



A Simplified Phased Approach to Implementing an Asset Management Program

**BAYWORK Maintenance & Asset
Management Workshop**

May 30, 2018



What does NapaSan do?

- 1) Wastewater Collection (approximately 37,000 connections)
 - Sewer Mains and Street lateral
- 2) Wastewater Treatment (Dry Weather Flow 6 MGD)
 - Plant and 3 lift stations
- 3) Recycled Water Production Capacity (Up to 3,700 AF)
- 4) Biosolid Application to District property
- 5) Development Review
 - Projects within the City and County
- 6) Environmental Compliance





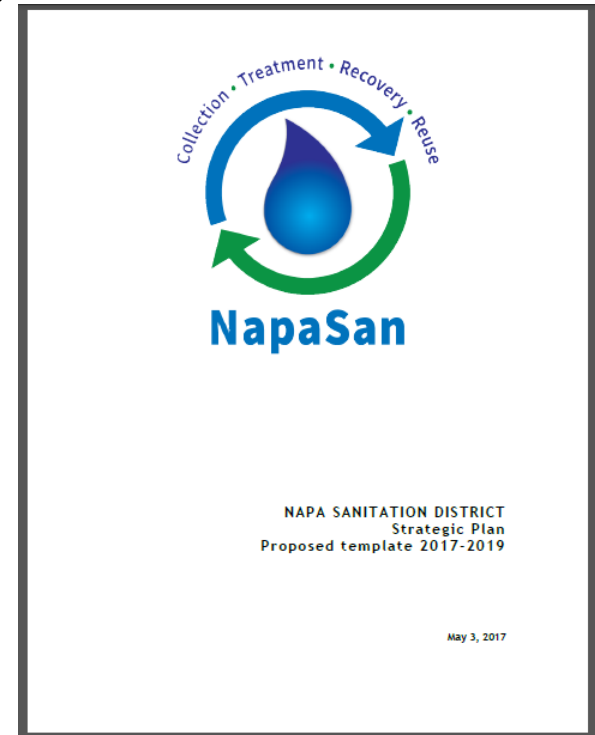
The Turning Point for AM

NapaSan Strategic Plan 2017 - 2019

Goal One: Infrastructure Reliability

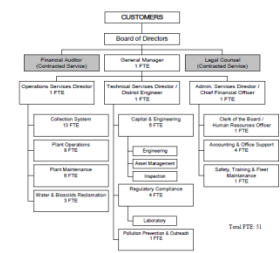
1B. Continue to Implement an Asset Management program

Asset Management will help NapaSan to be proactive in addressing the management of its collection system, plant and recycled water infrastructure. It will result in better prioritization of projects and reduced costs by predicting the most cost effective timing for asset maintenance, renewal and replacement.





How did we get where we wanted to be?



1) Create an AM position

- This position is under Technical Services

2) Select an experienced consultant team to evaluate the baseline.

- Through the RFP process GHD was selected to prepare an AM Plan

3) Assemble an AM Team

- Operations Director, Technical Services Director, Director of Administrative Services (IT), Collection System Manager, Collection Systems Technician, Electrical and Maintenance Supervisor, Asset Management Analyst



NapaSan Developed a Phased Asset Management Plan – The Roadmap

1. Phase 1 - Refine Existing AM Practices and Replace CMMS

- ✓ Develop systems and standards of practice

2. Phase 2 - Prepare Tactical Asset Management Plans

- ✓ Collection System
- ✓ Treatment Plant
- ✓ Recycled Water & Biosolids

3. Phase 3 - Optimize Data-Driven Decision Making

- ✓ Capital Improvement Planning
- ✓ Maintenance Planning

4. Phase 4 - Review and Refine AM Program

- ✓ AM Policy
- ✓ Standards of Practice

No.	Initiative Description	Phase 1	Phase 2	Phase 3	Phase 4
P1	Monitor and update AM implementation plan	█	█	█	█
P2	Develop and pilot TAMPs	█	█		
P3	Capital project chartering and BCEs	█		█	
CS1	Asset data management and upkeep		█		
CS2	Implement maintenance strategies			█	
CS3	Asset condition assessments	█	█		
PM1	LOS and performance measures	█	█		
PM2	Failure investigations and improvements		█		
PM3	Performance reporting and improvements				█
SS1	Staff assessment and training		█		
SS2	Asset register formatting and data security	█	█		
SS3	CMMS and IS improvements	█			
SS4	Select and implement DSS			█	
AMPI	Ongoing support of AM implementation	█	█	█	█



Timeline and Expense Options

Table ES-3 AM Implementation Plan Resource Needs for Three Timelines

No.	Initiative Description	4-Year Implementation Plan				7-Year Implementation Plan				10-Year Implementation Plan			
		Internal	External	Software	Total	Internal	External	Software	Total	Internal	External	Software	Total
P1	Monitor and update AM implementation plan	\$22,080	\$0	\$0	\$22,080	\$38,640	\$0	\$0	\$38,640	\$55,200	\$0	\$0	\$55,200
P2	Develop and pilot TAMPs	\$248,400	\$675,000	\$0	\$923,400	\$248,400	\$675,000	\$0	\$923,400	\$248,400	\$675,000	\$0	\$923,400
P3	Capital project chartering and BCEs	\$82,800	\$100,000	\$0	\$182,800	\$92,000	\$75,000	\$0	\$167,000	\$101,200	\$50,000	\$0	\$151,200
CS1	Asset data management and upkeep	\$82,800	\$40,000	\$0	\$122,800	\$87,400	\$30,000	\$0	\$117,400	\$92,000	\$20,000	\$0	\$112,000
CS2	Implement maintenance strategies	\$165,600	\$100,000	\$0	\$265,600	\$174,800	\$75,000	\$0	\$249,800	\$184,000	\$50,000	\$0	\$234,000
CS3	Asset condition assessments	\$124,200	\$90,000	\$0	\$214,200	\$133,400	\$65,000	\$0	\$198,400	\$142,600	\$40,000	\$0	\$182,600
PM1	LOS and performance measures	\$82,800	\$70,000	\$0	\$152,800	\$92,000	\$50,000	\$0	\$142,000	\$101,200	\$30,000	\$0	\$131,200
PM2	Failure investigations and improvements	\$124,200	\$50,000	\$0	\$174,200	\$128,800	\$40,000	\$0	\$168,800	\$133,400	\$30,000	\$0	\$163,400
PM3	Performance reporting and improvements	\$82,800	\$30,000	\$0	\$112,800	\$87,400	\$20,000	\$0	\$107,400	\$92,000	\$10,000	\$0	\$102,000
SS1	Staff assessment and training	\$165,600	\$75,000	\$0	\$240,600	\$172,500	\$60,000	\$0	\$232,500	\$179,400	\$45,000	\$0	\$224,400
SS2	Asset register formatting and data security	\$248,400	\$185,000	\$0	\$433,400	\$262,200	\$150,000	\$0	\$412,200	\$276,000	\$115,000	\$0	\$391,000
SS3	CMMS and IS improvements	\$248,400	\$375,000	\$300,000	\$923,400	\$248,400	\$375,000	\$300,000	\$923,400	\$248,400	\$375,000	\$300,000	\$923,400
SS4	Select and implement DSS	\$248,400	\$50,000	\$100,000	\$398,400	\$248,400	\$50,000	\$100,000	\$398,400	\$248,400	\$50,000	\$100,000	\$398,400
AMPI	Ongoing support of AM implementation	n.a.	n.a.	n.a.		n.a.	n.a.	n.a.		n.a.	n.a.	n.a.	
Total Resource Needs		\$4,166,480				\$4,079,340				\$3,992,200			
Average Annual Cost		\$1,041,620				\$582,763				\$399,220			

*Table is in 2017 dollars

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So we figured out what to do in each Phase. Now what?



Break the Phases into sub-phases starting with Phase 1

- Allows for Staff to have accomplishable milestones
- Can align the sub-phases with the fiscal year

Importance of Phase 1 Tasks

Phase 1A – Necessary Improvement Tasks (FY 17/18)

- ✓ Select and purchase a new CMMS
- ✓ Develop an asset condition assessment protocol
- ✓ Develop register formatting and data security for assets
- ✓ Create an interface between GIS and the CMMS to optimize data sharing and reliability

Phase 1B – CMMS Implementation (FY 18/19)

- ✓ Format new CMMS software and integrate existing data into software

Phase 1C – Planning Tasks and Phase 2 Preparation Tasks (FY 18/19)

- ✓ Develop BRE tables for Phase 2 TAMP pilot
- ✓ Formalize Charter and BCE process
- ✓ Develop LOS and Performance Measures





Phase 1 Description and Costs by Fiscal Year

No.	Initiative Description	FY 17/18 (1A)				FY18/19 (1B & 1C)			
		Internal	External	Software	Total	Internal	External	Software	Total
P1	Monitor and update AM implementation plan	\$5,520	\$0	\$0	\$5,520	\$5,520	\$0	\$0	\$5,520
P2	Develop and pilot TAMPs	\$0	\$0	\$0	\$0	\$18,400	\$25,000	\$0	\$43,400
P3	Capital project chartering and BCEs	\$0	\$0	\$0	\$0	\$3,680	\$20,000	\$0	\$23,680
CS3	Asset condition assessments	\$9,200	\$15,000	\$0	\$24,200	\$0	\$0	\$0	\$0
PM1	LOS and performance measures	\$0	\$0	\$0	\$0	\$7,360	\$20,000	\$0	\$27,360
SS2	Asset register formatting and data security	\$18,400	\$30,000	\$0	\$48,400	\$0	\$0	\$0	\$0
SS3	CMMS and IS improvements	\$92,000	\$100,000	\$300,000	\$492,000	\$92,000	\$275,000	\$0	\$367,000
FY Total					\$570,120				\$466,960
Total Phase 1 Resource Needs									\$1,037,080.00

FY17/18 = \$570k (Phase 1A) , and FY18/19 = \$467k approx. (Phase 1B & 1C)



So how is the Program going so far?

No.	Initiative Description	FY 17/18 (1A)				FY18/19 (1B & 1C)			
		0-25%	25-50%	50-75%	75-100%	0-25%	25-50%	50-75%	75-100%
P1	Monitor and update AM implementation plan								
P2	Develop and pilot TAMPs								
P3	Capital project chartering and BCEs								
CS3	Asset condition assessments								
PM1	LOS and performance measures								
SS2	Asset register formatting and data security								
SS3	CMMS and IS improvements								



Are there any questions?