

## Capital Improvement Plan



*Installation of recycled water pipeline in the Los Carneros Water District area*

## Capital Improvement Plan

### *Program Description*

The Capital Improvement Plan (CIP) is designed to identify capital expenditures for the next ten years and to plan appropriately for how to complete those projects within projected revenues and staffing capacity. The plan includes the replacement and rehabilitation of existing capital assets as well as the acquisition or construction of new capital assets.

### *Definition of Capital Expenditures*

Capital expenditures, or capital outlays, are cash outlays by NapaSan that result in the acquisition or construction of a capital asset. A capital asset is any asset of significant value (over \$5,000) that has a useful life of over one year. Examples include land, buildings, machinery, vehicles and equipment. All capital assets acquired or constructed are included in the Capital Improvement Plan. Land is always considered a capital asset, regardless of value.

### *Capital Plan Development Process*

Annually, NapaSan updates its Ten-Year Capital Improvement Plan. The plan undergoes several levels of review and alteration. First, a project is individually evaluated to determine whether it is necessary to do the project, or if a less expensive alternative is available. If the project is still the best alternative, then an evaluation is done to determine when the project should be done, based on the condition of the existing assets or the operational and maintenance needs for the project.

Management and supervisory staff also are provided an opportunity to identify new capital projects through the Project Charter process. New projects are proposed to the Capital Program Manager and the District Engineer who evaluate the projects and determine their need and level of priority. Once vetted through this process, new projects are added to the CIP as funding allows.

### *Vehicle Replacement Guidelines*

NapaSan maintains a fleet of vehicles used solely for purposes related to the direct maintenance and operations of NapaSan. When a vehicle is purchased, it is identified at that time how long that vehicle should continue to serve its intended function, provided that the vehicle is maintained properly. The replacement of that vehicle is then scheduled in the Capital Improvement Plan, to ensure that NapaSan has adequately planned for the replacement costs associated with the vehicle.

Every year, a team of NapaSan staff reviews the list of vehicles owned by NapaSan and the replacement schedule. The team makes the following recommendations:

- Move vehicles back or forward on the replacement schedule based on the maintenance history of the vehicle and any current maintenance problems;
- Move vehicles back or forward on the schedule based on regulatory requirements (such as CARB requirements for diesel engines);
- Move vehicles between organizational units when the use of the vehicle changes;
- Identify whether a vehicle scheduled for replacement should be recommended for surplus, or when it could still be used effectively by another department; and
- Identify when service needs have changed that could necessitate that a vehicle be replaced by a different type of vehicle or not at all.



*The combination vacuum truck was replaced in 2018.*

Senior management reviews the recommendations of the Fleet Team, accepts or rejects recommendations, and incorporates accepted changes into the Ten-Year Capital Improvement Plan. All decisions to declare a vehicle surplus and replace the vehicle are brought to the NapaSan Board of Directors for approval, in accordance with procurement policy.

The replacement of fleet vehicles represents almost \$6.47 million, or 2.5% of the entire Ten-Year Capital Improvement Plan. All revenues collected from the sale of any vehicles declared surplus are used to offset the cost of new vehicles.

### ***Sources of Capital Expenditure Funding***

There are several sources of funding for capital projects. NapaSan collects capacity charges on new development to pay for its share of expanding the collection and treatment systems. NapaSan also collects sewer service charges revenue in excess of operational needs to pay for replacement and rehabilitation projects. The fees collected as part of development plan review are used for capital projects, as well as grant and intergovernmental revenue.

### ***Use of Capacity Charges for Expansion***

NapaSan imposes a capacity charge on new development (see the Budget Summary section, [page 31](#), for more information on this revenue source).

In August 2009, NapaSan completed a study of capacity charges. The study determined that from FY 1995/96 to FY 2007/08, there was significantly more money spent to provide new capacity (expansion) than there was capacity charge revenue collected. As of July 1, 2008, the expansion fund (capacity charges) was in deficit to existing ratepayers and the capital projects fund by \$12.6 million.

As new projects are completed, their benefit to existing users and to new development is evaluated, and a split of expenses between the two is assigned. At the end of the fiscal year, the deficit is adjusted based on the amount of revenue received in capacity charges and the amount of capital expenditure for expansion projects. The following represents a summary of this accounting:

#### **Actual**

Beginning Deficit (7/1/08)	(\$12,607,167)
FY 2008/09 – Revenues	1,387,193
FY 2008/09 – Expansion Projects	(1,663,801)
FY 2009/10 – Revenues	600,664
FY 2009/10 – Expansion Projects	(2,191,370)
FY 2010/11 – Revenues	2,183,802
FY 2010/11 – Expansion Projects	(2,811,161)
FY 2011/12 – Revenues	3,330,418
FY 2011/12 – Expansion Projects	(4,208,445)
FY 2012/13 – Revenues	2,693,047
FY 2012/13 – Expansion Projects	(2,171,064)
FY 2013/14 – Revenues	3,635,826
FY 2013/14 – Expansion Projects	(7,447,155)
FY 2014/15 – Revenues	3,341,297
FY 2014/15 – Expansion Projects	(10,657,234)
FY 2015/16 – Revenues	3,252,412
FY 2015/16 – Expansion Projects	(1,832,349)
FY 2016/17 – Revenues	5,359,233
FY 2016/17 – Expansion Projects	(703,992)
FY 2017/18 – Revenues	6,543,602
FY 2017/18 – Expansion Projects	(1,847,962)
Ending Deficit (6/30/17)	(\$15,814,204)

#### **Estimated/Projected**

Beginning Deficit (7/1/18)	(\$15,814,204)
FY 2018/19 – Revenues	5,100,000
FY 2018/19 – Expansion Projects	(7,314,997)
FY 2019/20 – Revenues	5,178,000
FY 2019/20 – Expansion Projects	(9,400,120)
Projected Ending Deficit (6/30/2020)	(\$22,251,321)



*The aeration basin panels were replaced in 2017.*



A budget deficit and situation where expenses on expansion projects exceeds revenues means that the current ratepayers in the system are paying more than their allocated share of capital expenses, as the deficit is made up using sewer service charges and other revenues from operational sources.

A copy of the Capacity Charges Report for Fiscal Year 2017/18 can be found in Appendix F of this budget document.

### ***Changes from Prior CIP***

The CIP was amended by the Board after initial adoption during FY 2018/19 to carry forward the budgets of unfinished projects from the prior year (\$4,549,850) and to increase appropriations by \$1,474,550 (details below). Other changes were made on the General Manager's approval, moving budget from one project to another. The following is a summary of the significant changes made to the CIP during the last fiscal year, not counting carry forwards of uncompleted capital projects:

- Increase the project size of the 2019 Sewer System Rehabilitation project (CIP #18706) by \$335,850 to expand the scope of the project.
- The 72-inch Trunk Construction project (CIP #19702) allocation of \$1,000,000 for FY 18/19 was moved to begin the Collection System Master Plan project (CIP #19727).
- The Pond 1 Dredge project (CIP #13745) budget was reduced by \$350,000 as it was not needed for anticipated expenses in the FY 18/19 fiscal year. Savings was allocated to Pond Transfer Structure 2 to 3 project (CIP #19717).
- An additional \$1,000,000 was added to the Chemical Storage Building Piping Repair (CIP #18740) to address the significant deterioration in the asset condition.

### ***Summary of FY 2019/20 Capital Projects***

The following is a summary of FY 2019/20 capital projects. **Dollar amounts noted are the amount budgeted for FY 2019/20, and not the entire amount of the project.** For complete financial information, see the table of projects that follows, starting on [page 84](#).

**Collection System** – Collection System projects represent significant and routine replacement or rehabilitation of existing pipeline or equipment. These projects are designed to replace or improve assets to extend their useful lives or to improve their function by reducing how rainwater and groundwater can enter the collection system. Major projects beginning or continuing this year include the Browns Valley Trunk project, the Summer 2019 Sewer Rehabilitation project, the Summer 2020 Sewer Rehabilitation project, and the 66-inch trunk rehabilitation project. This category also includes the development of the Collection System Master Plan update. Collection system projects for the fiscal year total \$20,201,500.

**Collection System Equipment** – The Collection Department will be replacing one of its locatable mini-cameras (\$11,900) and one of its “eels” (\$5,900).

**Lift Stations** – Lift stations are pump stations within the sewer collection system. In FY 2019/20, the West Napa Pump Station replacement project will begin. Lift Station capital projects for the year total \$5,500,000.

**Treatment** – FY 2019/20 includes a project to dredge solids from Pond 1, the completion of the 2019 Treatment Plant Improvement Project and the beginning of the 2020 Treatment Plant Improvement Project. This year will also see the beginning of the Treatment Plant Master Plan Update. Capital costs in this area total \$4,305,000 for this fiscal year.

#### **Ten-Year CIP Summary**

	<b><u>FY 2019/20</u></b>	<b><u>10-Year CIP</u></b>
Collection System Projects	\$20,201,500	\$146,937,250
Collection System Equipment	17,800	4,513,400
Collection System Lift Stations	5,500,000	11,269,500
Treatment Projects	4,305,000	59,006,100
Treatment Equipment	2,872,300	11,779,200
Lab Equipment	20,000	1,362,200
SCADA	-	886,000
Recycling Projects	510,000	7,566,400
Recycling Equipment	109,700	4,250,600
Other	337,000	6,686,000
<b>Total</b>	<b>\$33,873,300</b>	<b>\$254,256,650</b>

**Treatment – Equipment** – These projects include a number of equipment replacements, most notable of which are projects to replace equipment in the Headworks building, repairing and coating equipment in the primary clarifier and DAF clarifier, conducting elevator control updates, and replacing the telehandler. The total FY 2019/20 expenditure is \$2,872,300.

**Lab Equipment** – This category includes the replacement of the 4700 Sampler (\$20,000).

**SCADA** – SCADA is the hardware and software that is used to operate the treatment plant. In FY 2019/20, there are no planned expenditures. However, with the planned completion of the SCADA Master Plan in FY 2018/19, it is expected that there will be future projects recommended for implementation.

**Recycling-Projects** – This section includes projects to expand or rehabilitation major components of the recycled water distribution system and biosolids application program. Projects in FY 2019/20 include the completion of the Coombsville Recycled Water Truck Fill Station, rehabilitation of the Kirkland Pipeline, and continued environmental plan development and grant applications with the NBWRA. The total FY 2019/20 expenditure is \$510,000.

**Recycling-Equipment** – This section includes projects to replace equipment necessary to manage or maintain the recycled water distribution system or the biosolids application program. The FY 2019/20 plan includes the replacement of the Badger meters and replacement of tractor attachments used in biosolids application. Total FY 2019/20 budget is \$109,700.

**Other** – Development technical support is the capitalization of staff time spent reviewing the plans and inspections associated with contributed capital. IN FY 2019/20, there are no other expenditures in this category. Total for FY 2019/20 is \$337,000.

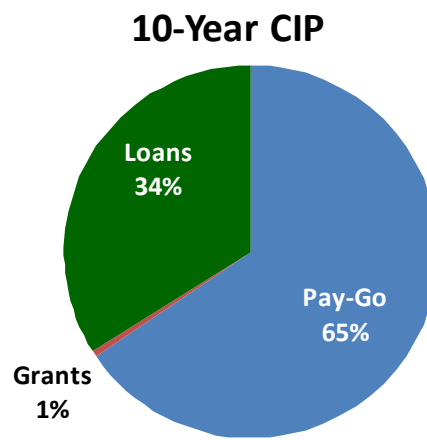
### ***FY 2019/20 Partner-Funded Projects***

There are no partner-funded projects in the FY 2019/20 Capital Improvement Plan.

### ***10-Year Capital Project Funding Summary***

The following table summarizes the 10-Year Capital Improvement Plan by the type of funding. “Pay-Go” refers to pay-as-you-go financing, meaning that the projects are funded from existing resources, either cash on hand or from annual revenue sources such as sewer service charges or capacity charges. “Grant” refers to funding from

	Pay-Go	Grants	Loans
FY 19/20	51.3%	-	48.7%
FY 20/21	36.1%	-	63.9%
FY 21/22	64.4%	-	35.4%
FY 22/23	99.4%	0.2%	0.4%
FY 23/24	97.0%	0.8%	2.2%
FY 24/25	75.0%	5.0%	20.0%
FY 25/26	83.0%	-	17.0%
FY 26/27	43.4%	-	56.6%
FY 27/28	90.4%	-	9.6%
FY 28/29	73.3%	-	26.7%



any federal, state or local government that does not have to be repaid. “Loans” refers to any long-term financing, such as revenue bonds, Certificates of Participation, State Revolving Fund loans, or federal loans.

### ***Unfunded or Delayed Projects***

The Capital Improvement Plan includes projects that have been clearly identified and programmed. It also includes some “placeholder” projects, where the specific project has not been identified but there is money allocated nonetheless. These placeholders are included in the plan to recognize that there is the need to plan for future replacement and rehabilitation projects, even though the specific projects have not yet been scoped and planned. Providing a placeholder for these future projects will ensure that there are adequate resources to pay for these projects once they are known. As NapaSan further develops its Asset Management Program, these placeholders will be replaced with actual projects.

There are a few projects in this CIP where the start dates have been pushed out to begin in later years, as compared to last year’s CIP:

- The **Browns Valley Road Trunk** project and the **West Napa Pump Station Replacement** project start of construction has been delayed to FY 2019/20 as a result of delays in funding through the SRF program.
- The **66-inch Trunk Rehabilitation** project has been divided into two projects, with the lower end of the pipeline (Kaiser Road to IPS) rehabilitated sooner than the upper portion (Imola Avenue to Kaiser Road). This change is based on condition assessments made in FY 2019/20.
- The construction of the **Second Digester** and **Third Aeration Basin** start dates were pushed back, from FY 2022/23 to FY 2024/25 based on the current and projected flow and loading numbers, and to provide for the completion of the Treatment Plant Master Plan prior to project commencement.

Staff believes that these delays will not result in deferred maintenance scenarios, nor will the delays pose an unreasonable risk for system failure or permit violation.

### ***Impact of Projects on Operating Budget***

Most of the capital projects planned for FY 2019/20 are replacements and rehabilitations of existing capital assets, so it is not expected that these capital projects will have an impact on future operating budgets. However, a few the FY 2019/20 capital projects will have a significant impact on the current and future NapaSan operations and maintenance budgets.

The Browns Valley Trunk project (CIP #14703) will increase the amount of sewer main that will need to be maintained in the Collection System (an additional 3 miles). However, it is not significant enough in size to impact the staffing levels in the Collection System operating budget. A small impact on chemicals and water for cleaning activities is expected.

The West Napa Pump Station Replacement (CIP #17711) is being designed to reduce the current electricity consumption by at least 20%. The estimated annual savings is \$3,600 starting in FY 2020/21.

The Coombsville Recycled Water Truck Fill Station (CIP #18731) will have increased annual operating expenses related to the automated access and metering system, as well as routine system maintenance. These costs, and the additional expenses related to treating increased amounts of recycled water are offset by the recycled water fees charged to water truck haulers.

The Rehabilitation projects in the Collection System will decrease the amount of rain and groundwater that get into the system. This reduces future costs by reducing the amount of influent that needs to be treated. It also reduces the need for cleaning and root removal maintenance activities. The immediate, short-term savings have not been calculated, but should have a positive effect on the operating budget.

<b>Net Impacts of Capital Projects on Operating Budget</b>			
<b>CIP #</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>
14703	0	0	\$1,500
17711	0	(3,600)	(3,600)
18731	0	8,000	8,000
<b>Total</b>	<b>\$0</b>	<b>\$4,400</b>	<b>\$5,900</b>