	50	75	0	10	135
D	Donohoe Street	D3 - D3A	10	16	18	VCP	11	34	80	0	5	**119**
D	Donohoe Street	D3A - D2	10	16	18	VCP	355	34	80	0		**114**
H/E	Green Street	E1 - H9	12	16	18	PE	270	20	80	0		100
H	Green Street	H9 - H73	12	16	18	PE	246	20	80	0		100
I	Pulgas Avenue	I12 - I6	12	15	18	PVC	338	0	75	0		75
I	Pulgas Avenue	I13 - I12	12	15	18	PVC	320	30	75	0	5	110
I	Pulgas Avenue	I14 - I13	12	15	18	PVC	444	0	75	0		75
I	Pulgas Avenue	I15 - I14	12	15	18	PVC	386	50	75	0	25	150
K	Larkspur Drive	K28 - K4	10	15	18	PVC	242	0	75	0		75
L	Larkspur Drive	L1 - L21	12	14	16	PVC	223	0	70	0	5	75
K/L	Larkspur Drive	L21 - K28	10	14	16	PVC	68	40	70	0	20	130
A	Bay Road	A22 - A29	15		15	ACP	369	30	0	0		30
H	Clarke Avenue	H11 - H64	8	12	14	VCP	198	34	60	0		94
H	Clarke Avenue	H12 - H11	8	12	14	VCP	333	70	60	0	15	145
H	Clarke Avenue	H13 - H12	8	12	14	VCP	108	54	60	0	10	124
H	Clarke Avenue	H14 - H13	8	12	14	VCP	446	66	60	0	25	151
H	Runnymede Street	H15 - H62	8	12	14	Other	201	18	60	0		78
H	Runnymede Street	H16 - H60	8	12	14	PVC	346	4	60	0		64
H	Runnymede Street	H17 - H76	8	12	14	VCP	397	17	60	20	5	102
H	Runnymede Street	H57 - H16	8	12	14	VCP	48	20	60	15		95
H	Runnymede Street	H60 - H15	8	12	14	PVC	107	0	60	0		60
H	Clarke Avenue	H64 - H71	8	12	14	VCP	99	42	60	24	15	141
H	Runnymede Street	H76 - H57	8	12	14	VCP	73	19	60	15		94
L	Gardenia Way	L2 - L1	12	12	14	PVC	179	24	60	15		99
L	Gardenia Way	L3 - L2	12	12	14	PVC	78	30	60	0		90
M	O'Connor Street	M13 - M12	8	12	14	VCP	276	13	60	15		88
M	O'Connor Street	M15 - M5	8	12	14	VCP	264	0	60	0		60
M	East Bayshore Road	M38 - M39	6	12	14	PVC	158	0	60	0		60

Table 5
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List Sorted by Diameter, Pipelines for Structural and Capacity Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Diameter	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
M	East Bayshore Road	M39 - M40	6	12	14	PVC	158	0	60	0		60
M	East Bayshore Road	M40 - M41	6	12	14	PVC	263	0	60	0		60
M	East Bayshore Road	M41 - M42	6	12	14	PVC	104	14	60	0		74
M	O'Connor Street	M42 - M13	6	12	14	VCP	110	34	60	0		94
C	Menalto Avenue	C2 - C1	8	10	12	Unknown	204	38	50	16	5	**109**
D	Hwy 101	D10 - D3	10	10	12	Not Known	489	54	50	20	10	**134**
D	Manhattan Avenue	D19 - D10	10	10	12	PVC	48	30	50	0	20	**100**
D	West Bayshore Road	D21 - D19	8	10	12	HDPE	391	40	50	20		**110**
D	Euclid Avenue	D22 - D21	8	10	12	HDPE	149	0	50	26		**76**
D	Euclid Avenue	D23 - D22	8	10	12	PE	73	30	50	8	10	**98**
D	Euclid Avenue	D24 - D23	8	10	12	PE	350	20	50	8		**78**
D	Euclid Avenue	D33 - D24	8	10	12	PE	450	23	50	0		**73**
D	Donohoe Street	D4 - D3	8	10	12	VCP	296	34	50	0		**84**
D	East Bayshore Road	D5 - D4	8	10	12	Unknown	94	8	50	0		**58**
H	Runnymede Street	H34 - H17	6	10	12	VCP	269	34	50	16	10	110
H	Runnymede Street	H35 - H34	6	10	12	VCP	322	62	50	8	30	150
H	University Avenue	H36 - H35	6	10	12	VCP	474	23	50	0	5	78
H	Runnymede Street	H62 - H14	8	12	12	Other	230	9	60	0		69
M/I	Pulgas Avenue	I43 - I15	12		12	PVC	60	35	0	0	30	65
L	Wisteria Drive	L23 - L3	8	10	12	PVC	351	0	50	0		50
L	Wisteria Drive	L24 - L23	8	10	12	PVC	386	0	50	0		50
L	Wisteria Drive	L25 - L24	8	10	12	PVC	342	20	50	0		70
L	Azalia Drive	L49 - L48	8	10	12	VCP	233	20	50	0		70
L	Azalia Drive	L50 - L49	8	10	12	VCP	224	2	50	0		52
M	O'Connor Street	M12 - M15	8	12	12	VCP	337	9	60	0		69
M/I	Pulgas Avenue	M2 - I43	12		12	PVC	42	25	0	0	25	50
C	Menalto Avenue	C10 - C8	6	8	10	PE	387	23	40	10	5	**78**
C	East Bayshore	C12 - C1	6	8	10	PVC	265	20	40			**60**
C	Menalto Avenue	C2A - C2	6	8	10	VCP	28	34	40	20		**94**
C	Menalto Avenue	C3 - C2		8	10		398	0	40	0		**40**
C	Menalto Avenue	C3 - C2A	6	8	10	PVC	370	6	40	0		**46**
C	Menalto Avenue	C4 - C3	6	8	10	PE	436	66	40	10	15	**131**
C	Woodland Avenue	C48 - C11	6	8	10	Unknown	179	23	40	16		**79**
C	Menalto Avenue	C5 - C4	6	8	10	Unknown	328	29	40	10		**79**
C	Menalto Avenue	C6 - C5	6	8	10	PE	87	42	40	20	10	**112**
C	Menalto Avenue	C7 - C6	6	8	10	PE	448	20	40	12	25	**97**
C	Menalto Avenue	C8 - C7	6	8	10	PE	401	20	40	16		**76**
D	O'Connor Street	D25 - D24	6	8	10	VCP	301	36	40	16		**92**
D	Euclid Avenue	D34 - D33	8	8	10	PE	293	0	40	0		**40**
D	Woodland Avenue	D35 - D34	6	8	10	VCP	178	38	40	0		**78**
D	Oakwood Dive	D66 - D65	8	8	10	Unknown	413	0	40	0		**40**
D	Manhattan Avenue	D76 - D19	10		10	PVC	55	27	0	0		**27**
I	Myrtle Street	I21 - I13	6	8	10	VCP	600	47	40	0	5	92
L	Camellia Drive	L52 - L50	6	8	10	VCP	224	6	40	0		46
O/N	Highway 101	O3 - N8	10		10	Unknown	205	44	0	8	10	**62**
O	West Bayshore Road	O7 - O6	8	8	10	Unknown	427	4	40	0		**44**
O	West Bayshore Road	O9 - O8	8	8	10	VCP	140	36	40	0	5	**81**
A	Demeter Street	A12 - A11	6		8	VCP	485	55	0	0	20	75
A	Demeter Street	A13 - A12	6		8	Unknown	412	70	0	20	15	105
A	Demeter Street	A14 - A13	6		8	Unknown	288	50	0	0		50
A	Pulgas Avenue	A17 - A31	6		8	VCP	242	43	0	0		43
A	Pulgas Avenue	A18 - A16	6		8	VCP	442	70	0	10	20	100
A	Pulgas Avenue	A19 - A18	6		8	VCP	214	33	0	0		33
A	Pulgas Avenue	A20 - A19	6		8	VCP	340	20	0	30		50
A	Tara Street	A24 - A23	6		8	VCP	240	10	0	20		30
A	Tara Street	A27 - A26	6		8	VCP	311	35	0	30	20	85
A	Gonzaga Street	A3 - A2	6		8	VCP	287	46	0	30	20	96
A	Pulgas Avenue	A31 - A16	6		8	PVC	177	34	0	0	5	39
A	Gonzaga Street	A4 - A3	6		8	VCP	312	18	0	15		33
A	Illinois Street	A6 - A5	6		8	VCP	287	49	0	30	15	94
A	Illinois Street	A7 - A6	6		8	VCP	306	46	0	30	15	91
C	Poplar Avenue	C13 - C12	6		8	Unknown	481	34	0	20		**54**

Table 5
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List Sorted by Diameter, Pipelines for Structural and Capacity Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Diameter	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
C	East Bayshore	C14 - C12	6		8	PVC	282	44	0	0		**44**
C	Ralmar Avenue	C15 - C14	6		8	VCP	565	50	0	20		**70**
C	East Bayshore	C16 - C14	6		8	PVC	273	40	0	0		**40**
C	Addison Avenue	C17 - C16	6		8	VCP	333	38	0	8		**46**
C	Addison Avenue	C18 - C17	6		8	VCP	370	34	0	16		**50**
C	Hwy 101	C19 - C2	6		8	VCP	264	26	0	20		**46**
C	Hwy 101	C20 - C19	6		8	VCP	199	42	0	20		**62**
C	Hwy 101	C21 - C19	6		8	VCP	284	55	0	30		**85**
C	Green Street	C23 - C3	6		8	VCP	400	34	0	20	5	**59**
C	Green Street	C24 - C23	6		8	VCP	151	10	0	20		**30**
C	Palmar Avenue	C25 - C23	6		8	VCP	303	42	0	0	5	**47**
C/D	Donohoe Street	C26 - D9	6		8	VCP	436	36	0	20		**56**
C	East O'Keefe Street	C30 - C27	6		8	VCP	163	30	0	0		**30**
C	East O'Keefe Street	C32 - C30	6		8	VCP	147	30	0			**30**
C	East O'Keefe Street	C34 - C32	6		8	VCP	82	30	0	0		**30**
C	O'Connor Street	C35 - C7	6		8	Unknown	403	50	0	12	5	**67**
C	O'Connor Street	C36 - C35	6		8	Unknown	92	18	0	12		**30**
C	O'Connor Street	C37 - C36	6		8	Unknown	153	15	0	12	5	**32**
C	O'Connor Street	C39 - C37	6		8	VCP	164	9	0	16		**25**
C	Elliot Drive	C40 - C36	6		8	VCP	257	67	0	20		**87**
C	Elliot Drive	C41 - C40	6		8	VCP	191	70	0	20		**90**
C	Elliot Drive	C42 - C41	6		8	VCP	300	70	0	20		**90**
C	Menalto Avenue	C43 - C8	6		8	VCP	101	58	0	16		**74**
C	Oak Court	C44 - C10	6		8	VCP	155	42	0	16		**58**
C	Oak Court	C45 - C44	6		8	VCP	166	43	0	10		**53**
C	Oak Court	C46 - C45	6		8	VCP	256	58	0	0		**58**
C	Oak Court	C47 - C46	6		8	VCP	309	70	0	0		**70**
C	Woodland Avenue	C49 - C48	6		8	Unknown	248	29	0	12		**41**
C	Woodland Avenue	C50 - C49	6		8	Unknown	361	29	0	12		**41**
C	Woodland Avenue	C51 - C50	6		8	Unknown	556	32	0	12		**44**
D	O'Connor Street	D26 - D25	6		8	VCP	157	38	0	20		**58**
D	O'Connor Street	D27 - D26	6		8	VCP	392	34	0	8		**42**
D	O'Connor Street	D28 - D27	6		8	VCP	81	28	0	8	5	**41**
C/D	O'Connor Street	D29 - C37	6		8	Unknown	130	27	0	8	10	**45**
D	O'Connor Street	D29 - D28	6		8	VCP	465	46	0	8		**54**
D	Oak Court	D36 - D35	6		8	VCP	251	29	0	16		**45**
D	Oak Court	D37 - D36	6		8	VCP	368	54	0	0		**54**
D	Oak Court	D38 - D37	6		8	VCP	238	9	0	30		**39**
D	Oak Court	D39 - D37	6		8	Unknown	84	9	0	30		**39**
D	French Court	D40 - D37	6		8	VCP	204	25	0	30		**55**
D	O'Connor Street	D41 - D24	6		8	VCP	191	50	0	0		**50**
D	O'Connor Street	D42 - D41	6		8	VCP	100	34	0	0		**34**
D	East O'Keefe Street	D43 - D41	6		8	VCP	517	46	0	8		**54**
D	East O'Keefe Street	D44 - D43	6		8	VCP	75	34	0	0		**34**
D	East O'Keefe Street	D47 - D22	8		8	VCP	299	41	0	5	5	**51**
D	East O'Keefe Street	D48 - D47	6		8	VCP	401	28	0	12	5	**45**
D	East O'Keefe Street	D49 - D48	6		8	VCP	400	11	0	15		**26**
D	East O'Keefe Street	D50 - D49	6		8	VCP	422	34	0	0		**34**
D	West Bayshore Road	D51 - D7	6		8	VCP	458	45	0	20	5	**70**
D	West Bayshore Road	D53 - D52	6		8	VCP	248	38	0	0	5	**43**
D	West Bayshore Road	D54 - D53	6		8	VCP	75	34	0	0		**34**
D	Addison Avenue	D55 - D54	6		8	VCP	252	34	0	16		**50**
D	Woodland Avenue	D56 - D35	6		8	VCP	286	42	0	12		**54**
D	Hwy 101	D6 - D5	8		8	Unknown	246	34	0	0		**34**
D	East Bayshore Road	D64 - D63	6		8	VCP	471	19	0	20	5	**44**
D	East Bayshore Road	D65 - D64	6		8	VCP	448	38	0	20		**58**
D	Glen Way	D67 - D63	6		8	VCP	294	17	0	30		**47**
D	Green Street	D68 - D67	6		8	VCP	139	50	0	12		**62**
D	Green Street	D69 - D67	6		8	VCP	259	40	0	8		**48**
D	West Bayshore Road	D7 - D6	6		8	VCP	398	60	0	0	15	**75**
D	Oakwood Dive	D71 - D52	6		8	VCP	130	46	0	12		**58**
D	Donohoe Street	D8 - D7	6		8	VCP	158	37	0	30	10	**77**

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D	Donohoe Street	D9 - D8	6		8	VCP	496	70	0	8		**78**
F	Weeks Street	F10 - F9	6		8	VCP	463	45	0	0	5	50
F	Weeks Street	F11 - F10	6		8	VCP	420	70	0	0	5	75
F	Weeks Street	F12 - F11	6		8	VCP	533	70	0	0	5	75
F	Pulgas Avenue	F14 - F8	6		8	PVC	463	50	0	0	20	70
F	Clarke Avenue	F15 - F11	6		8	VCP	301	50	0	0		50
F	Weeks Street	F17 - F22	6		8	VCP	56	30	0	0		30
F	Paul Robeson Court	F18 - F17	6		8	PVC	198	23	0	0	5	28
F	Weeks Street	F19 - F20	6		8	VCP	216	70	0	0	5	75
F	Weeks Street	F20 - F17	6		8	VCP	252	55	0	0		55
F	Weeks Street	F22 - F12	6		8	VCP	54	26	0	0		26
F	Weeks Street	F23 - F8	6		8	VCP	327	70	0	0	20	90
F	Weeks Street	F7 - T25	6		8	VCP	477	32	0	0	10	42
F	Weeks Street	F8 - F8A	6		8	VCP	281	46	0	0	20	66
F	Weeks Street	F9 - F23	6		8	VCP	111	43	0	0	5	48
G	Buchanon Court	G10 - G9	6		8	CP	271	24	0	30		54
G	Buchanon Court	G11 - G10	6		8	CP	266	19	0	20		39
G	Ruth Ct	G12 - G4	6		8	PVC	273	29	0	0		29
G	Pulgas Avenue	G13 - G3	6		8	PVC	453	46	0	0		46
G	Runnymede Street	G14 - G17	6		8	VCP	151	14	0	20	25	59
G	Mandela Court	G15 - G14	8		8	PVC	215	42	0	0	10	52
G	Veronica Court	G18 - G17	6		8	PVC	291	39	0	0	5	44
G	Runnymede Street	G19 -T23	6		8	VCP	263	36	0	0		36
G	Runnymede Street	G4 - G3	6		8	PVC	213	50	0	0	10	60
G	Runnymede Street	G6 - G4	6		8	PVC	388	50	0	0	5	55
G	Runnymede Street	G7 - G6	6		8	PVC	295	48	0	0	25	73
G	Runnymede Street	G8 - G7	6		8	PVC	327	35	0	0	5	40
G	Buchanon Court	G9 - G6	6		8	CP	291	14	0	30	5	49
H	Donohoe Street	H21 - H56	6		8	VCP	151	54	0	0		54
H	Donohoe Street	H21A - H55	6		8	VCP	157	48	0	0	20	68
H	Donohoe Street	H22 - H21	6		8	VCP	216	13	0	20		33
H	Donohoe Street	H23 - H22	6		8	VCP	405	50	0	0		50
H	Clarke Avenue	H24 - H20	6		8	VCP	333	14	0	30	20	64
H	Schembri Lane	H29 - H12	6		8	VCP	551	16	0	20		36
H	Schembri Lane	H30 - H46	6		8	VCP	135	32	0	0		32
H	Clarke Avenue	H31 - H14	6		8	VCP	404	15	0	16		31
H	Cooley Avenue	H32 - H17	6		8	VCP	550	41	0	0		41
H	University Avenue	H37 - H37A	6		8	VCP	221	9	0	20		29
H	University Avenue	H37A - H36	6		8	VCP	149	38	0	0		38
H/E	Euclid Avenue	H38 - E42	6		8	VCP	519	17	0	20		37
H	Runnymede Street	H38 - H47	6		8	VCP	205	34	0	0		34
H	Sacramento Street	H40 - H36	6		8	VCP	496	29	0	0		29
H	Sacramento Street	H41 - H40	6		8	VCP	150	38	0	0		38
H	Weeks Street	H42 - H37	6		8	VCP	388	38	0	0		38
H	Weeks Street	H43 - H42	6		8	VCP	346	34	0	0		34
H	Camphor Way	H45 - H9	6		8	PVC	222	27	0	0		27
H	Schembri Lane	H46 - H52	6		8	VCP	361	11	0	15		26
H	Runnymede Street	H47 - H35	6		8	VCP	192	29	0	0	5	34
H	Donohoe Street	H54 - H20	6		8	VCP	153	19	0	10		29
H	Donohoe Street	H55 - H54	6		8	PVC	144	38	0	0		38
H	Donohoe Street	H56 - H21A	6		8	VCP	157	42	0	0		42
I	Pulgas Avenue	I16 - I6	8		8	PVC	493	20	0	0	5	25
I	Terra Villa Avenue	I17 - I7	6		8	VCP	526	34	0	0	10	44
I	Brentwood Court	I18 - I8	6		8	PVC	237	32	0	0	10	42
I	Brentwood Court	I19 - I18	6		8	PVC	239	20	0	0	5	25
I	Beech Street	I20 - I9	6		8	VCP	278	40	0	20	20	80
I	Myrtle Street	I23 - I28	6		8	VCP	166	32	0	30		62
I	Myrtle Street	I28 - I21	6		8	VCP	315	26	0	0		26
J	Garden Street	J10 - J9	6		8	VCP	300	70	0	10	15	95
J	Garden Street	J5C - T21	8		8	PVC	62	40	0	0	20	60
J	Garden Street	J6 - J5	6		8	VCP	558	11	0	0	15	26
J	Pulgas Avenue	J7 - J6	6		8	VCP	441	73	0	10	25	108

Table 5
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List Sorted by Diameter, Pipelines for Structural and Capacity Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Diameter	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
J	Garden Street	J8 - J6	6		8	VCP	442	70	0	0	5	75
J	Garden Street	J9 - J9A	6		8	VCP	365	51	0	30	20	101
J	Garden Street	J9A - J8	6		8	VCP	35	19	0	30		49
K	Wisteria Drive	K11 - K5	6		8	VCP	370	34	0	20	10	64
K	Wisteria Drive	K13 - K12	6		8	VCP	362	56	0	20	15	91
K	Larkspur Drive	K16 - K4	6		8	CP	274	53	0	15	15	83
K	Larkspur Drive	K17 - K16	6		8	CP	267	55	0	0		55
K	Larkspur Drive	K18 - K17	6		8	CP	269	80	0	15		95
K	Larkspur Drive	K19 - K18	6		8	CP	272	58	0	30	10	98
K	Sage Street	K20 - K19	6		8	CP	135	8	0	30		38
K	Daisy Lane	K21 - K3	6		8	CP	246	53	0	30	10	93
K	Daisy Lane	K22 - K21	6		8	CP	256	60	0	0		60
K	Daisy Lane	K23 - K22	6		8	Unknown	100	23	0	8		31
K	Hibiscus Court	K24 - K21	6		8	CP	149	42	0	0		42
K	Azalia Drive	K26 - K6	6		8	VCP	294	11	0	20		31
K	Camellia Drive	K30 - K31	8		8	PVC	108	20	0	0	5	25
K/L	Gardenia Way	K31 - L1	8		8	PVC	148	30	0	0	20	50
K	Camellia Drive	K33 - K32	6		8	VCP	131	40	0	0	20	60
K	Camellia Drive	K34 - K33	6		8	VCP	278	32	0	0	5	37
K	Camellia Drive	K35 - K34	6		8	VCP	280	42	0	10	20	72
K	Camellia Drive	K36 - K35	6		8	VCP	282	38	0	20	10	68
K	Lotus Way / Camellia Drive	K37 - K32	6		8	VCP	350	24	0	10		34
K	Azalia Drive	K7 - K6	8		8	VCP	362	23	0	0	20	43
K	Azalia Drive	K9 - K8	8		8	VCP	356	25	0	40		65
K/L	Azalia Drive	L10 - K27	6		8	VCP	275	11	0	20	15	46
L	Azalia Drive	L10 - L9	6		8	VCP	180	44	0	0		44
L	Gaillardia Way	L11 - L10	6		8	VCP	360	22	0	30	10	62
L	Gaillardia Way	L12 - L11	6		8	VCP	93	30	0	0		30
L	Verbina Drive	L13 - L9	6		8	VCP	311	24	0	15		39
L	Verbina Drive	L14 - L13	6		8	VCP	302	26	0	0		26
L	Verbina Drive	L15 - L14	6		8	VCP	310	26	0	0		26
L	Verbina Drive	L16 - L15	6		8	VCP	311	24	0	15		39
L	Verbina Drive	L17 - L16	6		8	VCP	236	50	0	0		50
L	Verbina Drive	L18 - L17	6		8	VCP	331	10	0	15		25
L	Verbina Drive	L19 - L18	6		8	VCP	333	34	0	0		34
L	Camellia Drive	L20 - L16	6		8	VCP	101	38	0	0		38
L	Wisteria Drive	L22 - L3	6		8	VCP	366	14	0	15		29
L	Wisteria Drive	L26 - L25	8		8	VCP	216	16	0	24	20	60
L	Wisteria Drive	L28 - L27	6		8	VCP	363	34	0	0		34
L	Wisteria Drive	L29 - L28	6		8	VCP	366	35	0	30	20	85
L	Aster Way	L31 - L30	6		8	VCP	179	9	0	30		39
L	Aster Way	L33 - L32	6		8	VCP	91	13	0	15		28
L	Daphine Way	L34 - L26	6		8	VCP	287	7	0	15	5	27
L	Daphine Way	L35 - L34	6		8	VCP	250	50	0	0		50
L	Daphine Way	L36 - L35	6		8	VCP	278	24	0	10		34
L	Daphine Way	L37 - L36	6		8	VCP	312	38	0	0		38
L	Daphine Way	L37 - L38	6		8	VCP	212	24	0	10		34
L	Daphine Way	L39 - L40	6		8	VCP	346	10	0	15		25
L	Jasmine Way	L40 - L42	8		8	VCP	346	8	0	20		28
L	Jasmine Way	L43 - L44	8		8	PVC	334	60	0	0		60
L	Jasmine Way	L44 - L45	8		8	PVC	238	26	0	0		26
L	Camellia Drive	L45 - L25	8		8	VCP	202	23	0	0	5	28
L	Camellia Drive	L46 - L45	6		8	VCP	136	35	0	0		35
L	Azalia Drive	L47 - L4	8		8	VCP	88	20	0	30		50
L	Camellia Drive	L53 - L52	6	6	8	VCP	218	32	30	0		62
L	Camellia Drive	L54 - L53	6		8	VCP	369	8	0	30		38
L	Camellia Court	L56 - L54	6		8	VCP	327	32	0	0		32
L	Abelia Way	L58 - L57	6		8	VCP	295	22	0	20		42
L	Abelia Way	L59 - L58	6		8	VCP	250	9	0	20		29
L	Gardenia Court	L61 - L5	6		8	VCP	152	7	0	20		27
L	Daphine Court	L62 - L34	6		8	VCP	147	36	0	0		36
L	Gardenia Way	L7 - L6	6	6	8	VCP	261	12	30	0		42

Table 5
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List Sorted by Diameter, Pipelines for Structural and Capacity Upgrades - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Diameter	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ Zero*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
L	Azalia Drive	L9 - L4	6	6	8	VCP	162	12	30	0		42
M	Clarke Avenue	M14A-M5	6		8	VCP	75	7	0	20		27
M	O'Connor Street	M43 - M42	6		8	VCP	104	38	0	0		38
O	West Bayshore Road	O10 - O9	8		8	VCP	157	29	0	0		**29**
O	Capitol Avenue	O16 - O15	6		8	VCP	235	42	0	15		**57**
O	Woodland Avenue	O19 - O17	6		8	VCP	86	16	0	10		**26**
O	Woodland Avenue	O20 - O19	6		8		116	50	0	20		**70**
O	Woodland Avenue	O21 - O19	6		8	VCP	394	46	0	20		**66**
O	Woodland Avenue	O22 - O21	6		8	VCP	348	33	0	20		**53**
O	Woodland Avenue	O23 - O22	6		8	VCP	470	62	0	20		**82**
O	Clarke Avenue	O26 - O25	6		8	VCP	333	50	0	0		**50**
O	Woodland Avenue	O28 - O26	6		8	VCP	434	41	0	10		**51**
O	Woodland Avenue	O29 - O28	6		8	VCP	143	16	0	12		**28**
O	Woodland Avenue	O29 - O30	6		8	VCP	220	42	0	12		**54**
O	Newell Road	O31 - O30	6		8	VCP	45	18	0	30		**48**
O	Woodland Avenue	O32 - O31	6		8	VCP	258	9	0	30		**39**
O	Woodland Avenue	O33 - O32	6		8	VCP	263	26	0	12	10	**48**
O	Newell Road	O34 - O10	6		8	ACP	268	40	0	0		**40**
O	Newell Road	O35 - O34	6		8	ACP	316	50	0	0		**50**
O	West Bayshore Road	O4 - O3	8		8	VCP	277	86	0	0	25	**111**
O	Mission Drive	O41 - O40	6		8	Unknown	45	27	0	16		**43**
O	Mission Drive	O46 - O45	6		8	VCP	213	25	0	0		**25**
O	Mission Drive	O48 - O47	6		8	VCP	122	14	0	12		**26**
O	West Bayshore Road	O5 - O4	8		8	Unknown	399	44	0	0	15	**59**
O	Mission Drive	O50 - O49	6		8	VCP	172	28	0	0		**28**
O	Cooley Avenue	O51 - O51A	6		8	VCP	234	20	0	0	5	**25**
O	Cooley Avenue	O51A - O13	6		8	VCP	236	50	0	0	10	**60**
O	Scofield Street	O52 - O51	6		8	VCP	213	50	0	0		**50**
O	Circle Drive	O53 - O52	6		8	VCP	222	38	0	0		**38**
O	Scofield Street	O54 - O52	6		8	VCP	380	13	0	30		**43**
O	Woodland Avenue	O55 - O54	6		8	VCP	399	42	0	8		**50**
O	Woodland Avenue	O56 - O55	6		8	VCP	377	38	0	0		**38**
O	Cooley Avenue	O57 - O51	6		8	VCP	365	46	0	0		**46**
O	Cooley Avenue	O58 - O57	6		8	VCP	403	17	0	30		**47**
O	West Bayshore Road	O59 - O7	8		8	VCP	182	9	0	30	10	**49**
O	West Bayshore Road	O8 - O59	8		8	VCP	103	26	0	0		**26**

Table 6
East Palo Alto Sanitary District
Areas 1, 3, and 4 Proposed Pipeline Replacements
Opinion of Probable Construction Cost - Structural and Capacity Upgrades

ITEM NO.	ITEM	EST. QUANTITY	UNIT OF MEASURE	UNIT PRICE	TOTAL
1	Mobilization	1	LS	$2,356,000	$2,356,000
2	Traffic Control	1	LS	$962,000	$962,000
3	Project Signage	1	LS	$2,000	$2,000
4	City Permits	1	LS	$3,000	$3,000
5	Construction Staking	1	LS	$158,000	$158,000
6	Maintain Access for Services and Residents	1	LS	$30,000	$30,000
7	Safety, Sheeting, Shoring, and Bracing	1	LS	$20,000	$20,000
8	Dust Control	1	LS	$20,000	$20,000
9	Bypassing	346	EA	$2,000	$692,000
10	8-inch PVC	64,657	LF	$375	$24,246,395
11	10-inch PVC	6,163	LF	$410	$2,526,769
12	12-inch PVC	5,814	LF	$435	$2,529,090
13	14/15-inch PVE or HDPE	4,315	LF	$500	$2,157,673
14	16/18-inch PVC	3,408	LF	$525	$1,789,076
15	20/21-inch PVC	3,532	LF	$600	$2,119,187
16	22/24-inch PVC or HDPE	652	LF	$720	$469,275
17	26/27-inch PVE or HDPE	1,641	LF	$795	$1,304,692
18	Drain Rock	2,000	TONS	$50	$100,000
19	Utility Crossings	1,800	EA	$250	$450,000
20	Reconnect Laterals	900	EA	$850	$765,000
21	Dewatering	1	LS	$8,500	$8,500
22	CCTV Inspections	90,182	LF	$2.00	$180,364
23	Cold-Patch Asphalt for Temporary Surfacing	60	TON	$500	$30,000
24	Asphalt Repaving	360,728	SF	$5	$1,803,638
25	Slurry Seal	3,066,184	SF	$0.70	$2,146,329
26	Striping and Pavement Markings	3,066,184	SF	$0.85	$2,606,256
Subtotal - Opinion of Probable Construction Costs					**$49,475,243**
27	Contingency	%	20%	$49,475,243	$9,895,049
Engineering and Administrative				**Opinion of Construction Subtotal**	**$59,370,291**
	Design	%	2%		$1,187,406
	Environmental/Permitting	%	2%		$1,187,406
	Construction Management	%	3%		$1,781,109
	Administration	%	2%		$1,187,406
				OPINION OF TOTAL PROBABLE PROJECT COST:	**$64,713,617**

Table 7
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of High Priority Pipelines to be Replaced - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ 5*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
A	Bay Road	A5 - A8	18	20	PE	124	Sagging pipe 50%-100%	80	90	0	10	180
A	Bay Road	A10 - A15	18	20	ACP	299	Surface Damage Roughness Increased	61	90	0	20	171
A	Bay Road	A2 - A5	15	18	Unknown	244	Sagging pipe 75%	70	75	0	25	170
A	Bay Road	A15 - A16	18	20	ACP	435	Surface damage roughness. Sagging 75%	50	90	0	25	165
I	Beech Street	I3 - T19	24	26	PVC	188	Upgrade to 24" per MP	30	120	0	5	155
H	Clarke Avenue	H14 - H13	12	14	VCP	446	Broken at 425.5ft, 429ft with multiple cracks	66	60	0	25	151
I	Pulgas Avenue	I15 - I14	15	18	PVC	386	Sagging pipe 85%	50	75	0	25	150
H	Runnymede Street	H35 - H34	10	12	VCP	322	Pipeline has a lot of sagging. The high water	62	50	8	30	150
I	Beech Street	I7 - I6	20	22	CP	259	Surface damage roughness. Sagging 75%	26	100	0	20	146
H	Clarke Avenue	H12 - H11	12	14	VCP	333	Broken at 111ft, 231ft, 331.9ft	70	60	0	15	145
H	Clarke Avenue	H64 - H71	12	14	VCP	99	H60-H3. Line has about 30%-40% grease that is	42	60	24	15	141
A / T	Bay Trail	A29 - T29	24	26	ACP	345	-	20	120	0		140
A	Bay Road	A16 - A21	18	20	ACP	296	-	44	90	0	5	139
A	Bay Road	A1 - A2	15	18	Unknown	80	MH A1 does not exist. Inspection started from	50	75	10	0	135
A	Bay Road	B2 - A2	15	18	PE	181	A1 is buried, operator surveyed B2-A2 for total	50	75	0	10	135
D	Hwy 101	D10 - D3	10	12	Unknown	489	MSA/80% grease in line. No heavy cleaning	54	50	20	10	**134**
A	Bay Road	A9 - A10	18	20	ACP	181	Broken at 172ft	28	90	0	15	133
C	Menalto Avenue	C4 - C3	8	12	PE	436	This is the second inspection after heavy	66	40	10	15	**131**
K/L	Larkspur Drive	L21 - K28	14	16	PVC	68	Sagging pipe 75%	40	70	0	20	130
D	Donohoe Street	D2 - D1	18	20	VCP	53		34	90	0		**124**
H	Clarke Avenue	H13 - H12	12	14	VCP	108	Broken at 18ft with 55% sagging pipe	54	60	0	10	124
I	Beech Street	I31 - I4	24	26	PVC	300	This pipe line was I5A-I4	0	120	0		120
I	Beech Street	I4 - I3	24	26	PVC	243	-	0	120	0		120
I	Beech Street	I5 - I31	24	26	PVC	155	This pipe line was I5-I5A	0	120	0		120
I	Beech Street	I6 - I5	24	26	PVC	411	-	0	120	0		120
H	Green Street	H75 - H6	18	20	PE	259	H7C - H6	29	90	0		119
D	Donohoe Street	D3 - D3A	16	18	VCP	11	Surface Damage Roughness Increased	34	80	0	5	**119**
I	Beech Street	I9 - I8	20	22	CP	155	-	18	100	0		118
D	Donohoe Street	D3A - D2	16	18	VCP	355	Broken at 4.2ft	34	80	0		**114**
C	Menalto Avenue	C6 - C5	8	12	PE	87	Pipeline has lots of debris	42	40	20	10	**112**
O	West Bayshore Road	O4 - O3		8	VCP	277	85% sag, 10% grease build up	86	0	0	25	**111**
I	Beech Street	I11 - I10	18	20	CP	380	-	20	90	0		110
H	Green Street	H7 - H75	18	20	PE	91	H7B - H7C	20	90	0		110
H	Green Street	H73 - H74	18	20	PE	233	H8 - H7	20	90	0		110
H	Green Street	H74 - H8	18	20	PE	112	H7 - H7A	20	90	0		110
H	Green Street	H8 - H7	18	20	PE	235	H7A - H7B	20	90	0		110
I	Pulgas Avenue	I13 - I12	15	18	PVC	320	-	30	75	0	5	110
D	West Bayshore Road	D21 - D19	10	12	HDPE	391	Heavy Cleaning/high flow. Night work. HDPE.	40	50	20		**110**
H	Runnymede Street	H34 - H17	10	12	VCP	269	Submerged pipe with a line down alignment.	34	50	16	10	110
C	Menalto Avenue	C2 - C1	10	12	Unknown	204	MSA/Grease. Heavy grease blockage at 136.9	38	50	16	5	**109**
J	Pulgas Avenue	J7 - J6		8	VCP	441	Pipe is broken at 124ft and 197ft	73	0	10	25	108
A	Demeter Street	A13 - A12		8	Unknown	412	Broken pipe at 129 ft and 139 ft with sags.	70	0	20	15	105
H	Runnymede Street	H17 - H76	12	14	VCP	397	H17 - H16. Broken pipe at 43.2ft, 144.9ft, 150ft	17	60	20	5	102
J	Garden Street	J9 - J9A		8	VCP	365	Pipe is broken at 8ft, 32ft, 81ft, 223ft & 318ft.	51	0	30	20	101
I	Beech Street	I8 - I7	20	22	CP	238	-	0	100	0		100
I	Beech Street	I10 - I9	18	20	CP	221	-	10	90	0		100
H/E	Green Street	E1 - H9	16	18	PE	270		20	80	0		100
H	Green Street	H9 - H73	16	18	PE	246	H9 - H8	20	80	0		100
D	Manhattan Avenue	D19 - D10	10	12	PVC	48	Line is sagging. Camera was under water for	30	50	0	20	**100**
A	Pulgas Avenue	A18 - A16		8	VCP	442	Broken pipe at 44ft.	70	0	10	20	100
L	Gardenia Way	L2 - L1	12	14	PVC	179	Joint Separated Large at 104.9ft, infiltration	24	60	15		99
D	Euclid Avenue	D23 - D22	10	12	PE	73	Pipeline had heavy grease	30	50	8	10	**98**
K	Larkspur Drive	K19 - K18		8	CP	272	Pipe is broken and soil is visible at 144ft, and	58	0	30	10	98
C	Menalto Avenue	C7 - C6	8	12	PE	448	Pipeline has lots of debris	20	40	12	25	**97**
A	Gonzaga Street	A3 - A2		8	VCP	287	Broken pipe at 53, 141, 157, and 159 ft. Also,	46	0	30	20	96
H	Runnymede Street	H57 - H16	12	14	VCP	48	H16A - H16B. Broken at 20.9ft	20	60	15		95
K	Larkspur Drive	K18 - K17		8	CP	269	SMW spots on the line.	80	0	15		95
J	Garden Street	J10 - J9		8	VCP	300	Pipe is broken at 228ft and 293ft	70	0	10	15	95
H	Clarke Avenue	H11 - H64	12	14	VCP	198	H11 - H60. Broken at 73.2ft	34	60	0		94
M	O'Connor Street	M42 - M13	12	14	VCP	37	Surface Damage and cracks	34	60	0		94
H	Runnymede Street	H76 - H57	12	14	VCP	73	H16 - H16A. Broken at 63.2ft	19	60	15		94
C	Menalto Avenue	C2A - C2	8	12	VCP	28	New line segment - Broken at 19.9 ft	34	40	20		**94**
A	Illinois Street	A6 - A5		8	VCP	287	Broken pipe at 15 and 75ft. Also, an offset	49	0	30	15	94
K	Daisy Lane	K21 - K3		8	CP	246	Pipe has few locations with chunks of pipe	53	0	30	10	93
A	Bay Road	A23 - A22	18	20	ACP	14	-	2	90	0		92
I	Myrtle Street	I21 - I13	8	12	VCP	600	As I24 should be between them as shown in	47	40	0	5	92
D	O'Connor Street	D25 - D24	8	12	VCP	301	large offset between joints and unable to	36	40	16		**92**
K	Wisteria Drive	K13 - K12		8	VCP	362	Pipe is broken at 9ft and 91ft.	56	0	20	15	91
A	Illinois Street	A7 - A6		8	VCP	306	Broken pipe at 82 and 230 ft.	46	0	30	15	91
A	Bay Road	A21 - A23	18	20	ACP	155	New Line Segment. MH Name changed from	0	90	0		90
A	Bay Road	A21 - A23	18	20		155	A21 does not connect to A23 but it connects	0	90	0		90
A	Bay Road	A8 - A9	18	20	PVC	61	-	0	90	0		90
H/I	Beech Street	H2 - I11	18	20		37	Paved over	0	90	0		90
H	Beech Street	H3 - H2	18	20		31	Paved over	0	90	0		90
H	Clarke Avenue	H4 - H3	18	20		7	Paved over	0	90	0		90
H	Clarke Avenue	H5 - H4	18	20		259	Paved over	0	90	0		90
H	Green Street	H6 - H5	18	20		9	Paved over	0	90	0		90
L	Gardenia Way	L3 - L2	12	14	PVC	83		30	60	0		90
C	Elliot Drive	C42 - C41		8	VCP	300	substantial breakage throughout their entire	70	0	20		**90**
C	Elliot Drive	C41 - C40		8	VCP	191	substantial breakage throughout their entire	70	0	20		**90**
F	Weeks Street	F23 - F8		8	VCP	327	This pipeline was F9A-F8	70	0	0	20	90
M	O'Connor Street	M13 - M12	12	14	VCP	276	Broken at 193	13	60	15		88

Table 7
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of High Priority Pipelines to be Replaced - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Notes	Structual Total Score	Score for Master Plan Capacity (+ 5*Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
C	Elliot Drive	C40 - C36		8	VCP	257	MSA/Root tap barrel. Reverse inspection	67	0	20		**87**
C	Hwy 101	C21 - C19		8	VCP	284	MSA/Collapsed pipe. Reverse inspection	55	0	30		**85**
A	Tara Street	A27 - A26		8	VCP	311	Broken pipe and soil is visible at 254.10 ft at 11	35	0	30	20	85
L	Wisteria Drive	L29 - L28		8	VCP	366	Pipe is broken at 348ft, and soil is visible	35	0	30	20	85
D	Donohoe Street	D4 - D3	10	12	VCP	296	Fracture Multiple at 131ft	34	50	0		**84**
K	Larkspur Drive	K16 - K4		8	CP	274	SMW spots on the line	53	0	15	15	83
O	Woodland Avenue	O23 - O22		8	VCP	470	MSA/TBI. Reverse Inspection complete. Pipe	62	0	20		**82**
O	West Bayshore Road	O9 - O8	8	12	VCP	140	15% grease buildup at 96ft	36	40	0	5	**81**
D	Donohoe Street	D3 - D2	16	18	Unknown	363	Line has an unchartered manhole, See D3 -	0	80	0		**80**
I	Beech Street	I20 - I9		8	VCP	278	Pipe has MSA at 267 due to hard	40	0	20	20	80
C	Menalto Avenue	C5 - C4	8	12	Unknown	328	Pipeline has lots of debris	29	40	10		**79**
C	Woodland Avenue	C48 - C11	8	12	Unknown	179	MSA/ Reverse Inspection complete	23	40	16		**79**
H	Runnymede Street	H15 - H62	12	14	Other	201	H15 - H58	18	60	0		78
D	Woodland Avenue	D35 - D34	8	12	VCP	178	Fracture Multiple at 73ft	38	40	0		**78**
H	University Avenue	H36 - H35	10	12	VCP	474		23	50	0	5	78
C	Menalto Avenue	C10 - C8	8	12	PE	387	Modified line segment. Could not find C9	23	40	10	5	**78**
D	Euclid Avenue	D24 - D23	10	12	PE	350	Pipeline had heavy grease	20	50	8		**78**
D	Donohoe Street	D9 - D8		8	VCP	496	Broken at 21ft, multiple cracks	70	0	8		**78**
D	Donohoe Street	D8 - D7		8	VCP	158	broken pipe at 100.08 ft from upstream	37	0	30	10	**77**
C	Menalto Avenue	C8 - C7	8	12	PE	401	broken pipe located 100.08 ft from upstream	20	40	16		**76**
D	Euclid Avenue	D22 - D21	10	12	HDPE	149	Grease/surcharged. Requires heavy cleaning.	0	50	26		**76**

Table 8
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of High Priority Pipelines, Sorted by Diameter - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ 5*Pipe Dia)	Score for Notable Defects	Sag>40%	Total Score
I	Beech Street	I3 - T19	24	26	PVC	188	30	120	0	5	155
A / T	Bay Trail	A29 - T29	24	26	ACP	345	20	120	0		140
I	Beech Street	I31 - I4	24	26	PVC	300	0	120	0		120
I	Beech Street	I4 - I3	24	26	PVC	243	0	120	0		120
I	Beech Street	I5 - I31	24	26	PVC	155	0	120	0		120
I	Beech Street	I6 - I5	24	26	PVC	411	0	120	0		120
I	Beech Street	I7 - I6	20	22	CP	259	26	100	0	20	146
I	Beech Street	I9 - I8	20	22	CP	155	18	100	0		118
I	Beech Street	I8 - I7	20	22	CP	238	0	100	0		100
A	Bay Road	A5 - A8	18	20	PE	124	80	90	0	10	180
A	Bay Road	A10 - A15	18	20	ACP	299	61	90	0	20	171
A	Bay Road	A15 - A16	18	20	ACP	435	50	90	0	25	165
A	Bay Road	A16 - A21	18	20	ACP	296	44	90	0	5	139
A	Bay Road	A9 - A10	18	20	ACP	181	28	90	0	15	133
D	Donohoe Street	D2 - D1	18	20	VCP	53	34	90	0		**124**
H	Green Street	H75 - H6	18	20	PE	259	29	90	0		119
I	Beech Street	I11 - I10	18	20	CP	380	20	90	0		110
H	Green Street	H7 - H75	18	20	PE	91	20	90	0		110
H	Green Street	H73 - H74	18	20	PE	233	20	90	0		110
H	Green Street	H74 - H8	18	20	PE	112	20	90	0		110
H	Green Street	H8 - H7	18	20	PE	235	20	90	0		110
I	Beech Street	I10 - I9	18	20	CP	221	10	90	0		100
A	Bay Road	A23 - A22	18	20	ACP	14	2	90	0		92
A	Bay Road	A21 - A23	18	20	ACP	155	0	90	0		90
A	Bay Road	A21 - A23	18	20		155	0	90	0		90
A	Bay Road	A8 - A9	18	20	PVC	61	0	90	0		90
H/I	Beech Street	H2 - I11	18	20		37	0	90	0		90
H	Beech Street	H3 - H2	18	20		31	0	90	0		90
H	Clarke Avenue	H4 - H3	18	20		7	0	90	0		90
H	Clarke Avenue	H5 - H4	18	20		259	0	90	0		90
H	Green Street	H6 - H5	18	20		9	0	90	0		90
A	Bay Road	A2 - A5	15	18	Unknown	244	70	75	0	25	170
I	Pulgas Avenue	I15 - I14	15	18	PVC	386	50	75	0	25	150
A	Bay Road	A1 - A2	15	18	Unknown	80	50	75	10	0	135
A	Bay Road	B2 - A2	15	18	PE	181	50	75	0	10	135
D	Donohoe Street	D3 - D3A	16	18	VCP	11	34	80	0	5	**119**
D	Donohoe Street	D3A - D2	16	18	VCP	355	34	80	0		**114**
I	Pulgas Avenue	I13 - I12	15	18	PVC	320	30	75	0	5	110
H/E	Green Street	E1 - H9	16	18	PE	270	20	80	0		100
H	Green Street	H9 - H73	16	18	PE	246	20	80	0		100
D	Donohoe Street	D3 - D2	16	18	Unknown	363	0	80	0		**80**
K/L	Larkspur Drive	L21 - K28	14	16	PVC	68	40	70	0	20	130
H	Clarke Avenue	H14 - H13	12	14	VCP	446	66	60	0	25	151
H	Clarke Avenue	H12 - H11	12	14	VCP	333	70	60	0	15	145
H	Clarke Avenue	H64 - H71	12	14	VCP	99	42	60	24	15	141
H	Clarke Avenue	H13 - H12	12	14	VCP	108	54	60	0	10	124
H	Runnymede Street	H17 - H76	12	14	VCP	397	17	60	20	5	102
L	Gardenia Way	L2 - L1	12	14	PVC	179	24	60	15		99
H	Runnymede Street	H57 - H16	12	14	VCP	48	20	60	15		95
H	Clarke Avenue	H11 - H64	12	14	VCP	198	34	60	0		94
M	O'Connor Street	M42 - M13	12	14	VCP	37	34	60	0		94
H	Runnymede Street	H76 - H57	12	14	VCP	73	19	60	15		94
L	Gardenia Way	L3 - L2	12	14	PVC	83	30	60	0		90
M	O'Connor Street	M13 - M12	12	14	VCP	276	13	60	15		88
H	Runnymede Street	H15 - H62	12	14	Other	201	18	60	0		78
H	Runnymede Street	H35 - H34	10	12	VCP	322	62	50	8	30	150
D	Hwy 101	D10 - D3	10	12	Unknown	489	54	50	20	10	**134**
D	West Bayshore Road	D21 - D19	10	12	HDPE	391	40	50	20		**110**
H	Runnymede Street	H34 - H17	10	12	VCP	269	34	50	16	10	110

Table 8
East Palo Alto Sanitation District
CCTV Survey Results Evaluation
Priority List of High Priority Pipelines, Sorted by Diameter - Areas 1, 3, 4

Area	Location/ Street Name	PSR	Master Plan Proposed Diameter	Recommended Design Diameter	Pipe Material	Pipe Length (ft)	Structual Total Score	Score for Master Plan Capacity (+ 5*Pipe Dia)	Score for Notable Defects	Sag>40%	Total Score
C	Menalto Avenue	C2 - C1	10	12	Unknown	204	38	50	16	5	**109**
D	Manhattan Avenue	D19 - D10	10	12	PVC	48	30	50	0	20	**100**
D	Euclid Avenue	D23 - D22	10	12	PE	73	30	50	8	10	**98**
D	Donohoe Street	D4 - D3	10	12	VCP	296	34	50	0		**84**
H	University Avenue	H36 - H35	10	12	VCP	474	23	50	0	5	78
D	Euclid Avenue	D24 - D23	10	12	PE	350	20	50	8		**78**
D	Euclid Avenue	D22 - D21	10	12	HDPE	149	0	50	26		**76**
C	Menalto Avenue	C4 - C3	8	10	PE	436	66	40	10	15	**131**
C	Menalto Avenue	C6 - C5	8	10	PE	87	42	40	20	10	**112**
C	Menalto Avenue	C7 - C6	8	10	PE	448	20	40	12	25	**97**
C	Menalto Avenue	C2A - C2	8	10	VCP	28	34	40	20		**94**
I	Myrtle Street	I21 - I13	8	10	VCP	600	47	40	0	5	92
D	O'Connor Street	D25 - D24	8	10	VCP	301	36	40	16		**92**
O	West Bayshore Road	O9 - O8	8	10	VCP	140	36	40	0	5	**81**
C	Menalto Avenue	C5 - C4	8	10	Unknown	328	29	40	10		**79**
C	Woodland Avenue	C48 - C11	8	10	Unknown	179	23	40	16		**79**
D	Woodland Avenue	D35 - D34	8	10	VCP	178	38	40	0		**78**
C	Menalto Avenue	C10 - C8	8	10	PE	387	23	40	10	5	**78**
C	Menalto Avenue	C8 - C7	8	10	PE	401	20	40	16		**76**
O	West Bayshore Road	O4 - O3		8	VCP	277	86	0	0	25	**111**
J	Pulgas Avenue	J7 - J6		8	VCP	441	73	0	10	25	108
A	Demeter Street	A13 - A12		8	Unknown	412	70	0	20	15	105
J	Garden Street	J9 - J9A		8	VCP	365	51	0	30	20	101
A	Pulgas Avenue	A18 - A16		8	VCP	442	70	0	10	20	100
K	Larkspur Drive	K19 - K18		8	CP	272	58	0	30	10	98
A	Gonzaga Street	A3 - A2		8	VCP	287	46	0	30	20	96
K	Larkspur Drive	K18 - K17		8	CP	269	80	0	15		95
J	Garden Street	J10 - J9		8	VCP	300	70	0	10	15	95
A	Illinois Street	A6 - A5		8	VCP	287	49	0	30	15	94
K	Daisy Lane	K21 - K3		8	CP	246	53	0	30	10	93
K	Wisteria Drive	K13 - K12		8	VCP	362	56	0	20	15	91
A	Illinois Street	A7 - A6		8	VCP	306	46	0	30	15	91
C	Elliot Drive	C42 - C41		8	VCP	300	70	0	20		**90**
C	Elliot Drive	C41 - C40		8	VCP	191	70	0	20		**90**
F	Weeks Street	F23 - F8		8	VCP	327	70	0	0	20	90
C	Elliot Drive	C40 - C36		8	VCP	257	67	0	20		**87**
C	Hwy 101	C21 - C19		8	VCP	284	55	0	30		**85**
A	Tara Street	A27 - A26		8	VCP	311	35	0	30	20	85
L	Wisteria Drive	L29 - L28		8	VCP	366	35	0	30	20	85
K	Larkspur Drive	K16 - K4		8	CP	274	53	0	15	15	83
O	Woodland Avenue	O23 - O22		8	VCP	470	62	0	20		**82**
I	Beech Street	I20 - I9		8	VCP	278	40	0	20	20	80
D	Donohoe Street	D9 - D8		8	VCP	496	70	0	8		**78**
D	Donohoe Street	D8 - D7		8	VCP	158	37	0	30	10	**77**

Table 9
East Palo Alto Sanitary District
Areas 1, 3, and 4 Proposed Pipeline Replacements
Opinion of Probable Construction Cost - High Priority Upgrades

ITEM NO.	ITEM	EST. QUANTITY	UNIT OF MEASURE	UNIT PRICE	TOTAL
1	Mobilization	1	LS	$762,000	$762,000
2	Traffic Control	1	LS	$272,000	$272,000
3	Project Signage	1	LS	$2,000	$2,000
4	City Permits	1	LS	$3,000	$3,000
5	Construction Staking	1	LS	$45,000	$45,000
6	Maintain Access for Services and Residents	1	LS	$30,000	$30,000
7	Safety, Sheeting, Shoring, and Bracing	1	LS	$20,000	$20,000
8	Dust Control	1	LS	$20,000	$20,000
9	Bypassing	103	EA	$2,000	$206,000
10	8-inch PVC	7,978	LF	$375	$2,991,622
11	10-inch PVC	3,513	LF	$410	$1,440,195
12	12-inch PVC	3,065	LF	$435	$1,333,275
13	14/15-inch PVE or HDPE	2,479	LF	$500	$1,239,380
14	16/18-inch PVC	2,524	LF	$525	$1,324,985
15	20/21-inch PVC	3,648	LF	$600	$2,188,848
16	22/24-inch PVC or HDPE	652	LF	$720	$469,275
17	26/27-inch PVE or HDPE	1,642	LF	$795	$1,305,487
18	Drain Rock	1,000	TONS	$50	$50,000
19	Utility Crossings	510	EA	$250	$127,500
20	Reconnect Laterals	285	EA	$850	$242,250
21	Dewatering	1	LS	$8,500	$8,500
22	CCTV Inspections	25,500	LF	$2.00	$51,000
23	Cold-Patch Asphalt for Temporary Surfacing	30	TON	$500	$15,000
24	Asphalt Repaving	101,999	SF	$5	$509,997
25	Slurry Seal	866,995	SF	$0.70	$606,896
26	Striping and Pavement Markings	866,995	SF	$0.85	$736,945
Subtotal - Opinion of Probable Construction Costs					**$16,001,155**
27	Contingency	%	20%	$16,001,155	$3,200,231
Engineering and Administrative				**Opinion of Construction Subtotal**	**$19,201,386**
	Design	%	2%		$384,028
	Environmental/Permitting	%	2%		$384,028
	Construction Management	%	3%		$576,042
	Administration	%	2%		$384,028
				OPINION OF TOTAL PROBABLE PROJECT COST:	**$20,929,511**

SIERRA WEST
CONSULTANTS, INC.

Figures

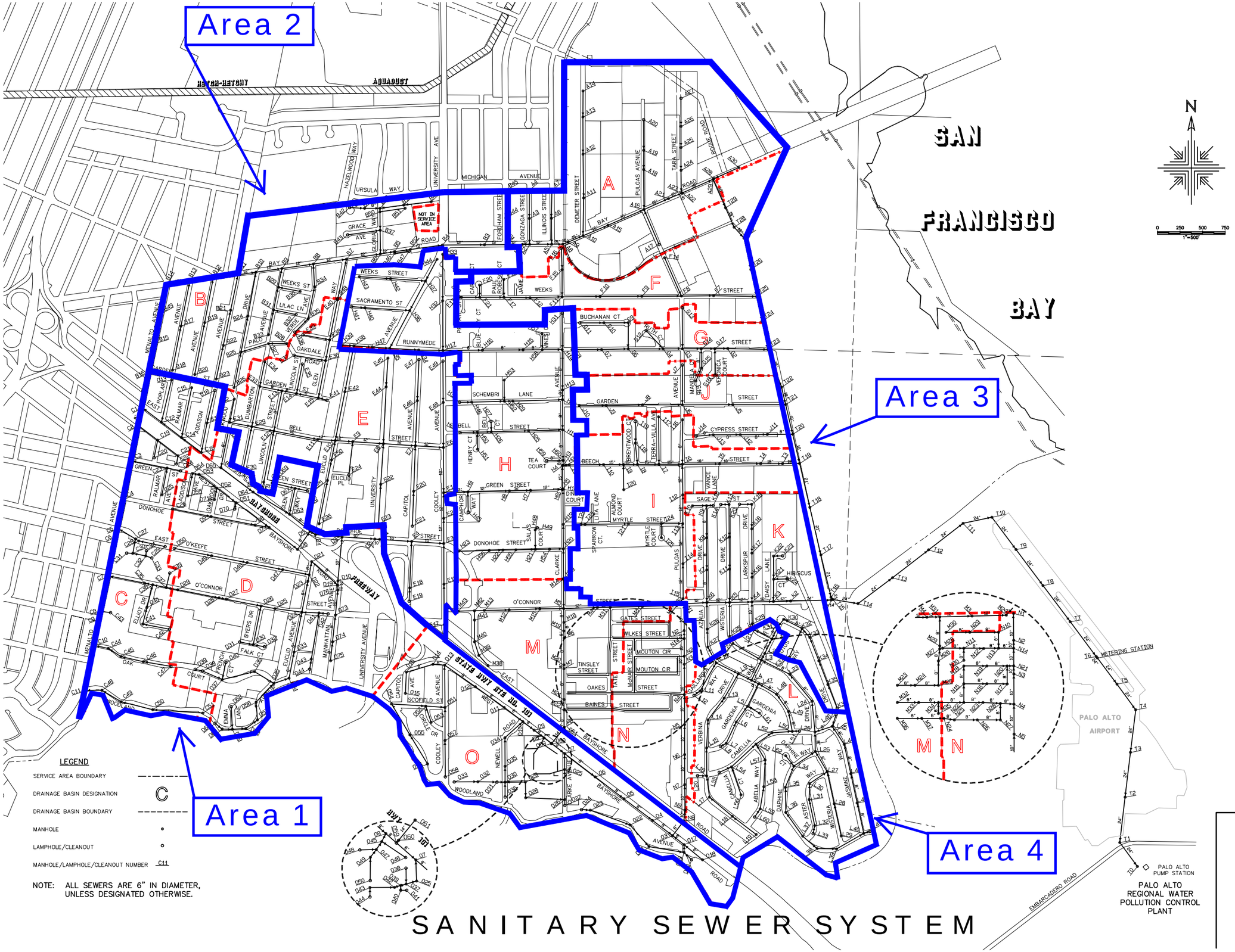
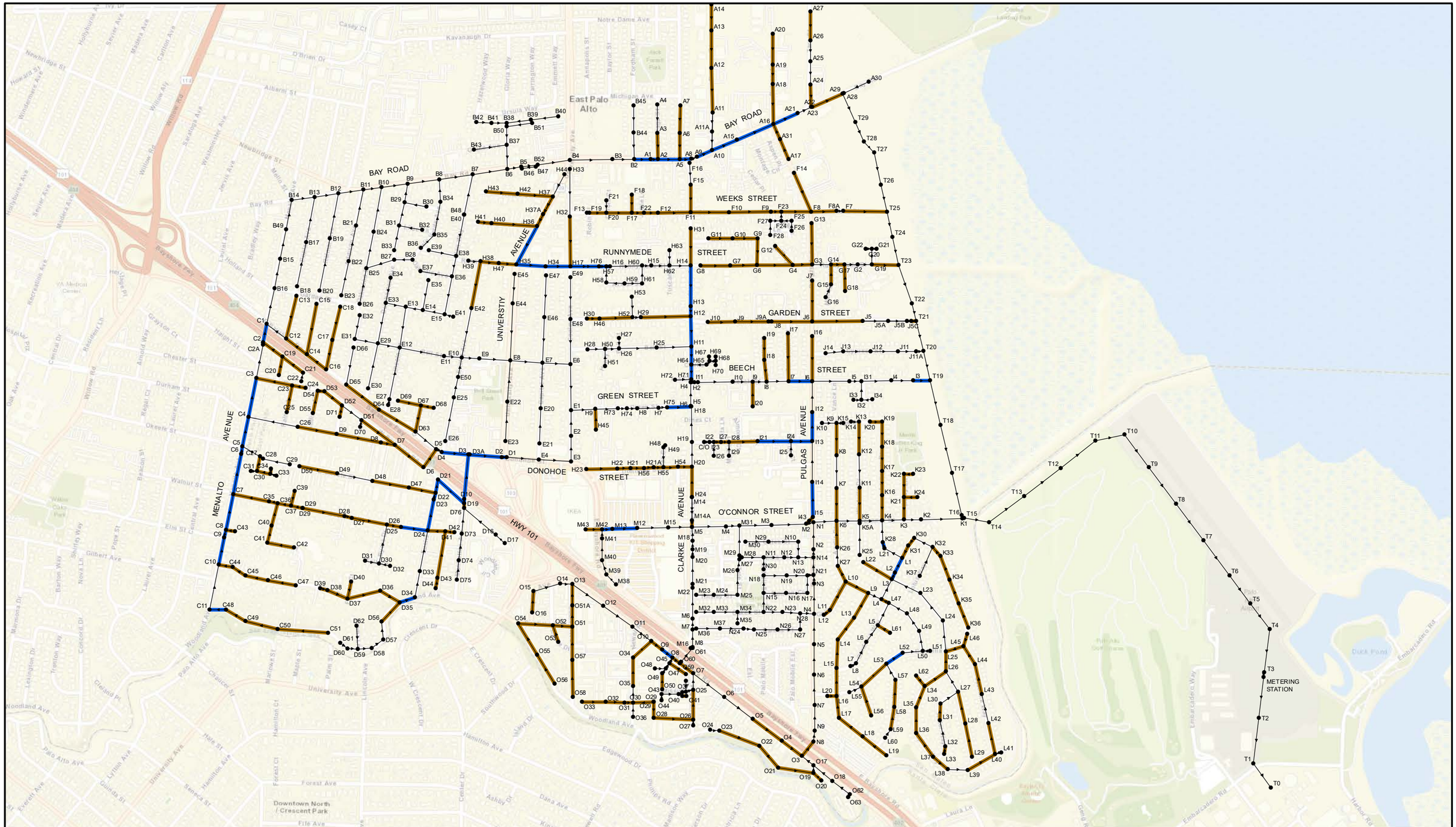


Figure 1
CCTV Survey Areas

Kennedy/Jenks Consultants

EAST PALO ALTO SANITARY DISTRICT
EAST PALO ALTO, CA

COLLECTION SYSTEM DRAINAGE BASINS



SIERRA WEST CONSULTANTS, INC.

LEGEND

- SEWER MANHOLE
- SEWER PIPELINE

PIPELINE UPGRADES

- STRUCTURAL ONLY
- STRUCTURAL, INCLUDES CAPACITY UPGRADE

N

0 500 1,000

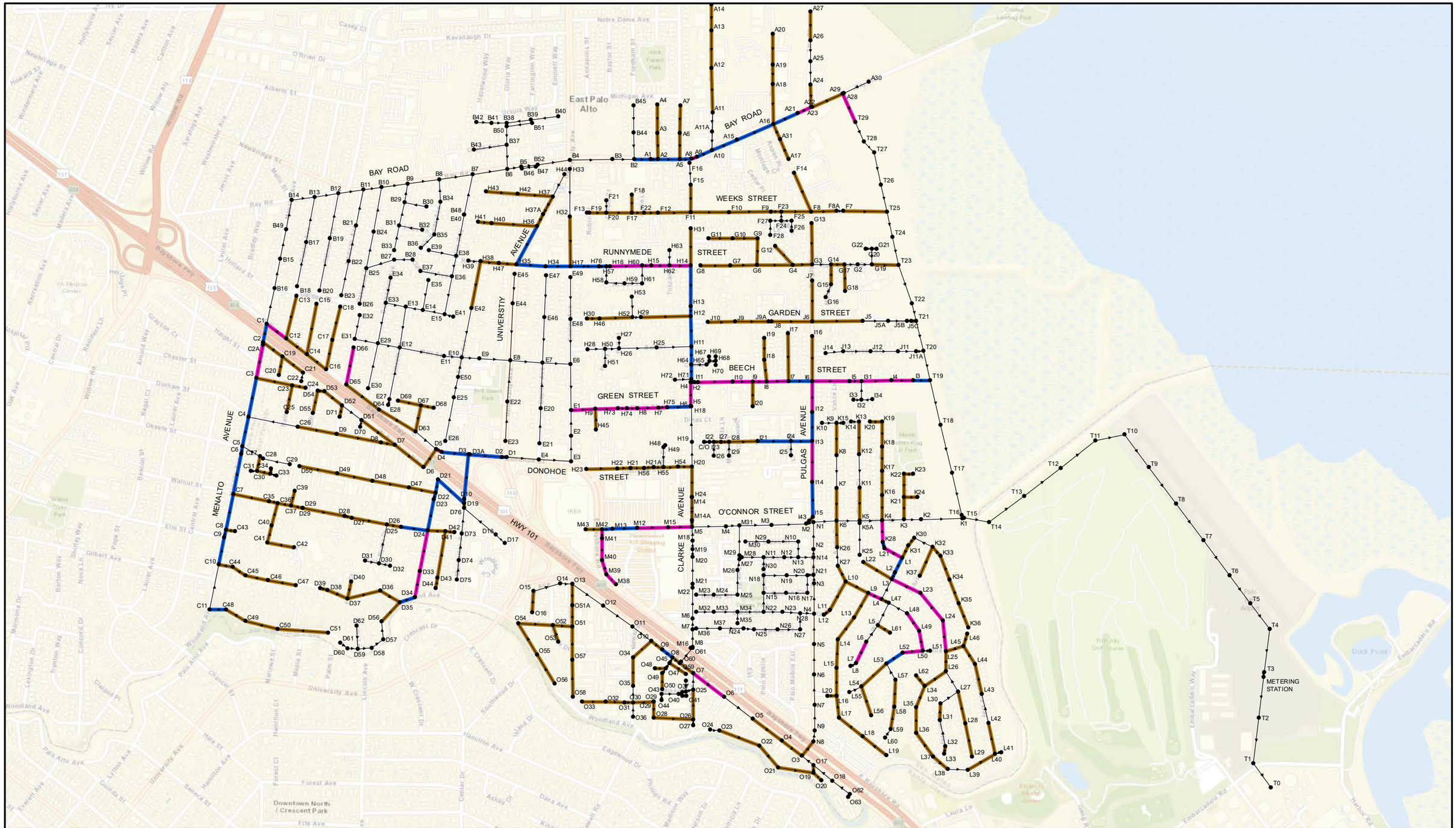
SCALE IN FEET

EAST PALO ALTO SANITARY DISTRICT

STRUCTURAL UPGRADES
AREAS 1, 3, 4

FIGURE

2



SIERRA WEST CONSULTANTS, INC.

LEGEND

- SEWER MANHOLE
- SEWER PIPELINE

PIPELINE UPGRADES

- STRUCTURAL ONLY
- STRUCTURAL, INCLUDES CAPACITY UPGRADE
- CAPACITY ONLY

N

0 500 1,000

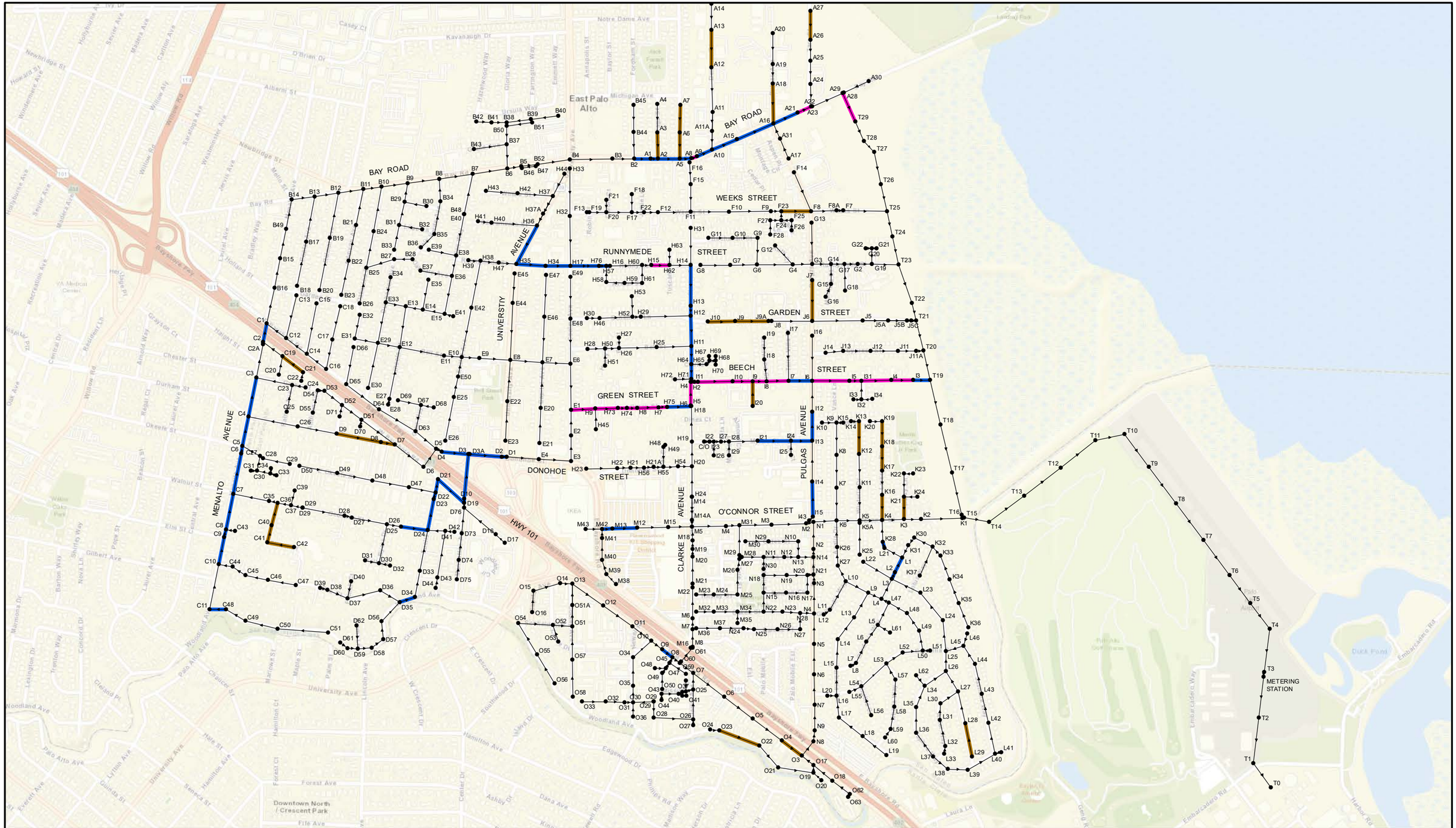
SCALE IN FEET

EAST PALO ALTO SANITARY DISTRICT

STRUCTURAL + CAPACITY UPGRADES
AREAS 1, 3, 4

FIGURE

3



SIERRA WEST CONSULTANTS, INC.	LEGEND • SEWER MANHOLE SEWER PIPELINE	PIPELINE UPGRADES STRUCTURAL ONLY STRUCTURAL, INCLUDES CAPACITY UPGRADE CAPACITY ONLY	0 500 1,000 SCALE IN FEET	EAST PALO ALTO SANITARY DISTRICT HIGH PRIORITY UPGRADES AREAS 1, 3, 4	FIGURE 4

SIERRA WEST
CONSULTANTS, INC.

Attachment 1

Area 1 CCTV Survey Results and Evaluation

East Palo Alto Sanitary District
Area 1 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	US MH #	DS MH #	Reported Pipe Dia (in)	Actual Diameter	Master Plan Proposed Diameter	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Total Score	Score for Master Plan Capacity (+ 5 * Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
2	7/14/2022	D	Hwy 101	D10 - D3	D10	D3	10	10	10	Not Known	489	109.76	MSA/80% grease in line. No heavy cleaning performed because of	463C	54	4800	32	3	54	50	20	10	**134**
3	7/12/2022	C	Menalto Avenue	C4 - C3	C4	C3	6	6	8	PE	436	437.26	This is the second inspection after heavy cleaning. The first	493B	66	3421	14	2	66	40	10	15	**131**
4	7/14/2022	D	Donohoe Street	D2 - D1	D2	D1	10	10	18	VCP	53	51.98		3A22	34	0000	0	2	34	90	0		**124**
5	7/14/2022	D	Donohoe Street	D3 - D3A	D3	D3A	10	10	16	VCP	11	10.8	Surface Damage Roughness Increased	413J	34	211B	12	1	34	80	0	5	**119**
6	7/14/2022	D	Donohoe Street	D3A - D2	D3A	D2	10	10	16	VCP	355	354.98	Broken at 4.2ft	413J	34	211B	12	2	34	80	0		**114**
7	7/12/2022	C	Menalto Avenue	C6 - C5	C6	C5	6	6	8	PE	87	86.97	Pipeline has lots of debris	4636	42	0000	0	3	42	40	20	10	**112**
8	8/11/2022	O	West Bayshore Road	O4 - O3	O4	O3	8	8		VCP	277	276.11	85% sag, 10% grease build up	5A49	86	312B	23	2	86	0	0	25	**111**
9	N/A	D	West Bayshore Road	D21 - D19	D21	D19	8	8	10	HDPE	391		Heavy Cleaning/high flow. Night work. HDPE. This line cannot be		40	3A	30		40	50	20		**110**
10	7/7/2022	C	Menalto Avenue	C2 - C1	C2	C1	8	8	10	Unknown	204	136.75	MSA/Grease. Heavy grease blockage at 136.9	3D24	38	5300	15	3	38	50	16	5	**109**
11	6/23/2022	D	Manhattan Avenue	D19 - D10	D19	D10	10	10	10	PVC	48	49.38	Line is sagging. Camera was under water for most of the	3A00	30	4222	12	3	30	50	0	20	**100**
12	8/17/2022	D	Euclid Avenue	D23 - D22	D23	D22	8	8	10	PE	73	72.58	Pipeline had heavy grease	3B00	30	412A	14	2	30	50	8	10	**98**
13	7/6/2022	C	Menalto Avenue	C7 - C6	C7	C6	6	6	8	PE	448	449.15	Pipeline has lots of debris	2F00	20	4137	25	2	20	40	12	25	**97**
14	7/7/2022	C	Menalto Avenue	C2A - C2	C2A	C2	8	6	8	VCP	28	27.59	New line segment - Broken at 19.9 ft	4436	34	0000	0	2	34	40	20		**94**
15	6/16/2022	D	O'Connor Street	D25 - D24	D25	D24	6	6	8	VCP	301	229.03	large offset between joints and unable to video it at length of 159	4338	36	311A	13	2	36	40	16		**92**
16	6/17/2022	C	Elliot Drive	C41 - C40	C41	C40	6	6		VCP	191	191.74	substantial breakage throughout their entire length	4A3A	70	0000	0	3	70	0	20		**90**
17	6/17/2022	C	Elliot Drive	C42 - C41	C42	C41	6	6		VCP	300	300.2	substantial breakage throughout their entire length	4C3B	70	3223	12	3	70	0	20		**90**
18	6/17/2022	C	Elliot Drive	C40 - C36	C40	C36	6	6		VCP	257	257.61	MSA/Root tap barrel. Reverse inspection performed. substantial	4A39	67	362A	38	2	67	0	20		**87**
19	8/19/2022	C	Hwy 101	C21 - C19	C21	C19	6	6		VCP	284	152.45	MSA/Collapsed pipe. Reverse inspection performed. Pipeline is	534A	55	211A	12	2	55	0	30		**85**
20	7/14/2022	D	Donohoe Street	D4 - D3	D4	D3	8	8	10	VCP	296	255.52	Fracture Multiple at 131ft	413I	34	2300	6	2	34	50	0		**84**
21	8/12/2022	O	Woodland Avenue	O23 - O22	O23	O22	6	6		VCP	470	377.87	MSA/TBI. Reverse Inspection complete. Pipe had multiple breaks	483H	62	4333	21	2	62	0	20		**82**
22	7/18/2022	O	West Bayshore Road	O9 - O8	O9	O8	6	8	8	VCP	140	141.35	15% grease buildup at 96ft	3A23	36	3622	22	2	36	40	0	5	**81**
23	N/A	D	Donohoe Street	D3 - D2	D3	D2	10		16		363		Line has an unchartered manhole, See D3 - D3A						0	80	0		**80**
24	7/6/2022	C	Woodland Avenue	C48 - C11	C48	C11	6	6	8	Unknown	179	178.14	MSA/ Reverse Inspection complete	312B	23	0000	0	2	23	40	16		**79**
25	7/5/2022	C	Menalto Avenue	C5 - C4	C5	C4	6	6	8	Unknown	328	329.29	Pipeline has lots of debris	332C	29	0000	0	2	29	40	10		**79**
26	7/6/2022	C	Menalto Avenue	C10 - C8	C10	C8	6	6	8	PE	387	387.17	Modified line segment. Could not find C9	312C	23	4100	4	2	23	40	10	5	**78**
27	6/23/2022	D	Euclid Avenue	D24 - D23	D24	D23	8	8	10	PE	350	350.88	Pipeline had heavy grease	2A00	20	443C	46	2	20	50	8		**78**
28	6/21/2022	D	Woodland Avenue	D35 - D34	D35	D34	6	6	8	VCP	178	173.94	Fracture Multiple at 73ft	423F	38	211A	12	2	38	40	0		**78**
29	6/14/2022	D	Donohoe Street	D9 - D8	D9	D8	6	6		VCP	496	498.04	Broken at 21ft, multiple cracks	4B3R	70	4132	10	2	70	0	8		**78**
30	6/15/2022	D	Donohoe Street	D8 - D7	D8	D7	6	6		VCP	158	153.95	broken pipe at 100.08 ft from upstream	5148	37	4332	18	2	37	0	30	10	**77**
31	7/6/2022	C	Menalto Avenue	C8 - C7	C8	C7	6	6	8	PE	401	401.77	broken pipe located 100.08 ft from upstream	2C00	20	0000	0	2	20	40	16		**76**
32	N/A	D	Euclid Avenue	D22 - D21	D22	D21	8	8	10	HDPE	149		Grease/surcharged. Requires heavy cleaning. HDPE. This line			3A	30		0	50	26		**76**
33	8/12/2022	D	West Bayshore Road	D7 - D6	D7	D6	6	6		VCP	398	399.27	5% grease build up and 90% sag	544F	60	3128	19	3	60	0	0	15	**75**
34	7/12/2022	C	Menalto Avenue	C43 - C8	C43	C8	6	6		VCP	101	52.9	Proteus. MSA/TBI. Heavy cleaning was performed. There is roots	473A	58	5142	13	2	58	0	16		**74**
35	6/21/2022	D	Euclid Avenue	D33 - D24	D33	D24	8	8	10	PE	450	448.65	-	312E	23	0000	0	2	23	50	0		**73**
36	6/24/2022	C	Ralmar Avenue	C15 - C14	C15	C14	6	6		VCP	565	565.12	MSA/JAM. Camera is unable to get past this point. Reverse	453O	50	3311	10	2	50	0	20		**70**
37	7/13/2022	C	Oak Court	C47 - C46	C47	C46	6	6		VCP	309	305.8	This is the second inspection after heavy cleaning and removing	4C3C	70	4132	10	3	70	0	0		**70**
38	6/24/2022	D	West Bayshore Road	D51 - D7	D51	D7	6	6		VCP	458	444.15	MSA/JOL. Camera cannot move any further. Reverse inspection	514A	45	4215	23	2	45	0	20	5	**70**
39	N/A	O	Woodland Avenue	O20 - O19	O20	O19	6	6			116		After removing roots and debris from the exit of the pipe at	5A	50				50	0	20		**70**
40	7/11/2022	C	O'Connor Street	C35 - C7	C35	C7	6	6		Unknown	403	400.9	Proteus. This is the second inspection. First inspection performed	3B2A	50	4337	33	2	50	0	12	5	**67**
41	6/30/2022	O	Woodland Avenue	O21 - O19	O21	O19	6	6		VCP	394	394.97	MSA/Reverse Inspection performed.	443N	46	423A	38	2	46	0	20		**66**
42	8/19/2022	C	Hwy 101	C20 - C19	C20	C19	6	6		VCP	199	198.63	Broken at 5.1 ft, surface damage at 30 ft	433C	42	3113	6	2	42	0	20		**62**
43	7/1/2022	D	Green Street	D68 - D67	D68	D67	6	6		VCP	139	141.75	Surface Damage at 94ft, pipeline has multiple cracks	3C2A	50	3215	11	2	50	0	12		**62**
44	8/11/2022	O/N	Highway 101	O3 - N8	O3	N8	8	10		Unknown	205	208.33	O3 was surcharged.	3H27	44	0000	0	2	44	0	8	10	**62**
45	7/5/2022	C	East Bayshore	C12 - C1	C12	C1	6	6	8	PVC	265	265.01		2D00	20	0000	0	2	20	40			**60**
46	8/17/2022	O	Cooley Avenue	O51A - O13	O51A	O13	6	6		VCP	236	236.12	5% grease build up, 60% sag	4836	50	2100	2	2	50	0	0	10	**60**
47	6/15/2022	C	Green Street	C23 - C3	C23	C3	6	6		VCP	400	400.17	Pipe has grease and is under water for about 360' till the	413G	34	4834	44	2	34	0	20	5	**59**
48	8/11/2022	O	West Bayshore Road	O5 - O4	O5	O4	8	8		Unknown	399	398.77	Noteable sagging	462E	44	4435	32	2	44	0	0	15	**59**
49	6/21/2022	C	Oak Court	C44 - C10	C44	C10	6	6		VCP	155	153.05	MSA/LR. Camera cannot move past bend.	433H	42	2111	3	2	42	0	16		**58**
50	6/17/2022	C	Oak Court	C46 - C45	C46	C45	6	6		VCP	256	255.42	Broken at 153ft with multiple cracks	473E	58	4234	20	2	58	0	0		**58**
51	6/16/2022	D	O'Connor Street	D26 - D25	D26	D25	6	6		VCP	157	157.25	broken pipe due to tree roots between 23-26 ft.	423D	38	1500	5	2	38	0	20		**58**
52	7/14/2022	D	East Bayshore Road	D5 - D4	D5	D4	8	8	10	Unknown	70	93.97	-	2400	8	0000	0	2	8	50	0		**58**
53	7/19/2022	D	East Bayshore Road	D65 - D64	D65	D64	6	6		VCP	448	456.4	Pipe is damaged. MSA/Crawler cannot move any further. Reverse	3G24	38	4117	11	2	38	0	20		**58**
54	7/11/2022	D	Oakwood Dive	D71 - D52	D71	D52	6	6		VCP	130	128.8	Proteus. This is the second inspection. First inspection performed	443D	46	3114	7	2	46	0	12		**58**
55	7/1/2022	O	Capitol Avenue	O16 - O15	O16	O15	6	6		VCP	235	233.82	Broken at 131.9 ft	433E	42	3118	11	2	42	0	15		**57**
56	7/18/2022	C/D	Donohoe Street	C26 - D9	C26	D9	6	6		VCP	436	109.07	This is the second inspection after heavy cleaning and attempting	5444	36	3124	11	2	36	0	20		**56**
57	7/18/2022	D	French Court	D40 - D37	D40	D37	6	6		VCP	194	204.73	This is the second inspection after using a root cutter. The first	5145	25	4332	18	2	25	0	30		**55**
58	7/5/2022	C	Poplar Avenue	C13 - C12	C13	C12	6	6		Unknown	481	335.79	MSA/Lined pipe. Camera could not move any further. Reverse	3D22	34	3100	3	2	34	0	20		**54**
59	6/15/2022	D	O'Connor Street	D29 - D28	D29	D28	6	6		VCP	130	464.75	Clogged, extensive cleaning required	443H	46	4132	10	2	46	0	8		**54**
60	6/21/2022	D	Oak Court	D37 - D36	D37	D36	6	6		VCP	368	370.18	MSA/Reverse inspection complete	463O	54	4533	29	2	54	0	0		**54**
61	6/23/2022	D	East O'Keefe Street	D43 - D41	D43	D41	6	6		VCP	517	543.42	MSA/Broken. Reverse inspection complete.broken pipe at 249ft	443L	46	312D	23	2	46	0	8		**54**
62	6/22/2022	D	Woodland Avenue	D56 - D35	D56	D35	6	6		VCP	286	287.51	Offset joint 4' from MH	433N	42	4231	11	2	42	0	12		**54**

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	US MH #	DS MH #	Reported Pipe Dia (in)	Actual Diameter	Master Plan Proposed Diameter	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Total Score	Score for Master Plan Capacity (+ 5 * Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
63	8/17/2022	O	Woodland Avenue	O29 - O30	O29	O30	6	6		VCP	220	225.93	Surcharged MH with substantial crud on water surface.	433E	42	312B	23	2	42	0	12		**54**
64	6/21/2022	C	Oak Court	C45 - C44	C45	C44	6	6		VCP	166	165.95	Broken pipe at 6ft, 41ft, 24ft	4439	43	3221	8	2	43	0	10		**53**
65	6/30/2022	O	Woodland Avenue	O22 - O21	O22	O21	6	6		VCP	348	347.89	broken at 81.02 ft, 311 ft, and 320 ft.	5147	33	4232	14	2	33	0	20		**53**
66	6/14/2022	D	East O'Keefe Street	D47 - D22	D47	D22	6	8		VCP	299	299	Grease build up at 269 ft	372D	41	312B	23	2	41	0	5	5	**51**
67	8/18/2022	O	Woodland Avenue	O28 - O26	O28	O26	6	6		VCP	434	443.76	MSA/Reverse inspection complete. Proteous. pipeline has a major	5149	41	4235	23	2	41	0	10		**51**
68	7/19/2022	C	Addison Avenue	C18 - C17	C18	C17	6	6		VCP	370	236.1	MSA/Proteus could not crawl any farther due to offset joint. No	413M	34	4135	19	2	34	0	16		**50**
69	6/23/2022	D	O'Connor Street	D41 - D24	D41	D24	6	6		VCP	191	183.04	Broken at 51 ft and 122 ft	453D	50	312D	23	2	50	0	0		**50**
70	6/23/2022	D	Addison Avenue	D55 - D54	D55	D54	6	6		VCP	252	251.62	MSA/Reverse inspection complete. broken at 146.7 ft	413C	34	2300	6	2	34	0	16		**50**
71	6/28/2022	O	Clarke Avenue	O26 - O25	O26	O25	6	6		VCP	333	332.89	Broken at 125ft	453F	50	3122	7	2	50	0	0		**50**
72	6/29/2022	O	Newell Road	O35 - O34	O35	O34	6	6		ACP	316	318.99		3A2D	50	2112	4	1	50	0	0		**50**
73	6/27/2022	O	Scofield Street	O52 - O51	O52	O51	6	6		VCP	213	210.83	-	3D2D	50	0000	0	2	50	0	0		**50**
74	7/1/2022	O	Woodland Avenue	O55 - O54	O55	O54	6	6		VCP	399	398.39	MSA/Reverse Inspection Complete.	433L	42	3125	13	2	42	0	8		**50**
75	7/18/2022	O	West Bayshore Road	O59 - O7	O59	O7	8	8		VCP	182	182.34	Soil is visible at 167ft, 50% sag	5141	9	4131	7	2	9	0	30	10	**49**
76	7/1/2022	D	Green Street	D69 - D67	D69	D67	6	6		VCP	259	109.76	MSA/TBI. No reverse inspection performed because the upstream	523C	40	5121	7	3	40	0	8		**48**
77	6/29/2022	O	Newell Road	O31 - O30	O31	O30	6	6		VCP	90	44.79	Visible soil	5242	18	0000	0	2	18	0	30		**48**
78	6/29/2022	O	Woodland Avenue	O33 - O32	O33	O32	6	6		VCP	263	227.22	Visible soil	4236	26	2312	8	2	26	0	12	10	**48**
79	6/15/2022	C	Palmar Avenue	C25 - C23	C25	C23	6	6		VCP	303	302.5	Medium Joint Offset	433I	42	4632	30	2	42	0	0	5	**47**
80	7/1/2022	D	Glen Way	D67 - D63	D67	D63	6	6		VCP	294	294.7	Pipe broken at 231.1 ft	5143	17	3100	3	2	17	0	30		**47**
81	6/27/2022	O	Cooley Avenue	O58 - O57	O58	O57	6	6		VCP	403	184.54	MSA/Tap break in intruding. No reverse inspection performed	5143	17	5100	5	3	17	0	30		**47**
82	6/24/2022	C	Addison Avenue	C17 - C16	C17	C16	6	6		VCP	333	315.4	There's a JAM 3' from the DSMH. Camera is unable to go past this	423O	38	0000	0	3	38	0	8		**46**
83	8/18/2022	C	Hwy 101	C19 - C2	C19	C2	6	6		VCP	264	73.18	MSA/OBM. Reverse Inspection performed. Pipeline was CCTV for	5244	26	413A	34	2	26	0	20		**46**
84	7/12/2022	C	Menalto Avenue	C3 - C2A	C3	C2A	8	6	8	PVC	370	370.18	New line segment	2300	6	0000	0	2	6	40	0		**46**
85	6/27/2022	O	Cooley Avenue	O57 - O51	O57	O51	6	6		VCP	365	365.48	Cracks and surface damage along the pipe	443A	46	2116	8	2	46	0	0		**46**
86	7/12/2022	C/D	O'Connor Street	D29 - C37	D29	C37	6	6		Unknown	130	130.2	Proteus	3900	27	3111	4	2	27	0	8	10	**45**
87	6/21/2022	D	Oak Court	D36 - D35	D36	D35	6	6		VCP	251	221.23	MSA/Broken. Reverse inspection attempted. broken pipe at 152ft	5146	29	411A	14	2	29	0	16		**45**
88	6/14/2022	D	East O'Keefe Street	D48 - D47	D48	D47	6	6		VCP	401	401.37	5% Grease build up at 335ft	4138	28	2213	7	2	28	0	12	5	**45**
89	7/1/2022	C	East Bayshore	C14 - C12	C14	C12	6	6		PVC	282	282.51		382A	44	0000	0	2	44	0	0		**44**
90	7/8/2022	C	Woodland Avenue	C51 - C50	C51	C50	6	6		Unknown	556	558.7	Proteous. MSA/Reverse inspection complete. Pipe is deformed	3A21	32	4111	5	2	32	0	12		**44**
91	7/5/2022	D	East Bayshore Road	D64 - D63	D64	D63	6	6		VCP	471	472.65	MSA/Reverse inspection complete	4135	19	1300	3	2	19	0	20	5	**44**
92	7/19/2022	O	West Bayshore Road	O7 - O6	O7	O6	8	8	8	Unknown	427	428.46	-	2200	4	0000	0	2	4	40	0		**44**
93	6/24/2022	D	West Bayshore Road	D53 - D52	D53	D52	6	6		VCP	248	247.62	Joint Separated Medium	423A	38	4211	9	2	38	0	0	5	**43**
94	7/19/2022	O	Mission Drive	O41 - O40	O41	O40	6	6		Unknown	45	45.4	Proteous. seemed to be different material assuming to be Cast	3900	27	0000	0	3	27	0	16		**43**
95	6/27/2022	O	Scofield Street	O54 - O52	O54	O52	6	6		VCP	380	380.17	Pipe is broken at 26.08 feet.	5142	13	1A00	10	2	13	0	30		**43**
96	6/16/2022	D	O'Connor Street	D27 - D26	D27	D26	6	6		VCP	392	392.97	Clogged, extensive cleaning required	413G	34	2117	9	2	34	0	8		**42**
97	7/8/2022	C	Woodland Avenue	C49 - C48	C49	C48	6	6		Unknown	248	245	Proteous	332C	29	3200	6	2	29	0	12		**41**
98	7/8/2022	C	Woodland Avenue	C50 - C49	C50	C49	6	6		Unknown	361	358.3	Proteous	332A	29	3311	10	2	29	0	12		**41**
99	6/15/2022	D	O'Connor Street	D28 - D27	D28	D27	6	6		VCP	81	80.57	Clogged, extensive cleaning required	4138	28	1A00	10	1	28	0	8	5	**41**
100	7/1/2022	C	East Bayshore	C16 - C14	C16	C14	6	6		PVC	273	274.31		3A25	40	0000	0	2	40	0	0		**40**
101	N/A	C	Menalto Avenue	C3 - C2	C3	C2	6		8		398		Line has an unchartered manhole, See C2A						0	40	0		**40**
102	6/21/2022	D	Euclid Avenue	D34 - D33	D34	D33	8	8	8	PE	293	294.9		0000	0	0000	0	0	0	40	0		**40**
103	7/5/2022	D	Oakwood Dive	D66 - D65	D66	D65	8	8	8	Unknown	413	410.36		0000	0	0000	0	0	0	40	0		**40**
104	6/29/2022	O	Newell Road	O34 - O10	O34	O10	6	6		ACP	268	267.41		3H1I	40	3111	4	2	40	0	0		**40**
105	6/21/2022	D	Oak Court	D38 - D37	D38	D37	6	6		VCP	238	3.2	MSA/Broken. No reverse inspection can be performed because	5141	9	1100	1	3	9	0	30		**39**
106	7/13/2022	D	Oak Court	D39 - D37	D39	D37	6	6		Unknown	84	342.1	New line segment. Proteus was used to inspect this line. Broken	5141	9	1500	5	2	9	0	30		**39**
107	6/29/2022	O	Woodland Avenue	O32 - O31	O32	O31	6	6		VCP	258	258.41	Broken at 3.2 ft and 226 ft	5141	9	4432	22	2	9	0	30		**39**
108	6/27/2022	O	Circle Drive	O53 - O52	O53	O52	6	6		VCP	188	222.13	Broken at 204ft	423I	38	3121	5	2	38	0	0		**38**
109	7/1/2022	O	Woodland Avenue	O56 - O55	O56	O55	6	6		VCP	377	378.18	-	3N24	38	3221	8	2	38	0	0		**38**
110	6/23/2022	D	O'Connor Street	D42 - D41	D42	D41	6	6		VCP	100	100.67	Crack Multiple at 7.6ft & 69.2ft	413A	34	0000	0	2	34	0	0		**34**
111	6/23/2022	D	East O'Keefe Street	D44 - D43	D44	D43	6	6		VCP	113	74.78	Broken at 72.2ft	413A	34	2216	10	2	34	0	0		**34**
112	7/7/2022	D	East O'Keefe Street	D50 - D49	D50	D49	6	6		VCP	422	419.56	Broken at 418.9 ft	413C	34	3221	8	2	34	0	0		**34**
113	6/23/2022	D	West Bayshore Road	D54 - D53	D54	D53	6	6		VCP	75	73.38	-	3A22	34	0000	0	2	34	0	0		**34**
114	8/12/2022	D	Hwy 101	D6 - D5	D6	D5	8	8		Unknown	246	263.21	Joint Offset Large at 112ft	413I	34	0000	0	2	34	0	0		**34**
115	7/11/2022	C	O'Connor Street	C37 - C36	C37	C36	6	6		Unknown	153	153.3	Proteus. This is the second inspection. First inspection performed	3500	15	3200	6	3	15	0	12	5	**32**
116	6/15/2022	C	Green Street	C24 - C23	C24	C23	6	6		VCP	151	41.09	MSA/JOM. No reverse inspection performed because the	4132	10	1100	1	2	10	0	20		**30**
117	6/29/2022	C	East O'Keefe Street	C30 - C27	C30	C27	6	6		VCP	163	161.85		3E00	30	0000	0	3	30	0	0		**30**
118	7/7/2022	C	East O'Keefe Street	C32 - C30	C32	C30	6	6		VCP	147	147.55		3C00	30	2100	2	3	30	0			**30**
119	7/7/2022	C	East O'Keefe Street	C34 - C32	C34	C32	6	6		VCP	57	81.57	-	3A00	30	3121	5	2	30	0	0		**30**
120	7/11/2022	C	O'Connor Street	C36 - C35	C36	C35	6	6		Unknown	92	91.6	Proteus. This is the second inspection. First inspection performed	3226	18	0000	0	2	18	0	12		**30**
121	7/18/2022	O	West Bayshore Road	O10 - O9	O10	O9	8	8		VCP	157	156.65		332A	29	2B11	21	2	29	0	0		**29**
122	8/18/2022	O	Woodland Avenue	O29 - O28	O29	O28	6	6		VCP	143	160.5	Surcharged MH with substantial crud on water surface.	4127	16	4113	7	2	16	0	12		**28**
123	6/28/2022	O	Mission Drive	O50 - O49	O50	O49	6	6		VCP	172	171.84	Joint Offset Large at 170 ft	4138	28	0000	0	3	28	0	0		**28**

East Palo Alto Sanitary District
Area 1 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	US MH #	DS MH #	Reported Pipe Dia (in)	Actual Diameter	Master Plan Proposed Diameter	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Total Score	Score for Master Plan Capacity (+ 5 * Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
124	6/23/2022	D	Manhattan Avenue	D76 - D19	D76	D19	10	10		PVC	99	55.78	-	3900	27	4100	4	3	27	0	0		**27**
125	6/28/2022	O	Mission Drive	O48 - O47	O48	O47	6	6		VCP	122	120.36	Surface Damage at 119ft	3421	14	0000	0	2	14	0	12		**26**
126	7/18/2022	O	West Bayshore Road	O8 - O59	O8	O59	8	8		VCP	103	102.77	-	3427	26	4123	10	1	26	0	0		**26**
127	7/11/2022	C	O'Connor Street	C39 - C37	C39	C37	6	6		VCP	164	166.4	Proteus. This is the second inspection. First inspection performed	3300	9	0000	0	3	9	0	16		**25**
128	6/28/2022	O	Mission Drive	O46 - O45	O46	O45	6	6		VCP	213	174.04	Broken at 3.7ft, Joint Separated Medium along the pipe	4137	25	0000	0	2	25	0	0		**25**
129	8/17/2022	O	Cooley Avenue	O51 - O51A	O51	O51A	6	6		VCP	234	233.82	10% grease build up	2E00	20	432A	32	2	20	0	0	5	**25**
130	6/29/2022	O	Newell Road	O30 - O35	O30	O35	6	6		ACP	176	176.34	-	271F	24	0000	0	1	24	0	0		**24**
131	6/14/2022	D	East O'Keefe Street	D49 - D48	D49	D48	6	6		VCP	400	399.77	Broken at 264 ft, 90% blockage by a root ball at 137 ft	4231	11	4231	11	1	11	0	12		**23**
132	6/27/2022	O	West Bayshore Road	O11 - O10	O11	O10	8	8		VCP	259	260.21		312A	23	412A	24	2	23	0	0		**23**
133	6/28/2022	O	Mission Drive	O37 - O25	O37	O25	6	6		VCP	81	70.48	50% sagging pipe	3400	12	4200	8	3	12	0	0	10	**22**
134	7/19/2022	O	West Bayshore Road	O6 - O5	O6	O5	8	8		Other	399	400.67	-	3700	21	3111	4	2	21	0	0		**21**
135	7/5/2022	D	East Bayshore Road	D63 - D5	D63	D5	8	8		VCP	297	307.1	-	2B00	20	3123	9	2	20	0	0		**20**
136	6/27/2022	O	West Bayshore Road	O12 - O11	O12	O11	8	8		VCP	394	395.57	-	2C00	20	3123	9	1	20	0	0		**20**
137	6/27/2022	O	West Bayshore Road	O13 - O12	O13	O12	8	8		Other	415	417.56	-	2A00	20	4111	5	2	20	0	0		**20**
138	8/11/2022	O	West Bayshore Road	O17 - O3	O17	O3	8	8		VCP	161	159.15		2B00	20	4131	7	1	20	0	0		**20**
139	6/28/2022	O	Clarke Avenue	O27 - O26	O27	O26	6	6		VCP	65	65.98	-	3622	20	1100	1	2	20	0	0		**20**
140	7/14/2022	O	West Bayshore Road	O60 - O61	O60	O61	14	14		PVC	199	203.63	-	2B00	20	2F00	20	2	20	0	0		**20**
141	8/18/2022	O	Clarke Avenue	O25 - O7	O25	O7	6	6		VCP	177	177.34	This is the second inspection. The first inspection on 6.29 can be	4231	11	4132	10	2	11	0	8		**19**
142	7/7/2022	C	East O'Keefe Street	C31 - C30	C31	C30	6	6		VCP	67	63.18	-	3600	18	0000	0	3	18	0	0		**18**
143	8/11/2022	O	West Bayshore Road	O18 - O17	O18	O17	8	8		VCP	264	162.35	-	3226	18	1A00	10	1	18	0	0		**18**
144	6/24/2022	D	West Bayshore Road	D52 - D51	D52	D51	6	6		VCP	267	267.21	Broken at 262 ft	4122	8	1300	3	1	8	0	8		**16**
145	6/22/2022	D	Woodland Avenue	D61 - D60	D61	D60	6	6		VCP	101	95.07	Joint Offset Large at 91 ft	4100	4	3100	3	3	4	0	12		**16**
146	6/30/2022	O	Woodland Avenue	O19 - O17	O19	O17	6	6		VCP	86	85.57	Broken at 83 ft	4127	16	1300	3	1	16	0	0		**16**
147	6/24/2022	D	Dumbarton Avenue	D70 - D51	D70	D51	6	6		VCP	71	66.68	-	3323	15	1100	1	2	15	0	0		**15**
148	8/18/2022	C	West Bayshore Road	C22 - C21	C22	C21	6	6		VCP	92	91.17	Broken at 6 ft	4131	7	3A2A	50	2	7	0	5		**12**
149	6/22/2022	D	Emma Lane	D62 - D59	D62	D59	6	6		VCP	248	240.92	D62 is cleanout with "water" lid	3100	3	4131	7	1	3	0	8		**11**
150	7/7/2022	C	East O'Keefe Street	C27 - C5	C27	C5	6	6		VCP	222	222.93	Broken at 1.7ft	4132	10	4121	6	1	10	0	0		**10**
151	7/7/2022	C	East O'Keefe Street	C33 - C32	C33	C32	6	6		VCP	71	65.68		3300	9	0000	0	3	9	0	0		**9**
152	7/6/2022	C	Menalto Avenue	C11 - C10	C11	C10	6	6		PE	508	510.13		2400	8	0000	0	2	8	0	0		**8**
153	N/A	D	Oak Court	D39 - D38	D39	D38	6				84		Cleanout D38 does not exist. Line ends at MH D37. 7.13.22.						0	0	8		**8**
154	6/28/2022	O	Mission Drive	O39 - O37	O39	O37	6	6		VCP	41	41.29		2400	8	0000	0	2	8	0	0		**8**
155	6/28/2022	O	Mission Drive	O44 - O43	O44	O43	6	6		VCP	69	68.48	Joint Separated Large at 3.6ft	4131	7	0000	0	3	7	0	0		**7**
156	6/28/2022	O	Mission Drive	O45 - O8	O45	O8	6	6		VCP	66	42.39	Broken at 38.7ft	4131	7	0000	0	2	7	0	0		**7**
157	7/7/2022	C	East O'Keefe Street	C29 - C28	C29	C28	6	6		PVC	298	295.9	-	3200	6	4733	37	1	6	0	0		**6**
158	7/1/2022	O	West Bayshore Road	O15 - O14	O15	O14	8	8		Unknown	308	308.6	-	2300	6	1100	1	1	6	0	0		**6**
159	6/30/2022	O	Woodland Avenue	O24 - O23	O24	O23	6	6		VCP	97	95.77	-	3200	6	5141	9	2	6	0	0		**6**
160	6/28/2022	O	Mission Drive	O43 - O42	O43	O42	6	6		VCP	182	181.44	-	3200	6	0000	0	3	6	0	0		**6**
161	6/28/2022	O	Mission Drive	O38 - O37	O38	O37	6	6		VCP	117	115.36		3121	5	4100	4	3	5	0	0		**5**
162	6/28/2022	O	Mission Drive	O42 - O39	O42	O39	6	6		VCP	48	48.08	-	3100	3	0000	0	3	3	0	0		**3**
163	6/28/2022	O	Mission Drive	O49 - O47	O49	O47	6	6		VCP	73	72.28	Crack at 68.7 ft	1100	2	0000	0	1	2	0	0	0	**2**
164	N/A	C	Menalto Avenue	C10 - C9	C10	C9	6				301		Could not find MH C9. C10 connects to C8. 7.6.22						0	0	0		**0**
165	7/7/2022	C	East O'Keefe Street	C28 - C27	C28	C27	6	6		PVC	43	41.19	-	0000	0	0000	0	0	0	0	0		**0**
166	N/A	C	Menalto Avenue	C9 - C8	C9	C8	6				84		Line does not exist. C8 connects to C10. 7.6.22						0	0			**0**
167	6/16/2022	D	Byers Drive	D30 - D26	D30	D26	6	6		VCP	436	437.56		0000	0	4100	4	4	0	0	0		**0**
168	6/16/2022	D	Falk Court	D31 - D30	D31	D30	6	6		VCP	153	146.85		0000	0	0000	0	0	0	0	0		**0**
169	6/16/2022	D	Falk Court	D32 - D30	D32	D30	6	6		VCP	126	121.76		0000	0	3300	9	3	0	0	0		**0**
170	6/22/2022	D	Woodland Avenue	D57 - D56	D57	D56	6	6		VCP	197	196.64	-	0000	0	1600	6	1	0	0	0		**0**
171	6/22/2022	D	Woodland Avenue	D58 - D57	D58	D57	6	6		VCP	158	156.95	-	0000	0	3C12	32	2	0	0	0		**0**
172	6/22/2022	D	Woodland Avenue	D59 - D58	D59	D58	6	6		VCP	151	152.25		0000	0	4133	13	1	0	0	0		**0**
173	6/22/2022	D	Woodland Avenue	D60 - D59	D60	D59	6	6		VCP	113	111.66	-	0000	0	321A	16	1	0	0	0		**0**
174	6/23/2022	D	Manhattan Avenue	D73 - D76	D73	D76	10	10		PVC	297	277.11	-	0000	0	0000	0	0	0	0	0		**0**
175	6/23/2022	D	Manhattan Avenue	D74 - D73	D74	D73	8	8		Unknown	210	300.9	-	0000	0	0000	0	0	0	0	0		**0**
176	6/23/2022	D	Manhattan Avenue	D75 - D74	D75	D74	8	8		Unknown	195	187.44	-	0000	0	0000	0	0	0	0	0		**0**
177	6/27/2022	O	West Bayshore Road	O14 - O13	O14	O13	8	8		VCP	130	128.86	-	0000	0	0000	0	0	0	0	0		**0**
178	6/29/2022	O	Newell Road	O36 - O30	O36	O30	6	6		ACP	164	159.85		0000	0	312D	23	2	0	0	0		**0**
179	6/28/2022	O	Mission Drive	O40 - O39	O40	O39	6	6		VCP	37	34.89	-	0000	0	0000	0	0	0	0	0		**0**
180	6/28/2022	O	Mission Drive	O47 - O45	O47	O45	6	6		VCP	72	71.38		0000	0	0000	0	0	0	0	0		**0**
181	N/A	O	Cooley Avenue	O51 - O13	O51	O13	6				468		Line has an unchartered manhole, see MH O51A						0	0	0		**0**
182	7/14/2022	O	Highway 102	O59 - O60	O59	O60	14	10		VCP	40	8.7	-	0000	0	2100	2	2	0	0	0		**0**
183	N/A	O/M	East Bayshore Road	O61 - M8	O61	M8	14				12		O61 is buried. The crew attempted to inspect it from O6O but the						0	0	0		**0**

SIERRA WEST
CONSULTANTS, INC.

Attachment 2

Area 3 CCTV Survey Results and Evaluation

East Palo Alto Sanitary District
Area 2 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	Upstream MH #	Downstream MH #	Reported Pipe Dia (in)	Actual Diameter	Master Plan Proposed Diameter	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Total scoring	Score for Master Plan Capacity (+ 5 *Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
2	8/2/2022	A	Bay Road	A5 - A8	A5	A8	15	12	18	PE	124	121.74	Sagging pipe 50%-100%	5A3A	80	2300	6	3	80	90	0	10	180
3	8/3/2022	A	Bay Road	A10 - A15	A10	A15	15	15	18	ACP	299	298.89	Surface Damage Roughness Increased	4C37	61	3111	4	3	61	90	0	20	171
4	8/2/2022	A	Bay Road	A2 - A5	A2	A5	12	12	15	Unknown	244	244.08	Sagging pipe 75%	4B3A	70	0000	0	3	70	75	0	25	170
5	8/3/2022	A	Bay Road	A15 - A16	A15	A16	6	15	18	ACP	435	433.85	Surface damage roughness. Sagging 75%	453F	50	3100	3	1	50	90	0	25	165
6	8/1/2022	I	Beech Street	I3 - T19	I3	T19	24	18	24	PVC	188	189.17	Upgrade to 24" per MP	3D00	30	0000	0	3	30	120	0	5	155
7	7/31/2022	I	Pulgas Avenue	I15 - I14	I15	I14	12	12	15	PVC	386	384.45	Sagging pipe 85%	5A00	50	0000	0	5	50	75	0	25	150
8	8/1/2022	I	Beech Street	I7 - I6	I7	I6	15	15	20	CP	259	260.01	Surface damage roughness. Sagging 75%	441H	26	0000	0	1	26	100	0	20	146
9	8/3/2022	A / T	Bay Trail	A29 - T29	A29	T29	18	18	24	ACP	345	342.97	-	251K	20	0000	0	1	20	120	0		140
10	8/3/2022	A	Bay Road	A16 - A21	A16	A21	15	15	18	ACP	296	296.78	-	3F27	44	0000	0	1	44	90	0	5	139
11	N/A	A	Bay Road	A1 - A2	A1	A2	12	12	15	Unknown	80	80.00	MH A1 does not exist. Inspection started from B2-	3E2A	50	4300	12	2	50	75	10	0	135
12	8/2/2022	A	Bay Road	B2 - A2	B2	A1/A2	12	12	15	PE	181	180.50	A1 is buried, operator surveyed B2-A2 for total of	3E2A	50	4300	12	2	50	75	0	10	135
13	8/3/2022	A	Bay Road	A9 - A10	A9	A10	15	15	18	ACP	181	180.05	Broken at 172ft	4138	28	0000	0	1	28	90	0	15	133
14	8/1/2022	K/L	Larkspur Drive	L21 - K28	L21	K28	10	10	14	PVC	68	67.43	Sagging pipe 75%	4A00	40	4800	32	4	40	70	0	20	130
15	8/2/2022	I	Beech Street	I31 - I4	I31	I4	18	18	24	PVC	135	300.09	This pipe line was I5A-I4	0000	0	4431	19	3	0	120	0		120
16	8/2/2022	I	Beech Street	I4 - I3	I4	I3	18	18	24	PVC	243	240.17	-	0000	0	4100	4	4	0	120	0		120
17	8/2/2022	I	Beech Street	I5 - I31	I5	I31	18	18	24	PVC	135	154.30	This pipe line was I5-I5A	0000	0	0000	0	0	0	120	0		120
18	8/1/2022	I	Beech Street	I6 - I5	I6	I5	18	18	24	PVC	411	409.00	-	0000	0	0000	0	0	0	120	0		120
19	8/1/2022	I	Beech Street	I9 - I8	I9	I8	15	15	20	CP	155	154.10	-	241E	18	2100	2	1	18	100	0		118
20	8/1/2022	I	Beech Street	I11 - I10	I11	I10	15	15	18	CP	380	380.45	-	251M	20	0000	0	1	20	90	0		110
21	7/31/2022	I	Pulgas Avenue	I13 - I12	I13	I12	12	12	15	PVC	320	319.73	-	3F00	30	0000	0	3	30	75	0	5	110
22	7/22/2022	J	Pulgas Avenue	J7 - J6	J7	J6	6	6		VCP	441	435.35	Pipe is broken at 124ft and 197ft	5947	73	3300	9	3	73	0	10	25	108
23	7/7/2022	A	Demeter Street	A13 - A12	A13	A12	6	6		Unknown	412	412.51	Broken pipe at 129 ft and 139 ft with sags.	4A3D	70	3100	3	2	70	0	20	15	105
24	7/21/2022	J	Garden Street	J9 - J9A	J9	J9A	6	6		VCP	365	365.02	Pipe is broken at 8ft, 32ft, 81ft, 223ft & 318ft.	4935	51	1400	4	2	51	0	30	20	101
25	7/7/2022	A	Pulgas Avenue	A18 - A16	A18	A16	6	6		VCP	442	439.26	Broken pipe at 44ft.	4A3E	70	2A00	20	2	70	0	10	20	100
26	7/31/2022	I	Beech Street	I10 - I9	I10	I9	15	15	18	CP	221	220.03	-	1G00	10	0000	0	1	10	90	0		100
27	8/1/2022	I	Beech Street	I8 - I7	I8	I7	15	15	20	CP	238	237.07	-	0000	0	0000	0	0	0	100	0		100
28	7/27/2022	K	Larkspur Drive	K19 - K18	K19	K18	6	6		CP	272	272.84	Pipe is broken and soil is visible at 144ft, and	5A42	58	0000	0	3	58	0	30	10	98
29	7/8/2022	A	Gonzaga Street	A3 - A2	A3	A2	6	6		VCP	287	281.55	Broken pipe at 53, 141, 157, and 159 ft. Also, an	4A32	46	3111	4	2	46	0	30	20	96
30	7/21/2022	J	Garden Street	J10 - J9	J10	J9	6	6		VCP	300	298.99	Pipe is broken at 228ft and 293ft	4A3A	70	3112	5	2	70	0	10	15	95
31	7/27/2022	K	Larkspur Drive	K18 - K17	K18	K17	6	6		CP	269	268.13	SMW spots on the line.	5A3A	80	0000	0	3	80	0	15		95
32	7/8/2022	A	Illinois Street	A6 - A5	A6	A5	6	6		VCP	287	286.26	Broken pipe at 15 and 75ft. Also, an offset joint at	4B33	49	331D	19	2	49	0	30	15	94
33	7/27/2022	K	Daisy Lane	K21 - K3	K21	K3	6	6		CP	246	244.88	Pipe has few locations with chunks of pipe missing	5A31	53	2100	2	3	53	0	30	10	93
34	8/3/2022	A	Bay Road	A23 - A22	A23	A22	15	8	18	ACP	14	12.02	-	1200	2	0000	0	1	2	90	0		92
35	7/25/2022	I	Myrtle Street	I21 - I13	I21	I13	6	6	8	VCP	600	600.08	As I24 should be between them as shown in the	4539	47	311F	13	1	47	40	0	5	92
36	7/8/2022	A	Illinois Street	A7 - A6	A7	A6	6	6		VCP	306	287.97	Broken pipe at 82 and 230 ft.	4736	46	3300	9	2	46	0	30	15	91
37	7/26/2022	K	Wisteria Drive	K13 - K12	K13	K12	6	6		VCP	362	362.11	Pipe is broken at 9ft and 91ft.	492D	56	0000	0	2	56	0	20	15	91
38	8/3/2022	A	Bay Road	A21 - A23	A21	A23	15	15	18	ACP	155	168.33	New Line Segment. MH Name changed from A22	0000	0	0000	0	0	0	90	0		90
39	N/A	A	Bay Road	A21 - A23	A21	A23	15		18		155		A21 does not connect to A23 but it connects to						0	90	0		90
40	8/2/2022	A	Bay Road	A8 - A9	A8	A9	15	12	18	PVC	61	60.82	-	0000	0	0000	0	0	0	90	0		90
41	7/12/2022	F	Weeks Street	F23 - F8	F23	F8	6	6		VCP	327	326.54	This pipeline was F9A-F8	4C3C	70	4200	8	3	70	0	0	20	90
42	7/6/2022	A	Tara Street	A27 - A26	A27	A26	6	6		VCP	311	306.60	Broken pipe and soil is visible at 254.10 ft at 11	513C	35	0000	0	2	35	0	30	20	85
43	7/27/2022	K	Larkspur Drive	K16 - K4	K16	K4	6	6		CP	274	273.04	SMW spots on the line	5C31	53	4122	8	3	53	0	15	15	83
44	7/22/2022	I	Beech Street	I20 - I9	I20	I9	6	6		VCP	278	270.33	Pipe has MSA at 267 due to hard	5800	40	4100	4	4	40	0	20	20	80
45	7/7/2022	A	Demeter Street	A12 - A11	A12	A11	6	6		VCP	485	483.95	Sagging pipeline 55%	4D35	55	4132	10	2	55	0	0	20	75
46	7/12/2022	F	Weeks Street	F11 - F10	F11	F10	6	6		VCP	420	420.53	Broken at 176ft, 242ft	4D3C	70	1100	1	2	70	0	0	5	75
47	7/11/2022	F	Weeks Street	F12 - F11	F12	F11	6	6		VCP	355	533.45	Broken at 414ft, multiple fractures and cracks	4C3D	70	352A	35	2	70	0	0	5	75
48	7/11/2022	F	Weeks Street	F19 - F20	F19	F20	6	6		VCP	189	216.63	MH was F19 - F21	4A3A	70	3121	5	2	70	0	0	5	75
49	8/1/2022	I	Pulgas Avenue	I12 - I6	I12	I6	12	12	15	PVC	338	333.86	-	0000	0	0000	0	0	0	75	0		75
50	7/31/2022	I	Pulgas Avenue	I14 - I13	I14	I13	12	12	15	PVC	444	444.67	-	0000	0	3121	5	2	0	75	0		75
51	7/21/2022	J	Garden Street	J8 - J6	J8	J6	6	6		VCP	442	441.97	Broken at 33ft, 81.4ft, 164ft, 223ft, 286ft, 318ft	4E3B	70	3300	9	2	70	0	0	5	75
52	8/1/2022	K	Larkspur Drive	K28 - K4	K28	K4	10	10	15	PVC	242	241.97	-	0000	0	4C2D	60	2	0	75	0		75
53	7/20/2022	G	Runnymede Street	G7 - G6	G7	G6	6	6		PVC	295	297.68	-	382C	48	0000	0	2	48	0	0	25	73
54	7/28/2022	K	Camellia Drive	K35 - K34	K35	K34	6	6		VCP	280	280.05	Broken pipe at 9ft.	4932	42	3121	5	2	42	0	10	20	72
55	7/12/2022	F	Pulgas Avenue	F14 - F8	F14	F8	6	6		PVC	463	467.72	Sagging pipe up to 75%	453C	50	4500	20	2	50	0	0	20	70
56	7/28/2022	K	Camellia Drive	K36 - K35	K36	K35	6	6		VCP	282	281.15	Broken pipe at 264ft.	423B	38	0000	0	2	38	0	20	10	68
57	7/12/2022	F	Weeks Street	F8 - F8A	F8	F8A	6	6		VCP	281	281.15	New Line segment	443B	46	4122	8	2	46	0	0	20	66
58	7/26/2022	K	Azalia Drive	K9 - K8	K9	K8	6	8		VCP	356	353.39	Pipe is broken at 158ft, 183ft, 296ft. At 104ft a	5145	25	3422	16	2	25	0	40		65
59	7/26/2022	K	Wisteria Drive	K11 - K5	K11	K5	6	6		VCP	370	366.42	MSA/Joint offset. Reverse inspection performed	413B	34	412A	24	2	34	0	20	10	64
60	7/25/2022	I	Myrtle Street	I23 - I28	I23	I28	6	6		VCP	166	166.43	Broken at 59ft. This pipe line was I23 - I23A	432A	32	3100	3	2	32	0	30		62
61	7/20/2022	G	Runnymede Street	G4 - G3	G4	G3	6	6		PVC	213	213.02	-	3B2C	50	0000	0	2	50	0	0	10	60
62	7/22/2022	J	Garden Street	J5C - T21	J5C	T21	6	8		PVC	62	61.82	New Line Segment. Sagging pipe 75%	4A00	40	4131	7	3	40	0	0	20	60
63	7/27/2022	K	Daisy Lane	K22 - K21	K22	K21	6	6		CP	256	257.00	Surface Damage Missing Wall along the pipeline	5B25	60	2100	2	4	60	0	0		60
64	7/28/2022	K	Camellia Drive	K33 - K32	K33	K32	6	6		VCP	131	129.25	Sagging pipe 75%	4C00	40	4B00	40	4	40	0	0	20	60

East Palo Alto Sanitary District
Area 2 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	Upstream MH #	Downstream MH #	Reported Pipe Dia (in)	Actual Diameter	Master Plan Proposed Diameter	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Total scoring	Score for Master Plan Capacity (+ 5 *Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
65	7/21/2022	G	Runnymede Street	G14 - G17	G14	G17	6	6		VCP	151	150.80	Pipe is broken at 17ft.	5241	14	3100	3	2	14	0	20	25	59
66	7/11/2022	F	Weeks Street	F20 - F17	F20	F17	6	6		VCP	136	252.60	MH was F20 - F21	4A35	55	1500	5	2	55	0	0		55
67	7/20/2022	G	Runnymede Street	G6 - G4	G6	G4	6	6		PVC	388	384.15	-	3A2D	50	0000	0	2	50	0	0	5	55
68	7/27/2022	K	Larkspur Drive	K17 - K16	K17	K16	6	6		CP	267	267.12	Surface Damage Missing Wall along the pipeline	572D	55	0000	0	2	55	0	0		55
69	7/20/2022	G	Buchanon Court	G10 - G9	G10	G9	6	6		CP	271	270.53	Pipe is broken and soil is visible at 10 ft and 221 ft	5441	24	0000	0	3	24	0	30		54
70	7/21/2022	G	Mandela Court	G15 - G14	G15	G14	8	8		PVC	215	215.52	-	3C26	42	0000	0	2	42	0	0	10	52
71	7/7/2022	A	Demeter Street	A14 - A13	A14	A13	6	6		Unknown	288	287.86	-	3J2B	50	0000	0	2	50	0	0		50
72	7/7/2022	A	Pulgas Avenue	A20 - A19	A20	A19	6	6		VCP	340	338.97	Broken pipe at 225ft, and separated joints at 281ft.	4234	20	3100	3	2	20	0	30		50
73	7/12/2022	F	Weeks Street	F10 - F9	F10	F9	6	6		VCP	463	461.91	Broken at 32.2ft & 247ft & 297ft & 314ft	514D	45	0000	0	2	45	0	0	5	50
74	7/8/2022	F	Clarke Avenue	F15 - F11	F15	F11	6	6		VCP	301	299.99	Multiple cracks along the pipe	453A	50	4329	30	2	50	0	0		50
75	8/3/2022	K/L	Gardenia Way	K31 - L1	K31	L1	8	8		PVC	148	146.99	-	3D00	30	4800	32	3	30	0	0	20	50
76	7/20/2022	G	Buchanon Court	G9 - G6	G9	G6	6	6		CP	291	292.67	Pipe is broken and soil is visible at 84 ft	5241	14	3100	3	2	14	0	30	5	49
77	7/21/2022	J	Garden Street	J9A - J8	J9A	J8	6	6		VCP	35	35.37	Pipe is broken at 115ft, 176ft, and 359ft.	4431	19	3100	3	3	19	0	30		49
78	7/12/2022	F	Weeks Street	F9 - F23	F9	F23	6	6		VCP	111	111.02	This pipeline was F9-F9A	4735	43	0000	0	2	43	0	0	5	48
79	7/29/2022	G	Pulgas Avenue	G13 - G3	G13	G3	6	6		PVC	453	441.50	Proteous	4636	46	4700	28	2	46	0	0		46
80	7/27/2022	K/L	Azalia Drive	L10 - K27	L10	K27	6	6		VCP	275	195.98	Broken connection of lateral at 28ft.	4231	11	3100	3	2	11	0	20	15	46
81	7/21/2022	G	Veronica Court	G18 - G17	G18	G17	6	6		PVC	291	290.27	-	3926	39	3100	3	2	39	0	0	5	44
82	7/25/2022	I	Terra Villa Avenue	I17 - I7	I17	I7	6	6		VCP	526	526.13	Broken at 520ft	413B	34	0000	0	2	34	0	0	10	44
83	7/11/2022	A	Pulgas Avenue	A17 - A31	A17	A31	6	6		VCP		241.57	This pipe line was A17 - A17A	4439	43	2100	2	2	43	0	0		43
84	7/26/2022	K	Azalia Drive	K7 - K6	K7	K6	6	8		VCP	362	362.61	-	312I	23	2F13	23	2	23	0	0	20	43
85	7/20/2022	F	Weeks Street	F7 - T25	F7	T25	6	6		VCP	477	475.83	Multiple cracks along the pipe	4238	32	3223	12	2	32	0	0	10	42
86	7/25/2022	I	Brentwood Court	I18 - I8	I18	I8	6	6		PVC	237	238.37	-	342C	32	0000	0	2	32	0	0	10	42
87	7/27/2022	K	Hibiscus Court	K24 - K21	K24	K21	6	6		CP	149	144.78	Surface Damage Missing Wall	5626	42	0000	0	3	42	0	0		42
88	7/20/2022	G	Runnymede Street	G8 - G7	G8	G7	6	6		PVC	327	326.04	-	352B	35	0000	0	2	35	0	0	5	40
89	7/11/2022	A	Pulgas Avenue	A31 - A16	A31	A16	6	6		PVC		177.15	This pipe line was A17A - A16	413A	34	4100	4	2	34	0	0	5	39
90	7/20/2022	G	Buchanon Court	G11 - G10	G11	G10	6	6		CP	266	260.91	Pipe is broken at 33 ft and 256 ft.	4431	19	3100	3	2	19	0	20		39
91	7/27/2022	K	Sage Street	K20 - K19	K20	K19	6	6		CP	135	132.86	Surface Damage Missing Wall at 96.4ft	5131	8	0000	0	2	8	0	30		38
92	7/28/2022	K	Camellia Drive	K34 - K33	K34	K33	6	6		VCP	278	278.05	-	322F	32	3122	7	2	32	0	0	5	37
93	7/21/2022	G	Runnymede Street	G19 - T23	G19	T23	6	6		VCP	154	263.22	This pipeline was G2A-T23	442D	36	4133	13	2	36	0	0		36
94	7/7/2022	A	Pulgas Avenue	A19 - A18	A19	A18	6	6		VCP	214	206.51	Fracture multiple alonge the pipeline	4633	33	0000	0	2	33	0	0		33
95	7/29/2022	K	Daisy Lane	K23 - K22	K23	K22	6	6		Unknown	100	94.00	Material change at 23ft and needs a mini camera	5129	23	1100	1	2	23	0	8		31
96	7/27/2022	K	Azalia Drive	K26 - K6	K26	K6	6	6		VCP	294	294.08	Pipe is broken at 286ft	4231	11	312E	23	2	11	0	20		31
97	8/3/2022	A	Bay Road	A22 - A29	A22	A29	18	15		ACP	369	367.52	-	2G1M	30	0000	0	1	30	0	0		30
98	7/7/2022	A	Tara Street	A24 - A23	A24	A23	6	6		VCP	240	250.19	Broken pipe at 228 ft.	4132	10	4828	48	2	10	0	20		30
99	7/11/2022	F	Weeks Street	F17 - F22	F17	F22	6	6		VCP	56	55.81	This pipe line was F17 - F17A	4632	30	1200	2	2	30	0	0		30
100	7/29/2022	G	Ruth Ct	G12 - G4	G12	G4		6		PVC		273.00	Broken at 47ft, 170ft	4533	29	1700	7	2	29	0	0		29
101	7/11/2022	F	Paul Robeson Court	F18 - F17	F18	F17	6	6		PVC	198	195.68	-	312C	23	4800	32	2	23	0	0	5	28
102	7/11/2022	F	Weeks Street	F22 - F12	F22	F12	6	6		VCP	54	53.91	This pipe line was F17A - F12	4532	26	4100	4	2	26	0	0		26
103	7/25/2022	I	Myrtle Street	I28 - I21	I28	I21	6	6		VCP	315	315.02	This pipe line was I23A - I21	322F	26	1300	3	2	26	0	0		26
104	7/22/2022	J	Garden Street	J6 - J5	J6	J5	6	6		VCP	558	558.40	Crack at 404ft	4231	11	3223	12	2	11	0	0	15	26
105	7/25/2022	I	Pulgas Avenue	I16 - I6	I16	I6	8	8		PVC	493	492.07	-	2F00	20	0000	0	2	20	0	0	5	25
106	7/25/2022	I	Brentwood Court	I19 - I18	I19	I18	6	6		PVC	239	234.06	-	2D00	20	3100	3	2	20	0	0	5	25
107	7/28/2022	K	Camellia Drive	K30 - K31	K30	K31	8	8		PVC	108	107.01	-	2B00	20	0000	0	2	20	0	0	5	25
108	7/29/2022	K	Lotus Way / Camellia Drive	K37 - K32	K37	K32	6	6		VCP	350	345.00	Joint Offset Large at 342.9ft	412E	24	2500	10	2	24	0	0		24
109	7/21/2022	G	Runnymede Street	G17 - G2	G17	G2	6	6		VCP	144	144.08	-	312B	23	3322	13	2	23	0	0		23
110	7/26/2022	K	Sage Street	K10 - K9	K10	K9	6	6		VCP	156	155.10	-	312A	23	2100	2	2	23	0	0		23
111	7/26/2022	K	Wisteria Drive	K12 - K11	K12	K11	6	6		VCP	354	352.89	-	312H	23	2400	8	2	23	0	0		23
112	7/8/2022	A	Demeter Street	A11 - A11A	A11	A11A	6	6		PVC	209	209.01	Uncharted MH was found between A11-A10 on	2D00	20	5131	8	2	20	0	0		20
113	7/8/2022	A	Demeter Street	A11A - A10	A11A	A10	6	6		PVC	206	208.21	Uncharted MH was found between A11-A10 on	2A00	20	3200	6	2	20	0	0		20
114	7/6/2022	A	Tara Street	A25 - A24	A25	A24	6	6		VCP	253	252.30	-	2B00	20	3100	3	2	20	0	0		20
115	8/3/2022	A	Bay Road	A30 - A28	A30	A28	6	6		VCP	301	300.99	-	2A00	20	0000	0	2	20	0	0		20
116	7/22/2022	J	Cypress Street	J11 - J11A	J11	J11A	8	8		PVC	200	199.79	New Line Segment	2D00	20	0000	0	2	20	0	0		20
117	7/22/2022	J	Cypress Street	J11A - T20	J11A	T20	8	8		PVC	81	81.06	New Line Segment	2B00	20	0000	0	2	20	0	0		20
118	7/22/2022	J	Cypress Street	J12 - J11	J12	J11	8	8		PVC	299	299.09	-	2A00	20	0000	0	2	20	0	0		20
119	7/22/2022	J	Cypress Street	J13 - J12	J13	J12	8	8		PVC	299	296.98	-	2A00	20	0000	0	2	20	0	0		20
120	7/27/2022	K	Azalia Drive	K27 - K26	K27	K26	6	6		VCP	200	198.59	-	2A00	20	2300	6	2	20	0	0		20
121	7/28/2022	K	Camellia Drive	K32 - K30	K32	K30	8	8		PVC	227	226.24	-	2A00	20	0000	0	2	20	0	0		20
122	7/26/2022	K	Azalia Drive	K8 - K7	K8	K7	6	8		VCP	356	354.90	-	2G00	20	2612	14	2	20	0	0		20
123	7/20/2022	G	Runnymede Street	G3 - G14	G3	G14	6	6		PVC	208	208.01	Multiple cracks along the pipe	4232	14	4200	8	2	14	0	0	5	19
124	7/8/2022	A	Gonzaga Street	A4 - A3	A4	A3	6	6		VCP	312	286.76	Broken ar 205.9ft, multiple fractures	4332	18	0000	0	2	18	0	0		18
125	7/26/2022	K	Sage Street	K14 - K13	K14	K13	6	6		VCP	90	81.56	intruding lateral at 81ft and camera can not move	3100	3	5123	11	2	3	0	15		18
126	7/8/2022	F	Clarke Avenue	F16 - F15	F16	F15	6	6		VCP	238	171.94	-	2800	16	4100	4	2	16	0	0		16
127	7/29/2022	K	Wisteria Drive	K5A - K5	K5A	K5	12	6		Other	30	30.00	New MH - Proteous	3300	9	0000	0	3	9	0	0	5	14

East Palo Alto Sanitary District
Area 2 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	Upstream MH #	Downstream MH #	Reported Pipe Dia (in)	Actual Diameter	Master Plan Proposed Diameter	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Total scoring	Score for Master Plan Capacity (+ 5 *Pipe Dia)	Score for Notable Defects	Sag >40%	Total Score
128	7/12/2022	F	Weeks Street	F8A - F7	F8A	F7	6	6		VCP	75	75.45	New Line Segment	2600	12	3121	5	2	12	0	0	0	12
129	7/6/2022	A	Tara Street	A26 - A25	A26	A25	6	6		VCP	234	234.86	-	3124	11	0000	0	2	11	0	0		11
130	7/26/2022	K	Sage Street	K15 - K9	K15	K9	6	6		VCP	74	73.84	-	2500	10	1200	2	1	10	0	0		10
131	7/21/2022	G	Runnymede Street	G2 - G19	G2	G19	6	6		VCP	154	176.35	This pipeline was G2-G2A	5141	9	312A	23	2	9	0	0		9
132	7/25/2022	I	Myrtle Street	C/O - I22	C/O	I22	6	6		VCP	61	60.72	New Line Segment - uncharted clean out	3221	8	0000	0	2	8	0	0		8
133	7/22/2022	J	Garden Street	J5 - J5A	J5	J5A	6	8		PVC	275	274.64	New Line Segment	2400	8	0000	0	2	8	0	0		8
134	7/25/2022	I	Myrtle Street	I22 - I23	I22	I23	6	6		VCP	44	44.99	-	3122	7	0000	0	2	7	0	0		7
135	7/22/2022	J	Garden Street	J5A - J5B	J5A	J5B	6	8		PVC	212	212.42	New Line Segment	2200	4	0000	0	2	4	0	0		4
136	7/11/2022	F	Weeks Street	F13 - F19	F13	F19	6	6		VCP	24	23.75	-	2100	2	0000	0	2	2	0	0		2
137	7/21/2022	G	Mandela Court	G16 - G15	G16	G15	8	8		PVC	154	154.00	-	2100	2	0000	0	2	2	0	0		2
138	N/A	A	Demeter Street	A11 - A10	A11	A10	6				418		Line has an unchartered manhole.						0	0	0		0
139	N/A	A	Bay Road	A17 - A16	A17	A16	6				423		Line has an unchartered manhole						0	0	0		0
140	8/3/2022	A	Bay Road	A28 - A29	A28	A29	6	6		ACP	15	15.13	-	0000	0	4121	6	3	0	0	0		0
141	7/11/2022	F	Carole Court	F21 - F20	F20	F21	6	6		PVC	281	134.96	MH was F20 - F21	0000	0	0000	0	0	0	0	0		0
142	N/A	F	Weeks Street	F8 - F7	F8	F7	6				357		Line has an unchartered manhole.						0	0	0		0
143	N/A	I	Myrtle Street	I21 - I24	I21	I24	6				364		MH I24 does not exist. Inspection ended at I13.						0	0	0		0
144	N/A	I	Myrtle Street	I24 - I13	I24	I13	6				237		MH I24 does not exist. Inspection started from I21,						0	0	0		0
145	N/A	I	Myrtle Court	I25 - I24	I25	I24	6				154		Line does not exist. 7.25						0	0	0		0
146	7/29/2022	I	Sparrow Ct	I26 - I23	I26	I23	6	6		PVC	166	163.00	This pipe line was I23 - I23C. New Line Segment.	0000	0	0000	0	0	0	0	0		0
147	7/28/2022	I	Myrtle Pl	I29 - I28	I29	I28	6	6		PVC	166	174.24	New Line Segment. This pipe line was I23B - I23A	0000	0	0000	0	0	0	0	0		0
148	N/A	I	Beech Street	I5 - I4	I5	I4	18				135		Line has an unchartered manhole.						0	0	0		0
149	N/A	J	Cypress Street	J11 - T20	J11	T20	8				282		Line has an unchartered manhole.						0	0	0		0
150	7/22/2022	J	Cypress Street	J14 - J13	J14	J13	8	8		PVC	190	186.87	-	0000	0	0000	0	0	0	0	0		0
151	N/A	J	Garden Street	J5 - T21	J5	T21	6				585		Line has unchartered manholes						0	0	0		0
152	7/22/2022	J	Garden Street	J5B - J5C	J5B	J5C	6	8		PVC	41	41.18	New Line Segment	0000	0	0000	0	0	0	0	0		0
153	N/A	J	Garden Street	J9 - J8	J9	J8	6				401		Line has an unchartered manhole						0	0	0		0
154	N/A	K	O'Connor Street	K2 - K1	K2	K1	14		15		451		**Light Tree Project**. Cleaned twice via EPASD, and						0	75	30	25	0
155	7/28/2022	K	Wisteria Drive	K25 - K5A	K25	K5A	6	6		PVC	376	350.39	New Line Segment	0000	0	0000	0	0	0	0	0		0
156	7/28/2022	K	O'Connor Street	K3 - K2	K3	K2	12	12	15	PE	190	188.57	**Light Tree Project**	3D25	40	2B00	20	2	40	75	0	10	0
157	7/28/2022	K	O'Connor Street	K4 - K3	K4	K3	12	12	15	PE	238	236.66	**Light Tree Project** Grease deposits 5%. Sagging	463E	54	2700	14	3	54	75	0	10	0
158	7/28/2022	K	O'Connor Street	K5 - K4	K5	K4	12	12		PE	248	248.99	**Light Tree Project**	3E29	48	2B00	20	2	48	0	0	15	0
159	7/28/2022	K	O'Connor Street	K6 - K5	K6	K5	12	12		PE	251	250.99	**Light Tree Project**	3B2C	50	2100	2	2	50	0	0		0

SIERRA WEST
CONSULTANTS, INC.

Attachment 3

Area 4 CCTV Survey Results and Evaluation

East Palo Alto Sanitary District
Area 4 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	Upstream MH #	Downstream MH #	Reported Diameter	Actual Diameter	Master Plan Proposed	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Score	Score for Master Plan Capacity (+ 5 * Pipe Dia)	Score for Notable Defects	Sag > 40%	Total Score
2	8/2/2022	H	Clarke Avenue	H14 - H13	H14	H13	8	8	12	VCP	446	446.65	Broken at 425.5ft, 429ft with multiple	5A44	66	4132	10	2	66	60	0	25	151
3	8/4/2022	H	Runnymede Street	H35 - H34	H35	H34	6	6	10	VCP	322	325.19	Pipeline has a lot of sagging. The high	483G	62	0000	0	2	62	50	8	30	150
4	8/2/2022	H	Clarke Avenue	H12 - H11	H12	H11	8	8	12	VCP	333	334.39	Broken at 111ft, 231ft, 331.9ft	4B3B	70	3127	17	2	70	60	0	15	145
5	8/2/2022	H	Clarke Avenue	H64 - H71	H64	H71	12	8	12	VCP	99	54.28	H60-H3. Line has about 30%-40% grease	4A21	42	2711	14	3	42	60	24	15	141
6	8/2/2022	H	Clarke Avenue	H13 - H12	H13	H12	8	8	12	VCP	108	108.46	Broken at 18ft with 55% sagging pipe	463A	54	0000	0	3	54	60	0	10	124
7	8/8/2022	H	Green Street	H75 - H6	H75	H6	12	12	18	PE	259	258.51	H7C - H6	332F	29	4131	7	2	29	90	0		119
8	8/5/2022	H	Runnymede Street	H34 - H17	H34	H17	6	6	10	VCP	269	88.17	Submerged pipe with a line down	413B/5241	34	0000	0	2	34	50	16	10	110
9	8/8/2022	H	Green Street	H7 - H75	H7	H75	12	12	18	PE	91	91.47	H7B - H7C	2B00	20	0000	0	2	20	90	0		110
10	8/8/2022	H	Green Street	H73 - H74	H73	H74	12	12	18	PE	233	104.07	H8 - H7	2B00	20	0000	0	2	20	90	0		110
11	8/8/2022	H	Green Street	H74 - H8	H74	H8	12	12	18	PE	112	111.76	H7 - H7A	2B00	20	1100	1	1	20	90	0		110
12	8/8/2022	H	Green Street	H8 - H7	H8	H7	12	12	18	PE	235	235.02	H7A - H7B	2D00	20	0000	0	2	20	90	0		110
13	7/20/2022	H	Runnymede Street	H17 - H76	H17	H76	8	8	12	VCP	397	314.3	H17 - H16. Broken pipe at 43.2ft,	5143	17	3121	5	2	17	60	20	5	102
14	8/8/2022	H/E	Green Street	E1 - H9	E1	H9	12	12	16	PE	270	271.31		2D00	20	0000	0	2	20	80	0		100
15	8/8/2022	H	Green Street	H9 - H73	H9	H73	12	12	16	PE	246	247.72	H9 - H8	2D00	20	0000	0	2	20	80	0		100
16	8/1/2022	L	Gardenia Way	L2 - L1	L2	L1	10	12	12	PVC	179	179.74	Joint Separated Large at 104.9ft,	412F	24	2500	10	2	24	60	15		99
17	7/20/2022	H	Runnymede Street	H57 - H16	H57	H16	8	8	12	VCP	48	48.38	H16A - H16B. Broken at 20.9ft	4422	20	0000	0	3	20	60	15		95
18	8/2/2022	H	Clarke Avenue	H11 - H64	H11	H64	8	8	12	VCP	198	192.24	H11 - H60. Broken at 73.2ft	413C	34	0000	0	2	34	60	0		94
19	7/20/2022	H	Runnymede Street	H76 - H57	H76	H57	12	8	12	VCP	73	73.38	H16 - H16A. Broken at 63.2ft	4135	19	0000	0	2	19	60	15		94
20	7/29/2022	M	O'Connor Street	M42 - M13	M42	M13	6	6	12	VCP	37	110.66	Surface Damage and cracks	413B	34	0000	0	2	34	60	0		94
21	N/A	H/I	Beech Street	H2 - I11	H2	I11	15	15	18		37		Paved over						0	90	0		90
22	N/A	H	Beech Street	H3 - H2	H3	H2	15	15	18		31		Paved over						0	90	0		90
23	N/A	H	Clarke Avenue	H4 - H3	H4	H3	15	15	18		7		Paved over						0	90	0		90
24	N/A	H	Clarke Avenue	H5 - H4	H5	H4	15	15	18		259		Paved over						0	90	0		90
25	N/A	H	Green Street	H6 - H5	H6	H5	12	12	18		9		Paved over						0	90	0		90
26	8/1/2022	L	Gardenia Way	L3 - L2	L3	L2	10	12	12	PVC	83	77.97		3B00	30	2200	4	2	30	60	0		90
27	7/29/2022	M	O'Connor Street	M13 - M12	M13	M12	6	8	12	VCP	276	276.81	Broken at 193	4133	13	0000	0	3	13	60	15		88
28	7/27/2022	L	Wisteria Drive	L29 - L28	L29	L28	6	6		VCP	366	367.48	Pipe is broken at 348ft, and soil is visible	513M	35	4100	4	2	35	0	30	20	85
29	7/20/2022	H	Runnymede Street	H15 - H62	H15	H62	8	8	12	Other	201	206.03	H15 - H58	3226	18	0000	0	2	18	60	0		78
30	8/4/2022	H	University Avenue	H36 - H35	H36	H35	6	6	10	VCP	474	473.24		312B	23	2100	2	2	23	50	0	5	78
31	8/1/2022	L	Larkspur Drive	L1 - L21	L1	L21	10	12	14	PVC	223	219.53		0000	0	2700	14	2	0	70	0	5	75
32	8/5/2022	M	East Bayshore Road	M41 - M42	M41	M42	6	6	12	PVC	17	104.37		2700	14	0000	0	2	14	60	0		74
33	7/28/2022	L	Wisteria Drive	L25 - L24	L25	L24	8	8	10	PVC	342	343.09		2I00	20	0000	0	2	20	50	0		70
34	7/27/2022	L	Azalia Drive	L49 - L48	L49	L48	8	8	10	VCP	233	233.52		2B00	20	2A00	20	2	20	50	0		70
35	8/2/2022	H	Runnymede Street	H62 - H14	H62	H14	12	8	12	Other	185	230.12	H58 -H14	3123	9	2200	4	2	9	60	0		69
36	7/29/2022	M	O'Connor Street	M12 - M15	M12	M15	6	8	12	VCP	337	339.49		3300	9	0000	0	3	9	60	0		69
37	8/5/2022	H	Donohoe Street	H21A - H55	H21A	H55	6	6		VCP	157	102.97	H21A - H21. Broken at 61ft, 101ft	4638	48	0000	0	2	48	0	0	20	68
38	7/29/2022	M/I	Pulgas Avenue	I43 - I15	I43	I15	12	12		PVC	20	60.08	I15A - I15. Sagging pipe 90%	513A	35	0000	0	3	35	0	0	30	65
39	7/20/2022	H	Runnymede Street	H16 - H60	H16	H60	8	8	12	PVC	346	345.69	H16B - H16C	2200	4	0000	0	2	4	60	0		64
40	8/18/2022	H	Clarke Avenue	H24 - H20	H24	H20	6	6		VCP	333	25.69	MSA/Broken pipe. The USMH is a	5133	14	2400	8	2	14	0	30	20	64
41	7/25/2022	L	Gaillardia Way	L11 - L10	L11	L10	6	6		VCP	360	360.18	Pipe is broken at 240ft and soil is visible	5243	22	2316	12	2	22	0	30	10	62
42	7/26/2022	L	Camellia Drive	L53 - L52	L53	L52	6	6	6	VCP	218	219.73	MSA/Reverse Inspection Complete	342A	32	2100	2	2	32	30	0		62
43	7/20/2022	H	Runnymede Street	H60 - H15	H60	H15	8	8	12	PVC	107	106.76	H16C - H15	0000	0	0000	0	0	0	60	0		60
44	7/28/2022	L	Wisteria Drive	L26 - L25	L26	L25	8	8		VCP	216	215.13	Pipe has a lot of sagging, and an offset	4134	16	2A00	20	2	16	0	24	20	60
45	7/28/2022	L	Jasmine Way	L43 - L44	L43	L44	8	8		PVC	334	334.09	Joint Separated Large at 331.7ft	4L2B	60	0000	0	3	60	0	0		60
46	7/29/2022	M	O'Connor Street	M15 - M5	M15	M5	6	8	12	VCP	250	264.21		0000	0	0000	0	0	0	60	0		60
47	8/5/2022	M	East Bayshore Road	M38 - M39	M38	M39	8	6	12	PVC	158	153.45		0000	0	0000	0	0	0	60	0		60
48	8/5/2022	M	East Bayshore Road	M39 - M40	M39	M40	8	6	12	PVC	241	158.55		0000	0	0000	0	0	0	60	0		60
49	8/5/2022	M	East Bayshore Road	M40 - M41	M40	M41	6	6	12	PVC	263	242.32		0000	0	0000	0	0	0	60	0		60
50	8/5/2022	H	Donohoe Street	H21 - H56	H21	H56	6	6		VCP	151	148.15	H22 - H55. Broken at 14ft and 110ft	463B	54	3114	7	2	54	0	0		54
51	7/27/2022	L	Azalia Drive	L50 - L49	L50	L49	8	8	10	VCP	224	223.43		2100	2	2700	14	2	2	50	0		52
52	8/5/2022	H	Donohoe Street	H23 - H22	H23	H22	6	6		VCP	405	339.29	H23 - H56. Broken at 133.9ft, 316.9ft	453U	50	4131	7	2	50	0	0		50
53	7/25/2022	L	Verbina Drive	L17 - L16	L17	L16	6	6		VCP	236	236.52		3H2C	50	2100	2	2	50	0	0		50
54	8/1/2022	L	Wisteria Drive	L23 - L3	L23	L3	8	8	10	PVC	351	351.38		0000	0	312H	23	2	0	50	0		50
55	8/1/2022	L	Wisteria Drive	L24 - L23	L24	L23	8	8	10	PVC	386	387.17		0000	0	2800	14	2	0	50	0		50
56	7/27/2022	L	Daphine Way	L35 - L34	L35	L34	6	6		VCP	250	253.92		3G2C	50	2100	2	2	50	0	0		50

East Palo Alto Sanitary District
Area 4 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	Upstream MH #	Downstream MH #	Reported Diameter	Actual Diameter	Master Plan Proposed	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Score	Score for Master Plan Capacity (+ 5 * Pipe Dia)	Score for Notable Defects	Sag > 40%	Total Score
57	7/27/2022	L	Azalia Drive	L47 - L4	L47	L4	8	8		VCP	88	87.57	Heavy grease was found on a sewer line	2A00	20	2900	18	2	20	0	30		50
58	7/29/2022	M/I	Pulgas Avenue	M2 - I43	M2	I43	12	12		PVC	20	42.39	M2 - I15A. Sagging pipeline 100%	5500	25	2300	6	3	25	0	0	25	50
59	7/26/2022	L	Camellia Drive	L52 - L50	L52	L50	6	6	8	VCP	224	223.63		3200	6	2200	4	2	6	40	0		46
60	7/25/2022	L	Azalia Drive	L10 - L9	L10	L9	6	6		VCP	180	273.01		3G27	44	2112	4	2	44	0	0		44
61	8/5/2022	H	Donohoe Street	H56 - H21A	H56	H21A	6	6		VCP	157	106.06	H55 - H21A. Broken at 1.5ft	433A	42	1900	9	2	42	0	0		42
62	7/26/2022	L	Abelia Way	L58 - L57	L58	L57	6	6		VCP	295	295.4	Broken at 13ft, 50ft, 87ft, 236ft	5243	22	0000	0	3	22	0	20		42
63	7/26/2022	L	Gardenia Way	L7 - L6	L7	L6	6	6	6	VCP	261	261.11		3223	12	1300	3	1	12	30	0		42
64	7/25/2022	L	Azalia Drive	L9 - L4	L9	L4	6	6	6	VCP	162	161.75		2600	12	3C29	48	2	12	30	0		42
65	7/20/2022	H	Cooley Avenue	H32 - H17	H32	H17	6	6		VCP	550	547.52	Broken Soil Visible at 111ft. Broken at	5544	41	4231	11	2	41	0	0		41
66	7/25/2022	L	Verbina Drive	L13 - L9	L13	L9	6	6		VCP	311	311.4	Broken at 60.2ft	412C	24	2F00	20	2	24	0	15		39
67	7/25/2022	L	Verbina Drive	L16 - L15	L16	L15	6	6		VCP	311	311.5	Broken at169ft	412A	24	4131	7	1	24	0	15		39
68	7/27/2022	L	Aster Way	L31 - L30	L31	L30	10	6		VCP	179	178.74	Pipe is broken at 59ft, and soil is visible	5141	9	2300	6	2	9	0	30		39
69	8/3/2022	H	University Avenue	H37A - H36	H37A	H36	6	6		VCP	149	148.95	New Line Segment. Broken 144.3ft,	423C	38	3121	5	2	38	0	0		38
70	8/3/2022	H	Sacramento Street	H41 - H40	H41	H40	6	6		VCP	150	141.15	Broken at 38ft, 42ft	423B	38	2112	4	2	38	0	0		38
71	8/3/2022	H	Weeks Street	H42 - H37	H42	H37	6	6		VCP	388	386.77	Broken at 304ft	423J	38	4133	10	2	38	0	0		38
72	8/5/2022	H	Donohoe Street	H55 - H54	H21	H54	6	6		PVC	144	165.55	H21 - H54. Broken at 51ft	423C	38	2100	2	2	38	0	0		38
73	7/25/2022	L	Camellia Drive	L20 - L16	L20	L16	6	6		VCP	101	99.87	Broken at 6.6ft	423A	38	4131	7	2	38	0	0		38
74	7/27/2022	L	Daphine Way	L37 - L36	L37	L36	6	6		VCP	312	323.29	Hole at 252ft, 93.5ft	423K	38	4113	7	2	38	0	0		38
75	7/26/2022	L	Camellia Drive	L54 - L53	L54	L53	6	6		VCP	369	369.78	Pipe is broken and soil is visible at	5131	8	0000	0	2	8	0	30		38
76	7/29/2022	M	O'Connor Street	M43 - M42	M43	M42	6	6		VCP	104	109.56	Broken at 109ft	423D	38	0000	0	3	38	0	0		38
77	8/9/2022	H/E	Euclid Avenue	H38 - E42	H38	E42	6	6		VCP	519	520.63	Broken pipe Soil Visible at 146ft, 197ft	5143	17	0000	0	2	17	0	20		37
78	8/9/2022	H	Schembri Lane	H29 - H12	H29	H12	6	6		VCP	551	551.52	Broken pipe at 257ft, 349ft	5143	16	2111	3	2	16	0	20		36
79	7/27/2022	L	Daphine Court	L62 - L34	L62	L34	6	6		VCP	147	146.75		3C23	36	0000	0	2	36	0	0		36
80	7/28/2022	L	Camellia Drive	L46 - L45	L46	L45	6	6		VCP	136	135.86	Broken pipe Soil Visible at 135.9ft	513D	35	0000	0	2	35	0	0		35
81	8/4/2022	H	Runnymede Street	H38 - H47	H38	H47	6	6		VCP	205	205.23	Broken at 80.3ft	413G	34	3100	3	2	34	0	0		34
82	8/3/2022	H	Weeks Street	H43 - H42	H43	H42	6	6		VCP	346	347.09	Broken at 4.7ft, 303.7ft	5246	34	321A	16	2	34	0	0		34
83	8/4/2022	H	Runnymede Street	H47 - H35	H47	H35	6	6		VCP	192	192.24	Fracture at 8.6 with cracks along the	4237	29	2400	8	2	29	0	0	5	34
84	7/25/2022	L	Verbina Drive	L19 - L18	L19	L18	6	6		VCP	333	333.09	Broken at 330ft	413I	34	1600	6	2	34	0	0		34
85	7/27/2022	L	Wisteria Drive	L28 - L27	L28	L27	6	6		VCP	363	363.08	Hole at 310.2ft	413M	34	2100	2	2	34	0	0		34
86	7/27/2022	L	Daphine Way	L36 - L35	L36	L35	6	6		VCP	278	278.01	Hole at 38.4ft	412A	24	1500	5	1	24	0	10		34
87	8/12/2022	L	Daphine Way	L37 - L38	L37	L38	6	6		VCP	212	202.9	Proteous. Hole at 140.7ft	412A	24	4131	7	2	24	0	10		34
88	8/5/2022	H	Donohoe Street	H22 - H21	H56	H22	6	6		VCP	216	158.25	H56 - H22. Broken pipe at 3.9ft, 137.4ft	5142	13	1300	3	2	13	0	20		33
89	8/2/2022	H	Schembri Lane	H30 - H46	H30	H46	6	6		VCP	135	134.66		3D21	32	4131	7	2	32	0	0		32
90	7/26/2022	L	Camellia Court	L56 - L54	L56	L54	6	6		VCP	327	326.99		3C21	32	0000	0	3	32	0	0		32
91	8/2/2022	H	Clarke Avenue	H31 - H14	H31	H14	6	6		VCP	404	24.19	MSA/JOL. No reverse inspection	4331	15	2100	2	3	15	0	16		31
92	7/25/2022	L	Gaillardia Way	L12 - L11	L12	L11	6	6		VCP	82	93.27		3B00	30	3111	4	2	30	0	0		30
93	8/3/2022	H	University Avenue	H37 - H37A	H37	H37A	6	6		VCP	221	221.33	New Line Segment. Broken at 162ft	5141	9	3121	5	3	9	0	20		29
94	8/3/2022	H	Sacramento Street	H40 - H36	H40	H36	6	6		VCP	496	459.65	MSA/JOL. Reverse Inspection	5146	29	3524	23	2	29	0	0		29
95	8/5/2022	H	Donohoe Street	H54 - H20	H54	H20	6	6		VCP	153	144.95	Fracture at 14.7ft	4135	19	3121	6	2	19	0	10		29
96	8/1/2022	L	Wisteria Drive	L22 - L3	L22	L3	6	6		VCP	366	361.58	Broken at 48.6ft	4232	14	4131	7	2	14	0	15		29
97	7/26/2022	L	Abelia Way	L59 - L58	L59	L58	6	6		VCP	250	250.12	Broken at 220ft, 245ft	5141	9	2112	4	2	9	0	20		29
98	7/27/2022	L	Aster Way	L33 - L32	L33	L32	6	6		VCP	91	89.07	Hole at 10.2ft	4133	13	0000	0	3	13	0	15		28
99	7/28/2022	L	Jasmine Way	L40 - L42	L40	L42	8	8		VCP	346	346.49	Broken pipe soil visible at 184ft	5131	8	2100	2	2	8	0	20		28
100	7/28/2022	L	Camellia Drive	L45 - L25	L45	L25	8	8		VCP	202	201.33		312F	23	4122	8	2	23	0	0	5	28
101	8/8/2022	H	Camphor Way	H45 - H9	H45	H9	6	6		PVC	222	221.83	Broken at 103ft, 106ft, 167ft	4631	27	0000	0	3	27	0	0		27
102	7/27/2022	L	Daphine Way	L34 - L26	L34	L26	6	6		VCP	287	287.11	Hole at 263.3ft	4131	7	412A	24	2	7	0	15	5	27
103	7/26/2022	L	Gardenia Court	L61 - L5	L61	L5	6	6		VCP	152	152.85	Broken at 98.8	4131	7	2911	19	2	7	0	20		27
104	8/9/2022	M	Clarke Avenue	M14A - M5	M14A	M5	6	6		VCP	75	75.28	New Line Segment. Broken at 70.2ft	4131	7	0000	0	2	7	0	20		27
105	8/2/2022	H	Schembri Lane	H46 - H52	H46	H52	6	6		VCP	361	362.08	Broken at 344.2ft	4231	11	413A	34	2	11	0	15		26
106	7/25/2022	L	Verbina Drive	L14 - L13	L14	L13	6	6		VCP	302	302.1		322E	26	3123	9	2	26	0	0		26
107	7/25/2022	L	Verbina Drive	L15 - L14	L15	L14	6	6		VCP	310	311.2		322B	26	0000	0	2	26	0	0		26
108	7/28/2022	L	Jasmine Way	L44 - L45	L44	L45	8	8		PVC	238	242.52		322F	26	2400	8	2	26	0	0		26
109	7/25/2022	L	Verbina Drive	L18 - L17	L18	L17	6	6		VCP	331	330.29	Broken at 135ft	4132	10	0000	0	2	10	0	15		25
110	7/28/2022	L	Daphine Way	L39 - L40	L39	L40	6	6		VCP	346	345.59	Broken at 296.7ft	4132	10	1200	2	2	10	0	15		25
111	8/12/2022	L	Aster Way	L30 - L27	L30	L27	6	6		VCP	236	231	Proteous. Broken at 0.0 ft	5141	9	2300	6	2	9	0	15		24

East Palo Alto Sanitary District
Area 4 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	Upstream MH #	Downstream MH #	Reported Diameter	Actual Diameter	Master Plan Proposed	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Score	Score for Master Plan Capacity (+ 5 * Pipe Dia)	Score for Notable Defects	Sag > 40%	Total Score
112	8/1/2022	L	Gardenia Way	L4 - L3	L4	L3	10	12		VCP	248	246.62		312A	23	4133	10	2	23	0	0		23
113	7/29/2022	M	O'Connor Street	M3 - M2	M3	M2	12	12	0	PVC	380	382.17		312A	23	2G00	20	2	23	0	0		23
114	8/9/2022	H	Schembri Lane	H52 - H29	H52	H29	6	6		VCP	94	94.17	Fracture at 43.7ft	4131	7	2112	4	2	7	0	15		22
115	7/26/2022	L	Abelia Way	L57 - L53	L57	L53	6	6		VCP	203	202.23		3228	22	0000	0	2	22	0	0		22
116	8/4/2022	N	Pulgas Avenue	N8 - N9	N8	N9	10	12		PE	119	119.66	Joint Separated Large at 9.5ft	4131	7	2100	2	2	7	0	15		22
117	7/20/2022	H	Cooley Avenue	H33 - H32	H33	H32	8	8		Other	515	486.24		3700	21	0000	0	3	21	0	0		21
118	7/28/2022	L	Wisteria Drive	L27 - L26	L27	L26	8	8		VCP	260	259.41		2D00	20	2200	4	2	20	0	0		20
119	7/28/2022	L	Daphine Way	L38 - L39	L38	L39	6	6		VCP	215	215.43		2B00	20	0000	0	2	20	0	0		20
120	7/27/2022	L	Azalia Drive	L48 - L47	L48	L47	8	8		VCP	229	228.52		2C00	20	322D	26	2	20	0	0		20
121	7/26/2022	L	Gardenia Way	L5 - L47	L5	L47	6	6		VCP	276	276.21		2A00	20	2G00	20	2	20	0	0		20
122	8/10/2022	M	Clarke Avenue	M21 - M20	M21	M20	8	12		VCP	78	314.2	M20 - M6	2D00	20	3121	5	2	20	0	0		20
123	7/22/2022	M	Tate Street	M29 - M31	M29	M31	8	8		PVC	329	322.99		2B00	20	0000	0	2	20	0	0		20
124	7/29/2022	M	O'Connor Street	M31 - M3	M31	M3	10	12	0	PVC	357	357.08		2C00	20	2E00	20	2	20	0	0		20
125	7/29/2022	M	O'Connor Street	M5 - M4	M5	M4	12	12	0	PVC	373	372.18		2B00	20	0000	0	2	20	0	0		20
126	8/8/2022	N	Pulgas Avenue	N5 - N4	N5	N4	10	12		PE	332	332.69		2B00	20	4131	7	2	20	0	0		20
127	8/4/2022	N	Pulgas Avenue	N6 - N5	N6	N5	10	12		PE	333	334.49		2B00	20	0000	0	2	20	0	0		20
128	8/4/2022	N	Pulgas Avenue	N9 - N7	N9	N7	10	12		PE	284	285.31		2A00	20	0000	0	2	20	0	0		20
129	7/27/2022	L	Aster Way	L32 - L31	L32	L31	6	6		VCP	293	293.7	Hole at 157ft	4122	8	0000	0	2	8	0	10		18
130	7/21/2022	N	McNair Street	N22 - N15	N22	N15	8	8		PVC	212	199.73	Pipeline has reverse sag allowing an	0000	0	0000	0	0	0	0	8	10	18
131	8/3/2022	H	Sacramento Street	H40 - H36	H40	H36	6	6		VCP	496	39.39	MSA/Reverse Inspection Complete	3500	15	2600	14	2	15	0	0		15
132	8/10/2022	M	Clarke Avenue	M16 - M8	M16	M8	6	12		VCP	67	66.58	M8 - M8A	3400	12	0000	0	3	12	0	0		12
133	8/9/2022	H	Schembri Lane	H53 - H52	H53	H52	6	6		VCP	233	234.42		2500	10	0000	0	2	10	0	0		10
134	8/9/2022	M	Clarke Avenue	M14 - M14A	M14	M14A	6	6		VCP	252	252.42	New Line Segment	3222	10	0000	0	2	10	0	0		10
135	8/3/2022	H	University Avenue	H44 - H37	H44	H37	6	6		VCP	269	271.71		3300	9	3121	5	2	9	0	0		9
136	7/28/2022	L	Jasmine Way	L42 - L43	L42	L43	8	8		VCP	330	332.79		3123	9	3100	3	2	9	0	0		9
137	7/26/2022	L	Gardenia Way	L6 - L5	L6	L5	6	6		VCP	215	215.53		2400	8	2A00	20	2	8	0	0		8
138	7/26/2022	L	Gardenia Way	L8 - L7	L8	L7	6	6		VCP	73	69.38		2400	8	0000	0	2	8	0	0		8
139	7/29/2022	N	Wilkes Street	N13 - N14	N13	N14	8	8		PVC	167	166.74		2400	8	2300	6	2	8	0	0		8
140	8/4/2022	N	Pulgas Avenue	N7 - N6	N7	N6	10	12		PE	333	334.39		2400	8	0000	0	2	8	0	0		8
141	8/5/2022	H	Salas Court	H48 - H55	H48	H55	6	6		PVC	217	216.53	H48 - H21	3122	7	0000	0	2	7	0	0		7
142	8/10/2022	M	Clarke Avenue	M18 - M5	M18	M5	8	12		VCP	154	154.25		2300	6	0000	0	2	6	0	0		6
143	8/5/2022	N	Mouton Circle	N20 - N21	N20	N21	8	8		PVC	72	72.78		2300	6	2100	2	2	6	0	0		6
144	8/10/2022	M	Clarke Avenue	M22 - M21	M22	M21	8	12		VCP	116	27.19	M7 - M20	2200	4	0000	0	2	4	0	0		4
145	7/21/2022	M	Tate Street	M27 - M29	M27	M29	8	8		PVC	35	42.39		2200	4	0000	0	2	4	0	0		4
146	8/12/2022	H	Vines Court	H63 - H62	H63	H62	12	6		PVC	40	172.34	H57 - H58	3100	3	2100	2	2	3	0	0		3
147	7/28/2022	L	Daphine Way	L41 - L40	L41	L40	6	6		VCP	71	68.28		3100	3	0000	0	3	3	0	0		3
148	7/26/2022	L	Camellia Drive	L55 - L54	L55	L54	6	6		VCP	149	146.65		3100	3	0000	0	3	3	0	0		3
149	7/26/2022	L	Abelia Way	L60 - L59	L60	L59	6	6		VCP	109	106.36		3100	3	1100	1	2	3	0	0		3
150	7/22/2022	M/N	Gates Street	M30 - N29	M30	N29	8	8		PVC	255	259.91		3100	3	0000	0	3	3	0	0		3
151	7/22/2022	N	Mouton Circle	N15 - N16	N15	N16	8	8		PVC	252	251.62		3100	3	0000	0	3	3	0	0		3
152	8/10/2022	M	Clarke Avenue	M19 - M18	M19	M18	8	12		VCP	95	92.57		2100	2	0000	0	2	2	0	0		2
153	8/10/2022	M	Clarke Avenue	M7 - M6	M7	M6	8	12		VCP	297	336.99	M21 - M7	2100	2	0000	0	2	2	0	0		2
154	N/A	H	Runnymede Street	H16 - H15	H16	H15	8				351		Line has unchartered manholes.						0	0	0		0
155	N/A	H	Clarke Avenue	H18 - H5	H18	H5	8				8		Paved over						0	0	0		0
156	N/A	H	Clarke Avenue	H19 - H18	H19	H6	8				387		Paved over						0	0	0		0
157	N/A	H	Clarke Avenue	H20 - H19	H20	H19	6				271		Paved over						0	0	0		0
158	N/A	H	Bell Street	H25 - H11	H25	H11	6				378		Paved over						0	0	0		0
159	N/A	H	Bell Street	H26 - H25	H26	H25	6				413		Paved over						0	0	0		0
160	N/A	H	Bell Court	H27 - H26	H27	H26	6				115		Paved over						0	0	0		0
161	N/A	H	Bell Street	H28 - H50	H28	H50	6				192		Paved over						0	0	0		0
162	N/A	H	University Avenue	H37 - H36	H37	H36	6				370		Line has an unchartered manhole						0	0	0		0
163	N/A	H	Runnymede Street	H39 - H38	H39	H38	6				132		MH39 and a pipeline to H38 do not						0	0	0		0
164	8/5/2022	H	Salas Court	H49 - H48	H49	H48	6	6		PVC	45	30.09		0000	0	0000	0	0	0	0	0		0
165	N/A	H	Bell Street	H50 - H26	H50	H26	6				154		Paved over						0	0	0		0
166	N/A	H	Henry Court	H51 - H50	H51	H50	6				189		Paved over						0	0	0		0

East Palo Alto Sanitary District
Area 4 CCTV Survey Results and Evaluation

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	Date Inspected	Area	Location/ Street Name	PSR	Upstream MH #	Downstream MH #	Reported Diameter	Actual Diameter	Master Plan Proposed	Pipe Material	Pipe Length (ft)	Length Surveyed	Notes	Structural Grade	Structural Score	O&M Grade	O&M Score	Overall Pipe Index	Structural Score	Score for Master Plan Capacity (+ 5 * Pipe Dia)	Score for Notable Defects	Sag > 40%	Total Score
167	N/A	H	Donohoe Street	H55 - H21	H55	H21	6				157		Line has an unchartered manhole						0	0	0		0
168	N/A	H	Green Street	H7 - H6	H7	H6	12				90		Line has unchartered manholes.						0	0	0		0
169	N/A	H	Tea Court	H72 - H71	H72	H71	12				238		H59 - H60. Paved over						0	0	0		0
170	7/26/2022	L	Camellia Drive	L51 - L50	L51	L50	6	6		VCP	80	76.17		0000	0	2300	6	2	0	0	0		0
171	N/A	M	Clarke Avenue	M14 - M5	M14	M5	6				328		Line has unchartered manholes.						0	0	0		0
172	N/A	M/I	O'Connor Street	M2 - I15	M2	I15	12				20		Repeat naming. Already inspected						0	0	0		0
173	N/A	M/I	Pulgas Avenue	M2 - I15	M2	I15	12				20		Line has unchartered manholes.						0	0	0		0
174	8/10/2022	M	Clarke Avenue	M20 - M19	M20	M19	8	12		VCP	341	80.47	M6 - M19	0000	0	0000	0	0	0	0	0		0
175	7/21/2022	M	Tinsley Street	M23 - M24	M23	M24	8	8		PVC	195	191.54		0000	0	0000	0	0	0	0	0		0
176	7/21/2022	M	Tinsley Street	M24 - M25	M24	M25	8	8		PVC	260	258.01		0000	0	0000	0	0	0	0	0		0
177	7/21/2022	M	Tate Street	M25 - M26	M25	M26	8	8		PVC	270	267.41		0000	0	0000	0	0	0	0	0		0
178	7/21/2022	M	Tate Street	M26 - M27	M26	M27	8	8		PVC	125	131.46		0000	0	0000	0	0	0	0	0		0
179	N/A	M	Wilkes Street	M27 - M28	M27	M28	8				35		This line has does not exist.						0	0	0		0
180	7/22/2022	M/N	Wilkes Street	M28 - N11	M28	N11	8	8		PVC	236	206.73		0000	0	0000	0	0	0	0	0		0
181	7/21/2022	M	Oakes Street	M32 - M33	M32	M33	8	8		PVC	195	221.13		0000	0	0000	0	0	0	0	0		0
182	7/21/2022	M	Oakes Street	M33 - M34	M33	M34	8	8		PVC	288	226.03		0000	0	0000	0	0	0	0	0		0
183	7/21/2022	M/N	Oakes Street	M34 - N22	M34	N22	8	8		PVC	253	267.01		0000	0	0000	0	0	0	0	0		0
184	7/21/2022	M	Tate Street	M35 - M34	M35	M34	8	8		PVC	124	119.16		0000	0	0000	0	0	0	0	0		0
185	7/21/2022	M	Baines Street	M36 - M37	M36	M37	8	8		PVC	257	242.02		0000	0	0000	0	0	0	0	0		0
186	7/21/2022	M/N	Baines Street	M37 - N24	M37	N24	8	8		PVC	259	247.02		0000	0	0000	0	0	0	0	0		0
187	7/29/2022	M	O'Connor Street	M4 - M31	M4	M31	12	12	0	PVC	143	144.05		0000	0	2700	14	2	0	0	0		0
188	8/10/2022	M	Clarke Avenue	M6 - M22	M6	M22	8	12		VCP	43	109.16	M22 - M21	0000	0	0000	0	0	0	0	0		0
189	N/A	M	Clarke Avenue	M8 - M22	M8	M22	8				192		Line has an unchartered manhole						0	0	0		0
190	8/10/2022	M	Clarke Avenue	M8 - M7	M8	M7	8	12		VCP	137	137.35	M8A - M22	0000	0	0000	0	0	0	0	0		0
191	8/10/2022	N/K	O'Connor Street	N1 - K6	N1	K6	12	12		PE	253	254.52	**Light Tree Project**	362D	38	4132	10	2	38	0	0		0
192	7/22/2022	N	Gates Street	N10 - N13	N10	N13	8	8		PVC	176	174.94		0000	0	0000	0	0	0	0	0		0
193	7/22/2022	N	Wilkes Street	N11 - N12	N11	N12	8	8		PVC	227	228.42		0000	0	2100	2	2	0	0	0		0
194	7/22/2022	N	Wilkes Street	N12 - N13	N12	N13	8	8		PVC	158	160.25		0000	0	0000	0	0	0	0	0		0
195	8/8/2022	N	Pulgas Avenue	N14 - N2	N14	N2	10	10	10	PE	88	85.87	**Light Tree Project**	2A00	20	2400	8	2	20	50	0		0
196	7/22/2022	N	McNair Street	N15 - N18	N15	N18	8	8		PVC	190	195.14		0000	0	0000	0	0	0	0	0		0
197	7/22/2022	N	Mouton Circle	N16 - N17	N16	N17	8	8		PVC	228	216.93		0000	0	0000	0	0	0	0	0		0
198	7/22/2022	N	Mouton Circle	N17 - N20	N17	N20	8	8		PVC	197	195.44		0000	0	0000	0	0	0	0	0		0
199	7/22/2022	N	Mouton Circle	N18 - N19	N18	N19	8	8		PVC	256	253.62		0000	0	0000	0	0	0	0	0		0
200	7/22/2022	N	Mouton Circle	N19 - N20	N19	N20	8	8		PVC	224	222.53		0000	0	0000	0	0	0	0	0		0
201	8/8/2022	N	Pulgas Avenue	N2 - N1	N2	N1	10	10	10	PE	296	297.5	**Light Tree Project**	2D00	20	2B00	20	2	20	50	0		0
202	8/8/2022	N	Pulgas Avenue	N21 - N14	N21	N14	10	12	10	PE	196	198.73	**Light Tree Project**	2A00	20	2A00	20	2	20	50	0		0
203	7/21/2022	N	Oakes Street	N22 - N23	N22	N23	8	8		PVC	212	211.53		0000	0	0000	0	0	0	0	0		0
204	7/21/2022	N	Oakes Street	N23 - N28	N23	N28	8	8		PVC	193	179.04		0000	0	0000	0	0	0	0	0		0
205	7/21/2022	N	Baines Street	N24 - N25	N24	N25	8	8		PVC	116	117.96		0000	0	0000	0	0	0	0	0		0
206	7/21/2022	N	Baines Street	N25 - N26	N25	N26	8	8		PVC	262	249.92		0000	0	0000	0	0	0	0	0		0
207	7/21/2022	N	Baines Street	N26 - N27	N26	N27	8	8		PVC	248	251.42		0000	0	0000	0	0	0	0	0		0
208	7/21/2022	N	Baines Street	N27 - N28	N27	N28	8	8		PVC	183	181.14		0000	0	0000	0	0	0	0	0		0
209	8/5/2022	N	Oakes Street	N28 - N4	N28	N4	8	8		PVC	150	150.05	**Light Tree Project**	2B00	20	0000	0	2	20	0	0		0
210	7/22/2022	N	Gates Street	N29 - N10	N29	N10	8	8		PVC	326	314.2		0000	0	0000	0	0	0	0	0		0
211	8/8/2022	N	Pulgas Avenue	N3 - N21	N3	N21	10	12	10	PE	89	88.17	**Light Tree Project**	2200	4	2300	6	2	4	50	0		0
212	7/22/2022	N	McNair Street	N30 - N11	N30	N11	8	8		PVC	134	130.86		0000	0	0000	0	0	0	0	0		0
213	8/8/2022	N	Pulgas Avenue	N4 - N3	N4	N3	10	12		PE	335	336.39	**Light Tree Project**	2500	10	2800	16	2	10	0	0		0

Attachment 4

Table 16 and Figure 10 from Master Plan Addendum

Table 16
Proposed Capital Improvement Program
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	PDWF Predicted d/D (3)	PWWF Predicted d/D (3)	Proposed Diameter (Inches) (2)	PDWF Proposed d/D (4)	PWWF Proposed d/D (4)
I24-I13	237	6	0.48	1	6	0.44	0.72
L25-L24	342	8	0.69	1	10	0.43	0.53
L24-L23	386	8	0.54	0.72	10	0.36	0.43
L23-L3	351	8	0.69	1	10	0.43	0.53
L3-L2	83	10	1	1	12	0.58	0.54
L2-L1	179	10	0.77	0.72	12	0.48	0.46
L1-L21	223	10	1	1	14	0.55	0.5
L21-K28	68	10	1	1	14	0.6	0.55
K28-K4	242	10	1	1	15	0.64	0.58
K4-K3	238	12	1	1	15	0.51	0.45
K3-K2	190	12	1	1	15	0.58	0.5
K2-K1	451	14	0.74	0.74	15	0.54	0.48
N3-N21 (6)	89	10	0.7	0.58	10	0.6	0.38
N21-N14 (6)	196	10	0.74	0.6	10	0.624	0.38
N14-N2 (6)	88	10	0.77	0.6	10	0.624	0.4
N2-N1 (6)	296	10	0.72	0.58	10	0.6	0.38
O9-O8 (6)	140	6	0.72	0.68	6	0.6	0.56
O7-O6 (6)	427	8	0.81	0.66	8	0.66	0.57
L53-L52 (6)	218	6	0.8	0.52	6	0.64	0.48
L52-L50	224	6	1	0.76	8	0.57	0.42
L50-L49	224	8	0.57	76	10	0.36	0.26
L49-L48	233	8	1	0.6	10	0.5	0.38
L7-L6 (6)	261	6	0.72	0.4	6	0.6	0.32
L9-L4 (6)	162	6	0.72	0.8	6	0.6	0.64
M38-M39	158	8	0.84	1	12	0.36	0.36
M39-M43	241	8	0.84	1	12	0.36	0.36
M43-M42	104	8	1	1	12	0.44	0.46
M42-M41	37	8	1	0.6	12	0.28	0.28
M41-M13	111	8	0.84	1	12	0.36	0.36
M13-M12	276	8	0.84	1	12	0.36	0.36
M12-M40	337	8	0.84	1	12	0.36	0.36
M40-M5	263	8	0.84	1	12	0.36	0.36
M5-M4	373	8	1	1	12	0.52	0.54
M4-M31	143	8	1	1	12	0.48	0.48
M31-M3	357	10	1	1	12	0.54	0.56
M3-M2	380	10	1	1	12	0.58	0.58
I43-I15	62	12	0.44	0.44	15	0.29	0.29
I15-I14	386	12	1	1	15	0.62	0.64
I14-I13	444	12	1	1	15	0.48	0.48
I13-I12	320	12	1	1	15	0.48	0.51
I12-I6	339	12	1	1	15	0.46	0.51
I6-I5	411	18	1	1	24	0.52	0.69
I5-I31	135	18	1	1	24	0.53	0.69

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EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	PDWF Predicted d/D (3)	PWWF Predicted d/D (3)	Proposed Diameter (Inches) (2)	PDWF Proposed d/D (4)	PWWF Proposed d/D (4)
I31-I4	321	18	1	1	24	0.53	0.69
I4-I3	243	18	1	1	24	0.52	0.69
H36-H35	474	6	1	1	10	0.34	0.55
H35-H34	322	6	0.44	1	10	0.22	0.34
H34-H17	269	6	0.52	1	10	0.24	0.41
H17-H57	397	8	0.75	1	12	0.34	0.66
H57-H16	40	8	0.36	0.69	12	0.18	0.66
H16-H60	351	8	0.48	1	12	0.24	0.32
H60-H15	99	8	0.45	1	12	0.22	0.42
H15-H62	201	8	0.36	0.75	12	0.18	0.34
H62-H14	233	8	0.36	0.75	12	0.18	0.34
H14-H13	446	8	0.45	1	12	0.24	0.44
H13-H12	108	8	0.42	1	12	0.22	0.42
H12-H11	333	8	0.48	1	12	0.24	0.46
H11-H64	198	8	0.48	1	12	0.24	0.48
H64-H71	161	8	0.57	1	12	0.28	0.48
H71-H3	35	8	0.51	1	12	0.26	0.56
C12-C1	265	6	0.72	1	8	0.39	0.6
C48-C11	179	6	0.56	6	6	0.48	0.8
C9-C8	84	6	0.52	1	6	0.44	0.72
C8-C7	401	6	0.56	1	6	0.48	0.8
C7-C6	448	6	0.52	1	6	0.44	0.72
C6-C5	87	6	0.52	1	6	0.44	0.72
C5-C4	328	6	0.56	1	8	0.33	0.51
C4-C3	436	6	0.56	1	8	0.33	0.48
C3-C2	398	6	0.56	1	8	0.33	0.51
C2-C1	204	6	1	1	8	0.48	0.78
C1-B16 (5)	402	8	0.51	1	8	0.45	0.69
B16-B15 (5)	327	8	0.54	1	8	0.48	0.75
B15-B49 (5)	331	8	0.54	1	8	0.48	0.75
B49-B14 (5)	328	8	0.54	1	8	0.45	0.72
B7-B6	380	12	1	1	15	0.46	0.46
B6-B5	158	12	0.38	0.52	15	0.24	0.24
B5-B52	176	12	0.6	1	15	0.37	0.37
B52-B4	360	12	0.52	0.8	15	0.32	0.32
B4-B3	465	12	0.68	1	15	0.42	0.42
B3-B2	239	12	1	1	15	0.5	0.5
B2-A1	181	12	0.62	1	15	0.38	0.38
A1-A2	80	12	0.82	1	15	0.46	0.46
A2-A5	244	12	1	1	15	0.46	0.46
A5-A8	124	15	1	1	18	0.49	0.67
A8-A9	61	15	0.37	0.48	18	0.25	0.32
A9-A10	181	15	1	1	18	0.53	0.73

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Proposed Capital Improvement Program
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	PDWF Predicted d/D (3)	PWWF Predicted d/D (3)	Proposed Diameter (Inches) (2)	PDWF Proposed d/D (4)	PWWF Proposed d/D (4)
A10-A15	299	15	0.51	0.7	18	0.35	0.44
A15-A16	435	15	1	1	18	0.52	0.7
A16-A21	296	15	0.67	1	18	0.43	0.56
A21-A23	155	15	0.5	0.67	18	0.33	0.43
A23-A22	14	15	0.32	0.42	18	0.23	0.28
D66-D65 (6)	413	6	0.72	0.68	6	0.6	0.6
D25-D24	301	6	0.36	1	8	0.21	0.45
D35-D34	178	6	1	1	8	0.54	0.78
D34-D33	293	6	0.56	0.76	8	0.3	0.42
D33-D24	450	6	0.72	1	10	0.39	0.51
D24-D23	350	8	0.57	1	10	0.38	0.55
D23-D22	73	8	0.66	1	10	0.38	0.58
D22-D21	149	8	0.78	1	10	0.48	0.67
D21-D19	391	8	0.72	1	10	0.46	0.62
D19-D10	48	8	0.45	0.6	10	0.31	0.38
D10-D3	489	8	1	1	10	0.5	0.67
D5-D4	70	8	0.84	1	10	0.46	0.58
D4-D3	296	8	0.84	1	10	0.46	0.58
D3-D2	363	12	1	1	15	0.51	0.69
D2-D1	53	12	1	1	16	0.6	1
D1-E4	354	12	0.82	1	16	0.42	0.54
E4-E3	357	12	0.7	1	16	0.38	0.48
E3-E2	280	12	1	1	16	0.45	0.59
E2-E1	283	12	0.82	1	16	0.42	0.54
E1-H9	270	12	1	1	16	0.56	0.8
H9-H73	246	12	1	1	16	0.51	0.7
H73-H74	101	12	1	1	18	0.48	0.64
H74-H8	113	12	1	1	18	0.43	0.57
H8-H7	233	12	1	1	18	0.51	0.69
H7-H75	90	12	1	1	18	0.44	0.59
H75-H6	260	12	1	1	18	0.44	0.59
H6-H5	9	12	1	1	18	0.36	0.47
H5-H4	260	15	1	1	18	0.57	0.79
H4-H3	7	15	0.82	1	18	0.51	0.67
H3-H2	31	15	0.77	1	18	0.49	0.71
H2-I11	37	15	0.43	0.61	18	0.31	0.41
I11-I10	380	15	0.78	1	18	0.51	0.72
I10-I9	221	15	0.69	1	18	0.45	0.64
I9-I8	155	15	1	1	20	0.53	0.77
I8-I7	238	15	1	1	20	0.36	0.48
I7-I6	259	15	0.67	1	20	0.38	0.52
E8-E7	355	8	1	1	12	0.38	0.52
E7-E6	311	8	1	1	12	0.36	0.48

Table 16
Proposed Capital Improvement Program
EPASD Master Plan Update
East Palo Alto, California

Manhole (1)	Length (Feet) --	Existing Diameter (Inches) (2)	PDWF Predicted d/D (3)	PWWF Predicted d/D (3)	Proposed Diameter (Inches) (2)	PDWF Proposed d/D (4)	PWWF Proposed d/D (4)
A29-T29	345	18	0.39	0.51	24	0.26	0.33
T29-T28	234	18	0.37	0.48	24	0.25	0.32
T28-T27	162	18	0.77	1	24	0.47	0.62
T27-T26	356	18	0.49	0.65	24	0.32	0.42
T26-T25	306	18	0.45	0.6	24	0.3	0.38
T25-T24	282	18	1	1	24	0.53	0.73
T24-T23	317	18	0.47	0.63	24	0.31	0.4
T23-T22	446	18	0.52	0.72	24	0.34	0.44
T20-T19	332	18	0.37	0.49	28	0.21	0.27
T19-T18	500	21	0.78	1	28	0.47	0.62
T18-T17	540	21	0.78	1	28	0.46	0.61
T17-T16	482	21	1	1	28	0.49	0.64
T12-T1	6260	(6)	(6)	(6)	18	1	1

Notes
(1) Manhole used to find Q and Depth over Diameter value.
(2) Pipe Diameter directly downstream of Manhole.
(3) Calculated by dividing the depth of flow by pipe diameter.
This value is evaluated directly downstream of specified manhole
under the existing PWWF condition including proposed injections.
(4) Calculated by dividing the depth of flow by pipe diameter.
This value is evaluated directly downstream of specified
manhole under the existing PWWF condition including proposed
injections and pipe size upgrades.
(5) d/D improves with same size HDPE upgrade.
(6) The new 18-inch diameter pipeline is the wet weather parallel pipeline.

Abbreviations
d/D: Depth over Diameter

COMBINED IMPROVEMENTS NO SURCHARGE UNDER PROPOSED CONDITIONS

EPASD MASTER PLAN UPDATE
EAST PALO ALTO, CA

REPLACE 1565LF WITH NEW HDPE 18" SS
REPLACE 2448LF WITH NEW HDPE 24" SS
REPLACE 2283LF WITH NEW HDPE 15" SS
REPLACE 1065LF WITH NEW HDPE 10" SS
REPLACE 652LF WITH NEW HDPE 20" SS
T22–T20 EXISTING HDPE 24" SS
REPLACE 265LF WITH NEW HDPE 8" SS
REPLACE 2602LF WITH NEW HDPE 12" SS
REPLACE 666LF WITH NEW HDPE 12" SS
REPLACE 1742LF WITH NEW HDPE 18" SS
REPLACE 1854LF WITH NEW HDPE 28" SS
REPLACE 413LF WITH NEW HDPE 6" SS
REPLACE 366LF WITH NEW HDPE 10" SS
REPLACE 1110LF WITH NEW HDPE 24" SS
REPLACE 2754LF WITH NEW HDPE 8" SS
REPLACE 237LF WITH NEW HDPE 6" SS
REPLACE 1121LF WITH NEW HDPE 15" SS
REPLACE 1843LF WITH NEW HDPE 16" SS
REPLACE 1551LF WITH NEW HDPE 15" SS
REPLACE 363LF WITH NEW HDPE 15" SS
REPLACE 1950LF WITH NEW HDPE 10" SS
REPLACE 291LF WITH NEW HDPE 14" SS
REPLACE 2780LF WITH NEW HDPE 12" SS
REPLACE 669LF WITH NEW HDPE 10" SS
REPLACE 1020LF WITH NEW HDPE 6" SS
REPLACE 301LF WITH NEW HDPE 8" SS
REPLACE 471LF WITH NEW HDPE 8" SS
REPLACE 162LF WITH NEW HDPE 6" SS
REPLACE 179LF WITH NEW HDPE 6" SS
REPLACE 261LF WITH NEW HDPE 6" SS
REPLACE 1079LF WITH NEW HDPE 10" SS
REPLACE 218LF WITH NEW HDPE 6" SS
REPLACE 457LF WITH NEW HDPE 10" SS
REPLACE 224LF WITH NEW HDPE 8" SS
REPLACE 140LF WITH NEW HDPE 6" SS
REPLACE 427LF WITH NEW HDPE 8" SS
NEW PARALELL 18" HDPE SS 6260 LF

HETCH–HETCHY AQUADUCT
SAN FRANCISQUITO CREEK
WATERING STATION
PALO ALTO AIRPORT
PALO ALTO PUMP STATION
PALO ALTO REGIONAL WATER POLLUTION CONTROL PLANT
STATE HWY RTE NO. 101
BAYSHORE FREEWAY
EMBARCADERO ROAD

LEGEND

SERVICE AREA BOUNDARY
PROPOSED PIPE TO BE REPLACED
MANHOLE
LAMPHOLE
MANHOLE/LAMPHOLE NUMBER C11

NOTE: ALL SEWERS ARE 6" IN DIAMETER, UNLESS DESIGNATED OTHERWISE.
* DIFFERENT SIZE IN MODEL

UPSIZE TO 6"
UPSIZE TO 8"
UPSIZE TO 10"
UPSIZE TO 12"
UPSIZE TO 14"
UPSIZE TO 15"
UPSIZE TO 16"
UPSIZE TO 18"
UPSIZE TO 20"
UPSIZE TO 24"
UPSIZE TO 28"

NORTH

SCALE
1" = 1000'

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DATE:	4/28/2021
SCALE:	1" = 1000'
DESIGNED:	RAM
DRAWN:	RAM
CHECKED:	JF
PROJ. ENGR:	JJT

FIGURE
10

JOB NO.
2052

Government Financial Strategies

MEMORANDUM

To:	Akin Okupe, MBA, PE, General Manager
From:	Lori Raineri Keith Weaver
Date:	December 14, 2022
Re:	Financing Sanitary System Infrastructure

This memorandum describes options and recommendations for an Infrastructure Financing Plan. This plan has previously been presented to the following groups:

- East Palo Alto Sanitary District staff including two members of the Board of Directors on August 25, 2022,
- "All Hands" staff meeting, including the District's team from Bartle Wells Associates, Hildebrand Consulting, and Sierra West Consultants, on August 31, 2022,
- Rate Advisory Committee on September 7, 2022,
- A group of developer representatives on October 6, 2022,
- Board of Directors on November 1, 2022.

In addition, you presented a summary overview to the City Council of East Palo Alto on September 20, 2022.

Current Status Update

Feedback from the Rate Advisory Committee, District staff, and the District's consultant team was positive. The primary recommendation arising from the discussions was that the new development should shoulder an appropriate share of the costs, and the plan was updated accordingly.

The possibility existed for potential collaboration with the City and/or developers. However, feedback indicates there does not appear to be interest in a collaborative effort to finance infrastructure from either group. Therefore, the District may consider a stand-alone effort and proceed under its own initiative.

Feedback from the Board of Directors meeting was a request for more details that would help better inform the decision-making process. Providing such details is the purpose of this memorandum.

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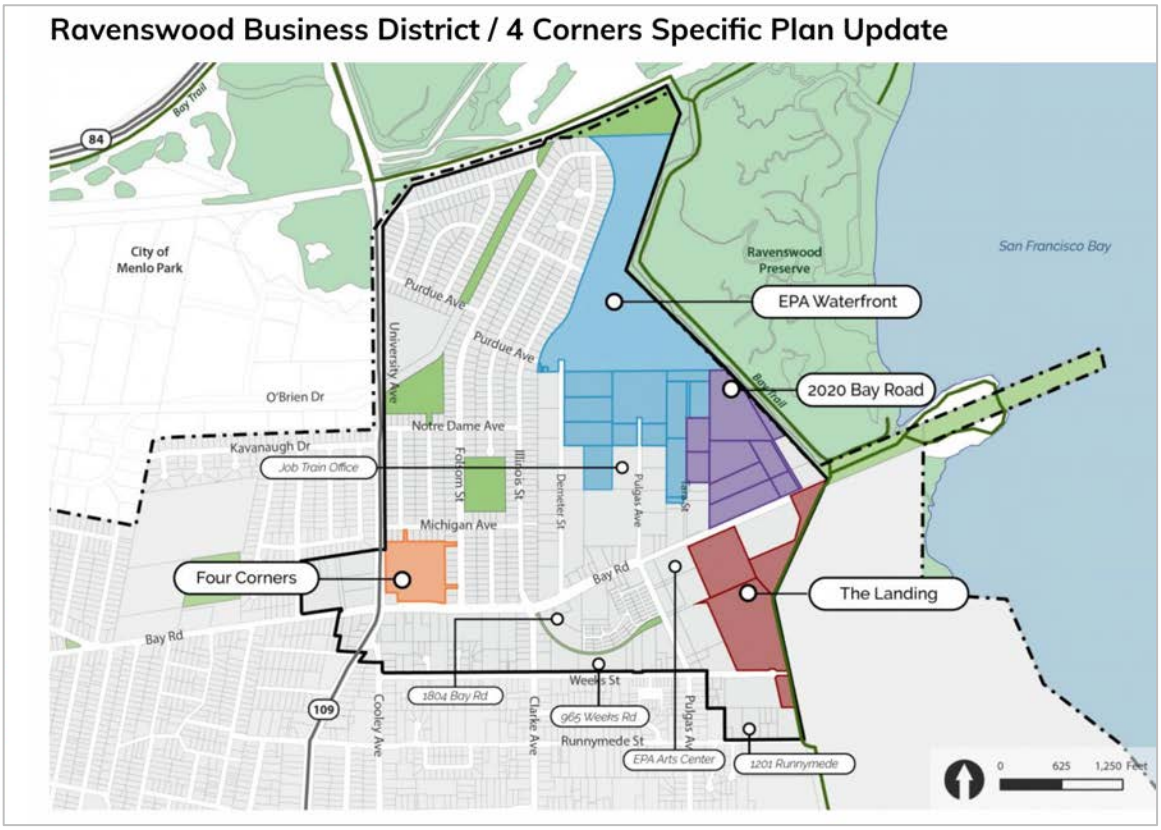
Development Overview

The City of East Palo Alto's Ravenswood Business District / 4 Corners Specific Plan Update includes plans for new development that, upon buildout, will impact the Sanitary District. The Specific Plan Update identifies four major projects involving:

- EPA Waterfront
- 2020 Bay Road
- The Landing
- Four Corners

The locations of the projects are shown in the map below:



The four major projects are expected to have 530 residential units and approximately 4.2 million square feet of non-residential development.[1] Adding to these four major projects are 18 minor projects planned for development, and in total, the combined projects involve plans for 1,469 residential units and approximately 4.7 million square feet of non-residential development.

[1] New development information per San Mateo LAFCO Municipal Service Review Updates: City of East Palo Alto, East Palo Alto Sanitary District, West Bay Sanitary District. Prepared by Berkson Associates in association with Policy Consulting Associates LLC, June 6, 2022.

Infrastructure Overview

The planned new development drives the need to increase capacity for the Sanitary District's infrastructure. The infrastructure capacity involves three types of necessary upgrades:

- The local collection system capacity requires upsizing of local pipes: estimated cost of $22 million.
- The trunk capacity serving the Palo Alto Regional Water Quality Control Plant (RWQCP) also needs to be upsized: estimated cost of $13 million.
- More treatment plant capacity will need to be purchased from RWQCP: estimated cost of $5 million.

In total, the estimated cost for infrastructure is $40 million.[2]

Cost Sharing Considerations

Existing customers will receive some benefit from the upsizing of local pipes by the extension of the pipes' useful lives, and therefore the costs to be allocated will reflect benefits received by both new and existing development. Most of the capacity increases are exclusively necessary to serve the new development. Therefore, new development will mitigate its costs appropriately and receive the associated benefits. The cost sharing allocation is shown in the table below:

Project	*Estimated Project Cost*	*New Development Share*	*New Development Cost*	*Existing Development Share*	*Existing Development Cost*
Local Collection Capacity	$22,000,000	75%	$16,500,000	25%	$5,500,000
Trunk Capacity	$13,000,000	100%	$13,000,000	0%	$0
Treatment Plant Capacity	$5,000,000	100%	$5,000,000	0%	$0
Total	$40,000,000	86%	$34,500,000	16%	$5,500,000

Note: cost sharing determined in consultation with Bartle Wells Associates.

Funding Options

Funding options include both traditional sources of funding for sanitary districts as well as supplemental funding sources that are less widely used but available to target specific needs.

Traditional Funding Options

Traditional options for funding the needs of sanitary districts include:

Sewer Rates

Pro: sewer rates are an existing funding option already in place, paid by the Sanitary District's existing ratepayers.

[2] Infrastructure needs and costs per 2022 Capacity Charge Study, Hildebrand Consulting, August 3, 2022.

Con: the challenge with this funding option is that the existing ratepayers are not causing the need for new infrastructure; it is new development that is driving the new infrastructure needs.

Conclusion: increasing sewer rates does not appear to be an appropriate funding option for the new infrastructure.

Capacity Charges

Pro: capacity charges are paid by new development. Developers pay this one-time charge in order to receive a will-serve letter from the Sanitary District.

Con: we understand District staff has received feedback from some developers that the capacity charge may be perceived as prohibitively expensive.

Conclusion: capacity charges are an appropriate funding option though an alternative choice would be helpful to allow new development to proceed at less expense.

Supplemental Funding Options

Supplemental funding may be garnered through four types of local taxes and assessments available for use by sanitary districts. These are as follows:

General Obligation Bonds

Authorization: general obligation bonds require a two-thirds voter approval by registered voters at an election.[3]

Pro: the bonding authority provides for the issuance of bonds to finance infrastructure projects. Bonds are then repaid from "ad valorem" taxation (based on the assessed value of property) and the tax is only levied to repay the bonds.

Con: challenges include that this funding mechanism is restricted to land and buildings without the option for equipment. In addition, there is no flexibility to create special boundaries around new development, meaning that existing ratepayers would be subject to the same taxation as new development.

Conclusion: general obligation bonds do not appear to be an appropriate funding option for the new infrastructure.

Parcel Taxes

Authorization: parcel taxes also require a two-thirds voter approval by registered voters at an election. The method of taxation is anything but ad valorem and is often a flat tax per parcel.[4]

Pro: this tax may be used for either services or infrastructure projects.

[3] Authority for sanitary districts to issue general obligation bonds is found in Government Code Section 53500 et seq.
[4] Authority for sanitary districts to levy parcel taxes is found in Government Code Section 50075 et seq.

Con: challenges include that parcel taxes are primarily used for services because there is no authority to issue bonds to finance infrastructure projects. In addition, there is no flexibility to create special boundaries around new development, meaning that existing ratepayers would be subject to the same taxation as new development.

Conclusion: parcel taxes do not appear to be an appropriate funding option for the new infrastructure.

Assessment Districts

Authorization: assessment districts require a form of 50% voter approval by landowners at a mailed ballot election. The ballots are weighted by the amount of the assessment proposed for each landowner.[5]

Pro: bonds may be issued to finance infrastructure projects with the assessment used to repay the bonds. This option has flexible boundaries that can be set around new development.

Con: challenges include that the assessment is based on a rigid formula according to the benefit that each property receives from the new infrastructure. It must be a special benefit over and above any general benefit provided. The amount of assessment must be determined by an engineer and there is little to no flexibility in customizing the assessment based on any other factors.

Conclusion: while an assessment district would appear to be an appropriate funding option for the new infrastructure, it may not be the most beneficial option because of the inability to tailor the assessment to achieve the community's goals.

Mello-Roos Community Facilities Districts (CFDs)

Authorization: community facilities districts require two-thirds voter approval, with the method of voting depending on the number of registered voters within the CFD. If there are less than 12 registered voters within the CFD, it is a vote by landowners. If there are 12 or more registered voters, it is a vote by registered voters. The method of taxation is anything but ad valorem, and it is often per square foot, per unit, or per acre.[6]

Pro: bonds may be issued to finance infrastructure projects with the tax being used to repay the bonds. This option has the flexibility to create special boundaries: the boundary can be set the same as the Sanitary District's boundary or it can be a smaller subset. Sometimes a CFD boundary focuses specifically on new development, with a non-contiguous "Swiss cheese" approach allowed. The tax is often referred to as the "designer tax" due to the flexibility to meet the community's needs. A Rate and Method

[5] Authority for sanitary districts to levy assessments is included in the 1911, 1913, and 1915 Acts found in Streets & Highways Code Sections 5000, 8500, and 10000. Proposition 218 placed numerous restrictions on assessments and is found in Government Code Section 53750. More assessment options exist in statute also.
[6] Authority for sanitary districts to create CFDs is found in Government Code Section 53311 et seq.

of Apportionment (RMA) would describe how the taxes are to be levied. Taxes can be levied based on geographic boundary or RMA description or both.

Con: the primary challenge is the high bar of a two-thirds voter approval threshold. The opportunity for the CFD to be designed specifically for the purpose at hand, with community input, may be helpful in overcoming this challenge.

Conclusion: a CFD would appear to be an appropriate funding option for the new infrastructure.

Proposed Infrastructure Funding Plan

After consideration of the funding options, it is recommended that an Infrastructure Funding Plan consist of the following three options:

Infrastructure Funding Plan	
Grants	A grant consultant has been retained by the Sanitary District to identify available grants and submit applications to receive grant funds for the new infrastructure needs.
Capacity Charges	The Sanitary District increased capacity charges from $6,060 to $14,464 per equivalent dwelling unit (EDU) per Board Resolution No. 1322 adopted October 6, 2022. Developers can pay this charge and receive a will-serve letter to proceed with new development. The capacity charges received from developers can help pay for the new infrastructure needs.
Mello-Roos CFD	This is a supplemental option recommended to finance the new infrastructure needs differently than capacity charges.

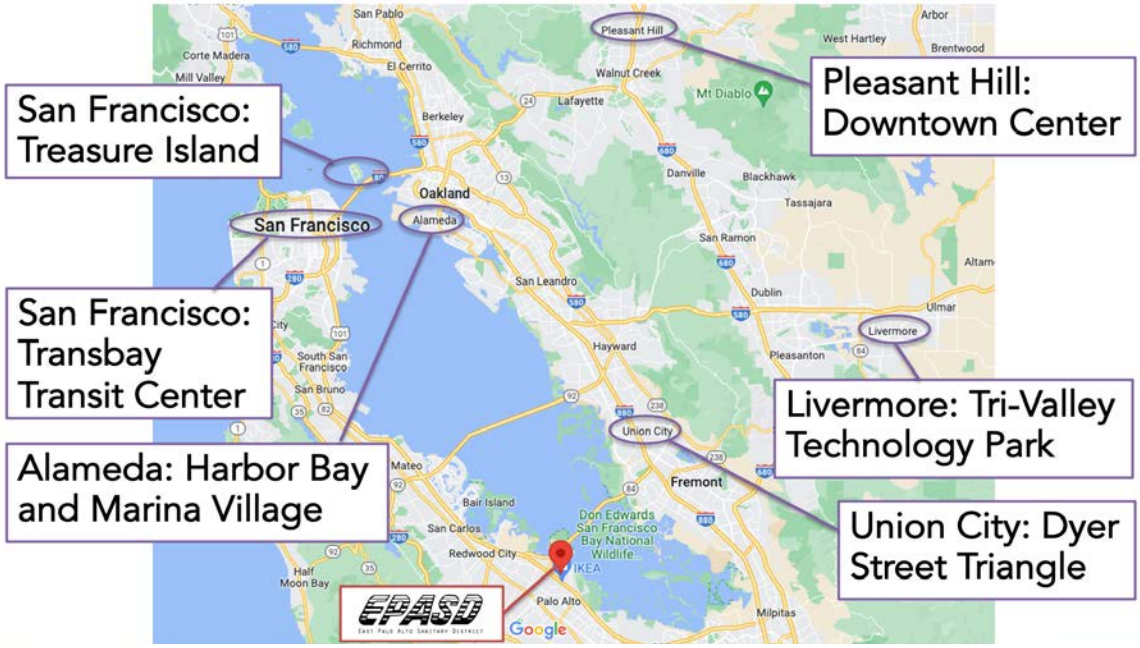
Regional CFD Case Studies

Case Study Selection

Several locations in the Bay Area using CFDs as a funding option for infrastructure needs were selected as case studies for comparison. Each case study has consisted of large-scale new developments which include non-residential property. They also involved the financing of infrastructure needed to specifically serve the new development, with several expressly identifying sewer improvements. The locations were:

- Treasure Island, San Francisco
- Transbay Transit Center, San Francisco
- Harbor Bay and Marina Village, Alameda
- Downtown Center, Pleasant Hill
- Tri-Valley Technology Park, Livermore
- Dryer Street Triangle, Union City

The locations of the case studies are shown in the map below:



Case Study Results

A summary overview of each case study is listed below:

Treasure Island, San Francisco

- 8,000 residential units
- 551,000 sq ft of commercial, office, and retail space
- Most recently $17 million of bonds issued in 2020

Transbay Transit Center, San Francisco

- 9 high-rise buildings
- 1,666,000 sq ft residential & 2,714,000 sq ft office/retail
- Most recently $34 million of bonds issued in 2021

Harbor Bay and Marina Village, Alameda

- 630 single-family homes
- 71 commercial / industrial parcels with offices, retail
- Most recently $19 million of bonds issued in 2010

Downtown Center, Pleasant Hill

- 10 parcels
- Mainstreet-style shopping, retail stores, central plaza
- Most recently $6 million of bonds issued in 2013

Tri-Valley Technology Park, Livermore

- 186 parcels
- business park offices, hotels, casino, retail, school
- Most recently $16 million of bonds issued in 2015

Dryer Street Triangle, Union City

- 32 parcels
- 104 acres commercial area, retail center, transit center
- Most recently $6 million of bonds issued in 2013

A summary of the CFD taxes for each case study is shown in the table below.

Regional Case Study Examples for Tax or Assessment Levied			Range for Residential			Range for Non-Residential		
Location	Development	District	Low Amount	High Amount		Low Amount	High Amount	
Alameda	Harbor Bay and Marina Village	CFD 1/AD 10	$6,932	$10,215	per unit	$18,287	$216,115	per parcel
Livermore	Tri-Valley Technology Park	CFD 99-1	n/a	n/a	n/a	$16,223	$222,285	per parcel
Pleasant Hill	Downtown Center	CFD 1	n/a	n/a	n/a	$1.25	$2.46	per sq ft
San Francisco	Transbay Transit Center	CFD 2014-1	$5.29	$8.80	per sq ft	$3.80	$5.87	per sq ft
San Francisco	Treasure Island Initial Year	CFD 2016-1	$6.07	$9.17	per sq ft	$1.69	$3.38	per sq ft
	Treasure Island Annually After		$1.70	$2.76	per sq ft	$0.50	$1.01	per sq ft
Union City	Dyer Street Triangle	CFD 97-1	n/a	n/a	n/a	$276	$161,206	per parcel

Notes:
CFD 1 (Harbor Bay) amounts are the initial amount (set in 1989) with a 4% inflation rate (per RMA) to 2022.
AD 10 (Marina Village) amounts are per a 2010 reassessment with no inflation rate (per engineer's report).
CFD 99-1 (Tri-Valley Technology Park) amounts are per a 2000-01 tax levy with no inflation rate (per RMA).
CFD 1 (Downtown Park) amounts are the tax levies established for the 2022 year (per RMA).
CFD 2014-1 (Transbay Transit Center) amounts are the initial amount (set in 2013) with a 2% inflation rate (per RMA for max) to 2022 with the lows on rental residential 1-5 stories and on retail, and the highs on for-sale residential 50+ stories and office/hotel 50+ stories.
CFD 2016-1 (Treasure Island) initial year are the amounts before transition for facilities (set in 2016) with a 2% inflation rate (per RMA) to 2022 with the lows on townhome units and on commercial/retail space, and the highs on tower residential units and on hotel space.
CFD 2016-1 (Treasure Island) annually after are the amounts after transition for services (set in 2016) with a 3.4% inflation rate (per RMA) to 2022 with the lows on townhome units and on commercial/retail space, and the highs on tower residential units and on hotel space.

Preliminary Pro Forma and Tax Financing Plan

The preliminary pro forma assumptions are as follows:

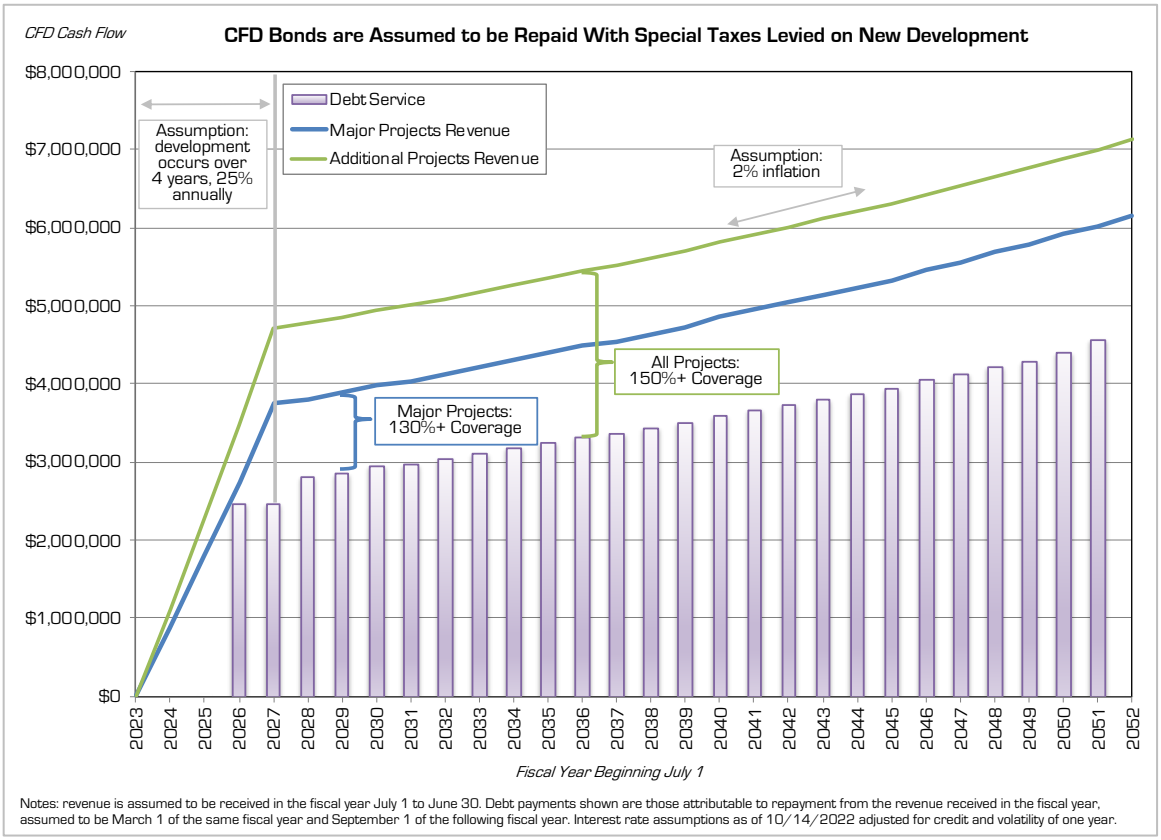
Assumptions	
Pro Forma Assumptions	
Funds to be received	$34.5 million from new development $5.5 million from existing development $40.0 million in total
New development timeline	4 years (2023 – 2026) (25% of planned development occurring per year)
Taxation type	Community Facilities District
Term of financing	30 years
Inflation rate	2% annually
Tax Assumptions	
New development	Identified by its own boundary or per the RMA
Residential tax	$600 per unit annually
Nonresidential tax	$0.75 per square foot annually
Undeveloped property	Can be taxed pending new development
Existing development	Identified by its own boundary or per the RMA
Tax per parcel of property	$90 per parcel annually

The taxes above can be compared to the regional CFD case studies, and it can be seen that the taxes above are relatively low in comparison to the taxes levied in the case studies.

Highlights of Preliminary Pro Forma Results

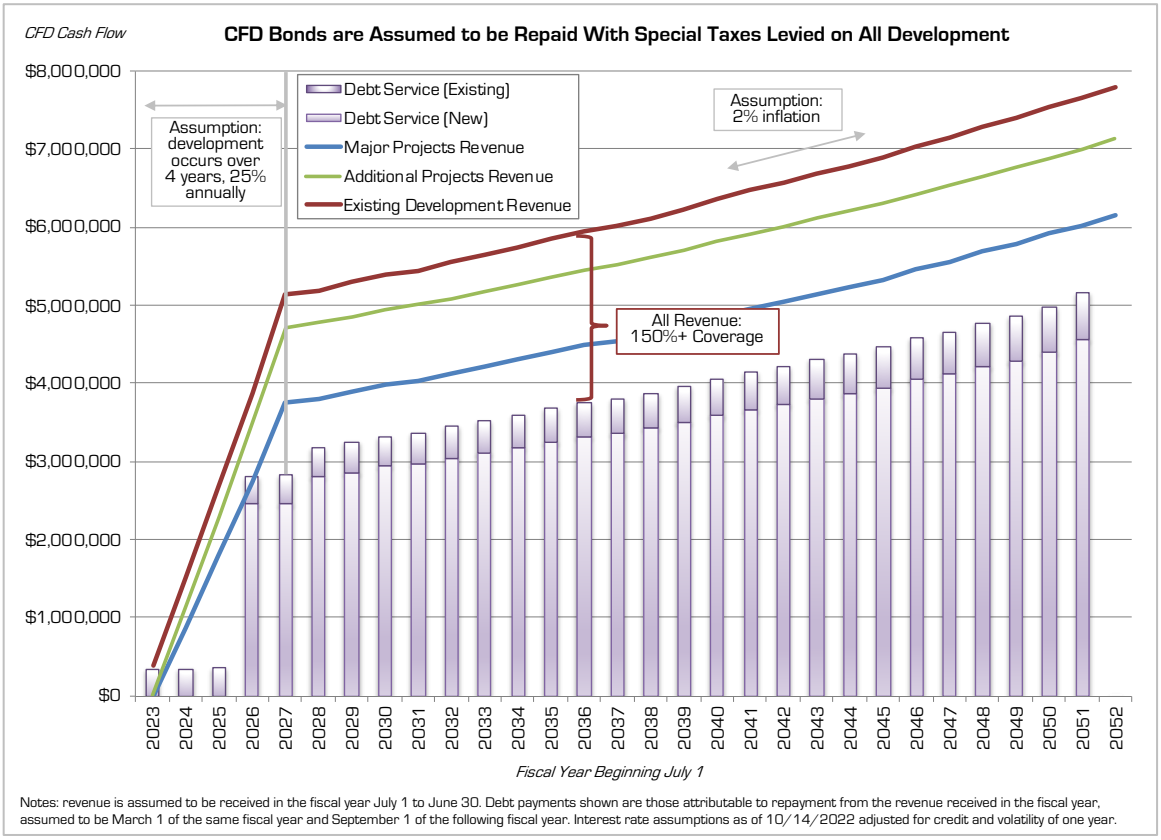
New Development

Under the above assumptions, it is feasible for CFD bonds to be issued to generate the $34.5 million from new development to fund their allocation of the infrastructure costs. The bonds can then be repaid with special taxes levied on the new development. For just the major new developments projects alone, tax revenue has a coverage ratio of 130% (the ratio at which revenue exceeds debt service). Including the minor new development projects, the coverage ratio is 150%. This is illustrated in the graph below.



All Development

Existing development can be included so that their allocation of the infrastructure costs can be funded as well. For all development combined, it is feasible for CFD bonds to be issued to generate the full $40 million to fund the total infrastructure costs. The bonds can then be repaid with special taxes levied on all development. For all new development projects, the coverage ratio is 150%. This is illustrated in the graph below.



Potential Benefits to Developers

There are several potential reasons that developers might benefit from the CFD option over the capacity charge option:

- The CFD tax can be paid upfront or overtime, rather than a capacity charge that must be paid upfront. The option to pay upfront is available every year for the CFD tax, meaning that a property owner can choose to pay annually for some time, and then pay the remainder upfront at a time of their choosing. The capacity charge does not offer such flexibility.
- If the CFD tax is not fully paid up front (at the property owner's option), the tax will be borne by each subsequent property owner following a sale of the property (for the term of the tax, currently assumed to be 30 years in the preliminary pro forma).
- Should developers opt to pay annually, the estimated indicative CFD tax in the first year of taxation totals approximately $3 million for all new development projects. In contrast, the estimated capacity charge totals approximately $37 million for all new development projects. Therefore, the initial expense required to proceed with new development is far less under the CFD tax than it is under the capacity charge.

Potential Benefits to Existing Ratepayers

There are a couple of potential reasons that existing ratepayers might also benefit from the CFD option over the capacity charge option:

- The primary benefit of the CFD option to existing ratepayers is the flexibility to allocate the appropriate share of infrastructure costs to new development in a way that would not be as prohibitively expensive. As a result, this option may help spur advancement of the new development and reduce the concerns of developers and possibly, the City of East Palo Alto as well.
- The CFD option offers the choice to incorporate the existing ratepayers' share of infrastructure costs into the funding to plan for new development. However, there is no requirement that the existing ratepayers fund their share of the infrastructure costs using the CFD. Funds can alternatively come from other sources, such as reserve funds, funds received from existing rate revenue, etc.

Mello-Roos Community Facilities District Formation

Formation of a CFD involves many steps for the Board, District staff, and the professional team. Highlights of the key steps at the Board level are listed below, and it can be completed in as short as a two Board meeting process:

Meeting #1:
Board considers adoption of:

- Goals and policies for the CFD
- Resolution of Intention to establish a CFD
- Resolution to Incur Bonded Indebtedness to finance the infrastructure projects

Meeting #2:

Board holds a public hearing
Board considers adoption of:

- Resolution of Formation of the CFD
- Resolution Calling an Election

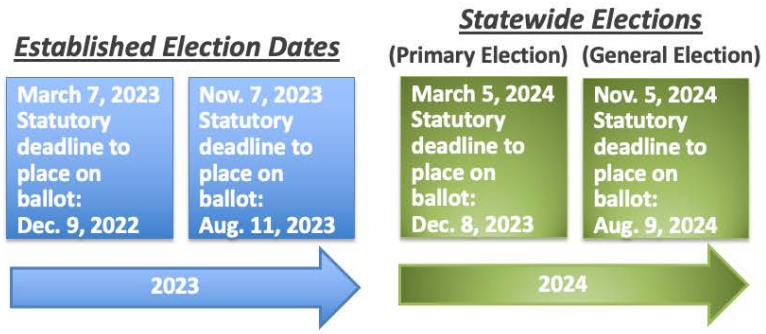
Election Options and Considerations

A CFD election can be conducted either in-person or via mailed ballot. Each option offers different allowable election dates and considerations.

In-Person Election Dates

In-person voting allows for voting at a polling place as well as mailed ballots. It can be held on either an established election date or a statewide election date, which are detailed below.[7]

[7] In-person election dates per Elections Code Section 1000 et seq. Pending confirmation from legal counsel.



Mailed Ballot Election Dates

The mailed ballot option does not provide for voting at a polling place. It can be held on an established mailed ballot election date, as detailed below.[8]

Election Date Considerations

Established Election Date

Other public agencies may choose to conduct elections. If they choose to conduct elections in 2023, many types of elections must be held on an established election date, though there are some exemptions. As a result, it is possible (but not guaranteed) that other public agencies may place items on the ballot on these election dates. There is then a potential for consolidation with other items on the ballot.

Statewide Election Date

Other items will be on the ballot for consolidation on a Statewide election date. This means that the election cost will be less expensive compared to a stand-alone election, and other issues on the ballot may occupy voters' attention. In addition, typically there is higher voter turnout for a Statewide election.

[8] Mailed ballot election dates per Elections Code Section 4000 et seq. Pending confirmation from legal counsel.

Mailed Ballot Election

This would be a single-issue ballot solely focusing on the CFD.

Next Steps

Next steps for consideration are:

- Coordination of the infrastructure funding plan with the LAFCO proceedings
- The preferred type and timing of a CFD election
- Public engagement on the infrastructure needs and funding plan options
- Discussion and involvement of other key stakeholders

We hope this memorandum has been helpful and we look forward to further supporting East Palo Alto Sanitary District. Thank you.

LR:KW/abo

RESOLUTION NO. 56 – 2020

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EAST PALO ALTO

AUTHORIZING THE CITY MANAGER TO EXECUTE ANY AND ALL NECESSARY DOCUMENTS, IN A FORM TO BE APPROVED BY THE CITY ATTORNEY, TO COMPLETE THE ASSIGNMENT OF THE AGREEMENT FOR LEASE OF REAL PROPERTY FROM AMERICAN WATER ENTERPRISES TO VEOLIA NORTH AMERICA, LLC

WHEREAS, the City of East Palo Alto ("City") and American Water Services, Inc. ("AWS"), also known as American Water Enterprises ("AWE"), are parties to an Agreement for Lease of Real Property (Water System) dated May 22, 2001 ("Lease Agreement"), under which AWE leases, operates and maintains the City's water system; and

WHEREAS, the Lease Agreement was amended on July 19, 2016, and expires on May 21, 2026; and

WHEREAS, on June 13, 2018, City staff met with representatives of AWE and Veolia North America, LLC ("Veolia") regarding a proposed assignment of American Water's lease interest in the City's water system to Veolia; and

WHEREAS, pursuant to Section 29 of the Lease Agreement, the City must consent to a proposed assignment of the Lease Agreement before American Water may assign the Lease Agreement, and the consent shall not be unreasonably withheld; and

WHEREAS, on November 11 2018, the City Council authorized the City Manager to notify American Water Enterprises in writing of the City of East Palo Alto's consent to assignment of the Agreement for Lease of Real Property (Water System) from American Water Enterprises to Veolia, subject to conditions outlined in City Council Resolution 5052; and

WHEREAS, for the past year, the City, AWE and Veolia worked with the State Water Resources Control Board (WRCB), Division of Drinking Water on revising the Domestic Water Supply Permit to reflect Veolia as the new operator of the water system; and

WHEREAS, on January 30, 2020, the WRCB issued the City of East Palo Alto Permit No. 02-17-20p-4110024 ("Revised Permit") for operation of the Water System; and

WHEREAS, the WRCB issued the Revised Permit due to the need to reflect the purchase agreement between AWE and Veolia North America, LLC, and the permit recognizes Veolia as the Water System operator effective January 31, 2020; and

WHEREAS, in light of WRCB's issuance of the Revised Permit recognizing Veolia as the Water System operator and the progress made on the transition by AWE and Veolia, City staff recommends issuance of a final City Notification of Consent to Assignment, effective January 31, 2020; and

WHEREAS, the letter will identify any outstanding transition items, however, these remaining issues will no longer serve as a condition precedent to completion of the assignment.

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF EAST PALO ALTO HEREBY authorizes the City Manager to execute any and all necessary documents, in a form to be approved by the City Attorney, to conclude the assignment of the "Agreement for Lease of Real Property" from American Water Enterprises to Veolia North America, LLC.

PASSED AND ADOPTED this 21st day of April 2020, by the following vote:

AYES: Abrica, Gauthier, Moody, Romero, and Wallace-Jones

NOES:

ABSENT:

ABSTAIN:

Regina Wallace-Jones, Mayor

ATTEST:

Walfred Solorzano, City Clerk

APPROVED AS TO FORM:

Rafael E. Alvarado Jr., City Attorney

California-American Water Company

880 Kuhn Drive Chula Vista, California 91914 (619) 656-2400 Fax (619) 656-2406

Ted Jones, Jr.
President

May 3, 2000

Ms. Monika Hudson
City Manager
City of East Palo Alto
2415 University Avenue
East Palo Alto, California 94303

Dear Ms. Hudson:

This letter sets forth the principal terms and conditions for California-American Water Company ("Company") to lease the East Palo Alto Water System ("Water System") from the City of East Palo Alto ("City").

A. Lease of Water System. The Company shall lease from the City certain real property, easements, rights of way and those certain pipes, mains, pumps, wells, and appurtenant facilities constituting all of City's Water System ("Lease"). The term of the lease shall be thirty (30) years or other mutually agreed upon term.

B. Service and Other Obligations. Throughout the Term of the Lease, the Company shall at its own expense: (1) operate the Water System in accordance with customary utility practices and the procedures and administrative rules of the City; (2) perform routine and emergency repair and maintenance of the Water System in accordance with customary utility practices; (3) bill all customers and collect and process customer payments; respond to customer inquiries on water service, bills, leaks, or other concerns; investigate customer complaints; process applications for new or transfer of water service; and collect customer deposits for new water service and construction meters; (4) maintain twenty-four (24) hour on-call response to emergency calls or customer inquiries; (5) perform any and all water sampling, analysis, testing and reporting for water sources, distribution mains or customer premises as required by the U.S. Environmental Protection Agency and the California Department of Health Services.

C. Capital Investment. The Company agrees to invest Eight Million Dollars ($8,000,000) or amount as required in needed facility improvements for the Water System ("Investment") over the next ten years. A reasonable return on the Investment will be part of the Lease Agreement.

D. Best Efforts. The parties agree to: (a) negotiate in good faith and use their best efforts to arrive at a mutually acceptable definitive lease agreement ("Lease Agreement") for approval, execution and delivery by May 30, 2000; (b) cooperate with one another and proceed, as promptly is reasonably practicable, to take all steps necessary to obtain the approval of the Local Agency Formation Commission ("LAFCO") for the transfer of the East Palo Alto Waterworks County District to the City.

E. Conditions. The closing of the transaction contemplated herein ("Closing") is subject to the following conditions: (a) execution of a definitive lease agreement ("Lease Agreement") that contains the terms set forth in this Letter Agreement; (b) approval of the Lease Agreement by the City Council and the Board of Directors of the Company; and (c) approval of a Financial Plan by the City Council.

F. Expenses. Each party shall be responsible for its own expenses incurred in connection with the proposed transaction.

G. Termination. This Letter Agreement shall automatically terminate and be of no further force and effect upon the earlier of: (a) execution of the Lease Agreement by the City and the Company; or (b) the mutual agreement of the City and the Company.

H. Confidentiality. The parties shall mutually approve all announcements and publicity regarding the Acquisition.

I. Miscellaneous. This Letter Agreement may be signed in two or more counterparts and shall constitute one and the same agreement. California law shall govern this Letter Agreement.

If you agree to the terms of the proposed Acquisition set forth above and wish to proceed with the transaction contemplated hereby, please sign this Letter Agreement in the space provided below and return an executed copy to Chris Alario, Director of Business Development, California-American Water Company, 880 Kuhn Drive, Chula Vista, California, 91914.

Thank you for your consideration of this offer.

Sincerely,

CALIFORNIA-AMERICAN WATER COMPANY

By: _____
Ted Jones, Jr.
President

Accepted and Agreed to as of this 4th day of May, 2000

CITY OF EAST PALO ALTO

By: _____
Monika Hudson
City Manager

AGREEMENT FOR LEASE OF REAL PROPERTY (WATER SYSTEM)

THIS AGREEMENT FOR LEASE OF REAL PROPERTY (WATER SYSTEM) ("Lease") is entered into as of April 9, -, 2001, between THE CITY OF EAST PALO ALTO, a municipal corporation of the State of California ("City"), and AMERICAN WATER SERVICES, INC., a Delaware corporation (the "Company"), a wholly-owned non-regulated subsidiary of American Water Works Company, Inc.

WITNESSETH:

WHEREAS, through the Water System, City provides water service to approximately 3,800 domestic and industrial customers in the Service Area;

WHEREAS, City desires to lease the Water System to the Company, and the Company desires to lease the Water System from City, for the period and upon the other terms and conditions set forth herein;

WHEREAS, the Company intends to utilize its local affiliate, Cal-Am, to operate, maintain and manage the Water System; and

WHEREAS, the Company and Cal-Am possess the resources, capacity and expertise to operate, maintain and manage the Water System.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and for good and valuable consideration, the receipt and adequacy of which the parties hereby acknowledge, City and the Company hereby agree as follows:

Section 1. Defined Terms.

For purposes of this Lease, the following terms shall have the meanings set forth below:

"*Cal-Am*" means California-American Water Company, an investor-owned water utility regulated by the CPUC that provides water service to approximately 105,000 domestic and industrial customers in six separate water systems located in Monterey County, Los Angeles County, Ventura County and San Diego County that also is a wholly-owned subsidiary of American Water Works Company, Inc.

"*Capital Charge*" means the cost to be charged to the customers of the Water System to recover the Capital Costs and other costs related to System Improvements.

"*Capital Costs*" means the cost of financing, designing, permitting and constructing recommended System Improvements and other costs associated therewith.

"*Commencement Date*" means the effective date upon which City assumes ownership of the East Palo Alto County Waterworks District.

"*CPUC*" means the California Public Utilities Commission.

"*Environment*" means soil, land, surface or sub-surface strata, surface waters (including navigable waters, oceans, streams, ponds, drainage basins and wetlands), groundwater, drinking water supply, stream sediments, ambient air, plant and animal life, and any other environmental medium or natural resource.

"*Environmental Law*" means any Legal Requirements designed to minimize, prevent, punish or remedy the consequence of actions or omissions that damage or threaten the Environment or public health and safety.

"*Environmental Liabilities*" means any costs, expenses or liabilities relating to or arising from any violation of any Environmental Law, including, without limitation, any potential or actual environmental clean up or remediation of any Hazardous Substances that may be located on any property that constitutes part of the Water System, or that enter the water delivered to customers by the Water System, or any investigation of or environmental reports prepared with respect thereto.

"Financial Report" means that report required pursuant to Section 6D.

"*Franchise Fee*" means the franchise fee required pursuant to Paragraph 6B.

"*Governmental Body*" means any governmental officer, agency, authority or entity.

"Government Charges" means any new City, State or federally imposed charges, taxes, license or permit fees, including, without limitation, the imposition of a possessory interest tax on the Company's interest in the Water System.

"*Gross Revenues*" means the service charges, water charges and miscellaneous charges generated by the Water System and described in the City's Schedule of Rates for Water Service actually collected by the Company in a particular period. The term Gross Revenues specifically excludes utility tax collections and service connection charges and facility buy-in charges as described in the City's Schedule of Rates for Water Service and Surcharges.

"*Hazardous Substance*" means any substance, material or waste which is defined as "hazardous waste," "hazardous material," "hazardous substance," "extremely hazardous waste," "restricted hazardous waste" or similar term under any provision of any federal, state or local law and includes, without limitation, hydrocarbons, petroleum, gasoline, crude oil or any products, by-.products or fractions thereof.

"*Initial Rates*" means the Water Service Rates to customers in effect immediately prior to the Commencement Date.

"*Legal Requirement*" means any federal, state, local, municipal or other administrative order, constitution, law, ordinance, principle of common law, regulation, statute, order or other legal requirement.

"b*Lease Payment*" means the lease payment required pursuant to Paragraph 6A.

"Net Capital Investment" means the amount of capital funds invested by the Company for System Improvements, less principal sum payments.

"Operations Report" means that report required pursuant to Section 7F.

"*Request for Rate Relief*" means a written request for rate relief provided by the Company to City pursuant to which the Company shall propose to City reasonable rates and charges.

"*Service Area*" means that certain real property described on Exhibit A attached hereto and in which the Water System is located (as such service area may change from time to time during the term of this Lease).

"*System Improvements*" means necessary capital improvements, replacements, or repairs to the Water System.

"*System Improvement Report*" means that report required pursuant to Section 9.

"*Term*" means that period commencing on the Commencement Date and ending 25 years thereafter, unless terminated earlier as provided in this Lease.

"*Water System*" means that certain real property, easements and rights of way and those certain pipes, mains, pumps and appurtenant facilities (including, without limitation, buildings, pump houses, sheds and other structures) constituting all of City's water system within the Service Area, as more specifically described in Exhibit B attached hereto.

"*Water Service Rates*" means those rates for water service charged to customers of the Water System.

Section 2. Lease of Water System.

City hereby leases to the Company, and the Company hereby leases from City, the Water System described in Exhibit B with such additions or improvements to the Water System that may occur from time-to-time while this Lease is in effect. City agrees to provide the Company with copies of maps, drawings, plans and specifications of the Water System, along with customer service and account records in a form acceptable to both parties, at least 30 days prior to the Commencement Date, defined below. The Company agrees to use its best efforts to keep all customer information confidential, whether received from City or developed during the Term of the Lease.

Section 3. Revenues and Expenses.

Except as set forth hereafter, City shall be obligated to pay all expenses that relate to the operation of the Water System that are incurred or accrue prior to or after the Term. In addition, City shall pay to the Company any portion of the Operation and Maintenance Service Fee and any other fees due to Cal-Am under the terms of the Service Agreement between Cal-Am and the East Palo Alto County Waterworks District dated July 25, 2000, for the period prior to the Term of this Agreement. The Company shall be obligated to pay all expenses that relate to the

operation of the Water System that are incurred or accrue during the Term. In no event, however, shall the Company be liable or responsible for any Environmental Liabilities unless the Company has caused the violation of the Environmental Laws that created the Environmental Liabilities. City shall be liable and responsible for all such Environmental Liabilities not caused by the Company and shall indemnify and hold harmless the Company from all costs and expenses arising therefrom.

Section 4. Use of Water System.

Subject to the provisions of this Lease, the Company agrees to use the Water System to furnish potable water service and water service for fire protection to all customers in the Service Area in accordance with all applicable Legal Requirements that are in effect during the Term.

The Company may not retire, sell, transfer, convey, or encumber any real property or personal property of the Water System without the prior written consent of City, which consent may not be unreasonably withheld.

The Company is granted the exclusive right to provide water service to customers within the City corporate limits. The City agrees not to allow the creation of additional investor-owned or mutual water companies within the City's corporate limits.

Section 5. Title

All System Improvements to the Water System during the Term shall become part of the Water System and title to such System Improvements shall immediately vest in City. Any other property added to or incorporated into the Water System by the Company pursuant to its obligations under this Lease or which are added by new developments shall be deemed part of the Water System for purposes of this Lease and title to such property shall immediately vest in City. The Company shall not own the Water System or any part thereof.

Section 6. Payments and Transfers of Other Funds to the City

A. Lease Payment. As consideration of the Lease of the Water System, the Company shall pay the City an annual Lease Payment in an amount equal to six percent (6%) of the annual Gross Revenues generated by the Water System. The Company shall make Lease Payments to the City on the fifteenth (15^{th}) business day of each month equal to six percent (6%) of the prior month's Gross Revenues.

B. Franchise Fee. In addition, the Company shall pay the City an annual Franchise Fee equal to five percent (5%) of the annual Gross Revenues generated by the Water System. The Company shall pay Franchise Fees to the City on the fifteenth (15^{th}) business day of each month equal to five percent (5%) of the prior month's Gross Revenues.

C. Utility Tax. The Company shall collect the City's utility tax and transfer all such collections to the City on the fifteenth (15^{th}) business day of each month.

D. Financial Report. The Company shall on annual basis provide City a reasonably detailed Financial Report on the Water System that presents in all material respects the financial

position of the Water System. The Financial Report shall contain a balance sheet and related statements of income, cash flow and capital investment by the Company that conform to accounting principles generally accepted in the United States of America. The Company shall deliver the Financial Report to City sixty (60) days after the close of the fiscal year.

E. Financial Audit. City shall have the right to conduct at any time, at City's expense, an audit of the financial statements of the Water System. The Company shall provide any accounting, financial, or other report or information related to the Company's operation and maintenance of the Water System reasonably requested by City.

Section 7. Operation of Water System.

A. Repair, Maintenance and Operation: The Company shall operate the Water System and pay all costs and expenses relating to its operations, provided, however, that if the total annual maintenance and repair costs exceed $110,000, the excess costs shall be considered System Improvements and shall be included in Capital Charges charged to the customers in the year following the year incurred pursuant to Section 9 of this Lease. City shall not be obligated to pay any cost or expense in connection with or related to the management, operation, improvement, repair or maintenance of the Water System during the Term of this Lease except for any Environmental Liabilities as defined in Section 3. The Company shall undertake any System Improvements and repairs and perform routine and emergency maintenance of the Water System in accordance with customary utility practices. All System Improvements to the Water System shall be subject, however, to the procedures set forth in Section 9 hereof.

B. Customer Service Obligations: The Company shall have the following customer service obligations: sending monthly or bimonthly bills, at the Company's election, to all customers receiving water service in the Service Area; payment processing; responding to customer inquiries on water service, bills, leaks or other concerns; collecting bills; processing applications for new or transfers of service; collecting customer deposits for new service; collecting construction meter deposits; investigating customer complaints.

C. Emergency Service Obligations: The Company shall have the following emergency service obligations while the Lease is in effect: maintaining 24 hour on-call response to emergency calls or customer inquiries; providing an emergency or natural disaster operations plan; maintaining an emergency communications system; providing or having access to equipment required to perform emergency repair work to vital system equipment and water mains.

D. Water Quality Testing Obligations: The Company shall have the following water quality testing obligations while the Lease is in effect: performing, or causing to be performed, by a State of California certified laboratory and all water sampling, analysis, testing and reporting required for water sources, distribution mains or customer premises by the U.S. Environmental Protection Agency, State of California Department of Health Services and Office of Drinking Water and the County Environmental Health Department, or acts of the U.S. Congress or California Legislature; scheduling and collecting water samples to test for microbiological, inorganic and organic constituents; transportation to a certified lab; preparing monitoring plans; sample collection training; reporting to appropriate regulators; record keeping;

analysis interpretation; special or emergency sample collection and analysis, and emergency notification to affected customers, if required; preparing and distributing all published and distributed customer reports on water quality; new well or water source sampling and analysis; response to customer inquiries on water quality; coordination of cross-connection control and potential contamination issues; conducting an annual system survey with the California State Department of Health Services; obtaining any necessary permits and compliance with appropriate air district regulations; providing hazardous materials control program, and ensuring all operator certification compliance with State and Federal requirements.

E. Other Service Obligations: The Company shall have the following additional service obligations while the Lease is in effect: implement a water conservation program; maintain distribution system maps and plat maps; prepare any required urban water management plans; and in general, to do all such acts and perform all such services that are required to operate the Water System in a manner similar to that which is customary and standard in the water utility industry, subject, however, to the provisions of this Lease.

F. Operations Report: The Company shall on annual basis provide City a reasonably detailed Operations Report on the Company's operation and maintenance of the Water System. The Operations Report shall include but not limited to reports on customer inquiries, bad debt, conservation activities, meter replacements, water testing results, system leaks and other pertinent Operations and Maintenance activities and data related to the Water System. The Company shall deliver the Operations Report to City sixty (60) days after the close of the fiscal year. The Company shall periodically provide City any other report or information related to the Company's operations and maintenance of the Water System that is reasonably requested by City.

G. General Operation: Unless inconsistent with the specific terms of this Lease, the Company shall operate the Water System according to the procedures which are customary and standard in the water utility industry and in compliance with all Legal Requirements.

Section 8. Rates and Charges.

A. Rate Relief. During the first three years of the Term of this Lease, without the prior written consent of City, the Company may not increase the Water Service Rates, except for the extraordinary rate relief described in Paragraph 8B, the surcharges described in Paragraph 8C and the Capital Charges for System Improvements described in Section 9. The Company shall propose to City reasonable rates and charges from time-to-time thereafter for water service for customers served by the Water System by a Request for Rate Relief. The Request for Rate Relief shall: (i) be submitted in writing and in the format set forth in Exhibit C; (ii) include pertinent work papers used to develop the Request for Rate Relief; and (iii) set forth the reasons that support the Company's Request for Rate Relief. The Company shall be entitled to recover in its Water Rates all necessary and reasonable costs related to performing the services set forth in this Lease and a fair and reasonable rate of return. The Company shall be entitled to earn an after-tax rate of return of eight percent (8%) on Gross Revenues. If in any year the Company's after-tax rate of return is below 8% ("Shortfall Year"), the City agrees to enact Water Rates that will provide such a return to the Company in the calendar year following the Shortfall Year. All Requests for Rate Relief by the Company shall require approval by City, which approval shall

not be unreasonably withheld. Any disapproval shall state detailed reasons therefor. In determining reasonable rates and charges for water service, City shall consider all relevant information, including current CPUC approved rates and current proposed rates for the water companies operated by Cal-Am.

B. Extraordinary Rate Relief. City shall act on all Requests for Rate Relief within 60 days of receipt of the request. In cases of natural disaster, other emergencies, acts of God or other extraordinary events (including, without limitation, new governmental rules, regulations or permit requirements), City recognizes that extraordinary rate relief on an expedited basis may be necessary and City agrees to expeditiously consider any such reasonable Request for Relief. If City does not act on any Request for Rate Relief either within the 60 day period or on a expedited basis, as the case may be, and such Rate Relief eventually is approved or ordered, the water rates and charges shall be adjusted to recover from customers over a reasonable period of time such amounts as are necessary to restore the Company to the same financial position it would have been in had the rate increase been effective at the end of such 60 day period.

C. Surcharges. Notwithstanding the foregoing, the Company may upon written notice to the City, pass through to customers in the Service Area by means of a surcharge included on customer bills, in a manner substantially similar to that permitted by the CPUC, any increase in Government Charges or any increase in the cost of water or power (to the extent not already reflected in rates) and any property tax levied against the Company as a result of this Lease (as discussed in Section 20 below). Any surcharges also may include the additional amount that the Company will have to pay to City as a Lease Payment or Franchise Fee as a result of the increased water or power cost or Government Charges. The Company shall promptly pass through in a manner substantially similar to that permitted by the CPUC any decreases in water or power costs or Government Charges. The Company shall, at City's request, provide City with any information which City may reasonably request documenting any increases or decreases in the cost of water or power or any new Government Charges. The Company may also impose conservation or rationing penalties on those customers exceeding their allocations, if mandatory water rationing involving penalties is imposed on Water System customers by any water district or other Governmental Body.

Section 9. System Improvements.

Subject to the terms and conditions contained in this Section, the Company shallinvest a maximum of $10 million in the Water System for System Improvements during the first 10 years of this Lease. Further, the Company shall use its best efforts to obtain on behalf of the City, or to assist the City in obtaining, government grants and low-interest loans for System Improvements. The Company shall provide City with a reasonably detailed System Improvement Report recommending, on a priority basis, System Improvements to be undertaken in the following year to preserve or upgrade the Water System. The Company shall deliver the System Improvement Report to City prior to the commencement of the City's fiscal year to which it relates so that City may incorporate it into its budget for the applicable year. All System Improvements must be reviewed and approved by City in writing prior to any implementation thereof, which writing shall specify the source of the necessary funds to make the System Improvements (*e.g.*, City funds, government grants or low-interest loans or Company funds). If for any reason this Lease

is terminated prior to the expiration of the Term, the Company shall have no further obligation to invest funds in the Water System beyond the funds invested at the date of termination.

The annual System Improvements Report shall also contain a proposed Capital Charge, which shall be billed to the customers of the Water System as a surcharge.City shall institute such a Capital Charge to recover all financing and other costs related to System Improvementsfor the Water System. The Company shall be entitled to recover in a Capital Charge all necessary and reasonable financing and other costs related to the Net Capital Investment in the Water System, including but not limited to (i) recovery of financing costs related to the debt portion of the Net Capital Investment (ii) a fair and reasonable return on the equity portion of the Net Capital Investment; and (iii) recovery of the principal sum of the Net Capital Investment at an annual rate of four percent (4%) of the Net Capital Investment. The recovery period shall be adjusted to provide full recovery over the remaining term of the Lease. The Company shall not be obligated to fund or construct any System Improvements unless City approves a Capital Charge recommended by the Company for such System Improvements.

If this Lease is terminated for any reason, , then City shall be required to pay the Company the Net Capital Investment, plus any unpaid financing or other costs related to the Net Capital Investment. City shall make payment to the Company prior to the effective termination date of this Lease.

Section 10. Evaluation of System.

The Company, upon reasonable advance written request of City or its agent, shall permit City or City's agent to conduct a comprehensive inspection of the Water System, including, but not limited to, field inspections, maintenance records and reports, customer complaints and System Improvement installations schedule and plans, in order to assess the condition of the Water System.

If City determines that all or part of the Water System is not being operated or maintained in accordance with customary industry standards, City shall provide written notice to the Company describing the deficiencies which City wishes to be corrected. The Company, shall within 75 days thereafter, file with City its written response describing which deficiencies the Company agrees need to be corrected together with a plan to correct those deficiencies.

If the Company, in its written response to City, disagrees with any or all of the deficiencies described in City's notice or if the Company does not agree to the plan for deficiency corrections proposed by City, the parties shall negotiate in good faith in an attempt to resolve all disputed issues. If agreement cannot be reached between the parties on any or all disputed issues, then the parties agree to submit the unsolved issues to arbitration in accordance with the provisions set forth in Section 30 below.

Section 11. Water Supply.

The City shall assign to the Company and the Company shall accept, the rights and duties of all water supply contracts with respect to the Water System that the City holds at the Commencement Date which previously have been reviewed and approved by the Company, including the Master Water Sales Contract with the San Francisco Public Utilities Commission.

Any bills or invoices received by the City pursuant to such contracts for water delivered after the Commencement Date shall be promptly forwarded to the Company for payment. If assignment or transfer of any other supply or operating contracts is deemed necessary by either the Company or City, City shall cooperate with the Company in completing such assignment or transfer for the duration of this Lease. The City also acknowledges that the Company will receive and deliver water in the Water System from Hetch Hetchy reservoir that will be treated by the City of San Francisco, and the Company shall not be liable or otherwise responsible for the quality of any such water as delivered to it by the City of San Francisco.

Section 12. Customer Billing and Collections.

A. The Company shall bill and collect the charges to customers receiving water through the Water System in accordance with the City's Schedule of Rates for Water Service and administrative rules that govern Water Service Rates, billing and collection of water service charges, which Water Service Rates may be adjusted from time-to-time pursuant to Sections 8 and 9. The Company may propose, however, revisions to City's administrative rules governing billing, collection, payment and credit and City shall approve such revisions if they are reasonable and comply with laws applicable to municipality-owned water systems. The Company shall submit any proposed revisions of such rules to City for prior approval.

B. To the extent required by law, the Company shall bill and collect on behalf of City from Water System customers any additional amounts which City may assess as a City user's tax on such customers and shall promptly pay all such amounts to City.

C. City agrees to cooperate with the Company in collecting unpaid/delinquent accounts and, when necessary and legally appropriate, impose property tax liens against customers whose accounts have been unpaid for an unreasonable period of time. In doing so, City shall not be obligated, however, to pursue collection proceedings on behalf of the Company. The City authorizes the Company to act on its behalf in exercising all powers and remedies available to the City in collecting unpaid/delinquent accounts.

D. The meters of all customers in the Service Area shall be read prior to the Commencement Date in accordance with a schedule agreed upon by City and the Company. All monies received by either City or the Company pertaining to water service furnished prior to the Commencement Date shall be and remain the property of City. Payments of Gross Revenues received by either City or the Company for water service furnished during the Term shall be and remain the property of the Company. If City receives any such payments it shall turn them over to the Company. Payments collected by the Company on accounts that were delinquent prior to the Commencement Date shall be delivered to City. Upon expiration or earlier termination of the Term, the amounts due through such expiration or termination date from all customers shall be calculated by the Company and, in lieu of collection and retention of such amounts by the Company, the Company shall be promptly paid such amount by City less a reasonable amount for bad debts based on the collection history of the customers in the Service Area.

Section 13. Insurance.

A. Obligations of the Company. During the Term, the Company at its own cost and expense shall maintain insurance, issued by a carrier or carriers as follows:

(1) Commercial general liability insurance in the single limit amount of not less than $5,000,000, written on an occurrence basis. This insurance shall include coverage for injury (including death) or damage to persons and/or property arising out of the operations of the Company pursuant to this Lease. The policy shall include coverage for liability assumed under this Lease for personal injury, property damage and all other insurable claims as an "insured contract" for the performance of the Company's obligations under this Lease.

(2) Workers' compensation insurance, or a certificate of self-insurance, insuring against liability under the Workers' Compensation Insurance and Safety Act now in force in California, or any act hereafter enacted as an amendment or supplement thereto or in lieu thereof. This insurance shall fully cover all persons employed by the Company in connection with its operations under this Lease for claims of injury (including death) arising in connection with their employment by the Company pursuant to its operation and management of the Water System.

(3) Automobile (vehicle) liability insurance on an occurrence basis for bodily injury and/or property damage in a single limit amount of not less than one million dollars ($1,000,000).

B. All policies of insurance required by this Lease shall contain an endorsement in favor of City.

C. The parties shall periodically review from time-to-time the insurance required hereby to determine if increases in the minimum limits of such insurance are necessary.

D. All insurance shall be written under policies issued by insurers of recognized responsibility, licensed or permitted to do business in the State of California and reasonably acceptable to City.

E. All policies of insurance shall provide that such policies may not be canceled or materially changed without at least 30 days' prior written notice to the Company and to City. A certificate of insurance shall be delivered to City, prior to the Commencement Date and the expiration dates of expiring or non-renewed policies.

F. The limits of insurance required by this Lease or as carried by the Company shall not limit the liability of the Company nor relieve the Company of any obligation hereunder.

G. The Company shall cause each insurance policy obtained by it to provide that the insurance company waives all rights of recovery by way of subrogation against City in connection with any damage covered by any policy.

Section 14. Periodic Reviews.

Either party shall have the option to request a meeting at least 180 days prior to the expiration of each five year period of the Term to evaluate the performance of the Company under the Lease and the financial feasibility for the Company to continue the Lease under its existing terms in light of past events and anticipated future events. If either party requests such a meeting, the parties shall negotiate in good faith on all issues relating to the terms of the Lease or performance under the lease, as to which they may disagree. After the conclusion of these good faith negotiations, either party shall be entitled to terminate the Lease by providing the other party with written notice of termination at least 60 days prior to the 5th, 10th, 15th or 20th anniversary of the Commencement Date, as the case may be, if such party reasonably concludes that it is not in its best interest to continue the Lease.

Section 15. Liens and Encumbrances.

City shall keep the Water System and all revenues arising from its operation free and clear of all liens, security interests and encumbrances except for those consented to by the Company. The Company shall keep its leasehold interest in the Water System created pursuant to this Lease free and clear of all liens, security interests and encumbrances, except for those consented to by the City.

Section 16. Surrender Upon Expiration or Termination.

Upon expiration or termination of this Lease, the Company agrees that it shall surrender to City the Water System in good order and condition and in a state of repair that is consistent with prudent use and maintenance, subject to the City having approved the System Improvements and related Capital Charges proposed from time-to-time by the Company.

Section 17. Representations and Warranties.

A. Representations and Warranties of City. City hereby represents and warrants to the Company that:

(1) City is duly organized and an existing municipal corporation under the laws of the State of California and is duly authorized to execute and deliver this Lease.

(2) City has the power, authority and legal right to enter into and perform this Lease and the execution, delivery and performance hereof by the City (i) have been duly authorized by City, acting by and through its City Council and Mayor, (ii) do not require any other approvals by any Governmental Body, (iii) will not violate any Legal Requirement applicable to City, and (iv) do not constitute a default under, or result in the creation of, any lien, charge, encumbrance or security interest upon the Water System or any agreement or instrument to which City is a party that relates to the Water System or by which the Water System may be bound or affected.

(3) City owns the Water System free and clear of all liens, security interests and encumbrances.

(4) This Lease has been duly entered into by City and constitutes a legal, valid and binding obligation of City, enforceable against City in accordance with its terms.

(5) There is no action, suit or proceeding, at law or in equity, before or by any court or governmental authority, pending or threatened against City, or otherwise affecting the Water System, wherein an unfavorable decision, ruling or finding would materially adversely affect the performance by City of its obligations hereunder, or which, in any way, would adversely affect the validity or enforceability of this Lease, the operation of the Water System by the Company or any other agreement or instrument entered into by City in connection with the transactions contemplated hereby.

(6) The Water System is being operated in compliance, in all material respects, with all Legal Requirements. Except as described in Exhibit D, there are no outstanding complaints, orders, citations, notices or orders of violation or non-compliance issued with respect thereto under any Legal Requirements, nor does City know or have reasonable grounds to know of any facts which could give rise to a notice of non-compliance under any Legal Requirements.

(7) The Water System is being operated in accordance with all Legal Requirements and all applicable permits have been obtained with respect thereto. City has no knowledge of any proceeding or application which has been instituted or which is pending to amend the terms of any permit issued in connection with or with respect to the operation and maintenance of the Water System. All permit applications required to be filed and all permit fees required to be paid in connection with the Water System have been filed and paid, as applicable.

(8) City has no knowledge of any claim, proceeding, suit or demand alleging responsibility for damage to or destruction of tangible property, including the loss of use resulting therefrom or bodily injury, sickness, disease or death, in any way related to the operation and maintenance of the Water System.

(9) The Water System has been operated and it is in compliance with all material terms of the agreements and contracts relating to its operation and no party thereto is in material violation of or in default thereunder.

(10) The City represents and warrants that the Water System is in compliance with all applicable Legal Requirements and has been designed, installed and maintained to allow continued operation to meet all applicable Legal Requirements currently in existence or known to become effective during the term of this Lease and the Water System does not pose a known undue risk of liability to the Company as its operator. The City further represents and warrants that there is no soil or groundwater contamination or any other condition, defect, occurrence, threatened occurrence or event that could produce soil or groundwater contamination associated with the Water System or that could violate any Environmental Laws except as specifically identified and described on Exhibit E attached hereto.

B. Representations and Warranties of the Company. The Company hereby represents and warrants to City that:

(1) The Company is a corporation duly organized and existing under the laws of the State of Delaware and is qualified to do business in the State of California.

(2) The Company has the power, authority and legal right to enter into and perform its obligations set forth in this Lease, and the execution, delivery and performance hereof (i) have been duly authorized, (ii) do not require the approval of any Governmental Body, (iii) will not violate any Legal Requirements applicable to the Company or any provisions of the organizational documents of the Company, and (iv) do not constitute a default under or result in the creation of, any lien, charge, encumbrance or security interest upon any assets of the Company under any agreement or instrument to which the Company is a party or by which the Company or its assets may be bound or affected.

(3) This Lease has been duly entered into and constitutes a legal, valid and binding obligation of the Company, fully enforceable against the Company in accordance with its terms.

(4) There is no action, suit or proceeding, at law or in equity, before or by any court or governmental authority, pending or, to the best of the Company's knowledge, threatened against the Company, wherein an unfavorable decision, ruling or finding would materially adversely affect the performance by the Company of its obligations hereunder, or which, in any way, would adversely affect the validity or enforceability of this Lease, the operation of the Water System by the Company or any other agreement or instrument entered into by the Company in connection with the transactions contemplated hereby.

Section 18. Default and Remedies.

A. The occurrence of any of the following shall constitute a default by the Company:

(1) If the Company fails to make any payment to City or to any third party required by this Lease as and when due, or to obtain and maintain any insurance required by this Lease, where such failure continues for 30 days following receipt of written notice from City specifying the failure;

(2) If the Company fails to perform any of its other covenants or agreements contained in this Lease, where such failure continues for 60 days following receipt of written notice from City specifying the failure;

(3) Notwithstanding subsection (2) above, in the case of a failure to perform which cannot feasibly be cured within 60 days (for example, a major repair to the Water System), a default shall only occur if the Company fails to commence and diligently proceed toward full performance of the cure within 60 days following receipt of written notice from City specifying the failure, or if the Company fails to complete such performance within a reasonable time thereafter; or

(4) If (a) the Company becomes bankrupt or insolvent or makes any general arrangement or assignment for the benefit of creditors; (b) if the Company becomes a "debtor" as defined in 11 U.S.C. Section 141 or any successor statute thereto (unless, in the case of a petition filed against the Company, the same is dismissed within 90 days); (c) if a trustee or receiver is

appointed to take possession of substantially all of the Company's assets or of the Company's interest in this Lease and possession is not restored to the Company within 60 days; or (d) if a writ of attachment or execution is levied on, or there is a judicial seizure of, substantially all of the Company's assets or of the Company's interest in this Lease and such seizure is not discharged within 60 days.

B. If City shall default in performing any of its covenants or agreements contained herein, including the unreasonable withholding of approval of Requests for Rate Relief, and such default shall continue for a period of 60 days after receipt by City from the Company of written notice specifying the nature of the default, then the Company may at its option, upon 60 days written notice, cancel and terminate this Lease. In the case of a default which cannot feasibly be cured within 60 days, if City fails to commence performance and diligently proceed toward full performance within 60 days after receipt of notice by the Company of City's failure to perform or fails to complete performance within a reasonable time thereafter, the Company may, upon 60 days prior written notice, terminate this Lease. The Company shall be entitled to all legal and equitable remedies provided by law if it terminates this Lease in accordance with this Paragraph 18B.

C. In the event of a default by the Company, the City may terminate this Lease on 60 days prior written notice. Alternatively, the City may elect to not terminate the Lease during the duration of the default and shall have the right to continue receiving payments hereunder and other required performances by the Company when due hereunder.

D. Notwithstanding any provision of this Section 18 to the contrary, if a default or failure to perform by the Company poses a threat to public health or safety, City shall so notify the Company, and if the Company fails to take corrective action within the time specified in such notice, City may enter the Water System and take all necessary action at the Company's expense. The Company shall promptly reimburse City for its costs.

E. Each party's performance under this Lease shall be excused if the party is unable to perform because of causes beyond its reasonable control, including but not limited to Acts of God, the acts of civil or military authority, floods, earthquakes, riots, strikes, interruption of water deliveries from the San Francisco Public Utilities Commission and commercial impossibility. In the event of any such force majeure, the Company will notify the other party within 24 hours of the existence of such force majeure event and shall be required to resume performance of its obligations under this Agreement upon the termination of the force majeure event.

F. Any disputes regarding the occurrence of a default hereunder, or the consequences thereof, shall be subject to the provisions of Section 30 below regarding arbitration.

Section 19. Discharge of Liens.

The Company shall pay and discharge all claims for materials, parts, labor, water, power and other consumables and supplies furnished at the Company's request upon or to the Water System and to keep the Water System free and clear of all liens resulting from such claims. City

agrees to pay and discharge all claims and obligations for materials, parts, labor, water, power and other consumables and supplies furnished at City's request upon or to the Water System prior to the commencement of the Term of this Lease.

Section 20. Taxes and Assessments; Possessory Interest.

The Company shall pay all taxes, assessments, fees, levies, charges, license or permit fees and other government charges of any kind or nature while this Lease is in effect levied, charged, assessed or imposed upon or against the Water System. The City shall pay all taxes, assessments, fees, levies, charges, license or permit fees and other government charges of any kind or nature levied, charged or imposed upon or against the Water System prior to the Commencement Date of the Lease. Without limiting the generality of the foregoing, the Company acknowledges that this Lease may create a possessory interest which may be subject to property taxation and that the Company may be subject to the payment of property taxes levied on such interest. Any such tax shall be the sole responsibility of the Company; provided, however, the Company may include any such property tax as a surcharge to be billed to customers pursuant to Paragraph 8C.

Section 21. Compliance with Law.

Except as otherwise provided in this Lease, the Company shall, at the Company's sole cost and expense, diligently and in a timely manner, comply in all material respects with all applicable laws, which term is used in this Lease to include all Legal Requirements. The Company shall notify City in writing (with copies of any documents involved) of any threatened or actual claim, notice, inquiry, citation, warning, complaint or report pertaining to or involving failure by the Company or the Water System to comply with any Legal Requirements.

Section 22. Hazardous Substances.

A. The Company shall not cause any release, generation, manufacture, storage, treatment, transportation, or disposal of Hazardous Substance on, in, under, or from the Water System in violation of any Legal Requirement. If the Company does cause any release or disposal of any Hazardous Substance on, in, or under the Water System, the Company, at its own cost and expense, will immediately take such action as is necessary to detain the spread of and remove the Hazardous Substance to the complete satisfaction of City and other appropriate Governmental Bodies. The Company shall promptly notify City of any release or disposal (of which the Company has knowledge or becomes aware) of any Hazardous Substance on, in, under or from the Water System.

B. The Company shall indemnify, defend (with counsel reasonably acceptable to City) and hold City and City's officers, agents and employees, free and harmless from and against, all losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, costs, judgments, suits, proceedings, damages , disbursements or expenses of any kind (including attorneys' and experts' fees and expenses and fees and expenses incurred in investigating, defending, or prosecuting any litigation, claims, or proceeding) that may at any time be imposed upon, incurred by, asserted, or awarded against City in connection with or arising from or out of:

(1) any breach of any covenant or agreement of the Company contained or referred to in this Section 22;

(2) any violation or claim of violation by the Company of any Legal Requirement that is finally adjudicated to be a violation of a Legal Requirement, except a claim that this Lease or any City ordinance violates a Legal Requirement; or

(3) the imposition of any lien on the Water System for the recovery of any Clean Up Costs relating to the release or threatened release of any Hazardous Substance by the Company.

The expiration or termination of this Lease and/or the termination of the Company's right to possession shall not relieve the Company from liability under any indemnity provisions of this Lease as to matters occurring or accruing during the Term hereof by reason of the Company's operation and management of the Water System.

C. City shall, at its sole expense, conduct a Phase I environmental assessment on the Water System prior to or within 14 days of the Commencement Date. If the environmental assessment concludes that there is a reasonable chance that soil or groundwater contamination in violation of applicable legal standards or other violation of a Legal Requirement exists on or below property included in the Water System, the City shall, at its sole expense, conduct a Phase II environmental assessment within 60 days of receipt of the Phase I assessment report in order to confirm the existence of and characterize the problem. The City shall be solely responsible for any future investigation, testing or remediation required as a result of conditions discovered in the Phase I or Phase II environmental assessments and shall conduct any such remediations in coordination with the Company's operation of the Water System.

D. City shall indemnify, defend (with counsel reasonably acceptable to the Company) and hold the Company and its officers, agents, employees, shareholders and affiliates free and harmless from and against, all losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, costs, judgments, suits, proceedings, damages, disbursements or expenses of any kind (including attorneys' and experts' fees and expenses, fees and expenses incurred in investigating, defending, or prosecuting any litigation, claims, or proceeding, and the cost of site investigation, testing and Clean Up Costs) that may at any time be imposed upon, incurred by, asserted, or awarded against the Company in connection with or arising from or out of:

(1) any Hazardous Substance on, in, under, or affecting all, or any portion of the Water System (including, without limitation, the imposition of any lien for the recovery of any Clean Up Costs), excluding any Hazardous Substance released, generated, manufactured, stored, treated, transported or disposed of by the Company or its affiliates;

(2) any breach of any covenant or agreement of City contained or referred to in this Section 22;

(3) any violation or claim of violation by City or any other entity or person, other than the Company or its affiliates of any Legal Requirement; or

(4) the imposition of any lien on the Water System for the recovery of any Clean Up Costs relating to the release or threatened release of any Hazardous Substance other than by the Company.

The expiration or termination of this Lease shall not relieve City from liability under any indemnity provisions of this Lease.

E. The notice and other procedures set forth in Section 23 below shall govern all indemnification claims and rights under this Section 22.

Section 23. Indemnity.

The Company shall hold City, and its officers, agents and employees, free and harmless of and from, and to defend, indemnify, and protect City, and its officers, agents and employees, against all liability, loss, claims, actions, demands, damage, expense, costs (including, without limitation, reasonable attorneys' fees and all costs and fees of litigation and its threat) asserted against City of any kind or nature arising out of or in any way connected with any misrepresentation, breach or inaccuracy of any representation or warranty or material nonfulfillment of or material failure to comply with any agreement, condition or covenant on part of the Company under this Lease, to the maximum extent permitted by law ("Indemnified Losses"). The expiration or termination of this Lease shall not relieve the Company from liability under any indemnity provisions of this Lease.

City shall hold the Company, and its officers, agents, employees, shareholders and affiliates, free and harmless of and from, and to defend and indemnify the Company, and its officers, agents and employees, against all liability, loss, claims, actions, demands, damage, expense, costs (including, without limitation, all costs and fees of litigation and its threat) asserted against the Company of any kind or nature arising out of or any way connected to the ownership or operation of the Water System occurring or accruing prior to or after the Term, including the condition (known or unknown) of the Water System facilities, or any material misrepresentation, breach or inaccuracy of any representation or warranty, or material nonfulfillment or material failure to comply with any agreement, condition or covenant on the part of City under this Lease or any actions or omissions of the City or its employees, agents or officials, to the maximum extent permitted by law ("Indemnified Losses"). The expiration or termination of this Lease shall not relieve the City from liability under any indemnity provisions of this Lease.

If there is asserted any claim, liability or obligation that in the judgment of a party indemnified above (an "Indemnified Party") may give rise to any Indemnified Losses, such Indemnified party shall give the party from whom indemnity is sought (the "Indemnitor") notice within 30 days of the assertion of any claim, liability or obligation, or within 30 days of receipt of notice of the filing of any lawsuit, arbitration action or other proceeding based upon such assertion, or, with respect to a claim not yet asserted against the Indemnified party, promptly upon the determination by the Indemnified Party of the existence of the same, and shall give Indemnitor a reasonable opportunity of assuming the defense of such claim, liability or obligation, using counsel acceptable to the Indemnified Party; provided, however, that the Indemnified Party shall have the right to participate in such defense. Failure by the Indemnified

Party to give timely notice pursuant to this Section shall not relieve the Indemnitor of its obligations, except to the extent that the Indemnitor is actually prejudiced by such failure to give timely notice. No settlement or adjustment shall be made without the Indemnified Party's prior written consent, which consent shall not be unreasonably withheld. If Indemnitor fails to contest in good faith any such claim, liability or obligation, the Indemnified Party shall have the right to defend, settle or pay the same and pursue its remedies for indemnities against Indemnitor hereunder. The Indemnified Party shall cooperate with Indemnitor in any such defense which Indemnitor elects to assume in the event Indemnitor makes such request to the Indemnified party and such request is reasonable, provided Indemnitor will hold the Indemnified Party harmless from all of its reasonable out-of-pocket expenses, including reasonable attorneys' fees, incurred in connection with the Indemnified Party's cooperation. In the event of a disagreement among the parties as to whether any claim, liability or obligation may give rise to an Indemnified Loss, then the Indemnified Party shall have the right to defend, settle or pay the same, and/or to pursue its remedies against Indemnitor hereunder; provided, however, that Indemnitor shall have the right to participate in such defense, and no settlement or adjustment shall be made without Indemnitor's prior written consent, which consent shall not be unreasonably withheld.

Neither party shall be liable to the other party for indirect or consequential damages.

Section 24. City's Access.

City and City's agents shall have the right to enter the Water System at any time in the case of an emergency, and otherwise at reasonable times and on reasonable prior notice for the following purposes (i) to determine whether the Water System is in good condition as required by this Lease and whether the Company is complying with its obligations under this Lease, (ii) to serve, post or keep posted any notices required or allowed by law or under this Lease, and (iii) as City may otherwise reasonably deem necessary.

Section 25. California Law.

This Lease shall be governed by the laws of the State of California without regard to conflict of laws principles.

Section 26. Notices.

Any notice or communication required or permitted hereunder, shall be deemed to have been given if in writing and (a) delivered in person, (b) delivered by confirmed facsimile transmission, (c) sent by overnight carrier, postage prepaid with return receipt requested, or (d) mailed by certified or registered mail, postage prepaid with return receipt requested, addressed as follows:

City: City of East Palo Alto

2415 University Avenue
East Palo Alto, California 94303
Attn: City Manager

The Company: American Water Services, Inc.

10000 Sagemore Drive, Suite 10101
Marlton, New Jersey 08043
Attn: President

With a copy to: California-American Water Company

880 Kuhn Drive
Chula Vista, California 91914
Attn: President

or such other address and to the attention of such other person as a party may notice to the others in accordance with this Section 25. Any such notice or communication shall be deemed received on the date delivered personally or delivered by facsimile transmission, on the first Business Day after it was sent by overnight carrier, postage prepaid with return receipt requested or on the third Business Day after it was sent by overnight carrier, postage prepaid with return receipt requested.

Section 27. Waiver.

The waiver by City of any breach by the Company of any term, covenant or condition hereof shall not operate as a waiver of any subsequent breach of the same or any other term, covenant or condition hereof. The waiver by the Company of any breach by City of any term, covenant or condition hereof shall not operate as a waiver of any subsequent breach of the same or any other term, covenant or condition hereof.

Section 28. Merger and Modification.

This Lease sets forth the entire agreement between the parties with respect to the subject matter hereof, and supersedes all other oral or written provisions. This Lease may be modified or terminated only in a writing signed by all parties.

Section 29. Assignment.

The Company shall not assign this Lease or sublet the Water System or any portion thereof without the consent of City, which consent shall not be unreasonably withheld; provided, however, that City's consent shall not be required in connection with any assignment by the Company of any of its rights or obligations hereunder to, or otherwise utilize, Cal-Am or any other affiliated company which is controlled by, controls, or under common control with the Company.

Section 30. Arbitration.

All controversies, claims, disputes or counter-claims arising under or relating to this Lease or any resulting transaction, whether it involves a disagreement about its meeting, interpretation, application, performance, breach, termination, enforceability or validity and whether based on statute, tort, contract, common law or otherwise ("Dispute") shall be determined exclusively by binding arbitration in San Mateo County, California, before one

arbitrator. The arbitration shall determine all questions of arbitrability, including, without limitation, the scope of this agreement to arbitrate, the subject matter of the Dispute, whether an agreement to arbitrate exists and, if so, whether it covers the Dispute in question, and any other form of disagreement or conflict among the parties to this Lease, whether such Dispute existed prior to, or arises after the date of this Lease.

The arbitration shall be governed by the American Arbitration Association ("AAA") under its commercial arbitration rules, provided that the person eligible to be selected as the arbitrator shall be limited to an attorney-at-law who has practiced law for at least 15 years as an attorney in California specializing in either general commercial litigation or general corporate and commercial or utility matters. Any party may commence arbitration at any time, subject to the obligations to negotiate disagreements contained in this Lease, by giving written notice to the other party that such dispute has been referred to arbitration under this Lease. The arbitrator shall be selected by the joint agreement of the parties, subject to the standards set forth above, but if they do not so agree, within 20 days following the notice referred to above, then the selection shall be made pursuant to the AAA Rules from the panel of arbitrators that meet the qualifications set forth above maintained by such association. The parties shall be entitled to conduct discovery in connection with the Dispute in accordance with the Federal Rules of Civil Procedure. Within 10 days following the appointment of the arbitrator, each party shall furnish the arbitrator with a statement of the matters in dispute. The arbitrator shall commence the hearing within 20 days of receiving such statement and shall complete the arbitration and file his/her decision within 60 days following his/her appointment. The cost of arbitration, including the arbitrators fees and the fees and costs of counsel, shall be allocated by the arbitrator in his/her decision. If the arbitrator determines that the dispute and arbitration, or either, is not the result of good faith on the part of any party, then the arbitrator may make an additional award to the other party for such sums as the arbitrator may in his/her discretion determine as a reasonable damage figure.

The award of the arbitrator shall be binding and conclusive upon the parties and may be entered in any state or federal court within San Mateo County, California. There shall be no right of appeal from the award of the arbitrator.

The party and the arbitrator may not disclose the existence, content or results of any arbitration without the prior consent of all of the parties, except as required by any Legal Requirement.

Section 31. Attorneys' Fees.

If any party to this Lease commences legal proceedings or arbitration to interpret this Lease, to enforce any of its terms or for damages for its breach, the prevailing party shall be entitled to recover reasonable attorneys' fees.

Section 32. Execution.

This Lease is effective upon full execution. It is the product of negotiation and therefore shall not be construed against any party.

Section 33. Counterparts.

This Lease may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original, but all together shall constitute but one and the same Lease.

IN WITNESS WHEREOF, the parties hereto have caused this Lease to be executed and attested by their proper officers thereunto duly authorized, and their official seals to be hereto affixed, as of the day and year first above written.

CITY OF EAST PALO ALTO

By: _____
CITY MANAGER

Approved to Form and Content:

By: _____
CITY ATTORNEY

THE COMPANY:

AMERICAN WATER SERVICES, INC.,
a Delaware corporation

By: _____
PRESIDENT

EAST PALO ALTO SANITARY DISTRICT

901 Weeks Street
East Palo Alto, CA 94303
Phone: (650) 325-9021
Fax: (650) 325-5173
www.epasd.com

Akin Okupe, M.B.A, P.E., General Manager

September 2022

Hon. Ruben Abrica, Mayor
City of East Palo Alto
2415 University Avenue
East Palo Alto, CA 94303

Dear Mayor Abrica,

The East Palo Alto Sanitary District thanks you and the City Council for sharing your September 20, 2022 agenda with our General Manager, Mr. Okupe. That night's agenda had other items that required a good deal of attention from the Councilmembers. We again thank the City Council for being a listening for the information that we want to share with our community.

Mr. Okupe, an MBA, has been leading a team of consultants working on solutions to financing infrastructure improvements for the proposed new developments in our city. He presented a "quick sketch" report of strategies that our team has formulated that have the possibility of funding infrastructure for new development in addition to sanitary sewers. We visualize several possibilities that can be of great benefit to our city, especially because they offer the opportunity for the City and EPASD to work together towards bringing this progress about.

Although the time allotted for Mr. Okupe's presentation was generous, we believe that the seriousness and complexity of these infrastructure finance issues require further communication and sharing of information. Therefore, we respectfully request a separate Joint Special Study Session between the City Council and the EPASD Board of Directors. The EPASD Board is dedicated to working with the City to move approved new developments forward, and we are ready to come to the table and make that happen.

Please contact Mr. Okupe to schedule this most important meeting. We thank you for your time and consideration.

In Unity,

Betsy Yanez, President
East Palo Alto Sanitary District

cc: everybody

City of East Palo Alto
City Manager's Office
2415 University Avenue
East Palo Alto, CA 94303

EAST PALO ALTO SANITARY DISTRICT

901 Weeks Street
East Palo Alto, CA 94303
Phone: (650) 325-9021
Fax: (650) 325-5173
www.epasd.com

Akin Okupe, M.B.A, P.E., General Manager

TECHNICAL MEMORANDUM

Date: December 3, 2022

To: Rob Bartoli, Executive Director, San Mateo Local Agency Formation (LAFCO)

From: Akin Okupe, M.B.A., P.E., General Manger East Palo Alto Sanitary District (EPASD)

RE: Sanitary Sewer Capital and Improvement Plan Prepared by Freyer and Lauretta Inc.

Pursuant to the Technical Memorandum prepared by Freyer and Lauretta Inc dated November 1, 2022, regarding EPASD Capital Improvement Plan, I would like to memorialize the following:

Freyer and Lauretta Inc need to disclose the following in the Technical Memorandum:

1) Freyer and Lauretta Inc provided District Engineering Services to the District for over 10 yrs until 2017.
2) Freyer and Lauretta Inc prepared the 2015 Master Plan for the District
3) Freyer and Lauretta also prepared the 2021 Master Plan Addendum for the District.
4) Peaking factor of 1.5 were used in performing hydraulic impact assessment of development projects until refuted by the District because it underestimated the impact of development projects on the collection system to the advantage of developers.
5) Freyer and Laurreta confirmed in all the reports that there is no capacity in the system and the trunk line for development project, the firm also concluded that the trunk line has an excess capacity to support only 400 EDUS under peak wet weather conditions.

Please find below my comments:

Section 2.2 Existing System Condition Review

Paragraph 1

Freyer and Lauretta stated that public information was reviewed to determine if any deficiencies have been previously identified by EPASD. This statement is misleading as the company has institutional knowledge of the District. The company prepared the 2021 Master plan addendum and advised that the trunkline should not be allowed to flow at more than

100% full under peak wet weather conditions. The presentation given by Jeff Tarantino of Freyer and Lauretta Inc to the EPASD Board of Directors confirmed this affirmation. The company also affirmed that the trunk line has excess capacity of only 400 Equivalent Dwelling Units (EDUS), the development proposed is in excess of 1000 EDUS.

Paragraph 2

In this paragraph, the consultant referred to the 2015 Master Plan, based on previous memorandum, the peaking factor used in the 2015 Master Plan was 1.5. This was pointed out in one of the memoranda prepared for a development project. In this regard, the results of the 2015 Master Plan prepared by Freyer and Lauretta Inc cannot be relied upon as the company agreed that the peaking factor used underestimated the peaking flow taking into consideration monitoring stations peaking factors.

Paragraph 3

Please have the consultant include all the operation criteria referred to in the paragraph in the memorandum for clarity. The 2015 and 2021 hydraulic models were performed under different serviceability conditions. Please have the consultant include these conditions in the memorandum.

Paragraph 4

The information provided in this section is inaccurate as you cannot review the memorandum alone without watching the Closed Circuit Televised information, the memorandum was provided under the scenario of replacing all the pipes from manhole to manhole. Other scenarios are currently being investigated such as the option of point repair if the bulk of the pipeline is in sound conditions.

Section 2.3 Existing System Condition Assessment

Paragraph 1

The memorandum iterated that the 2015 Master Plan allowed the hydraulic Grade Line to rise above the pipe but sufficiently below the manhole cover, this occurred with an underestimated peaking factor of 1.5, this implies that under service conditions there could be sanitary sewer overflow. Secondly, the 2015 Master Plan does not include all the development identified in the 2035 General Plan. Thirdly there is no way to predict accurately the flow increases due to increase in population density without Macro Economic Analysis. In consequence, it is not good engineering practice to allow the hydraulic grade line to rise above the pipe. The West Bay Sanitary District Technical Specification does not allow the hydraulic grade line to rise above the pipe as this increases the risk of sanitary sewer overflow. The findings of the 2015 Master Plan can not be relied upon as the model was performed with the wrong peaking factor.

The report needs to include Macro Economic Analysis analyzing the system under the worst stressful condition. The findings of the Macro Analysis could also be used to ascertain the budget under different scenarios.

The condition of the trunk line proposed would transfer the risk of sanitary sewer overflow to existing rate payers while giving developers big breaks on infrastructural upgrade.

The pipe upgrade listed does not include the trunk line which does not have capacity for development projects at the moment.

Section 3.2 Development Capacity Needs.

The information presented in this section is inaccurate as the criteria stated was only used to predict the additional impact to existing infrastructure due to development projects, it was not the criteria used to predict the need for pipe upsizing. The consultant misstated this fact to transfer all the development cost to existing rate payers.

Secondly the consultant iterated that the West Bay Technical Specification allow capacity deficiencies to be determined with a d/D under peak wet weather conditions using the following:

- Pipes with diameter of 10 inches or smaller have d/D over 0.67
- Pipes with d/D of 12 inches or larger have d/D over 0.8

This contradicts the proposal in Section 2.3 i.e., allowing the hydraulic Grade Line to go above the pipe on the main truck line.

Secondly the population density of West Bay Sanitary District service area is lower than that of EPASD service area. The consultant did not include the analysis of population density of the two-service area. In consequence, the information presented are inaccurate and misleading.

A more conservative d/D for pipes larger than 12 inches is better for EPASD due to higher population density.

Section 3.3 Anticipated Developments

The information presented here is inaccurate because it does not include macro-economic analysis that could change the dynamics, these include lower than anticipated development that could decrease cash flow, higher than expected development that could increase the need for infrastructural upgrade, this section should include macro-economic analysis and sensitivity cash flow analysis.

In this section, the consultant projected an increase of approximately 1500 EDUS (30% increase over the existing EDUS) in the next five years, the existing trunk line leading to the treatment plant only has an excess capacity of 400 EDUS as at 2021. This projection did not account for

additional Accessory Dwelling Units (ADUS) that could be added by existing customers due to high population density.

Pursuant to this, allowing the major trunk line to surcharge without adding a parallel pipe for development projects as predicted by the model is inappropriate.

Section 4 Proposed Capital Improvement Plan

The information presented in this section is not accurate as it does not include capital improvement projects to serve existing customers. We have completed the closed-circuit televised project in 75% of the District Service areas. The cost to rehabilitate the existing collection system in these three areas in in excess of $19 million based on a limited budget of $20 million with the rest of the pipe replacement to be done on a pay as you go annual basis. The total cost is being determined and is expected to be in excess of $80 million Districtwide. This section does not include provision for this pipe replacement.

In addition, the section does not include the trunk parallel line needed to serve development project which is projected to cost approximately $13 million, the is a strategy by the consultant to lower connection fees and transfer development cost to existing rate payers.

Section 5 Proposed Operating and Maintenance Plan

The consultant determined the operation and maintenance budget by taking ratios from West Bay Sanitary District Budget. This methodology is grossly inaccurate as the cost drivers of the two systems are different. The EPASD Budget should be determined based on EPASD data.

Section 6 Annual Sewer Service Charge

The annual sewer service charge of $600 does not include provision to service debts which is inevitable based on information provided above that there is need to replace pipes in excess of $19 million District wide. Pursuant to this all information in this section are grossly inaccurate and misleading.

Section 7 Connections Fees

The consultant recommended that the connection fee be kept at $6060, the connection fee was recommended by Bartle Wells and Associated in 2019. The calculation of this connection fee does not include any provision for development projects identified. Keeping the connection fee at this level would amount to gross subsidization of development projects cost taking into consideration $44 million worth of projects needed to serve development projects.

Secondly, the consultant did not state the basis of their recommendation in relation to industrial standard of marginal costing technique or incremental costing technique.

Thirdly, the calculation of the connection fee does not include the cost of the major trunkline because the consultant recommended allowing this section to be submerged with the hydraulic grade line rising above the pipe. The calculation transfers the risk and the cost of upgrading this section to existing rate payers.

Section 8 Annual Budget Cash Flow

The consultant stated that the sewer service rate should be kept at $690 per year and increased by 5% annually to approximately $1200 after five years. By not collecting the required connection fees from developers, the terminal rate required will be in excess of $1200 per year.

The consultant also stated that the connection fees be kept at $6100 this is also inaccurate as it does include 44 million dollars upgrade required to serve development projects.

Th consultant referenced that the anticipated Equivalent Dwelling Units (EDUS) provided, this is inaccurate as it does not include anticipated ADUS.

The consultant assumed that the anticipated fund reserve is $17.38 million, this is inaccurate as EPASD is in the process of spending 10 million of the reserve for system rehabilitation and upgrade. The reserve is anticipated to be approximately $13 million

The consultant concluded that reserves will be used to maintain cash flow where revenues are inadequate, this is inaccurate as it did not consider pipe replacement for existing rate payers which would cost over $19 million.

Using the reserves to support development projects without cost recovery as recommended by the consultant is illegal and a gift of public funds. It is also a transfer of public wealth to developers and should be discouraged.

EAST PALO ALTO CITY COUNCIL
STAFF REPORT

DATE: October 4, 2022

TO: Honorable Mayor and Members of the City Council

VIA: Patrick Heisinger, Interim City Manager

BY: Batool Zaro, Assistant Civil Engineer
Humza Javed, Public Works Director

SUBJECT: Actions Related to the 2022 Water System Master Plan Adoption

Recommendation

It is recommended that the City Council take the following actions:

1. Adopt a Resolution (Attachment 1) approving the 2022 Water System Master Plan;
2. Adopt a Resolution (Attachment 2) approving a funding strategy for the two water improvements necessary to advance the 965 Weeks Street affordable housing project; and
3. Adopt a Resolution (Attachment 3) approving a contract amendment with Freyer and Laureta for the purposes of designing additional water improvement projects as discussed in the staff report.

Alignment with City Council Strategic Plan

This recommendation is primarily aligned with:

Priority No. 1: Enhance Public Safety and Emergency Preparedness
Priority No. 4: Improve Public Facilities and Infrastructure
Priority No. 6: Create a Healthy and Safe Community

Background

The City of East Palo Alto (City) last updated its Water System Master Plan (WSMP) in 2010. The 2010 WSMP was created as a comprehensive evaluation of East Palo Alto's water distribution system. The City has committed to the State Water Resources Control Board (SWRCB) that it will complete the update of the WSMP by 2022 as part of its Corrective Action Plan.

Since the adoption of the 2010 WSMP, growth projections within the City have been updated and several new development projects have been planned. Additionally, the prior hydraulic model developed for the 2010 WSMP was a skeletonized model that did not include all pipes within the system, and thus was not able to fully assess the City's water system performance.

On July 27, 2021, City Council adopted a resolution authorizing the City Manager to execute a contract with EKI Environment & Water, Inc., (EKI) for the preparation of the 2022 WSMP.

The purpose of this staff report is to present the 2022 WSMP to the City Council and for staff to request the City Council appropriate funding to support the design and construction of several key water infrastructure projects.

Analysis

The Water System Master Plan

The WSMP is intended to provide the City with an overall plan for potable water infrastructure improvements over the next twenty (20) years to maintain water system reliability and support anticipated development within the City.

The scope of the WSMP includes:

- A summary and description of the City's water service area and existing water system;
- An assessment of existing and projected water demands, including a spatial allocation of demands, an assessment of peak demands, and a review of fire flow requirements;
- Establishment of performance, operational, and reliability criteria for evaluating water system capacity, and establishing criteria for identifying rehabilitation and replacement needs;
- An assessment of the City's existing and future water supply and storage capacity requirements;
- Construction, calibration, and evaluation of a new hydraulic model to assess the existing water system's ability to deliver existing and future water demands and fire flows and identify potential capital improvements to improve system operation;
- Preparation of a comprehensive system evaluation that assesses system capacity, redundancy, resiliency, rehabilitation, and replacement needs for the next 20-years
- Verify the need, sizing, and priority for the planned water system improvements;
- Development of a 20-year risk-based capital improvement program that will prioritize future water system improvements based on identified deficiencies and existing and future needs;
- A city-wide non-potable demand analysis to identify potential opportunities to use recycled water.

The Final 2022 WSMP may be found on the City website here:

https://www.cityofepa.org/publicworks/project/water-system-master-plan-2022

Projects

As part of the WSMP, projects were identified for the next 20 years. Projects were categorized

as Priority 1A, 1, 2, and 3 as described in Table 1 below:

TABLE 1

WSMP PROJECT CATEGORIZATION	
Priority	**Term**
1A	1-5 Years
1	5-10 Years
2	10-15 Years
3	15-20 Years

The Priority 1A projects, the most urgent and timely, are listed below:

- WS-01/P-1: Woodland Avenue Waterline and City of Palo Alto Interconnect Project
- P-2: 16'' Purdue Water Transmission Main and fourth SFPUC turn-out
- WS-04B/WD-04C/P-3: 12" University Avenue Watermain Replacement Project
- P-21: 12" Weeks Street Watermain Replacement Project
- P-3: Pipeline Replacement - 8'' CI on University Avenue between Bay Road and Donohoe Street with new 12'' PVC
- P-29: Pipeline Replacement on East Bayshore Road
- P-32: Pipeline Replacement West of Highway 101 and East of University Ave
- P-33: Pipeline Replacement West of Highway 101 and West of University Ave
- WS-03A: New Storage Tank - East of Highway 101

Detailed project information is included on the project summary sheets in the WSMP.

During the City Council Meeting on October 4, 2022, staff and consultant, EKI, will provide a comprehensive presentation regarding the WSMP.

Proposed Infrastructure Projects | 965 Weeks St Affordable Housing Development

Since 2019, staff has been working to identify the necessary water improvements to advance the 965 Weeks Street affordable housing development. The City has applied for various federal and state infrastructure grants to fund this effort, but the City's applications have not been awarded.

On March 15, 2022, in an effort to fund the necessary improvement needed to advance the 965 Weeks Street development, the City Council approved a financing plan in the amount of $4,950,000.

As part of the WSMP process, consultant EKI recommended that the City reconsider the originally identified public improvement that would provide the 965 Weeks Street development with ample water pressure, in favor of two new projects. The two recommended water infrastructure projects and total associated estimated costs are shown in Table 2:

TABLE 2

965 WEEKS STREET WATER INFRASTRUCTURE COSTS		
Project		**Estimated Cost**
WS-04B/ WD-04C/	12" Water Transmission Main Project along University Avenue	$5,230,000

P-3		
P 21-A	Replace existing 8" main on Weeks Street between Cooley Avenue and Pulgas St with new 12" PVC main	$2,000,000
	Design Costs for Both Projects	$426,000
	Total	**$7,656,000**

The fact that the two improvements are necessary to advance the 965 Weeks Street affordable housing development provides the City with the opportunity to leverage housing funds to support infrastructure improvements. Taking this into account, staff propose the following new funding strategy for the two improvements in Table 3 below.

TABLE 3

Funding Strategy	
Source	**Amount**
State Earmark[1]	$1,500,000
Measure HH[2]	$1,000,000
RDA Housing Successor	$1,000,000
Unassigned General Fund Reserve	$2,041,000
Water Impact Fees	$450,000
Water Capital Fund	$965,000
Past ARPA Allocation	$700,000
Total	**$7,656,000**

Staff recommends that the City Council adopt a Resolution (Attachment 2), approving the funding strategy and sources outlined above. The RDA Housing Successor Funds are part of the housing assets transferred to the City upon redevelopment dissolution when the City assumed the RDA's housing obligations. These funds have to be spent in accordance with the Redevelopment Law requirements as amended by the dissolution provisions, to increase, improve and preserve the supply of affordable housing. Eligible uses include on and off site improvements provided that the improvements directly benefit affordable housing and are fundamental part of the low income housing units. The proposed improvements are an essential part of the 965 Weeks project which is required as a condition of approval to identify the on and off site improvements necessary to achieve adequate water pressure and fire flows to satisfy the Menlo Fire Protection District. The improvements identified above will allow the 965 Weeks project to comply with this condition of approval which must be met before building permits can be issued and thus use of the funds for this purpose will increase and improve the supply of affordable housing by addressing a necessary precondition to the construction of 965 Weeks. It should also be noted that 965 Weeks is subject to a regulatory agreement that restricts the homes being constructed to affordable rents for extremely low income, very low income and low income households for a term of 55 years as required by the Redevelopment Law. The RDA Housing Successor Funds are only paying a proportion of the costs associated with the improvements in recognition that the improvements will serve not just 965 Weeks but other projects in the area, although the initial primary beneficiary of the improvements will be 965 Weeks.

Next Steps for Projects to Support 965 Weeks Street

If the City Council elects to fund the two improvements to support the 965 Weeks Street project, the next steps would be as follows:

Design for the two projects would begin in October 2022 and be completed by April 2023. City Staff would then return to City Council at the design completion phase and request approval of the design package and authorization to advertise for bids. Construction would begin June 2023 and be complete by December 2023.

Emphasis on Designing Additional Priority 1A Projects

Consistent with City Council direction, as evidenced in the City Council's Strategic Priorities, it is imperative that the City begin a proactive effort to design additional priority water improvement projects. To accomplish this goal, staff requests City Council approval for 1) a contract amendment with Freyer and Laureta, and 2) associated budget authority to proactively design the projects in Table 4 below.

TABLE 4

PRIORITY WATER IMPROVEMENT PROJECT DESIGN COSTS		
Project		**Design Cost**
P-29	Pipeline Replacement on East Bayshore	$148,800
P-32	Pipeline Replacement West of HWY 101 & East of University Ave	$327,600
P-33	Pipeline Replacement West of HWY101 & West of University Ave	$202,050
	Total	**$678,450**

Staff recommends that the City Council adopt a Resolution (Attachment 3), amending the existing contract with Freyer and Laureta for design services, as detailed in Table 2 and Table 4, in a total amount of $1,104,450. Staff recommends that the City's Water Capital Fund be utilized to fund the priority project design costs in Table 4 ($678,450).

Next Steps for Designing Additional Priority 1A Projects

If the City Council accepts staff recommendation to proactively design the three projects in Table 4, staff expects the projects to be "shovel ready" by Spring 2024. At that time, the City Council could decide to fund some of the improvements or seek grant funding to do so.

Woodland Avenue Waterline and City of Palo Alto Interconnect

As noted in the WSMP, the Woodland Avenue Waterline and City of Palo Alto Interconnect is a key project for future funding. Staff is prepared to make a recommendation to the City Council in late October 2022 to allocate a portion of existing ARPA funding towards this project, which is already designed and shovel ready.

Priority 1A Projects in the Ravenswood Business District

There are two priority 1A projects that staff recommends the Developers in the Ravenswood

Business District (RBD) fund as conditions of approval for projects that advance. Those projects are identified in Table 5below:

TABLE 5

INFRASTRUCTURE PROJECTS IN THE RAVENSWOOD BUSINESS DISTRICT		
Project Name		**Estimated Cost**
P-2	16-Inch Water Transmission Main Project and Fourth SFPUC Turn-Out	$1,600,000
WS-03A	New Storage Tank - East of Highway 101	$5,000,000
	Total Cost	**$6,600,000**

The City Council will have ultimate authority on all aspects associated with the RBD.

Fiscal Impact

The recommendations outlined in this staff report represent a significant investment in the City's water infrastructure. To better understand the ramifications of the proposed action, Table 6 below provides an accounting of each funding source, the proposed amount requested, and the remaining balances that would result from City Council approval.

TABLE 6

Funding Source	Amount Requested	Remaining Amount, if Funded[3]
Measure HH	$1,000,000	$3,700,000
RDA Housing Successor	$1,000,000	$1,700,000
Unassigned General Fund Reserve	$2,041,000	$15,000,000
Water Capital Fund	$965,000	$3,635,000
Water Impact Fee	$450,000	$0

Public Notice

The public was provided notice of this agenda item by posting the City Council agenda on the City's official bulletin board outside City Hall and making the agenda and report available at the City's website and at the San Mateo Co. Library located at 2415 University Avenue, East Palo Alto.

Environmental

The action being considered by the City Council is exempt from the California Environmental Quality Act (CEQA) because it is not a "project" pursuant to 15378(b)(4) because it is a fiscal activity which does not involve any commitment to any specific project which may result in a potentially significant impact on the environment.

Attachments

A. Resolution 1- 2022 WSMP Adoption
B. Resolution 2 - Funding strategy for serving developments
C. Resolution 3 - Contract amendment with Freyer and Laureta
D. Final 2022 WSMP

RESOLUTION NO. XX – 2022

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EAST PALO ALTO

APPROVING AND ADOPTING THE 2022 WATER SYSTEM MASTER PLAN

WHEREAS, the purpose of the Water System Master Plan ("WSMP") is to assess and evaluate the City's existing water system facilities and available water supply sources; and

WHEREAS, the City of East Palo Alto ("City") last prepared a WSMP in 2010; and

WHEREAS, the City has committed to the State Water Resources Control Board that it will complete the update to the WSMP as part of its Corrective Action Plan; and

WHEREAS, on July 27, 2021, the City Council adopted a resolution authorizing the City Manager to execute a contract with EKI Environment & Water, Inc., (EKI) for the preparation of the 2022 WSMP; and

WHEREAS, over the course of the last year, City staff has worked with EKI to evaluate the City's water distribution system, develop a hydraulic model of the system, and prepare a 20-year risk-based capital improvement plan; and

WHEREAS, the WSMP has identified priority projects that the City shall commit to implement in the upcoming years; and

WHEREAS, the 2022 Water System Master Plan has been completed and is formalized for City Council adoption;

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF EAST PALO ALTO HEREBY approve and adopt the 2022 Water System Master Plan.

PASSED AND ADOPTED this 4th day of October 2022**,** by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Rubin Abrica, Mayor

ATTEST: **APPROVED AS TO FORM:**

James Colin, City Clerk

Valerie J. Armento, Interim City Attorney

RESOLUTION NO. X

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EAST PALO ALTO

ADOPTING A FUNDING STRATEGY TO UPGRADE THE CITY'S WATER SYSTEM TO SERVE THE 965 WEEKS STREET AFFORDABLE HOUSING PROJECT

WHEREAS, the City of East Palo Alto has numerous upcoming development projects that do not meet current fire flow requirements as required by Menlo Park Fire Department; and

WHEREAS, development projects need to obtain minimum fire flow requirements in order to receive their certificate of occupancy; and

WHEREAS, the 2022 Water Master Plan identified several priority projects rated based on criteria including existing pipe condition, environmental/public impacts, safety and supply impacts; and

WHEREAS, the University Avenue watermain and the Weeks Street watermain projects need to be designed and constructed to serve upcoming development projects including the 965 Weeks affordable housing project; and

WHEREAS, the costs to design and construct the University Avenue watermain project is approximately $5.5 million; and

WHEREAS, the costs to design and construct the Weeks Street watermain project is approximately $2.1 million; and

WHEREAS, the total cost of $7.6 million for these two projects can be funded through a combination of funds, including: State earmark ($1.5 million), Measure HH ($1million), RDA Housing successor ($1million), Unassigned General Fund Reserve ($2,041,000), Light Tree Impact Fee ($450,000), Water Capital fund ($965,000), past ARPA allocation ($700,000).

WHEREAS, the construction of the two projects will increase and improve the supply of affordable housing in the City by allowing the 965 Weeks Street Development to proceed, which will provide 136 residential units affordable to extremely low income, very low income and low income households.

WHEREAS, the City Council finds that the construction of the two projects is a fundamental part of the 965 Weeks Street Project and that the projects directly benefit the 965 Weeks Street project.

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF EAST PALO ALTO HEREBY adopts a funding strategy to upgrade the city's water system to serve upcoming development projects.

PASSED AND ADOPTED this 4th day of October 2022**,** by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Rubin Abrica, Mayor

ATTEST:

APPROVED AS TO FORM:

James Colin, City Clerk

Valerie J. Armento, Interim City Attorney

RESOLUTION NO.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EAST PALO ALTO

AUTHORIZING A CONTRACT AMENDMENT WITH FREYER & LAURETA, INC., TO INCREASE TH CONTRACT BUDGET FOR SERVICES RELATED TO THE WATER SYSTEM MASTER PLAN ANI EXTEND THE TERM OF THE CONTRACT TO DECEMBER 31, 2027

WHEREAS, the City of East Palo Alto's 2022 Water System Master Plan (WSMP) has identifed $81.2 million in improvements to the City's water system within a twenty (20) year period; and

WHEREAS, through the WSMP City has identified priority projects to be designed and constructed within the next five (5) years to address urgently needed upgrades to the system; and

WHEREAS, Freyer & Laureta, Inc., (F&L) is under contract with the City to provide design/staff augmentation services; and

WHEREAS, through F&L's existing and previous services, the City has completed design packages for multiple water projects including the 16" Purdue Watermain, O'Brien/Kavanaugh turnout, 12" University/Cooley main, and the University/Woodland watermain gap, and is currently designing the Demeter water line loop; and

WHEREAS, F&L is providing additional miscellaneous services including support for the LAFCo application pertaining to the EPA Sanitary District, as well as support for the fourth water turnout with the San Francisco Public Utilities Commission (SFPUC); and

WHEREAS, City staff recommends amending the existing contract with F&L to add funds for design, review, and project management for various water system and other related projects.

WHEREAS, funds are available in the water capital fund for this work.

NOW, THEREFORE, BE IT RESOLVED THAT THE CITY COUNCIL OF THE CITY OF EAST PALO ALTO HEREBY authorizes the City Manager to execute contract Amendment No. 5, in a form approved by the City Attorney, with Freyer & Laureta, Inc., to increase the contract budget by $1,100,000 for a new not-to-exceed total of $1,600,000 for staff augmentation and professional engineering services and extend the contract to December 31, 2027.

PASSED AND ADOPTED this 4th day of October 2022**,** by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Rubin Abrica, Mayor

ATTEST:

James Colin, City Clerk

APPROVED AS TO FORM:

Valerie J. Armento, Interim City Attorney