AGENDA

REMOTE MEETING NOTICE

To address concerns relating to COVID-19, this meeting will be accessible by remote video conferencing. The public may participate in this meeting remotely via zoom as set forth below.

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TO SPEAK ON AN ITEM USING ZOOM

- The Board President will call the item and staff will begin the staff report.
- Click on the Raise Hand icon if you would like to speak on the item.
- Your name will be called on when it's your turn to speak.
- When your name is called, you will be prompted to unmute yourself.
- When your time is up, you will be muted.
- You will repeat this process for each item you want to speak on.

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Meeting ID: 863 5718 4180

Passcode: 257147

A G E N D A
REGULAR MEETING OF THE GOVERNING BOARD
OF THE GOLETA SANITARY DISTRICT
A PUBLIC AGENCY

One William Moffett Place
Goleta, California 93117

November 7, 2022

CALL TO ORDER: 6:30 p.m.

ROLL CALL OF MEMBERS

BOARD MEMBERS: Steven T. Majoewsky
George W. Emerson
Sharon Rose
Edward Fuller
Jerry D. Smith

CONSIDERATION OF THE MINUTES OF THE BOARD MEETING

The Board will consider approval of the Minutes of the Regular Meeting of October 17, 2022.

PUBLIC COMMENTS - Members of the public may address the Board on items within the jurisdiction of the Board.

POSTING OF AGENDA – The agenda notice for this meeting was posted at the main gate of the Goleta Sanitary District and on the District's web site 72 hours in advance of the meeting.

BUSINESS:

1. DISCUSSION AND CONSIDERATION OF MEMORANDUM OF UNDERSTANDING WITH THE MOSQUITO AND VECTOR MANAGEMENT AGENCY FOR MOSQUITO CONTROL SERVICES
(Board may take action on this item.)

2. REVIEW AND CONSIDERATION OF DEPOSITING DISTRICT FUNDS IN THE CALIFORNIA COOPERATIVE LIQUID ASSET SECURITIES SYSTEM (CLASS)
(Board may take action on this item.)

3. REVIEW AND CONSIDERATION OF PRELIMINARY DESIGN REPORT FOR BIOSOLIDS AND ENERGY STRATEGIC PLAN PHASE 2 IMPROVEMENTS
(Board may take action on this item.)

4. GENERAL MANAGER’S REPORT

5. LEGAL COUNSEL'S REPORT

6. COMMITTEE/DIRECTOR'S REPORTS AND APPROVAL/RATIFICATION OF DIRECTOR’S ACTIVITIES

7. PRESIDENT'S REPORT

8. ITEMS FOR FUTURE MEETINGS

9. CORRESPONDENCE
   (The Board will consider correspondence received by and sent by the District since the last Board Meeting.)

10. APPROVAL OF BOARD COMPENSATION AND EXPENSES AND RATIFICATION OF CLAIMS PAID BY THE DISTRICT
    (The Board will be asked to ratify claims.)

ADJOURNMENT

Any public records which are distributed less than 72 hours prior to this meeting to all, or a majority of all, of the District’s Board members in connection with any agenda item (other than closed sessions) will be available for public inspection at the time of such distribution at the District’s office located at One William Moffett Place, Goleta, California 93117.

MINUTES

MINUTES
REGULAR MEETING OF THE GOVERNING BOARD
GOLETA SANITARY DISTRICT
A PUBLIC AGENCY
DISTRICT OFFICE CONFERENCE ROOM
ONE WILLIAM MOFFETT PLACE
GOLETA, CALIFORNIA 93117

October 17, 2022

CALL TO ORDER: President Majoewsky called the meeting to order at 6:30 p.m.

BOARD MEMBERS PRESENT: Steven T. Majoewsky, George W. Emerson, Sharon Rose, Edward Fuller, Jerry D. Smith

BOARD MEMBERS ABSENT: None

STAFF MEMBERS PRESENT: Steve Wagner, General Manager/District Engineer, Rob Mangus, Finance and Human Resources Manager/Board Secretary and Richard Battles, Legal Counsel from Howell Moore & Gough LLP.

OTHERS PRESENT: Tom Evans, Director, Goleta Water District
Craig Geyer, Director, Goleta West Sanitary District
Larry Meyer, Director, Goleta West Sanitary District
Brian McCarthy, General Manager Goleta West Sanitary District

APPROVAL OF MINUTES: Director Smith made a motion, seconded by Director Fuller, to approve the minutes of the Regular Board meeting of 10/03/22. The motion carried by the following vote:

(22/10/2271)

AYES:	5	Majoewsky, Emerson, Rose, Fuller, Smith
NOES:		None
ABSENT:		None
ABSTAIN:		None

POSTING OF AGENDA: The agenda notice for this meeting was posted at the main gate of the Goleta Sanitary District and on the District's website 72 hours in advance of the meeting.

PUBLIC COMMENTS: None

BUSINESS:

1. REVIEW OF FISCAL YEAR 2022-23 FIRST QUARTER BUDGET TO ACTUAL REPORT
   Mr. Wagner and Mr. Mangus gave the staff report on this presentation item.
   No Board action was taken.

2. STATUS REPORT ON GOLETA WEST SANITARY DISTRICT PROJECT NOTIFICATION POLICY
   Mr. Wagner and Mr. Battles gave the staff report on this review item.
   No Board action was taken.

3. PRESENTATION OF THE DISTRICT'S ONLINE CAPITAL IMPROVEMENT PLAN
   Mr. Wagner gave the staff report on this presentation item.
   No Board action was taken.

4. GENERAL MANAGER'S REPORT
   Mr. Wagner gave the report.

5. LEGAL COUNSEL'S REPORT
   Mr. Battles reported that Governor Newsom announced that the Covid-19 State of Emergency will end on February 28, 2023 and discussed the impact to temporary provisions of the Brown Act. He also reported on a new bill signed into law in September, AB 2449, that provides agencies with long-term permissions to hold remote meetings without having to give the public access to private locations, subject to certain restrictions.

6. COMMITTEE/DIRECTORS' REPORTS AND APPROVAL/RATIFICATION OF DIRECTORS' ACTIVITIES

   Director Smith – No report.

   Director Fuller – No report.

   Director Emerson – No report.

   Director Rose – Read her report on the Goleta West Sanitary District meeting she attended.

7. PRESIDENT'S REPORT
   President Majoewsky – reported on the Goleta Water District meeting he attended.

8. ITEMS FOR FUTURE MEETINGS
No Board action was taken to return with an item.

9. CORRESPONDENCE
The Board reviewed and discussed the list of correspondence to and from the District in the agenda.

10. APPROVAL OF BOARD COMPENSATION AND EXPENSES AND RATIFICATION OF CLAIMS PAID BY THE DISTRICT

Director Fuller made a motion, seconded by Director Rose, to ratify and approve the claims, for the period 10/04/22 to 10/17/22 as follows:

Running Expense Fund #4640	$ 231,375.53
Capital Reserve Fund #4650	$ 11,472.50
Depreciation Replacement Reserve Fund #4655	$ 49,885.37

The motion carried by the following vote:

(22/10/2272)

AYES:	5	Majoewsky, Emerson, Rose, Fuller, Smith
NOES:		None
ABSENT:		None
ABSTAIN:		None

ADJOURNMENT

There being no further business, the meeting was adjourned at ____ p.m.

Steven T. Majoewsky Governing Board President	Robert O. Mangus, Jr. Governing Board Secretary
George W. Emerson	Sharon Rose
Edward Fuller	Jerry D. Smith

AGENDA ITEM #1

AGENDA ITEM: 1

MEETING DATE: November 7, 2022

I. NATURE OF ITEM

Discussion and Consideration of Memorandum of Understanding with the Mosquito and Vector Management Agency for Mosquito Control Services

II. BACKGROUND INFORMATION

For the past several years the District has paid the Mosquito and Vector Management District (MVMD) to provide mosquito control services on the District's treatment plant property pursuant to a Memorandum of Understanding (MOU). The last MOU with the MVMD was executed in 2020 and expired June 30, 2022.

A new proposal for mosquito control services and an MOU for FY22-23 and FY23-24 have been prepared and is attached to this report. The proposed services covered by the new MOU are basically the same as the prior MOU.

Staff has met with representatives of the MVMD to review the MOU and confirm both the scope of mosquito control services needed and associated costs. The new MOU for mosquito control services on District property is presented herein for Board consideration.

III. COMMENTS AND RECOMMENDATIONS

The proposed MOU includes a site-specific Mosquito Management Plan (MMP) for the District property that describes the areas to be treated, type of treatment to be performed and the frequency of treatment. The main areas to be treated are the 6.5-acre open space/wetland at the corner of Fowler Road and William Moffett Place and the District's stabilization ponds. The term of the MOU is through June 2024. The total annual cost of treatment for FY22-23 and FY23-24 (based on labor and materials) is estimated to be $5,719. These are estimated costs. Actual costs billed will be based on a time and materials basis as appropriate and in accordance with the approved scope of work. No additional services shall be performed, or costs incurred without prior written approval.

Staff recommends that the Board authorize the General Manager to execute the proposed MOU with the MVMD for Mosquito Control Services for FY22-23 and FY23-24.

IV. REFERENCE MATERIAL

Mosquito and Vector Management District Memorandum of Understanding and Management Plan for FY22-23 and FY23-24

Mosquito and Vector Management District of Santa Barbara County

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is entered into on _____ by and between the Mosquito and Vector Management District of Santa Barbara County, a special district (hereinafter referred to as the "Mosquito District"), and the Goleta Sanitary District (hereinafter referred to as the "Sanitary District"), as described below with respect to the following facts:

WHEREAS, the Sanitary District requires mosquito control services in order to regulate mosquito-breeding sources within the Mosquito Breeding Habitats of its properties; and

WHEREAS, in accordance with its principal act and California Health & Safety Code Section 2045, the Mosquito District is authorized to provide mosquito control services and enter into an agreement with the Sanitary District for the surveillance and control of vectors; and

WHEREAS, the Sanitary District desires to avail itself of such services available from the Mosquito District; and

WHEREAS, each party desires to recognize its role and responsibilities with regard to the California Health and Safety Code and hereby affirm their relationship and obligations; and

WHEREAS, the term of this MOU is for the 2022-2023 and 2023-2024 Fiscal Years, and shall expire on June 30, 2024; and

WHEREAS, the Mosquito District's Board of Trustees authorized the execution of this MOU at their regular Board meeting on *(date authorized):*____; and

WHEREAS, the Sanitary District's Board of Directors authorized the execution of this MOU at their regular Board meeting on *(date authorized):*_____.

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein, the parties hereby agree as follows:

The Mosquito District shall:

1) Provide mosquito control services on those Sanitary District properties in accordance with and as more particularly described in the October 4, 2022 Mosquito Management Plan ("Plan") attached as Exhibit A hereto and incorporated herein by reference. The Plan depicts the Mosquito Breeding Habitats (including but not limited to wetland habitats, water drainage impoundment sites, permanent and vernal pools or ponds, and any existing wet spots) located on Sanitary District properties for which the Mosquito District shall provide mosquito control services in accordance with this MOU. At the request of the Sanitary District, the Mosquito District shall also treat (at an extra cost in accordance with Section 7 hereto) additional breeding habitats not included within the scope of the Plan which may arise on Sanitary District properties.
2) Assign adequate personnel, equipment, and materials not to exceed the maximum estimated amounts as delineated in the Plan for each Fiscal Year of this MOU, to carry out mosquito control services.

3) Apply appropriate chemical, biological, or microbiological agents to suppress larval infestations of mosquitoes and to take reasonable steps to prevent and control mosquito breeding at all Sanitary District properties as delineated in the Plan for each Fiscal Year of this MOU.

4) Provide biannual (twice per year) reports of the Mosquito District's performance of mosquito control activities to the Sanitary District. The Mosquito District's report shall include the following items:

   a) Detailed monitoring activities including, but not limited to, the number of surveillances per site and their results.
   b) The dip test/results that triggered the treatments.
   c) Treatment agent used and amount used per area.
   d) Locations, dates, and times of treatments.

5) Prior to the end of this MOU, provide to the Sanitary District an updated, proposed Mosquito Management Plan for the 2022-2023 and 2023-2024 Fiscal Years, including but not limited to: updated costs for labor and materials, additional breeding sites or habitat areas, overall assessment and effectiveness of treatment, long-term mosquito management strategies, as well as in-depth summaries of all mosquito control activity documented over the term of this MOU.

6) Keep records of all Mosquito District employee and equipment time and all materials spent in providing services under this MOU and make those records available to the Sanitary District upon reasonable notice.

7) A. Invoice the Sanitary District approximately every six (6) months for labor and materials expended by the Mosquito District as described in the Plan. Subject to the provisions of the following paragraph, the total of the respective invoices of the Mosquito District for each fiscal year shall not exceed the labor and materials amounts set forth in the "Estimated Cost of Control" in Section D within the Plan.

   B. The costs in the table in Section D within the Plan represent the best estimate of the Mosquito District of the cost of providing mosquito control services to the Sanitary District, as contemplated by the Plan, for the respective fiscal years covered by this MOU. However, the parties acknowledge that: (1) cyclical climate and seasonal conditions (including but not limited to "wet" years) may vary; or (2) additional breeding habitats not contemplated in the Plan may arise on Sanitary District properties. These circumstances may, in the judgment of the Mosquito District, require an increase in the level of services to be provided, and costs to be incurred, by the Mosquito District from that contemplated in the Plan so as to provide an adequate level of service to the Sanitary District. In such instance, the Mosquito District upon such discovery shall promptly inform the Sanitary District, and the parties shall meet to attempt in good faith to agree on an increase in the amount of Charges for work to be performed hereunder, through an addendum to this MOU. Nothing in this MOU, however, requires the parties to reach such agreement.

8) To the extent permitted by law, investigate, defend, protect, indemnify, and hold harmless the Sanitary District and its officers, directors, employees, and agents from and against any and all loss, damage, liability, claims, demands, costs, charges, and expense (including reasonable attorney fees in the event of litigation) which the Sanitary District may incur, sustain, or be subjected to on account of loss or damage to property or loss of use thereof, or for bodily injury to or death of any

persons (including but not limited to property, employees, subcontractors, agents, and invitees of each party hereto) arising out of the negligent act or omissions of the Mosquito District or its agents, employees, or subcontractors in the performance of work pursuant to this MOU, specifically excepting, however, any property damage, loss of use, bodily injury or death caused by or attributable to the active negligence, sole negligence or willful misconduct of the Sanitary District or its officers, directors, employees, agents or contractors.

The Sanitary District shall:

9) Promptly pay to Mosquito District invoices which comply with Section 7 above.,

10) Invoices shall be due upon presentation. All payments to Mosquito District thirty (30) days past due shall be considered delinquent and shall be subject to: (a) a 2% late payment charge on the principal amount owed; and (b) interest at the legal rate.

11) Make reasonable accommodations to assist Mosquito District to gain access to the Sanitary District's properties to fulfill the purposes of this MOU.

General Terms and Conditions:

12) This MOU shall be effective on the date first set forth above and shall expire on June 30, 2024. Consistent with Section 5, the Mosquito District will provide the Sanitary District with an updated, proposed Plan for the following two fiscal years, and the parties will attempt in good faith to reach agreement on the terms of a new MOU at that time. Nothing in this MOU, however, requires the parties to reach such agreement.

13) Either party in its sole discretion and without penalty may terminate this MOU after thirty (30) days written notice of termination to the other. In the event of termination, Sanitary District shall pay Mosquito District for the reasonable cost of all services performed by the Mosquito District to the date of termination in accordance with the Mosquito Abatement and Vector Control District Law (Health and Safety Code Section 2000 et seq.)

14) All notices, correspondence and communication regarding performance of services which are the subject of this MOU shall be made as follows:

To Mosquito District:

General Manager
Mosquito and Vector Management District of Santa Barbara County
PO Box 1389
Summerland CA 93067

To Sanitary District:

General Manager
Goleta Sanitary District
One William Moffett Place
Goleta CA 93117

15) The Mosquito District shall replace or repair any Sanitary District improvements (to the extent and condition existing prior to entry) which are destroyed or damaged as a result of the Mosquito District's entry and passage upon the Sanitary District's properties.

16) The Mosquito District shall access the Sanitary District properties during normal business hours, hereby defined as from 7:30 am to 4:00 pm Monday through Friday. Should Mosquito District require access to any Sanitary District properties during other than the normal business hours, then such arrangements shall be made in advance with the Sanitary District at least 24 hours prior to the Mosquito District's access.

17) The Mosquito District's entry and passage onto any of the Sanitary District's properties shall not interfere with the Sanitary District's normal operations.

18) The Mosquito District's staff shall notify Sanitary District staff (check-in and check-out) upon each access of the Sanitary District's properties.

19) The Mosquito District shall furnish the Sanitary District certificates of insurance, from insurers satisfactory to Sanitary District, evidencing the following insurance coverages and compliance with the following requirements:

A. General Liability

Comprehensive, or Commercial Form, or its equivalent, with Aggregate Limit (Minimum Limit):

1. Combined Single Limit Per Occurrences $3,000,000.
2. Products and Completed Operations $1,000,000.
3. Personal and Advertising $1,000,000.
4. General Aggregate, Bodily Injury, Property Damage *$5,000,000.

*Not applicable to Comprehensive Forms

If the above insurance is written on claims made form, it shall continue for three years following termination of this MOU. The insurance shall provide for a retroactive date of placement prior to or coinciding with the effective date of this MOU.

B. Business Automobile Liability Insurance for owned, schedule, non-owned or hired automobiles with a combined single limit of not less than $1,000,000 per occurrence.

C. Worker's Compensation: as required under California State Law.

D. Such other insurance in such amounts which from time to time may be reasonably required by the mutual consent of the Sanitary District and the Mosquito District against other insurable risks relating to performance.

E. The Sanitary District approves of the participation by Mosquito District in the Vector Control Joint Powers Agency insurance pool in place of these requirements, so long as the insurance pool meets the requirements for coverage contained in this section and provides the required certificate of insurance.

It should be expressly understood, however, that the coverages required under Subparagraphs 18.A and 18.B shall not in any way limit the liability of the Mosquito District for damages or injury arising out of the Mosquito District’s operations.

The coverages referred to under Subparagraphs 19.A and 19.B shall be endorsed to include the Sanitary District as an additional insured. A copy of the endorsement evidencing that the Sanitary District has been added as a named additional insured on the policy must be attached to the certificate of insurance. Certificates shall further provide for thirty (30) days advance written notice

to the Sanitary District of any modification, change, or cancellation of any of the above insurance coverages.

20) Neither party may assign its rights or obligations of this MOU without the express written consent of the other party. No modification of this MOU shall be effective unless made in writing and signed by a duly authorized representative of each party.

21) This MOU states the entire contract between the parties and supersedes any previous or contemporaneous written or oral representations, statements, negotiations, or agreements. This MOU is the product of negotiations between the parties and shall not be construed against either party as the drafter of the document.

22) This MOU shall be governed by the Laws of the State of California and any dispute between the parties shall be filed and heard in the County of Santa Barbara.

23) Each party has full power and authority to enter into and perform this MOU and the persons signing this MOU on behalf of each warrants that he/she has been properly authorized and empowered to enter into this MOU. Each party further acknowledges that it has read this MOU, understands it and agrees to be bound by it.

IN WITNESS WHEREOF, the parties have caused this MOU to be executed by their authorized representatives, effective as of the date first set forth above.

MOSQUITO AND VECTOR MANAGEMENT DISTRICT OF SANTA BARBARA COUNTY	GOLETA SANITARY DISTRICT
_____	_____
Brian Cabrera, General Manager	Steve Wagner, General Manager
Date: _____	Date: _____

Exhibit A

MOSQUITO MANAGEMENT PLAN
FOR THE
GOLETA SANITARY DISTRICT

FISCAL YEARS 2022-2023 AND 2023-2024

prepared by

Mosquito and Vector Management District of Santa Barbara County

October 4, 2022

A. INTRODUCTION

The Goleta Sanitary District's Wastewater Treatment facility (“GSD”) has two large mosquito breeding sources on its property. The Mosquito and Vector Management District of Santa Barbara County ("MVMD") controls mosquitoes in these locations using the methods described below. These methods do not include any adulticiding or "fogging" techniques which target adult mosquitoes. The MVMD only uses larvicides which specifically target the mosquitoes’ aquatic larval stage.

Habitat Source 1, the most important mosquito breeding source, consists of a pair of tule-filled freshwater marshes at the corner of Moffett Place and Fowler Road on GSD property. This 6.5-acre site is a seasonal wetland that floods during winter rainstorms. Floodwater mosquitoes (*Aedes washinoi*) breed in this wetland and their eggs hatch as the wetland floods. The adult females are not known to be disease vectors, but are vicious and aggressive biters that cause serious mosquito nuisance problems. Floodwater mosquitoes have only one generation per year and can be controlled with a pre-flood treatment of time-released larvicide applied before flooding occurs. Later in the season other mosquito species may begin breeding at this site including *Culex* species which are the primary vectors of West Nile virus.

Habitat Source 2 is the three settling ponds on the east side of the GSD facility. These can occasionally become mosquito breeding sites. This usually occurs when vegetation starts growing in the ponds and creates refuges for mosquito larvae. The total area of the ponds is approximately 5.5 acres, of which about 2.5 acres the MVMD is equipped to treat. Because of the sporadic nature of mosquito breeding in this habitat, it will be treated only upon request by the GSD and as agreed between the GSD and the MVMD.

B. MOSQUITO MANAGEMENT TECHNIQUES

1. Mosquito Larvicides

Methoprene

Altosid® pellets contain the active ingredient methoprene which prevents mosquito larvae from maturing into adult mosquitoes. Methoprene is extremely selective – it affects very few organisms besides mosquitoes. Altosid pellets provide up to 30 days of residual mosquito control. **Altosid P35®** pellets can also be applied before flooding. They provide residual control of most major mosquito species for up to 35 days. Altosid briquets are a 30-day time-release formulation also containing methoprene. They can be applied to large, inaccessible mosquito breeding sources through the use of slingshots. **Altosid XR**-Briquets are formulated to have a 150-day time-release.

Floodwater mosquitoes lay their eggs in low-lying and seasonal marshes that eventually become inundated with water. The MVMD consistently finds these mosquitoes every year at the GSD’s breeding sources as described below. Pre-flood treatments allows the Altosid to be activated upon flooding, and it remains effective for the duration of the formulated time-release period. Pre-flood applications allow larvicides to be applied to areas that eventually become inaccessible due to dense vegetation and flooding.

Bacillus thuringiensis israelensis

VectoBac G® is a biological mosquito larvicide that contains the active ingredient *Bacillus thuringiensis israelensis* ("Bti"). Bti is derived from a soil bacterium which produces a toxin that

kills mosquito larvae within 48 hours after they ingest it. It is not toxic to birds, frogs, turtles, fish, and most other insects. VectoBac has very little residual activity so it must be applied repeatedly for continual mosquito control. VectoBac G is a granular mosquito larvicide so it can be applied with hand-held broadcasting equipment.

Bacillus sphaericus

VectoLex FG® is a biological mosquito larvicide that has *Bacillus sphaericus*, as its active ingredient. VectoLex FG is highly effective against *Culex* mosquito species that breed in the settling ponds. VectoLex FG may provide some residual mosquito control under certain conditions. This material works well at controlling mosquito larvae in water with high levels of organic matter, like that in the GSD settling ponds. *Bacillus sphaericus*' mode of action is similar to Bti's, but is different enough to prevent the mosquitoes from becoming resistant to Bti when the two materials are used alternately.

VectoBac and VectoLex treatments target *Culex* species mosquitoes which breed in the springtime.

2. Monitoring

Dipping

"Dipping" is a method of inspecting water sources for mosquito larvae using a "dipper" which is a white, 4-inch diameter cup attached to a 3- to 4-foot long handle. A cupful of water is collected from the habitat and inspected for mosquito larvae. Mosquito control measures are taken when significant numbers of larvae are found. Inspection by dipping is not practical where vegetation in and around water sources is extremely dense or when the mosquito breeding habitat is inaccessible.

CO_2 Mosquito Trapping

The cost for carbon dioxide (CO_2) trapping is not part of this Mosquito Management Plan, but is described here because it is the only way to monitor for mosquitoes in habitats where dense tule vegetation makes it impossible to monitor by dipping. Female mosquitoes are attracted to CO_2 when they are searching for a blood meal. The mosquito trap consists of a small battery-powered fan hanging below a container of dry ice. The CO_2 released from the dry ice attracts hungry female mosquitoes which are then pulled by the suction created by the fan into a mesh bag attached under the fan housing. Traps are placed near mosquito habitats during the late afternoon and are retrieved the next morning. All mosquitoes caught in the traps are identified to species in the laboratory. Trap counts give an indication of mosquito activity in the area and of the species that are present. Mosquito control measures can be implemented when high activity is indicated. Captured mosquitoes can also be sent to a laboratory to be analyzed for mosquito-borne pathogens.

C. MOSQUITO BREEDING SOURCES

Habitat 1 - Wetland at Corner of Moffett Place and Fowler Road.

a. Description:

This site has a pair of freshwater ponds totaling 6.5 acres. Dense tule vegetation, which provides an excellent habitat for mosquito breeding, grows throughout the entire wetland except for the southwest corner which has a dense growth of willows.

b. Mosquitoes:

Floodwater mosquitoes (*Aedes washinoi*) breed and lay their eggs at this site in winter and spring. The eggs lay dormant through the summer and fall and hatch when the water level rises after heavy

winter rains. Floodwater mosquitoes are not known to be disease vectors, but they are vicious and aggressive biters and are the primary nuisance problem at the GSD. In summer and fall the tule mosquito (*Culex erythrothorax*) and the encephalitis mosquito (*Culex tarsalis*), both vectors of West Nile virus, and other mosquito species become active.

c. Mosquito Production:

Floodwater mosquito production can be heavy, due to the extensive amount of dense tule vegetation, while *Culex spp.* production in past seasons has been moderate.

d. Scope of Control Work:

Altosid briquets are the most effective and efficient way to treat this site for floodwater mosquitoes due to its 30-day time release formulation. This material can be applied using slingshots either before or after it floods. The District proposes annual pre- or post-flood treatment of wetland habitat 1 with Altosid briquets.

Later in the season vector control technicians can treat specific areas within wetland Habitat 1 with VectoBac G, as needed, to control *Culex* species mosquitoes. The number of treatments will vary according to the amount of rainfall received during the rainy season. This mosquito management plan includes the cost of four spot treatments with VectoBac.

Figure 1. Map of Goleta Sanitary District:

Habitat 2 – Settling Ponds.

a. Description:

This habitat consists of two settling ponds totaling approximately 5.2 acres. Vegetation growing in the stagnant water and effluent in these ponds can create ideal mosquito breeding habitats.

b. Mosquitoes:

Foul-water mosquitoes (*Culex stigmatosoma*) and southern house mosquitoes (*Culex quinquefasciatus*) are the primary species that breed in this kind of aquatic habitat. Other species such as the encephalitis mosquito and cool-weather mosquitoes (*Culex spp.*) also may occasionally breed here.

c. Mosquito Production:

Mosquito production is normally light to moderate depending upon conditions such as vegetative growth and water levels within individual ponds.

d. Scope of Control Work:

Of the 5.2 acres, the Mosquito and Vector Management District's is equipped to treat only about 2.5 acres. Vector control technicians can treat the peripheral 2.5 acres with VectoBac G or VectoLex FG. Both are granular mosquito larvicides that can be applied using a gasoline-powered backpack applicator.

As this habitat only occasionally breeds mosquitoes, the MVMD will treat the settling ponds only upon the request of the GSD and after discussions between the two Districts. The cost of treatment of the settling ponds is not included in our estimated control costs.

D. Estimated Cost of Control:

Position	Estimated Hours Worked	Rate/hour	Labor costs
Vector Control Tech	5	$ 83.91	$ 419.55
Vector Control Tech	3	$ 87.03	$ 261.09
Lead Vector Control Tech	2	$ 97.50	$ 195.00
Vector Biologist Tech	2	$ 100.43	$ 200.86
Seasonal Vector Control Tech	5	$ 33.13	$ 165.65
		Total =	**$ 1,242.15**

Material	Estimated Amount Applied	Cost per lb.	Material Costs
VectoBac G	8	2.96	$ 23.68
VectoLex FG	10	7.39	$ 73.90
Altosid briquets	31	113.18	$ 3,508.58
Altosid P35	5	20.17	$ 100.85
Altosid pellets	25	28.63	$ 715.75
		Total =	**$ 4,422.76**

One-way distance to UCSB* (miles)	Estimated number of visits	Rate/mile**	Mileage Costs
17.3	5	$ 0.625	$ 54.06
		Total =	**$ 54.06**

* Distance from the District's office to GSD, according to Google Maps

** Standard mileage rate set by the Internal Revenue Service beginning July 1, 2022

	Grand Total =	**$ 5,718.97**

Cost not to exceed $5,718.97 per fiscal year.

The Mosquito and Vector Management District of Santa Barbara County welcomes the opportunity to provide its services to the Goleta Sanitary District. We appreciate the Goleta Sanitary District's commitment to protecting their staff and their neighbor's health and quality of life.

AGENDA ITEM #2

AGENDA ITEM: 2

MEETING DATE: November 7, 2022

I. NATURE OF ITEM

Review and Consideration of Depositing District Funds in the California Cooperative Liquid Asset Securities System (CLASS)

II. BACKGROUND INFORMATION

At a recent meeting Santa Barbara chapter of the California Special District Association (CSDA) a presentation was made regarding a new public investment fund, similar in nature to the Local Agency Investment Fund (LAIF) called the California Cooperative Liquid Assets Securities System (California CLASS).

California CLASS is a joint exercise of powers entity authorized under Section 6509.7, California Government Code. California CLASS is a pooled investment option that was created via a joint exercise of powers agreement by and among California public agencies. California CLASS offers public agencies a convenient method for investing in highly liquid, investment-grade securities carefully selected to optimize interest earnings while maximizing safety and liquidity. The California CLASS Prime Cash fund offers public agencies the opportunity to strengthen and diversify their cash management programs in accordance with the safety, liquidity, and yield hierarchy that provides the framework for the investment of public funds. After the presentation made at the most recent Local Chapter CSDA meeting, Directors Fuller and Rose suggested the District should consider this option.

III. COMMENTS AND RECOMMENDATIONS

The California Debt and Investment Advisory Commission Local Agency Investment Guidelines outline allowable Investment Instruments per State Government Code Applicable to all Local Agencies; a table of those investments is attached. The table includes Joint Powers Authority Pool, just above the entry for LAIF. A copy of the Joint Exercise of Powers agreement for California CLASS is attached to this report.

A two-page flyer on California CLASS is also attached that gives a general overview. The California CLASS Board of Trustees consist of two CSDA public agency members, two League of California Cities public agency members, and one public agency member elected at large.

Public Trust Advisors serve as the California CLASS investment advisors and administrator of the funds. Public Trust Advisors provide investment services for more than 5,000 local government investment pool clients nationally, with combined assets of more than $55 billion (as of May 31, 2022). The custodian of the funds is US Bank, and other service providers include Orrick (special legal counsel) and Clifton Larson Allen LLP (auditor).

The California CLASS offers two funds, Prime and Enhanced Cash. However, only the Prime fund is being considered, as the Enhanced Cash Fund does not seek to maintain a stable net asset value and does not offer daily liquidity. As such, staff is recommending consideration of the CLASS Prime fund only. Prime fund information, investment policy and financial disclosures are attached.

Since the California CLASS investment strategy is to focus on securities with shorter maturities than compared to LAIF, the Prime Fund is expected to adjust quicker and provide a higher yield in a rising interest rate environment as exists now. This is one of the primary reasons that the CLASS Prime Fund is currently earning over 3% while LAIF is earning around 1.5%.

Should the Board wish to make deposits into California CLASS Prime Fund, a resolution amending the District's investment policy (Administrative Code Section 3-2.2-1. DEPOSITS), to include the California CLASS investment fund would be brought back to the Board for consideration at a subsequent meeting.

IV. REFERENCE MATERIALS

California Debt and Investment Advisory Commission Local Agency Investment Guidelines Figure 1 Allowable Investment Instruments per State Government Code Applicable to all Local Agencies

California CLASS Joint Exercise of Powers Agreement

California CLASS Features and Benefits

California CLASS Prime Fund Information

California CLASS Prime Fund Investment Policy

California CLASS Financial Disclosures 09/30/22

LOCAL AGENCY INVESTMENT GUIDELINES

CALIFORNIA DEBT AND INVESTMENT ADVISORY COMMISSION

Update for 2022

Reflects state law changes
effective as of January 1, 2022
CDIAC 22.02

FIGURE 1

ALLOWABLE INVESTMENT INSTRUMENTS PER STATE GOVERNMENT CODE (AS OF JANUARY 1, 2022)[A] APPLICABLE TO ALL LOCAL AGENCIES[B]

See "Table of Notes for Figure 1" on the next page for footnotes related to this figure.

INVESTMENT TYPE	MAXIMUM MATURITY[C]	MAXIMUM SPECIFIED % OF PORTFOLIO[D]	MINIMUM QUALITY REQUIREMENTS	GOV'T CODE SECTIONS
Local Agency Bonds	5 years	None	None	53601(a)
U.S. Treasury Obligations	5 years	None	None	53601(b)
State Obligations–CA And Others	5 years	None	None	53601(c) 53601(d)
CA Local Agency Obligations	5 years	None	None	53601(e)
U.S Agency Obligations	5 years	None	None	53601(f)
Bankers' Acceptances	180 days	40%[E]	None	53601(g)
Commercial Paper–Non-Pooled Funds[F] (under $100,000,000 of investments)	270 days or less	25% of the agency's money[G]	Highest letter and number rating by an NRSRO[H]	53601(h)(2)(c)
Commercial Paper–Non-Pooled Funds (min. $100,000,000 of investments)	270 days or less	40% of the agency's money[G]	Highest letter and number rating by an NRSRO[H]	53601(h)(2)(c)
Commercial Paper–Pooled Funds[I]	270 days or less	40% of the agency's money[G]	Highest letter and number rating by an NRSRO[H]	53635(a)(1)
Negotiable Certificates of Deposit	5 years	30%[J]	None	53601(i)
Non-negotiable Certificates of Deposit	5 years	None	None	53630 et seq.
Placement Service Deposits	5 years	50%[K]	None	53601.8 and 53635.8
Placement Service Certificates of Deposit	5 years	50%[K]	None	53601.8 and 53635.8
Repurchase Agreements	1 year	None	None	53601(j)
Reverse Repurchase Agreements and Securities Lending Agreements	92 days[L]	20% of the base value of the portfolio	None[M]	53601(j)
Medium-Term Notes[N]	5 years or less	30%	"A" rating category or its equivalent or better	53601(k)
Mutual Funds And Money Market Mutual Funds	N/A	20%	Multiple[P,Q]	53601(l) and 53601.6(b)
Collateralized Bank Deposits[R]	5 years	None	None	53630 et seq. and 53601(n)
Mortgage Pass-Through and Asset-Backed Securities	5 years or less	20%	"AA" rating category or its equivalent or better	53601(o)
County Pooled Investment Funds	N/A	None	None	27133
Joint Powers Authority Pool	N/A	None	Multiple[S]	53601(p)
Local Agency Investment Fund (LAIF)	N/A	None	None	16429.1
Voluntary Investment Program Fund[T]	N/A	None	None	16340
Supranational Obligations[U]	5 years or less	30%	"AA" rating category or its equivalent or better	53601(q)
Public Bank Obligations	5 years	None	None	53601(r), 53635(c) and 57603

TABLE OF NOTES FOR FIGURE 1

[A] *Sources: Sections 16340, 16429.1, 27133, 53601, 53601.6, 53601.8, 53630 et seq., 53635, 53635.8, and 57603.*

[B] *Municipal Utilities Districts have the authority under the Public Utilities Code Section 12871 to invest in certain securities not addressed here.*

[C] *Section 53601 provides that the maximum term of any investment authorized under this section, unless otherwise stated, is five years. However, the legislative body may grant express authority to make investments either specifically or as a part of an investment program approved by the legislative body that exceeds this five year remaining maturity limit. Such approval must be issued no less than three months prior to the purchase of any security exceeding the five-year maturity limit.*

[D] *Percentages apply to all portfolio investments regardless of source of funds. For instance, cash from a reverse repur-chase agreement would be subject to the restrictions.*

[E] *No more than 30 percent of the agency's money may be in bankers' acceptances of any one commercial bank.*

[F] *Includes agencies defined as a city, a district, or other local agency that do not pool money in deposits or investment with other local agencies, other than local agencies that have the same governing body.*

[G] *Local agencies, other than counties or a city and county, may purchase no more than 10 per-cent of the outstanding commercial paper and medium-term notes of any single issuer.*

[H] *Issuing corporation must be organized and operating within the U.S., have assets in excess of $500 million, and debt other than commercial paper must be in a rating category of "A" or its equivalent or higher by a nationally recognized statistical rating organization, or the issuing corporation must be organized within the U.S. as a special purpose corporation, trust, or LLC, have program wide credit enhancements, and have commercial paper that is rated "A-1" or higher, or the equivalent, by a nationally recognized statistical rating agency.*

[I] *Includes agencies defined as a county, a city and county, or other local agency that pools money in deposits or investments with other local agencies, including local agencies that have the same governing body. Local agencies that pool exclusively with other local agencies that have the same governing body must adhere to the limits set forth in Section 53601(h)(2)(C).*

[J] *No more than 30 percent of the agency's money may be in negotiable certificates of deposit that are authorized under Section 53601(i).*

[K] *Effective January 1, 2020, no more than 50 percent of the agency's money may be invested in deposits, including certificates of deposit, through a placement service as authorized under 53601.8 (excludes negotiable certificates of deposit authorized under Section 53601(i)). On January 1, 2026, the maximum percentage of the portfolio reverts back to 30 percent. Investments made pursuant to 53635.8 remain subject to a maximum of 30 percent of the portfolio.*

[L] *Reverse repurchase agreements or securities lending agreements may exceed the 92-day term if the agreement includes a written codicil guaranteeing a minimum earning or spread for the entire period between the sale of a security using a reverse repurchase agreement or securities lending agreement and the final maturity dates of the same security.*

[M] *Reverse repurchase agreements must be made with primary dealers of the Federal Reserve Bank of New York or with a nationally or state chartered bank that has a significant relationship with the local agency. The local agency must have held the securities used for the agreements for at least 30 days.*

[N] *"Medium-term notes" are defined in Section 53601 as "all corporate and depository institution debt securities with a maximum remaining maturity of five years or less, issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States."*

[O] *No more than 10 percent invested in any one mutual fund. This limitation does not apply to money market mutual funds.*

[P] *A mutual fund must receive the highest ranking by not less than two nationally recognized rating agencies or the fund must retain an investment advisor who is registered with the SEC (or exempt from registration), has assets under management in excess of $500 million, and has at least five years' experience investing in instruments authorized by Sections 53601 and 53635.*

[Q] *A money market mutual fund must receive the highest ranking by not less than two nationally recognized statistical rating organizations or retain an investment advisor registered with the SEC or exempt from registration and who has not less than five years' experience investing in money market instruments with assets under management in excess of $500 million.*

[R] *Investments in notes, bonds, or other obligations under Section 53601(n) require that collateral be placed into the custody of a trust company or the trust department of a bank that is not affiliated with the issuer of the secured obligation, among other specific collateral requirements.*

[S] *A joint powers authority pool must retain an investment advisor who is registered with the SEC (or exempt from registration), has assets under management in excess of $500 million, and has at least five years' experience investing in instruments authorized by Section 53601, subdivisions (a) to (o).*

[T] *Local entities can deposit between $200 million and $10 billion into the Voluntary Investment Program Fund, upon approval by their governing bodies. Deposits in the fund will be invested in the Pooled Money Investment Account.*

[U] *Only those obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC), and Inter-American Development Bank (IADB), with a maximum remaining maturity of five years or less.*

California CLASS

Joint Exercise of Powers Agreement

June 6, 2022

California Cooperative Liquid Assets Securities System

Joint Exercise of Powers Agreement

by and among

the parties that have entered into this
Joint Exercise of Powers Agreement

DATED AS OF JUNE 6, 2022

TABLE OF CONTENTS

This **JOINT EXERCISE OF POWERS AGREEMENT** dated as of June 6, 2022 (this "**Agreement**") is entered into by each Public Agency (as defined below) that has executed this Agreement or that has or will execute counterparts of this Agreement pursuant to Section 2.1 hereof (the "**Founding Participants**").

RECITALS:

WHEREAS, each Public Agency has the authority to invest funds in its treasury in statutorily permitted investments including but not limited to Section 53601 of the California Government Code, as amended; and

WHEREAS, Section 6509.7 of the Act (as defined below) provides:

"Notwithstanding any other provision of law, two or more public agencies that have the authority to invest funds in their treasuries may, by agreement, jointly exercise that common power. Funds invested pursuant to an agreement entered into under this section may be invested in securities and obligations as described by subdivision (p) of Section 53601. A joint powers authority formed pursuant to this section may issue shares of beneficial interest to participating public agencies. Each share shall represent an equal proportionate interest in the underlying pool of securities owned by the joint powers authority. To be eligible under this section, the joint powers authority issuing the shares of beneficial interest shall have retained an investment advisor…. A joint powers authority formed pursuant to this section is authorized to establish the terms and conditions pursuant to which agencies may participate and invest in pool shares…."; and

WHEREAS, the Act authorizes the Founding Participants to create a joint exercise of powers entity separate from the Founding Participants to exercise the common powers of the Founding Participants, as specified in this Agreement, and to act as administrator of this Agreement; and

WHEREAS, the purpose of this Agreement is to create and establish a separate joint exercise of powers entity known as the California Cooperative Liquid Assets Securities System (collectively referred to herein, as "**California CLASS**") for the purposes set forth herein to exercise the powers provided herein and to act as administrator of this Agreement in order to consolidate investment activities of the Participants and thereby reduce duplication, take advantage of economies of scale and perform governmental functions more efficiently; and

WHEREAS, the Act authorizes a joint exercise of powers entity, such as the California CLASS, to issue shares of beneficial interest in authorized investments to participating Public Agencies (collectively referred to herein, as "**Participants**" and individually, as a "**Participant**"); and

WHEREAS, pursuant to the Applicable Law (as defined below), Public Agencies, such as the Participants, may purchase shares of beneficial interest issued by a joint powers entity organized pursuant to Section 6509.7 of the Act, such as the California CLASS; and

WHEREAS, the Founding Participants desire to enter into this Agreement and this Agreement shall set forth the terms for the investment program known as the "**California CLASS Investment Program**," including the establishment of one or more funds where Participants invest in shares of beneficial interest issued by the California CLASS in accounts containing authorized investments that are owned by the California CLASS; and

WHEREAS, the joint exercise of such power to invest will be benefited and made more efficient because all investments acquired pursuant to this Agreement will be owned by one entity, the California CLASS and held by one entity, the Custodian (as defined below); and

WHEREAS, the joint exercise of such power to invest will be benefited and made more efficient if the advisory, record-keeping, and other administrative functions, including the management and transmittal of investment instructions, are performed by one entity, the Administrator (as defined below); and

WHEREAS, the policy of this Agreement shall be to place the highest priority on the safety of principal and liquidity of funds, and the optimization of investment returns shall be secondary to the requirements for safety and liquidity; and

WHEREAS, the California Special Districts Association (the "**CSDA**") and the League of California Cities ("**Cal Cities**" and together with CSDA, the "**Sponsors**") have determined to join as a sponsor of the California Class Investment Program and have certain rights with respect to the composition of the governing board of the California CLASS, royalty fees and other benefits;

NOW, THEREFORE, in consideration of the premises and the representations, warranties, covenants, and agreements contained herein, each party hereto agrees as follows:

ARTICLE I

CREATION; PURPOSE; DEFINITIONS

1.1 Creation of California CLASS

There is hereby created pursuant to the Act a public agency and entity to be known as the California Cooperative Liquid Assets Securities System (collectively referred to herein, as "**California CLASS**"). As provided in the Act, the California CLASS shall be a public agency and entity separate and apart from the Founding Participants and is responsible for the administration of this Agreement. The debts, liabilities and obligations of the California CLASS shall not constitute debts, liabilities or obligations of the Founding Participants (and except as it relates to the retirement liabilities of the California CLASS if the California CLASS contracts with a public retirement system within the meaning of Section 6508.1 of the Act). The California CLASS shall not contract with a public retirement system within the meaning of Section 6508.1 of the Act.

1.2 Purpose

This Agreement is made pursuant to the Act to provide for the exercise by the California CLASS of those powers referred to in the recitals hereof and for the California CLASS to administer the exercise of those powers. The purpose of the California CLASS is to consolidate investment activities of the Participants and thereby reduce duplication, take

advantage of economies of scale and perform governmental functions more efficiently through the California CLASS Investment Program.

1.3 Definitions

In addition to the capitalized terms defined elsewhere in this Agreement, the following terms shall have the following meanings.

"**Account**" or "**Accounts**" means any account (including subaccounts or other special accounts that may be created to accommodate the desire of such Participant to segregate a portion of its Investment Funds) opened and maintained pursuant to Section 7.5(a) hereof by the Custodian for the benefit of a Participant and to which the Investment Property of such Participant is credited and opened.

"**Act**" means Title 1, Division 7, Chapter 5 of the California Government Code (commencing with Section 6500), known as the Joint Exercise of Powers Act, as it may be amended from time to time.

"**Administrator**" means Public Trust Advisors, LLC, or any Person or Persons appointed, employed, or contracted by the California CLASS pursuant to Article V hereof. The entity serving as Administrator to the California CLASS may be the Investment Advisor or an affiliate thereof.

"**Administrator Agreement**" means the agreement between the Administrator and the California CLASS described in Section 5.1(a) hereof.

"**Affiliate**" means, with respect to any Person, another Person directly or indirectly in control of, controlled by, or under common control with such Person or any officer, director, partner, or employee of such Person.

"Agreement" means this Agreement dated as of June 6, 2022 constituting a joint exercise of powers agreement among the Founding Participants, as amended in accordance with its terms from time to time.

"**Applicable Law**" means Title 5, Division 2, Part 1, Chapter 4 of the California Government Code (commencing with Section 53600), as it may be amended from time to time, and other applicable provisions of California law.

"**Authorized Representative**" means the person authorized to invest the funds of a Participant pursuant to California law who has been appointed in accordance with Section 2.3 hereof.

"**Balance**" for each Participant means an amount initially equal to zero that is adjusted pursuant to Article II hereof to reflect, among other things, cash investments by such Participant, cash payments to such Participant, investment results, and expenses and fees incurred pursuant to this Agreement. The Balance shall reflect the number of Shares in each applicable Fund designated by such Participant for investment.

"**Board**" means the board of the Trustees, created by this Agreement, as the governing board of the California CLASS, and established pursuant to Article III hereof.

"Business Day" means any day of the year other than (a) a Saturday or Sunday, (b) any day on which banks located in the State of California are required or authorized by law to remain closed, or (c) any day on which the New York Stock Exchange is closed.

"Bylaws" means those bylaws as described in Section 4.7 hereof.

"Cal Cities" means the League of California Cities.

"California CLASS" means the California CLASS, a joint exercise of powers entity created by this Agreement.

"California CLASS Investment Program" means the investment program provided to the Participants by the California CLASS whereby Participants invest in Shares including the establishment of one or more funds where Participants invest in shares of beneficial interest issued by the California CLASS in Accounts containing authorized investments that are owned by the California CLASS.

"Conflicting Provisions" shall have the meaning set forth in Section 15.2 hereof.

"CSDA" means the California Special Districts Association.

"Custodian" means any Person or Persons appointed, employed or contracted by the California CLASS pursuant to Section 7.1 hereof.

"Custody Agreement" means the agreement between the California CLASS and the Custodian as described in Article VII hereof.

"Effective Date" means the later of (1) the date that execution copies of this Agreement have been executed by the initial Founding Participants, and (2) the date this Agreement has been filed with the Secretary of the State of California pursuant to Section 6503.5 of the Act.

"Enhanced Cash Fund" shall have the meaning given such term in Section 6.4 hereof.

"Founding Participants" means each initial Public Agency that has executed this Agreement and each Public Agency that becomes a Founding Participant pursuant to Section 2.1 hereof by execution of this Agreement. By execution of this Agreement, each Founding Participant shall make the representations and warranties contained in Section 12.1 hereof.

"**Fund**" means any of the funds established by the Investment Advisor pursuant to Section 6.4 hereof.

"**Information Statement**" means one or more information statements or other disclosure documents relating to the California CLASS Investment Program or any Fund thereof as such Information Statements may be amended from time to time by the Administrator and the Investment Advisor with the consent of the California CLASS as evidenced by resolution of the Board.

"Investment Advisor" means Public Trust Advisors, LLC, or any Person or Persons appointed, employed, or contracted by the California CLASS pursuant to Section 6509.7 of the Act and Section 6.1 hereof. The entity serving as Investment Advisor to the California CLASS which may be the Administrator or an Affiliate thereof.

"**Investment Advisor Agreement**" means the agreement between the Investment Advisor and the California CLASS described in Section 6.1(a) hereof.

"Investment Funds" means immediately available funds delivered by each Participant to the Custodian for investment in Shares pursuant to this Agreement but only if: (i) the Authorized Representative appointed by such Participant is authorized pursuant to the laws of the State of California to invest such funds and (ii) the Participant has taken all actions necessary pursuant to the laws of the State of California or other applicable local law to authorize the delivery and investment of such funds.

"Investment Policy" means the investment policy established by the California CLASS with respect to the Investment Property in each Fund in accordance with this Agreement, as amended from time to time in accordance with Section 3.2(a) hereof.

"Investment Procedures" means the procedures for Participants to make investments set forth in the applicable Information Statement.

"Investment Property" means any and all securities and cash that are held in one of the Accounts and all proceeds, income, profits, and gains therefrom that have not been paid to a Participant pursuant to Section 2.4 hereof, used to discharge an Investment Property Liability or offset by losses, if any, and expenses. Investment Property shall not include securities purchased in anticipation of the delivery of funds by a Participant when such funds are not actually received by the Custodian by the anticipated delivery date and any such securities so purchased may be immediately sold and the proceeds used to pay any Person that did in fact provide monies to purchase such securities.

"Investment Property Liability" or **"Investment Property Liabilities"** means any liability (whether known, unknown, actual, contingent, or otherwise) incurred in connection with the Investment Property pursuant to this Agreement.

"Investment Property Value" means the value of the Investment Property as determined pursuant to the valuation procedures net of the amount of the Investment Property Liabilities.

"Meeting of the Board" means a duly called meeting of the Board.

"Participants" means any Public Agencies that have the authority to purchase Shares from the California CLASS. Founding Participants may also be "Participants."

"Payment Procedures" means the procedures for Participants to request payments out of the Investment Property set forth in the applicable Information Statement.

"Permitted Investments" means those investments defined as such in the applicable Investment Policy for a Fund as established by the California CLASS.

"Person" means any individual, corporation, limited liability company, firm, association, partnership, joint venture, trust or other legal entity or group of entities, including any Public Agency or department, board, commission, instrumentality, or agency thereof.

"Prime Fund" shall have the meaning given such term in Section 6.4 hereof.

"Public Agency" shall have the meaning given such term from time to time in Section 6509.7 (or any successor or amended provision) of the Act.

"Ralph M. Brown Act" means Title 5, Division 2, Part 1, Chapter 9 of the California Government Code, as it may be amended from time to time.

"Shares" means the unit used to denominate and measure the respective pro rata beneficial interests of the Participants in a Fund. As required by Section 6509.7 of the Act, each Share shall represent an equal proportionate interest in the Investment Property within a Fund.

"Sponsors" means CSDA and Cal Cities.

"Trustee" means each of the persons selected pursuant to Article III and Article IV hereof to serve on the Board.

"Valuation Procedures" means the procedures for determining the value of the Investment Property set forth in Exhibit A attached hereto, as the same may be amended from time to time by the Administrator and the Investment Advisor, with the consent of the California CLASS as evidenced by resolution of the Board.

ARTICLE II

FOUNDING PARTICIPANTS AND PARTICIPANTS

2.1 Additional Founding Participants After Initial Execution

Any Public Agency that wishes to become a Founding Participant after the Effective Date may do so by executing a counterpart to this Agreement and delivering the counterpart to the Administrator, together with evidence of such Founding Participant's authorization to execute this Agreement.

2.2 Withdrawal or Termination of Founding Participant

Any Founding Participant may withdraw from this Agreement at any time upon written notice to the Administrator provided, however, that no Founding Participant may withdraw if, following such withdrawal, there will not be at least two Founding Participants remaining as a party to this Agreement. A withdrawal shall be noted to the Board in the Administrator's next report to the Board. Any such withdrawal shall be effective only upon receipt of the written

notice of withdrawal by the Administrator who shall acknowledge receipt of such notice of withdrawal in writing to such withdrawing Founding Participant and shall file such notice as an amendment to this Agreement effective upon such filing.

2.3 Authorized Representatives; Responsibility for Authorized Representatives

(a) Each Participant shall select an Authorized Representative to represent its interests and act on its behalf under this Agreement.

(b) Each Participant shall be responsible for the actions or inaction of its Authorized Representative under this Agreement, and the Administrator and Custodian are authorized to rely on the directions of the Authorized Representative without further investigation or diligence.

2.4 Investments

(a) Each Participant shall have the right from time to time to invest Investment Funds for credit to such Participant's Balance in the California CLASS Investment Program. A Participant that wishes to make such an investment shall notify the Administrator and follow the Investment Procedures. All Investment Funds will be invested in an applicable Fund as designated by the Participant. Investment Funds so designated shall be invested pursuant to the Investment Policy established by the California CLASS for such Fund. Upon such investment in accordance with the Investment Procedures, the Participant shall have Shares representing an equal proportionate interest in such Investment Property within such Fund.

(b) The Balance of a Participant shall be increased upon the investment of Investment Funds by such Participant by an amount equal to the amount of such Investment Funds. The Balance shall reflect the number of Shares in each applicable Fund designated by such Participant for investment.

(c) No later than the end of each Business Day, the Custodian shall deliver a confirmation with respect to the transaction activity for the Accounts for the prior Business Day to the Administrator. The Administrator shall retain the confirmation in its records.

(d) Any funds that the Administrator is informed do not meet the conditions set forth in clauses (i) or (ii) of the definition of Investment Funds shall be returned to the Participant investing such funds by the Custodian at the request of the Administrator and such Participant shall bear all of the costs and liabilities associated with the return of such funds.

2.5 Receipt of Statements and Reports; Requests

(a) The Administrator shall provide, or make available to each Participant, a copy of the statements prepared pursuant to Section 5.5 hereof and of the reports prepared pursuant to Section 5.6 hereof applicable to such Participant.

(b) In addition, each Participant, through its Authorized Representative, may direct the Administrator to provide, or make available, a statement of the value of the Participant's

Balance as of the date of the request. The Administrator shall provide such statement, subject only to account activity as of such date.

(c) On behalf of each Participant, the Administrator shall maintain or cause to be maintained, the records relating to such Participant in a manner that records (i) the portion of the Participant's Balance designated in the applicable Fund and (ii) the Participant's Balance in one or more Accounts. The Administrator shall maintain a separate record for each Participant and shall record the individual transactions involving each such Participant and the total value by Account of all investments belonging to each such Participant.

ARTICLE III

POWERS

3.1 General Powers

(a) The California CLASS shall have the power, in its own name, to exercise the common powers of the Founding Participants referred to in the recitals hereof and to exercise all additional powers given to a joint powers entity under the Act and any other applicable law for any purpose authorized under this Agreement. Pursuant to Section 6508 of the Act, the California CLASS shall have the power, in its own name, to do any or all of the following: to make and enter into contracts, or to employ agents and employees, to acquire, construct, manage, maintain or operate any building, works or improvements, or to acquire, hold or dispose of property or to incur debts, liabilities or obligations and sue and be sued in its own name. Pursuant to Section 6509.7 of the Act, the California CLASS shall have the power, in its own name, to issue shares of beneficial interest in the securities and obligations authorized by the Applicable Law. The California CLASS is authorized, in its own name, to do all acts necessary for the exercise of said powers for said purposes. Such powers shall be exercised subject only to such restrictions upon the manner of exercising such powers as are imposed upon the City of Lancaster in the exercise of similar powers, as provided in Sections 6503 and 6509 of the Act.

(b) All powers of the Administrator or Custodian that are described in this Agreement shall also be powers of the California CLASS. The California CLASS may perform such acts as it determines in its sole discretion as proper for conducting the business of the California CLASS. The enumeration of any specific powers shall not be construed as limiting the powers of the California CLASS. Such powers may be exercised with or without the posting of a bond, an order, or other action by any court. In construing the provisions of this Agreement, the presumption shall be in favor of a grant of power to the California CLASS, subject to the powers given to a joint powers entity under the Act and any other applicable law for any purpose authorized under this Agreement.

3.2 Specific Powers

Consistent with, derived from and subject to the general powers of the California CLASS granted in Section 3.1 hereof, the California CLASS possesses the following specific powers:

(a) Investments. The California CLASS shall have the power to subscribe for, invest in, reinvest in, purchase or otherwise acquire, own, hold, pledge for settlement purposes only, sell, assign, transfer, exchange, distribute, lend or otherwise deal in or dispose of Permitted Investments, provided such investment is, in the sole and absolute discretion of the California CLASS, consistent with the Applicable Law and the Investment Policy. An Investment Policy for each Fund shall be established by resolution of the Board and may be revised from time to time by resolution of the Board, provided, however, that no Investment Policy shall permit investments not authorized for legal investment under the Applicable Law. Upon the Board's approval of any amendment to an Investment Policy, the amended Investment Policy will be posted to the website of California CLASS.

(b) Issuance and Redemption of Shares. The California CLASS shall have the power to issue, sell, repurchase, redeem, retire, cancel, acquire, hold, resell, reissue, dispose of, transfer, and otherwise deal in Shares, or any Fund of Shares by means of the California CLASS Investment Program, and subject to the provisions hereof, to apply to any such repurchase, redemption, retirement, cancellation or acquisition of Shares, or any Fund of Shares, any funds or Investment Property with respect to such Shares, or Fund of Shares, whether capital or surplus or otherwise, to the full extent now or hereafter permitted by the Applicable Law.

(c) Title to Investments. Legal title to all Investment Property shall be vested in the California CLASS except that the California CLASS shall have power to cause legal title to any Investment Property to be held in the name of any other person as nominee, on such terms as the California CLASS may determine provided, however, that the interest of the California CLASS therein is appropriately protected.

(d) Rights as Holders of Investment Property. The California CLASS shall have full and complete power to exercise all of the rights, powers, and privileges appertaining to the ownership of the Investment Property to the same extent that any individual might and, without limiting the generality of the foregoing, to vote or give any consent, request, or notice, or waive any notice either in person or by proxy or power of attorney, with or without the power of substitution, to one or more persons, which proxies and powers of attorney may be for meeting or actions generally, or for any particular meeting or action, and may include the exercise of discretionary powers.

(e) Creation of Funds. The California CLASS may authorize the creation of one or more different Funds provided, however, that each such Fund shall conform in all respects to the requirements of this Agreement.

(f) Branding. The California CLASS may authorize the use of the names "CALCLASS" and "CACLASS" and their associated trademark(s), consistent with, derived from and subject to, Section 3.6 hereof, in conjunction with other products, portfolios, pools, and services that provide investment, financial, or other cash management services to Participants and for purposes of this Agreement, such name shall include any Funds established pursuant to this Agreement. The Administrator may identify a name for any additional Funds established pursuant to this Agreement, subject to approval by the California CLASS.

(g) Power to Contract, Appoint, Retain and Employ. The California CLASS shall have full and complete power to, and shall at all times, appoint, employ, retain, or contract with any person of suitable qualifications (including any corporation, partnership, trust, or other entity of which one or more of them may be an Affiliate) for the transaction of the affairs of the California CLASS.

(h) Payment of Expenses. The California CLASS shall have full and complete power:

(i) to incur and pay any charges or expenses that are necessary or incidental to or proper for carrying out any of the purposes of this Agreement;

(ii) to pay any taxes or assessments validly and lawfully imposed upon or against the Investment Property or the California CLASS in connection with the Investment Property or upon or against the Investment Property or income or any part thereof;

(iii) to reimburse others for payment of such expenses and taxes; and

(iv) to pay appropriate compensation or fees from the Investment Property to a person with whom the California CLASS has contracted or transacted business.

All payments or expenses incurred pursuant to this Section will be a liability payable solely from the Investment Property. The Trustees shall not be paid compensation for their services as Trustees hereunder, except that they shall be allowed reimbursement for reasonable expenses incurred in the performance of their duties as Trustees.

(i) Litigation. The California CLASS shall have the power to engage in and to prosecute, defend, compromise, abandon, or adjust, by arbitration or otherwise, any actions, suits, proceedings, disputes, claims, and demands relating to the California CLASS or property of the California CLASS, and, out of property of the California CLASS, to pay or to satisfy any debts, claims or expenses incurred in connection therewith, including those of litigation, and such power shall include without limitation the power of the California CLASS, in the exercise of its good faith business judgment, consenting to dismiss any action, suit, proceeding, dispute, claim, or demand, derivative or otherwise, brought by any person, including a Founding Participant or Participant, whether or not the California CLASS or any of the Trustees may be named individually therein or the subject matter arises by reason of business for or on behalf of the California CLASS.

3.3 Miscellaneous Powers

Consistent with, derived from and subject to the general powers of the California CLASS granted in Section 3.1 hereof, the California CLASS also possesses the following miscellaneous powers:

(a) Insurance. The California CLASS shall have full and complete power to purchase or to cause to be purchased and pay for, entirely out of Investment Property, insurance policies insuring the California CLASS, and/or officers, employees, and agents of the California CLASS individually against all claims and liabilities of every nature arising by reason of holding or having held any such office or position or by reason of any action alleged to have been taken or omitted by the California CLASS or any such officer, employee, and agent including any action taken or omitted that may be determined to constitute negligence, whether or not the California CLASS would have the power to indemnify such person against such liability.

(b) Borrowing and Indebtedness. The California CLASS shall not borrow money or incur indebtedness, whether or not the proceeds thereof are intended to be used to purchase Permitted Investments or Investment Property, except as a temporary measure to facilitate the transfer of funds to the Participant that might otherwise require unscheduled dispositions of portfolio investments and except as an advance made by the Custodian under the Custody Agreement, but only to the extent permitted by law. No such indebtedness shall have a maturity later than that necessary to avoid the unscheduled disposition of portfolio investments.

(c) Remedies. Notwithstanding any provision in this Agreement, when the California CLASS deems that there is a significant risk that an obligor to the California CLASS may default or is in default under the terms of any obligation of the California CLASS, the California CLASS shall have full and complete power to pursue any remedies permitted by law that, in its sole judgment, are in the interests of the California CLASS, and the California CLASS shall have full and complete power to enter into any investment, commitment, or obligation of the California CLASS resulting from the pursuit of such remedies as are necessary or desirable to dispose of property acquired in the pursuit of such remedies.

(d) Information Statement. The California CLASS shall have full and complete power to prepare, publish, and distribute one or more Information Statements regarding the California CLASS Investment Program or any Fund thereof and to amend or supplement the same from time to time.

(e) Contracting with Affiliates. To the extent permitted by law, the California CLASS may enter into transactions with any Affiliate of the Administrator or the Custodian if:

(i) each such transaction (or type of transaction) has, after disclosure of such affiliation, been approved or ratified by the affirmative vote of a majority of the Board, and

(ii) such transaction (or type of transactions) is, in the opinion of the California CLASS, on terms fair and reasonable to the California CLASS and the Participants and at least as favorable to them as similar arrangements for comparable transactions with organizations unaffiliated with the person who is a party to the transaction.

3.4 Further Powers

Consistent with, derived from and subject to the general powers of the California CLASS granted in Section 3.1 hereof, the California CLASS shall have full and complete power to take all such actions, do all such matters and things, and execute all such instruments as it deems necessary, proper, or desirable in order to carry out, promote, or advance the interests and purposes of California CLASS although such actions, matters, or things are not herein specifically mentioned. Any determination as to what is in the best interest of California CLASS made by the Board in good faith shall be conclusive.

3.5 Intellectual Property

The parties acknowledge that pursuant to this Agreement and/or the business activities of the California CLASS, various types of intellectual property (the "**Intellectual Property**") may be created or used by the parties, including but not limited to trademarks and copyrights. With regard to any and all Intellectual Property created by or for the California CLASS or by or for the California CLASS Investment Program in relation to this Agreement, the California CLASS shall own all right, title, and interest to such Intellectual Property. Except as expressly set forth in this Agreement, the California CLASS shall have no obligation to account to the other parties to this Agreement for any revenues arising from the use, license, or assignment of any Intellectual Property.

3.6 Trademarks

The parties acknowledge the California CLASS's ownership and exclusive rights in all trademarks currently owned by the California CLASS, including but not limited to Application Serial No. 90879250 for the CALIFORNIA CLASS mark, and all trade names and trademarks that may be used and developed in connection with this Agreement, or through the parties' business activities with the California CLASS (the "**Trademarks**"). The parties shall not, at any time during or after the term of the Agreement, directly or indirectly, oppose, challenge or contest the California CLASS's exclusive right and title to the Trademarks or the validity thereof.

The parties agree that all use of the Trademarks inures to the benefit of the California CLASS and that the parties shall not acquire any rights in the Trademarks or other marks or logos likely to be confused therewith. The California CLASS has the sole and exclusive right to file applications to register and to register any and all Trademarks in the U.S. and in any country throughout the world, and the parties agree not to directly or indirectly, oppose, challenge or contest such applications or registrations. The parties will not, directly or indirectly, file applications to register or register, or acquire by transfer, any trade name or trademark which, in whole or in part, incorporates or is confusingly similar to the Trademarks

in the U.S. or any country throughout the world unless such parties have express written permission to do so.

3.7 Copyrights

The parties agree that all works created in connection with this Agreement or through the parties' business activities with the California CLASS (the "**Works**") are owned by the California CLASS.

To the extent any Works are deemed not owned by the California CLASS, the parties hereby expressly assign to the California CLASS all right, title and interest whatsoever, throughout the world, in perpetuity, in and to the copyrights and any and all registrations, applications to register, renewals and extensions thereof, for the Works, including, without limitation, the right to sue for and collect damages for infringement of the Works or other violations of the same, including for past infringements or other violations.

The parties hereby further agree to promptly execute any and all instruments and to promptly render any and all such assistance as the California CLASS may request to confirm in the California CLASS full legal title to the Works and/or to pursue claims that third parties have infringed the California CLASS's intellectual property rights in and to the Works. In the event the parties are not available upon ten (10) calendar days' written request to execute such instruments, the parties hereby appoint the California CLASS its attorney-in-fact to execute such instruments on the parties' behalf.

ARTICLE IV

TRUSTEES; MEETINGS; OFFICERS

4.1 Establishment of the Board; Number and Qualification

(a) The management of the California CLASS shall be governed by the Board.

(b) The Board shall have five (5) Trustees consisting of the following:

(i) The governing body of CSDA shall appoint two (2) Trustees that are:

(1) elected, appointed, or staff from a Participant and a CSDA member, or
(2) staff from CSDA;

(ii) The governing body of Cal Cities shall appoint two (2) Trustees that are:

(1) elected, appointed, or staff from a Participant and a Cal Cities member, or
(2) staff from Cal Cities; and

(iii) One (1) Trustee that is elected, appointed, or staff from a Public Entity that is a Participant shall be appointed by a majority vote of the Board.

4.2 Term of Office

(a) The initial Trustees appointed by the governing body of Cal Cities shall serve a term of two (2) years and thereafter Trustees appointed by the governing body of Cal Cities shall serve a term of four (4) years.

(b) The initial Trustees appointed by the governing body of CSDA and by the Board shall serve a term of four (4) years and thereafter Trustees appointed by the governing body of CSDA and by the Board shall serve a term of four (4) years.

(c) Any appointment to fill an unexpired term, however, shall be for such unexpired term.

4.3 Appointment of Trustees

Trustees may be appointed or reappointed by the governing body of CSDA, Cal Cities or the Board, as provided in Section 4.1, including an appointment to fill an unexpired term in the event of a vacancy.

4.4 Resignation of Trustees

Any Trustee may resign without need for prior or subsequent accounting by notice in writing signed by the Trustee and delivered to the Secretary of the Board, and such resignation shall be effective upon such delivery or at a later date specified in the written notice. Any vacancy created by such resignation shall be filled in accordance with Section 4.3 hereof.

4.5 Removal and Vacancies

(a) The term of office of a Trustee shall terminate and a vacancy shall occur in the event the individual serving as the Trustee is no longer staff at a CSDA or Cal Cities, in the event the Trustee's Public Agency is no longer a Participant and a member of CSDA or Cal Cities, or in the event the individual serving as the Trustee is no longer an elected or appointed member of the governing body, or staff of, a Participant and CSDA or Cal Cities member.

(b) The term of office of a Trustee shall terminate and a vacancy shall occur on the happening of any of the events in California Government Code Section 1770.

(c) Each Trustee appointed by the governing body of CSDA, Cal Cities or the Board may be removed and replaced by the governing body by which such Trustee was appointed.

(d) Any vacancy created pursuant to this Section 4.5 shall be filled in accordance with Section 4.3 hereof.

4.6 Meetings

(a) The Annual Meeting of the Board shall be the last meeting of the calendar year and shall be for the purpose of the appointment of Trustees, election of officers, setting the calendar for regular meetings, and other organizational matters as provided in the Bylaws. The Board shall meet not less than semiannually.

(b) Regular meetings of the Board shall be established in the method described in the Bylaws and may be held at the time and place so established.

(c) Special meetings of the Board may be held from time to time in the manner described in the Bylaws.

(d) All meetings of the Board are subject to and must comply with the provisions of the Ralph M. Brown Act.

(e) A majority of the Trustees shall constitute a quorum for the transaction of business, except that less than a quorum may adjourn meetings from time to time. Any action of the Board requires the affirmative vote of a majority of the total number of authorized Trustees specified in Section 4.1.

4.7 Bylaws

The Board shall adopt and may, from time to time, amend or repeal Bylaws for the conduct of the business of the Board consistent with this Agreement. The Bylaws may define the duties of the respective officers, agents, employees, and representatives of the Board and shall establish the rules of calling of meetings and determination of regular and special meetings.

4.8 Officers

The Board shall annually elect a Chair and other officers having the responsibilities and powers described in the Bylaws and as required by the Act. The Bylaws shall designate the Treasurer of the California Class as required by Section 6505.5 or Section 6505.6 of the Act and the public office or officers or person or persons who have charge of, handles, or have access to any property of the California CLASS as required by Section 6501.1 of the Act, and such public officer or officers or person or persons shall file an official bond in the amount of $25,000; provided, that such bond shall not be required if the California CLASS does not possess or own property or funds with an aggregate value of greater than $500 (excluding amounts held by any custodian or depository in connection with the California CLASS Investment Program).

4.9 Accountability

Pursuant to Section 6505 of the Act, the California CLASS shall establish and maintain such funds and accounts as may be required by good accounting practice, and there shall be strict accountability of all funds and reports of all receipts and disbursements.

4.10 Fiscal Year

The fiscal year of the California CLASS shall end each March 31. The California CLASS may from time to time change the fiscal year of the California CLASS by resolution of the Board.

ARTICLE V

ADMINISTRATOR

5.1 Appointment; General Provisions

(a) The California CLASS may appoint one or more persons to serve as the Administrator for the California CLASS Investment Program. It is specifically intended that any and all provisions related to the Administrator set forth herein be memorialized in a contract between the California CLASS and the Administrator (the "**Administrator Agreement**") and that this Agreement not be construed to create any third-party beneficiary rights in any party fulfilling the role of Administrator. In the event of conflict between the provisions of this Agreement and the provisions of the Administrator Agreement, this Agreement shall control.

(b) As provided in Section 5.3 hereof, the Administrator shall at no time have custody of or physical control over any of the Investment Property.

(c) The Administrator may also serve as Investment Advisor to the California CLASS Investment Program and in such case, the Administrator Agreement may also serve as the Investment Advisor Agreement.

5.2 Successors

In the event that, at any time, the position of Administrator shall become vacant for any reason, the California CLASS may appoint, employ, or contract with a successor.

5.3 Duties of the Administrator

(a) The duties of the Administrator shall be those set forth in this Article V and the Administrator Agreement. This Article V outlines some but not all of such duties. Such duties may be modified by the California CLASS from time to time. The role of the Administrator is intended to effect purchases, sales, or exchanges of Investment Property on behalf of the California CLASS. The Administrator Agreement may authorize the Administrator to employ other persons to assist in the performance of the duties set forth therein.

(b) The Administrator shall at no time have custody of or physical control over any of the Investment Property. If a Participant in error delivers Investment Funds for investment to the Administrator instead of to the Custodian, the Administrator shall immediately transfer such Investment Funds to the Custodian. The Administrator shall not be liable for any act or

omission of the Custodian but shall be liable for the Administrator's acts and omissions as provided herein.

(c) The Administrator understands that the monies delivered to the Custodian may only be invested pursuant to the investment parameters contained in the applicable Investment Policy.

5.4 Investment Activities and Powers

The Administrator shall perform the following services:

(a) advise the California CLASS on any material changes in investment strategies based upon current market conditions;

(b) enter into securities transactions with respect to the Investment Property (to the extent permitted by the applicable Investment Policy and applicable laws) by entering into agreements and executing other documents relating to such transactions containing provisions common for such agreements and documents in the securities industry;

(c) from time to time, review the Permitted Investments and the applicable Investment Policy and, if circumstances and applicable laws permit, recommend changes in such Permitted Investments and such Investment Policy;

(d) provide such advice and information to the California CLASS on matters related to investments as the California CLASS may reasonably request including, without limitation, research and statistical data concerning the Investment Property, whether and in what manner all rights conferred by the Investment Property may be exercised, and other matters within the scope of the investment criteria set forth in the applicable Investment Policy;

(e) prepare such information and material as may be required in the implementation of the Valuation Procedures or the computation of the Balances and the preparation of any and all records and reports required by this Agreement or applicable laws;

(f) issue instructions to the Custodian as provided in this Agreement; and

(g) employ, consult with, obtain advice from, and exercise any of the Administrator's rights or powers under this Agreement through the use of suitable agents including auditors, legal counsel (who may be counsel to the Administrator or the California CLASS), investment advisers, brokers, dealers, and/or other advisers. Notwithstanding Section 15.8 hereof, the Administrator may transmit information concerning the Investment Property and the Participants to such agents.

5.5 Monthly Statements

(a) Within fifteen (15) days after the end of each month-end, the Administrator shall prepare and submit, or make available, to each Participant who was a Participant during such month a statement disclosing any activity and a closing balance, including the number of Shares, in each of its Accounts for such month.

(b) The Administrator, upon the request of a Participant, shall furnish to the Participant a statement of such Participant's Balance as of the date of such request, subject only to account activity on such date.

5.6 Reports

The Administrator shall prepare or cause to be prepared at least annually (i) a report of operations containing a statement of the Investment Property and the Investment Property Liabilities and statements of operations and of net changes in net assets prepared in conformity with generally accepted accounting principles consistently applied and (ii) an opinion of an independent certified public accountant on such financial statements based on an examination of the books and records of the Participants' Accounts, maintained by the Administrator with respect to the Investment Property, performed in accordance with generally accepted auditing standards. An annual audit of the accounts and records of the California CLASS shall be made, and the report thereon filed and kept, in accordance with the provisions of Section 6505 of the Act.

5.7 Daily Calculation of Program Value and Rate of Return

The Administrator shall calculate the Investment Property Value for each Account once on each Business Day at the time and in the manner provided in the Investment Program's Information Statement for such Fund as well as the Valuation Procedures.

5.8 Administration of the California CLASS Investment Program

The Administrator shall perform the following administrative functions on behalf of the California CLASS in connection with the implementation of this Agreement:

(a) collect and maintain for such period as may be required under any applicable Federal or California law written records of all transactions affecting the Investment Property or the Balances, including but not limited to (i) investments by and payments to or on behalf of each Participant; (ii) acquisitions and dispositions of Investment Property; (iii) pledges and releases of collateral securing the Investment Property; (iv) determinations of the Investment Property Value; (v) adjustments to the Participants' Balances; and (vi) the current Balance and the Balances at the end of each month for each Participant. There shall be a rebuttable presumption that any such records are complete and accurate. The Administrator shall maintain the records relating to each Participant in a manner that subdivides the Participant's balance into Accounts;

(b) assist in the organization of meetings of the Board including preparation and distribution of the notices and agendas therefore;

(c) respond to all inquiries and other communications of Participants, if any, that are directed to the Administrator or, if any such inquiry or communication is more properly addressed by the Custodian, referring such inquiry or communication to the Custodian and coordinating the Custodian's response thereto;

(d) pay all Investment Property Liabilities in accordance with this Agreement from any income, profits, and gains from the Investment Property (but not from the principal amount thereof); and

(e) engage in marketing activities to encourage eligible California public sector entities to become Participants.

ARTICLE VI

INVESTMENT ADVISOR

6.1 Appointment of Qualifications

(a) The California CLASS may appoint one or more persons that meet the qualifications described in Section 6.1(b) hereof to serve as the Investment Advisor of the California Class. It is specifically intended that any and all provisions related to the Investment Advisor set forth herein be memorialized in a contract between the California CLASS and the Investment Advisor (the "**Investment Advisor Agreement**") and that this Agreement not be construed to create any third-party beneficiary rights in any party fulfilling the role of Investment Advisor. In the event of conflict between the provisions of this Agreement and the provisions of the Investment Advisor Agreement, this Agreement shall control.

(b) The Investment Advisor shall meet the requirements of Section 6509.7 of the Act and Section 53601(p) of the California Government Code, as such sections may be amended from time to time, which, as of the Effective Date, require that:

(i) the investment manager is registered or exempt from registration with the Securities and Exchange Commission;

(ii) the investment manager has not less than five (5) years of experience investing in the securities and obligations authorized by subdivisions (a) to (o), inclusive, of Section 53601 of the California Government Code; and

(iii) the investment manager has assets under management in excess of five hundred million dollars ($500,000,000).

6.2 Successors

In the event that, at any time, the position of Investment Advisor shall become vacant for any reason, the California CLASS shall appoint, employ, or contract with a successor that meets the qualifications described in Section 6.1(b) hereof.

6.3 Duties of the Investment Advisor

The duties of the Investment Advisor shall be those set forth in the Investment Advisor Agreement. Such duties may be modified by the California CLASS from time to time. The

California CLASS may authorize the Investment Advisor in the Investment Advisor Agreement to effect purchases, sales, or exchanges of Investment Property on behalf of the California CLASS or may authorize any officer, employee, agent, or member of the California CLASS to effect such purchases, sales, or exchanges pursuant to recommendations of the Investment Advisor, all without further action by the California CLASS. Any and all of such purchases, sales, and exchanges shall be deemed to be authorized by the California CLASS. The Investment Advisor Agreement may authorize the Investment Advisor to employ other persons to assist in the performance of the duties set forth in the agreement. The Investment Advisor Agreement shall also provide that it may be terminated without cause and without the payment of any penalty on forty-five (45) days written notice.

6.4 Funds

The Investment Advisor shall cause the Custodian to establish two initial funds (the "**Prime Fund**" and the "**Enhanced Cash Fund**") for the investment of surplus funds of the Participants. The Prime Fund shall have a constant net asset value and be invested in Permitted Investments pursuant to the criteria and policies contained in the Investment Policy for the Prime Fund. The Enhanced Cash Fund shall have a variable net asset value and be invested in Permitted Investments pursuant to the criteria and policies contained in the Investment Policy for the Enhanced Cash Fund. Notwithstanding anything in this Agreement to the contrary, the Investment Advisor may, upon the direction of the California CLASS, cause the Custodian to establish specially designated funds, in addition to the Prime Fund and the Enhanced Cash Fund, with specified investment characteristics so long as the fund adheres to the Permitted Investments. Such characteristics may include, without limitation, certain restrictions on amounts to be invested, holding periods prior to payments, or certain other conditions to be met for payments, such as possible payment penalties, special investment criteria, investment management tailored to a particular Participant, or additional fees for administering such specially designated Funds. The Investment Advisor may cause the Custodian to establish such Funds with the consent of the California CLASS as evidenced by resolution of the Board and approval by the Board of the related Investment Policy for such Funds. The establishment of such Funds shall not be deemed an amendment of this Agreement. A Participant may direct the Investment Advisor to invest its surplus funds in any of the established Funds. The Investment Advisor shall cause each such Fund to maintain accounts and reports separate from any other Fund. All provisions of this Agreement shall apply to any such Funds.

6.5 Retained Reserves

The Investment Advisor may retain from earnings and profits such amounts as it may deem necessary to pay the debts and expenses of the California CLASS and to meet other obligations of the California CLASS, and the Investment Advisor shall also have the power to establish from earnings and profits such reasonable reserves as they believe may be necessary or desirable. At least quarterly, the Investment Advisor shall provide a detailed accounting to the Board of any debts, expenses, and obligations deemed necessary for

California CLASS Investment Program, and at the same time shall provide a detailed accounting to the Board of reserves deemed necessary or desirable by the Investment Advisor. Realized capital gains or losses shall be distributed in a timely and equitable manner as determined by the Investment Advisor.

ARTICLE VII

THE CUSTODIAN

7.1 Appointment and Qualifications

The California CLASS shall appoint and employ a bank or trust company organized under the laws of the United States of America to serve as custodian ("**Custodian**") for the California CLASS Investment Program subject to the requirements of the Applicable Law. The Custodian shall follow directions relating to the investment of all Investment Property in accordance with the instructions of the Investment Advisor. The Custodian shall have authority to act as the California CLASS's directed custodian, subject to such restrictions, limitations, and other requirements, if any, as may be established by the California CLASS. It is specifically intended that all provisions related to the Custodian set forth herein be memorialized in a contract to be entered into between the California CLASS and the Custodian (the "**Custody Agreement**") and that this Agreement shall not be construed to create any third-party beneficiary rights under this Agreement in any party fulfilling the role of the Custodian. As such, the terms of this Agreement are not binding on the Custodian and the Custodian's rights, duties and obligations are solely as defined in the Custody Agreement.

7.2 Successors

If, at any time, the Custodian shall resign or shall be terminated pursuant to the provisions of the Custody Agreement, the California CLASS shall appoint a successor thereto.

7.3 Prohibited Transactions

With respect to transactions involving Investment Property, the Custodian shall act strictly as directed custodian for the California CLASS. The California CLASS shall not purchase Permitted Investments from the Custodian or sell Permitted Investments to the Custodian.

7.4 Appointment; Sub-Custodians

(a) The Custodian may employ sub-custodians, including, without limitation, Affiliates of the Custodian for any obligations set forth in the Custody Agreement. The appointment of a sub-custodian under this Section shall not relieve the Custodian of any of its obligations set forth in the Custody Agreement. The Custodian shall use its best efforts to ensure that the interests of the California CLASS in the Investment Property is clearly indicated on the records of any sub-custodian and the Custodian shall use its best efforts to ensure that the interests

of the California CLASS in the Investment Property is not diminished or adversely affected because of the Custodian's use of a sub-custodian.

(b) No Investment Funds or Investment Property, other than cash, received or held by the Custodian pursuant to the Custody Agreement shall be accounted for in any manner that might cause such Investment Funds or Investment Property to become assets or liabilities of the Custodian.

7.5 Powers

The Custodian shall perform the following services:

(a) open and maintain such custody accounts as the California CLASS directs through the Administrator and accept for safekeeping and for credit to the applicable Account, in accordance with the terms of the Custody Agreement, all securities representing the investment of Investment Funds pursuant to Section 2.4 hereof, and the income or earnings derived therefrom.

(b) hold the Investment Property:

(i) in its account at Depository Trust Company or other depository or clearing corporation; or

(ii) in a book entry account with the Federal Reserve Bank in which case a separate accounting of the Investment Property shall be maintained by the Custodian at all times.

The Investment Property held by any such depository or clearing corporation or Federal Reserve Bank may be held in the name of their respective nominees provided, however, that the custodial relationship and the interests of the California CLASS regarding such Investment Property shall be noted on the records of the Administrator and the custodial relationship on behalf of the California CLASS shall be noted on the records of the Custodian.

(c) notify the Administrator, in writing or verbally with written, email, or facsimile confirmation, in advance of the Custodian taking any elective action involving the Investment Property.

(d) upon instruction of the Administrator, the Custodian is authorized to:

(i) receive and distribute Investment Funds and all other Investment Property as directed by the Administrator;

(ii) exchange securities in temporary or bearer form for securities in definitive or registered form; and surrender securities at maturity or earlier when advised of a call for redemption;

(iii) make, execute, acknowledge, and deliver as Custodian all documents or instruments (including but not limited to all declarations, affidavits, and certificates of

ownership) that may be necessary or appropriate to carry out the powers granted herein; and

(iv) take any other action required by the Custody Agreement.

7.6 Custodial Relationship; Custodian Records

(a) The Custodian shall hold the Investment Property in its capacity as Custodian on behalf of the California CLASS. Such Investment Property shall be custodial property of the Custodian (other than cash) and shall not be, or be deemed to be, an asset of the Custodian.

(b) Within fifteen (15) days after the end of each month, the Custodian shall send statements providing the closing balance in the Account at the end of such month and the transactions performed in the Account during such month to the Administrator and the California CLASS.

ARTICLE VIII

INTERESTS OF PARTICIPANTS

8.1 General

The California CLASS, in its discretion, may authorize the division of the Investment Property into one or more Funds as provided in Section 6.4 hereof. The beneficial interests of the Participants hereunder in a Fund and the earnings thereon shall be divided into Shares. Shares shall be used as units to measure the proportionate allocation to the respective Participants of the beneficial interests of a Fund. As required by Section 6509.7 of the Act, each Share shall represent an equal proportionate interest in the Investment Property within a Fund. The number of Shares that may be used to measure and represent the proportionate allocation of beneficial interests among the Participants in a Fund is unlimited. All Shares in a Fund shall be of one class representing equal distribution, liquidation, and other rights. The beneficial interests measured by the Shares shall not entitle a Participant to preference, preemptive, appraisal, conversion, or exchange rights of any kind with respect to the California CLASS Investment Program or the Investment Property held in the applicable Fund. Title to the Investment Property held in the applicable Fund of every description is vested in the California CLASS. The Participants shall have no interest in the Investment Property held in the applicable Fund other than the beneficial interests conferred hereby and measured by their Shares, and they shall have no right to call for any partition or division of any property, profits, rights, or interests of the California CLASS.

8.2 Allocation of Shares

(a) In its discretion, the California CLASS may from time to time allocate Shares in addition to the then allocated Shares to such Participant for such amount and such type of consideration (including without limitation income from the investment of Investment

Property held in the applicable Fund) at such time(s) (including without limitation each Business Day in accordance with the maintenance of a constant net asset value per Shares as set forth in this Agreement for constant net asset value Funds), and on such terms as the California CLASS may deem best. In connection with any allocation of Shares, the California CLASS may allocate fractional Shares. From time to time, the California CLASS may adjust the total number of Shares allocated without thereby changing the proportionate beneficial interests in the Investment Property held in the applicable Fund. Reductions or increases in the number of allocated Shares may be made in order to maintain a constant net asset value per Share as set forth in Section 10.1 hereof for constant net asset value Funds. Shares shall be allocated and redeemed as one hundredths (1/100ths) of a Share or any multiple thereof.

(b) Shares may be allocated only to a Participant in accordance with this Agreement. Any Participant may establish more than one Account within the California CLASS Investment Program or any Fund thereof for such Participant's convenience.

8.3 Evidence of Share Allocation

Evidence of Shares allocation shall be reflected in the records of the California CLASS, and the California CLASS shall not be required to issue certificates as evidence of Shares allocation.

8.4 Redemption to Maintain Constant Net Asset Value for Constant Net Asset Value Funds

The Shares shall be subject to redemption pursuant to the procedure for reduction of outstanding Shares in order to maintain the constant net asset value per Shares for constant net asset value Funds unless provided otherwise in the Information Statement for the applicable Fund.

8.5 Redemptions

Payments by the California CLASS to Participants, and the reduction of Shares resulting therefrom, are referred to in this Agreement as redemptions for convenience. Any and all allocated Shares may be redeemed at the option of the Participant upon and subject to the terms and conditions provided in this Agreement and any applicable Investment Policy and Information Statement for such Fund. The procedures for effecting redemption shall be prescribed by the California CLASS provided, however, that such procedures shall not be structured so as to substantially and materially restrict the ability of the Participants to withdraw funds from the California CLASS Investment Program.

8.6 Suspension of Redemption; Postponement of Payment

(a) Each Participant, by its investment in any Fund, agrees that the California CLASS may temporarily suspend the right of redemption or postpone the date of payment for redeemed Shares for the whole or any part of any period:

(i) During which trading in securities generally on the New York Stock Exchange or the American Stock Exchange or over-the-counter market shall have been suspended or minimum prices or maximum daily charges shall have been established on such exchange or market;

(ii) If a general banking moratorium shall have been declared by Federal, state, or the State of New York or State of California authorities or during a suspension of payments by banks in the State of California;

(iii) During which there shall have occurred any state of war or national emergency;

(iv) During which any financial emergency or other crisis the effect of which on the financial markets of the United States is such as to make it impracticable (a) to dispose of the Investment Property because of the substantial losses that might be incurred or (b) to determine the Investment Property Value in accordance with the Valuation Procedures.

(b) The Administrator shall determine, on behalf of the California CLASS, when an event occurs that, under this Section entitles the Custodian to temporarily suspend or postpone a Participant's right to redemption, and shall immediately notify the Custodian and each Participant by facsimile, email, mail, or telephone of such determination. Such a suspension or postponement shall not itself directly alter or affect a Participant's Balance.

(c) Such a suspension or postponement shall take effect at such time as is determined by the Administrator, and thereafter there shall be no right to request a redemption of Shares until the first to occur of: (a) in the case of (i), (ii) or (iv) above, the time at which the Administrator declares the suspension or postponement at an end, such declaration shall occur on the first day on which the period specified in the clause (i), (ii) or (iv) above shall have expired; and (b) in the case of (iii) above, the first day on which the period specified in clause (iii) above is no longer continuing.

(d) Any Participant that requested a payment prior to any suspension or postponement of payment may withdraw its request at any time prior to the termination of the suspension or postponement.

8.7 Defective Redemption Requests

In the event that a Participant shall submit a request for the redemption of a greater number of Shares than are then allocated to such Participant, such request shall not be honored.

ARTICLE IX

RECORD OF SHARES

9.1 Share Records

The California CLASS shall maintain records that shall contain:

(i) The names and addresses of the Participants;

(ii) The number of Shares representing their respective beneficial interests in any Account in any Fund hereunder; and

(iii) A record of all allocations and redemptions. Such records shall be conclusive as to the identity of the Participants to which Shares are allocated. Only Participants whose allocation of Shares is recorded in the California CLASS records shall be entitled to receive distributions with respect to Shares or otherwise to exercise or enjoy the rights and benefits related to the beneficial interests represented by the Shares. No Participant shall be entitled to receive any distribution nor to have notices given to it until it has given its appropriate address to the California CLASS.

9.2 Maintenance of Records

The Administrator, or such other person appointed by the Administrator or the California CLASS, shall record the allocations of Shares in each Account in any Fund in the records of the California CLASS.

9.3 Owner of Record

No person becoming entitled to any Shares in consequence of the bankruptcy or insolvency of any Participant or otherwise by operation of law shall be recorded as the Participant to which such Shares are allocated unless such person is otherwise qualified to become a Participant. If not qualified, such person shall present proof of entitlement to the California CLASS and if the California CLASS, in its sole discretion, deems appropriate then be entitled to the redemption value of the Shares.

9.4 Transfer of Shares

The beneficial interests measured by the Shares shall not be transferable, in whole or in part, other than to the California CLASS itself or another Participant for purposes of redemption. Shares also may be redeemed from one Participant's Account and the proceeds deposited directly into another Participant's Account upon instructions from the Authorized Representative of the respective Participants.

9.5 Limitation of Responsibility

The California CLASS shall not, nor shall the Participants or any officer, employee or agent of the California CLASS, be bound to determine the existence of any trust, express,

implied or constructive, or of any charge, pledge, or equity to which any of the Shares or any interest therein are subject or to ascertain or inquire whether any redemption of any such Shares by any Participant or its Authorized Representatives is authorized by such trust, charge, pledge or equity, or to recognize any person as having any interest therein except the Participant recorded as the Participant to which such Shares are allocated. The receipt of moneys by the Participant in whose name any Shares is recorded or by the Authorized Representative or duly authorized agent of such Participant shall be a sufficient discharge for all moneys payable or deliverable in respect of such Shares and from all responsibility to see the proper application thereof.

9.6 Notices

Any and all notices to which Participants hereunder may be entitled and any and all communications shall be deemed duly served or given if electronically or mailed, postage prepaid, addressed to Participants of record at the electronic or physical mailing addresses recorded in the records of the California CLASS.

ARTICLE X

DETERMINATION OF NET ASSET VALUE, NET INCOME, DISTRIBUTIONS AND ALLOCATIONS

10.1 Determination of Net Asset Value, Net Income, Distributions and Allocations

The Information Statement for each Fund within the California CLASS Investment Program shall set forth the basis and times for determining the per Share net asset value of the Shares, the net income, and the declaration and payment of distributions, as the California CLASS, in its absolute discretion, may determine.

ARTICLE XI

CALIFORNIA CLASS INVESTMENT PROGRAM COSTS

11.1 Expenses

In consideration of the performance of its obligations hereunder, the Administrator shall receive a fee as set forth in the Administrator Agreement described in Section 5.1 hereof, which fee shall be paid from the earnings on the Accounts. The Administrator's fee shall be an Investment Property Liability. From its fee, the Administrator shall pay the following costs and expenses: the Investment Advisor's fee set forth in the Investment Advisor Agreement, the Custodian's fee set forth in the Custody Agreement, the costs of third parties retained by the Administrator to render investment advice pursuant to the Administrator Agreement, the

royalty fees to the Sponsors, marketing expenses, all custodial and securities clearance transaction charges, the cost of valuing the Investment Property, the cost of obtaining a rating or ratings, if any, the cost of other expenses agreed to by the Administrator and the California CLASS, all Investment Property record-keeping expenses, the cost of preparing monthly and annual reports, the expense of outside auditors required pursuant to the Administrator Agreement (but only if the Administrator selects such auditors), the fees of the counsel to the Administrator and/or the counsel to the California CLASS, the cost of Meetings of the Board, the cost of reimbursement for reasonable expenses incurred by Trustees in the course of their duties, insurance costs and the costs of Participant surveys and mailings. At least quarterly, the Administrator shall provide a detailed accounting of such expenses to the Trustees.

ARTICLE XII

REPRESENTATIONS AND WARRANTIES OF EACH FOUNDING PARTICIPANT

12.1 Representations and Warranties of Each Founding Participant

Each Founding Participant hereby represents and warrants that:

(a) the Founding Participant is a Public Agency and political subdivision of a state, or an agency, authority, or instrumentality of the United States, a state or any political subdivision of a state; and

(b) each of the recitals to this Agreement is true as it relates to such Founding Participant; and

(c) the Founding Participant has taken all necessary actions and has received all necessary approvals and consents and adopted all necessary resolutions in order to execute and deliver this Agreement and to perform its obligations hereunder; and

(d) the execution, delivery, and performance of this Agreement by the Founding Participant are within the power and authority of the Founding Participant and do not violate the laws, rules, or regulations of the State of California applicable to the Founding Participant or its organizational statute, instrument, or documents or any other applicable Federal, state, or local law.

ARTICLE XIII

LIMITATIONS OF LIABILITY OF FOUNDING PARTICIPANTS, PARTICIPANTS, TRUSTEES AND OTHERS

13.1 No Personal Liability of Founding Participants, Participants, Trustees and Others.

Except in the case of fraud or willful misconduct, no Founding Participant, Participant and, subject to Section 13.3 hereof, no Trustee, officer, employee or agent of California CLASS, acting in its capacity as a Founding Participant, Participant, Trustee, officer, employee or agent of California CLASS, as applicable, shall be subject to any personal liability whatsoever to any person in connection with property or the acts, obligations or affairs of California CLASS, and all such persons shall look solely to the Investment Property for satisfaction of claims of any nature arising in connection with the affairs of California CLASS. Except in the case of fraud or willful misconduct, no Founding Participant, Participant, Trustee, officer, employee, or agent, as such, of California CLASS who is made a party to any suit or proceeding to enforce any such liability, shall be held to any personal liability. The debts, liabilities and obligations of California CLASS shall not be the debts, liabilities and obligations of any Founding Participant, Participant, Trustee, officer, employee or agent of California CLASS, unless otherwise provided in this Agreement provided, however, that in such case, such debts, liabilities and obligations shall be limited to the value of the Investment Property.

13.2 Indemnification of Participants

California CLASS shall indemnify and hold each Participant harmless from and against all claims and liabilities to which such Participant may become subject by reason of its being or having been a Participant in the California CLASS Investment Program and shall reimburse such Participant for all legal and other expenses reasonably incurred by it in connection with any such claim or liability provided, however, that: (a) such Participant was acting in accordance with all legal and policy requirements and investment objectives applicable to such Participant, including any limitations that the Participant has adopted or is subject to which are more restrictive than state law, (b) such indemnity or reimbursement shall be made from the Investment Property in the applicable Fund in respect of which such claim or liability arose and not from any other Investment Property, and (c) no indemnification shall be made for any Participant's negligence or willful misconduct. The rights accruing to a Participant under this Section 13.2 shall not exclude any other right to which such Participant may be lawfully entitled, nor shall anything herein contained restrict the right of California CLASS to indemnify or reimburse a Participant in any appropriate situation even though not specifically provided herein.

13.3 Bad Faith of Trustees and Others

No Trustee, officer, employee or agent of California CLASS shall be liable to California CLASS, or to any Founding Participant, Participant, Trustee, officer, employee or agent thereof

for any action or failure to act, except for his or her own bad faith, willful misfeasance, gross negligence or reckless disregard of duty (collectively, "**Bad Faith**").

13.4 Indemnification of Trustees and Others from Third-Party Actions

(a) California CLASS shall, to the extent permitted by law, indemnify any person who was or is a party or is threatened to be made a party to any proceeding (other than an action by or in the right of California CLASS) by reason of the fact that such person is or was a Trustee, officer or employee of California CLASS, against expenses, judgments, fines, settlements and other amounts actually and reasonably incurred in connection with such proceeding, if it is determined that such person acted in good faith and reasonably believed: (i) in the case of conduct in his or her official capacity as a Trustee of California CLASS, that his or her conduct was in California CLASS's best interests, (ii) in all other cases, that his or her conduct was at least not opposed to California CLASS's best interests, and (iii) in the case of a criminal proceeding, that he or she had no reasonable cause to believe the conduct of such person was unlawful. The termination of any proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent shall not of itself create a presumption that the person did not act in good faith and in a manner that such person reasonably believed to be in the best interests of California CLASS or that such person had reasonable cause to believe such person's conduct was unlawful.

(b) In case any claim shall be made or action brought against any person in respect of which indemnity may be sought against the California CLASS, such indemnified person shall promptly notify the California CLASS in writing setting forth the particulars of such claim or action. The indemnified person shall be entitled to select and retain counsel of his or her choice. The California CLASS shall be responsible for the payment or immediate reimbursement for all reasonable fees and expenses incurred in the defense of such claim or action.

13.5 Indemnification of Trustees and Others for Successful Defense

To the extent that a Trustee, officer or employee of California CLASS has been successful on the merits in defense of any proceeding referred to in Section 13.4 hereof or in defense of any claim, issue or matter therein, before the court or other body before which the proceeding was brought, such person shall be indemnified against expenses actually and reasonably incurred in connection therewith.

13.6 Advance of Expenses

Expenses incurred in defending any proceeding may be advanced by California CLASS before the final disposition of the proceeding upon a written undertaking by or on behalf of the Trustee, officer or employee of California CLASS, to repay the amount of the advance if it is ultimately determined that he or she is not entitled to indemnification, together with at least one of the following as a condition to the advance: (i) security for the undertaking; or (ii) the existence of insurance protecting California CLASS against losses arising by reason of any lawful advances; or (iii) a determination by a majority of the Trustees who are not parties

to the proceeding ("**Non-Interested Trustees**"), or by independent legal counsel in a written opinion, based on a review of readily available facts, that there is reason to believe that such person ultimately will be found entitled to indemnification.

13.7 Exclusions and Limitations of Indemnification of Trustees and Others

Notwithstanding the foregoing, no indemnification or advance shall be made under Sections 13.4 to 13.6 hereof:

(a) Bad Faith. For any liability arising by reason of Bad Faith of a Trustee, officer or employee of California CLASS.

(b) Improper Personal Benefit. In respect of any claim, issue, or matter as to which a Trustee, officer or employee of California CLASS shall have been adjudged to be liable on the basis that personal benefit was improperly received by him or her, whether or not the benefit resulted from an action taken in such person's official capacity.

(c) Otherwise Prohibited. In any circumstances where it appears that it would be inconsistent with any condition expressly imposed by a court, any provision of this Agreement, or any agreement in effect at the time of accrual of the alleged cause of action asserted in the proceeding in which the expenses were incurred or other amounts were paid which prohibits or otherwise limits indemnification or advance.

(d) Limited to California CLASS's Assets. In any amount, individually or in the aggregate, that exceeds the value of the Investment Property. If there are concurrent indemnifications of multiple Participants under this Article XIII, such indemnifications shall be made on a pro rata basis up to the value of the Investment Property.

13.8 Obligations under Law

Notwithstanding anything herein or in the Investment Management Agreement to the contrary, nothing herein or therein is intended to relieve any Founding Participant or Participant of any obligation it has under state or Federal law to monitor, review, evaluate or provide oversight with respect to the Shares Program, the Investment Manager, or its participation in California CLASS.

13.9 Required Approval

No indemnification or advance shall be made under Sections 13.4 to 13.6 hereof unless and until it is determined, by a majority of the Non-Interested Trustees, or by independent legal counsel in a written opinion, based on a review of readily available facts, that indemnification of a Trustee, officer, employee or agent of California CLASS is proper in the circumstances because such person has met the applicable standard of conduct set forth in Sections 13.4 to 13.6 hereof, as applicable, and such indemnification is not excluded by reason of Section 13.7 hereof.

13.10 Fiduciaries of Employee Benefit Plan

This Article XIII does not provide indemnification or release from liability with respect to any proceeding against any trustee, Investment Manager or other fiduciary of an employee benefit plan in such person's capacity as such, even though such person may also be a Trustee, officer, employee or agent of California CLASS. Nothing contained in this Article XIII shall limit any right to indemnification to which such a trustee, Investment Manager, or other fiduciary may be entitled by contract or otherwise which shall be enforceable to the extent permitted by applicable laws other than this Article XIII.

13.11 No Duty of Investigation and Notice in California CLASS Instruments

No purchaser, lender, transfer agent, record keeper or other person dealing with any Trustee, officer, employee or agent of California CLASS shall be bound to make any inquiry concerning the validity of any transaction purporting to be made by such Trustee, officer, employee or agent or be liable for the application of money or property paid, loaned, or delivered to or on the order of such Trustee, officer, employee or agent. Every obligation, contract, instrument, certificate, Share or other security of California CLASS and undertaking, and every other document executed in connection with California CLASS, shall be conclusively presumed to have been executed or done by the executors thereof only in their capacity as Trustees under this Agreement or in their capacity as officers, employees or agents of California CLASS. Every written obligation, contract, instrument, certificate, Share or other security of California CLASS or undertaking made or issued by any Trustee shall recite that it is executed by such Trustee not individually, but in the capacity as Trustee under this Agreement, and that the obligations of any such instruments are not binding upon any of the Trustees, Founding Participants or Participants individually, but bind only California CLASS property, but the omission of such recital shall not operate to bind the Trustees, Founding Participants or Participants individually.

13.12 Reliance on Experts

Each Trustee, officer, employee and agent of California CLASS shall, in the performance of his or her duties, be fully protected with regard to any act or any failure to act resulting from reliance in good faith upon the books of account or other records of California CLASS, upon an opinion of counsel, or upon reports made to California CLASS by any of its officers or employees or by the investment adviser, administrator, transfer agent, record keeper, custodian, distributor accountants, appraisers or other experts or consultants selected with reasonable care by the Trustees, officers, employees or agents of California CLASS.

13.13 Immunity from Liability

All of the privileges and immunities from liability, all exemptions from laws, ordinances and rules, and all pension, relief, disability, workmen's compensation, and other benefits which apply to the activity of the trustees, officers, employees or agents of the Founding Participants when performing their functions within the territorial limits of their respective

Public Agencies, shall apply to them to the same degree and extent while engaged in the performance of any of their functions and duties associated with California CLASS.

13.14 Further Restriction of Duties and Liabilities

Without limiting the foregoing provisions of this Article XIII, the Trustees, officers, employees and Founding Participants of California CLASS shall in no event have any greater duties or liabilities than those imposed by applicable laws as shall be in effect from time to time.

ARTICLE XIV

AMENDMENT AND TERMINATION

14.1 Amendment

Unless explicitly set forth otherwise herein, this Agreement may be amended only by a majority vote of the Board. Nothing in this Agreement shall permit its amendment to violate the Act or the Applicable Law or impair the exemption from personal liability of the Founding Participants, Participants, Trustees, officers, employees and agents of the California CLASS or to permit assessments upon Participants. Notice of any amendment to this Agreement shall be filed with the office of the Secretary of State of California pursuant to Section 6503.5. Participants shall also be notified of any amendment to this Agreement through electronic communications.

14.2 Termination

(a) This Agreement shall continue in full force and effect unless terminated as set forth in this Section 14.2. This Agreement may be terminated at any time pursuant to a duly adopted amendment hereto approved by the unanimous vote of the Board provided, however, that in no event shall this Agreement terminate so long as the California CLASS has any unpaid debts or obligations.

(b) Upon the termination of this Agreement pursuant to this Section 14.2:

(i) the Custodian, the California CLASS, and the Administrator shall carry on no business in connection with the California CLASS Investment Program except for the purpose of satisfying the Investment Property Liabilities and winding up their affairs in connection with the Investment Property;

(ii) the Custodian, the California CLASS, and the Administrator shall proceed to wind up their affairs in connection with California CLASS Investment Program, and all of the powers of the California CLASS, the Administrator, and the Custodian under this Agreement, the Administrator Agreement, and the Custody Agreement, respectively, shall continue until the affairs of the California CLASS, the Administrator, and the

Custodian in connection with the California CLASS Investment Program shall have been wound up, including but not limited to the power to collect amounts owed, sell, convey, assign, exchange, transfer, or otherwise dispose of all or any part of the remaining Investment Property to one or more persons at public or private sale for consideration that may consist in whole or in part of cash, securities, or other property of any kind, discharge or pay Investment Property Liabilities, and do all other acts appropriate to liquidate their affairs in connection with the California CLASS Investment Program; and

(iii) after paying or adequately providing for the payment of all Investment Property Liabilities and upon receipt of such releases, indemnities, and refunding agreements as each of the California CLASS, Administrator, and Custodian deem necessary for their protection, the California CLASS shall take all necessary actions to cause the distribution of the remaining Investment Property, in cash or in kind or partly in each, among the Participants according to their respective proportionate Balances.

(c) Upon termination of this Agreement and distribution to the Participants as herein provided, the California CLASS shall direct the Administrator to execute and lodge among the records maintained in connection with this Agreement an instrument in writing setting forth the fact of such termination, and the California CLASS and Founding Participants shall thereupon be discharged from all further liabilities and duties hereunder, and the rights and benefits of all Participants hereunder shall cease and be canceled and discharged.

ARTICLE XV

MISCELLANEOUS

15.1 Governing Law

This Agreement is executed by the initial Founding Participants and delivered in the State of California and with reference to the laws thereof, and the rights of all parties and the validity, construction, and effect of every provision hereof shall be subject to and construed according to the laws of the State of California.

15.2 Severability

The provisions of this Agreement are severable, and if any one or more of such provisions (the "**Conflicting Provisions**") are in conflict with applicable laws, the Conflicting Provisions shall be deemed never to have constituted a part of this Agreement, and this Agreement may be amended pursuant to Section 14.1 hereof to remove the Conflicting Provisions provided, however, that such conflict or amendment shall not affect or impair any of the remaining provisions of this Agreement or render invalid or improper any action taken or omitted prior to the discovery or removal of the Conflicting Provisions.

15.3 Counterparts

This Agreement may be executed in several counterparts, each of which when so executed shall be deemed to be an original, and such counterparts, together, shall constitute but one and the same instrument that shall be sufficiently evidenced by any such original counterpart.

15.4 No Assignment

No assignment of this Agreement may be made by any party without consent of the non-assigning party.

15.5 Gender; Section Headings and Table of Contents

(a) Words of the masculine gender shall mean and include correlative words of the feminine and neuter genders, and words importing the singular number shall mean and include the plural number and vice versa.

(b) Any headings preceding the texts of the several Articles and Sections of this Agreement and any table of contents or marginal notes appended to copies hereof shall be solely for convenience of reference and shall neither constitute a part of this Agreement nor affect its meaning, construction, or effect.

15.6 No Partnership

Other than the creation by the Founding Participants of a joint exercise of powers entity pursuant to the Act, this Agreement does not create or constitute an association of two or more persons to carry on as co-owners a business for profit, and none of the parties intends this Agreement to constitute a partnership or any other joint venture or association.

15.7 Notice

Unless oral notice is otherwise allowed in this Agreement and except as otherwise provided herein, all notices required to be sent under this Agreement:

(a) shall be in writing;

(b) shall be deemed to be sufficient if given by (i) depositing the same in the United States mail properly addressed, postage prepaid, or (ii) electronically transmitting such notice by any means such as by facsimile transmission, email, or other electronic means, or (iii) by depositing the same with a courier delivery service, addressed to the person entitled thereto at his address or phone number as it appears on the records maintained by the Administrator;

(c) shall be deemed to have been given on the day of such transmission if delivered pursuant to subsection (b)(ii) or on the third day after deposit if delivered pursuant to subsection (b)(i) or (b)(iii); and

(d) any of the methods specified in Section 15.7(b) hereof shall be sufficient to deliver any notice required hereunder notwithstanding that one or more of such methods may not be specifically listed in the Sections hereunder requiring such notice.

15.8 Confidentiality

(a) All information and recommendations furnished by the Administrator to any Participants or the California CLASS that is marked confidential and all information and directions furnished by the Administrator to the Custodian shall be regarded as confidential by each such person to the extent permitted by law. Nothing in this Section shall prevent any party from divulging information as required by law or from divulging information to civil, criminal, bank, or securities regulatory authorities where such party may be exposed to civil or criminal proceedings or penalties for failure to comply, or from divulging information in accordance with State of California laws or to prevent the Administrator from distributing copies of this Agreement, the names of the Participants, or the Investment Property Value to third parties.

15.9 Entire Agreement

This Agreement shall constitute the entire agreement of the parties with respect to the subject matter and shall supersede all prior oral or written agreements in regard thereto.

15.10 Disputes

In the event of any dispute between the parties, the parties agree to attempt to resolve the dispute through negotiation. To the extent permitted by law, no litigation shall be commenced without a certification by an authorized officer, employee, or agent of any party that the dispute cannot be resolved by negotiation provided in writing at least 10 days before commencing legal action.

15.11 Writings

Whenever this Agreement requires a notice, instruction, or confirmation to be in writing or a written report to be made or a written record to be maintained, it shall be sufficient if such writing is produced or maintained by electronic means or maintained by any other photostatic, photographic, or micrographic data storage method such as digital discs as well as on paper.

15.12 Effective Date

This Agreement shall become effective on the Effective Date.

SIGNATURE PAGE FOR JOINT EXERCISE OF POWERS AGREEMENT

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in their names and on their behalf as of the date first written above.

ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT

By: _____

Name: Ryan Clausnitzer

Title: General Manager

WEST BASIN MUNICIPAL WATER DISTRICT

By: _____

Name: _____

Title: _____

CITY OF LANCASTER

By: _____

Name: _____

Title: _____

SIGNATURE PAGE FOR JOINT EXERCISE OF POWERS AGREEMENT

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in their names and on their behalf as of the date first written above.

ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT

By: _____

Name: _____

Title: _____

WEST BASIN MUNICIPAL WATER DISTRICT

By: Margaret Moggia

Name: Margaret Moggia

Title: Executive Manager of Finance

CITY OF LANCASTER

By: _____

Name: _____

Title: _____

SIGNATURE PAGE FOR JOINT EXERCISE OF POWERS AGREEMENT

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in their names and on their behalf as of the date first written above.

ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT

By: _____

Name: _____

Title: _____

WEST BASIN MUNICIPAL WATER DISTRICT

By: _____

Name: _____

Title: _____

CITY OF LANCASTER

By: George N. Harris

Name: George N. Harris

Title: Finance Director

EXHIBIT A

Valuation Procedures

1. Portfolio Valuation

California CLASS follows Financial Accounting Standards Board Accounting Standards Codification (ASC) 820 *Fair Value Measurement and Disclosure* for financial reporting purposes. ASC 820 defines fair value, establishes a single framework for measuring fair value, and requires disclosures about fair value measurement.

At least daily, the Investment Property Value shall be determined on a mark to market basis as follows: (a) securities for which market quotations are readily available are valued at the most recent bid price or yield equivalent as obtained from one or more market makers for such securities or a third-party pricing source; (2) all other securities and assets are valued at fair market value in good faith.

2. Amendment

These Valuation Procedures may be amended from time to time as provided in the Agreement.

California CLASS

California Cooperative Liquid Assets Securities System

What is California CLASS?

California Cooperative Liquid Assets Securities System (California CLASS) is a joint exercise of powers entity authorized under Section 6509.7, California Government Code. California CLASS is a pooled investment option that was created via a joint exercise of powers agreement by and among California public agencies. California CLASS offers public agencies a convenient method for investing in highly liquid, investment-grade securities carefully selected to optimize interest earnings while maximizing safety and liquidity. The California CLASS Prime and Enhanced Cash funds offer public agencies the opportunity to strengthen and diversify their cash management programs in accordance with the safety, liquidity, and yield hierarchy that provides the framework for the investment of public funds.

How is it governed and managed?

California CLASS is overseen and governed by a Board of Trustees. The Board is made up of public agency finance professionals who participate in California CLASS and are members of the Joint Powers Authority (JPA). The Board of Trustees has entered into an Investment Advisor and Administrator Agreement with Public Trust Advisors, LLC. Public Trust is responsible to the Board for all program investment and administrative activities as well as many of the services provided on behalf of the Participants.

How can we participate?

Enrolling in California CLASS is simple. Public agencies may become Participants simply by filling out the Participant Registration Form that can be found in the document center on the California CLASS website. Public agencies may submit the completed registration packet to California CLASS Client Services for processing at clientservices@californiaclass.com. To obtain account forms and fund documents, visit www.californiaclass.com/document-center/.

Endorsed By:

League of California Cities

www.calcities.org

California Special Districts Association
Districts Stronger Together

www.csda.net

Participants benefit from the following:

- Same-day availability of funds in Prime Fund (11:00 a.m. PT cut-off)
- Deposits by wire or ACH
- Ratings of 'AAAm' & 'AAAf/S1'
- Prime fund transacts at stable NAV
- Portfolio securities marked-to-market daily
- Secure online access for transactions and account statements
- No withdrawal notices for Prime Fund
- Participant-to-Participant transactions
- Interest accrues daily and pays monthly
- No maximum contributions
- No minimum balance requirements
- No transaction fees*
- Annual audit conducted by independent auditing firm**
- Dedicated client service representatives available via phone or email on any business day

*You may incur fees associated with wires and/or ACH transactions by your bank, but there will be no transaction fees charged from California CLASS for such transactions.
**External audits may not catch all instances of accounting errors and do not provide an absolute guarantee of accuracy.

What are the objectives of California CLASS?

Safety

The primary investment objective of the California CLASS Prime fund is preservation of principal. Both California CLASS portfolios are managed by a team of investment professionals who are solely focused on the management of public funds nationwide. The custodian for California CLASS is U.S. Bank, N.A.

Liquidity

When you invest in the California CLASS Prime fund, you have access to your funds on any business day. You must notify California CLASS of your funds transaction requests by 11:00 a.m. PT via the internet or phone. There are no withdrawal notices for the daily-liquid California CLASS Prime fund. Enhanced Cash is a variable NAV fund that provides next-day liquidity and a one-day notification of withdrawal.

Competitive Returns

California CLASS strives to provide competitive returns while adhering to the objectives of safety and liquidity. Participants benefit from the investment expertise and institutional knowledge provided by the team of Public Trust professionals. Portfolio performance is strengthened by the extensive knowledge of California public agency cash flows that the Public Trust team possesses.

Ease of Use

To make cash management streamlined and efficient, California CLASS includes many features that make it easy to access account information and simplify record keeping. Participants can transact on any business day using the California CLASS phone number (877) 930-5213, fax number (877) 930-5214, email clientservices@californiaclass.com or via the California CLASS Online Transaction Portal at www.californiaclass.com.

Flexibility

You may establish multiple California CLASS subaccounts. You will receive comprehensive monthly statements that show all of your transaction activity, interest accruals, and rate summaries. These statements have been specifically designed to facilitate public sector fund accounting and to establish a clear accounting and audit trail for your records.

Legality

California CLASS only invests in securities permitted by California State Code Section 53601; permitted investments are further restricted to those approved by the Board of Trustees as set forth in the California CLASS Investment Policies.

Have Questions? Contact us or visit www.californiaclass.com for more information.

Bob Shull
Director, Investment Services
bob.shull@californiaclass.com
(213) 378-2070

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Any financial and/or investment decision should be made only after considerable research, consideration, and involvement with an experienced professional engaged for the specific purpose. **Past performance is not an indication of future performance. Any financial and/or investment decision may incur losses.** Please see the Information Statement for further details on the fee calculation and other key aspects about California CLASS. California CLASS Prime is rated 'AAAm' by S&P Global Ratings. A 'AAAm' rating by S&P Global Ratings is obtained after S&P evaluates a number of factors including credit quality, market price exposure, and management. For a full description on rating methodology, please visit www.spglobal.com. California CLASS Enhanced Cash is rated by 'AAAf/S1' by FitchRatings. The 'AAAf' rating is Fitch's opinion on the overall credit profile within a fixed-income fund/portfolio and indicates the highest underlying credit quality of the pool's investments. The 'S1' volatility rating is Fitch's opinion on the relative sensitivity of a portfolio's total return and/or net asset value to assumed changes in credit spreads and interest rates. The 'S1' volatility rating indicates that the fund possesses a low sensitivity to market risks. For a full description on rating methodology, please visit www.fitchratings.com. Ratings are subject to change and do not remove credit risk.

California CLASS

Prime Fund Information Statement

June 17, 2022

Introduction

The purpose of this Information Statement for the California CLASS Prime Fund (Prime Fund) is to provide information to Participants (as defined herein) in connection with the purchase of Shares (as defined herein) in the Prime Fund. This Information Statement for the Prime Fund describes certain provisions of the JPA Agreement (as defined herein) for the California CLASS and the Investment Policy for the Prime Fund. Participants interested in the purchase of Shares in the Prime Fund should review the full terms of the JPA Agreement (located in the Document Center at www.californiaclass.com) and the Investment Policy for the Prime Fund described herein (located in the Document Center at www.californiaclass.com), each of which are incorporated herein by reference. Capitalized terms not otherwise defined herein shall have the meanings set forth in the JPA Agreement.

The contents of this Information Statement should not be considered to be legal, tax or investment advice, and Participants should consult with their own counsel and advisers as to all matters concerning investment in the Prime Fund.

California CLASS Prime Fund Summary

The California Cooperative Liquid Assets Securities System, doing business as the California CLASS, is a California joint powers authority created pursuant to Title 1, Division 7, Chapter 5 of the California Government Code (commencing with Section 6500), known as the Joint Exercise of Powers Act (Act) and the JPA Agreement referenced below.

The Act provides that two or more public agencies (as defined herein, Public Agencies) that have the authority to invest funds in their treasuries may, by agreement, jointly exercise that common power and create a joint powers authority separate from such Public Agencies to exercise such common power and to act as administrator of the agreement. Under this authority, California CLASS was created pursuant to a Joint Exercise of Powers Agreement (JPA Agreement) dated as of June 6, 2022, between the Founding Participants (as defined in the JPA Agreement).

The Act authorizes a joint powers authority, such as California CLASS, to issue shares of beneficial interest in authorized investments to participating Public Agencies (collectively referred to herein, as Participants and individually, as a Participant). See "Eligible Shareholders." The JPA Agreement sets forth the terms of the investment program known as California CLASS Investment Program, including the establishment of Funds in which Participants purchase shares of beneficial interest issued by California CLASS in authorized investments that are owned by California CLASS. The Prime Fund is one of the initial Funds established by the California CLASS.

The purpose of the California CLASS is to consolidate investment activities of the Participants and thereby reduce duplication, take advantage of economies of scale and perform governmental functions more efficiently through the California CLASS Investment Program.

As a joint powers authority, California CLASS provides a professionally managed pooled investment program for Participants. See "Investment Advisor & Administrator." Pursuant to the JPA Agreement, California CLASS is governed by a Board of Trustees and is sponsored by the California Special Districts Association (CSDA) and the League of California Cities (Cal Cities and together with CSDA, the Sponsors). See "Board of Trustees."

The Shares in the California CLASS Prime Fund have not been, and are not required to be, registered under any federal or state securities law. The California CLASS has not been, and is not required to be, registered under the Investment Company Act of 1940, as amended. Accordingly, the California CLASS and its Prime Fund are not subject to the provisions of that Act, including the protective rules relating to registered money market funds and other types of mutual funds.

Prime Fund Investment Objectives

California CLASS provides a professionally managed pooled investment program for Participants. The general objective of the Prime Fund is to generate additional investment income for the Participants while maintaining safety and liquidity. The Prime Fund is managed by the California CLASS to comply with the requirements of California law, specifically California Government Code Section 53601.

The Prime Fund is managed by the California CLASS to offer a safe, convenient, and daily liquid investment option for Participants. As described below, the investment objectives of the Prime Fund are to preserve principal, provide daily liquidity, earn a competitive rate of return, and maintain a stable Net Asset Value (NAV) of $1.00. The Prime Fund accrues net income daily and pays net income on a pro rata basis monthly.

The California CLASS has established that the Prime Fund will have a maximum dollar-weighted average maturity (WAM) of 60 days and a maximum weighted average life (WAL) of 120 days. The Investment Policy created by the California CLASS for the Prime Fund establishes the objectives, policies and restrictions that are designed to facilitate the achievement of these objectives.

The Investment Advisor for the Prime Fund will seek to maintain a 'AAAm' rating from S&P Global Ratings on the Prime Fund. According to S&P Global Ratings, a fund rated 'AAAm' demonstrates extremely strong capacity to maintain principal stability and to limit exposure to principal losses due to credit risk. 'AAAm' is the highest principal stability fund rating assigned by S&P Global Ratings.

The investment objectives of the Prime Fund in order of priority are:

Safety: The Prime Fund is managed to emphasize the preservation of principal while maintaining a stable NAV of $1.00.

Liquidity: The Prime Fund is managed to provide daily liquidity to its Participants. See above for description of the maximum WAM and WAL for investments in the Prime Fund.

Competitive Returns: The Prime Fund is managed to generate competitive returns while providing daily liquidity and stability of principal.

No assurances can be given that the investment objectives of the Prime Fund will be achieved.

Transparency

The California CLASS seeks to provide transparency to Participants in the Prime Fund by allowing Participants to readily obtain portfolio and account information. The California CLASS will offer dedicated Participant support with an easy-to-use technology platform. Historical and current performance data, Net Asset Value, WAM, and WAL are published and available to Participants on the California CLASS website. Portfolio holdings are published quarterly and are available to Participants through the California CLASS Client Services team on an as-needed basis. Participant breakdowns and expense ratios are also published and available to Participants on the California CLASS website on a quarterly basis.

Eligible Shareholders

Any Public Agency that has the authority to invest funds in its treasury in statutorily permitted investments, including but not limited to Section 53601 of the California Government Code, and meets the requirements described in the next paragraph is eligible to become a Participant of the California CLASS Investment Program and is eligible to purchase shares in the Prime Fund.

Each Participant must be a "Public Agency", as that term is defined in Section 6509.7 of the Act, which, as of the date of this Information Statement, is defined as "the federal government or any federal department or agency, this state, another state or any state department or agency, a county, county board of education, county superintendent of schools, city, public corporation, public district, or regional transportation commission of the State of California or another state, a federally recognized Indian tribe, or any joint powers authority formed pursuant to this article by any of these agencies," and includes "a nonprofit corporation whose membership is confined to public agencies or public officials." Each Participant must also be a political subdivision of a state, or an agency, authority, or instrumentality of the United States, a state of any political subdivision of a state.

Prime Fund Eligible Investments

Funds in the Prime Fund are required to be invested by the Investment Advisor in investments permitted by California law, specifically California Government Code Section 53601, and will be made in accordance with the Investment Policy established by the California CLASS for the Prime Fund. As required by California law, funds in the Prime Fund will be invested by the Investment Advisor in accordance with the prudent investor standard of the California Government Code.

While the Investment Policy established by the California CLASS for the Prime Fund covers the eligible investments and their maximum maturity, maximum portfolio allocation, maximum per issuer allocation and minimum credit quality in greater detail, the following types of investments are eligible for inclusion in the Prime Fund:

- U.S. Government and agency obligations
- Repurchase agreements collateralized by U.S. Government and agency obligations
- Registered warrants or treasury notes of the state of California
- Bonds, notes, warrants, or other obligations of a local agency in the state of California
- Registered treasury notes or bonds of any of the other 49 states
- Bankers' acceptances
- Prime commercial paper and asset-backed commercial paper
- Negotiable certificates of deposit
- Corporate notes
- Asset-backed securities
- U.S. dollar denominated senior unsecured obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development, International Finance Corporation or Inter-American Development Bank
- Money market mutual funds

The Investment Policy for the Prime Fund also contains certain investment restrictions on investments in the Prime Fund.

As set forth in Section 53601 of the California Government Code, the legislative body of a local agency having moneys in a sinking fund or moneys in its treasury not required for the immediate needs of the local agency may invest any portion of the money that it deems wise or expedient in the investments described in Section 53601. However, the California Government Code limits the amount of surplus money of a local agency that may be invested in such investments. Each Participant is responsible for monitoring the aggregate amount of its investments in any of these types of investments to ensure its own compliance with the California Government Code. None of the California CLASS, the Administrator, the Investment Advisor, the Custodian or any other agents of the California CLASS shall be responsible for such monitoring or compliance.

Each Participant, by its investment in the Prime Fund, is certifying that it is legally authorized to make such investment. Participants should consult with their legal counsel and/or advisors regarding the legality of investment funds in the Prime Fund.

Shares; Interests of Participants

The JPA Agreement provides that the beneficial interests of the Participants in the assets of the Prime Fund and the earnings thereon are divided into "Shares." "Shares" means the unit used to denominate

and measure the respective pro rata beneficial interests of the Participants in a Fund within the California CLASS Investment Program, including the Prime Fund. As required by Section 6509.7 of the Act, each Share shall represent an equal proportionate interest in the Investment Property within a Fund, including the Prime Fund. The JPA Agreement provides that the number of Shares that may be used to measure and represent the proportionate allocation of beneficial interests among the Participants in a Fund, including the Prime Fund, is unlimited. All Shares in a Fund, including the Prime Fund, shall be of one class representing equal distribution, liquidation, and other rights. The beneficial interests measured by the Shares shall not entitle a Participant to preference, preemptive, appraisal, conversion, or exchange rights of any kind with respect to the California CLASS Investment Program or the Investment Property held in the applicable Fund, including the Prime Fund. Title to the Investment Property held in the applicable Fund, including the Prime Fund, of every description is vested in the California CLASS. The Participants shall have no interest in the Investment Property held in the applicable Fund, including the Prime Fund, other than the beneficial interests conferred hereby and measured by their Shares, and they shall have no right to call for any partition or division of any property, profits, rights, or interests of the California CLASS.

In its discretion, the California CLASS may from time to time allocate Shares in addition to the then allocated Shares to such Participant for such amount and such type of consideration (including without limitation income from the investment of Investment Property held in the applicable Fund, including the Prime Fund) at such time(s) (including without limitation each Business Day in accordance with the maintenance of a constant net asset value per Shares as set forth in the JPA Agreement for constant net asset value Funds, such as the Prime Fund), and on such terms as the California CLASS may deem best. In connection with any allocation of Shares, the California CLASS may allocate fractional Shares. From time to time, the California CLASS may adjust the total number of Shares allocated without thereby changing the proportionate beneficial interests in the Investment Property held in the applicable Fund, including the Prime Fund. Reductions or increases in the number of allocated Shares may be made in order to maintain a constant net asset value per Share for constant net asset value Funds, such as the Prime Fund. Shares shall be allocated and redeemed as one hundredths (1/100ths) of a Share or any multiple thereof.

Investment Risks

Participants should specifically consider the following risks before deciding to purchase Shares of the Prime Fund. The following summary does not purport to be comprehensive or definitive of all risk factors.

Interest Rate Risks

The prices of the fixed-income securities in the Prime Fund will rise and fall in response to changes in the interest rates paid by similar securities. Generally, when interest rates rise, prices of fixed-income securities fall. However, market factors, such as demand for particular fixed-income securities, may cause the price of certain fixed-income securities to fall while the price of other securities rise or remain

unchanged. Interest rate changes have a greater effect on the price of fixed-income securities with longer maturities. The Investment Advisor will seek to manage this risk by purchasing short-term securities.

Credit Risks

Credit risk is the possibility that an issuer of a fixed-income security held in the Prime Fund will default on the security by failing to pay interest or principal when due. If an issuer defaults, Participants in the Prime Fund will lose money. The Investment Advisor will seek to manage this risk by purchasing high-quality securities as determined by one or more Nationally Recognized Statistical Ratings Organizations and/or the Investment Advisor's credit research team. The Investment Policy for the Prime Fund contains a description of the minimum credit quality for each category of eligible investment in the Prime Fund.

Stable Net Asset Value Risks

Although the Prime Fund is managed to maintain a stable NAV of $1.00 per Share, there is no guarantee that it will be able to do so.

Investment Not Insured or Guaranteed

An investment in the Prime Fund is neither insured nor guaranteed by the Federal Deposit Insurance Corporation or any other government agency.

Board of Trustees

Pursuant to the JPA Agreement, the management of California CLASS is governed by a Board of Trustees (Board). The Board supervises the California CLASS and its affairs and acts as the liaison between the Participants, the Custodian, the Administrator, the Investment Advisor and all service providers.

CSDA and Cal Cities are sponsors of the California CLASS. The governing bodies of CSDA and Cal Cities each appoint two (2) Trustees who are either elected, appointed, or staff from a California CLASS Participant which is also a CSDA or Cal Cities member; or, staff from CSDA and Cal Cities. One seat on the Board shall be a Participant that is appointed by a majority vote of the Board.

Initially, the number of Trustees shall be five (5) voting Trustees. The Board may expand the membership of the Board and set initial terms for each additional Trustee. The Board approved the Investment Policy for the Prime Fund and may approve amendments to such Investment Policy from time to time. Upon the Board's approval of any amendment to the Investment Policy for the Prime Fund, the amended Investment Policy will be posted to the website of California CLASS.

See www.californiaclass.com for a description of the current Trustees and officers of the California CLASS.

Investment Advisor & Administrator

Pursuant to an agreement with the California CLASS, Public Trust Advisors, LLC (Public Trust) serves as the Investment Advisor and Administrator for California CLASS Investment Program.

As Investment Advisor, Public Trust provides investment services to the California CLASS, including the Prime Fund. Public Trust is an investment advisory firm headquartered in Denver, Colorado with offices in Los Angeles, California. Public Trust is registered with the Securities and Exchange Commission as an investment advisor under the Investment Advisers Act of 1940.

As Administrator, Public Trust services all Participant accounts in the California CLASS Investment Program, including all Participant accounts in the Prime Fund, determines and allocates income of the California CLASS Investment Program, provides certain written confirmation of the investment and withdrawal of funds by Participants, provides administrative personnel and facilities to the California CLASS, determines the NAV of the Prime Fund on a daily basis, and performs all related administrative services for California CLASS. At least quarterly, the Administrator provides the Board with a detailed evaluation of the performance of the California CLASS Investment Program, including the Prime Fund, based upon a number of factors. This evaluation includes a comparative analysis of the investment results of the California CLASS Investment Program, including the Prime Fund, in relation to industry standards such as the performance of comparable money market mutual funds and various indexes of money market securities.

Custodian

Pursuant to an agreement with the California CLASS, U.S. Bank, N.A. serves as Custodian for California CLASS Investment Program.

As Custodian, U.S. Bank, N.A. acts as directed custodian for the California CLASS Investment Program, including the Prime Fund, and serves, in accordance with California law, as the depository in connection with the direct investment and withdrawal mechanisms of California CLASS Investment Program. U.S. Bank, N.A. does not participate in the investment decision making process of the California CLASS Investment Program.

The Custodian shall hold the Investment Property (excluding cash, which is not held by the Custodian), in its capacity as Custodian on behalf of California CLASS. Such Investment Property shall be custodial property of the Custodian and shall not be, or be deemed to be, an asset of the Custodian.

Within fifteen (15) days after the end of each month, the Custodian shall send statements providing the closing balance in the Account at the end of such month and the transactions performed in the Account during such month to the Administrator and the California CLASS.

Independent Auditors

An independent certified public accounting firm, CliftonLarsonAllen, LLP, has been engaged to audit the annual financial statements of the California CLASS. The audit will contain statements of assets and liabilities, of operations, and of changes in net assets. The opinion of the independent certified public accountant on such financial statements is based on an examination of the books and records of California CLASS made in accordance with generally accepted accounting principles (GAAP). The fiscal year of the California CLASS ends each March 31.

How to Become a Participant

See "Eligible Shareholder" to determine if you are eligible to be a Participant in the California CLASS Investment Program. Any prospective Participants seeking to purchase Shares in the Prime Fund should review the JPA Agreement, this Information Statement for the Prime Fund, and the Investment Policy for the Prime Fund and then simply complete the California CLASS Registration Packet found in the document center of the California CLASS website(located in the Document Center at www.californiaclass.com). Please email all completed forms to clientservices@californiaclass.com.

There is no limit on the number of subaccounts that can be opened by a Participant. The Administrator will notify the prospective Participant of its approval of the Registration Forms and the account number(s) assigned. The Administrator reserves the right to reject any Registration in its discretion. Investment in the Prime Fund may be effectuated through the California CLASS Participant Portal. Secure online access will be available to Participants with respect to their accounts. Information with respect to the Prime Fund, including daily yield, up-to-date account information, and a transaction history will be available online. Confirmations of each contribution (purchase of Shares) and withdrawal (redemption of Shares) of funds will be available online to a Participant within one business day of the transaction.

Purchase of Shares; Investments

Payments by the Participant to the California CLASS, and the crediting of Shares resulting therefrom, are referred to herein as "contributions" for convenience. Participants may purchase Shares in the Prime Fund by Automated Clearing House (ACH) transfer or wire transfer from the Participant to the Custodian, as described in the Investment Procedures set forth below. The California CLASS does not charge a fee for receipt of wire contributions. However, a Participant's bank may charge a fee for wiring funds.

There is no maximum or minimum amount that must be invested in the Prime Fund nor is there any maximum or minimum limitations on the aggregate amount of the investment funds that any Participant may have invested at any one time with California CLASS.

Investment Procedures

1. The Participant shall provide a recorded call or send a written notice to the Administrator indicating the amount to be invested in the Prime Fund and indicating which Account of the Prime Fund the investment is to be made. The Participant shall instruct its bank depository to wire or electronically transfer Investment Funds to the applicable Account at the Custodian for the purchase of investments to be held by the Custodian in such Account.

2. The Administrator shall receive the notice described in (1) from the Participant.

3. Investments received by the Custodian by 11:00 a.m. PT will be used to purchase Shares in the Prime Fund.

4. If Investment Funds for which notification of investment has been given are not received by the end of the business day on which such notification is given, the Administrator shall deduct the value of such Investment Funds (including any earning income) from the Participant's balance if previously credited.

5. The Participant is prohibited from requesting payments from amounts credited to its balance in the Prime Fund until such Investment Funds are received by the Custodian from the Participant.

These Investment Procedures may be amended from time-to-time pursuant to the JPA Agreement provided, however, the Administrator will only change the times set forth above after consulting with the Custodian.

Redemptions of Shares; Withdrawals; Transfers

Payments by the California CLASS to Participants, and the reduction of Shares resulting therefrom, are referred to herein as "redemptions" for convenience. Redemptions of Shares from the Prime Fund may be made via ACH or wire transfer from the Custodian to the Participant, as described in the Payment Procedures set forth below. Shares in the Prime Fund will be redeemed in the amount of the withdrawal assuming a NAV of $1.00 per Share.

There is no maximum or minimum amount that must be invested in the Prime Fund nor is there any maximum or minimum limitations on the aggregate amount of the investment funds that any Participant may have invested at any one time with California CLASS.

Each Participant, by its investment in any Fund, including the Prime Fund, agrees that the California CLASS may temporarily suspend the right of redemption or postpone the date of payment for redeemed Shares for the whole or any part of any period: (i) during which trading in securities generally on the New York Stock Exchange or the American Stock Exchange or over-the-counter market shall have been suspended or minimum prices or maximum daily charges shall have been established on such exchange or market; (ii) if a general banking moratorium shall have been declared by Federal, state, or the State of New York or State of California authorities or during a suspension of payments by banks in the State

of California; (iii) during which there shall have occurred any state of war or national emergency; (iv) during which any financial emergency or other crisis the effect of which on the financial markets of the United States is such as to make it impracticable (a) to dispose of the Investment Property because of the substantial losses that might be incurred or (b) to determine the Investment Property Value in accordance with the Valuation Procedures. The Administrator shall determine, on behalf of California CLASS, when an event occurs that would entitle the Custodian to temporarily suspend or postpone a Participant's right of redemption. Participants should refer to the JPA Agreement for additional detail.

Transfers among the Prime Fund and another Fund within the California CLASS Investment Program will be considered a withdrawal from one Fund and a contribution to another subject to the requirements described in this Information Statement**.**

Payment Procedures

1. The Participant shall provide a recorded call or send a written notice to the Administrator indicating the amount requested to be paid (redeemed) and shall specify from which Account of the Prime Fund the payment is to be made.

2. The Participant shall notify the Administrator in writing of the payee of the amount requested, which may be the Participant, and include any wire, electronic transfer, or other payment instructions. Such payee must be listed on the list of approved payees that has been provided by the Participant to the Administrator in advance of the payment.

3. The Administrator shall receive the notice described in (1) and the information required in (2) from the Participant. Requests for redemptions from Accounts of the Prime Fund with pre-established wire instructions will be honored on a same-day basis if received by the Administrator prior to 11:00 a.m. PT. Special wire transfer requests are available only with written documentation.

4. The Participant may only request payments of that portion of its balance that represents Investment Funds and its proportional share of the income from the Investment Property that, in all cases, is actually held by the Custodian in the applicable Account in the Prime Fund.

These Payment Procedures may be amended from time-to-time pursuant to the JPA Agreement provided, however, that the Administrator will only change the times set forth above after consulting with the Custodian.

Portfolio Transactions

Subject to the general supervision of the California CLASS, the Investment Advisor is responsible for placing the orders for the purchase and sale of securities within the Prime Fund, referred to herein as "portfolio transactions" for convenience. The portfolio transactions within the California CLASS Investment Program, including the Prime Fund, occur only with broker dealers acting as principals except for commercial paper transactions that may be placed directly with the issuers. Although California

CLASS does not ordinarily seek but nonetheless may make profits through short-term trading, the Investment Advisor may, on behalf of the California CLASS, dispose of any portfolio investment prior to its maturity if such disposition is advisable. The weighted average maturity and weighted average life limits applicable to the Prime Fund is expected to result in high portfolio turnover. However, since brokerage commissions are not typically paid on the types of investments in which the Prime Fund is likely to invest, any turnover resulting from such investments should not adversely affect the NAV of the Prime Fund.

The Investment Advisor seeks to obtain the best net price and the most favorable execution of portfolio transactions. Portfolio transactions will not occur between the Investment Advisor and Administrator, the Custodian, any Trustee, or any affiliate, officer, director, employee, or agent of any of them.

Valuation of Prime Fund Shares

The Administrator determines the NAV of the Shares of the Prime Fund at least daily on a mark-to-market basis. The NAV per Share of the Prime Fund is computed by dividing the total value of the securities and other assets of the Prime Fund, less any liabilities, by the total outstanding Shares of the Prime Fund. Expenses and fees of the California CLASS accrue daily and are included within liabilities for the NAV calculation.

The result of this calculation is a share value rounded to the nearest penny. Accordingly, the price at which Shares of the Prime Fund are sold and redeemed will not reflect unrealized gains or losses on securities within the Prime Fund that amount to less than $.005 per Share. The Administrator will endeavor to minimize the amount of such gains or losses. However, if unrealized gains or losses on securities within the Prime Fund should exceed $.005 per Share, the Prime Fund's NAV per Share will change from $1.00 or be maintained at $1.00 per Share by retention of earnings or the reduction on a pro rata basis of each Participant's Shares in the Prime Fund in the event of losses or by a pro rata distribution to each Participant in the event of gains.

While it is a fundamental objective of the Prime Fund to maintain a NAV of $1.00 per Share, there can be no guarantee that the NAV will not deviate from $1.00 per Share. The NAV per Share of the Prime Fund may be affected by general changes in interest rates resulting in increases or decreases in the value of the securities in the Prime Fund**.** The fair market value of the Prime Fund's securities will vary inversely to changes in prevailing interest rates. If a security is held to maturity, no loss or gain is normally realized as a result of these fluctuations.

1. Portfolio Valuation

At least daily, the Investment Property Value within the Prime Fund shall be determined on a mark-to-market basis as follows: (a) securities for which market quotations are readily available are valued at the most recent bid price or yield equivalent as obtained from one or more market makers for such

securities or a third-party pricing source; (2) all other securities and assets are valued at fair market value in good faith.

2. Amendment

These Valuation Procedures may be amended from time-to-time pursuant to the JPA Agreement.

Use of Fair Value Measurement

California CLASS follows Financial Accounting Standards Board (FASB) Accounting Standards Topic (ASC) 820 *Fair Value Measurement and Disclosure* for financial reporting purposes. ASC 820 defines fair value, establishes a single framework for measuring fair value, and requires disclosures about fair value measurement.

Local government investment pools (LGIP) may select different methods of determining the value of assets held within the portfolio for reporting purposes. The two most common methods used to report on the assets of the portfolio are mark-to-market—frequently referred to as "fair value" or "fair market value"—and amortized cost. California CLASS utilizes the mark-to-market methodology. This involves obtaining prices for securities in the portfolio every business day. The mark-to-market methodology provides Participants with a high degree of transparency with respect to the underlying market values of the Prime Fund's securities.

The mark-to-market methodology (FASB) can and should be contrasted with the amortized cost method that some LGIPs utilize. LGIPs that follow GASB 79 are following the amortized cost method, which entails adjusting the value of the portfolio's securities on a daily basis by a predetermined amount from the purchase date to the maturity date. While the amortized cost method produces very reliable and predictable asset valuations, that predetermined value may or may not accurately reflect the market value of the security.

Computation of Yields

A daily and seven-day average yield for the Prime Fund will be provided by the Administrator in published reports and information on www.californiaclass.com. To obtain the daily yield, a daily income distribution per share factor is first calculated. That factor is the net income for that day divided by the number of settled shares outstanding. The factor is then multiplied by 365 (366 in a leap year) to produce the daily yield. The seven-day average yield is obtained by averaging the daily yield for seven identified, consecutive days. From time-to-time, the Administrator may also quote the yield for the Prime Fund on other basis for the information of the Participants.

Participants should note that the yields quoted should not be considered a representation of the future yield of the Prime Fund since the yield is not fixed. Actual yields for the Prime Fund will depend not only

on the type, quality, and maturities of the investments held by the Prime Fund and the changes in interest rates for such investments but also on changes in the Prime Fund's expenses during the period.

Yield information may be useful in reviewing the performance of the Prime Fund and for providing a basis for comparison with other investment alternatives.

Income Allocations

All net income of the Prime Fund is determined as of the close of business each day (and at such other times as the Board may determine) and is credited pro rata to each Participant's Account within the Prime Fund at month-end. The Prime Fund accrues net income on a daily basis and pays interest income on a monthly basis.

Net income that has thus accrued to the Participants is converted as of the close of business at month-end into additional Shares that are thereafter held in each Participant's account. Reinvested net income is converted into full and fractional shares at the rate of one share for each one dollar credited. Net income for the Prime Fund consists of (1) all accrued interest income on assets of the Prime Fund plus (2) accretion of discount less (3) amortization of premium and less (4) accrued expenses.

Retained Reserves

Pursuant to the JPA Agreement, the Investment Advisor may retain from earnings and profits in the California CLASS Investment Program, including the Prime Fund, amounts deemed necessary to pay the debts and expenses of the California CLASS, as well as to meet other obligations of the California CLASS. The Investment Advisor possesses the power to establish from earnings and profits such reasonable reserves as they believe may be necessary or desirable. Realized capital gains or losses shall be distributed in a timely and equitable manner as determined by the Investment Advisor. More information about retained reserves is available in the JPA Agreement, including the detailed accounting that the Investment Advisor provides to the Board on a quarterly basis on amounts deemed necessary or desirable by the Investment Advisor for retained reserves.

California CLASS Expenses

Pursuant to the JPA Agreement, Public Trust Advisors, as Administrator, for the California CLASS Investment Program, including the Prime Fund, shall receive a fee as described below in "California CLASS Fees." The Administrator's fee shall be an Investment Property Liability. From its fee, the Administrator shall pay the following costs and expenses: the Investment Advisor's fee set forth in the Investment Advisor Agreement, the Custodian's fee set forth in the Custody Agreement, the costs of third parties retained by the Administrator to render investment advice pursuant to the Administrator Agreement, the fees to the Sponsors, marketing expenses, all custodial and securities clearance

transaction charges, the cost of valuing the Investment Property, the cost of obtaining a rating or ratings, if any, the cost of other expenses agreed to by the Administrator and the California CLASS, all Investment Property record-keeping expenses, the cost of preparing monthly and annual reports, the expense of outside auditors required pursuant to the Administrator Agreement (but only if the Administrator selects such auditors), the fees of the counsel to the Administrator and/or the counsel to the California CLASS, the cost of Meetings of the Board, insurance costs and the costs of Participant surveys and mailings. Periodically, the Administrator shall provide a detailed accounting of such expenses to the Trustees.

California CLASS Fees

For the performance of its obligations as Administrator in the Administrator Agreement, the Administrator will charge a fee from the Investment Property Value (the daily fee). This daily fee will accrue on a daily basis and be paid monthly in arrears and prorated for any portion of the month in which the Administrator Agreement is in effect. The daily fee shall be calculated as follows: the Investment Property Value is multiplied by the applicable fee rate and is divided by 365 or 366 days in the event of a leap year to equal the daily fee accrual. The Investment Property Value shall be based on the prior day's net assets. For weekend days and holidays, the net assets for the previous business day will be utilized for the calculation of fees. The applicable fee rate shall be determined by the Administrator monthly on the first business day of each month and shall be at an annual rate equal to up to fifteen (15) basis points. The Administrator is authorized to debit the applicable monthly fee amount within five (5) business days after the end of such month. All payment records and invoices will be presented at each subsequent meeting of the Board. Fees may be waived or abated at any time, or from time-to-time, at the sole discretion of the Administrator. Any such waived fees may be restored by the written agreement of the California CLASS.

Reports to Participants

Annually

Audited financial statements of the California CLASS will be provided annually. See "Independent Auditors" above.

Monthly

Within 15 days after the end of each month, the Administrator shall prepare and submit, or make available, to each Participant a statement disclosing any activity and a closing balance, including the number of Shares, in each of its accounts for such month.

Upon Request

The Administrator, upon the request of a Participant, shall furnish to the Participant a statement of such Participant's balance as of the date of such request subject only to account activity on such date.

California CLASS

Investment Policy for the Prime Fund

June 17, 2022

INVESTMENT POLICY FOR THE CALIFORNIA CLASS PRIME FUND

Introduction

The purpose of this Investment Policy for the California CLASS Prime Fund (Prime Fund) is to describe the investment objectives, policies and restrictions for the Prime Fund, which is one of the funds within the California CLASS Investment Program offered by the California Cooperative Liquid Assets Securities System, doing business as the California CLASS (California CLASS). Reference is made to the Information Statement for the Prime Fund (Information Statement) for additional information relating to the Prime Fund and the California CLASS. Capitalized terms not otherwise defined herein shall have the meanings set forth in the Information Statement.

As set forth in Section 53601 of the California Government Code, the legislative body of a local agency having moneys in a sinking fund or moneys in its treasury not required for the immediate needs of the local agency may invest any portion of the money that it deems wise or expedient in the investments described in Section 53601. However, the California Government Code limits the amount of surplus money of a local agency that may be invested in such investments. Each Participant is responsible for monitoring the aggregate amount of its investments in any of these types of investments to ensure its own compliance with the California Government Code. Moreover, each Participant is responsible for ensuring compliance with its own internal policies and restrictions on investments. None of the California CLASS, the Administrator, the Investment Advisor, the Custodian or any other agents of the California CLASS shall be responsible for such monitoring or compliance.

Prime Fund Investment Objectives

The general objective of the Prime Fund is to generate additional investment income for the Participants while maintaining safety and liquidity. The Prime Fund is managed by the California CLASS to comply with the requirements of California law, specifically California Government Code Section 53601.

The Prime Fund is managed by the California CLASS to offer a safe, convenient, and daily liquid investment option for Participants. As described below, the investment objectives of the Prime Fund are to preserve principal, provide daily liquidity, earn a competitive rate of return, and maintain a stable Net Asset Value (NAV) of $1.00.

The California CLASS has established that the Prime Fund will have a maximum dollar-weighted average maturity (WAM) of 60 days and a maximum weighted average life (WAL) of 120 days.

The Investment Advisor for the Prime Fund will seek to maintain a 'AAAm' rating from S&P Global Ratings on the Prime Fund. According to S&P Global Ratings, a fund rated 'AAAm' demonstrates extremely strong capacity to maintain principal stability and to limit exposure to principal losses due to credit risk. 'AAAm' is the highest principal stability fund rating assigned by S&P Global Ratings.

The investment objectives of the Prime Fund in order of priority are:

Safety: The Prime Fund is managed to emphasize the preservation of principal while maintaining a stable NAV of $1.00.

Liquidity: The Prime Fund is managed to provide daily liquidity to its Participants. See above for description of the maximum WAM and WAL for investments in the Prime Fund.

Competitive Returns: The Prime Fund is managed to generate competitive returns while providing daily liquidity and stability of principal.

No assurances can be given that the investment objectives of the Prime Fund will be achieved.

Prime Fund Eligible Investments

Specifically designed for California local governments, the California CLASS will invest available cash in the Prime Fund exclusively in the following investments (Eligible Investments) authorized under the California Government Code Section 53601 and subject to the maturity, diversification, and credit quality requirements specified below. The Board of Trustees (Board) of the California CLASS has established this Investment Policy for the Prime Fund which is more restrictive than the California Government Code in terms of its maximum maturity limitations. The Board may amend or revise this Investment Policy, from time to time, in accordance with the JPA Agreement. Upon the Board's approval of any amendment to an Investment Policy, the amended Investment Policy will be posted to the website of California CLASS. This Investment Policy may also be amended to reflect any changes to the California Government Code.

1) United States Treasury notes, bonds, bills, or certificates of indebtedness, or those for which the faith and credit of the United States are pledged for the payment of principal and interest.

   Maximum Maturity:397 days for fixed rate obligations; 762 days for variable rate obligations
   Maximum Portfolio Allocation: No Limit
   Maximum Per Issuer Allocation: No Limit
   Minimum Credit Quality: Not Applicable

2) Federal agency or United States government-sponsored enterprise obligations, participations, or other instruments, including those issued by or fully guaranteed as to principal and interest by federal agencies or United States government-sponsored enterprises.

Maximum Maturity: 397 days for fixed rate obligations; 762 days for variable rate obligations
Maximum Portfolio Allocation: No Limit
Maximum Per Issuer Allocation: No Limit
Minimum Credit Quality: Not Applicable

3) Repurchase agreements in securities authorized in paragraphs (1) or (2), above, provided that the term of the agreement does not exceed one year. "Repurchase agreement" means a purchase of securities by the local agency pursuant to an agreement by which the counterparty seller will repurchase the securities on or before a specified date and for a specified amount and the counterparty will deliver the underlying securities to the local agency by book entry, physical delivery, or by third-party custodial agreement. The transfer of underlying securities to the counterparty bank's customer book-entry account may be used for book-entry delivery. The market value of securities that underlie a repurchase agreement shall be valued at 102% or greater of the funds borrowed against those securities and the value shall be adjusted no less than quarterly. Since the market value of the underlying securities is subject to daily market fluctuations, the investments in repurchase agreements shall be in compliance if the value of the underlying securities is brought back up to 102% no later than the next business day.

Maximum Maturity: 1-Year
Maximum Portfolio Allocation: No Limit
Maximum Per Issuer Allocation: No Limit
Minimum Credit Quality: Not Applicable

4) Registered state warrants or treasury notes or bonds of this state, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by the state or by a department, board, agency, or authority of the state.

Maximum Maturity: 397 days
Maximum Portfolio Allocation: No Limit
Maximum Per Issuer Allocation: No Limit
Minimum Credit Quality: Rating category of "A" or its equivalent or better by a NRSRO

5) Bonds, notes, warrants, or other evidences of indebtedness of a local agency within this state, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by the local agency, or by a department, board, agency, or authority of the local agency.

Maximum Maturity: 397 days
Maximum Portfolio Allocation: No Limit
Maximum Per Issuer Allocation: No Limit
Minimum Credit Quality: Rating category of "A" or its equivalent or better by a NRSRO

6) Registered treasury notes or bonds of any of the other 49 states in addition to California, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by a state or by a department, board, agency, or authority of any of the other 49 states, in addition to California.

Maximum Maturity: 397 days
Maximum Portfolio Allocation: No Limit
Maximum Per Issuer Allocation: No Limit
Minimum Credit Quality: Rating category of "A" or its equivalent or better by a NRSRO

7) Bankers' acceptances otherwise known as bills of exchange or time drafts that are drawn on and accepted by a commercial bank. Pursuant to Section 53601(g) of the California Government Code, purchases of bankers' acceptances shall not exceed 180 days maturity or 40% of the agency's moneys that may be invested pursuant to this section and no more than 30% of the agency's moneys may be invested in the bankers' acceptances of any one commercial bank pursuant to this section.

Maximum Maturity: 180 days
Maximum Portfolio Allocation: 40%
Maximum Per Issuer Allocation: 30%
Minimum Credit Quality: "A-1" or higher, or the equivalent, by a NRSRO

8) Commercial paper of "prime" quality of the highest ranking or of the highest letter and number rating as provided for by a nationally recognized statistical rating organization (NRSRO). The entity that issues the commercial paper shall meet all of the following conditions in either clause (A) or (B): (A)(1) is organized and operating in the United States as a general corporation, (2) has total assets in excess of five hundred million dollars ($500,000,000), (3) has debt other than commercial paper, if any, that is rated in a rating category of "A" or its equivalent or higher by a NRSRO or (B)(1) is organized within the United States as a special purpose corporation, trust, or limited liability company, (2) has program-wide credit enhancements including, but not limited to, overcollateralization, letters of credit, or a surety bond, (3) has commercial paper that is rated "A-1" or higher, or the equivalent, by a NRSRO. In addition to the Maximum Per Issuer Allocation set forth below, no more than 10% of the Prime Fund shall be invested in the

commercial paper and the medium-term notes of any single issuer. Pursuant to 53601(h) of the California Government Code, local agencies, other than counties or a city and county, that have less than $100,000,000 of investment assets under management, may invest no more than 25% of their moneys in eligible commercial paper; local agencies, other than counties or a city and county, that have $100,000,000 or more of investment assets under management may invest no more than 40% of their moneys in eligible commercial paper; a local agency, other than a county or a city and a county, may invest no more than 10% of its total investment assets in the commercial paper and the medium-term notes of any single issuer; and counties or a city and county may invest in commercial paper pursuant to the concentration limits in Section 53635 of the California Government Code.

Maximum Maturity: 270 days
Maximum Portfolio Allocation: 40%
Maximum Per Issuer Allocation: 10%
Minimum Credit Quality: "A-1" or higher, or the equivalent, by a NRSRO

9) Negotiable certificates of deposit issued by a nationally or state-chartered bank or by a savings association or a federal association (as defined in Section 5102 of the California Financial Code), a state or federal credit union, or by a federally-licensed or state-licensed branch of a foreign bank, provided that the deposits in any one institution shall not exceed the shareholders' equity of such institution. In addition to the Maximum Per Issuer Allocation set forth below, no more than 10% of the Prime Fund shall be invested in the negotiable certificates of deposit and medium-term notes of any single issuer. As required by California Government Code Section 53601(i), purchases of negotiable certificates of deposit shall not exceed 30% of the agency's moneys that may be invested pursuant to this section.

Maximum Maturity: 397 days
Maximum Portfolio Allocation: 30%
Maximum Per Issuer Allocation: 5%
Minimum Credit Quality: "A-1" or higher, or the equivalent, by a NRSRO.

10) Medium-term notes, defined as all corporate and depository institution debt securities issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States. Pursuant to 53601(k) of the California Government Code, purchases of medium-term notes shall not include other instruments authorized by this section and shall not exceed 30% of the agency's moneys that may be invested pursuant to this section and a local agency, other than a county or a city

and a county, may invest no more than 10% of its total investment assets in the commercial paper and the medium-term notes of any single issuer.

Maximum Maturity: 397 days
Maximum Portfolio Allocation: 30%
Maximum Per Issuer Allocation: 5%
Minimum Credit Quality: Rating category of "A" or its equivalent or better by a NRSRO

11) A mortgage passthrough security, collateralized mortgage obligation, mortgage-backed or other pay-through bond, equipment lease-backed certificate, consumer receivable passthrough certificate, or consumer receivable-backed bond. Pursuant to Section 53601(o) of the California Government Code, purchase of securities authorized by this subdivision shall not exceed 20% of the agency's surplus moneys that may be invested pursuant to this section.

Maximum Maturity: 397 days
Maximum Portfolio Allocation: 20%
Maximum Per Issuer Allocation: 5%
Minimum Credit Quality: Rating category of "AA" or its equivalent or better by a NRSRO

12) United States dollar denominated senior unsecured unsubordinated obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development, International Finance Corporation, or Inter-American Development Bank which are eligible for purchase and sale within the United States. Pursuant to Section 53601(q) of the California Government Code, investments under this subdivision shall not exceed 30% of the agency's moneys that may be invested pursuant to this section.

Maximum Maturity: 397 days
Maximum Portfolio Allocation: 30%
Maximum Per Issuer Allocation: 5%
Minimum Credit Quality: Rating category of "AA" or its equivalent or better by a NRSRO

13) Shares of beneficial interest issued by diversified management companies that are money market funds registered with the Securities and Exchange Commission under the Investment Company Act of 1940. Such eligible companies shall have (1) attained the highest ranking or the highest letter and numerical rating provided by not less than two NRSROs and (2) retained an investment adviser registered or exempt from registration with the Securities and Exchange Commission with not less than five years' experience managing money market mutual funds with assets under management in excess of five hundred million dollars ($500,000,000). The

purchase price of shares of beneficial interest purchased pursuant to this subdivision shall not include commission that the companies may charge. Pursuant to Section 53601(l) of the California Government Code, investments under this subdivision shall not exceed 25% of the agency's moneys that may be invested pursuant to this section.

Maximum Maturity: NA
Maximum Portfolio Allocation: 20%
Maximum Per Fund Allocation: NA
Minimum Credit Quality: Highest ranking provided by not less than two NRSROs

Ongoing Compliance Considerations

The credit rating requirements and percentage limitation limits set forth in this Investment Policy shall apply at the time of purchase. In the event that such percentage limitation requirements are breached due to fluctuations in the portfolio balance within the Prime Fund, this Investment Policy shall not require the sale of securities to bring the portfolio back into compliance provided that such deviations are expected to be short lived, and that due consideration is given to such concentrations when evaluating future investments. In the event that the credit rating of a security is downgraded to below the requirements of this Investment Policy subsequent to its purchase, the Investment Advisor shall evaluate the circumstances surrounding the ratings downgrade and, at its sole discretion, make a determination to hold or sell the affected securities based upon a review of the issuers financial conditions, credit outlook, the securities remaining term to maturity, and other relevant facts and considerations.

Investment Restrictions

The following restrictions apply to the Prime Fund:

1) The California CLASS will invest funds in the Prime Fund only in securities defined in the "Eligible Investment" section of this Investment Policy unless there is a change in California law which updates or redefines the types of which are legal investments for California public agencies.

2) As required by California law, no funds in the Prime Fund will be invested in inverse floaters, range notes, mortgage-derived, interest-only strips or other securities which could result in zero-interest accrual if held to maturity. Notwithstanding the foregoing and as allowed by California law, the California CLASS may invest funds in the Prime Fund in securities issued by, or backed by, the United States government that could result in zero- or negative-interest accrual if held to maturity, in the event of, and for the duration of, a period of negative market interest rates.

3) The California CLASS shall not engage in any transaction that has the effect of creating leverage in the Prime Fund, including borrowing money, or pledging, mortgaging, or hypothecating any securities in the Prime Fund. Notwithstanding the foregoing, the California CLASS may engage in forward settling purchase and sale transactions in accordance with standard market conventions in the Prime Fund.

Financial Statement Disclosures for September 30, 2022

The following is the Public Trust Advisors, LLC (Fund Administrator) interpretation of your disclosure responsibilities related to your participation in the California CLASS local government investment pool and the responsibilities of Public Trust Advisors, LLC (Public Trust) to provide you with information needed to make your disclosure. Please consult your accounting/auditor experts for additional information regarding your specific reporting requirements.

General Description

If an external investment pool meets the criteria in GASB 79 Paragraph 4 and measures all of its investments at amortized cost, the pool's participants should also measure their investments in that external investment pool at amortized cost for financial reporting purposes. If an external investment pool does not meet the criteria in Paragraph 4, the pool's participants should measure their investments in the pool at fair value as provided in Paragraph 11 of GASB Statement 31, as amended.

California CLASS follows Financial Accounting Standards Board (FASB) Accounting Standards Topic (ASC) 820 *Fair Value Measurement and Disclosure* for financial reporting purposes. ASC 820 defines fair value, establishes a single framework for measuring fair value, and requires disclosures about fair value measurement. California CLASS does not meet all of the specific criteria outlined in GASB 79 Paragraph 4 therefore California CLASS Participants should measure their investments in California CLASS at fair value as provided in Paragraph 11 of GASB Statement 31, as amended. California CLASS reports the amortized cost of investments, which approximates fair value, to its Participants.

Public Trust interprets GASB 31, as amended by GASB 79, to mean that California CLASS should measure all of the investments in California CLASS at fair value. Therefore, your Participant balance should be considered the fair value of your investment in California CLASS. This information provided may be required for the financial reporting of Participants in California CLASS. Participants should consult their auditing and accounting professionals regarding their specific reporting requirements.

GASB 72 Note Disclosure Requirement for California CLASS

California CLASS measures its investments at fair value in accordance with Paragraph 41 of Statement 79 and Paragraph 11 of Statement 31, and therefore a Participant's investment in California CLASS is not required to be categorized within the fair value hierarchy for purposes of Paragraph 81a(2) of Statement 72*.

*Source: GASB Implementation Guide No 2017-1 April 2017

Credit Quality Disclosure

California CLASS PRIME is rated by S&P Global Ratings. The current rating is 'AAAm.'

Interest Rate Risk Disclosure – California CLASS PRIME

The dollar weighted average days to maturity (WAM) of California CLASS PRIME at September 30, 2022, is 25 days. Next interest rate reset dates for floating rate securities are used in the calculation of the WAM. The weighted average life (WAL) of California CLASS PRIME at September 30, 2022, is 42 days.

This document is for informational purposes only. All information is assumed to be correct but the accuracy has not been confirmed and therefore is not guaranteed to be correct. Information is obtained from third party sources that may or may not be verified. The information presented should not be used in making any investment decisions. It is not a recommendation to buy, sell, implement, or change any securities or investment strategy, function, or process. Any financial and/or investment decision should be made only after considerable research, consideration, and involvement with an experienced professional engaged for the specific purpose. All comments and discussion presented are purely based on opinion and assumptions, not fact. These assumptions may or may not be correct based on foreseen and unforeseen events. **Past performance is not an indication of future performance. Any financial and/or investment decision may incur losses.**

A 'AAAm' rating by S&P Global Ratings is obtained after S&P evaluates a number of factors including credit quality, market price exposure, and management. Ratings are subject to change and do not remove credit risk. Click here for more information.

The 'AAAf' rating is Fitch's opinion on the overall credit profile within a fixed-income fund/portfolio and indicates the highest underlying credit quality of the pool's investments. The 'S1' volatility rating is Fitch's opinion on the relative sensitivity of a portfolio's total return and/or net asset value to assumed changes in credit spreads and interest rates. The 'S1' volatility rating indicates that the fund possesses a low sensitivity to market risks. For a full description on rating methodology, please visit www.fitchratings.com. Ratings are subject to change and do not remove credit risk. Past performance is no guarantee of future results. Any financial and/or investment decision may incur losses.

Weighted Average Maturity (WAM) is the weighted average amount of time until the maturities on mortgages in a mortgage-backed security (MBS) mature. This term is used more broadly to describe maturities in a portfolio of debt securities, including corporate debt and municipal bonds. The higher the WAM, the longer it takes for all of the mortgages or bonds in the portfolio to mature. WAM is used to manage debt portfolios and to assess the performance of debt portfolio managers. (Source: Investopedia)

Weighted Average Life (WAL) is the average length of time that each dollar of unpaid principal on a loan, a mortgage, or an amortizing bond remains outstanding. Calculating the WAL shows an investor, an analyst, or a portfolio manager how many years it will take to receive half the amount of the outstanding principal. (Source: Investopedia)

AGENDA ITEM #3

AGENDA ITEM: 3

MEETING DATE: November 7, 2022

I. NATURE OF ITEM

Review and Consideration of Preliminary Design Report for Biosolids and Energy Strategic Plan Phase 2 Improvements

II. BACKGROUND INFORMATION

Over the last several years, the District has worked with Hazen and Sawyer Inc. (Hazen) to develop and implement a Biosolids and Energy Strategic Plan (BESP). The goal of the BESP is to determine the most appropriate combination of biosolids treatment, disposal and energy recovery improvements that once implemented will help the District reduce ongoing operational costs and achieve its vision of long-term energy sustainability.

Since adoption of the BESP in 2019, staff has been working closely with the Hazen team to complete the design and environmental review of the Phase 1 improvement project and put it out to bid. This project includes the construction of a new 500,000-gallon digester and a 160kW Combined Heat and Power (CHP) system to convert biogas to electricity. The design is now complete, and the Phase 1 project is scheduled to go out to bid in spring of 2023 once all regulatory permits are obtained.

On February 7, 2022, the Board approved an agreement with Hazen for the preliminary design of the second phase of the BESP which included the installation of a new high strength waste receiving station, centrifuge, and thermal dryer facility.

The preliminary design has been completed and a preliminary design report (PDR) is presented herein for Board consideration.

III. COMMENTS AND RECOMMENDATIONS

The completion of a PDR is an important milestone in the development of a large capital project as the scope of the project is defined to a point that a preliminary cost estimate can be prepared and environmental review process can be completed. It also provides an opportunity for the implementing agency to review and/or revise the scope of work as needed due to funding and/or regulatory permitting issues.

The PDR for the BESP Phase 2 improvements consists of two separate volumes of information. Volume 1 is approximately 73 pages long and includes the following:

1. Executive summary
2. Design criteria and other information on all components of the project
3. Regulatory and permitting evaluation
4. Anticipated California Environmental Quality Act (CEQA) requirements
5. Preliminary construction cost estimate summary

6. Preliminary schedule
7. Cost reduction considerations

A copy of Volume 1 of the PDR is attached to this report. Volume 2 of the PDR is approximately 337 pages long and includes the following:

1. Preliminary drawings
2. Preliminary specifications list
3. Equipment cut sheets
4. Design calculations
5. Geotechnical report
6. Air quality analysis
7. CEQA analysis
8. Technical memo on construction cost estimate

A digital copy of Volume 2 of the PDR is available for review at the District office.

The total cost of the Phase 2 project is now estimated to be approximately $32.6M including a 30% contingency. This is significantly above the initial estimate and budget amount of $25.5M. A complete breakdown of the construction cost estimate that shows all the “cost adders” is included in Volume 2 of the PDR.

This increase in estimated project cost led to a value engineering effort and further review of the project scope to see how the project cost might be brought back into line with the prior cost estimate and budget. Several cost reduction alternatives were considered and are included in Volume 1 of the PDR.

The removal of the high strength waste (HSW) receiving facility from the project was one option that was preferred for several reasons. First, the installation of the HSW triggers the installation of a new flare that meets Best Available Control Technology (BACT) requirements. Furthermore, a net present cost analysis of the total costs associated with installation of the HSW to generate biogas for the thermal dryer compared to using natural gas showed that the options were about equal.

Since there is no economic incentive for installation of the HSW at this time and since it can be constructed at a later date when cost drivers (grant funding availability and increased biogas value) make it more economically feasible, removing it from the scope of the proposed project at this time makes sense and will reduce the overall project cost.

Other cost reductions considered relate to the type and size of the proposed thermal dryer building. The total estimated cost savings associated with the recommended cost reduction alternative is approximately $5.6M. Further analysis of the type and size of the thermal dryer building during final design may yield additional cost savings.

Given the possibility of changes to the overall scope of the project as discussed above the environmental review of this project has been temporarily placed on hold. Once

the scope of the project is confirmed, the environmental review process will continue. If the scope of the project is reduced as recommended in the PDR, the level of environmental review/analysis required, along with final design costs will also be reduced.

For these reasons, staff recommends that the proposed cost reduction alternative included in the PDR be implemented to reduce the overall estimated project cost by approximately $5.6M.

If the Board supports this recommendation, staff will reinitiate the environmental review efforts and bring an updated proposal for final design services back to the board for consideration at a subsequent meeting.

IV. REFERENCE MATERIAL

BESP Phase 1 Preliminary Design Final Report Volume 1

Hazen and Sawyer
90 New Montgomery Street, Suite 333
San Francisco, CA 94105

Goleta Sanitary District

Biosolids & Energy – Solids Handling Improvement Project Preliminary Design Report

Final Report – Volume I
Project # 20063-017
October 2022

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Executive Summary

The Goleta Sanitary District (GSD) owns and operates the Goleta Water Resource Recovery Facility (WRRF). A condition assessment conducted in 2016 indicated that some of the unit processes at WRRF are nearing the end of their service life and would need rehabilitation and replacement. A Biosolids and Energy Strategic Plan (BESP) was developed in August 2019 which evaluated biosolids unit processes in detail and summarized the recommended approach to upgrade existing facilities to mitigate regulatory uncertainties affecting biosolids disposition, to diversify beneficial use outlets, and to approach energy neutrality for the facility. The BESP identified the need to build a new digester to maintain firm capacity. The BESP also included assessment of the High Strength Waste (HSW) co-digestion and the feasibility and benefits of reaching energy neutrality.

The Phase 1 project includes a new anaerobic digester and ancillary equipment and a new 160-kW combined heat and power (CHP) unit. This project is expected to begin construction in 2023. Due to increasing biosolids hauling and beneficial reuse costs, GSD has decided to move forward with the Solids Handling Improvement Project (Project) which includes the design of a new HSW station and Thermal Dryer Facility. The addition of HSW will increase the biogas production and the new Thermal Dryer Facility will decrease the amount of hauled sludge. The additional biogas will be used as an energy source for the Thermal Dryer Facility.

Process flow diagrams of the HSW receiving station and Thermal Dryer Facility are shown in Figure 0-1 and Figure 0-2, respectively. The HSW receiving station will be located to the west of Digester 1 and will be designed to accommodate up to 6,000 gpd of either food waste or fats, oils and greases (FOG), only one waste type can be received at one time. The Thermal Dryer Facility will be located on the existing Drying Bed Nos. 2 and 3. It will include a new centrifuge, cake bin and thermal dryer system, all contained in a new building. Dried sludge will be conveyed to truck loading. The existing dewatering screw presses will be retained and will be used for backup in the event the centrifuge is out of service.

The thermal dryer will be powered using both natural gas and digester gas. A new gas conditioning skid will be installed to pretreat the gas upstream of the thermal dryer system. Since the flares will need to accommodate all digester gas in the event the thermal dryer and CHP system are out of service, the existing flares will not have sufficient capacity once GSD receives HSW. Therefore, a new flare will be installed as part of the Project.

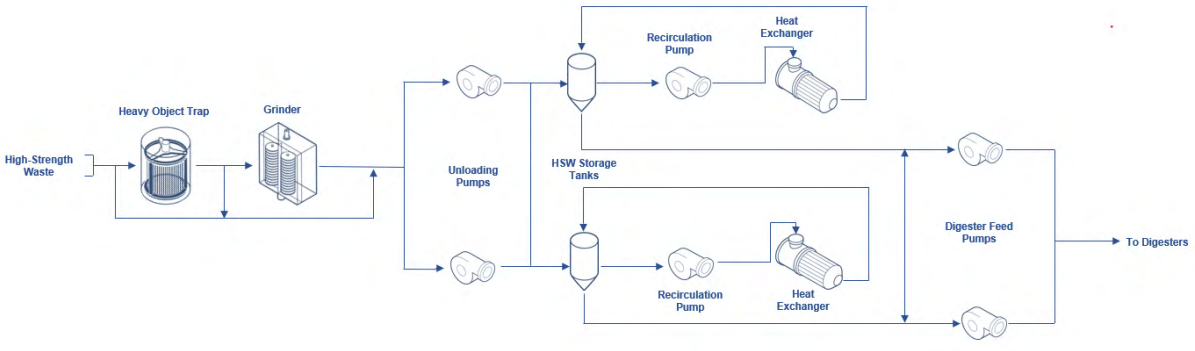

Figure ES-1. Process Flow Diagram of HSW Receiving Station

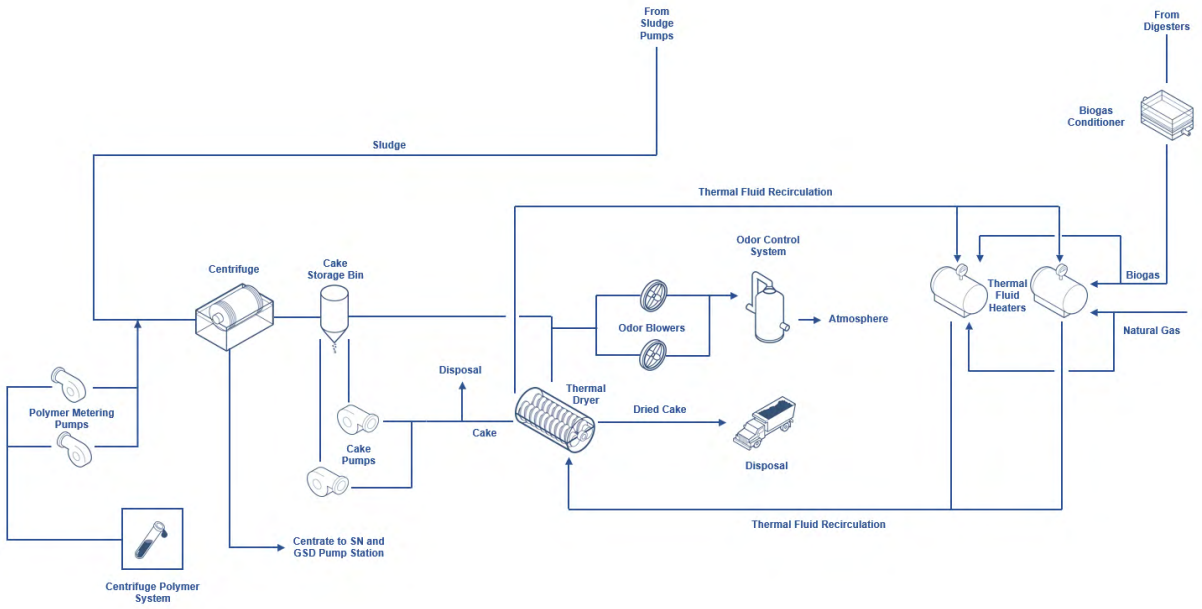

Figure ES-2. Process Flow Diagram of Thermal Dryer Facility

A Class 3 cost estimate was prepared and is presented in Table 0-1. The project construction cost is estimated to be $33.2 million. The estimate of probable construction cost is based upon current market prices for equipment and commodities. The cost has been escalated to a midpoint of construction, approximately the first quarter of 2025 at an annual escalation rate of 5% for both labor and materials which is lower than the current 8.5% inflation rate. The lower escalation rate assumes that recent trends showing a decrease in inflation continue into the future. The ongoing pandemic and supply chain issues are dynamic events, as the project moves toward its anticipated bid date, these assumptions should be periodically assessed and updated as needed.

Table ES-1. Summary of Opinion of Probable Construction Cost for the Project

No	Item	Cost
1	Demolition	$213,000
2	Site Work	$288,000
3	Thermal Dryer Facility Building	$7,356,000
4	High Strength Waste Receiving Station	$2,098,000
5	Gas Conditioning	$1,383,000
6	Dewatering Feed Pumps	$133,000
7	Centrifuge	$1,126,000
8	Thermal Dryer System	$10,427,000
9	Cake Bin	$3,243,000
10	Conveyors	$694,000
11	Polymer System	$337,000
12	Odor Control for Thermal Dryer	$141,000
13	Waste Gas Flare	$1,666,000
14	Electrical and Controls	$3,528,000
15	Yard Piping	$807,000
16	**Total Construction Cost**	**$33,227,000**

The PDR and 30% design drawings will be completed by October, 2022. The next phase of design can begin upon completion of the 30% submittal and will consist of 60%, 90% and 100% submittals. At the 60% design, the California Environmental Quality Act (CEQA) document (likely a mitigated negative declaration) will likely begin to be prepared. The CEQA document will need to be complete prior to construction bids being solicited so the Contractor and GSD will be able to implement the mitigation and monitoring measures required for construction. Cultural monitoring will be required during construction and therefore GSD will need a contract for the monitoring in advance of the construction. Likewise, an update to Santa Barbara County Air Pollution Control District Permit will be required

The design phase will take approximately 12 months. Permitting can also begin in parallel with the next phase of design and will likely be the critical path task for the project. Once all necessary permits have been obtained, the project can be advertised for bid. The entire bidding period is expected to last approximately 3 months. Upon award, construction is expected to last 18 months assuming no major delays of equipment.

1. Introduction

Goleta Sanitary District (GSD) owns and operates the Goleta Water Resource Recovery Facility (WRRF). The WRRF has an annual average design flow capacity of 9.6 million gallons per day (mgd) and is currently treating an annual average wastewater flow of 4.9 mgd. The treatment process at the WRRF begins with bar screens to remove large debris and aerated grit tanks and two cyclone separators to remove grit and sand. The wastewater then flows into three primary clarifiers for solids removal prior to secondary treatment. The secondary treatment at the WRRF includes biofilters, three aeration basins, and four secondary clarifiers. Existing solids treatment process includes screw thickener followed by mesophilic anaerobic digestion and dewatering via screw press.

A condition assessment conducted in 2016 indicated that some of the unit processes at WRRF are nearing the end of their service life and would need rehabilitation and replacement soon. A Biosolids and Energy Strategic Plan (BESP) was developed in August 2019 by Hazen and Sawyer (Hazen), which evaluated biosolids unit processes in detail and summarized the recommended approach to upgrade existing facilities to mitigate regulatory uncertainties affecting biosolids disposition, to diversify beneficial use outlets, and to approach energy neutrality for the facility. The BESP summarized the capacity evaluation for the existing solids processes including digesters considering the current and anticipated future flows and loads and identified the need to build a new digester to maintain firm capacity. The BESP also included assessment of the High Strength Waste (HSW) co-digestion and the feasibility and benefits of reaching energy neutrality.

Hazen completed the design of the Phase 1 project which includes a new anaerobic digester and ancillary equipment and a new 160-kW combined heat and power (CHP) unit. This project is expected to begin construction in 2023. Due to increasing biosolids hauling and beneficial reuse costs, GSD is moving forward with the Solids Handling Improvement Project (Project) which will include a new HSW station and Thermal Dryer Facility. The addition of HSW will increase the biogas production and the new Thermal Dryer Facility will decrease the amount of hauled sludge. The additional biogas will be used as an energy source for the Thermal Dryer Facility. This preliminary design report (PDR) summarizes the preliminary design of these facilities. The PDR is organized as follows:

1. Introduction
2. High-Strength Waste Receiving Station
3. Thermal Dryer Facility
4. Modifications to Flare
5. Regulatory and Permitting Evaluation
6. Project Implementation
7. Conceptual Layout
8. Cost Estimate
9. Schedule
10. Appendix A – 30% design drawings
11. Appendix B – Preliminary list of specifications
12. Appendix C – Equipment cut sheets
13. Appendix D – Calculations
14. Appendix E – Geotechnical Report
15. Appendix F – Regulatory and Permitting
16. Appendix G – Cost Estimate

2. High-Strength Waste Receiving Station

The HSW receiving station is designed to accommodate both food waste and fats, oils and grease (FOG). Only one waste type can be received at one time, meaning either FOG or food waste. Figure 2-1 is a process flow diagram of the HSW receiving station. The system will be designed for a maximum of 6,000 gallons per day (gpd), which was the amount of material identified in the Biosolids and Energy Strategic Plan (Hazen, 2019).

Source separated and preprocessed materials are considered for food waste to reduce the operations and maintenance (O&M) requirements at the GSD. As part of BESP, Hazen has evaluated the source separated food waste from University of Santa Barbara (UCSB) cafeterias and characterized these materials. GSD will develop minimum pretreatment requirements for food waste suppliers. Deliveries are assumed to be in slurry form, homogenous and pumpable material that will be received five days per week, maximum. Hence, the volumetric loading of the HSW station is based on 30,000 gal/week maximum. The HSW is anticipated to be received in 8-hour day shift.

The type of HSW that is received at the GSD could result in an increase in hydrogen sulfide in the digester gas. Since the digester gas will feed the 160-kW CHP unit, additional treatment could be required if values exceed the maximum allowable concentration. Elevated hydrogen sulfide could be managed with additional ferrous chloride or ferric chloride addition to the digester. Alternatively, an additional unit process such as an iron sponge could be installed immediately upstream of the CHP unit, which could require that the gas blowers be replaced. This additional level of treatment has not been included in the Project.

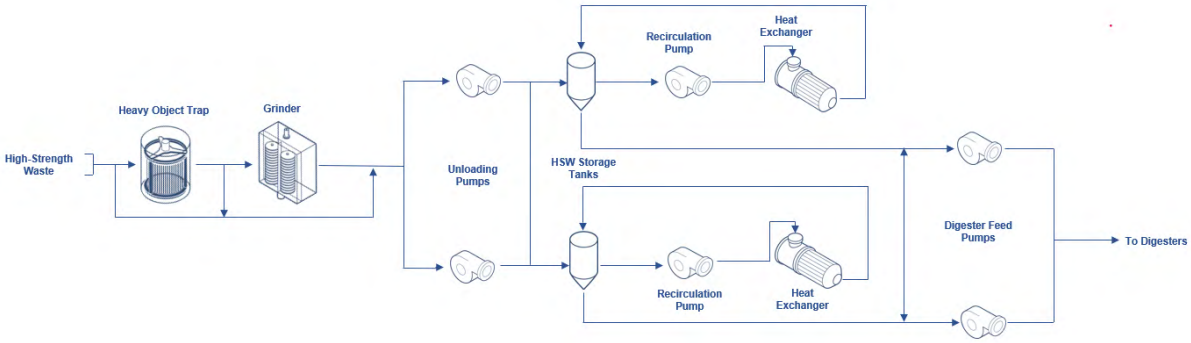

Figure 2-1. Process flow diagram of HSW receiving station.

The HSW receiving station will include the following elements presented below:

- Turnkey quick connect receiving system
- Heavy object trap//grinder
  - Number of Units:1
  - Type: Inline`
- Unloading pumps`
  - Number of Units: 2

  - Type: Rotary Lobe
- HSW Storage Tanks
  - Number of Units: 2
  - Volume: 8000 gal (9ft x 17ft)
- Heat Exchanger
  - Number of Units: 2
  - Type: Tube in Tube
- Recirculation Pumps
  - Number of Units:2
  - Type: Chopper pump and high velocity nozzles mounted in the sidewall of the tank
- Digester Feed Pumps
  - Number of Units: 2
  - Type: Rotary Lobe
- Spill Containment

2.1 Pretreatment and Unloading Requirements

An access control system is provided to ease the unloading operations at the facility with turnkey quick connect receiving system. An access control system allows haulers to securely interface with the receiving facility via a personal identification number (PIN) or access card. This turnkey quick connect receiving system will allow haulers to connect truck to inlet connection and unload the material. It will track the deliveries and print a receipt.

The proposed HSW pretreatment will consist of a heavy object / grease trap followed by a grinder. The heavy object trap will collect heavy debris such as stones, rock, forks, and other objects common in FOG and food waste to minimize damage to downstream equipment. Depending on the amount of debris within the HSW, the trap may have to be cleaned ranging from once a day to once after each hauler. The inline grinder will help to grind up larger debris and rags into smaller passable pieces. Although there are several types of grinders, an in-line grinder is proposed for the design. The grinder shafts are within a body, with flanged connections on either side. In-line grinders have smaller footprints than other types of grinders. Table 2-1 presents the design criteria for the heavy object trap and grinder.

Table 2-1. Design Criteria for Proposed Heavy Object Trap and Grinder

Parameters	Design Criteria
Number of solid traps	1
Trap Diameter	24-inch
Trap Basket Capacity	0.06 m^3 (15.8-gal)
Trap Wash Down Water	40 – 90 psi, 120°F, 4 gpm
Grinder Motor	5 Hp
Grinder and Trap Flange Connections	4-inch

The HSW will be pumped from the hauling truck using an onboard pump through the trap and grinder to the suction side of the HSW unloading pumps. The unloading pumps will transfer HSW from the trucks to the storage tanks. The unloading pumps are designed to unload a truck within 15 minutes. Based on the information provided by GSD, the hauler's tank capacity will be 1,200 gallons. An

unloading flow of 180 gallons per minute (gpm) would take between 6-7 minutes for the 1,200-gallon tanker. The unloading flow of 180 gpm also provides a scouring velocity of 4.6 feet per second in the 4-inch diameter piping to keep debris from settling in the pipe.

Rotary lobe pumps are selected for HSW unloading (Table 2-2). Rotary lobe pumps are positive displacement type pumps. Their main benefit is they are self-priming, and in this application, there is the potential to run the unloading pump dry when the hauler has completed unloading. The unloading pump head calculation is attached in Appendix D.

Table 2-2. Design Criteria for Unloading Pumps

Parameters	Design Criteria
Number of pumps	2
Pump Type	Rotary Lobe
Pump Suction	4-inch
Pump Discharge	4-inch
Volumetric Feed Rate	160-200 gpm (average 180 gpm)
Feed Solids Concentration	6-8% TS
Head	27 ft
Power	7.5 hp

2.2 Tank Mixing Requirements

The HSW storage tanks are required to equalize the feed to the anaerobic digesters for stable digester operation. Also, the tanks provide storage, allowing HSW to be heated to ensure that the material does not solidify and plug the piping. Lastly, the tanks allow for the grit that passes through the rock trap and grinder to settle and collect instead of being transferred into the anaerobic digesters. Two 8,000-gallon aboveground storage tanks are planned to have minimum 2-day storage capacity to provide continuous HSW feeding to anaerobic digesters over the weekend. The tanks will be stainless steel and insulated. The details of the proposed HSW storage tanks are summarized in Table 2-3. The HSW storage tanks will be equipped with a flange at the top that can be connected to odor control if needed in the future. The Project does not include odor control for the HSW storage tanks.

Table 2-3. Proposed HSW Storage Tanks

Parameters	Design Criteria
Number of Tanks	2
Diameter	9-feet
Height	17-feet
Usable Volume	8,000 gal
Material	316- Stainless Steel, insulated
Unloading time	24 hours

Mixing of the HSW tank is required to keep the contents of the tank uniform and keep the HSW from stratifying. The mixing system also helps to evenly heat the contents of the tank. A pumped mixing system will be included for each HSW storage tank. The mixing system will be comprised of a

chopper recirculation pump and high velocity nozzles mounted in the sidewall of the tank. The mixing pump will also pump the recirculated flow through the heat exchanger for heating. The recirculation piping will be insulated to minimize the heat loses. HSW will be recirculated from the tank through the heat exchanger and back to the tank with a direct drive horizontal chopper pump with a VFD. Each tank will be equipped with a 2-inch, high velocity nozzle for mixing. The details of the mixing pumps are given in Table 2-4 and the recirculation pump head calculation is attached in Appendix D.

Table 2-4. Design Criteria for HSW Recirculation Pumps

Parameters	Design Criteria
Number of Pumps	2
Flow	225 gpm
	275 gpm (bypass heat exchanger)
Pump Suction Diameter	6-inch
Pump Discharge Diameter	4-inch
Nozzle Diameter	2-inch
Head	30 ft
Power	5 Hp
Nominal Speed	1170 rpm
Frequency	45 - 60 Hz

2.3 Heating Requirements

The HSW will be heated using a tube-in-tube heat exchanger. As the HSW will be recirculated using the tank mixing pump, a portion of the flow would be diverted through the heat exchanger. Using a hot water inlet temperature of 180°F, a 270,000 BTU/hr heat exchanger will heat the contents of one 8,000-gallon tank from 60°F to 100°F around 10 hours. This is sufficient time to heat the contents of the tank overnight prior to feeding to the digesters.

Sizing of the heat exchangers for the HSW storage tanks was based on the anaerobic digester temperatures. The heating capacity requirements include:

- Process heating demands to raise the temperature of the incoming HSW to between 95°F to 100°F (mesophilic conditions).
- Space heating demands to overcome heat loss during conveyance to anaerobic digesters, as well as from the storage tanks during summer and winter conditions
- Maximum secondary hot water loop temperature between 180 °F. Hot water will be supplied from main hot water loop. The details of the hot water system will be provided in next phases of the project.

Heat exchangers will be located next to Digester 1 and on the concrete pad where the equipment for Digester 1 is currently placed. Secondary Hot Water Loop pumps are equipped with each heat

exchanger to convey hot water to the heat exchangers. Table 2-5 summarizes the heat exchanger design criteria for the proposed HSW equalization/storage tanks.

Table 2-5. Proposed Heat Exchanger Design Criteria for HSW Storage Tanks

Parameters	Design Criteria
Number of Units	2
Type	Tube in Tube
Heat Transfer Rating	270,000 BTU/HR
HSW Inlet Temperature	95 °F
Hot Water Supply Temperature	180 °F
Hot Water Return Temperature	173 °F
Tube Diameter	
Sludge	4-inch
Water	6-inch
HSW Flow Total	225 gpm
Water Side Flow	80 gpm

The proposed secondary hot water loop booster pumps shall be end suction centrifugal. The pump data us summarized in Table 2-6.

Table 2-6. Proposed HSW Secondary Hot Water Loop Booster Pumps Design Criteria

Parameters	Design Criteria
Number of Pumps	2
Flow	80 gpm
Head	25 ft
Power	1.0 Hp
Motor RPM	1200 or 1800
Motor Speed Control	Constant Speed
Motor Type	TEFC

2.4 High Strength Waste Feed Pump Requirements

Two HSW Feed pumps will transfer the HSW from storage tanks to the digesters. Each HSW storage tank would have a dedicated feed pump that is sized to feed 6,000 gallons of HSW to the anaerobic digesters within 24 hours. To avoid extremely low flow rates of HSW which can potentially lead to clogging in the piping system, HSW will be transferred into the digesters at 15 GPM, intermittently. A higher horsepower motor (1.5 hp) is selected to allow extra power to push through clogs and help prevent frequent cleaning of the pipes. The pump will operate continuously for one minute every 4 minutes. The piping system will be equipped with heat tracing to maintain mesophilic temperature of HSW. Variable speed progressive cavity pumps will be used for HSW feed application. The design

criteria for HSW Feed pumps are summarized in Table 2-7. The calculation regarding feed pumps can be found in Appendix D.

Table 2-7. Design Criteria for Proposed HSW Feed Pumps

Parameters	Design Criteria
Number of Pumps	2
Flow (Intermittent Feeding)	15 gpm
Head	71 ft
Power	1.5 Hp
Frequency	60 Hz
Motor Speed	450 rpm
Shaft Diameter	19 mm
Voltage Range	230/460 V

2.5 Siting Requirements

The HSW receiving station will be located to the west of Digester 1 as shown in Figure 2-2. In order to have sufficient turning radius for trucks, a portion of the existing curb adjacent to Biofilter No. 1 will need to be demolished. Delivery trucks are assumed to be single axle bobtails fitted with 1,500-gallon tanks. Appendix A provides updated layout of the HSW receiving station.

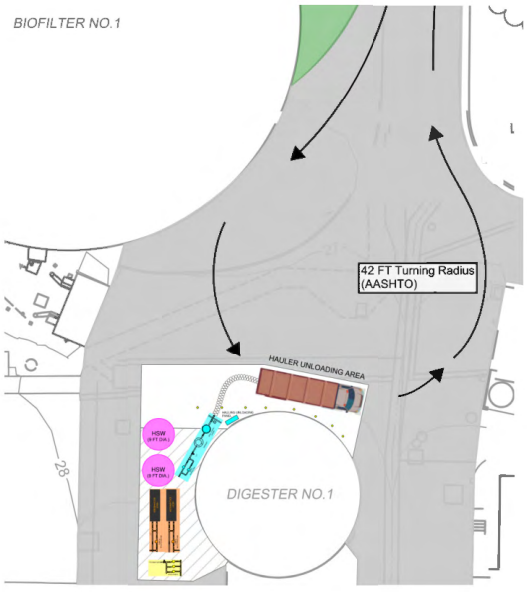

Figure 2-2. Conceptual Layout of HSW receiving station.

2.6 Electrical Requirements

The HSW receiving station electrical loads will be powered from the existing 480V MCC-E (Figure 2-3) inside the Headworks electrical room. This power source is chosen for its close proximity to the HSW receiving station, and for having adequate capacity and available space in the MCC lineup. The variable frequency drives (VFD) shall be integrated to the MCC lineup, but can be specified as standalone wall-mounted enclosures to be located along the south wall of the electrical room if the existing MCC does not have the adequate space for large VFDs. The final location of the VFDs shall be determined during detail design.

The conduits for the new loads will exit the MCC from the top, penetrate the west wall of the electrical room, and then transition underground. A new duct bank will be constructed to bring conduits and conductors from the Headworks electrical room to the HSW receiving station area. New pull-boxes shall be installed near the HSW receiving station area to transition the underground conduits to above grade.

Figure 2-3. HSW receiving station electrical loads will be routed to headworks MCC-E (pictured above)

2.7 Instrumentation and Control Requirements

The High Strength Waste equipment will be monitored via a new RIO. The new RIO will communicate back to the existing Headworks Building PLC (HPLC), which is a Schneider/Modicon Quantum model. During detailed design it will be determined if the new High Strength Waste RIO should be located in the field near the process equipment, or in the existing Headworks Building.

3. Thermal Dryer Facility

The Thermal Dryer Facility will include some modifications to the existing Solids Handling Building, a new slab-on-grade building located at existing Drying Bed Nos. 2 and 3, near the Solids Handling Building. The Thermal Dryer Facility will receive the harvested sludge from the Sludge Holding Tank at the Solids Handling Building. This sludge will proceed through centrifuge dewatering and into a live bottom cake bin, where it will be continuously pump fed into a thermal dryer. The dried product from the dryer will then discharge to a truck loading bay outside the building. The facility will include bridges for both the feed and discharge conveyors, a dewatering centrifuge, polymer storage and preparation systems, a live bottom cake bin, cake pumps, thermal dryer, condensing unit for the dryer, Odor Control unit, thermal fluid heaters, MCC Room, and various other supporting equipment.

The majority of the equipment associated with the dryer is typically provided as a package system, will all of the equipment between, and including, the cake bin and truck loading conveyor being supplied together with an MCP to control the system

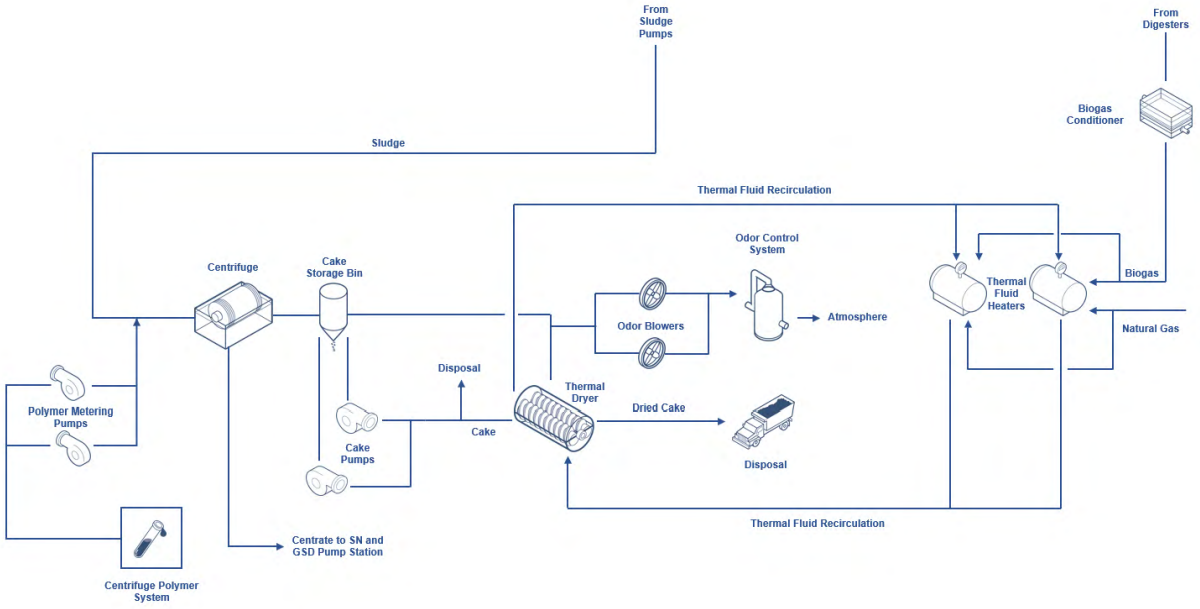

Figure 3-1. Process Flow Diagram of Thermal Dryer Facility

The two drying beds which the facility will be constructed on are at elevation 14.45 ft currently and are divided by a 2.5-ft tall cast-in-place concrete wall with a footer. In 2011 the eastmost drying bed was re-purposed for the Solids Handling Building. Its footprint was filled with lightweight concrete up to the top of the concrete wall at elevation 16.95 ft. The Dryer Building slab will match that elevation, and the drying beds impacted by the facility addition will be filled and paved to match. Process outlets for harvested sludge to Drying Beds 2 and 3 will be capped while Drying Bed 1 will remain in service.

Truck access will be from the drives north and south of the dryer building. The Trucks will enter along the south road, turn north to drive below the truck loading conveyor, continue to the north and turn left along the drive to exit the facility. This path is presented in Figure 3-3.

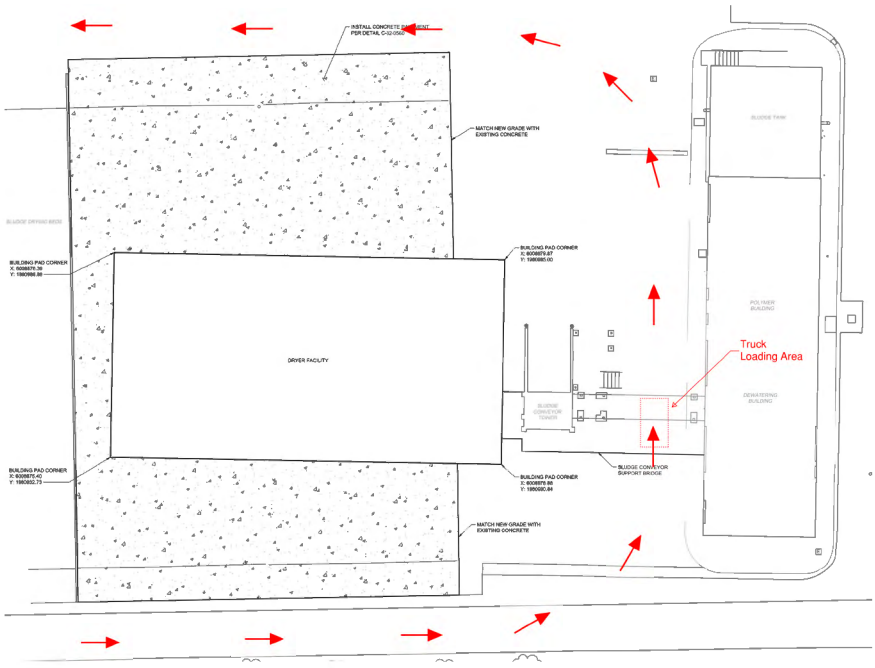

Figure 3-2. Truck Driving Path - Thermal Dryer Facility

It should be noted that the lightweight concrete filling former drying bed #4 will likely be subject to some modification to construct the base slab for the Dryer building. The structural evaluation of the existing conditions will be performed during detailed design.

3.1 Solids Handling Building Modifications

The existing Solids Handling Building has a pair of rotary lobe pumps which feed the existing dewatering screw presses from the Sludge Holding Tank, a polymer system which serves both the screw presses and a pair of screw thickeners located in the building, a horizontal screw conveyor on the screw press discharge, a vertical screw conveyor to lift the dewatered solids, and a horizontal distribution conveyor, which extends outside the building to distribute the dewatered solids either into a truck below or into a storage bin. The distribution conveyor also has an associated walking bridge which extends over the truck drive through area and the screw press loading bin.

The sludge to the Sludge Holding Tank does not come directly from the digester, instead, it is stored in the sludge lagoons downstream of the digester, and them is dredged and pumped to the Sludge Holding Tank. These lagoons serve as a wide part in the solids process and allow for a more constant draw from the lagoon volume throughout the seasonal variations that occur, as well as support operational shutdowns.

The existing 5-hp rotary lobe Harvested Sludge (HS) dewatering feed pumps have been identified by the plant as being strong candidates for replacement and are to be replaced with Boerger SL200 rotary

lobe pumps or equal (Table 3-1). The replacement pumps will be VFD driven and with an added tee and valving on the 4-inch discharge piping, will serve both the existing screw presses and the new centrifuge at the drying facility.

Table 3-1. Dewatering Feed Pumps

Parameters	Design Criteria
Pump Type	Rotary Lobe
Pump Number	P5510 and P5520
Number of Pumps	2
Inlet Diameter	4-inch
Discharge Diameter	4-inch
Flow Capacity	126 gpm
Pump Rotating Speed (at 100% VFD output)	300 rpm
Target Pressure	35 psi
Motor Size	7.5 hp
Motor Speed (at 100% VFD output)	1800 rpm
Inverter Duty	Yes

The control valve on the 4-inch HS line that will serve the centrifuge will be open-close and motor actuated per owner request. The pipe will extend along the ceiling in the Solids Handling Building room and then continue across the loadout conveyor bridge to the Drying building. Other services that will also be carried to the dryer building are the 3W plant water and 1W Potable water.

The distribution screw conveyor which currently discharges to a truck bay and three-sided cake storage bin will also be modified to support the drying facility. So that the screw presses can serve as a backup for the centrifuge while keeping the dryer facility operating, the distribution screw conveyor will be modified and extended such that it will continue from its bridge and discharge into the cake bin within the Dryer Building. It can then be pumped to the dryer the same as the centrifuge dewatered cake. An additional actuated gate will be added to the chute ate the 3-sided bin. Currently there is no gate on this discharge. As is typical for conveyor design, the discharge to the dryer building cake bin will be open to avoid the potential for jamming of the conveyor.

3.2 Centrifuge Sludge Dewatering Design Criteria

The future HSW and on-site generated sludge are treated through the anaerobic digesters, and the digested sludge continues to the sludge storage lagoons. From the lagoons, the sludge is pumped to the Digested Sludge Holding Tank, where it is mixed and pumped to dewatering, either to the existing screw Presses or the new centrifuge. The following digested sludge mass and volumes have been calculated for a period from 2025 to 2045 (Table 3-2. The centrifuge will be designed for one 8-hour shift of operation a day. This requirement paired with the daily solids is the basis for the centrifuge sizing.

Table 3-2. Current and Future Dewatering Capacity Criteria

Condition	Without HSW Addition		With HSW Co-digestion	
	2025	2045	2025	2045
Digested Sludge Flow, gpd				
Annual Average	42,200	45,700	48,200	51,700
Maximum Month	52,100	54,300	58,100	60,300
Digested Sludge Mass Loading, lb TS/d				
Annual Average	8,500	9,500	9,100	10,100
Maximum Month	11,000	11,500	11,700	12,200
Sludge Concentration %TS				
Annual Average	2.55%	2.63%	2.39%	2.48%
Maximum Month	2.66%	2.67%	2.53%	2.55%

The centrifuge is to operate over the course of a single shift, 7-days a week, dewatering enough cake in one shift to continuously operate the dryer until the next day. Based on a daily, 8-hour operation window, the centrifuge performance criteria are presented in Table 3-3. It should be noted that the centrifuge may normally be operated at its capacity for a shorter duration when loading is below the design limit. It may also operate for longer periods if it is necessary to reduce the solids in the lagoon following a period of dryer downtime.

Table 3-3. Current and Future Centrifuge Operating Criteria

Condition	8 Hour Operation Without HSW Addition		8 Hour Operation with HSW Co-digestion	
	2025	2045	2025	2045
Centrifuge Feed, gph throughput				
Annual Average	5,280	5,710	6,030	6,460
Maximum Month	6,510	6,790	7,260	7,540
Centrifuge Feed Mass Loading, lb TS/hr				
Annual Average	1,070	1,190	1,140	1,270
Maximum Month	1,370	1,430	1,460	1,520
Capture Efficiency	95%	95%	95%	95%
Cake Solids, %TS	20%	20%	20%	20%
Centrate Flow, gpm				
Annual Average	75	80	86	92
Maximum Month	108	113	121	126

One centrifuge should be sufficient for the dewatering of all sludge to the dryer. Redundancy for dewatering will be provided by the existing screw presses located in the Solids Handling Building, providing a Duty/Standby/Standby system. Should the centrifuge need to be taken offline, one of the screw presses will be used, and the screw press dewatered cake would be transferred to the cake bin via an extension of the existing screw press truck loading conveyor. This operation of the screw presses would be in a temporary capacity and would require operational adjustments in the run times and feed rates of the equipment. The screw presses also produce a 17% total solids (TS) cake, which

increases the evaporative load on the dryer. As such, greater energy and fuel consumption will be required from the system to dry cake produced by the screw presses than the 20% produced by the centrifuge. At the maximum 2045 loading the difference in evaporative requirements between a 20% cake and 17% cake is 1,972 lbs H_2O/hr compared to 2,420 lbs H_2O/hr respectively for the same solids throughput. Provisions are included for the installation of a second centrifuge in the dryer building, which would act in a duty/standby arrangement should GSD choose to replace the screw press redundancy with a standby centrifuge unit.

The centrifuge will have multiple process connections associated with it. The sludge feed coming from the solids handling building, the polymer from the drying facility, 3W plant water for centrifuge washdown and chute spray, the centrate discharge to drain, and the solids discharge to a series of screw conveyors which will transfer the cake from the centrifuge to the cake bin. A summary of the centrifuge equipment is provided in Table 3-4.

Table 3-4. Centrifuge Equipment

Parameters	Design Criteria
Equipment Type	Dewatering Centrifuge
Equipment Number	TBD
Solids Capture	95%
Sludge Inlet	2" 150# Flange
Polymer Connection	1" FNPT
Washwater Connection	1" FNPT
Odor Vent	4.5" Duct
Solids Discharge Chute	12.25" x 24"
Centrate Discharge Chute	6.9" x 17"
Solids Capacity	1,850 lbs solids/hr
Hydraulic Capacity	175 gpm
Main Drive Motor Size	3ph/60hz/480V - 75 hp
Main Drive Rotating Speed (at 100% VFD output)	3200 rpm
Main Drive Motor Speed (at 100% VFD output)	1800 rpm
Inverter Duty	Yes
Scroll Drive Motor	3ph/60hz/480V - 20 hp
Scroll Drive Rotating Speed (at 100% VFD output)	15 rpm
Scroll Drive Motor Speed (at 100% VFD output)	1800 rpm
Inverter Duty	Yes
Centrate Flow at 2045 Design	126 gpm
Odor airflow at 2045 Design	207 cfm

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3.3 Polymer System

A new dewatering polymer system will be designed to prepare and feed polymer solution to the new centrifuge. Neat emulsion polymer totes will be delivered to the site by truck and stored indoors at the new Thermal Dryer Facility Building. The area for the storage of the polymer totes is sized to contain neat emulsion polymer under 2045 average flow conditions for approximately 15-days at average polymer dose rate. During storage a tote mixer will be used to prevent neat polymer stratification.

Polymer feeder/blending units will be provided in the new Thermal Dryer Facility Building. Neat emulsion polymer will be transferred from the polymer totes to the feeder/blenders. The feeder/blending unit will activate the neat polymer with water from the non-potable water supply and feed the activated polymer solution to the centrifuge. The activated polymer will be diluted by the feeder/blending units to 0.50% by volume to reduce polymer solution viscosity and improve its ability to be conveyed to the centrifuge. Secondary containment for the polymer totes will be provided with spill containment pallets of polyethylene construction and designed to withstand hydrostatic forces for the neat polymer. will be provided for each polymer tote to provide secondary containment.

The polymer system is designed to operate over the expected 20-year life of the equipment under current and future conditions. The system capacity is designed to meet the dewatering centrifuge solids capacity at the maximum polymer dosage with a 10:1 turndown. Dewaterability testing of the digested sludge was performed by Centrisys CNP and Andritz. The polymer dosage results were significantly different between the two tests. Because of this wide variation and uncertainty, it is recommended that each centrifuge manufacturer perform pilot testing onsite to determine equipment performance and design criteria. The emulsion polymer system design criteria are shown in Table 3-5.

Table 3-5. Polymer System Design Criteria

Parameters	Design Criteria
Solids Loading Rate	1,850 lbs of dry solids per hour, refer to 3.2
Polymer Dose Rate, maximum	45 lbs active polymer per dry ton of solids
Polymer Feeder/Blending Unit Turndown	10:1
Neat Polymer Type	Emulsion Polymer
Neat Polymer Activity, minimum	40%
Neat Polymer Specific Gravity	1.02
Dilution by volume	0.50% or 200:1
Feed Polymer Solution Concentration	0.20% Active Percent Solution (APS)
Feed Point	Dewatering Centrifuge 1
Neat Polymer Usage Rate, maximum	12.2 gallons per hour
Dilute Polymer Solution Feed Rate, maximum	2,500 gallons per hour
Polymer Feeder/Blending Units	
Type	Staged Hydro-Mechanical
Number	2 (1 duty, 1 standby)
Turndown	10:1

Parameters	Design Criteria
Electrical Service	120V / 1PH / 60Hz
Mixer HP	1
Metering Pump Type	Progressive Cavity
Metering Pump HP	½
Metering Pump Drive	VFD
Polymer Storage	
Type	Tote, flat-bottom, cubical geometry with carbon steel cage rated for chemical weight and equipped with 4-way forklift entry
Nominal Volume	275 gallons
Usable Volume	260 gallons
Material	high density polyethylene (HDPE)
Dimensions	45” L x 40” W x 46” H
Inlet Connection	6” vented threaded screw cap
Outlet Connection	Minimum 2-inch bottom outlet connection with isolation ball valve and male quick disconnect coupler
Number of Totes / Days of Storage, minimum condition[1]	2 / 19.6
Number of Totes / Days of Storage, average condition[2]	4 / 15.4
Number of Totes / Days of Storage, maximum condition[3]	5 / 6.3
Tote Mixing	
Type	Collapsible Impeller Mixer
Number, one per storage tote	4
Electrical Service	120V / 1PH / 60Hz
HP	¾
Polymer Piping and Valves	
Pipe	SCH 80 PVC
Valve Type	Ball Valve and Ball Check Valve
Dilution Water On/Off Valve	Motor Operated Ball Valve

[1]Under 2025 Annual Average Loads and polymer dosage of 15 lbs active polymer per dry ton of solids.
[2]Under 2045 Annual Average Loads with high strength waste and polymer dosage of 30 lbs active polymer per dry ton of solids.
[3]Under 2045 Max 7 Day Load with high strength waste and polymer dosage of 45 lbs active polymer per dry ton of solids.

3.4 Dewatered Cake Bin

From the dewatering centrifuge and a series of screw conveyors, the cake is deposited into a live bottom cake storage bin. Table 3-6 presents the design criteria used to size the bin (Table 3-7). This bin will be of sufficient storage capacity such that the dryer continuously operates during and in-between the daily centrifuge operation, as well as situations where the centrifuge is operated for two

consecutive shifts to build up dried cake storage and take the centrifuge offline for maintenance or for an unstaffed holiday. The feed rates to the bin under normal and maximum conditions are as follows:

Table 3-6. Cake Bin Design Criteria

Condition	Rate into Cake Bin - No HSW		Rate into Cake Bin - With HSW	
	2025	2045	2025	2045
Cake Bin, cuft/d (wet)				
Annual Average	855	953	913	1,014
Maximum Month	1,098	1,148	1,165	1,217
Cake Bin, lb/d (wet)				
Annual Average	42,700	47,600	45,600	50,700
Maximum Month	54,900	57,400	58,300	60,900

*Assuming 20% DS from Centrifuge

Table 3-7. Cake Bin Features

Parameters	Design Criteria
Bin	
Bin Type	Top Leveling with Live Bottom
Bin Material	304 SS
Bin Volume	75 Cubic yards
Level Monitoring	Radar Sensor
Top Leveling Screws	
Top Leveling Screw Equipment Count	2
Top Leveling Screw Equipment Motor (each)	1
Live Bottom Screws	
Live Bottom Screw Equipment Numbers	TBD
Live Bottom Screw Equipment Count	2
Live Bottom Screw Equipment Motor (each)	5

Assuming the 2045 maximum loading, and 8-hour daily centrifuge operation, the cake bin level and total throughput are as represented in Figure 3-3. These values are based on standard operation, with the dryer operating continually during the centrifuge operation, processing the cake bin contents.

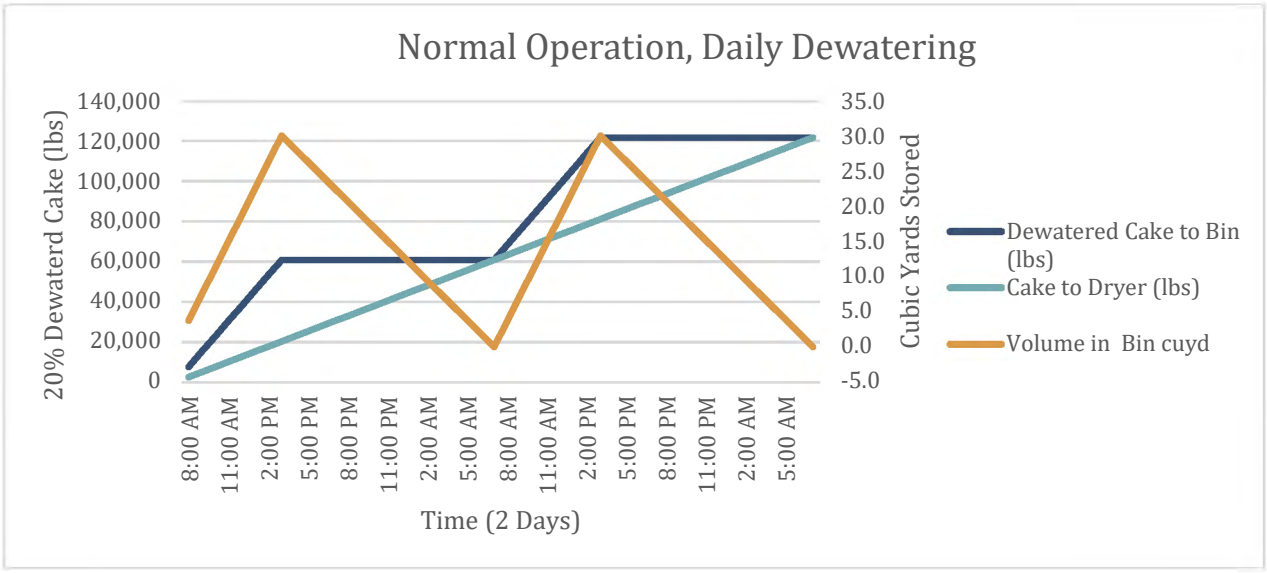

Figure 3-3. Cake Bin Volume Pattern – Normal Operation

Assuming the 2045 maximum loading, and a 16-hour centrifuge operation ahead of a holiday weekend or maintenance day, the cake bin level and total throughput are as represented in Figure 3-4.

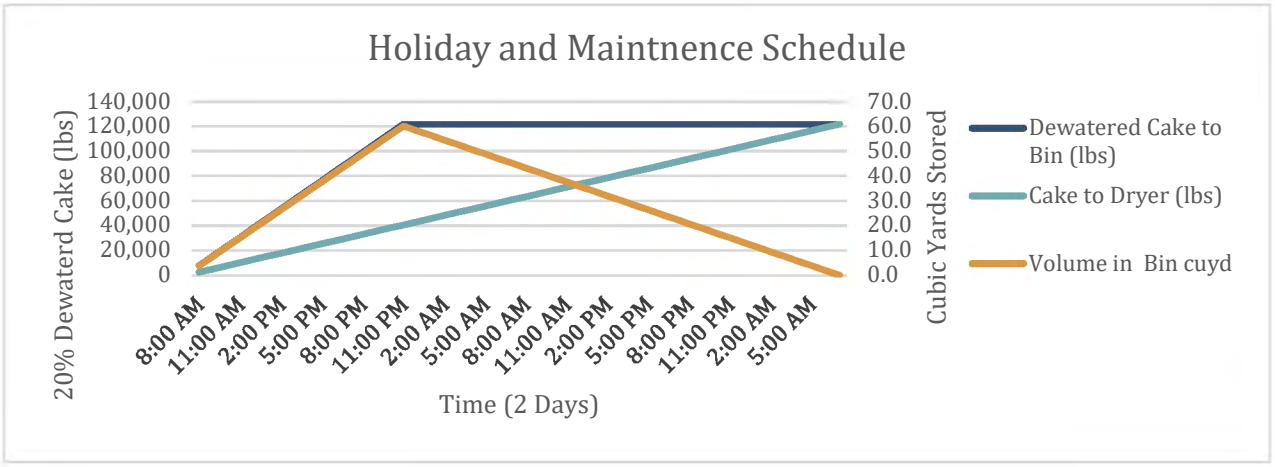

Figure 3-4. Cake Bin Volume Pattern – Holiday and Maintenance Operation

It is prudent not to account for only the stored volume requirements of 60 cubic yards, but allow for additional storage since the bin should not be drawn down completely empty at the start of each day. Additionally, variation in centrifuge performance and operator flexibility are both improved by having some reserve volume.

The system supplier recommends that a top leveling feature be included. This especially makes sense on the bin where we could see inlet discharges at more than one location and should be considered for inclusion. The leveling screw would be located in the top 1/3 of the cake bin and operate based on the elevation of cake in the bin, engaging when the level reaches the elevation of the leveling screw.

The Dryer Cake feed pumps will be located under the cake bin (Table 3-9). Each pump will have isolation gates on the intake, between the pump and the bin and on the pump discharge piping, so that it can be isolated and worked on without the need to empty the bin and take the dryer offline. Progressive cavity (PC) pumps work well in this application because of the ability to generate the high pressures required when pumping cake, and as they are positive placement pumps, the pumped volume can be reasonably derived from the pumps operating speed. The pumps will be VFD driven to accommodate flow control and pacing based on the feed rate needs of the dryer facility.

The cake piping between the pump and the dryer will be stainless steel. Pressures are greatest at the pump discharge and reduce as the pipe distances from the pump. The pressure requirements of the pump and piping are dependent on a variety of factors such as pipe fittings and length, sludge cake characteristics, water content. Even with all these factors known, there is still some unpredictability associated with cake pumping pressure calculations. As these will be more developed and confirmed as design progresses, a higher-pressure class is assumed for the purpose of design basis of the cake piping. If the anticipated pressures are high, there may be a benefit to include an injection ring on the pump discharge to provide a small amount of water which creates a lubricating layer between the cake and the pipe wall. This will be further confirmed in detailed design.

Table 3-8. Dryer Cake Feed Pumps

Parameters	Design Criteria
Pump Type	Progressing Cavity - Split Case
Pump Number	TBD
Number of Pumps	2
Inlet Diameter	TBD
Discharge Diameter	TBD
Design Flow Required - 20% Cake	304 gph
Pump Capacity	375 gph
Rotor Material	BN 550 - Chrome Plated tool Steel
Stator Material	Elastomer
Target Pressure	TBD
Motor Size	3ph/60hz/480V - 15 hp
Inverter Duty	Yes

*Pump Capacity requirement accounts for slippage from wear and factor of safety.

PC pumps do have some wear items which require periodic maintenance. The rotor and stator are both subject to wear, the rates of which will be largely influenced by the sand and grit content of the pumped cake, and to a lesser degree, by the pump operating speeds. The stator is typically a hard rubber material, and the rotor would be a high-grade stainless steel. The older, single piece body style of PC Pumps would require the rotor to be pulled out longitudinally from the pump body, and require certain clearance for pullout as well as disassembly of the downstream piping. The newer generation of PC pumps are split case type, where the body is in 2 pieces allowing for maintenance work on the

rotor and stator to be limited to the pump itself. This style is generally the design basis for PC pumps on more recent projects and has resulted in significant maintenance improvements based on the Engineer's experience and client feedback.

Considering the impact of rotor and stator wear on the pump performance, it is recommended that the pump design capacity be increased beyond the calculated requirement to account for slippage as the pump wears. The VFD would simply operate at approximately 90% speed when operating at the required flow when new, but be able to increase beyond that to achieve the same delivery at a later point. This will reduce the maintenance burden on the plant and provide additional flexibility.

3.5 Thermal Dryer System

The indirect thermal dryer system will be capable of drying the dewatered sludge cake from 20% to 90% dry solids or greater. Generally, the thermal dryer, cake bin, cake feed pumps, cooling conveyor, thermal fluid heater, condenser, odor control system, and controls are provided as a package system. That is what is anticipated in this case as well.

The thermal dryer system will operate continuously, drying the sludge cake stored in the cake bin based on design criteria in Table 3-9.

Table 3-9. Current and Future Dryer Operating Criteria

Condition	8 Hour Operation Without HSW Addition		8 Hour Operation With HSW Co-digestion	
	2025	2045	2025	2045
Dryer Feed, 20% Solids, gph				
Annual Average	214	238	228	253
Maximum Month	274	287	291	304
Evaporative Loading lbH2O/hr				
Annual Average	1,390	1,540	1,480	1,640
Maximum Month	1,780	1,860	1,890	1,970
Dryer Heat Consumption MMBTU/H				
Annual Average	2.02	2.23	2.15	2.38
Maximum Month	2.58	2.70	2.74	2.86
Dried Product Rate lbs/week*				
Annual Average	66,491	74,084	71,009	78,856
Maximum Month	85,392	89,251	90,638	94,665
Dried Product Rate cuyd/week*				
Annual Average	49	55	53	58
Maximum Month	63	66	67	70

*Assume 90% TS

The dried volume assumes a product density of 50 lb/cuft, which is reflective of manufacturer feedback. The capacity of truck used loading, and thus the frequency of hauling trips will be the Owner's discretion, however the engineer does not suggest storing the cake for extended periods of

time, and suggests the dried product be hauled at least once per week. At the anticipated dried product production rate, this would be between 1 dump truck per day, and one dump truck every other day.

The dryer operation is adjustable to meet the drying needs of the sludge cake feed. Since the evaporative capacity of the dryer is greater than what is typically necessary, there are multiple adjustments that the operator can make to maintain a consistent product. These can be both manual or automated depending on preference. With the Plant's intent for remote operation, the automation will be greater than a continually staffed facility.

Generally, if the equipment is operating at a steady state of flow rate, % dry solids of cake, and cake quality, few adjustments are needed. When the feed does vary in flow rate, quality, and/or % dry solids, the changes in performance will be recognizable from the change in thermal fluid temperature and temperature within the dryer itself. The variables to the dryer operation are mainly the target thermal fluid temperature, the thermal fluid recirculation rate, the thermal fluid burner throttling, varying of screw speed on the dryer itself, and if needed, throttling of the cake feed pumps.

Initially, settings and programming logic for all these variables will be incorporated into the system automation, these will be based on manufacturer and engineer experience. Following construction, with facility specific operational experience during startup and beyond, the setpoints and parameters which work best with the facility cake will be verified and adjusted to optimize performance and system response. While the intent is to operate at a steady state and not require much dynamic adjustment and intervention, there may still be large changes in feed, such as if the centrifuge is taken down and the normal 20% cake is replaced by the 17% cake from the screw presses.

3.5.1 Gas Pretreatment

The thermal heater for the Dryer requires dehumidified gas for proper operation. The digester gas will be saturated, so a dehumidification system is required. A dual-core heat exchanger consisting of a gas-gas heat exchanger and a gas-glycol heat exchanger will cool the gas from the digesters to 40°F upstream of a moisture removal vessel and reheat the gas to 80°F downstream of the moisture removal vessel. The glycol chiller will be sized and piped to serve the gas-glycol heat exchanger. Glycol solution (35 to 50 percent) will be introduced to the gas-glycol heat exchanger at approximately 34°F to condense as much water as practical out of the gas. Glycol solution will require treatment with corrosion inhibitors. Condensate will be collected in a moisture-removal vessel and will be removed through an automatic drip trap. Reheating the gas to 80°F will reduce the relative humidity to achieve the dry gas required by the Dryer thermal heater. The final arrangement of the dehumidification system may change after selection of the gas treatment system vendor and as the design progresses.

The dual-core heat exchanger, glycol chiller, moisture removal vessel, and supplemental gas-hot water heat exchanger will be arranged in one train sized for 125 scfm, which is the maximum digester gas required for the thermal fluid heater. Therefore, the system will lack redundancy. In the event of equipment failure or shut down for routine maintenance the Dryer thermal heater will run on natural gas.

The saturated digester gas will contain hydrogen sulfide (H_2S), which when combined with moisture will form sulfuric acid (H_2SO_4). For corrosion protection from H_2SO_4, Type 304/304L stainless steel will be used to construct the vessels, digester gas and condensate piping, digester gas and condensate valves, and heat exchangers. Glycol piping and valves will follow the standard for chilled water. Platforms, ladders, and accessories not exposed to the digester gas will be constructed from Type 304/304L stainless steel because of salt air exposure.

The gas blower, inlet filter, dual core heat exchanger and gas recirculation with be mounted on a skid that will be classified as a Class 1, Division 1, Group D area. The glycol chiller and gas condition system control panel will be unclassified and located a minimum of 10 feet from the classified gas pretreatment skid. The Dryer gas pretreatment system design criteria are shown in Table 3-10.

Table 3-10. Dryer Gas Pretreatment System Design Criteria

Parameters	Design Criteria
Design Condition	
Digester Gas Heating Value Range	550 to 615 BTU per cubic foot
Thermal Heater Capacity	3.3 million BTU (MMBTU) per cubic foot
Thermal Heater Efficiency	80%
Digester Gas Required at 615 BTU per cubic foot	112 scfm
Digester Gas Required at 550 BTU per cubic foot	125 scfm
Inlet Digester Gas Pressure, minimum	4” WC
Inlet Digester Gas Pressure, maximum	16” WC
Inlet Digester Gas Relative Humidity	100%
Ambient Temperature, minimum	35 deg F
Ambient Temperature, maximum	100 deg F
Site Elevation	25 ft above mean sea level
Discharge Digester Gas Conditions	
Discharge Pressure	5 psig
Temperature	80 deg F
Dew Point Temperature	40 deg F
Particulate Removal	99% removal of >3-micron
Inlet Gas Blower Filter	
Type	Moisture/Particulate
Number	1
Performance	99% removal of >3-micron particulates and liquid droplets
Material	304L stainless steel
Electrical Classification	NEC Class 1, Division 1 Group D Areas
Gas Blower	
Type	Rotary Lobe Positive Displacement Blower
Number	1
Electrical Service	480V / 3PH / 60Hz
HP	7.5

Parameters	Design Criteria
Drive	VFD
Electrical Classification	NEC Class 1, Division 1 Group D Areas
Heat Exchanger	
Type	Dual Core / Stage 1 Gas to Gas / Stage 2 Gas to Glycol Heat Exchanger
Number	1
Stage 1 Type	Gas to Gas Plate/Fin Core
Stage 1 Material	Aluminum Plate and Fins
Stage 2 Type	Gas to Glycol Fin/Tube Core
Stage 2 Material	Aluminum Fins on 304L Stainless Steel Tubes
Dual Core Heater Exchanger Housing Material	304 Stainless Steel
Electrical Classification	NEC Class 1, Division 1 Group D Areas
Gas Recirculation	
Description	Modulating valve used to allow excess gas to from the discharge of the system to the inlet
Valve Type	V-port ball valve
Electrical Service	120V / 1PH / 60Hz
Actuator Enclosure	Type 7 explosion proof
Electrical Classification	NEC Class 1, Division 1 Group D Areas
Glycol Chiller	
Capacity	10 ton
Number	1
Weight	2,000 lbs
Electrical Service	480V / 3PH / 60Hz
Electrical Load	25 kW
Electrical Classification	Unclassified
Piping and Valves	
Pipe	304L Welded Pipe, Schedule 10
Valve Type	Ball Valve Full Port or Butterfly Valve, Ball Check Valve or Swing Check Valve

3.5.2 Thermal Dryer

The sludge cake is pumped from the cake bin and into the dryer, where it is heated indirectly and slowly agitated by a pair of counter-rotating screws which may also be referred to as paddles by different manufacturers. The screws also serve as the source of indirect heating for the sludge cake. A heated thermal fluid oil is continually pumped through the screws, the heat results in the evaporation of the water entrained in the sludge, and the screws slowly turn the cake over and carry it to the discharge of the equipment, drying it continually as it goes. The cake is then conveyed through a series of conveyors which both transport and cool the dried product before depositing into a truck bin outside the building.

There are multiple manufacturers of the indirect screw-type thermal dryers capable of providing equipment suited to process the range of design loading. The performance parameters presented in

Table 3-11 are representative of one manufacturer and may vary from that which is ultimately selected.

Table 3-11. Dryer System Summary

Parameters	Design Criteria
Dryer	
Dryer Type	Indirect Paddle
Equipment Number	TBD
Equipment Count	1
Minimum Evaporative Capacity Required	1,970 lb H2O/hr
Minimum Dryer Evaporative Capacity Allowable*	2,680 lb H2O/hr
Paddle Drives	2
Paddle Drive (each)	3ph/60hz/480V - 5 hp
Inlet Connection Summary*	
Pumped Cake	8"
Thermal Fluid Supply	4"
Water Spray	1/2"
Nitrogen Supply (some manufacturers)	1/2"
Discharge Connection Summary*	
Dried Product	TBD
Thermal Fluid Return	4"
Deflaguration Duct	TBD
Off-Gas Duct	TBD

*Based on the smallest capacity manufacturer recommendation

There are multiple process loops associated with the dryer. Some, such as the thermal fluid loop are entirely closed, with the thermal fluid being heated, pumped through the dryer where the heat is transferred to the cake and results in evaporation of the entrained water. The cooled fluid is then returned to the thermal fluid heater where it is heated back up to the target temperature of 380 degrees F. This target temperature is adjustable for periods of lower or higher loading, depending on the fluid product, for this type of service generally temperatures in excess of 600 degrees will result in degradation of the thermal fluid and may result in more frequent replacement. This temperature limit will vary dependent on the exact product utilized. Ideally, the thermal fluid will last for at least 10 years before replacement is necessary.

Another process loop is not entirely closed. The condenser loop, which handles the off gas and assists with temperature control, moisture removal, and odor control recirculates some of the air back to the dryer, while removing the moisture form the air to drain and redirecting a fraction to odor control. The hot air is pulled from the dryer and cycles it through the condenser where a water spray, quickly cools the hot, humid air which falls below its dew point and releases its moisture. The water spray is collected and continues to drain to the head of the plant. The air is recirculated mainly to the dryer, with a small amount directed to an odor control unit.

With the continuous operation of the thermal dryer unit and the planned staffing for only a single shift, the equipment will need to be able to run in an automated and remotely monitored fashion. There are several dryer facilities which operate similarly, such as the Wisconsin Dells, WI installation. The automation is a blend of safety interlocks to prevent any equipment damage, remote alarms for readings which require an operator to observe and determine if intervention is necessary, and modulation of different parameters based on performance, such as thermal fluid temperature and cake feed rate to manage any variation in sludge characteristics. The ability to control remotely and make remote operator adjustments can also be incorporated, however with a dryer system, it is recommended that the operator be present when making adjustments to the operation.

3.5.3 Thermal Fluid Heaters

The thermal dryer receives the heat needed to evaporate the water content of the cake by a recirculating loop of heated thermal fluid. This fluid is pumped through a thermal fluid heater, which is very similar to a hot water boiler in design and purpose. The thermal fluid passes through a coil in the equipment, where it is exposed to a high heat provided by a burner. There is no direct contact between the fluid and the burner exhaust. This now heated fluid is then piped to the dryer equipment. There the fluid's temperature is reduced while the temperature of the cake is raised to encourage evaporation of the entrained water. The now cooled oil continues to an expansion tank, which dampens the pressure variations which would otherwise be caused by the volume change of the thermal fluid due to the expansion and contraction of heating, and then is pumped back into the thermal fluid heater.

To fuel the fluid heaters using DG, there are certain parameters which the DG should be within. The burners are designed to handle dried DG with no moisture, the H2S content must be below 1,000 ppm and the Siloxane content should be below 100 ppb. These are the maximum allowable numbers and the further below these limits that the biogas is, the more reliable operation and reduced maintenance will be observed.

The thermal fluid heater capacity is sized to match the capacity of the thermal dryer. Since the dryer equipment manufacturers have offerings of incremental capacity, the dryer and thermal fluid heater selections will generally have a capacity greater than the demands of the facility. This is generally not an issue, as the thermal fluid heater burners have a turndown ratio of 9:1 and generally increase in efficiency as the firing rate is reduced. The dryer manufacturers have equipment offerings which are not necessarily similar in capacity, thus the thermal fluid heater capacity might range from 3.3MMBTU/hr to 6.0 MMBTU/hr. Table 3-12 presents design information for the thermal fluid heaters based on the higher capacity unit.

Table 3-12. Thermal Fluid Heater

Parameters	Design Criteria
Thermal Fluid Heater	
Fluid Heater Type	Vertical or Horizontal Coil
Equipment Number	TBD
Equipment Count	2
Coil Material	316 SS
Thermal Fluid Heater Burner	
Burner Capacity (min size allowable)	3.3 MMBTU/hr
Burner Turndown Capability	9:1
Burner Fuel Trains	NG and DG
Min Operating Gas Pressure	0.5 psig
Burner Material	316 SS
Thermal Fluid Recirculation Pump	
Thermal Fluid Pumps (total)	3
Thermal Fluid Pump motor (each)	3ph/60hz/480V - 30 hp
Expansion Tank	
Thermal Fluid Expansion Tank	1
Thermal Fluid Expansion Tank Capacity	TBD
Thermal Fluid Expansion Tank Material	Carbon Steel

Because the biogas fuel source is limited and there are other demands around the facility, it is not possible to rely solely on the digester biogas (DG). A backup fuel source is required, which could be propane, natural gas (NG), or fuel oil. At this location, there is NG service. As such, it is the recommended backup fuel source. The thermal fluid heater burners can be provided with the ability to utilize multiple fuels through different fuel trains on the burner. This style is referred to as a dual-fuel burner. Although there is variation in BTU content of NG compared to DG, the burner can handle the target BTU rate for the thermal fluid heater from either source. It is only the sizing of the fuel train up to the burner that might vary.

Although a dual fuel burner can handle multiple fuel sources, it cannot operate with those fuel sources simultaneously. It will be firing either completely on NG or completely on DG. It is important to utilize as much of the onsite DG as possible to maximize the beneficial use of the DG by not going to flare, and to minimize the overall emissions. Because of that importance, and the criticality of the thermal fluid heater system to the continued operation of the dryer, it is proposed to have a pair of dual fuel thermal fluid heaters, each capable of supporting the full dryer heating demand but normally operating in a lead/lag configuration with the lead unit firing on DG. The lead unit will adjust its firing rate based on the available DG, as indicated from a pressure transducer upstream of the DG conditioning. When the pressure approaches a low setpoint, the DG thermal fluid heater will throttle down, and the lag unit will start up on NG, providing the heat necessary to reach the target fluid temperature. This is further balanced by the rate of fluid being pumped through each heater as they will both have dedicated thermal fluid pumps.

3.6 Product Conveyance and Handling

Throughout the dryer facility, the cake is primarily transferred through a series of screw conveyors. These conveyors can have the motor oriented in a pushing or pulling configuration. The arrangement can be selected to be the most advantageous balance of access and performance. Generally, shaftless type conveyers are preferred because of their ability to avoid clogging with various materials and their lack of an end bearing which can be a maintenance item. Shaftless conveyors do require a UMHW liner. The limit for conveyor incline is usually 30 degrees without needing to modify the screw pitch, speed, and diameter. As such, the building arrangement has been laid out in part to keep conveyor angles below this on any incline.

Between the centrifuge and the cake bin, there are three conveyors. One dewatered cake cross conveyor which connects to the centrifuge solids chute and transfers the dewatered cake to an incline conveyor. The dewatered cake incline conveyor receives the cake from the cross conveyor and transports it to a high enough elevation that it can be deposited into the cake bin. The cake is then transferred to another horizontal conveyor which empties the centrifuge dewatered cake into the cake bin. The Dewatered Cake Cross conveyor will be extended in the future to serve a second centrifuge, if one is ever installed. These conveyors are summarized in Table 3-13.

Table 3-13. Centrifuge Cake Screw Conveyors

Parameters	Design Criteria
Capacity 20% TS Dewatered Cake	7610 lb/hr
Dewatered Cake Cross Conveyor	
Conveyor Type	TBD
Drive Arrangement	Push/Pull
Length	10 ft
Incline Angle	0 Deg.
Motor Size	3ph/60hz/480V - 2 hp
Material	316 SS
Dewatered Cake Incline Conveyor	
Conveyor Type	Shaftless
Length	43 ft
Drive Arrangement	Pull
Incline Angle	28 Deg.
Motor Size	3ph/60hz/480V - 5 hp
Material	316 SS
Dewatered Cake Bin Conveyor	
Conveyor Type	Shaftless
Length	20 ft
Drive Arrangement	Pull
Incline Angle	0 Deg.
Motor Size	3ph/60hz/480V - 2 hp
Material	316 SS

As a function of how the dryer operates it is necessary that the cake is pumped from the cake bin to the dryer. From the dryer however, the dried product is again transported via conveyor to the truck loading locations. This series of conveyors includes at least one cooling conveyor, which acts also as a heat exchanger, utilizing a flow of cool plant water along the outside of the trough to reduce the temperature of the dried product. Immediately off the dryer, the hot, dried solids are collected into a short cross conveyor which transfers this material to an incline conveyor. This incline conveyor is also best suited to be the cooling conveyor because of its length, and thus contact area between the hot cake product and cooling surface. This incline cooling conveyor discharges to a horizontal truck loading conveyor. The truck loading conveyor continues out of the building, elevated on a bridge, to two discharge points. The first location will be a standalone storage bin. The storage bin may be a small roll off or standard dumpster and would serve as the destination for dried product while the trucks are switching. This discharge will have an actuated gate for control which would normally be closed. The second point would be to a truck drive through loading area. This discharge point would not have a gate. For dust control, a telescoping chute with a dust control skirt will extend down to the truck bad. It will automatically raise as the level in the truck increases, maintaining a dust control seal between the cute discharge and the dried product pile. Details for the dried cake conveyors are presented in Table 3-14.

Table 3-14. Dried Cake Screw Conveyors

Parameters	Design Criteria
Capacity 90% TS Dried Cake	530 lb/hr
Dried Cake Cross Conveyor	
Conveyor Type	TBD
Drive Arrangement	Push
Length	10 ft
Incline Angle	0 Deg.
Motor Size	3ph/60hz/480V - 2 hp
Material	316 SS
Dried Cake Incline Cooling Conveyor	
Conveyor Type	Shafted
Length	60 ft
Drive Arrangement	Pull
Incline Angle	22 Deg.
Motor Size	3ph/60hz/480V - 5 hp
Material	316 SS
3W Flow for Cooling	130 gpm @ 70 Deg. F
Dried Cake Truck Loading Conveyor	
Conveyor Type	Shafted
Length	60'
Drive Arrangement	Pull
Incline Angle	0 Deg.
Motor Size	3ph/60hz/480V - 2 hp
Material	316 SS

Should the centrifuge need to be taken offline for maintenance or other reasons, the dryer can continue to operate utilizing cake from the dewatering screw presses in the solids handling building. The conveyor which currently transports the screw pressed cake to the truck loading will be extended into the dryer building, where it will be able to deposit into the cake bin. This conveyor will retain the ability to deposit cake either into the holding bin or directly into trucks as necessary. Where only one of those discharge points currently has a gate, following modifications both would have gates, and the discharge to the cake bin would not. The design requirements for this modification are pending receipt of Owner information on the existing conveyor to determine its suitability for modification. It should be noted in this instance, the screw presses only dewater to 17%. As such the dryer would be handling a wetter material, and the energy required to achieve 90% TS on the discharge would be increased.

If the dryer is offline and the plant desires to process and truck the 20+% Cake from the centrifuge, the cake pumps between the cake bin and the dryer will have a bypass branch that will discharge to the truck bay outside. This will be a normally closed manual gate or valve.

3.7 Equipment Access and Maintenance Removal

Within the dryer facility there are various pieces of equipment which will need to be accessible for normal maintenance and to a degree, able to be removed from the building should major overhaul or replacement be necessary in the future. Considering that, the floor plan for the Thermal Dryer Facility was laid out with the expectation that the dryer itself and the centrifuge will have a path for removal through an overhead coiling door. All other floor mounted equipment in the dryer room will be accessible and removable with pallet jacks, gantry cranes or other floor mounted equipment (Figure 3-5. In the Thermal fluid heater room, there will be a double door aligned with the centerline of each thermal fluid heater so that the equipment can be removed as needed in addition to providing exterior access to the thermal fluid heater room.

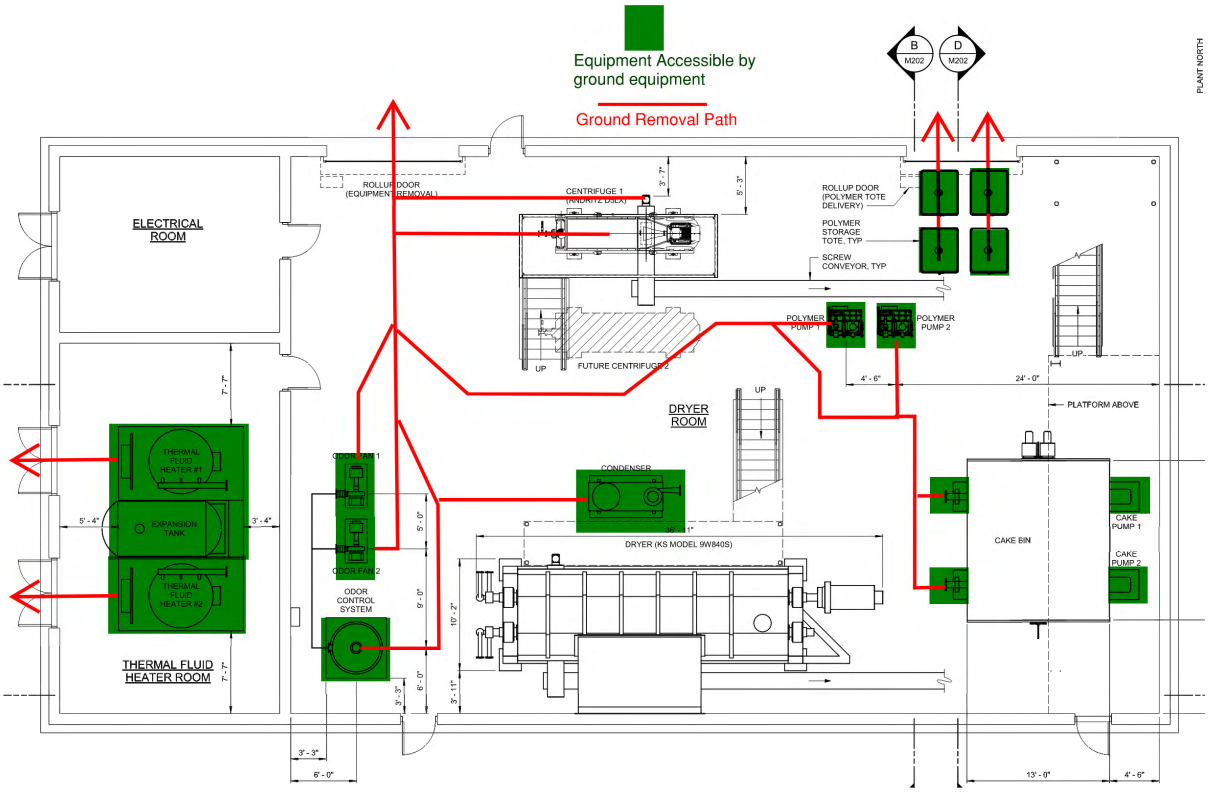

Figure 3-5. Floor Level Equipment Removal for Thermal Dryer Facility

That equipment which is elevated and has large components that may require removal for maintenance will be serviced by monorail hoists. Some locations may benefit from Davit hoists instead, and these will be evaluated during detailed design. The equipment served by these monorails is primarily the screw conveyors, of which the motors, screws, liners and bearings may need removal from time to time. Figure 3-6 represents a concept for the monorail locations. There will also be some instruments such as the level sensor, located on top of the cake bin, these will be accessible from the mezzanine platform above.

Personnel access to the centrifuge, which is elevated, and to the dryer will be by platforms at each piece of equipment. The platform and stairs for the centrifuge will be bolted components so that it can be disassembled for equipment removal and modified to extend should a future centrifuge be installed. The Dryer platform will be similarly constructed to permit equipment removal and greater access should it be required. Some of the elevated equipment has components which might need to be individually removed, such as the centrifuge main drive and scroll. These will also be served by a monorail.

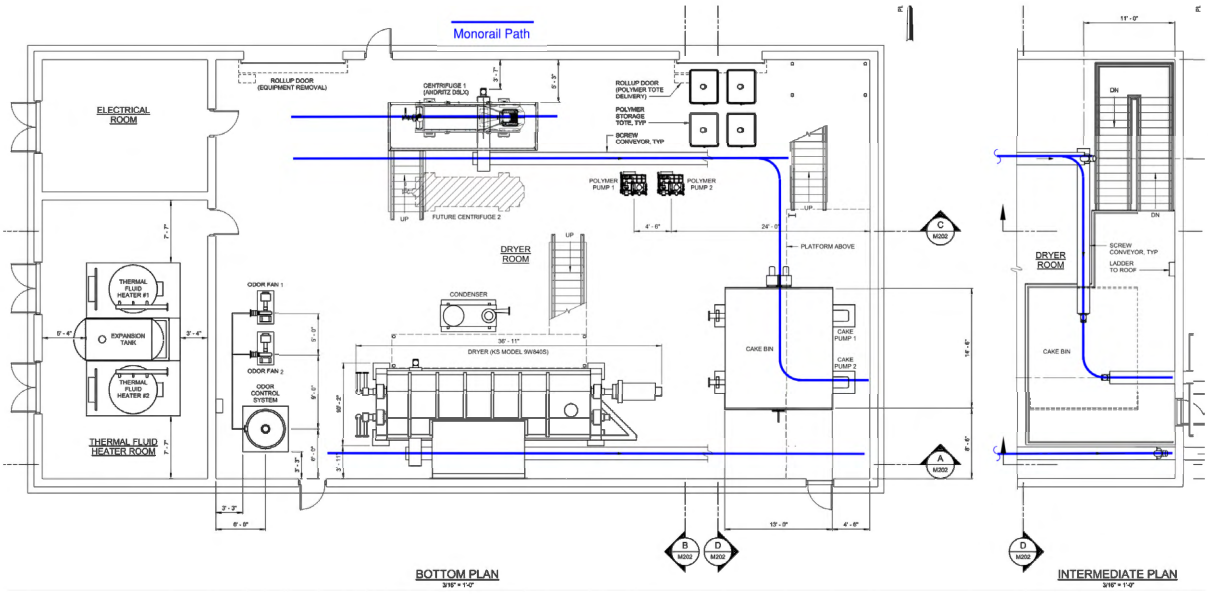

Figure 3-6. Monorail Hoist Equipment Removal for Thermal Dryer Facility

3.8 Electrical Requirements

The power source for the Thermal Dryer Facility loads will come from a variety of 480V MCCs, each chosen with considerations to proximity, available space, and existing conditions. The replacement Sludge Dewatering Pumps will be powered from the existing 480V MCC-J inside the Dewatering Building electrical room, the same power source as the existing pumps. Existing pump motor VFDs (Figure 3-7) shall be demolished and new VFDs retrofitted into the existing MCC buckets. Depending on the final pump size selection, the new VFD may be unable to fit inside the existing MCC space. In such case, standalone wall-mounted VFDs shall be provided and installed in the electrical room. Existing conduits and conductor shall be evaluated and considered to be re-used if adequately sized.

Figure 3-7. Existing sludge dewatering pump VFD to be replaced with new VFDs in existing bucket

The gas pretreatment equipment will be powered from the existing 480V MCC-B (Figure 3-4) inside the Power & Maintenance (P&M) Building electrical room. The new conduits and conductors for the Gas Pretreatment equipment shall exit the MCC from the top, penetrate the east wall of the P&M Building, and then transition underground using the same duct bank constructed during the Phase 1 project. New pull-boxes shall be installed near the Gas Pretreatment area to transition the underground conduits to above grade.

Figure 3-8. Gas pretreatment system will be powered from Existing MCC-B (pictured above)

The remaining loads in the Thermal Dryer System and the Polymer System will be powered from a new 480V, 1200A, 3-phase, 3-wire MCC-K to be located inside the electrical room of the new Thermal Dryer Building. Power and control conduits and conductors feeding the new loads inside the Thermal Dryer Building shall be embedded in the new building foundation and stub up near each load. A new 1200A feeder breaker shall be provided and retrofitted in the existing Main Switchgear lineup inside the P&M Building to provide power to the new MCC-K. Conduits carrying the new MCC feeders shall exit the switchgear from the top, penetrate the south wall of the P&M Building, and utilize the existing pull-boxes, manholes, and duct bank system to terminate at the new Thermal Dryer Building.

3.9 Instrumentation and Controls Requirements

The Thermal Dryer Facility loads will require several new PLC's and Remote I/O's (RIO's). These new PLC's and RIO's will tie into the existing PLC/SCADA network at a variety of locations, each chosen with considerations to proximity, available space and existing conditions.

The new solids handling loads, not controlled by a vendor provided PLC, will be monitored by a new RIO. The new RIO will be located in the new thermal dryer building and will communicate back to

the existing Solids Handling PLC (SOL PLC), which is a Schneider/Modicon Quantum model. There are anticipated to be three new vendor provided PLC panels associated with the new thermal dryer treatment process, for the following processes: Centrifuge, Cake Bin, and Thermal Dryer.

Lastly, a new vendor provided PLC will be provided as part of the gas treatment system. The new vendor provided gas treatment PLC will tie into the PLC network via a CAT 6 connection to an existing ethernet switch in the Power and Maintenance Building PLC Panel.

All new PLC's will communicate via Modbus/TCP or have a communication protocol converter installed in the vendor package panel. During detailed design, coordination with vendors will be performed to determine which vendors are capable and willing to provide Scheider PLC's. The existing SCADA system will be modified to include new SCADA screens for the new process equipment and instrumentation.

3.10 HVAC

The HVAC system shall be designed in accordance with the following codes and standards:

- 2022 California Mechanical Code (effective January 1, 2023)
- 2022 California Energy Code (effective January 1, 2023)
- 2020 National Fire Protection Association 820 – Standard for Fire Protection in Wastewater Treatment and Collection Facilities (NFPA-820)

The HVAC system shall be designed to operate in the following outdoor design temperatures from the 2017 ASHRAE Handbook for the Santa Barbara Municipal Airport:

- Winter: 35.0°F
- Summer: 82.9°F Drybulb / 63.3°F Mean Coincidental Wetbulb

The HVAC systems shall maintain the indicated indoor temperatures shown in Table 3-15

Table 3-15. Indoor Temperatures Assumed for HVAC System

Room Name	Summer Design Space Temp (°F)	Winter Design Space Temp (°F)
Electrical Room	85	50
Thermal Fluid Heater Room	104	50
Dryer Room	104	50

NFPA-820 contains requirements for the design of the ventilation systems serving process areas such as the Dryer Room. Per Table 6.2.2(a), Row 12, Line a, in order to have the Dryer Room be unclassified, the HVAC system is required to provide a minimum continuous flow of outside air at a rate of 6 Air Changes Per Hour (ACH). In addition to the ventilation quantity, NFPA-820 also requires the following design elements:

- Powered supply and exhaust to the space (ie. supply and exhaust fan)

- Supply and exhaust flow monitoring
- Visual and Audible alarms in the space when low flow is detected
- Visual and Audible alarms outside the space when low flow is detected
    - Can be replaced with a red light / green light system at all entrances when exterior audible alarms are not permitted
- Uninterruptible Power Source (UPS) for the flow monitoring and alarming devices

NFPA-820 does not contain any ventilation requirements for spaces such as the Electrical Room or Thermal Fluid Room. The HVAC systems for these spaces would follow the requirements of the Mechanical and local codes. However, NFPA-820 requires physical separation between adjoining spaces or the spaces are considered a single space for the purposes of the ventilation requirements. Having a door between the spaces does not qualify as a physical separation unless it meets the requirements for an airlock outlined in section 9.4 of NFPA-820. Due this requirement, it is recommended that the door between the Dryer Room and Electrical Room be relocated to an exterior wall. If the door remains to the Thermal Fluid Room, it will require all of the items listed above that NFPA-820 requires for the Dryer Room.

3.10.1 Dryer Room

Per NFPA-820 requirements, the Dryer Room will be ventilated at 6 continuous ACH with the ancillary design elements listed above. During the warmer summer months, and due to the high heat source from the dryer equipment, a higher ventilation rate may be required in order to maintain the space design temperature of 104°F. Final summer ventilation rate will be determined during detailed design. If a ventilation rate higher than 6 ACH is required, the supply and exhaust fans will be provided with Variable Frequency Drives (VFDs) and set with a high and low ventilation rate that will be controlled by the space thermostat. The space will be heated with an indirect fired natural gas duct heater. Use of a natural gas fired air handling unit will be evaluated during detailed design to replace the supply fan and duct heater if adequate space is available for the unit.

3.10.2 Electrical Room

The Electrical Room is recommended to be physically separated from the Dryer Room. With the physical separation in place, the Electrical Room will be cooled with an air conditioning unit. The air conditioner would be a split system with a floor mounted indoor unit and a pad mounted outdoor unit similar to the Trane Odyssey series. The indoor and outdoor unit would be connected with refrigerant piping.

If the Electrical Room is not physically separated from the Dryer Room, it would require a minimum of 6 ACH per NFPA-820 requires due to the adjacent Dryer Room. Higher ventilation rates may be required in the summer months to facilitate maintaining the room at an appropriate temperature of 104°F. Final warm weather ventilation rates would be determined during detailed design and would be accomplished by having the supply and exhaust systems controlled by VFDs with a high and low speed setpoint controlled by a thermostat. Because of the low ambient levels of hydrogen sulfide, and

how sensitive the copper components of the electrical gear are, the intake system would be required to have a carbon system to remove the ambient hydrogen sulfide and prolong the life of the electrical equipment. The system would require periodic checking of the carbon to verify the remaining life. When the carbon has been fully used, it will be required to be replaced.

3.10.3 Thermal Fluid Heater Room

Because the Thermal Fluid Heater Room is not physically separated from Dryer Room, it will be served by the same supply and exhaust systems as the Dryer Room. It will also require the same ancillary design elements listed above for the Dryer Room. A separate thermostat-controlled exhaust fan and intake damper shall be used to provide additional ventilation to the space in the warmer months.

3.11 Building Requirements

3.11.1 Structural and Geotechnical Evaluations

The new Thermal Dryer Building will consist of a reinforced masonry building on concrete mat slab foundation. The HSW receiving station will consist of slab on grade foundations for process equipment and containment slabs, curbs, and sumps. The solids conveyor bridge will be of similar construction to the existing bridge and will be built to run parallel with the existing bridge. The bridge will consist of steel braced frames on concrete spread footings. A geotechnical investigation has been conducted by Ninyo and Moore and is included in Appendix E.

3.11.2 Governing Code

The strength, serviceability, and quality standards shall not be less than stipulations required by the governing code. The governing code used for the proposed design is the 2022 California Building Code. Materials and construction shall be designed in accordance with the California Building Code, and other codes as presented within this report. The California Building Code consists of the 2021 International Building Code as adopted and amended by the State of California.

3.11.3 Supplemental Design Codes

Supplemental design codes include:

- ASCE 7 – Minimum Design Loads for Buildings and Other Structures, American Society of Civil Engineers.
- ACI 350.4 – Design Considerations for Environmental Engineering Concrete Structures, latest edition, American Concrete Institute.
- AISC – Manual of Steel Design, 15th Edition, American Institute of Steel Construction.

3.11.4 Codes and Standards for Specific Materials

Design of specific materials will be performed in accordance with the standards, codes, and specifications adopted by the governing code as listed below.

3.11.5 All Materials

The American Society for Testing and Materials (ASTM) standards, as referenced by the governing code or the other codes, standards, or specifications listed herein.

3.11.5.1 Concrete

- ACI 318 – Building Code Requirements for Structural Concrete, Latest Edition, American Concrete Institute.
- ACI 350 – Code Requirements for Environmental Engineering Concrete Structures and Commentary, 2006 Edition, American Concrete Institute.
- ACI 350.3 – Seismic Design of Liquid-Containing Concrete Structures and Commentary, 2006 edition, American Concrete Institute.
- ACI 301-Specifications for Concrete Construction, Latest Edition, American Concrete Institute.

3.11.5.2 Steel

- AISC 360 – Specification for Structural Steel Buildings, Latest Edition, American Institute of Steel Construction.
- AISC 341 – Seismic Provisions for Structural Steel Buildings, Latest Edition, American Institute of Steel Construction.

3.11.5.3 Stainless Steel

- ASCE 8 – Specifications for the Design of Cold-Formed Stainless Steel Structural Members, Latest Edition, American Society of Civil Engineers.
- AWS D1-6 – Structural Welding Code – Stainless Steel, Latest Edition, American Welding Society.

3.11.5.4 Masonry Design

- TMS 402/602 – Building Code Requirements and Specification for Masonry Structures, Latest Edition, The Masonry Society.

3.11.6 Design Loads

3.11.6.1 Dead Loads

Dead loads are those resulting from the weight of all permanent non-removable stationary construction, such as walls, floors, framing, and equipment bases. Loads from process liquids within the structure and from soil and groundwater outside the structure will not be considered as dead loads. Dead loads will be in accordance with the California Building Code.

3.11.6.2 Live Loads

Live loads technically include all nonpermanent loadings that can occur, in addition to the dead loads. Live loads are those resulting from occupancy, furnishings, and equipment. Live loads will be used in accordance with the California Building Code.

3.11.6.3 Equipment Loads

Process area operating floors are designed for the load case resulting in the maximum stresses from the following live load conditions:

- 300 psf on the entire floor area, with no additional load from equipment included.
- 150 psf on the areas not directly under equipment, plus actual equipment loads.

Equipment loads obtained from manufacturers will be used when available, and other equipment loads will be assumed for the preliminary design. These loads will be confirmed prior to completion of design. In addition to the equipment's operating weight (including any fluids contained), other loads due to moving parts, malfunction, and maintenance will be designed for.

3.11.6.4 Piping Loads

For preliminary design, the live loads listed above will be considered to include the loads from process piping that are supported by the floor below the piping. On floors that will support process piping suspended below, an additional live load allowance will be included for the preliminary design. This allowance ranges from 25 psf to 100 psf, depending on the size and quantity of piping.

Upon completion of the piping layout, these allowances will be reviewed for accuracy with the actual pipe configurations for pipes less than 18 inches in diameter, and the actual concentrated loads from pipes 18 inches and larger will be considered.

3.11.6.5 External Soil and Groundwater Loads

External soil and groundwater loads shall be based on data and recommendations to be furnished by the Geotechnical Engineer. For preliminary designs where geotechnical information is not yet available, density of soils may be assumed to be 130 pcf and density of aggregate fills may be assumed to be 135 pcf. Static loads from external soil and groundwater include the following:

- Soil Pressure "At-Rest" – The Soil Pressure "At-Rest" on the external walls is the static distribution of the soil based on the soil parameters and groundwater levels.
- Surcharge Pressure Live Load – The Surcharge Pressure is based upon 300 psf live load on top of final grade.
- Surcharge Pressure of Soil/Foundation – The Surcharge Pressure of Soil/Foundation is based upon soil cover over tanks and spread footings of adjacent structures, where applicable.
- Hydrostatic Pressure – The Hydrostatic Pressure on external walls is the static pressure distribution that the groundwater level produces.

Seismic loads from external soil and groundwater are determined as stated in Section 3.11.8.

3.11.6.6 Wind Loads

Wind loads on any above grade structures will be in accordance with the California Building Code and ASCE 7.

3.11.6.7 Seismic Loads

Seismic loads resulting from seismic acceleration of the structure dead and live loads, including equipment and piping, will be determined in accordance with the California Building Code and ASCE 7. A site-specific ground motion study in accordance with 2022 CBC and ASCE 7 guidelines will be required and will be included as part of the geotechnical investigation.

Walls subject to internal liquid loads shall be analyzed and designed to resist seismic loads in accordance with ACI 350.3, "Seismic Design of Liquid-Containing Concrete Structures", in addition to the static loads. The seismic design loads are:

- Wall Inertia – The Wall Inertia – Seismic pressure is the lateral inertial force due to the weight of the tank wall per unit height of the tank wall, acting at any given height, y, above the base of the wall.
- Impulsive Forces – The Impulsive Force – Seismic load is the force of the effective mass of liquid that moves rigidly with the tank.
- Convective Forces – The Convective Force – Seismic load is the force of the effective mass of the sloshing liquid that is in motion during an earthquake.

Walls subject to external soil loads shall be analyzed and designed to resist seismic loads in accordance with ACI 350.3, "Seismic Design of Liquid-Containing Concrete Structures" and data to be furnished by the Geotechnical Engineer, in addition to the static loads indicated in Section 3.11.6. The seismic design loads include:

Seismic Pressure of soil (including the effects of the soil, surcharge and ground water level) – Seismic loads resulting from seismic acceleration of soil and groundwater will be in accordance with

recommendations established in the geotechnical report. If groundwater will be drained with a permanent free draining or pumped underdrain system, then groundwater loads will not be applicable.

Wall Inertia – The Wall Inertia – Seismic force is the lateral inertia force due to the weight of the tank wall per unit height of the tank wall, acting at any given height, y, above the base of the wall.

3.11.7 General Basis for Design

The following load combinations (Table 3-11) shall be used in the design of structures. Additional load combinations, which may produce a maximum stress condition, are also to be considered, as appropriate. Note that combinations, which clearly do not govern, will not need to be fully analyzed.

Table 3-16. Load Combinations

Load Combinations
Dead Load + Construction (if unusual construction loads occur)
Dead Load + Live Load + Permanent Equipment Load
Dead Load + Normal Operating Equipment Load + Seismic
Dead Load + Wind

3.11.8 Seismic Design

The basis for determining acceleration values and corresponding factors for design are given in the section presenting load criteria. Structures shall be designed according to the California Building Code and ASCE 7 requirements using the values given in the appropriate code formulas.

Seismic forces due to vertical acceleration result from all dead loads. The direction of force (up or down) shall be selected to create maximum stresses when combined with horizontal seismic forces. The design of foundations resisting overturning must assume that balancing dead loads are reduced by vertical accelerations.

Transitory live loads are not to be used to produce seismic loading nor combined with seismic with the following exceptions. In storage areas, the loading which is anticipated to be in place the majority of the time shall be used but not less than 25% of the total live load. Equipment, partition walls, and other fixed items shall be considered as dead loads for determining seismic forces.

Because the performance of non-structural components (e.g. equipment, pipe supports, etc.) and non-building structures (vessels, tanks, etc.) can adversely impact the cost and recovery time associated with earthquakes, non-building structures and non-structural components will be restrained and braced for earthquake forces such that displacements shall not impede component functionally or containment immediately following a seismic event. Seismic resistant elements and supports will be designed to minimize damage to building contents during a seismic event, thereby limiting disruption of service.

3.11.9 All Materials

3.11.9.1 Concrete Design

All portions of the structure that are in contact with soil or that contain process liquids will be designed using Ultimate Strength Design, per ACI 318 with revised load factors and durability coefficients as recommended in ACI 350. Portions of the structure not included above may be designed per ACI 318 without including the ACI 350 recommendations.

Minimum required amounts of reinforcing would be determined per ACI 318 recommendations depending on the spacing of movement joints provided. Amounts of reinforcing used will be as required for structural strength, but not less than these minimum amounts. Maximum spacing of reinforcing bars will be 12 inches on-center for environmental concrete structures designed per ACI 350, and 18 inches on-center for all other structures.

Finishes on concrete surfaces will be provided in accordance with ACI 301, and as is appropriate for their use and exposure. Floors of tanks and floors in areas likely to be intermittently wet due to washdown or maintenance of equipment will receive a floated finish.

Materials for use in concrete design will be specified to have the following minimum properties shown in Table 3-17.

Table 3-17. Concrete Design Criteria

Concrete Class A1 – Structural: (Environmental Concrete Structures – ACI 350)	
28 day compressive strength (f'c)	4,500 psi
Cementitious Materials	ASTM C150 Type II plus mandatory addition of pozzolan such as Class F fly ash or slag cement is required in all process or fluid retaining structures.
Maximum water/cementitious materials ratio	0.42
Air content	3.0% to 5.0% (dependent upon project location)
Concrete Class A2 – Structural: (all applications unless otherwise noted)	
28 day compressive strength (f'c)	4,000 psi
Cementitious Materials	ASTM C150 Type II. Addition of pozzolan such as Class F fly ash or slag cement is optional unless required to meet other durability requirements for concrete mix.
Maximum water/cementitious materials ratio	0.42
Air content	3.0% to 5.0%

3.11.9.2 Structural Metals Design

Structural steel will be designed in accordance with AISC Steel Construction Manual, with modifications as stated in the governing code. Cold-formed stainless-steel structural members will be designed in accordance with ASCE 8 Specification for the Design of Cold-Formed Stainless Steel

Structural Members. Materials for use as structural metals will be specified to have the following minimum properties shown in Table 3-18.

Table 3-18: Structural Metals Design Criteria

Minimum Properties for Structural Metals	
Structural steel shapes, plates, and bars	ASTM A572, Grade 50
Structural steel tubing	ASTM A500, Grade B
Structural steel pipe	ASTM A53, Type E or S, Grade B
High strength steel bolts	ASTM F3125, Grade A325 or A490
Steel anchor bolts and threaded rods	ASTM A307
Stainless steel shapes	ASTM A276, Type 316
Stainless steel plates and sheet	ASTM A167, Type 304 or 316
Stainless steel bolts	ASTM F593, Type 304 or 316

3.12 Architectural Requirements

The Thermal Dryer Building will be designed to incorporate finish and building envelope materials matching the existing materials and aesthetic treatments that mimic the existing buildings on site. Building constraints, egress and materials will be designed in accordance with the 2019 California Building and Fire Codes. The building envelope will be designed to comply with the 2019 California Energy Code. The building will house process equipment and spaces which support the process equipment and operation. The occupancy classification will be considered moderate hazard Factory Industrial F-1. The construction type will be non-combustible Type IIB as defined by the building code. The Green Building Code will guide the design and construction of the facility to incorporate sustainable construction practices. Fire protection requirements will be defined by the Building and Fire Code, local building regulations and NFPA 820. The building will be equipped with a fire suppression system and fire alarm system as required by the Building Code and NFPA 820.Accessibility requirements for the building are governed by Chapter 11B of the 2019 California Building Code. Paragraph 11B-203.5 exempts machinery spaces frequented only by service personnel for maintenance, repair, and occasional monitoring of equipment. Each of the spaces within the building comply with this exception.

4. Modifications to Flare

The existing flares will not have sufficient capacity once GSD receives HSW. The additional biogas produced from the HSW will exceed the flare capacity. Once the thermal dryer and CHP unit (Phase 1 project element) are in service, the frequency and amount of biogas that is sent to the flare will decrease. This is because biogas will be used for the CHP and for the thermal fluid heaters for the dryer. The necessary increase in flare capacity is under the rare occurrences where both the thermal dryer and CHP are not using biogas.

Table 4-1 presents an estimate of future biogas production that were developed as part of the Phase 1 project (Evaluation of Digester Gas Production and Digester Gas Flare Technical Memorandum – July 2021) and updated with 2045 values. There are two existing waste gas flares currently at the WRRF. The primary waste gas flare is an enclosed Varec Model 244E, installed in 2012. It has permitted capacity to handle up to 180 SCFM of digester gas flow. The WRRF can also utilize an older flare as a backup for emergency cases, only when primary flare is not operating due to maintenance or breakdown conditions. Based on the permit to operate (08561-R9) the total volume of digester gas flow burned in the flare shall not exceed 187,200 SCFT per day (SCFD) based on the total monthly volume amount divided by the number of days per month of gas use. This permitted flow rate corresponds an average monthly (30-day average) digester gas flow rate of 130 SCFM.

Table 4-1. Summary of Projected Biogas Production (Adapted from Evaluation of Digester Gas Production and Digester Gas Flare Technical Memorandum – July 2021 and Updated with 2045 Projections)

Condition	W/O HSW Addition (SCFM)			With HSW Co-digestion (SCFM)		
	2025	2040	2045	2025	2040	2045
Average	90	110	117	120	140	147
Maximum Month	103	126	134	137	160	168
Maximum Day	138	169	179	184	215	225
Maximum 2-Hour	144	176	187	192	224	235
Maximum Hour	149	182	193	199	232	243
Instantaneous Max	172	210	223	230	268	281

Table 4-1 shows that the existing flare will not be sufficient under 2045 conditions with HSW. Therefore, a new flare will need to be permitted and installed as part of the Project. The 30% drawings (Appendix A) show a new flare in the process flow diagram, however details associated with this addition have not been developed. Further development of the type and location of the flare will be performed as part of the next phase of design. The construction cost estimate includes the addition of a new flare.

5. Regulatory and Permitting Evaluation

Yorke Engineering and Dudek performed an evaluation to identify regulatory and permitting requirements. Appendix F provides additional information for the analyses.

5.1 Air Permitting and New Source Review

The GSD WRRF is located within the jurisdiction of the SBCAPCD. The SBCAPCD has several regulations containing rules that are applicable to this discussion, including, specifically:

- Regulation I contains general provisions and definitions. Rule 102 is referenced for definitions in this document.
- Regulation II has rules pertaining to permitting. Rule 201 specifies when permits are required, and Rule 202 discusses permitting exemptions. This Project will require an Authority to Construct (ATC) and Permit to Operate (PTO). This regulation also identifies required permit fees.
- Regulation III contains prohibitory rules. In this case, Rules 311 and 342 appear to be applicable and impactful to the Project. Rule 311 limits sulfur [as hydrogen sulfide (H2S)] in gaseous fuels in the SBCAPCD's southern zone (which includes Goleta) to 15 grains per standard cubic foot (gr/scf), which is approximately 239 parts per million (ppm). This sulfur limit will be applicable to the fluid heaters and the flare. Rule 342 limits nitrogen oxides (NOx) and carbon monoxide (CO) from boilers, steam generators, or process heaters with a rated heat input capacity greater than or equal to 5 MMBtu/hr.
- Rules 302, 303, 305, 307, and 309 appear to be applicable and regulate visible emissions, nuisance emissions, particulate matter, sulfur, and/or NOx and CO from any source in the southern portion of the SBCAPCD. Rule 359 regulates flares and thermal oxidizers at oil and gas production sources [Standard Industrial Classification (SIC) code 13], petroleum refinery and related sources (SIC code 29), natural gas services and transportation sources (SIC code 49), and wholesale trade in petroleum/petroleum products (SIC code 51) and does not appear to be applicable to the proposed flare.
- Regulation VIII governs New Source Review (NSR) for new or modified stationary sources and includes the requirements related to Best Available Control Technology (BACT), offsets, air quality impact analyses, etc.
- Regulations IX and X include the requirements of the federal New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs) by reference. In this case, there are no NSPS or NESHAPs for fluid heaters under 10 MMBtu/hr. The NSPS and NESHAPs applicable to flares have certain design and operational requirements but no specific emission limits.
- Regulation XIII implements the requirements for the federal operating permits program under Title V of the Clean Air Act given in the Code of Federal Regulations (CFR) Title 40, Part 70. The GSD WRRF is not currently a Title V source and is not expected to become a Title V source based on its potential to emit (PTE) after the implementation of this Project.

Generally, these rules are concerned with the regulation of emissions of "criteria pollutants" and toxic air contaminants (TACs). Criteria pollutants have been assigned health-based federal and/or state

ambient air quality standards (AAQS). Criteria pollutants include NOx, reactive organic compounds (ROCs, as a precursor to ozone), CO, fine and respirable particulate matter (PM10 and PM2.5), sulfur oxides (SOx), and H2S (California only). TACs are chemicals determined by the State of California to be carcinogenic, acutely toxic, and/or chronically toxic. Within the SBCAPCD, the NSR thresholds that apply to nonattainment criteria pollutants or their precursors, i.e., pollutants for which the area has been designated as not meeting the AAQS, are different than the thresholds that apply to pollutants that have been designated as attainment (i.e., meeting the AAQS) or are unclassified. The only pollutants for which the County has been designated as nonattainment are ozone and PM10 with respect to the California AAQS only.

5.2 Evaluation of Emissions Compared to NSR Thresholds

The NSR air permitting requirements are generally determined based on the PTE of the new or modified stationary source, where the stationary source can include the entire facility. In the case of a modification, SBCAPCD Rule 802 indicates that the PTE is that of the "Project," which for the purposes of this regulatory analysis is assumed to be the installation of two new fluid heaters and the addition of a new larger enclosed flare. However, we expect that the SBCAPCD may require that the combined heat and power (CHP) engine and Solids Handling Improvement Project be considered together as a single project rather than separate projects due to the timing of these two permit applications. This opinion will be considered a higher probability if the permitting of the projects is done within a year of each other. Therefore, for the BACT, offsets, and Air Quality Impact Analysis (AQIA) sections, we consider this Project both alone and in conjunction with the Phase 1 CHP Project.

BACT, offsets, and other thresholds in the SBCAPCD are determined by Project emissions, in most cases on a pounds (lb) per day basis. For the purposes of this analysis, we evaluated two potential scenarios. The first scenario is the flare burning all the digester gas produced. This scenario will be called the "flare only" case. The second scenario is the fluid heaters running at full capacity (6 MMBtu/hr total between both heaters) and the flare burning any digester gas produced in excess of the 6 MMBtu/hr combusted at the heaters. This scenario will be called the "heaters and flare" case. We included the flare only scenario in case the dryer is down for some reason, as that was suspected of being the worst-case PTE for permitting.

5.2.1 Emission Standards

Several emission standards will apply to the Project, as described below.

SBCAPCD Rule 342: This rule requires that boilers, steam generators, and process heaters with heat input of 5 MMBtu/hr or greater meet the following emission standards:

- NOx 9 parts per million by volume (ppmv) at 3% oxygen (O2) when firing gaseous fuel, except digester gas;
- NOx 15 ppmv at 3% O2 when firing digester gas; and
- CO 400 ppmv at 3% O2.

It is recommended that GSD plan to purchase fluid heaters that meet these requirements.

SBCAPCD Rule 311: This rule limits sulfur (as H2S) in gaseous fuels in the SBCAPCD's southern zone to 15 gr/scf (approximately 239 ppm). This limit will be applicable to the flare and the fluid heaters. The facility already complies with this rule as a requirement for combusting digester gas at the existing flare and the proposed CHP engine (a draft ATC permit for the CHP engine is currently under review).

5.2.2 Emission Calculations

The flare will be an enclosed flare; however, specifications were not provided. Yorke used the following assumptions for emission calculations:

- The higher heating value (HHV) of the digester gas will be 610 Btu/scf;
- The H2S in the digester gas will be no more than 239 ppmv;
- The fluid heater fuel will consist of digester gas (98% or more) and natural gas (2% or less);
- The fluid heaters will be permitted to operate at 6 MMBtu/hr total between the two heaters, 100% of the time; and
- The flare will be large enough to burn all the digester gas that is produced and will be permitted to do so.

The emission calculations related to uncontrolled and controlled emissions are discussed below, and additional calculation detail is provided in Attachment F. The fluid heater emission factors came from the United States Environmental Protection Agency (U.S. EPA) Compilation of Air Pollutant Emission Factors (AP-42) default emission factors, SBCAPCD Rule 342 NOx and CO limits, and H2S concentration in the digester gas meeting the Rule 311 H2S limit of 239 ppmv. The emission factors from AP-42 in pounds per million scf are divided by the expected HHV of the gas to convert to pounds per million British thermal unit (lb/MMBtu). In addition, the fluid heater will need to meet the Rule 342 NOx limits of 9 ppmv firing natural gas and 15 ppmv firing digester gas. These emission factors are summarized in Table 5-1.

Since no specifications were provided for the proposed flare, we utilized the current permit emission limits at GSD for NOx and ROCs. We used San Diego County Air Pollution Control District (SDAPCD) default emission factors for enclosed digester gas flares for CO and PM10, which were developed based on source tests at enclosed digester gas flares. SBCAPCD Rule 309 limits general source emissions of combustion contaminants, sulfur, NOx, and CO emissions. If the new flare has "emission guarantees" that meet or are less than the existing flare, the Rule 309 limits should not be required to be used in BACT determinations (this approach is discussed more below as part of the BACT evaluation). Sludge handling emissions are not considered in detail here, as our initial calculations indicate that this will only add about 1.5 pounds per day of ROCs to the criteria emissions. The uncontrolled emissions for the "flare only" and the "heaters and flare" emission scenarios are provided in Tables 5-2 and 5-3, respectively.

Table 5-1. Uncontrolled Criteria Emission Factors – Digester Gas-Fired Heaters

Pollutant	Emission Factor (lb/MMBtu)	Source
NOx	0.019	SBCAPCD Rule 342 (for digester gas)
CO	0.31	SBCAPCD Rule 342 (for digester gas)
ROCs	0.0090	AP-42 Chapter 1.4
PM10	0.012	AP-42 Chapter 1.4
SOx	0.066	SBCAPCD Rule 311

Table 5-2. Uncontrolled Emissions – Flare Only

Pollutant	Hourly (lb/hr)	Daily (lb/day)	Annual (lb/yr)
NO_x[1]	0.53	12.81	4,675
CO[2]	2.67	64.04	23,373
ROCs[1]	0.76	18.36	6,700
PM_{10}[2]	0.18	4.27	1,558
SO_x[3]	0.59	14.12	5,155

1. Current permitted emission limits for flares at GSD.
2. Default emission factors from SDAPCD "F02 – Flares, Digester Gas Fired, Enclosed."
3. From SBCAPCD Rule 311 limit.

Table 5-3. Uncontrolled Emissions – Digester Gas-Fired Heaters and Flare

Pollutant	Hourly (lb/hr)	Daily (lb/day)	Annual (lb/yr)
NO_x	0.29	6.95	2,535
CO	2.75	65.95	24,072
ROCs	0.30	7.27	2,654
PM_{10}	0.13	3.18	1,162
SO_x	0.59	14.12	5,155

5.2.3 BACT Applicability

BACT applicability in the SBCAPCD is based on uncontrolled emissions. The results of the uncontrolled emission calculations indicate that the heaters and flare trigger do not trigger BACT, as seen in Tables 5-4 and 5-5. BACT thresholds are found in SBCAPCD Rule 802.

Table 5-4. BACT Applicability for the Flare Only Scenario

Pollutant	Attainment Status[1]	BACT Threshold[2] (lb/day)	Flare Emissions – 100% of Digester Gas Produced (lb/day)	BACT Triggered?
NO_x	Nonattainment Precursor	25	12.8	No
CO	Attainment	500	64.0	No
ROCs	Nonattainment Precursor	25	18.4	No
PM_{10}	Nonattainment	25	4.3	No
SO_x	Nonattainment Precursor	25	14.1	No

1. Attainment status: https://www.ourair.org/air-quality-standards. NO_x, SO_x, and ROCs are considered PM_{10} precursors.
2. BACT thresholds from SBCAPCD Rule 802.

Table 5-5. BACT Applicability for the Heaters and Flare Scenario

Pollutant	Attainment Status[1]	BACT Threshold[2] (lb/day)	Heaters Emissions (lb/day)	Remaining Gas Flare Emissions (lb/day)	Combined Daily Emissions (lb/day)	BACT Triggered?
NO_x	Nonattainment Precursor	25	2.8	4.2	6.9	No
CO	Attainment	500	45.1	20.8	66.0	No
ROCs	Nonattainment Precursor	25	1.3	6.0	7.3	No
PM_{10}	Nonattainment	25	1.8	1.4	3.2	No
SO_x	Nonattainment Precursor	25	9.5	4.6	14.1	No

1. Attainment status: https://www.ourair.org/air-quality-standards. NO_x, SO_x, and ROCs are considered PM_{10} precursors, and hence treated as non-attainment pollutants for comparison to BACT thresholds.
2. BACT thresholds from SBCAPCD Rule 802.

This analysis indicates that BACT is not triggered. It is recommended that this preliminary determination be confirmed with the SBCAPCD before proceeding with the design. In addition, the fluid heaters are required to meet 15 ppm NOx while firing digester gas, 9 ppm NOx while firing natural gas, and a weighted average of these limits based on fuel consumed when blending fuels, regardless of BACT applicability. BACT determinations do not appear to change even if both fluid heaters are required to be permitted at their max rating of 6 MMBtu/hr.

5.2.4 BACT Concerns

Several major areas of risk were identified for the BACT determination. First, if emissions from this Project are added to the "unabated" emissions from the CHP engine which is currently being permitted (SBCACPD required rule limits to be used for the purposed of BACT), the NOx and ROC BACT thresholds may be exceeded. Table 5-6 presents these potential emissions.

Table 5-6. BACT Applicability for the Heaters, Flare, and CHP Engine Combined

Pollutant	Attainment Status[1]	BACT Threshold[2] (lb/day)	Max Daily Emissions[3] (lb/day)	BACT Triggered?
NO_x	Nonattainment Precursor	25	30.11	Yes
CO	Attainment	500	438.89	No
ROC	Nonattainment Precursor	25	54.23	Yes
PM_{10}	Nonattainment	25	4.74	No
SO_x	Nonattainment Precursor	25	16.83	No

1) Attainment Status: https://www.ourair.org/air-quality-standards/.

2) BACT Thresholds from SBCAPCD Rule 802.

3) Engine "uncontrolled" (rule limit) emissions from prior permitting.

Additionally, the SBCACPD has said that "emissions guarantees" are treated differently than emissions specifications from manufacturers and may be acceptable in uncontrolled emission calculations instead of SBCAPCD rule limits. Flare vendors are expected to be able to offer emissions guarantees, and hopefully these emission factors can be used. However, if the SBCAPCD insists on using rule limits for the flare emissions, a single flare rated to abate 243 cfm of digester gas would likely trigger NOx BACT. Rule 309 contains a NOx limit of 125 ppm at 3% O2. If the emissions are based on this rule limit, the flare alone would result in 35 lb/day of NOx and would exceed the BACT threshold of 25 lb/day.

Finally, the primary flare in GSD's current permit was required to meet BACT, which was triggered on a facility-wide basis for that permitting action. During the engine permitting, a flare modification was considered, and the SBCAPCD indicated that a modification to the existing flare would require that the existing flare be retrofitted to meet the South Coast Air Quality Management District's (SCAQMD's) NOx BACT for major sources (due to the engine and flare's combined emissions exceeding the BACT applicability threshold). Because BACT was applied to flares at GSD historically (both during the existing flare's permitting and as a preliminary determination for a flare modification in 2021), we are concerned that the SBCAPCD will require that BACT be applied for this Project.

As a result, it is likely that the SBCAPCD will impose BACT for this Project. The SBCACPD would likely apply BACT Guideline 2.3 for External Combustion Rated Greater Than or Equal to 5 MMBtu/hr which requires low-NOx burners, flue gas recirculation, and selective catalytic reduction (SCR) for the fluid heaters, as well as the SCAQMD's major source flare BACT of 0.025 lb/MMBtu NOx limit at the flare.

We would contend that the SCAQMD's major source NOx BACT should not apply to a flare in the SBCAPCD at a facility that the SBCAPCD does not consider to be a major source. In fact, GSD is below the lowest SCAQMD major source threshold (which is 10 tons per year of NOx, per SCAQMD Rules 1118.1 and 1302). The proposed flare meets the SBCAPCD's previously imposed BACT and the SCAQMD's minor source BACT, both of which are 0.06 lb/MMBtu NOx (the same emission rate as the existing flare). We hope to convince the SBCAPCD that 0.06 lb/MMBtu NOx should be considered BACT for the flare.

5.2.5 Offsets

For the purposes of determining offset requirements (SBCAPCD Rules 804 and 802), emissions were calculated under the two Project scenarios. Neither emissions scenario requires offsets, as seen in Tables 5-7 and 5-8. Inclusion of the permitted emissions from the CHP engine does not change this analysis, and offsets are still not expected to be required.

Table 5-7. Offset Determination for the Flare Only Scenario

Pollutant	Offset Threshold[1] (tons/yr)	Emissions (tons/yr)	Offsets Required?
NO_x	25.0	2.3	No
ROC	25.0	3.4	No
PM_{10}	25.0	0.8	No
SO_x	25.0	2.6	No

1. Offset thresholds from SBCAPCD Rule 802.

Table 5-8. Offset Determination for the Heaters and Flare Scenario

Pollutant	Offset Threshold[1] (tons/yr)	Combined Annual Emissions (tons/yr)	Offsets Required?
NO_x	25.0	1.3	No
ROC	25.0	1.3	No
PM_{10}	25.0	0.6	No
SO_x	25.0	2.6	No

1. Offset thresholds from SBCAPCD Rule 802.

5.2.6 Air Quality Impact Analysis

The AQIA thresholds in Rules 802 are 120 lb/day for all criteria pollutants except CO, which has a threshold of 500 lb/day. The Project emissions are below these thresholds, and therefore, an AQIA is not required as part of a permit application per SBCAPCD Rule 802. Again, we do not anticipate that AQIA requirements will be triggered even if the CHP engine is considered in conjunction with this proposed Project.

5.3 Health Risk Screening Evaluation

Based on recent experience with the SBCAPCD, Yorke anticipates that the facility will need to conduct a health risk assessment (HRA) for the Project. If the chronic or acute risks from the HRA are greater than one-tenth of allowable limits, then a full facility HRA is likely to be required.

Based on recent modeling completed for the CHP project (which, early in project planning, included boilers and flare modifications for which an HRA was completed), we do not anticipate that the new flare and heaters will exceed a cancer risk of 1 in one million. When the proposed CHP engine [160 kilowatts (kW)] was modeled with the existing flare (162 cfm digester gas) and the existing boiler (2 MMBtu/hr), the HRA resulted in a cancer risk of 0.6 in one million, more than half of which was the result of the CHP engine. A full facility HRA would likely be required if risks exceed 1 in one million. The sludge handling operations will also emit toxics; however, these are not expected to contribute greatly to the health risks based on a similar project underway in the BAAQMD. As a result, we do not expect that a full facility HRA will be required; however, as we have seen in discussions with the SBCAPCD, it is possible that the SBCAPCD may require this analysis.

5.4 SBCAPCD Permitting and Schedule Analysis

5.4.1 Permit Application Preparation

Costs associated with preparing an ATC application for the Project will likely be less than the Phase 1 permitting effort, due to increased efficiency from recent experience with GSD and the SBCAPCD. The cost will likely be in the $35,000-$45,000 range, since negotiation with the SBCAPCD is anticipated with respect to the BACT determination. If a facility-wide HRA is required, this effort would likely amount to approximately an additional $30,000.

5.4.2 Permitting Fees

In addition to the costs for preparing the ATC permit application, SBCAPCD Rule 210 requires an application filing fee of $456. Additionally, the SBCAPCD will charge the applicant for all reimbursable costs (e.g., direct labor, including overtime). A similar fee based on air district labor will be reassessed every 3 years during the SBCAPCD's triennial review of active permits. The minimum fee for triennial reviews is $250. The reevaluation fee in 2015 was $15,165.

5.4.3 Schedule

SBCAPCD Rule 208 gives the timelines within which the air district is required to act on permits once the application is deemed complete. Different schedules are given for small, medium, and large sources. We anticipate that the heaters and flare would be considered large sources per the definition in SBCAPCD Rule 102, since it is likely that an HRA will be required. Per SBCAPCD Rule 208, the air district has 30 days from application submittal to deem an application complete or incomplete. If it is deemed incomplete, the air district will provide an additional data request. Once the application is deemed complete and the project is approved by the CEQA Lead Agency, the air district has 180 days to approve, conditionally approve, or deny a permit application.

5.5 CEQA Requirements

CEQA is required for a project that requires a discretionary permit or approval from an agency, and which is not otherwise exempt. The Lead Agency under CEQA is generally the agency with responsibility over the discretionary permit. In this case, GSD will act as the Lead Agency for this Project.

An air permit application, by itself, would not trigger CEQA review. However, it is our understanding that due to other permits/approvals and the potential for impacts to cultural resources, GSD will need to complete either an Addendum to the Phase 1 Mitigated Negative Declaration (MND) or a new MND for Solids Handling Improvement Project to address CEQA. An Addendum might be possible; however, because the Solids Handling Improvement Project is being completed as a separate project, it is our understanding that GSD would prefer to prepare a separate MND.

To complete a new MND an analysis of the potential air quality and greenhouse gas (GHG) emissions will be needed. It is expected that this analysis will show that none of the air quality thresholds would be exceeded for this Project. Santa Barbara County has an exceptionally low CEQA threshold of 1,000 metric tons (MT) of carbon dioxide equivalent (CO2e). Although the Project will increase digester gas production, the increased digester gas combustion should be offset by reduced organics going to landfill and remain below this low threshold. However, the results of these calculations are yet to be determined.

To complete the air quality and GHG impacts analyses, the Project criteria pollutant, GHG, and TAC emissions from operation of the planned sources will need to be calculated. It will also be necessary for CEQA to calculate emissions (including GHGs) from construction/installation of the new emissions units, as well as mobile sources, e.g., worker travel, deliveries, and waste removal, associated with the Project. These emissions are then compared to relevant emissions thresholds to determine if there is the potential for significant impacts. Additional analyses, such as an HRA, may be needed, but will be prepared already as part of the permitting process.

When a CEQA document is prepared for a project, the SBCAPCD may choose to not issue the ATC until up to 180 days after the CEQA document is approved. The ATC application can be processed in

parallel with the CEQA document preparation, but it may add time to the schedule to allow for this extra approval. Preparation of the CEQA MND is likely to cost in the $25,000-$30,000 range.

5.5.1 Biological Resources

A total of five vegetation communities and land cover types are estimated to exist within the biological survey area, all of which were non-native communities and land cover types. No sensitive vegetation communities are expected to exist. The Project would disturb some non-native plant communities and non-environmentally sensitive habitat areas. The County's Environmental Guidelines and Thresholds will be used in this analysis (County of Santa Barbara 2008). Impacts to habitat types may be considered significant if they substantially (1) reduce or eliminate species diversity or abundance; (2) reduce or eliminate the quality of nesting areas; (3) limit reproductive capacity through losses of individuals or habitat; (4) fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources; (5) limit or fragment range and movement; or (6) interfere with natural processes, such as fire or flooding, upon which the habitat depends. Following are the expected impact analysis findings for biological resources:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

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b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impact: No Impact

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact: No Impact

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact: Less than Significant

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact: Less than Significant

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Impact: No Impact

5.5.2 Cultural Resources

The proposed Project site exists within archaeological site CA-SBA-46, a site with both historic and prehistoric components and the location of the former Barbareño Chumash village *Helo*'. This site has been studied by archaeologists at length both prior to and after a large portion of the site was used to infill the Goleta slough in preparation for the then Navy airport (now Santa Barbara Municipal Airport). Despite the disturbance, intact cultural deposits have been identified in the last 80 years. Although not formally listed on either the California Register of Historic Resources or the National Register of Historic Resources, the site meets the criteria of historically or culturally significant pursuant to PRC Section 5024.1(g). Based on the proposed ground disturbing activities, without mitigation the Project would cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5, as the proposed activities would materially alter in an adverse manner those physical characteristics of the historical resource that convey its eligibility for inclusion in the California Register of Historical Resources. The proposed Project elements exist within areas of the CA-SBA-46 that have been verified to contain intact archaeological deposits and other areas that have yet to be tested. Therefore, the possibility of encountering concentrations of cultural remains within areas of moderate, low, or no cultural materials, as well as inadvertently encountering isolated artifacts or human remains is likely. However, impacts can be mitigated to a level of less than significant by implementing similar measures adopted for the Phase I Biosolids and Energy Phase 1 Project. Depending on confirmed project design, further testing to determine the extent of areas within the site that have the potential to contribute to the significance of the CA-SBA-46 may be required prior to completion of the MND for this phase of the project. Following are the expected impact analysis findings for cultural resources:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

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b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Impact: Less than Significant with Mitigation Incorporated

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Impact: Less than Significant with Mitigation Incorporated

5.5.3 Geological and Paleontological Resources

Geologic and soils analysis will be based, in part, on a project-specific Geotechnical Evaluation prepared by Ninyo & Moore (2021) in addition to any specific project site geotechnical studies conducted in preparation for this specific project. The paleontological analysis will be based on a records search conducted through the Natural History Museum of Los Angeles County. Following are the expected impact analysis findings for geological and paleontological resources:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

Impact: Less than Significant

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Impact: None

ii. Strong seismic ground shaking?

Impact: Less than Significant

iii. Seismic-related ground failure, including liquefaction?

Impact: Less than Significant

iv. Landslides?

Impact: None

b) Result in substantial soil erosion or the loss of topsoil?

Impact: Less than Significant

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Impact: Less than Significant

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Impact: Less than Significant

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

Impact: None

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact: Less than Significant with Mitigation Incorporation

5.5.4 Hydrological Resources

The WRRF is located adjacent to San Pedro Creek, which occurs as a north-south trending engineered channel in the Project area. San Jose Creek and Atascadero Creek are approximately 300 feet and 700 feet southeast of the Project site, respectively, and the Goleta Slough Channel is approximately 1,200 feet south of the Project site. These waterways converge into the Goleta Slough, which in turn flows into the Pacific Ocean, approximately 2,000 feet southeast of the WRRF. Except for the western, mostly landscaped portion of the WRRF along Moffett Place, storm water runoff within the WRRF is captured internally. Storm water drains to on-site stabilization basins, where the water evaporates or flows to the main pump station for treatment through the entire wastewater treatment process, before being discharged to the Pacific Ocean approximately 1 mile offshore. Although much of the storm water runoff in the western portion of the WRRF is captured by the large grassy lawn, the residual runoff drains primarily as sheet flow toward Moffett Place, and then in turn drains south toward the Goleta Slough. Surface water quality at the Project site is regulated in accordance with the Santa Barbara County Storm Water Management Program, pursuant to SWRCB Water Quality Order No. 2013-0001-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS0000004 Waste Discharge Requirements for Storm Water Discharges from Small MS4s (Small MS4 Permit).

The WRRF overlies the southern perimeter of the Central Subbasin of the Goleta Groundwater Basin, which extends from the Santa Ynez Range foothills on the north to the More Ranch Fault Zone on the south. This east-west trending fault zone traverses and lies south of the WRRF. The Goleta Groundwater Basin is divided into three subbasins, including the West, Central, and North Subbasins. Most usable groundwater in storage is in the Central Subbasin. The Central and North Subbasins are adjudicated and the West Subbasin is partially adjudicated. Based on the adjudicated status, the Goleta Groundwater Basin is designated as a very low to low priority basin under the 2014 Sustainable Groundwater Management Act (SGMA). The Department of Water Resources (DWR) focuses on high and medium priority basins as a first step in ensuring groundwater sustainability (California DWR 2004, 2021; Goleta Water District 2017).

The Goleta Groundwater Basin is naturally recharged by the Cieneguitas, Maria Ygnacio, Atascadero, San Antonio, San Jose, Las Vegas, Tecolotito, and Carneros creeks, as well as by bedrock in the foothills. The principal water-bearing units in the Goleta Groundwater Basin are Holocene to Pleistocene alluvium and Pleistocene Santa Barbara Formation. The alluvium, which yields appreciable amounts of water, reaches a maximum thickness of approximately 100 feet. The Santa Barbara Formation, which is the main source of water in the basin, has a maximum thickness of 2,000 feet in the southern part of the basin. Groundwater in the Santa Barbara Formation is generally confined (California DWR; Goleta Water District 2017). Based on borings drilled at the site in December 2020, groundwater is present at a depth of approximately 57 feet below ground surface. However,

groundwater was measured at a depth of 3 feet approximately 1,400 feet northeast of the Project site, on the east side of San Pedro Creek. This depth of 3 feet corresponds to an approximate elevation of 6 feet AMSL (Ninyo & Moore 2021). Following are the expected impact analysis findings for hydrological resources:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Impact: Less than Significant

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Impact: Less than Significant

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

Impact: Less than Significant

i. Result in a substantial erosion or siltation on- or off-site;

Impact: Less than Significant

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Impact: Less than Significant

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Impact: Less than Significant

iv. Impede or redirect flood flows?

Impact: None

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Impact: Less than Significant

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact: Less than Significant

5.5.5 Tribal Cultural Resources

The Project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to TCRs as part of the CEQA process and that the lead agency notify California Native American tribal representatives (that have requested notification) who are traditionally or culturally affiliated with the geographic area of the proposed Project. A Native American Heritage Commission Sacred Land Files search was conducted for the Phase I Biosolids and Energy Phase 1 Project the results of which were positive. In accordance with AB 52, the GSD will notify eligible tribal entities upon formal decision of the District to undertake this project. Following are the expected impact analysis findings for tribal cultural resources:

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

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i. California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Impact: Less than Significant with Mitigation Incorporation

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Impact: Less than Significant with Mitigation Incorporation

6. Project Implementation

The implementation of the Project consists of the design, permitting, construction, start-up and placing into safe consistent operation of the new HSW receiving station and Thermal Dryer Facility. GSD intends to construct this package as one contract following traditional delivery of design-bid-build. The WRRF operates 24 hours a day 7 days a week so maintaining plant operations is of paramount importance. The design is anticipated to progress in accordance with industry standard practice with design submittals being prepared for GSD review at the 30%, 60%, 90% and 100% stages. As the design progresses, the implementation and construction sequencing plans as presented here will be developed in further detail.

The Project includes the installation of a dewatering centrifuge and thermal dryer unit. GSD could elect to identify specific equipment make and model during the design phase so that the Thermal Dryer Facility could be designed for specific equipment. This would provide more clarity in the project and cost estimate prior to bid. Alternatively, if specific equipment make and model were not identified during design, the thermal dryer building configuration could change and/or project costs could change.

At the 60% design, a California Environmental Quality Act (CEQA) document (likely a mitigated negative declaration) will likely begin to be prepared. The CEQA document will need to be completed prior to construction bids being solicited so the Contractor and GSD will be able to implement the mitigation and monitoring measures required for construction. Cultural monitoring will be required during construction and therefore GSD will need a contract for the monitoring in advance of the construction. Likewise, an update to Santa Barbara County Air Pollution Control District Permit will be required.

The majority of construction of the HSW receiving facility and Thermal Dryer Facility can be completed with limited impact to the plant operation since these will be new facilities. There will be several construction activities that will impact plant operations:

- The extension of the natural gas line to the Thermal Dryer Facility will require a brief outage. In addition, a temporary closure of the road between the Power and Maintenance Building and the Shower and Locker Building will be required. The road to the north of the existing drying beds will also require a temporary closure.
- Construction of the new pipe trench for the HSW line feeding the digester will require a temporary closure of the road that runs between the digesters.
- The CHP unit will require a shutdown so that digester gas can be routed to the gas treatment skid.
- The digester heating system will require a shutdown to connect the HSW receiving station heat exchangers to the heating loop.
- The existing dechlorination skid that is used for the existing polymer system may need to be shut down to connect to the new polymer system.

- Some of the piping currently used by Digester 1 will be demolished as part of this project. Therefore, Digester 1 must be removed from service prior to construction beginning.
- The existing dewatering feed pumps will be replaced as part of this project. This would require a shutdown of the dewatering screw presses and diversion of digested sludge to the existing sludge lagoons.
- The existing dewatered cake conveyor will be replaced. The likely duration of this shutdown and mitigation measures should be discussed during the subsequent design phase. It is assumed that digested sludge would be sent to the sludge lagoons.
- Construction of the canopy over the sludge truck loadout area will require coordination to minimize hauling service interruption
- The main switchgear would need to be de-energized to connect the bus of the new section serving MCC-K to the existing switchgear bus.
- MCC-E will be de-energized to connect the new HSW receiving station loads.
- MCC-J will be de-energized to connect the new dewatering pumps.
- MCC-B will be de-energized to connect the new gas pretreatment skid.

7. Cost Estimate

A Class 3 cost estimate was prepared, and the detailed estimate of probable construction cost is included in Appendix G. Class 3 has a typical accuracy range of -20% on the low side and +30% on the high side. Table 7-1 provides a summary of the markups used to develop the estimate of probable cost. The estimate of probable construction cost is based upon current market prices for equipment and commodities. The cost has been escalated to a midpoint of construction, approximately the first quarter of 2025 at an annual escalation rate of 5% for both labor and materials which is lower than the current 8.5% inflation rate. The lower escalation rate assumes that recent trends showing a decrease in inflation continue into the future. The ongoing pandemic and supply chain issues are dynamic events, as the project moves toward its anticipated bid date, these assumptions should be periodically assessed and updated as needed.

Table 7-1. Markups Used for Cost Estimate

Item	Percent
Small Tools Allowance	2
General Conditions	15
% Work performed by Subcontractor	10
Subcontractor Overhead and Profit	25
Contractor Mark-up on Subcontractor	5
Contractor Overhead	10
Contractor Profit	10
Annual labor escalation to mid-point of construction	5
Annual material escalation to mid-point of construction	5
Insurance and Bonding	3
Contingency on Vendor Supplied Equipment[1]	15
Contingency on Remaining Costs	30

1 Includes HSW equipment, gas conditioning unit, waste gas flare, centrifuge, thermal dryer, conveyors, cake bin, odor control and dewatered sludge pumps

Table 7-2 summarizes the opinion of construction costs for the Project. Line item 9 (Cake Bin) was assumed to be a coated carbon steel tank. This item could also be stainless steel and this can be revisited in a subsequent cost estimate as a stainless steel tank would not require recoating where the carbon steel option would.

Table 7-2. Summary of Opinion of Probable Construction Cost for the Project

No	Item	Cost
1	Demolition	$220,000
2	Site Work	$290,000
3	Dryer Building Slab	$930,000
4	Dryer Building Shell	$2,480,000
5	Dryer Building MEP	$1,400,000
6	Dryer Building Platforms	$180,000
7	Dryer Building Mezzanine	$490,000
8	Dryer Building Bridge	$1,100,000
9	High Strength Waste	$2,090,000
10	Gas Conditioning	$1,380,000
11	Dewatering Feed Pump	$140,000
12	Centrifuge	$1,120,000
13	Thermal Dryer	$10,370,000
14	Cake Bin	$3,230,000
15	Conveyors	$690,000
16	Polymer	$340,000
17	Odor Control	$140,000
18	Waste Gas Flare	$1,660,000
19	Electrical and Controls	$3,490,000
20	Yard Piping	$810,000
	Total Construction Cost	**$32,550,000**

8. Schedule

The 30% PDR and design drawings will be completed by October 2022. The next phase of design can begin upon completion of the 30% submittal and will consist of 60%, 90% and 100% submittals. The design phase will take approximately 12 months. Permitting can also begin in parallel with the next phase of design and will likely be the critical path task for the project. Once all necessary permits have been obtained, the project can be advertised for bid. The entire bidding period is expected to last approximately 3 months. Upon award, construction is expected to last 18 months assuming no major delays of equipment.

9. Cost Reduction Considerations

Several alternatives were identified to reduce the construction cost of the project. This included modifications to the Thermal Dryer Facility building as well as eliminating major pieces of equipment from the project.

9.1 Thermal Dryer Facility Building Alternatives

Three cost reduction alternatives were considered for the Thermal Dryer Facility building. Each alternative is described below:

- **Alternative 1** – This alternative is the existing project where all equipment would be located in an enclosed building.
- **Alternative 2a** – For this alternative, the cake bin would be located outside the building to reduce the footprint of the building.
- **Alternative 3a** – For this alternative, a canopy structure would be constructed over the thermal dryer, centrifuge and polymer system. The cake bin would not be located under the canopy. The MCC and thermal fluid heaters would still be housed in an enclosed building and would serve as the west wall of the canopy structure. A south wall would be constructed with the canopy structure to protect against weather and prevailing wind. The north and east sides of the structure would be open.

Table 9-1 summarizes the construction costs of each alternative. Alternative 3a has the lowest cost, however in discussion with the thermal dryer vendor, placing a thermal dryer under a canopy structure is not recommended; placement in an enclosed building is the recommended location. Reducing the size of the building (Alternative 2a) does provide a cost reduction benefit over Alternative 1.

Table 9-1. Summary of Opinion of Probable Construction Cost for Reduction in Thermal Dryer Facility Building

No	Item	Alternative 1 Existing Project	Alternative 2a Reduced Building	Alternative 3a – Canopy and Two Walls
1	Demolition	$220,000	$220,000	$220,000
2	Site Work	$290,000	$290,000	$290,000
3	Dryer Building Slab	$930,000	$930,000	$930,000
4	Dryer Building Shell	$2,480,000	$2,110,000	$1,590,000
5	Dryer Building MEP	$1,400,000	$1,280,000	$760,000
6	Dryer Building Platforms	$180,000	$180,000	$180,000
7	Dryer Building Mezzanine	$490,000	$490,000	$490,000
8	Dryer Building Bridge	$1,100,000	$1,100,000	$1,100,000
9	High Strength Waste	$2,090,000	$2,090,000	$2,090,000
10	Gas Conditioning	$1,380,000	$1,380,000	$1,380,000
11	Dewatering Feed Pump	$140,000	$140,000	$140,000
12	Centrifuge	$1,120,000	$1,120,000	$1,120,000
13	Thermal Dryer	$10,370,000	$10,370,000	$10,370,000
14	Cake Bin	$3,230,000	$3,230,000	$3,230,000
15	Conveyors	$690,000	$690,000	$690,000
16	Polymer	$340,000	$340,000	$340,000
17	Odor Control	$140,000	$140,000	$140,000
18	Waste Gas Flare	$1,660,000	$1,660,000	$1,660,000
19	Electrical and Controls	$3,490,000	$3,359,000	$3,205,000
20	Yard Piping	$810,000	$810,000	$810,000
	Total Construction Cost	**$32,550,000**	**$31,929,000**	**$30,735,000**

9.2 Reduction of Project Scope Alternatives

A reduction in project scope was evaluated to determine cost reduction opportunities. Costs were developed assuming the Thermal Dryer Facility building size was reduced by locating the sludge bin outside of the building. Each alternative is described below:

- **Alternative 2a** – As described previously in Section 9.1, the cake bin would be located outside the building to reduce the footprint of the building.
- **Alternative 2b** – For this alternative, the HSW receiving station and new flare would not be constructed. Since HSW would not be received in the future, a new flare would not be necessary.
- **Alternative 2c** – Like Alternative 2b, the HSW receiving station and new flare would not be constructed. In addition, the gas conditioning skid and biogas pipeline that would convey biogas from the gas conditioning skid to the Thermal Dryer Facility building would be eliminated. For this alternative, the thermal dryer would not receive any biogas; all gas would be natural gas.

Table 9-2 provides a summary of construction costs for each alternative. Alternative 2c has the lowest construction cost followed by Alternative 2b.

Table 9-2. Summary of Opinion of Probable Construction Cost Reduction in Project Scope

No	Item	Alternative 2a Reduced Building	Alternative 2b – Reduced Building and Elimination of HSW and Flare	Alternative 2c – Reduced Building and Elimination of HSW, Flare and Gas Conditioning
1	Demolition	$220,000	$200,000	$170,000
2	Site Work	$290,000	$170,000	$170,000
3	Dryer Building Slab	$930,000	$930,000	$930,000
4	Dryer Building Shell	$2,110,000	$2,110,000	$2,110,000
5	Dryer Building MEP	$1,280,000	$1,280,000	$1,280,000
6	Dryer Building Platforms	$180,000	$180,000	$180,000
7	Dryer Building Mezzanine	$490,000	$490,000	$490,000
8	Dryer Building Bridge	$1,100,000	$1,100,000	$1,100,000
9	High Strength Waste	$2,090,000	$0	$0
10	Gas Conditioning	$1,380,000	$1,380,000	$0
11	Dewatering Feed Pump	$140,000	$140,000	$140,000
12	Centrifuge	$1,120,000	$1,120,000	$1,120,000
13	Thermal Dryer	$10,370,000	$10,370,000	$10,370,000
14	Cake Bin	$3,230,000	$3,230,000	$3,230,000
15	Conveyors	$690,000	$690,000	$690,000
16	Polymer	$340,000	$340,000	$340,000
17	Odor Control	$140,000	$140,000	$140,000
18	Waste Gas Flare	$1,660,000	$0	$0
19	Electrical and Controls	$3,359,000	$2,502,000	$2,477,000
20	Yard Piping	$810,000	$610,000	$510,000
	Total Construction Cost	**$31,929,000**	**$26,982,000**	**$25,447,000**

9.3 Impact of Cost Reduction Alternatives on Total Project Costs

Since Alternatives 2b and 2c would result in higher operating costs due to loss of HSW tipping fees and additional natural gas usage, an analysis was performed to determine the impact to overall project costs. In addition, the impact of eliminating the combined heat and power (CHP) from the Phase 1 Biosolids and Energy project was considered. The following assumptions were used in the analysis:

- 20-year project life at a 2% discount rate
- A 2% per year electricity cost escalation and 2.9% per year natural gas cost escalation
- Solids flows and loads are escalated to 2045 conditions from 2025 conditions over the 20-year period
- O&M costs include costs for CHP maintenance and electricity necessary to operate gas conditioning
- Electricity cost - $0.14/kWhr
- Generated electricity value produced by the CHP - $0.09/kWhr
- Natural gas cost - $7/MMBTU
- CHP construction cost of $1.65M

Table 9-3 presents a summary of the analysis considering operating costs and benefits. There is minimal difference in net present value between alternatives. Table 9-4 provides a comparison of non-economic factors for each alternative. In addition to having the highest construction cost, Alternative 2a would have the highest permitting requirements due to the inclusion of the flare. Eliminating the CHP would mean that there would not be the benefit of self-generation which would provide heat to the digesters and electricity to the plant. Therefore, CHP should be included. Alternatives 2b and 2c have less permitting requirements than Alternative 2a, and Alternative 2b has less reliance on natural gas than Alternative 2c.

Table 9-3. Net Present Value of Cost Reduction Alternatives

Alternative	Construction Cost	Operating Costs, Present Value		Operating Benefits, Present Value		Net Present Value
		Natural Gas Costs	O&M Costs	Electricity Offset	FOG Tipping Revenues	
2a. Reduced Building	($31,929,000)	($1,087,000)	($1,256,000)	$2,226,000	$3,435,000	($28,611,000)
2b. No HSW/No Flare	($26,982,000)	($2,559,000)	($1,256,000)	$2,226,000	$0	($28,571,000)
2c. No HSW/No Flare/No Gas Conditioning	($25,447,000)	($4,407,000)	($668,000)	$2,226,000	$0	($28,296,000)
No HSW/No Flare/No Cogen	($25,332,000)	($1,480,000)	($588,000)	$0	$0	($27,400,000)

Table 9-4. Non-economic Factors for Cost Reduction Alternatives

Alternative	Permitting Requirements	Self-Generation	Reliance on Natural Gas
2a. Reduced Building	Highest	Yes	Low
2b. No HSW/No Flare	Low	Yes	Medium
2c. No HSW/No Flare/No Gas Conditioning	Low	Yes	Highest
No HSW/No Flare/No Cogen	Low	No	Low

9.4 Apparent Best Cost Reduction Project

If GSD prefers a lower construction cost project, Alternative 2b (elimination of HSW receiving station and flare) is the most cost-effective approach. Although this would mean GSD would not receive tipping fees from HSW and the benefit of additional biogas generation, there is minimal difference in net present value over 20 years. In addition, Alternative 2b retains the ability to send biogas from the digesters to the thermal dryer.

GENERAL MANAGER'S REPORT

GOLETA SANITARY DISTRICT
GENERAL MANAGER'S REPORT

The following summary report describes the District's activities from October 18, 2022, through November 7, 2022. It provides updated information on significant activities under three major categories: Collection System, Treatment/Reclamation and Disposal Facilities, and General and Administration Items.

1. COLLECTION SYSTEM REPORT

LINES CLEANING
Staff has been conducting lines cleaning in various easements throughout the District as part of the annual winter storm preparations.

CCTV INSPECTION
Staff has been conducting routine Closed-Circuit Television (CCTV) inspections in the area of N. Fairview Avenue and Cathedral Oaks Road.

GREASE AND OIL INSPECTIONS
All initial Grease and Oil inspections have been completed. Ninety-eight Food Service Establishment (FSE) inspections of restaurants, commercial kitchens, private cafeterias and food processing facilities have been conducted this year. Five FSEs failed their initial inspection. Two of these were retested and passed the second inspection. Staff continues follow up inspections on the remaining three failed FSEs. Staff has contracted for a sewer line repair on Foothill Road near La Cumbre Road for the week of November 14, 2022 with Tierra Contracting, Inc. This work involves a permit and coordination with Caltrans as Foothill Road is designated State Route 192 and is under Caltrans jurisdiction for traffic control and utility repair work.

REPAIR AND MAINTENANCE
Staff and Tierra Contracting, Inc. continue with the raising of manholes on streets recently paved by Santa Barbara County crews. Staff replaced the hydraulic fluid on the Vactor truck. The replacement cable for the CCTV inspection truck remains on back order and will be installed upon delivery.

COMPETENCY BASED TRAINING
DKF Solutions, in conjunction with District staff, has completed the Fall Protection and Manhole Raising electronic Standard Operating Procedures (eSOP) for the District's web-based Vector Solutions site. There are three remaining procedures of the contracted 16 procedures to be completed. These are scheduled for completion by end of this year.

COLLECTION SYSTEM MAINTENANCE TECHNICIAN I
Initial interviews were conducted with five of the ten applicants for the vacant Collection System Maintenance Technician I position. Secondary interviews of selected candidates will be conducted the week of November 7, 2022.

PROFESSIONAL DEVELOPMENT
Staff attended the CWEA Southern Section Safety Day training held in Carson, CA. The workshop featured safety, best practices and regulatory compliance training. The District

hosted a training workshop on Tuesday, October 18, 2022 by retired State Water Board Collection System compliance and enforcement inspector Jim Fischer (Jim Fischer Compliance, LLC) on the Collection System Waste Discharge Requirements (WDR) update. Thirty attendees from throughout the Tri-Counties area participated in the training event.

STATE WATER BOARD WASTE DISCHARGE REQUIREMENTS (WDR) UPDATE

The State Water Board (SWB) has issued the draft Waste Discharge Requirements (WDR) for Collection Systems. The WDR is a SWB order for all publicly and privately owned sewage collections systems. The WDR details requirements for collection system management and monitoring/reporting of sewer overflows. GSD staff has been part of the California Association of Sanitary Agencies (CASA) effort to track and work with SWB staff on this program. This WDR will replace the existing WDR originally issued by the SWB in 2006. This update will result in the need to revise the District Sewer System Management Program (SSMP) dated January 2021 with a series of progressive steps. Staff will provide an update to the Board on the measures implemented and the plan for staff to remain in compliance with SWB requirements for the District Collection System after the scheduled November 14, 2022 SWB public workshop and the December 6, 2022 SWB adoption of the WDR.

2. TREATMENT, RECLAMATION AND DISPOSAL FACILITIES REPORT

Plant flows increased to an average of 4.1 million gallons per day (MGD). The demand for reclaimed water has begun to decrease due to cooler temperatures. High concentrations and loadings during the weekends continue to cause intermittent challenges and various levels of plant interference. The second nanobubble generator appears to be reducing the amount of interference at the Reclamation facility but hasn't eliminated it. The next step will include installing a peracetic acid dosing skid at the reclamation facility. The pump skid has been onsite as of 10/7/2022. The pump skid that the District received however, showed up with the wrong pump on it. We are waiting for the right pump to be delivered.

The Influent Pump Station Rehabilitation project submittal and procurement process is coming to an end. The construction of the project may start the first phase with the knife gate replacement on the effluent side of the pump station in the first week of January, 2023. The procurement process is ongoing.

The Preliminary Design Report for the Biosolids and Energy Strategic Plan (BESP) Phases 2 improvements has been submitted and is being presented to the Board for review and consideration.

Maintenance staff will be working on repairing the heat loop leaks, air valves at the Lift station, and Plant maintenance.

PUBLIC EDUCATION AND OUTREACH

The District reopened to the local Santa Barbara Audubon Society and the public interested in birding on Tuesday, November 1, 2022. They will be allowed to visit

Tuesdays through Thursdays from 9:00 a.m.-3:00 p.m. within a restricted area, after checking in at the entrance gate and signing in at the Administration building to receive a visitor's badge. This is one of the recent steps towards reopening the District to the public on a limited basis, after having been closed for two years due to the Covid-19 pandemic.

3. GENERAL AND ADMINISTRATIVE ITEMS

Financial Report

The District account balances as of November 7, 2022 shown below are approximations to the nearest dollar and indicate the overall funds available to the District at this time.

Operating Checking Accounts:	$	621,195
Investment Accounts:	$	33,341,889
Total District Funds:	$	33,963,084

The following transactions are reported herein for the period 10/18/22 – 11/07/22

Regular, Overtime, Cash-outs and Net Payroll:	$	242,832
Claims:	$	400,663
Total Expenditures:	$	643,496
Total Deposits:	$	538,422

Transfers of funds:

LAIF to Community West Bank Operational (CWB):	$	- 0 -
CWB Operational to CWB Money Market:	$	- 0 -
CWB Money Market to CWB Operational:	$	- 0 -

The District's investments comply with the District's Investment Policy adopted per Resolution No. 16-606. The District has adequate funds to meet the next six months of normal operating expenses.

Local Agency Investment Fund (LAIF)

LAIF Monthly Statement – October, 2022
LAIF Quarterly Report – Previously submitted.

PMIA/LAIF Performance – Previously submitted.
PMIA Effective Yield – Previously submitted.

Community West Bank (CWB)

CWB Money Market Account – October, 2022

Deferred Compensation Accounts

CalPERS 457 Deferred Compensation Plan – Previously submitted.
Lincoln 457 Deferred Compensation Plan – October, 2022

Personnel

A verbal update will be provided at the meeting**.**

California State Treasurer
Fiona Ma, CPA

Local Agency Investment Fund
P.O. Box 942809
Sacramento, CA 94209-0001
(916) 653-3001

November 01, 2022

LAIF Home
PMIA Average Monthly Yields

GOLETA SANITARY DISTRICT

GENERAL MANAGER
ONE WILLIAM MOFFETT PLACE
GOLETA, CA 93117

Tran Type Definitions

Account Number: 70-42-002

October 2022 Statement

Effective Date	Transaction Date	Tran Type	Confirm Number	Web Confirm Number	Authorized Caller	Amount
10/14/2022	10/13/2022	QRD	1715483	N/A	SYSTEM	6,913.00

Account Summary

Total Deposit:	6,913.00	Beginning Balance:	2,031,661.25
Total Withdrawal:	0.00	Ending Balance:	2,038,574.25

Community West Bank
445 Pine Avenue
Goleta, CA 93117

Statement Ending 10/31/2022

Customer Number: XXXXXXXX5554

RETURN SERVICE REQUESTED

GOLETA SANITARY DISTRICT
MONEY MARKET
1 WILLIAM MOFFETT PL
GOLETA CA 93117-3901

Summary of Accounts

Account Type	Account Number	Ending Balance
PUBLIC AGENCY-MMDA	XXXXXXXX5554	$31,303,314.28

PUBLIC AGENCY-MMDA - XXXXXXXX5554

Account Summary

Date	Description	Amount		
10/01/2022	**Beginning Balance**	**$30,363,625.08**	Average Ledger Balance	$30,886,205.72
	2 Credit(s) This Period	$939,689.20		
	0 Debit(s) This Period	$0.00		
10/31/2022	**Ending Balance**	**$31,303,314.28**		

Account Activity

Post Date	Description	Debits	Credits	Balance
10/01/2022	**Beginning Balance**			**$30,363,625.08**
10/14/2022	XFER CREDIT 10/14/22 10:09 119539903 BUSINESS ANALYZ 6505538		$900,000.00	$31,263,625.08
10/31/2022	INTEREST AT 1.5130 %		$39,689.20	$31,303,314.28
10/31/2022	**Ending Balance**			**$31,303,314.28**

Daily Balances

Date	Amount	Date	Amount
10/14/2022	$31,263,625.08	10/31/2022	$31,303,314.28

Lincoln Financial Group®

Multi-Fund®

Performance Update

Quoted performance data represents past performance. Past performance does not guarantee nor predict future performance. Current performance may be lower or higher than the performance data quoted. Please keep in mind that double-digit returns are highly unusual and cannot be sustained.

Variable products are sold by prospectus. Consider the investment objectives, risks, charges, and expenses of the variable product and its underlying investment options carefully before investing. The prospectus contains this and other information about the variable product and its underlying investment options. Please review the prospectus available online for additional information. Read it carefully before investing.

Investment return and principal value of an investment will fluctuate so that an investor's unit values, when redeemed, may be worth more or less than their original cost.

Monthly hypothetical performance adjusted for contract fees *

Performance

INVESTMENT OPTIONS	ASSET CLASS	INCEP. DATE	CHANGE FROM PREVIOUS DAY 11/02/2022	YTD AS OF 11/02/2022	YTD AS OF 10/31/2022	AVERAGE ANNUAL TOTAL RETURN (%) AS OF 10/31/2022						
						1 MO.	3 MO.	1 YR.	3 YR.	5 YR.	10 YR.	SINCE INCEP.
RISK MANAGED RM												
Fidelity® VIP Freedom 2055 Portfolio℠ - Service Class[5, 9]	Risk Managed	04/11/2019	-1.80	-24.08	-23.12	5.00	-8.83	-22.34	3.90	N/A	N/A	4.57
Fidelity® VIP Freedom 2060 Portfolio℠ - Service Class[5, 9]	Risk Managed	04/11/2019	-1.72	-24.02	-23.06	5.04	-8.73	-22.32	3.94	N/A	N/A	4.60
MAXIMUM CAPITAL APPRECIATION MCA												
DWS Alternative Asset Allocation VIP Portfolio - Class A[1, 4, 5, 6, 7]	Maximum Capital Appreciation	02/02/2009	-0.47	-10.46	-10.24	1.19	-6.10	-10.40	2.20	1.68	1.32	3.69
LVIP Baron Growth Opportunities Fund - Service Class[2, 10]	Maximum Capital Appreciation	10/01/1998	-2.95	-27.33	-25.77	11.62	-3.06	-26.20	6.76	8.70	10.63	10.15
LVIP Delaware SMID Cap Core Fund - Standard Class[2, 3, 10]	Maximum Capital Appreciation	07/12/1991	-2.77	-16.50	-14.17	9.18	-2.75	-14.05	6.82	5.67	9.71	8.73
LVIP SSGA Emerging Markets 100 Fund - Standard Class[1, 10, 22]	Maximum Capital Appreciation	06/18/2008	-0.80	-22.68	-23.65	-0.37	-12.62	-24.09	-3.69	-4.67	-1.33	0.52
LVIP SSGA Small-Cap Index Fund - Standard Class[2, 10, 21]	Maximum Capital Appreciation	04/18/1986	-3.37	-20.41	-17.84	10.88	-2.04	-19.70	5.53	4.07	8.39	6.59
LVIP T. Rowe Price Structured Mid-Cap Growth Fund - Standard Class[2, 10]	Maximum Capital Appreciation	02/03/1994	-3.33	-26.78	-24.42	6.70	-4.25	-26.68	5.78	8.45	11.45	6.42
LONG TERM GROWTH LTG												
American Funds Global Growth Fund - Class 2[1]	Long Term Growth	04/30/1997	-2.00	-31.58	-30.25	4.90	-9.51	-30.54	4.06	4.81	8.88	7.98

INVESTMENT OPTIONS	ASSET CLASS	INCEP. DATE	CHANGE FROM PREVIOUS DAY 11/02/2022	YTD AS OF 11/02/2022	YTD AS OF 10/31/2022	AVERAGE ANNUAL TOTAL RETURN (%) AS OF 10/31/2022						
						1 MO.	3 MO.	1 YR.	3 YR.	5 YR.	10 YR.	SINCE INCEP.
American Funds Growth Fund - Class 2	Long Term Growth	02/08/1984	-3.11	-31.27	-29.11	4.48	-7.46	-30.06	11.75	10.98	13.11	11.34
American Funds International Fund - Class 2[1]	Long Term Growth	05/01/1990	-1.66	-27.60	-27.40	3.92	-9.69	-30.62	-5.56	-3.13	2.65	5.51
Delaware VIP Small Cap Value[2, 3]	Long Term Growth	12/27/1993	-2.72	-13.92	-11.98	13.14	-1.91	-7.68	6.44	3.90	8.34	8.78
Fidelity® VIP Contrafund® Portfolio - Service Class	Long Term Growth	01/03/1995	-2.56	-28.77	-26.45	5.73	-7.25	-24.90	8.58	8.22	10.47	9.67
Fidelity® VIP Growth Portfolio - Service Class	Long Term Growth	10/09/1986	-2.90	-26.80	-24.18	4.58	-9.18	-23.99	12.33	11.72	13.83	9.42
LVIP BlackRock Global Real Estate Fund - Standard Class[1, 2, 9, 10, 13]	Long Term Growth	04/30/2007	-2.40	-33.20	-32.05	1.79	-17.76	-30.06	-5.86	-0.39	2.01	-0.31
LVIP Delaware Mid Cap Value Fund - Standard Class[2, 3, 10]	Long Term Growth	12/28/1981	-2.74	-12.33	-10.27	11.11	-2.00	-5.96	7.42	5.64	9.94	10.07
LVIP Dimensional U.S. Core Equity 1 Fund - Standard Class[10]	Long Term Growth	12/28/1981	-2.55	-17.95	-15.73	9.44	-4.29	-13.07	9.34	8.65	11.04	9.44
LVIP Mondrian International Value Fund - Standard Class[1, 10]	Long Term Growth	05/01/1991	-1.00	-21.02	-20.86	5.21	-11.90	-21.60	-5.00	-3.19	1.79	4.39
LVIP SSGA International Index Fund - Standard Class[1, 10, 21, 23]	Long Term Growth	04/30/2008	-1.38	-24.43	-24.07	5.80	-10.04	-24.05	-2.51	-1.31	2.76	0.04
LVIP SSGA S&P 500 Index Fund - Standard Class[10, 21, 24]	Long Term Growth	05/01/2000	-2.51	-20.91	-18.54	7.99	-6.16	-15.66	8.84	9.07	11.40	5.13
LVIP Vanguard Domestic Equity ETF Fund - Service Class[5, 6]	Long Term Growth	04/29/2011	-2.58	-21.33	-18.98	8.08	-5.72	-17.00	8.11	8.38	10.48	9.23
LVIP Vanguard International Equity ETF Fund - Service Class[1, 5, 6]	Long Term Growth	04/29/2011	-1.34	-25.68	-25.47	3.39	-11.47	-26.30	-2.77	-1.92	2.30	0.83
MFS® VIT Utilities Series - Initial Class[13]	Long Term Growth	01/03/1995	-1.14	-6.33	-5.80	3.73	-7.58	-1.20	4.23	6.54	7.00	9.69
GROWTH AND INCOME GI												
American Funds Growth-Income Fund - Class 2	Growth and Income	02/08/1984	-2.21	-20.90	-18.91	7.99	-4.60	-17.37	6.12	7.05	10.52	9.59
Fidelity® VIP Freedom 2020 Portfolio℠ - Service Class[5, 8]	Growth and Income	04/26/2005	-0.89	-20.29	-19.85	2.29	-8.52	-19.40	0.77	2.20	4.66	4.58
Fidelity® VIP Freedom 2025 Portfolio℠ - Service Class[5, 8]	Growth and Income	04/26/2005	-1.05	-21.22	-20.68	2.62	-8.72	-20.18	1.22	2.57	5.39	5.05

INVESTMENT OPTIONS	ASSET CLASS	INCEP. DATE	CHANGE FROM PREVIOUS DAY 11/02/2022	YTD AS OF 11/02/2022	YTD AS OF 10/31/2022	AVERAGE ANNUAL TOTAL RETURN (%) AS OF 10/31/2022						
						1 MO.	3 MO.	1 YR.	3 YR.	5 YR.	10 YR.	SINCE INCEP.
Fidelity® VIP Freedom 2030 Portfolio℠ - Service Class[5, 8]	Growth and Income	04/26/2005	-1.21	-21.89	-21.29	3.03	-8.74	-20.73	1.91	3.09	6.08	5.30
Fidelity® VIP Freedom 2035 Portfolio℠ - Service Class[5, 8]	Growth and Income	04/08/2009	-1.42	-23.06	-22.30	3.96	-8.74	-21.64	3.13	3.86	6.95	9.37
Fidelity® VIP Freedom 2040 Portfolio℠ - Service Class[5, 8]	Growth and Income	04/08/2009	-1.69	-23.98	-23.05	4.89	-8.77	-22.27	3.95	4.31	7.25	9.66
Fidelity® VIP Freedom 2045 Portfolio℠ - Service Class[5, 8]	Growth and Income	04/08/2009	-1.72	-24.02	-23.09	5.01	-8.80	-22.30	3.93	4.30	7.32	9.73
Fidelity® VIP Freedom 2050 Portfolio℠ - Service Class[5, 8]	Growth and Income	04/08/2009	-1.75	-24.06	-23.08	5.05	-8.75	-22.27	3.95	4.30	7.35	9.83
LVIP Delaware REIT Fund - Standard Class[2, 3, 9, 10, 13]	Growth and Income	05/04/1998	-3.04	-28.21	-25.87	4.63	-13.40	-19.89	-3.12	1.92	4.50	6.69
LVIP Delaware Value Fund - Standard Class[3, 10]	Growth and Income	07/28/1988	-1.46	-6.93	-5.69	11.59	0.73	-1.57	6.34	6.56	9.62	7.73
LVIP Delaware Wealth Builder Fund - Standard Class[3, 4, 10]	Growth and Income	08/03/1987	-1.08	-14.97	-14.20	4.29	-5.27	-12.47	0.60	1.69	4.35	5.51
LVIP JPMorgan Retirement Income Fund - Standard Class[3, 4, 10]	Growth and Income	04/27/1983	-0.85	-16.64	-16.05	2.03	-6.21	-15.67	-0.98	0.60	2.62	5.98
INCOME [1]												
LVIP BlackRock Inflation Protected Bond Fund - Standard Class[1, 10, 14]	Income	04/30/2010	-0.07	-5.82	-5.85	1.51	-5.65	-5.08	0.67	1.22	-0.23	1.23
LVIP Delaware Bond Fund - Standard Class[3, 10, 14]	Income	12/28/1981	-0.08	-17.22	-17.30	-1.33	-8.38	-17.61	-4.48	-1.44	-0.16	5.85
LVIP Delaware Diversified Floating Rate Fund[3, 10, 14, 15, 16]	Income	04/30/2010	0.04	-2.20	-2.27	0.12	-0.27	-2.48	-0.88	-0.15	-0.18	0.03
LVIP Delaware Diversified Income Fund - Standard Class[3, 10, 14]	Income	05/16/2003	-0.07	-17.60	-17.74	-1.18	-8.45	-18.01	-4.12	-1.25	0.00	3.01
LVIP Delaware High Yield Fund - Standard Class[3, 10, 14, 17]	Income	07/28/1988	-0.10	-12.93	-12.88	2.87	-3.74	-12.11	-0.66	0.94	2.33	5.08
LVIP Global Income Fund - Standard Class[1, 10, 11, 14]	Income	05/04/2009	-0.16	-20.48	-20.47	-0.83	-10.05	-20.80	-7.83	-3.34	-1.96	0.32

INVESTMENT OPTIONS	ASSET CLASS	INCEP. DATE	CHANGE FROM PREVIOUS DAY 11/02/2022	YTD AS OF 11/02/2022	YTD AS OF 10/31/2022	AVERAGE ANNUAL TOTAL RETURN (%) AS OF 10/31/2022						
						1 MO.	3 MO.	1 YR.	3 YR.	5 YR.	10 YR.	SINCE INCEP.
LVIP SSGA Bond Index Fund - Standard Class[10, 14, 21]	Income	04/30/2008	-0.11	-16.54	-16.59	-1.43	-8.50	-16.85	-4.99	-1.83	-0.59	0.97
PIMCO VIT Total Return Portfolio - Administrative Class[14, 22]	Income	12/31/1997	-0.11	-17.88	-17.98	-1.85	-8.75	-17.99	-5.03	-1.83	-0.37	3.17
RISK MANAGED - ASSET ALLOCATION RMAA												
LVIP Global Conservative Allocation Managed Risk Fund - Standard Class[1, 4, 5, 10, 19]	Risk Managed - Asset Allocation	05/03/2005	-0.38	-18.03	-17.81	-0.01	-6.58	-17.36	-1.71	0.26	2.40	3.60
LVIP Global Growth Allocation Managed Risk Fund - Standard Class[1, 4, 5, 10, 19]	Risk Managed - Asset Allocation	05/03/2005	-0.79	-20.88	-20.35	0.72	-6.30	-19.63	-1.09	0.26	2.80	3.28
LVIP Global Moderate Allocation Managed Risk Fund - Standard Class[1, 4, 5, 10, 19]	Risk Managed - Asset Allocation	05/03/2005	-0.58	-19.52	-19.14	0.25	-6.38	-18.50	-1.24	0.24	2.59	3.49
LVIP SSGA Global Tactical Allocation Managed Volatility Fund - Standard Class[1, 4, 5, 10, 12]	Risk Managed - Asset Allocation	05/03/2005	-1.08	-18.17	-17.61	3.30	-6.79	-16.91	0.17	0.71	2.45	2.74
PRESERVATION OF CAPITAL PC												
LVIP Government Money Market Fund - Standard Class[10, 20]	Preservation of Capital	01/07/1982	0.00	-0.10	-0.11	0.13	0.28	-0.27	-0.59	-0.15	-0.53	2.62
ASSET ALLOCATION ASA												
LVIP BlackRock Global Allocation Fund - Standard Class[1, 4, 10]	Asset Allocation	04/26/2019	-1.20	-19.35	-18.47	3.38	-6.70	-18.48	1.99	N/A	N/A	2.77
LVIP T. Rowe Price 2020 Fund (Standard Class)[5, 8, 10]	Asset Allocation	05/01/2007	-1.11	-18.84	-18.02	3.20	-7.05	-17.80	1.22	2.33	3.54	2.87
LVIP T. Rowe Price 2030 Fund (Standard Class)[5, 8, 10]	Asset Allocation	05/01/2007	-1.54	-20.91	-19.81	4.32	-7.32	-19.47	2.40	2.97	4.10	3.03
LVIP T. Rowe Price 2040 Fund (Standard Class)[5, 8, 10]	Asset Allocation	05/01/2007	-1.96	-22.12	-20.69	5.87	-7.11	-20.23	3.67	3.77	4.72	2.98
LVIP T. Rowe Price 2050 Fund (Standard Class)[5, 8, 10]	Asset Allocation	04/29/2011	-2.08	-22.43	-20.90	6.36	-7.01	-20.39	4.06	4.21	5.34	3.81
LVIP T. Rowe Price 2060 Fund - Standard Class[5, 8, 10]	Asset Allocation	04/30/2020	-2.08	-22.35	-20.81	6.40	-7.02	-20.36	N/A	N/A	N/A	8.94
RISK MANAGED - US LARGE CAP RMUSL												

INVESTMENT OPTIONS	ASSET CLASS	INCEP. DATE	CHANGE FROM PREVIOUS DAY 11/02/2022	YTD AS OF 11/02/2022	YTD AS OF 10/31/2022	AVERAGE ANNUAL TOTAL RETURN (%) AS OF 10/31/2022						
						1 MO.	3 MO.	1 YR.	3 YR.	5 YR.	10 YR.	SINCE INCEP.
LVIP BlackRock Dividend Value Managed Volatility Fund - Standard Class[10, 11, 12]	Risk Managed - US Large Cap	02/03/1994	-1.32	-5.78	-4.82	8.06	-1.84	-3.79	7.00	5.21	6.06	6.44
LVIP Blended Large Cap Growth Managed Volatility Fund - Standard Class[10, 11, 12]	Risk Managed - US Large Cap	02/03/1994	-2.20	-27.16	-25.20	2.41	-6.63	-22.49	8.07	6.62	8.13	6.38
RISK MANAGED - US MID CAP RMUSM												
LVIP Blended Mid Cap Managed Volatility Fund - Standard Class[2, 10, 11, 12]	Risk Managed - US Mid Cap	05/01/2001	-2.29	-25.23	-23.61	2.25	-4.93	-24.95	4.76	6.71	6.19	3.76
LVIP JPMorgan Select Mid Cap Value Managed Volatility Fund - Standard Class[2, 10, 11, 12]	Risk Managed - US Mid Cap	05/01/2001	-1.65	-11.61	-10.30	5.92	-2.30	-7.88	6.69	3.83	5.76	5.69
RISK MANAGED - GLOBAL/INTERNATIONAL RMGI												
LVIP Franklin Templeton Global Equity Managed Volatility Fund - Standard Class[1, 10, 11, 12]	Risk Managed - Global/International	08/01/1985	-1.98	-17.00	-15.47	6.58	-4.29	-14.73	4.87	2.42	3.90	6.60
LVIP SSGA International Managed Volatility Fund - Standard Class[1, 5, 10, 12]	Risk Managed - Global/International	12/31/2013	-1.31	-25.94	-25.59	4.88	-9.22	-25.60	-5.97	-3.55	N/A	-1.84
ESG/SOCIALLY CONSCIOUS ESC												
AB VPS Sustainable Global Thematic Portfolio - Class B[1]	ESG/Socially Conscious	01/11/1996	-2.53	-32.91	-31.24	4.89	-12.17	-30.30	7.36	6.28	9.00	4.91
LVIP Delaware Social Awareness Fund - Standard Class[3, 10, 18]	ESG/Socially Conscious	05/02/1988	-2.72	-22.41	-19.78	7.57	-5.85	-18.17	8.43	8.90	11.02	9.44

* These returns are measured from the inception date of the fund and predate its availability as an investment option in the variable annuity (separate account). This hypothetical representation depicts how the investment option would have performed had the fund been available in the variable annuity during the time period. It includes deductions for the M&E charge and the contract administrative fee. If selected above, the cost for the i4LIFE® Advantage feature or a death benefit will be reflected. The cost for other riders with quarterly charges is not reflected. No surrender charge and no annual contract charge is reflected.

Risk disclosures:

1: **International:** Investing internationally involves risks not associated with investing solely in the United States, such as currency fluctuation, political or regulatory risk, currency exchange rate changes, differences in accounting and the limited availability of information.

2: **Small & Mid Cap:** Funds that invest in small and/or midsize company stocks may be more volatile and involve greater risk, particularly in the short term, than those investing in larger, more established companies.

3: **Macquarie Investment Management:** Investments in Delaware VIP Series, Delaware Funds, Ivy Variable Insurance Portfolios, Ivy Funds, LVIP Delaware Funds or Lincoln Life accounts managed by Macquarie Investment Management Advisers, a series of Macquarie Investments Management Business Trust, are not and will not be deposits with or liabilities of Macquarie Bank Limited ABN 46 008 583 542 and its holding companies, including their subsidiaries or related companies, and are subject to investment risk, including possible delays in repayment and loss of income and capital invested. No Macquarie Group company guarantees or will guarantee the performance of the fund, the repayment of capital from the fund, or any particular rate of return.

4: **Asset Allocation Portfolios:** Asset allocation does not ensure a profit, nor protect against loss in a declining market.

5: **Fund of funds:** Each fund is operated as a fund of funds that invests primarily in one or more other funds, rather than in individual securities. A fund of this nature may be more expensive than other investment options because it has additional levels of expenses. From time to time, the Fund's advisor may modify the asset allocation to the underlying funds

and may add new funds. A Fund's actual allocation may vary from the target strategic allocation at any point in time. Additionally, the Fund's advisor may directly manage assets of the underlying funds for a variety of purposes.

6: **Exchange-traded funds:** Exchange-traded funds (ETFs) in this lineup are available through collective trusts or mutual funds. Investors cannot invest directly in an ETF.

7: **Alternative Funds:** Certain funds (sometimes called "alternative funds") expect to invest in (or may invest in some) positions that emphasize alternative investment strategies and/or nontraditional asset classes and, as a result, are subject to the risk factors of those asset classes and/or investment strategies. Some of those risks may include general economic risk, geopolitical risk, commodity-price volatility, counterparty and settlement risk, currency risk, derivatives risk, emerging markets risk, foreign securities risk, high-yield bond exposure, index investing risk, exchange-traded notes risk, industry concentration risk, leveraging risk, real estate investment risk, master limited partnership risk, master limited partnership tax risk, energy infrastructure companies risk, sector risk, short sale risk, direct investment risk, hard assets sector risk, active trading and "overlay" risks, event-driven investing risk, global macro strategies risk, temporary defensive positions and large cash positions. If you are considering investing in alternative investment funds, you should ensure that you understand the complex investment strategies sometimes employed and be prepared to tolerate the risks of such asset classes. For a complete list of risks, as well as a discussion of risk and investment strategies, please refer to the fund's prospectus. The fund may invest in derivatives, including futures, options, forwards and swaps. Investments in derivatives may cause the fund's losses to be greater than if it invested only in conventional securities and can cause the fund to be more volatile. Derivatives involve risks different from, or possibly greater than, the risks associated with other investments. The fund's use of derivatives may cause the fund's investment returns to be impacted by the performance of securities the fund does not own and may result in the fund's total investment exposure exceeding the value of its portfolio.

8: **Target-date funds:** The target date is the approximate date when investors plan to retire or start withdrawing their money. Some target-date funds make no changes in asset allocation after the target date is reached; other target-date funds continue to make asset allocation changes following the target date. (See the prospectus for the funds allocation strategy.) The principal value is not guaranteed at any time, including at the target date. An asset allocation strategy does not guarantee performance or protect against investment losses. A "fund of funds" may be more expensive than other types of investment options because it has additional levels of expenses.

9: **REIT:** A real estate investment trust (REIT) involves risks such as refinancing, economic conditions in the real estate industry, declines in property values, dependency on real estate management, changes in property taxes, changes in interest rates and other risks associated with a portfolio that concentrates its investments in one sector or geographic region.

10: **Manager of managers funds:** Subject to approval of the fund's board, Lincoln Investment Advisors Corporation (LIAC) has the right to engage or terminate a subadvisor at any time, without a shareholder vote, based on an exemptive order from the Securities and Exchange Commission. LIAC is responsible for overseeing all subadvisors for funds relying on this exemptive order.

11: **Multimanager:** For those LVIP funds that employ a multimanager structure, Lincoln Investment Advisors Corporation (LIAC) is responsible for overseeing the subadvisor(s). While the investment styles employed by the fund's subadvisors are intended to be complementary, they may not, in fact, be complementary. A multimanager approach may result in more exposure to certain types of securities risks and in higher portfolio turnover.

12: **Managed Volatility Strategy:** The fund's managed volatility strategy is not a guarantee, and the fund's shareholders may experience losses. The fund employs hedging strategies designed to reduce overall portfolio volatility. The use of these hedging strategies may limit the upside participation of the fund in rising equity markets relative to unhedged funds, and the effectiveness of such strategies may be impacted during periods of rapid or extreme market events.

13: **Sector Funds:** Funds that target exposure to one region or industry may carry greater risk and higher volatility than more broadly diversified funds.

14: **Bonds:** The return of principal in bond funds is not guaranteed. Bond funds have the same interest rate, inflation, credit, duration, prepayment and market risks that are associated with the underlying bonds owned by the fund or account.

15: **Cash Management Funds:** An investment in Cash Management Fund is not a bank deposit and is not insured or guaranteed by the FDIC or any other government agency. Although this option seeks to preserve the value of your investment, it is not managed to maintain a stable net asset value of $1 per share and it is possible to lose money by investing in this investment option.

16: **Floating rate funds:** Floating rate funds should not be considered alternatives to CDs or money market funds and should not be considered as cash alternatives.

17: **High-yield or mortgage-backed funds:** High-yield funds may invest in high-yield or lower rated fixed income securities (junk bonds) or mortgage-backed securities with exposure to subprime mortgages, which may experience higher volatility and increased risk of nonpayment or default.

18: **ESG:** An environmental, social, governance (ESG) standards strategy (also referred to as engagement, green, impact, responsible, social aware, sustainable) generally prohibits investment in certain types of companies, industries and segments of the U.S. economy. Thus this strategy may (i) miss opportunities to invest in companies, industries or segments of the U.S. economy that are providing superior performance relative to the market as a whole and (ii) become invested in companies, industries and segments of the U.S. economy that are providing inferior performance relative to the market as a whole.

19: **Risk Management Strategy:** The fund's risk management strategy is not a guarantee, and the funds shareholders may experience losses. The fund employs hedging strategies designed to provide downside protection during sharp downward movements in equity markets. The use of these hedging strategies may limit the upside participation of the fund in rising equity markets relative to other unhedged funds, and the effectiveness of such strategies may be impacted during periods of rapid or extreme market events.

20: **Money Market Funds:** You can lose money by investing in the fund. Although the fund seeks to preserve the value of your investment at $1.00 per share (or, for the LVIP Government Money Market Fund, at $10.00 per share), it cannot guarantee it will do so. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The fund's sponsor has no legal obligation to provide financial support to the fund, and you should not expect that the sponsor will provide financial support to the fund at any time.

21: **Index:** An index is unmanaged, and one cannot invest directly in an index. Indices do not reflect the deduction of any fees.

22: **Emerging Markets:** Investing in emerging markets can be riskier than investing in well-established foreign markets. International investing involves special risks not found in domestic investing, including increased political, social and economic instability, all of which are magnified in emerging markets.

23: **MSCI:** The fund described herein is indexed to an MSCI® index. It is not sponsored, endorsed, or promoted by MSCI®, and MSCI®; bears no liability with respect to any such fund or to an index on which a fund is based. The prospectus and statement of additional information contain a more detailed description of the limited relationship MSCI®; has with Lincoln Investment Advisors Corporation and any related funds.

24: S&P: The Index to which this fund is managed is a product of S&P Dow Jones Indices LLC (SPDJI) and has been licensed for use by one or more of the portfolio's service providers (licensee). Standard & Poor's®; and S&P® are registered trademarks of Standard & Poor's Financial Services LLC (S&P); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC (Dow Jones); and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by the licensee. S&P®, S&P GSCI® and the Index are trademarks of S&P and have been licensed for use by SPDJI and its affiliates and sublicensed for certain purposes by the licensee. The Index is not owned, endorsed, or approved by or associated with any additional third party. The licensee's products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, or their third party licensors, and none of these parties or their respective affiliates or third party licensors make any representation regarding the advisability of investing in such products, nor do they have liability for any errors, omissions, or interruptions of the Index®.

DISTRICT CORRESPONDENCE

Board Meeting of November 7, 2022

	Date:	Correspondence Sent To:
1.	10/19/2022	Tom Wahlquist **Subject:** Sewer Service Availability Proposed Sewer Service Connection for One Existing Single Family Residence and One Proposed ADJU A.P.N. 067-030-041 at 801 Poinsettia Way, Santa Barbara, CA
2.	10/25/2022	Jacob Niksto Becker Henson Niksto Architects **Subject:** Sewer Service Availability Proposed Annexation, Sewer Main Extension and Connection of One Single Family Residence and Two Detached Dwellings A.P.N. 061-291-029 at 655 Via Trepadora, Santa Barbara CA

	Date:	Correspondence Received From:
1.	10/19/2022	Cushman Contracting Corporation General Engineering Construction **Subject:** Emergency Response Plan for Force Account Services
2.	10/25/2022	CASA Federal eRulemaking Portal U.S. Environmental Protection Agency (USEPA) EPA Docket Center OLEM Docket 1200 Pennsylvania Avenue, N.W. Washington, D.C. 20460 **Subject:** Docket ID NO. EPA-HQ-OLEM-2019-0341

Hard Copies of the Correspondence are available at the District's Office for review