



NAPA SANITATION DISTRICT

WOODARD & CURRAN - TASK ORDER No. 6 CLIMATE CHANGE PLAN

Date: _____

Issued under Professional Services Agreement dated April 12, 2021.

To: Woodard & Curran

Project Description:

Climate Change Plan

Description of Scope of Services to be performed by Consultant under this Task Order:

See Exhibit 'A' – Scope of Services

Description of Services to be Provided by District: See Exhibit 'A' –Scope of Services

Deliverables: See Exhibit 'A' –Scope of Services

Consultant Project Manager: Xavier Irias, PE

Consultant Quality Control Manager: Dave Richardson, PE

Schedule to Perform Services: Project completion by June 30, 2022

Time & Materials Not-to-Exceed Cost Limit: \$141,151

See Exhibit 'B' –Fee Schedule

APPROVALS:

WOODARD & CURRAN

By: _____
Authorized Representative

Date

NAPA SANITATION DISTRICT

By: _____
Purchasing Agent

Date

NapaSan Account No.: 7804000/52310

Napa Sanitation District Climate Change Plan

Scope of Work *August 2021*

Recognizing the increasing impacts of climate change, Napa Sanitation District (NapaSan) is embarking on a process to develop a climate change plan. The purpose of this plan is to help NapaSan identify the risks that climate change poses to its system and operations, and offer specific measures to reduce or eliminate the impacts of those risks.

This scope outlines the activities that will be undertaken as Phase 2 of the project. Phase 1 was completed in July 2021 for the purpose of identifying activities to be performed in Phase 2.

TASK 1: PROJECT COORDINATION

Under this task, Woodard & Curran will manage all aspects of project work, including tracking and managing project budget and schedule. Woodard & Curran's project manager will be responsible for providing overall project management and maintaining effective communication with NapaSan's project manager. To support this, this task includes bi-weekly 30-minute check-ins with NapaSan staff and Woodard & Curran's project manager and deputy project manager.

This task also includes preparing monthly invoices and progress reports that will summarize the work performed during the month, work to be completed in the next month, and statements of schedule and budget status. This task also includes implementation of Woodard & Curran's Quality Assurance program on project deliverables, including a Technical Advisory Team meeting with Woodard & Curran senior staff.

Also included in this task is the preparation for and attendance at up to three Board meetings. Woodard & Curran will prepare meeting materials, which may include an agenda and PowerPoint, to support Board dialogue at the meetings. Woodard & Curran will conduct follow-up from the meetings as necessary.

Assumptions:

- Kickoff meeting will be held virtually.
- Effort for technical workshops and quality control of deliverables are included under the appropriate task rather than within the Task 1 scope.
- Bi-weekly coordination meetings will occur over the phone or online meeting platform such as Zoom or MS Teams and last no longer than 30 minutes.
- Board meetings will be held in person.

Electronic Deliverables:

1. Kickoff meeting, materials, meeting minutes, and follow-up
2. Bi-weekly coordination calls and follow-up
3. Monthly invoices and progress reports
4. PowerPoint for up to three Board meetings.

TASK 2: BACKGROUND REVIEW & DATA GAPS

This task includes review of background information, previous technical studies, risk assessment information, and reports either provided by NapaSan or that are deemed by Woodard & Curran as having elements that would assist in the preparation of the Climate Change Plan. Once relevant materials are reviewed, Woodard & Curran will meet with NapaSan staff to verify which climate hazards that will be studied in Task 3.1 and begin outlining risk criteria.

Assumptions:

- Woodard & Curran will hold one in-person interview with staff.
- NapaSan staff provides GIS data of existing facilities, with elevation information.
- NapaSan staff provides previous studies relevant to this effort and draft available information being produced as part of the Treatment Plant Master Plan.

Electronic Deliverables:

1. Agenda and meeting summary for staff interview.

TASK 3: DEVELOP ADAPTATION STRATEGY

Under this task, Woodard & Curran will develop NapaSan's climate change adaptation strategy. This includes conducting a risk assessment to understand five of the major climate risks facing NapaSan: sea level rise/coastal flooding, groundwater rise, changing precipitation patterns, increasing ambient temperatures, and Power Safety Power Shutoffs. Woodard & Curran will define the potential impacts of these risks to NapaSan's treatment plant, lift stations, recycled water system, and collection system. Once the potential impacts are identified, Woodard & Curran will identify actions to adapt to these risks, and develop relative costs for these actions. This work will be summarized in a TM, which will be finalized as the Climate Change Plan under Task 4.

Task 3.1: Conduct Risk Assessment

Under this task, Woodard & Curran will assess the climate change hazards faced by NapaSan and their likelihood. This assessment will help NapaSan understand the impacts and consequences of the climate change hazard on NapaSan's service area. This analysis will consider impacts to facility operations, facility access, and temporary and extended loss of service. Up to five climate change hazards will be evaluated, including sea level rise/coastal flooding, precipitation changes, ambient temperature changes, wildfire/Power Safety Power Shutoff (PSPS), and groundwater rise.

Data sources for this assessment may include: California's Fourth Climate Change Assessment and associated Regional Reports, Napa County's Climate Action Plan, National Oceanic and Atmospheric Administration (NOAA), Department of Water Resources (DWR), Federal Emergency Management Agency (FEMA), and United States Environmental Protection Agency (USEPA). Using data from these sources and others as needed, Woodard & Curran will compile the information relevant to the climate change hazard and its likelihood, and the consequence/magnitude of the impacts to NapaSan's treatment plant, lift stations, recycled water system, and collection system.

The risk assessment will include:

- Confirming with the staff which climate change hazards will be further studied
- Identifying the risk criteria (e.g., when the risk will happen, certainty of the risk, severity of impacts, etc.)

- Preparing and adopting a risk rating scale
- Identifying the consequences of climate change related impacts
- Using GIS to spatially depict, as applicable, the location of the climate change related impacts and the infrastructure located in the impact area

Woodard & Curran will summarize the findings in a color-coded matrix that identifies each hazard and its risk to NapaSan. More information on how the five hazards will be assessed follows.

Sea Level Rise/Coastal Flooding: Woodard & Curran will use existing sea level rise modeling to understand both existing and potential future sea levels. Through GIS mapping, Woodard & Curran will compare various sea level rise scenarios to the location of NapaSan's infrastructure to understand the magnitude of impact at various sea levels. Woodard & Curran will develop GIS maps identifying the extent of the sea level, the sea levels' relative location to existing NapaSan infrastructure, and the magnitude of the impact on the infrastructure.

Precipitation Changes: Woodard & Curran will use existing data to identify a range of expected changes in precipitation patterns for NapaSan's service area. This information will be used to determine the potential impacts on NapaSan's operations, including access to critical infrastructure.

Ambient Temperature: Woodard & Curran will use existing data to identify a range of temperature increases most likely to occur in NapaSan's service area. This information will be used to determine the potential impacts on NapaSan operations, including treatment plant processes and collections system.

Wildfire/Power Safety Power Shutoffs (PSPS): Woodard & Curran will consider both the risk of wildfire and the risk of PG&E-imposed Power Safety Power Shutoffs (PSPS) on NapaSan operations and access. Using existing fire mapping data available through CalFire, Woodard & Curran will assess the likely risk of wildfire directly affecting NapaSan. To assess PSPS, Woodard & Curran will collect information related to NapaSan's current ability to weather power outages, including PSPS.

Groundwater Rise: Woodard & Curran will use existing information and mapping being developed for Napa County's Groundwater Sustainability Plan to determine the extent to which groundwater levels are changing in NapaSan's service area, and the extent to which those changes may impact NapaSan.

Assumptions:

- Systems to be covered include NapaSan's treatment plant, lift stations, recycled water system, and collection system.
- Woodard & Curran will use existing climate change information and data to assess risks to NapaSan.
- Scope is focused on climate change impacts and will not include recommendations to edit existing NapaSan planning documents.
- Riverine flood modeling is not included in this scope.

Electronic Deliverables:

1. GIS mapping of impact area and NapaSan infrastructure (to be included in Adaptation TM, Task 3.4)
2. Risk criteria and risk rating scale (to be included in Adaptation TM, Task 3.4)
3. Color-coded risk matrix (to be included in Adaptation TM, Task 3.4)

Task 3.2: Identify Adaptation Actions

Based on findings from Task 3.1, Woodard & Curran will prepare a list of possible actions to adapt to the risks. These actions will consider both site specific measures (related to specific assets) and more general measures (related to operations). In consultation with the NapaSan PM, Woodard & Curran will identify the measures that will move forward to Task 3.3.

Assumptions:

- List of actions carried forward to Task 3.3 numbers no more than 10.

Electronic Deliverables:

1. List of actions to adapt to the risks identified in Task 3.1 (to be included in Adaptation TM, Task 3.4)

Task 3.3: Develop Adaptation Action Costs

Once the adaptation measures in Task 3.2 have been identified, Woodard & Curran will prepare relative planning costs associated with implementing those measures. Woodard & Curran will use best professional engineering judgement and existing available information to cost out the measures.

Assumptions:

- This task does not include preliminary engineering of available adaptation measures.

Electronic Deliverables:

1. High-level cost estimates for list of adaptation actions identified in Task 3.2

Task 3.4: Draft Adaptation TM

Under this task, Woodard & Curran will compile the information developed in Tasks 3.1, 3.2, and 3.3 into one Adaptation Technical Memorandum. The TM will summarize the climate change hazards, the magnitude of the impacts on NapaSan, possible adaptation measures to address the impacts, and high-level costs associated with the adaptation measures. The TM will comment on the pros and cons of each measure, considering not only cost and effectiveness but also areas of uncertainty that may impact measure implementation. This TM will serve as the basis for the Climate Change Plan, prepared in Task 4. A draft TM will be provided to NapaSan staff to review and comment. Comments from NapaSan will be addressed as part of preparing the Draft Climate Change Plan in Task 4.

Assumptions:

- Draft Adaptation TM will be provided to NapaSan for comment, and comments will be incorporated as part of the packaging of the Climate Change Plan under Task 4.
- NapaSan will provide one consolidated set of conflict-free comments on the TM.

Electronic Deliverables:

1. Draft Adaptation TM

TASK 4: PREPARE CLIMATE CHANGE PLAN

Woodard & Curran will package the Adaptation TM prepared under Task 3.4 into NapaSan's Climate Change Plan. This work will include addressing the comments and edits from NapaSan on the Adaptation TM and developing introductory text for an executive summary, background and purpose, and summary of the methodology.

The Climate Change Plan will include:

- Background and purpose of Plan
- Summary of methodology, including wastewater systems and climate change impacts
- Discussion of climate change impacts to NapaSan, including figures as appropriate
- Evaluation of adaptation measures, including relative cost

Assumptions:

- NapaSan staff comments on the Adaptation TM will be incorporated in this Task, as part of preparing the draft Climate Change Plan.
- Woodard & Curran will package the Adaptation TM into the Climate Change Plan.

Electronic Deliverables:

1. Draft Climate Change Plan
2. Final Climate Change Plan



Exhibit 'B'

Fee Estimate

July 27, 2021

**Napa Sanitation District
Climate Change Plan, Phase 2**

| Tasks | Labor | | | | | | | | | | | | | | | Total Hours | Total Labor Costs (1) | ODCs | | Total Fee |
|--|-----------------|--------------|------------|-------------|-----------------|------------|-------------|--------------|--------------------|-------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------|-----------------------|---------|----------------|-----------|
| | Dave Richardson | Xavier Irias | Katie Cole | Chris Hewes | Chloe Greenburg | Wenjia Cai | Nolan Meyer | Brian Wickes | Thierry Rulaganira | Jeanna Long | Mille Cowley-Crawford | Dave White | Jan Greenwood | Donna Rammel | Joanne Johnson | | | ODCs | Total ODCs (3) | |
| | PIC | PM | DPM | Planner | PE | PE | Planner | QA/QC | Software Engineer | Technical Advisor | Technical Advisor | Technical Advisor | Technical Advisor | Technical Advisor | Project Assistant | | | | | |
| Task 1: Project Coordination | \$330 | \$324 | \$249 | \$234 | \$234 | \$171 | \$171 | \$234 | \$175 | \$298 | \$298 | \$330 | \$298 | \$298 | \$116 | | | | | |
| 1.1 Technical Advisory Team Meeting | 2 | 3 | 3 | | | | | | | | 2 | 2 | 2 | 2 | | 16 | \$4,827 | \$0 | \$4,827 | |
| 1.2 Kick Off Meeting | 1 | 4 | 4 | 1 | 1 | | | | | | | | | | | 11 | \$3,090 | \$0 | \$3,090 | |
| 1.3 Coordination with NapaSan PM (Biweekly, 30 mins) | 2 | 16 | 16 | | | | | | | | | | | | | 34 | \$9,828 | \$0 | \$9,828 | |
| 1.4 Board Updates (3) | 3 | 12 | 12 | | | | | | | | | | | | | 27 | \$7,866 | \$1,500 | \$9,516 | |
| 1.5 Progress Reporting, Budget Tracking | | 6 | 18 | | | | | | | | | | | | 8 | 32 | \$7,354 | \$0 | \$7,354 | |
| Subtotal Task 1: | 8 | 41 | 53 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 8 | 120 | \$32,985 | \$1,500 | \$34,615 | |
| Task 2: Background Review & Data Gaps | | | | | | | | | | | | | | | | | | | | |
| 2.1 Review Existing Information & Identify Data Gaps | | 12 | 12 | 4 | 4 | 8 | 8 | | | | | | | | | 48 | \$11,484 | \$0 | \$11,484 | |
| 2.2 Perform Staff Interviews (1) | 4 | 4 | 4 | | | | | | | | | | | | | 12 | \$3,612 | \$500 | \$4,162 | |
| Subtotal Task 2: | 4 | 16 | 16 | 4 | 4 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | \$15,096 | \$500 | \$15,646 | |
| Task 3: Develop Adaption Strategy | | | | | | | | | | | | | | | | | | | | |
| 3.1 Conduct Risk Assessment | | 16 | 16 | 20 | | | 80 | | | | 4 | 2 | 4 | 4 | | 146 | \$31,764 | \$0 | \$31,764 | |
| 3.2 Identify Adaptation Actions | | 8 | 16 | 16 | | | 35 | | | | | | | | | 75 | \$16,305 | \$0 | \$16,305 | |
| 3.3 Develop Adaptation Action Costs | | 4 | 6 | | | | 16 | 30 | | | | | | | | 56 | \$12,546 | \$0 | \$12,546 | |
| 3.4 Draft Adaptation TM | 2 | 8 | 12 | 6 | | | 30 | | | | | | 2 | | | 60 | \$13,370 | \$0 | \$13,370 | |
| Subtotal Task 3: | 2 | 36 | 50 | 42 | 0 | 0 | 161 | 30 | 0 | 0 | 4 | 2 | 6 | 4 | 0 | 337 | \$73,985 | \$0 | \$73,985 | |
| Task 6: Prepare Climate Change Plan | | | | | | | | | | | | | | | | | | | | |
| 4.1 Draft Climate Change Plan | 2 | 6 | 12 | | | | 30 | | | | | | | | | 50 | \$10,722 | \$0 | \$10,722 | |
| 4.2 Finalize Climate Change Plan | 1 | 4 | 8 | | | | 15 | | | | | | | | | 28 | \$6,183 | \$0 | \$6,183 | |
| Subtotal Task 4: | 3 | 10 | 20 | 0 | 0 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 78 | \$16,905 | \$0 | \$16,905 | |
| TOTAL | 17 | 103 | 139 | 47 | 5 | 8 | 214 | 30 | 0 | 0 | 6 | 4 | 8 | 6 | 8 | 595 | \$138,951 | \$2,000 | \$141,151 | |

- The individual hourly rates include salary, overhead and profit.
- Subconsultants will be billed at actual cost plus 10%.
- Other direct costs (ODCs) such as reproduction, delivery, mileage (rates will be those allowed by current IRS guidelines), and travel expenses, will be billed at actual cost plus 10%.
- W&C reserves the right to adjust its hourly rate structure and ODC markup at the beginning of the calendar year for all ongoing contracts.
- Additional Woodard & Curran staff may perform work on the project, based on our standard billing rate schedule currently in effect.