

COOPERATIVE IMPLEMENTATION AGREEMENT

THIS AGREEMENT, ENTERED INTO EFFECTIVE ON _____, 2021, (the EFFECTIVE DATE) is between the State of California acting by and through its Department of Transportation, referred to herein as CALTRANS and the City of Emeryville, a body politic and a municipal corporation (chartered City) of the State of California, referred to herein as AGENCY. CALTRANS and AGENCY are together referred to as PARTIES.

RECITALS

1. CALTRANS and AGENCY, pursuant to California Streets and Highways Code (SHC) Sections 114 and 130, are authorized to enter into a Cooperative Agreement for improvements to the State Highway System (SHS) as a watershed stakeholder within AGENCY's jurisdiction.
2. As per Attachment IV of the Caltrans National Pollutant Discharge Elimination Permit Order 2012-0011-DWQ (NPDES Permit), Section I.A, CALTRANS and AGENCY may collaboratively implement the NPDES Permit requirements as they have been identified as stakeholders in the Total Maximum Daily Load (TMDL) or contain Significant Trash Generating Areas (STGA) for the areas draining to the vicinity of Emery Street and MacArthur Boulevard (hereinafter referred to as "PROJECT"). CALTRANS has agreed to contribute an amount not to exceed Six Hundred Eighty Thousand Dollars (\$680,000) to AGENCY for AGENCY to construct the PROJECT, within the regional area under the jurisdiction of AGENCY to comply with the TMDL or to treat STGAs. The NPDES Permit (including Attachment IV) is located at:
www.waterboards.ca.gov/water_issues/programs/stormwater/caltrans.html
3. AGENCY has agreed to implement the PROJECT subject to the terms and conditions of this Agreement including all documents attached hereto that are incorporated herein and hereby made a part of this Agreement (collectively referred to as the AGREEMENT).
4. AGENCY will be responsible for all management, maintenance and operations, including costs of the constructed PROJECT.
5. The SWRCB will credit CALTRANS with one (1) Compliance Unit (CU) for each Eighty-Eight Thousand Dollars (\$88,000) paid to AGENCY. A compliance unit is defined as one (1) acre of CALTRANS' Right-of-Way (ROW) from which the runoff is retained, treated, and/or otherwise controlled prior to discharge to the relevant reach. The financial equivalent as submitted by CALTRANS is One Hundred Seventy-Six Thousand Dollars (\$176,000) per CU. The SWRCB is encouraging collaborative efforts and Cooperative Implementation Agreements to reduce pollutants in TMDL and STGA watersheds and uses a 50% discount for CU in dollars contributed to the Cooperative Implementation. This sets the CU equivalent at Eighty-Eight Thousand Dollars (\$88,000).
6. For NPDES Permit compliance, CALTRANS will claim a percentage of PROJECT pollutant waste load reductions granted by the San Francisco Regional Water Quality Control Board for the PROJECT equal to the percentage of total PROJECT cost contributed by CALTRANS or the waste load allocation assigned to CALTRANS for the PROJECT watershed, whichever is less. CALTRANS intends to use the PROJECT waste

load reductions to demonstrate equivalent load reductions required to meet its TMDL waste load allocations.

7. Cooperative implementation has the following advantages: cooperative implementation (i) allows for water quality improvement projects off the ROW, at locations that may otherwise have space, access, or safety limitations within the ROW; (ii) provides for the involvement of local watershed partners who have an interest and expertise in the best way to protect, manage, and enhance water quality in the watershed; (iii) allows for implementation of Best Management Practices (BMPs) and other creative solutions not typically available to CALTRANS; (iv) allows for larger watershed-scale projects; and (v) leverages resources from other entities.
8. All services performed by AGENCY pursuant to this AGREEMENT are intended to be performed in accordance with all applicable Federal, State and AGENCY laws, ordinances, and regulations, and with CALTRANS published manuals, policies, and procedures. In case of a conflict between Federal, State and AGENCY laws, ordinances, or regulations, the order of precedence applicability of these laws shall be Federal, State and then AGENCY laws and regulations, respectively.
9. CALTRANS share of PROJECT funding is as follows:

<u>FUND TITLE</u>	<u>FUND SOURCE</u>	<u>DOLLAR AMOUNT</u>
SHA	State of California	\$680,000

SECTION I

All sections of this AGREEMENT including the recitals are enforceable.

1. AGENCY has agreed to implement the PROJECT in accordance with Attachment II-SCOPE SUMMARY. The SCOPE SUMMARY that is attached to and made a part of this AGREEMENT defines in detail the PROJECT's scope of work, description, schedule, location and budget.
2. AGENCY will be responsible for all management, maintenance and operations, including costs of the constructed PROJECT.
3. AGENCY will develop and construct the PROJECT in accordance with the applicable laws, policies, practices, procedures and standards. This applies to all procurements, including land acquisitions, licenses and permits.
4. AGENCY shall prepare initial engineering and geotechnical assessments, and detailed design as well as acquire environmental reviews and right of way (ROW) needed for the PROJECT. This work is equivalent to CALTRANS process of Project Initiation Document (PID), Project Approval & Environmental Document (PA&ED) and Plans, Specification and Estimate (PS&E). AGENCY will pay for, coordinate, prepare, obtain, implement, renew, and amend all permits needed to complete the PROJECT. AGENCY will prepare CEQA environmental documentation to meet California Environmental Quality Act (CEQA) requirements.
5. AGENCY will advertise, open bids, award, and approve the construction contract in accordance with the California Public Contract Code and the California Labor Code and will be responsible for the administration, acceptance, and final documentation of the construction contract.
6. CALTRANS shall reimburse AGENCY for actual costs of the PROJECT not exceeding the amount set forth in Section 8 below.
7. CALTRANS shall have the right to inspect the PROJECT work to be performed hereunder at any time during its progress and to make final inspection upon completion thereof. Failure of CALTRANS to object within 30 days after final inspection shall indicate satisfactory performance of this AGREEMENT by AGENCY.
8. The total amount CALTRANS will reimburse to AGENCY pursuant to this AGREEMENT shall not exceed \$680,000 ("Contract Sum"). Costs incurred by AGENCY for PROJECT work under this AGREEMENT in excess of the Contract Sum will be borne by AGENCY. It is understood and agreed that this AGREEMENT fund limit is an estimate and that CALTRANS will only reimburse the cost of services actually rendered as authorized by the CALTRANS Contract Manager or designee at or below the fund limitation amount set forth in this AGREEMENT and in accordance with the Budget included in Attachment II.
9. All administrative draft and administrative final reports, studies, materials, and documentation relied upon, produced, created or utilized for the PROJECT will be held in confidence to the extent permitted by law, and where applicable, the provisions of California Government Code section 6254.5(e) shall govern the disclosure of such documents in the event said documents are shared between the PARTIES. Parties will not distribute, release, or share said documents with anyone without prior written consent of the party authorized to release said documents

except: (i) to employees, agents, and consultants who require access to complete the work described within this AGREEMENT; or (ii) where release is required or authorized by law.

10. HM-1 is defined as hazardous material (including but not limited to hazardous waste) that requires removal and disposal pursuant to Federal or State law, whether it is disturbed by the PROJECT or not. HM-2 is defined as hazardous material (including but not limited to hazardous waste) that may require removal and disposal pursuant to Federal or State law, only if disturbed by the PROJECT.
 11. CALTRANS, independent of the PROJECT costs, is responsible for any HM-1 found within existing CALTRANS ROW. CALTRANS will undertake HM-1 management activities with minimum impact to the PROJECT schedule and will pay all costs associated with HM-1 management activities.
 12. CALTRANS has no responsibility for management activities or costs associated with HM-1 found outside the CALTRANS existing ROW. AGENCY, independent of PROJECT costs, is responsible for any HM-1 found within PROJECT limits outside existing CALTRANS ROW, and will pay, or cause to be paid, all costs associated with HM-1 management activities. AGENCY will undertake, or cause to be undertaken, HM-1 management activities with minimum impact to the PROJECT schedule.
 13. If HM-2 is found within the limits of the PROJECT, the AGENCY responsible for advertisement, award, and administration (AAA) of the PROJECT construction contract will be responsible for HM-2 management activities. Any management activity cost associated with HM-2 is a PROJECT construction cost.
 14. This AGREEMENT may only be amended or modified by mutual written agreement of the PARTIES.
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SECTION II- GENERAL PROVISIONS

1. TERMINATION

- A. This AGREEMENT may be terminated by the PARTIES upon mutual written agreement. In the event of a termination CALTRANS will reimburse AGENCY all allowable, authorized, and non-cancelable obligations and costs incurred by AGENCY prior to the termination.
- B. CALTRANS reserves the right to terminate this AGREEMENT before the AGENCY awards the PROJECT construction contract or begins to do project work. CALTRANS will reimburse AGENCY reasonable, allowable, authorized and non-cancelled costs up to the date of termination that are attributable to the PROJECT.
- C. This AGREEMENT will terminate upon completion of PROJECT when all PARTIES have met all scope, cost, and schedule commitments included in this AGREEMENT and have signed a closure statement, which is a document signed by the PARTIES that verifies the completion of PROJECT, except that all indemnification, document retention, audit, claims, environmental commitment, pending legal challenge, hazardous material, operation, maintenance and ownership provisions of this AGREEMENT will remain in effect until terminated or modified by mutual written agreement.
- D. AGENCY has sixty (60) days after the date this AGREEMENT is terminated or expires, or such other time agreed upon in writing by the PARTIES, to submit invoices to CALTRANS to make final allowable payments for PROJECT costs in accordance with the terms of this AGREEMENT. Failure to submit invoices within this period may result in a waiver by AGENCY of its right to reimbursement of expended costs.

2. BUDGET CONTINGENCY CLAUSE

All obligations of CALTRANS under the terms of this AGREEMENT are subject to the appropriation of resources by the Legislature, and the State Budget Act authority. It is mutually agreed that if the State Legislature does not appropriate sufficient funds for the program, this AGREEMENT shall be amended if possible to reflect any reduction in funds, but nothing herein obligates the PARTIES to provide additional funding or proceed if sufficient funding is unavailable.

3. ALLOWABLE COST, PAYMENTS AND INVOICING

- A. The method of payment for this AGREEMENT will be based on actual allowable costs. CALTRANS will reimburse AGENCY for expended actual allowable direct costs and indirect costs, including, but not limited to labor costs, employee benefits, travel (overhead is reimbursable only if the AGENCY has an approved indirect costs allocation plan) and contracted consultant services costs incurred by AGENCY in performance of the PROJECT work, not to exceed the Contract Sum of the PROJECT.
- B. Reimbursement of AGENCY expenditures will be authorized only for those allowable costs actually incurred by AGENCY in the performance of the PROJECT work. AGENCY must not only have incurred the expenditures on or after the EFFECTIVE DATE of this AGREEMENT and before the date it is terminated or expires, but must have also paid for those costs to claim any reimbursement.

- C. PARTIES will agree upon CALTRANS' annual reimbursement of the PROJECT costs, throughout its duration. Total reimbursement will not exceed the Contract Sum (as defined in Section I above). The encumbered funds are to be expended and invoiced to CALTRANS by AGENCY by May 1 of the third fiscal year from the fiscal year CALTRANS encumbered them. Any funds encumbered, but not expended by the end of the third fiscal year, will not be reimbursed to AGENCY by CALTRANS.
- D. Travel, per diem, and third-party contract reimbursements are PROJECT costs only after those hired by AGENCY to participate in the PROJECT incur and pay those costs. Payments for travel and per diem will not exceed the rates paid rank and file state employees under current California Department of Human Resources rules current at the EFFECTIVE DATE of this AGREEMENT.
- E. CALTRANS will reimburse AGENCY for all allowable PROJECT costs no more frequently and no later than monthly in arrears and as promptly as CALTRANS fiscal procedures permit upon receipt of itemized signed invoices. Invoices shall reference this AGREEMENT Number and shall be signed and submitted electronically to the Contract Manager at the following address:

[ken.johansson@dot.ca.gov] cc: kriti.uppal@dot.ca.gov

If electronic submittal is not possible, mail invoice to:

California Department of Transportation
Division of Environmental Analysis – Fiscal Analysis Unit, MS 27
1120 N Street, Sacramento, CA 95814-5680

- F. Invoices shall include the following information:

- 1) Invoice Cover Sheet The invoice cover sheet summarizes the previous, current and total amounts billed for the AGREEMENT. Details included on the cover sheet are:
 - a. "INVOICE" near top of page
 - b. Invoice Date
 - c. Contract Number (D43CIAxx000x)
 - d. Invoice Number [minimum format: City Initials-3-digit Invoice Number (XXX-001)]
 - e. Billing period (performance period), specified with beginning and ending dates (towards top of page). All work performed must be during the billing period. Invoice billing periods must not overlap.
 - f. Brief description of the work performed
 - g. Summary of total dollar amount billed to date
 - i. Previous month invoice balance
 - ii. Amount billed this month
 - iii. Total amount billed including current invoice amount
 - h. Total amount due
 - i. Summary of charges
 - i. AGENCY (municipality) labor costs
 - ii. Sub-Vendor labor costs (consultant)

- iii. Sub-vendor direct costs (materials, equipment, miscellaneous itemized costs)
- iv. Other direct costs
- j. Discounts (if applicable)
- k. Remittance information including name and address [MUST match *Payee Data Record Declaration of Business Location* (Form FA-204) submitted at contract execution or on file]
- l. AGENCY Contract Manager's name, address and phone number
- m. AGENCY Contract Manager's signature and signature block
- n. CALTRANS Contract Manager's name and address
- o. CALTRANS Contract Manager's signature block.

2) Invoice and Supports

All invoice charges must match the rates on the contract cost proposal and personnel request. (Changes in billing rates must be approved before billing.) The CALTRANS' Contract Manager must be provided invoices or other documentation with sufficient detail to verify the charges are allowable under this AGREEMENT with sufficient support to allow them to verify charges. Supporting documentation, such as receipts, is required for all costs included on the invoice that are not for hourly or sub-contract labor.

AGENCY labor charges need to show person's name, hours worked, billing rate and brief description of work performed. Supporting documents (timesheet or payroll report) need to be provided. These documents need to include:

- a. Name (first and last)
- b. Hours charged
- c. Brief description -- identify the work is for the project funded by the Cooperative Implementation Agreement
- d. Month, day and year of the charges (must be within the billing period)
- e. Worker and supervisor's signatures (Exceptions can be made for electronic timesheets.) All overtime must be approved in advance by the CALTRANS Contract Manager.

Direct costs (such as material costs, vehicle rental) are reimbursable. These costs need to be verified, therefore, a copy of the receipt, paid purchase order or other documentation that shows the items and cost needs to be attached to the invoice.

AGENCY personnel travel costs may be reimbursed according to the Consultant and Contractor travel guidelines located on the CALTRANS' website at: www.dot.ca.gov/hq/asc/travel/ch12/1consultant.htm. The Travel Expense Claim (TEC) form is available at: www.dot.ca.gov/hq/asc/travel/ch5/1tec.htm.

Subcontractor costs are reimbursed after providing a copy of the paid invoice. This invoice needs to show that the AGENCY contract manager reviewed and approved the payment. CALTRANS requires its vendors to submit proof of costs incurred, such as timesheet or payroll records, travel reimbursement form (that includes the reason and dates for travel) with receipts, receipts for materials, lab services or other items) and CALTRANS assumes the AGENCY has similar requirements that are documented.

3) Progress Reports

Each invoice needs to be accompanied by a progress report for the billing period. This report includes:

- a. Work performed during the billing period (can be in a bullet format)
- b. Contract progress estimate -- percentage of work completed (not dollar based)
- c. Work anticipated during the next billing cycle (can be in a bullet format)
- d. Total amount spent during the billing period (AGENCY personnel, AGENCY direct costs, subcontractor costs and total)
- e. Total amount spent to date (AGENCY, subcontractor, total)
- f. CIA not to exceed amount
- g. Percentage of Cooperative Implementation Agreement (CIA) funds used to date.
[Total (AGENCY and subcontractor)/CIA not to exceed amount)]

4. COST PRINCIPLES

- A. If PARTIES fund any part of PROJECT with state or federal funds, each PARTY will comply, and will ensure that any sub-recipient, contractor or subcontract hired to participate in PROJECT will comply with the federal cost principles and administrative requirements of 2 CFR, Part 200. These principles and requirements apply to all funding types included in this AGREEMENT.
- B. Any PROJECT costs for which AGENCY has received payment or credit that are determined by subsequent audit to be unallowable under 2 CFR, Part 200, and/or Title 48, Chapter 1, Part 31, are subject to repayment by AGENCY to CALTRANS. Should AGENCY fail to reimburse moneys due CALTRANS within thirty (30) days of discovery or demand, or within such other period as may be agreed in writing between the PARTIES hereto, CALTRANS is authorized to intercept and withhold future payments due AGENCY from CALTRANS.
- C. The PARTIES will maintain and make available to each other all PROJECT related documents, including financial data, during the term of this AGREEMENT. PARTIES will retain all PROJECT-related records for three (3) years after the final payment voucher.

5. INDEMNIFICATION

Neither CALTRANS nor any officer or employee thereof is responsible for any injury, damage, or liability occurring by reason of anything done or omitted to be done by AGENCY, its contractors, sub-contractors, and/or its agents under or in connection with any work, authority, or jurisdiction conferred upon AGENCY under this AGREEMENT. It is understood and agreed that AGENCY, to the extent permitted by law, will defend, indemnify, and save harmless CALTRANS and all of its officers and employees from all claims, suits, or actions of every name, kind, and description brought forth under, but not limited to, tortious, contractual, inverse condemnation, or other theories and assertions of liability occurring by reason of anything done or omitted to be done by AGENCY, its contractors, sub-contractors, and/or its agents under this AGREEMENT.

6. RETENTION OF RECORDS/AUDITS

- A. AGENCY, its contractors, subcontractors and sub-recipients shall establish and maintain an accounting system and records that properly accumulate and segregate incurred PROJECT costs. The accounting system of AGENCY, its contractors, all subcontractors, and sub-recipients shall conform to Generally Accepted Accounting Principles (GAAP), shall enable the determination of incurred costs at interim points of completion, and shall provide support for reimbursement payment vouchers or invoices. All books, documents, papers, accounting records and other supporting papers and evidence of performance under this AGREEMENT of AGENCY, its contractors, subcontractors and sub-recipients connected with PROJECT performance under this AGREEMENT shall be maintained for a minimum of three (3) years from the date of final payment to AGENCY and shall be held open to inspection, copying, and audit by representatives of CALTRANS, the California State Auditor, and auditors representing the federal government during business hours with appropriate notice. Copies thereof will be furnished by AGENCY, its contractors, its subcontractors and sub-recipients upon receipt of any request made by CALTRANS or its agents. In conducting an audit of the costs under this AGREEMENT, CALTRANS will rely to the maximum extent possible on any prior audit of AGENCY pursuant to the provisions of State and AGENCY law. In the absence of such an audit, any acceptable audit work performed by AGENCY's external and internal auditors may be relied upon and used by CALTRANS when planning and conducting additional audits.
- B. AGENCY, its sub-recipients, contractors, and subcontractors will permit access to all records of employment, employment advertisements, employment application forms, and other pertinent data and records by the State Fair Employment Practices and Housing Commission, or any other AGENCY of the State of California designated by CALTRANS, for the purpose of any investigation to ascertain compliance with this AGREEMENT.
- C. This AGREEMENT shall be subject to a pre-award audit prior to execution of the AGREEMENT to ensure AGENCY has an adequate financial management system in place to accumulate and segregate reasonable, allowable and allocable costs.
- D. CALTRANS, the state auditor, and the Federal Government, (if the PROJECT utilizes federal funds), will have access to all PROJECT-related records held by AGENCY or by any party hired by AGENCY to participate in PROJECT.
- E. The examination of any records will take place in the offices and locations where said records are generated and/or stored and will be accomplished during reasonable hours of operation.
- F. Upon completion of the final audit, AGENCY has thirty (30) calendar days to refund or invoice as necessary in order to satisfy the obligation of the audit.

7. DISPUTES

- A. PARTIES will first attempt to resolve AGREEMENT disputes at the PROJECT team level. If they cannot resolve the dispute themselves, the CALTRANS Chief Environmental Engineer and the executive officer of AGENCY will attempt to negotiate a resolution.

- B. If PARTIES do not reach a resolution, AGENCY's legal counsel will initiate mediation. PARTIES agree to participate in mediation in good faith and will share equally in its costs.
- C. Neither the dispute nor the mediation process relieves PARTIES from full and timely performance of the PROJECT in accordance with the terms of this AGREEMENT. However, if either PARTY stops fulfilling PROJECT obligations, the other PARTY may seek equitable relief to ensure that the PROJECT continues.
- D. Except for equitable relief, no PARTY may file a civil complaint until after mediation, or 45 calendar days after filing the written mediation request, whichever occurs first.
- E. PARTIES will file any civil complaints in the Superior Court of the county in which the CALTRANS district office signatory to this AGREEMENT resides or in the Superior Court of the county in which the PROJECT is physically located. The prevailing PARTY will be entitled to an award of all costs, fees, and expenses, including reasonable attorney fees as a result of litigating a dispute under this AGREEMENT or to enforce the provisions of this article including equitable relief.
- F. Additional Dispute Remedies. PARTIES maintain the ability to unanimously pursue alternative or additional dispute remedies if a previously selected remedy does not achieve resolution.

8. RELATIONSHIP OF PARTIES

It is expressly understood that this AGREEMENT is an agreement executed by and between two independent governmental entities and is not intended to, and shall not be construed to, create the relationship of agent, servant, employee, partnership, joint venture or association, or any other relationship whatsoever other than that of an independent party.

9. NOTIFICATION OF PARTIES

- A. AGENCY: Nancy Humphrey, Environmental Programs Supervisor, nhumphrey@emeryville.org, (510) 596-3728.
- B. CALTRANS: Kenneth H. Johansson, Stormwater Coordinator, Caltrans Division of Environmental Analysis, ken.johansson@dot.ca.gov, (916) 956-8170.
- C. All notices herein provided to be given, or which may be given, by either party to the other, shall be deemed to have been fully given when made in writing and received by the PARTIES at their respective addresses:

City of Emeryville, Public Works Director
1333 Park Avenue, Emeryville, CA 94608

California Department of Transportation
Division of Environmental Analysis - MS 242
Attention: Ken Johansson
4050 Taylor Street, San Diego, CA 92110

SECTION III ATTACHMENTS

The following attachments are incorporated into and are made a part of this AGREEMENT by this reference and attachment.

- I. AGENCY Resolution, Certification of Approval, order, motion, ordinance or other similar document from the local governing body authorizing execution of the AGREEMENT.
- II. Scope of Work, Description, Schedule, Location and Budget.

SECTION IV- SIGNATURES

Signatories may execute this AGREEMENT through individual signature pages provided that each signature is an original. This AGREEMENT is not fully executed until all original signatures are attached. PARTIES are empowered by California Streets and Highways Code (SHC) sections 114 and 130 to enter into this AGREEMENT and have delegated to the undersigned the authority to execute this AGREEMENT on behalf of the respective agencies and covenant to have followed all the necessary legal requirements to validly execute this AGREEMENT.

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

CITY OF EMERYVILLE

Signature: _____

Print Name: **KEN JOHANSSON**

Title: **Stormwater Coordinator**

Date: _____

Signature: _____

Print Name: **Christine Daniel**

Title: **City Manager**

Date: _____

Signature: _____

Print Name: **SHAILA CHOWDHURY**

Title: **Assistant Chief, Division of
Environmental Analysis**

Date: _____

Signature: _____

Print Name: _____

Title: _____

Date: _____

Signature: _____

Print Name: **PHIL STOLARSKI**

Title: **Chief, Division of
Environmental Analysis**

Date: _____

Approved As To Form:

DocuSigned by:

Andra Visureshwarra as Interim

062663BD5573494

City Attorney

870 Market Street, Suite 1278
San Francisco, CA 94102-2906
t. 415-433-4848
f. 415-433-1029
cgilmore@swwsv.com

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

MEMORANDUM

TO: Nancy Humphrey
City of Emeryville
1333 Park Avenue
Emeryville, CA 94608

DATE: June 6, 2019

FROM: Caitlin Gilmore, PE
Fidel Salamanca, PE
Victoria Belli, EIT

JOB#: EMRY.01.18

SUBJECT: Trash Capture Draft Preliminary Technical Memorandum

This memorandum is intended to evaluate full trash capture device (TCD) options for the City of Emeryville. Presented below are a summary of hydraulic issues at the project site, device alternatives, and recommendations including sizing and maintenance considerations.

Treatment Device Location

EOA has been evaluating trash generation rates and how to best meet the Municipal Regional Stormwater Permit (MRP) Section C.10 requirements administered by the San Francisco Bay Regional Water Quality Control Board (RWQCB). After implementing several trash reduction measures, the City concluded that an additional device capturing the drainage area northeast of West MacArthur Boulevard may help to meet the 2022 full capture deadline. The approximate device location is shown in Figure 1.

Site Constraints

Schaaf & Wheeler conducted a site visit to the area in order to identify existing site conditions and possible constraints. The device is proposed to be located in an area with a break in tree cover and a ± 20 -foot radius clear from significant vegetation. There are no overhead electrical cables in the vicinity. The proposed site should allow for ample overhead clearance which will minimize damage to trees and improve constructability for the contractor.

Kier & Wright was subcontracted to collect existing right of way and utility information from the City, County, Caltrans, public and private utility companies. The device will be located on Caltrans right of way and will require an encroachment permit and traffic control. Travelled way in front of the device includes one through lane and one merge lane and is the 580 West on-ramp. This proposed location would allow for at least one lane (through lane) to remain open during construction.

Locations were investigated upstream of the proposed location in order to avoid the freeway onramp and potentially be located in the City right-of-way while still obtaining as much trash capture credit as possible. The main storm drain line trunks are within West MacArthur Blvd. and San Pablo Ave.; which are both Caltrans right-of-way. Therefore, the location was selected to optimize for trash removal. Additionally, there are significant utilities in San Pablo Avenue that make it undesirable for a trash capture retrofit project.

City of Emeryville
 Trash Capture Device
 Draft Preliminary Technical Memorandum

June 06, 2019

Significant utilities running adjacent to the site include a 2" gas main, a sanitary sewer lateral, a sanitary sewer main, and a potable water main. Care should be taken to avoid these utilities during construction. Note that a detailed topographic survey has not yet been performed and should be conducted under the Site Investigation and Data Collection phase.

The device location is in a fully developed urbanized area that is not in close proximity to any natural drainages or creeks. There should be no adverse impacts to the environment and the device should not require environmental permits. This project should qualify for a CEQA Categorical Exemption.

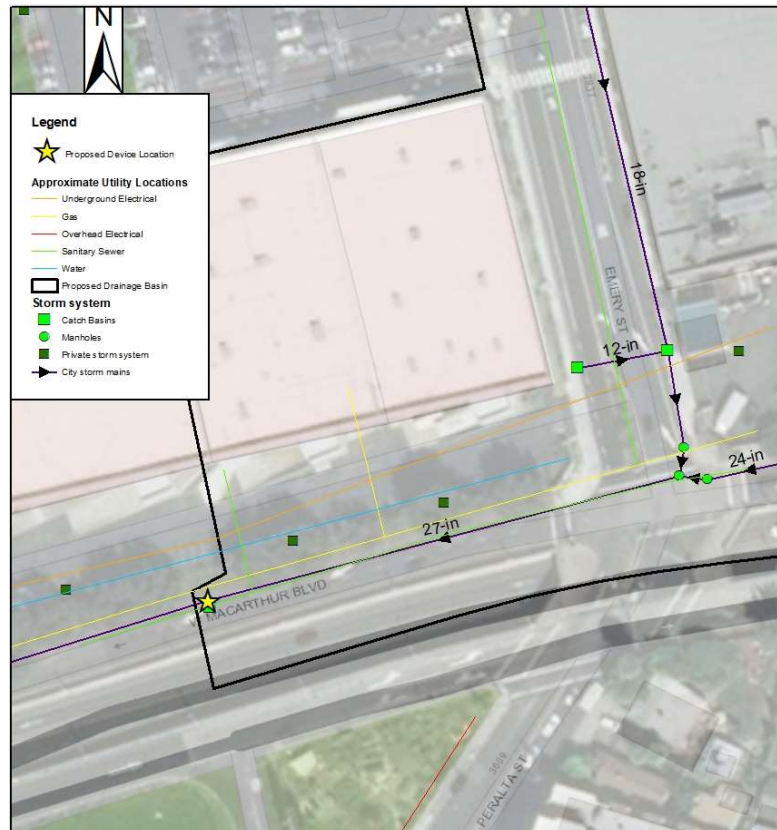


Figure 1: TCD Location

Hydrology

The NPDES MRP Section C.10 states that full trash capture devices must be sized to treat the 1-year, 1-hour storm event. The Trash Capture flow rate as calculated by using the Rational Method to determine the 1-year, 1-hour peak flow of the system draining to the device will be 23 cfs. The 10-year watershed peak discharge rate is 93 cfs, however the existing storm drain system has a capacity of approximately 25 cfs.

Per the NPDES permit, a full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour, storm in the sub-drainage area or designed to carry at least the same flow as the storm drain connected to the inlet. As such, the system should be designed to treat the existing system capacity of 25 cfs. The recommended systems within this memorandum may

not allow the bypass of the theoretical 10-year event should upstream storm drain system ever be upgraded to handle a flow rate of 93 cfs.

Drainage Area

Geographic areas draining to the device were determined using available storm drain system data, hydrologic basins and as-built data provided by City of Emeryville. The drainage area to the device is approximately 81 acres. Caltrans right-of-way makes up approximately 3.8 acres of the total drainage area. Additionally, 34 acres of the drainage area belong to the City of Oakland. See Figure 2 for drainage area used for the device analysis. Caltrans is currently seeking opportunities to team with municipalities in order to share costs to install devices which treat City and Caltrans right of way. They are especially interested in devices which perform PCB and mercury removal through sediment removal.

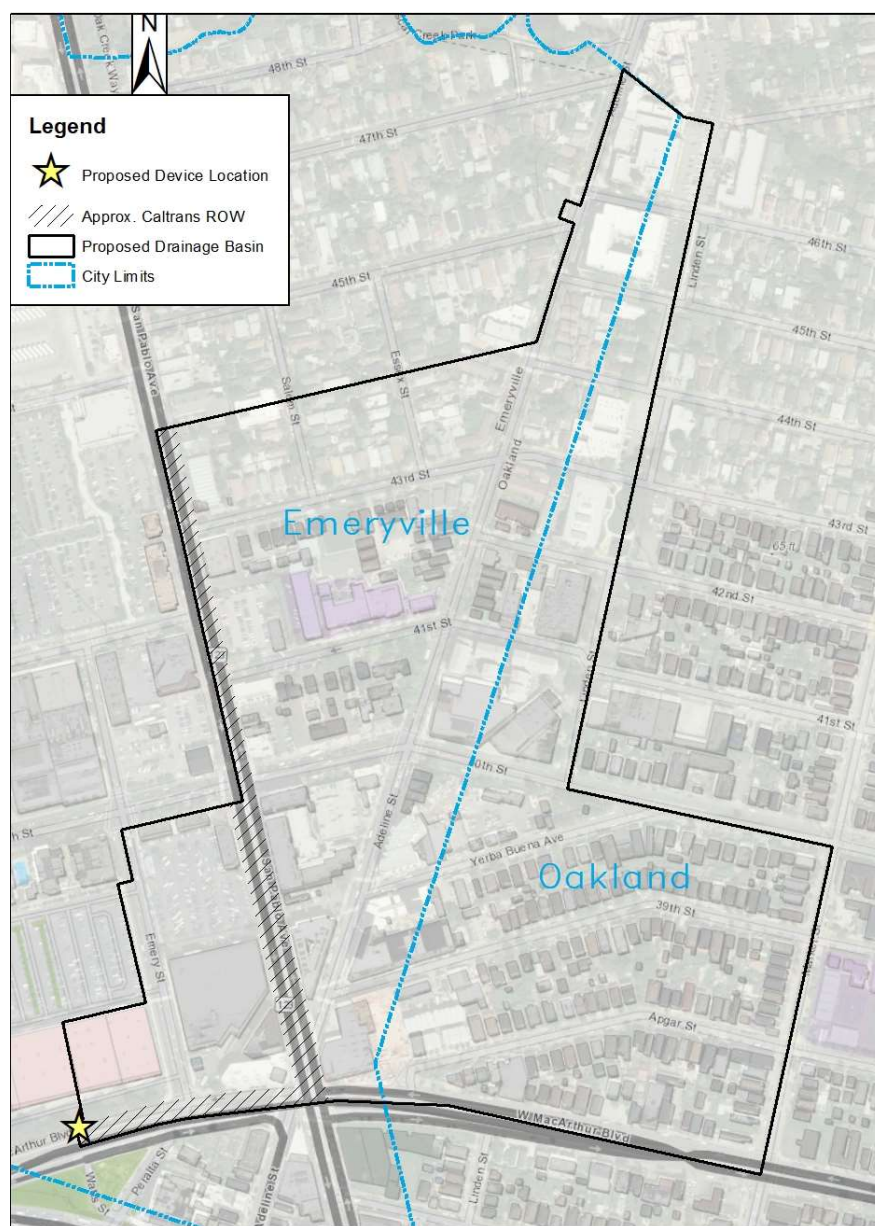


Figure 2: TCD Drainage Area

Trash Management Area Trash Reduction

The proposed device falls within the City's Hydrologic Basin #5 (D05) and Trash Management Areas #3 and 4(TMA3 and TMA4). The GIS data provided was not complete enough to determine the trash reduction credit for the project. The city may elect to hire EOA to determine the percentage of trash credits captured by the device in this proposed location.

Device and Hydraulics

Preliminary Design Considerations

Preliminary trash capture device designs were based on several assumptions and conversations with City staff:

- Treat the system capacity rate of 25 cfs, which exceeds the existing 1-year 1-hour flow rate of 23 cfs for trash
- Remove PCB's and mercury through sediment capture.
- Use a device with the least amount of head loss possible.

After reviewing the available site, utility and as-built data and calculating the storm drain system capacity, the following constraints were identified:

- The existing storm drain system does not provide adequate capacity for the 10-year storm. Because of the lack of storage volume and hydraulic capacity, the head loss across the trash capture device needs to be kept to a minimum to limit the impact to upstream hydraulic grade and associated flooding.
- The existing Caltrans right of way area between the curb and the shopping center fence line in which the device will be installed, not including the paved roadway, is ±30-feet wide. Any device would need to be constructible within this existing area. This will also allow for easier maintenance.

Device Alternatives

There are four State Water Quality Control Board approved TCD types that were considered for this study. A basic description of each device is listed below. None of the devices require confined space entry for regular maintenance. The four devices are illustrated in Figure 3. Note that there are several 'or-equal' products available on the Water Board's approved list. This is intended to provide guidance on the type of product that could be used and is not an endorsement of any of the manufacturers or their specific proprietary products.

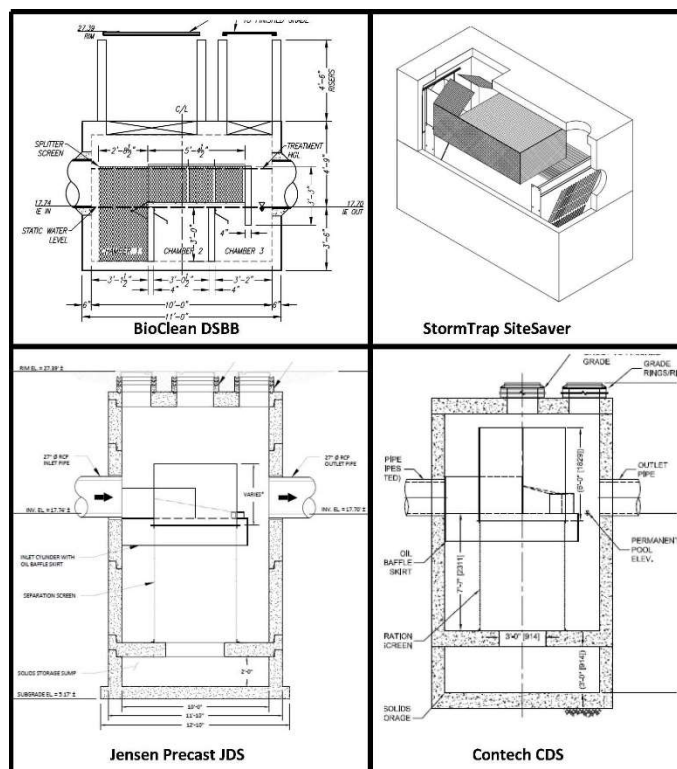


Figure 3: Device Types

Contech Continuous Deflective Separation (CDS) Device

The Contech CDS is a cylindrical hydrodynamic separator with deep sump for collecting trash and other fines. In general this unit has the highest associated head loss of all trash capture devices, similar to the JDS unit below. The CDS has been used throughout the Bay Area. Maintenance uses a vacuum truck.

BioClean Debris Separating Baffle Box (DSBB)

The BioClean DSBB utilizes a screen to capture trash debris and three settling chambers designed to collect fine sediments. The device is maintained from surface level access hatches. Large trash from the cage and the settling chambers is cleaned using a vacuum truck.

StormTrap SiteSaver

The StormTrap SiteSaver utilizes either an in-line netting or a screened basket to capture trash and inclined plates which allow for the settlement of fines in a chamber beneath the net or basket. Regular maintenance is conducted using a crane to remove and replace the net within the device or vacuum truck to empty the basket and sediment storage chamber.

Jensen Precast Jensen Deflective Separator (JDS)

The Jensen Precast JDS is similar to the Contech device in that it is a cylindrical hydrodynamic separator and it has a relatively high head loss. The device uses a separation screening cylinder located in a

concrete vault to collect trash and vortex separation to settle fines. Sediments and trash are cleaned out using a vacuum truck.

Hydraulic Impacts

Table 2 shows each of the devices with their associated head loss at 25 cfs. Note that the 10-year design rate of 93 cfs was not considered as this would only occur if upstream storm drain system capacity upgrades were to be performed. No future upgrades were identified by the City at the time of this study. All four devices can be installed in-line with the existing storm drainage system.

Table 2: System Capacity and Head Loss Based on Device

Trash Capture Device	Device Head Loss at 25 cfs (feet)	Storage Capacity before discharging (cubic feet)	Trash Treatment Capacity (cfs)	Bypass Flow Rate (cfs)
Contech CDS	2.8	-	35	50
BioClean DSBB	0.37	140	25	-
StormTrap SiteSaver	0.5	555	31	50
Jensen Precast JDS	2.7	825	25	56

Cost Estimates

Table 3 presents a cost estimate for each device based on Schaaf and Wheeler's experience with the design and construction of similar projects. Manufacturers for each device supplied preliminary designs and device costs based on the hydraulic needs of the project. Excavation, shoring and hauling costs are scaled based on the preliminary design dimensions of each device. General construction costs including site preparation, traffic control, SWPPP, dewatering, and site repair have been included on a lump sum basis for each device. A 30% construction contingency and 10% mobilization cost are taken into consideration. The estimated construction costs do not assume easement or right-of-way acquisition or utility relocations.

Table 3: Device Dimensions and Costs

Trash Capture Device	Device Only Dimensions (L'xW'xH')	Device Cost	Total Estimated Construction Cost
Contech CDS	11.8'x11.8'x23.4'	\$ 77,500	\$ 414,000
BioClean DSBB	11'x6'x12.8'	\$ 20,000	\$ 235,000
StormTrap SiteSaver	14.7'x6.8'x16.8'	\$ 45,158	\$ 323,000
Jensen Precast JDS	12.8'x12.8'x22.2'	\$ 71,800	\$ 404,000

System Depth

The BioClean DSBB has the shallowest sump of 13 feet below ground surface and the Contech CDS has the deepest sump of 23 feet below ground surface. Based on these depths from the device manufacturers, the City will require a vacuum truck that can meet the required suction depths with the ability to draw water up in a vertical lift of up to 23 feet.

Note that a geotechnical survey has not yet been completed and therefore the presence of liquefiable soils and groundwater may impact the system design, construction costs and feasibility of constructing to the depths listed above. This survey will be conducted under the Site Investigation and Data Collection phase.

Conclusion

We would recommend moving forward with the StormTrap SiteSaver or BioClean DSBB. This is based on device footprint, sump depth, head loss and costs all being lower than the other units reviewed. We would also recommend designing the project to be able to accommodate both device and their competitors in order to get the highest competitive bid.