

# CITY OF NORTH PORT WASTEWATER MASTER PLAN

City of North Port Utilities Department  
6644 West Price Boulevard, North Port, FL 34291

## RE: Request for Letters of Interest No. 2024-02 City of North Port Wastewater Master Plan

The City of North Port Utilities Department’s (City) mission is to provide their customers quality water and sewer services in a safe, healthy, and cost-effective manner, and to accommodate the continuing growth of the community through the planned orderly expansion of their utility systems. In support of this mission, the City is seeking a consultant partner to update the current wastewater master plan.

**CDM Smith Inc.** (CDM Smith) offers the City a team with deep familiarity of your wastewater system and highly qualified specialists that will deliver local, personally responsive service to meet your goals. For this project to be successful, we understand the selected team must work closely with the City to complete project assignments. We offer the following:

**Local-project leadership team.** Most of our key staff are local including key leadership staff—**Justin Saarinen, Sam Nehme, Marc Stonehouse, Isaac Holowell,** and **David MacNevin.** This will make a difference in our attention to detail and responsiveness throughout the project.

**Hydraulic modeling experience.** We developed the City’s wastewater hydraulic model in 2018 and provided model updates in 2022 and 2023, including future flow analysis. The City has trusted CDM Smith to continually update the model to support infrastructure decision making.

**Innovative approach to asset management.** We have decades of experience developing asset management strategies for similar communities/utilities. We believe we are peerless when it comes to integrating maintenance and reliability best practices into the strategic elements of asset management. Our team of ISO-55000 certificate holders and Certified Maintenance and Reliability Professionals will work with you to build on your current program’s progress.

CDM Smith has developed a team specifically to meet the request of the City with services detailed in the RLI. We look forward to the opportunity to serve the City in a collaborative manner and stand committed to providing you with the competent professional services upon which our solid reputation is built.

Sincerely,

**Justin Saarinen, GISP** | Client Service Leader | CDM Smith Inc.

## 1. Project Understanding and Project Plan

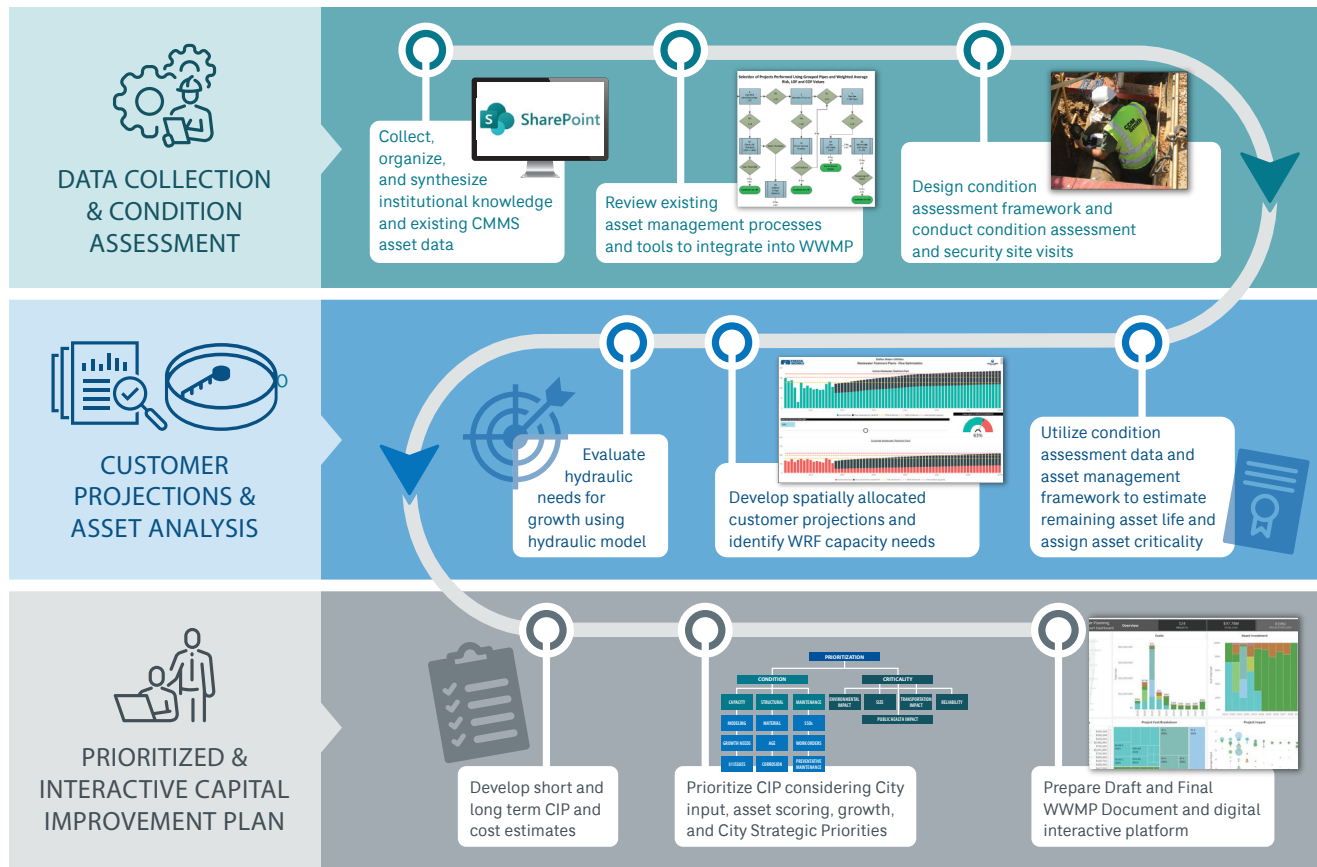
### Project Understanding

North Port is one of the fastest growing cities in the country. This is attributed to the large master planned community of Wellen Park, affordable housing within the city relative to surrounding areas, and a desirable quality of life for citizens. To stay ahead of this growth and to maintain an aging wastewater system, the City must maintain a robust wastewater master plan that guides the next 10 years by providing a capital improvement plan (CIP) to grow and maintain the City’s wastewater infrastructure. In addition to addressing growth and infrastructure maintenance, the City has initiated the Neighborhood Expansion Program which brings sewer service to platted areas of the City currently on septic tanks. This Program aligns with the City’s Strategic Plan, which includes priorities for an expanded affordable and efficient wastewater system and environmental resiliency in its facilities’ design and operation. We understand the critical role of the wastewater master plan to align the utility department with the City’s Strategic Plan. This is especially important for utilizing a transparent data-driven process to prioritize improvements to the City’s facilities and invest in infrastructure to minimize lifecycle costs and maximize service delivery. Our project plan presents how our team will develop an interactive data-driven wastewater master plan to meet the City’s priorities for long-term sustainable growth of the City and its wastewater infrastructure.

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**Figure 1.** Our approach to wastewater master planning (WWMP).



## Project Plan

### Task 1- Project Management and Coordination

**Sam Nehme**, as your project manager will develop a Project Management Plan (PMP) which includes communication protocols. Our project management approach is centered on three core principles:

- **Conduct open and thorough communications** at all levels with the City including the detailed Project Execution Plan (PxP), project status reports, project status meetings, and day-to-day communications between technical staff
- **Develop detailed scopes of work** (with the City), including approaches, deliverables, and assumptions so everyone knows what is expected and when. This eliminates gaps in performing activities and meeting objectives. Monitoring these items throughout the project controls cost and optimizes the schedule
- **Perform all quality control activities**—this is a shared commitment; everyone on the CDM Smith team will actively participate in these activities on each task and deliverable

These core principles will be carried out by Sam Nehme through the procedures we use to promote good communication, control cost, optimize schedule, and provide quality deliverables. The PxP, coupled with monthly project status reports and bi-weekly project status meetings, keep the City up-to-date on all activities, deliverables, upcoming events, and any issues of concern.

Our project management approach is aligned closely with Project Management Institute (PMI) standards. Our team understands that the key to delivering a successful project is exceptional project management, and part of that is a detailed and well-planned PxP that accounts for key project milestones, while being easy to maintain and update.

As Principal, **Justin Saarinen** provides the City with our corporate assurance that services under this contract will be a key priority for our firm until all work is successfully completed. He will conduct detailed audits periodically to confirm that work is on schedule and that the budget is on track.

### Task 2 - Condition Assessment

We will develop building blocks for an effective condition assessment program for the Pan American Water Resource Facility (PAWRF), Southwest Water Reclamation Facility (SWWRF), and the City’s 125 lift stations. Our philosophy is that condition assessment must draw on the principles of Reliability-Centered-Maintenance (RCM) if it is to provide meaningful value. We will develop assessment criteria informed by equipment failure modes and a scoring rubric curated by asset type. In alignment with the City’s Priorities of preventative and proactive maintenance, we also believe that following our baseline assessment

efforts, assessment should be incorporated into day-to-day maintenance management. We will provide the City with a Standard Operating Procedure (SOP), including assessment frequencies for configuration into your CMMS— whether it is Lucidity or LlumIn. We will adopt a non-invasive approach for mechanical equipment and provide advanced assessment such as vibration analysis if needed. Our electrical engineers can employ thermography, amp probes, and multi-point temperature recorders for electrical equipment.

We have full access to mobile condition assessment tools, including ArcGIS Field Maps, and advanced tools that feature pre-loaded standard condition criteria and equipment failure mode libraries for all vertical wastewater asset types. We can assist you in exporting the results for upload into your CMMS. Additional deliverables we can provide the City include:

- Condition assessment criteria and rubric for plant and pump station mechanical, electrical, and building system assets
- Condition assessment in Excel format
- SOP to guide future condition assessments

### Task 3 – Customer and Usage Projections

We understand the City is experiencing growth citywide and our team is uniquely qualified to develop customer and usage projections for the wastewater system. We will utilize existing trusted datasets, such as BEBR, SWFWMD, and the City’s land-use and existing customer usage data to develop a customized projection tool that the City can continue to use and refine beyond the completion of this project. The tool will customize these datasets to establish residential and commercial usage and projections. It is user friendly with instructions and explanations so that the City can update it each year to see how projections are tracking.

The projection tool will spatially allocate projected wastewater flows and will consider Wellen Park, the Neighborhood Expansion Program, planned new development, and future development. The projections will be on a parcel, pump station service area, and water reclamation facility basis to aid in loading the hydraulic model at lift stations and identifying potential WRF capacity expansions. We know through our work on the wastewater hydraulic model that the future development in the northeast portion of the City may require the construction of a new WRF. Through our work on the hydraulic modeling of the Price Boulevard force main, we understand the potential system impacts of development in the northeast portion of the City. We will utilize our projection tool along with hydraulic modeling to identify when and at what capacity a new WRF is needed and the hydraulic improvements in the collection system.

### Task 4 – Renewal, Replacement, and Capital Improvement Projects

Identifying an asset’s remaining useful life and risk of failure is a vital step to directing maintenance and capital renewal and replacement activities. To accomplish this, we will perform a criticality analysis using condition assessment efforts to target assets that are truly vital to the City’s business objectives and most in need of renewal or replacement.

We will use a scoring methodology that will classify the criticality of each asset. For each of the assets identified in the criticality analysis, we can develop capital interventions based on risk results (e.g. capital redesign or replacement vs. rehabilitation) and maintenance interventions (e.g. calendar inspections, condition monitoring, run-to-fail) based on criticality results. We then adjust the results of the criticality analysis by appropriate mitigations, which can be used to calculate a risk reduction to cost score, thereby normalizing cost invested to risk reduced (see **Figure 2**).

Our team will develop projects to address the City’s renewal, replacement, and capital planning needs for the next 10 years by combining the results of the criticality analysis and the customer projection and hydraulic analysis. We will then prioritize the projects based on criticality, current treatment capability, timing of growth, and City input and strategic priorities. The projects will include a description, engineers’ opinion of probable cost, and planning period.

### Task 5 – Security

Cybersecurity affects all markets and facilities. Your assets need protection from cyber threats such as computer viruses and data breaches, and each market has different requirements to achieve a cybersecure system or facility. Our team can conduct cybersecurity and network performance testing on mission-critical Industrial Control System (ICS) networks in a production environment supported by proven techniques and software tools to mitigate the potential of network failure. These assessments identify exposures within the existing system’s physical and logical configuration and locate potential disruptions that may be introduced through new technology implementations. Our experts will assist the City with the development of cybersecurity policies and plans required to conform with the latest cybersecurity best practices. This ranges from a simple security policy to detailed contingency, disaster recovery, and incident response plans. Our policies and procedures will give clear direction to employees, staff, and others who use the utility network and support a security program that focuses on optimizing confidentiality, integrity, and availability. Policies ensure employees and contractors are required to complete security training upon hire or before working on the utility network, and procedures are put in place for reoccurring security training on an annual basis covering the security requirements that are reflected in established policies.

**Figure 2.** We will use a scoring methodology that will classify the criticality of each asset. For each of the assets identified in the criticality analysis, we can develop capital interventions based on risk results.

System Name	Scenario Risk	Scenario Criticality	System Asset Driving Results	Asset Issue	Capital Approach	Ops Inspection/ Monitoring Strategy
Pump Station A	4.01	2.69	RTU	RTU Loss	Cap REPL/RED ES.	Calendar Insp
Pump Station B	3.90	2.34	Seal, Failed	Seal Fail	Cap REFURB	RTF/at will

### Task 6 – Draft and Final Report

We will develop a draft and final WWMP document with an accompanying digital platform that is interactive and updateable (see **Figure 3**). CDM Smith designs client GIS databases so that they tightly integrate with key business systems, such as asset management, maintenance management, finance, SCADA, modeling and planning systems. Through this integration, the City will be able to view trends (e.g. infrastructure failing in key locations), complete analysis (determine where and how capital improvement dollars should be spent), and more effectively manage projects and make decisions.

The interactive digital platform that will accompany the master plan document will be formed around a GIS-based digital twin of all the known assets modeled in the wastewater system, including their locations and attributes such as dimension, condition, and improvement cost. The City will be able to explore the system and identify areas at scale for essential analytics such as R&R status, capital improvement costs, and phased completion.

CDM Smith will develop this digital platform as an extension of the City's existing online GIS or as a Trinnex waterCAST application that is subscription based.

## 2. Relevant Expertise and Qualifications of Personnel

CDM Smith has the depth, experience, and local knowledge to efficiently and effectively provide the services specified in the RLI. The organizational chart on the right summarizes our proposed team for this project.

### Experienced Delivery Team

Day-to-day project management will be led by **Project Manager, Sam Nehme, PE**. Sam has 12 years of experience in utility planning in Southwest Florida with the focus of her career being in Sarasota County. She has worked on wastewater master plans and effluent management plans for Sarasota County Public Utilities and the City of Venice Utilities, as well as master planned wastewater infrastructure for Lakewood Ranch in Manatee County, Waterside in Sarasota County, and Wellen Park in the City of North Port. This experience makes her uniquely qualified to deliver an exceptional Wastewater Master Plan for the City.

**Project Technical Lead, Marc Stonehouse, PE, PMP**, is experienced in planning, analysis, hydraulic modeling, design and construction services for water, wastewater, stormwater, and reclaimed water utilities. His extensive local experience spanning over a decade and focused on all aspects of water and water resources engineering will directly benefit the City.

**Hydraulic Modeling Lead, Isaac Holowell, PE**, is well known to the City through his work on the existing hydraulic model. He has 10 years of experience specializing in hydraulic modeling for both pumping systems and plant hydraulics. Isaac also has experience in utilities master planning, pump station design, sanitary sewer design, pressure pipe design, and construction management.

**Direct Potable Reuse (DPR) Lead, David MacNevin, PhD, PE, LEED AP**, is well known to the City through his work on the Direct Potable Reuse Feasibility Study. He is a nationally recognized expert in advanced water treatment, potable reuse, and distribution system water quality. He has 17 years of experience in the testing, design, and implementation of drinking water and advanced water reuse treatment systems.

## 3. Availability of Staff and Ability to Meet Project Schedule

We considered current and future workloads when selecting our team. The staff identified were selected specifically for their relevant experience, availability, and ability to meet project schedule. As the project manager, one of Sam Nehme's primary responsibilities will be to efficiently leverage staff and maintain adherence to schedule requirements. She will monitor project status on a weekly basis, proactively identifying variances to schedule to facilitate early initiation of corrective action measures.

Team Member	Availability
Samantha Nehme	50%
Justin Saarinen	50%
Marc Stonehouse	50%
Isaac Holowell	50%
Carl Frizzell	40%
Kevin Francoforte	30%
Brian Karmasin	30%
James Carolan	40%

Team Member	Availability
Rob Ivanovic	30%
Matt Lick	50%
Tyler Shelton	60%
Jayson Brennen	50%
Keith Hoddsden	50%
John Helwig	30%
David MacNevin	30%

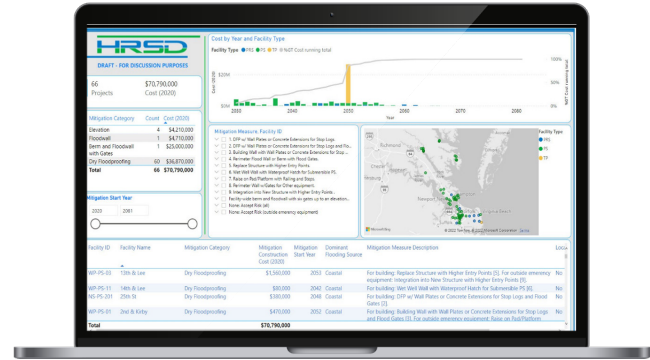
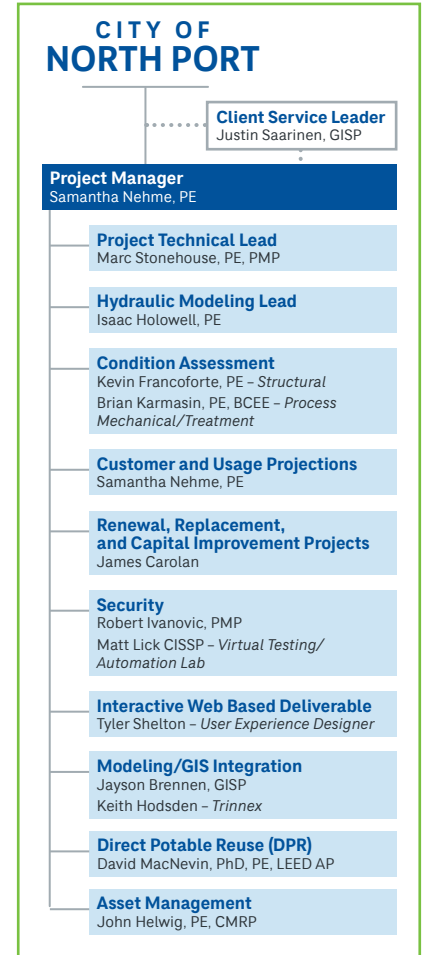


Figure 3. We will provide an interactive digital platform.



## 4. Cost Saving Measures

CDM Smith will create cost savings for the City on this project as follows:

- We built the existing wastewater hydraulic model and will make a seamless transition from our current modeling efforts to the wastewater master plan hydraulic modeling. We have no learning curve on updating the hydraulic model and obtaining results because we are already well acquainted with the model scenarios and settings.
- Perform condition assessment and security assessment site visits in tandem to be efficient with the City’s staff time. Our team will use tools such as Survey123 to enter field data reducing the amount of time transcribing field notes and data.
- Provide agendas before meetings with detailed time allotment so that meetings are efficient and productive. Our team will be clear on the objective of each meeting so the City can identify which staff are needed.
- In-house disciplines across major disciplines with Florida specific experience. Key management staff are located in Sarasota and Lee County, and the majority of our technical leads are within 100 miles of the City, saving unnecessary travel costs.

## 5. Schedule

The CDM Smith team will deliver the wastewater master plan within nine months. Prior to kickoff, we will provide a data request list to start fast and to have an informed discussion during the kickoff meeting. We also understand the City’s budgeting process and will develop a draft capital improvement plan for the first five-year planning period in late spring to help the City confirm capital costs prior to the budgeting approval process. A preliminary schedule is provided below.

Task/Deliverable	2023				2024				
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Kickoff and Progress Meetings	★	★	★	★	★				
Data Collection									
Condition Assessment									
Customer and Usage Projections									
Hydraulic Modeling									
R&R and CIP									
Security									
Capital Improvement Plan									
Draft and Final Report									

★ Kickoff Meeting  
 ★ Meeting  
 ▲ Draft Deliverable

## 6. References

At CDM Smith, we believe there is no better measure of project performance than our client’s perspectives. We encourage the City to learn more about our team and our numerous wastewater master planning projects throughout Florida. Below are three contact references. **Each project was successfully completed on budget and ahead of schedule.**

### Cape Coral Wastewater

**Master Plan** *Cape Coral, FL*

**Duration:** 2014-2016; 2020-Ongoing

**Relevance:**

- Wastewater Master Plans
- Hydraulic modeling
- Condition Assessment
- Cost-effective transmission system
- Value engineering review
- Conceptual layout for new force mains and pump stations
- Conceptual level opinion of probable construction costs
- Capital Improvement Plan (CIP)
- Developed a 10-year business plan
- SRF funding

**Key Staff:** Isaac Holowell, Marc Stonehouse, James Carolan

**Contact**

William H. (Bill) Sperry, PE  
 Engineer; City of Cape Coral, FL  
 Phone: (239) 574-0729  
 E-mail: wsperry@capecoral.net

### Wastewater Hydraulic Model, Model Update, and Future

**Flow Analysis** *North Port, FL*

**Duration:** Nov 2018–Jun 2018; Sept 2022–Feb 2023; March 2023–Ongoing

**Relevance:**

- Developed extended period simulation wastewater hydraulic model
- Verified the model to existing conditions using SCADA and field data
- Updated model demands and diurnal pattern for existing conditions
- Develop customer usage projections
- Update hydraulic model for future wastewater flow scenarios
- Develop and run multiple hydraulic model scenarios to analyze infrastructure improvement options
- Size collection system infrastructure

**Key Staff:** Sam Nehme, Isaac Holowell

**Contact**

Michael Acosta, PE; Utilities Engineering Manager; City of North Port, FL  
 Phone: (941) 240-8013  
 E-mail: macosta@northportfl.gov

### CSA 8 Integrated Utilities Master Plan

*Palm Beach County, FL*

**Duration:** 2021-2022

**Relevance:**

- Integrated Utilities Master Plan
- Wastewater treatment
- Condition Assessment
- Reclaimed water
- Collection and distribution system
- Data collection and review
- Capital Improvement Plan (CIP)

**Key Staff:** Marc Stonehouse, Isaac Holowell, James Carolan

**Contact:**

Krystin Berntsen, PE, PMP  
 Deputy Director; Palm Beach County Water Utilities Department  
 Phone: (561) 493-6027  
 E-mail: kberntsen@pbwater.com

## CONFLICT OF INTEREST FORM

F.S. §112.313 places limitations on public officers (including advisory board members) and employees' ability to contract with the City either directly or indirectly. Therefore, please indicate if the following applies:

### PART I.

- I am an employee, public officer or advisory board member of the City  
\_\_\_\_\_ (List Position or Board)
- I am the spouse or child of an employee, public officer or advisory board member of the City  
Name: \_\_\_\_\_
- An employee, public officer or advisory board member of the City, or their spouse or child, is an officer, partner, director, or proprietor of Respondent or has a material interest in Respondent. "Material interest" means direct or indirect ownership of more than 5 percent of the total assets or capital stock of any business entity. For the purposes of [§112.313], indirect ownership does not include ownership by a spouse or minor child.  
Name: \_\_\_\_\_
- Respondent employs or contracts with an employee, public officer or advisory board member of the City  
Name: \_\_\_\_\_
- None of The Above

### PART II:


Are you going to request an advisory board member waiver?

- I will request an advisory board member waiver under §112.313(12)
- I will NOT request an advisory board member waiver under §112.313(12)
- N/A

The City shall review any relationships which may be prohibited under the Florida Ethics Code and will disqualify any vendors whose conflicts are not waived or exempt.

**BUSINESS NAME:** CDM Smith Inc. \_\_\_\_\_

**NAME(PERSON AUTHORIZED TO BIND COMPANY):** Justin Saarinen, GISP \_\_\_\_\_

**SIGNATURE:**  \_\_\_\_\_

**THIS PAGE MUST BE SUBMITTED WITH LETTER OF INTEREST**

# DISCLOSURE FORM FOR CONSULTANT/ENGINEER/ARCHITECT

Please select only one of the following three options:

Print Form

Clear All Fields

Our firm has no actual, potential, or reasonably perceived, **financial\*** or **other interest\*\*** in the outcome of the project.

Our firm has a potential or reasonably perceived **financial\*** or **other interest\*\*** in the outcome of the project as described here:

Our firm proposes to mitigate the potential or perceived conflict according to the following plan:

Our firm has an actual **financial\*** or **other interest\*\*** in the outcome of the project as described here:

## \*What does "financial interest" mean?

If your firm, or employee(s) of your firm working on the project (or a member of the employee's household), will/may be perceived to receive or lose private income depending on the government business choices based on your firm's findings and recommendations, this must be listed as a financial interest. An example would be ownership in physical assets affected by the government business choices related to this project. The possibility of contracting for further consulting services is not included in this definition and is not prohibited.

## \*\*What does "other interest" mean?

If your firm, or employee(s) of your firm working on the project (or a member of the employee's household), will/may be perceived to have political, legal or any other interests that will affect what goes into your firm's findings and recommendations, or will be/may be perceived to be affected by the government business choices related to this project, this must be listed as other interest.

**BUSINESS NAME:** CDM Smith Inc.

**NAME (PERSON AUTHORIZED TO BIND THE COMPANY):** Justin Saarinen, GISP

**SIGNATURE:**



**DATE:** September 26, 2023

### Scrutinized Company Certification Form


Company Name: <u>CDM Smith Inc.</u>			
Authorized Representative Name and Title: <u>Justin Saarinen, GISP   Client Service Leader</u>			
Address: <u>5965 Cattlemen Lane</u>	City: <u>Sarasota</u>	State: <u>FL</u>	ZIP: <u>34232</u>
Phone Number: <u>(239) 938-9600</u>	Email Address: <u>saarinenja@cdmsmith.com</u>		

A company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with the City of North Port for goods or services of any amount if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to Florida Statutes, section 215.4725, or is engaged in a boycott of Israel.

A company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with the City of North Port for goods or services of \$1 million or more if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Florida Statutes, section 215.473, or with companies engaged in business operations in Cuba or Syria.

#### **CHOOSE ONE OF THE FOLLOWING**

- This bid, proposal, contract or contract renewal is for goods or services of less than \$1 million. As the person authorized to sign on behalf of the above-named company, and as required by Florida Statutes, section 287.135(5), I hereby certify that the above-named company is not participating in a boycott of Israel.
- This bid, proposal, contract or contract renewal is for goods or services of \$1 million or more. As the person authorized to sign on behalf of the above-named company, and as required by Florida Statutes, section 287.135(5), I hereby certify that the above-named company is not participating in a boycott of Israel, is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and it does not have business operations in Cuba or Syria.

I understand that pursuant to Florida Statutes, section 287.135, the submission of a false certification may result in the termination of the contract if one is entered into, and may subject the above-named company to civil penalties, attorney's fees and costs.	
Certified By: 	_____
AUTHORIZED REPRESENTATIVE SIGNATURE	
Print Name and Title: <u>Justin Saarinen, GISP   Client Service Leader</u>	_____
Date Certified: <u>September 26, 2023</u>	_____

**Solicitation/Contract/PO Number (Completed by Purchasing):** \_\_\_\_\_



**VENDOR'S CERTIFICATION FOR E-VERIFY SYSTEM**

The undersigned Vendor/Consultant/Contractor (Vendor), certifies the following:

1. Vendor is a person or entity that has entered into or is attempting to enter into a contract with the City of North Port (City) to provide labor, supplies, or services to the City in exchange for salary, wages or other remuneration.
2. Vendor has registered with and will use the E-Verify System of the United States Department of Homeland Security to verify the employment eligibility of:
  - a. All persons newly hired by the Vendor to perform employment duties within Florida during the term of the contract; and
  - b. All persons, including subcontractors or subconsultants, assigned by the Vendor to perform work pursuant to the contract with the City.
3. If the Vendor becomes the successful Contractor who enters into a contract with the City, then the Vendor will comply with the requirements of Section 448.095, Fla. Stat. "Employment Eligibility", as amended from time to time.
4. Vendor will obtain an affidavit from all subcontractors attesting that the subcontractor does not employ, contract with, or subcontract with, an unauthorized alien as defined in 8 United States Code, Section 1324A(H)(3).
5. Vendor will maintain the original affidavit of all subcontractors for the duration of the contract.
6. Vendor affirms that failure to comply with the state law requirements can result in the City's termination of the contract and other penalties as provided by law.
7. Vendor understands that pursuant to Florida Statutes, section 448.095, the submission of a false certification may result in the termination of the contract if one is entered into, and may subject the Vendor named in this certification to civil penalties, attorney's fees and costs.

VENDOR: CDM Smith Inc. (Vendor's Company Name)

Certified By:  \_\_\_\_\_  
AUTHORIZED REPRESENTATIVE SIGNATURE

Print Name and Title: Justin Saarinen, GISP | Client Service Leader

Date Certified: September 26, 2023