

REQUEST FOR PROPOSALS

Inspection and Condition Assessment for Wastewater System Pipelines, Manholes, and Force Mains

RFP No. 20250188

May 16, 2025





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Alisa L. True, CPPB / Sr. Contract Specialist
Charlotte County Purchasing Division
18500 Murdock Circle, Suite 344
Port Charlotte, FL 33948-1094

RE: Inspection & Condition Assessment for Wastewater System Pipelines, Manholes, & Force Mains

Dear Ms. True and Evaluation Committee,

HDR is pleased to submit this proposal for Wastewater Infrastructure Inspection and Condition Assessment Services to Charlotte County. We understand that Charlotte County Utilities (CCU) seeks a consultant to perform Wastewater System Pipeline, Manhole and Force Main Inspections and Condition Assessments in accordance with the County's Capacity, Management, Operations and Maintenance (CMOM) Program.

HDR brings industry-leading inspection and condition assessment services. As a nationally recognized expert in wastewater infrastructure, HDR combines decades of hands-on experience with cutting-edge technologies to deliver actionable insights that drive smarter asset management and long-term system resilience. Our team understands the critical importance of proactive asset management in supporting system reliability, regulatory compliance, and sustainable operations. With a focus on innovation, collaboration, and excellence, HDR is ready to help Charlotte County optimize its wastewater infrastructure, prioritize investments, and maintain resilient service for the community.

As demonstrated throughout our proposal, HDR offers clear advantages to deliver this important work:



PROVEN EXPERIENCE IN WASTEWATER SYSTEM INSPECTIONS AND ASSESSMENTS: HDR has a successful history of delivering comprehensive wastewater infrastructure inspection and condition assessment programs for utilities across Florida and the US. Our team is highly experienced in performing NASSCO-certified PACP and MACP evaluations, developing targeted risk models, and creating actionable rehabilitation plans. Our portfolio of similar projects demonstrates our ability to deliver high-quality results efficiently, integrate seamlessly with your systems, and support long-term infrastructure resiliency and compliance goals.



NATIONAL EXPERTISE, DELIVERED LOCALLY: **David O'Connor, Project Manager**, brings 30 years of experience in planning, design, and capital improvement planning for wastewater systems. David's experience with wastewater infrastructure projects spans over two decades, beginning in 2000, when he served as Project Engineer for a Maintenance, Operations, and Management (MOM) Plan for the City of Clearwater. Our Area Water Business Group Manager and **Principal-in-Charge, Josh Rodgers**, offers extensive experience in the design, rehabilitation, and QA/QC of wastewater pumping stations, mechanical facilities, and odor control systems. Our technical leads include subject matters experts who have worked on numerous relevant Florida projects, including the City of St. Petersburg Pipeline Condition Assessment Program and Resiliency and Modernization Plan for Charlotte County Utilities.



INNOVATIVE APPROACHES TO OPTIMIZE INFRASTRUCTURE PERFORMANCE AND INVESTMENT: HDR brings extensive experience in applying strategic, risk-based planning methodologies designed to maximize infrastructure investment outcomes. By integrating condition assessment data, criticality analyses, and risk prioritization frameworks, we assist utilities in developing targeted, defensible capital improvement strategies. Our proven processes enable clients to optimize asset performance, allocate resources efficiently, and systematically reduce system vulnerabilities—enhancing operational reliability, supporting regulatory goals, and promoting the long-term sustainability of critical infrastructure systems.

By partnering with HDR, Charlotte County will gain a trusted team to drive a highly efficient, proactive wastewater system inspections and assessments program—empowering smarter planning, stronger management, and reliable service delivery to its customers. We welcome the opportunity to collaborate with Charlotte County and contribute to the continued success and sustainability of its wastewater infrastructure.

Sincerely,

David O'Connor, PE, BCEE, DBIA
Project Manager

Josh Rodgers, PE
Principal-in-Charge

PRIMARY CONTACT
David O'Connor, PE, BCEE
Project Manager

✉ David.OConnor@hdrinc.com

☎ (813) 262-2737



Table of Contents

I. Team Proposed for this Project..... 1

A. Background of the Personnel..... 1

II. Proposed Management Plan 6

A. Team Organization..... 6

III. Previous Experience of Team Proposed for this Project 10

IV. Project Control 11

A. Schedule 11

B. Cost.....12

C. Recent, Current and Projected Workload.....13

V. Proposed Design Approach 14

VI. Present Examples of Similar Projects 20

VII. Firm Experience and Capabilities32

VIII. Volume of Work36

IX. Location36

X. Litigation37

XI. Minority Business.....37

The proposal has been prepared using the format outlined in the Consultant Evaluation Form on pages 13 and 14 of the RFP.

The HDR Advantage



Trusted Condition
Assessment Expertise



Maximized ROI with Risk-
Based Approach



Tailored Solutions: Deep CCU
System Knowledge =
Time & Cost Savings



Team Proposed



I. Team Proposed for this Project

Background of Personnel

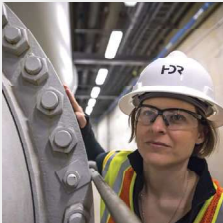
HDR, A Trusted Partner with Proven Local and National Expertise

Our Greatest Asset is our People.
For Charlotte County’s project, HDR has assembled a tailored team of regional and national technical leaders, blending local insight with nationally recognized expertise. Our team offers extensive practical experience supporting utilities of all sizes and has a proven track record of delivering condition assessment programs that strengthen system reliability and optimize infrastructure investments.

We recognize that Charlotte County is seeking a partner who can meet immediate project needs while supporting broader long-term objectives. HDR’s team brings valuable lessons learned from similar efforts, including:

- Proactively identifying and mitigating potential risks to maintain project momentum and avoid disruptions.

- Committing key project leaders and technical specialists to remain actively engaged throughout the duration of the project.
- Prioritizing a collaborative, transparent approach that listens to stakeholder goals and translates them into practical, successful outcomes.



Through structured engagement with internal and external stakeholders, HDR will foster alignment, encourage ownership, and help drive the successful implementation and long-term sustainability of Charlotte County’s wastewater infrastructure initiatives.

HDR’s comprehensive Condition Assessment Guide is used by clients and is well recognized in the industry.


Our Florida staff provides engineering and planning services for clients throughout the state. In Florida, HDR employs a multi-disciplined engineering staff of 670+ professionals across nine offices. The HDR Team proposed brings a depth of specific engineering and technical experience directly applicable to the City’s needs.

HDR’s project team brings a trusted, proven partnership to Charlotte County, built on past successes and a shared commitment to long-term infrastructure resiliency.

Our core local team—with David O’Connor, Jamie Zimmermann, and Chris Makransky—has worked closely with the County over the past several years on integrated planning efforts, bringing valuable insight and technical expertise to this project. With deep familiarity and established relationships, we are ready to hit the ground running with minimal ramp-up time.


Trusted Experts Driving Utility Solutions

We have thoughtfully assembled a team of experienced technical advisors who bring specialized expertise in wastewater infrastructure inspections and condition assessments to provide innovative and sound guidance through the duration of this contract. Together, they have **80 years of combined experience.**




Susan Donnally, PE - Technical Advisor, Condition Assessment & QA/QC

Susan has focused her career on condition assessment and design/construction of buried infrastructure. Her expertise in condition assessment includes transmission and distribution pipelines, force mains, and water storage facilities. She also has experience developing and overseeing large-scale condition assessment programs for pressurized pipelines. Susan has helped agencies with technology selection, condition assessment planning and execution, and development of recommendations.



David Spencer, PE - Technical Advisor, Risk Modeling

Dave has developed and implemented asset management programs encompassing over 60,000 miles of pipelines in the U.S. Dave specializes in developing and implementing practical results-oriented programs for aging water, recycled water, and wastewater infrastructure. He is adept in interacting with all levels of a utility organization from field staff to management.



Tina Whitfield, PE, ENV SP - Technical Advisor, Hydraulic Modeling

Tina has managed the development of hydraulic models for water and collection systems from small rural developments to major urban centers. She is familiar with the latest hydraulic modeling software and GIS applications for analysis of both system hydraulics and water quality. Technical capabilities beyond traditional hydraulic modeling include pipe break and valve criticality analyses, asset management and risk, water quality, operations optimization, training, and CIP development and capacity assurance program support.

Project Manager (Lead Consultant)



Project Manager, David O'Connor, PE, BCEE, brings 30 years of specialized experience in the planning, permitting, design, condition assessment, and construction management of wastewater collection and transmission infrastructure. He is a Board-Certified Environmental Engineer in Water Supply and Wastewater Engineering and an Associate Design-Build Professional with demonstrated expertise managing comprehensive asset management and condition assessment programs for municipal utilities across Florida.

David’s experience includes the inspection, condition assessment, and rehabilitation of gravity sewer pipelines, force mains, and associated pumping facilities in accordance with Capacity, Management, Operations, and Maintenance (CMOM) program requirements. He has led multiple large-scale projects involving field investigations, risk-based prioritization of assets, business case evaluations for rehabilitation versus replacement, and integration of assessment results into long-term capital improvement and asset management planning.

For Charlotte County Utilities, David has recently served as Principal-in-Charge and Project Manager on critical initiatives including post-Hurricane Ian emergency condition assessments, the Charlotte County Resiliency Master Plan, and capital improvement projects associated with booster pumping stations and the West Port Water Reclamation Facility. His familiarity with the County’s systems, operational priorities, and regulatory environment positions him to provide technically sound, efficient, and responsive project management.

Located in Tampa, Florida, David will provide direct oversight to facilitate the technical accuracy, regulatory compliance, and quality delivery of all inspection and condition assessment services.

“As Project Manager, my goal is to serve as both a trusted advisor and a dependable technical resource for Charlotte County. Our team is proud to stand behind the quality of our work, and I’m fully committed to delivering a project that meets your expectations and supports the County’s long-term success.”

LEAD CONSULTANT REFERENCES: As requested in the RFP, the following client references highlight projects where David served in a leadership or lead engineering role. In each, he oversaw key deliverables and collaborated directly with client leadership to align outcomes with project goals.

Resiliency & Modernization Plan	Reclaimed & Potable Water Pipes CA Program	Integrated Water Master Plan
Ken Stecher	Diana Smilova	Sean C Lieske
Operations Manager	Engineering Design Mgr.	Director
Charlotte County Utilities, FL	City of St Petersburg (Utilities), FL	Indian River County Depart. of Utility Services, FL
(941) 764-4323	(727) 893-7238	(772) 226-1835
Kenneth.Stecher@charlottecountyfl.gov	diana.smilova@stpete.org	slieske@indianriver.gov

HOW WILL DAVID’S EXPERIENCE TRANSLATE TO THE SUCCESSFUL DELIVERY OF THIS PROJECT?

✓ Through David’s prior experience, he understands how critical it is to **LISTEN FIRST** to obtain a clear understanding of your objectives and preferences, requirements and needs, project information, and criteria for success.

✓ David is an **EFFECTIVE COMMUNICATOR**. He understands how and when to engage the County’s staff and management in discussions that are most meaningful to them, while being respectful of their time.

✓ David brings many “lessons learned” from his previous projects. These lessons will allow him to provide **DIRECT ANSWERS** to your questions, and achieve **TECHNICALLY SOUND, VALUABLE SOLUTIONS** that meet your needs.

✓ David is **READY AND AVAILABLE** to serve as Project Manager. He is **100% COMMITTED** to assign the necessary resources who will be fully available. David is **NEARBY, IN THE TAMPA BAY AREA**, and his specific experience working with the County and surrounding local communities makes him the **IDEAL PARTNER** to support Charlotte County and its wastewater system.

Other Key Personnel



Carlee Fullenkamp, PE
Lead, Gap Analysis, Risk Assessment,
& CIP

Carlee has a range of experience in condition assessment and facility planning for drinking water and wastewater treatment facilities. Her contributions to facility planning and design have included biological nutrient removal modeling, filter evaluation and design, hydraulic modeling, pump design, cost estimating, geographic information systems (GIS), asset management, and permitting. Her work in capital planning motivated her to develop a user-friendly tool that utilities can use to align their capital improvement plans with grant and loan opportunities. She has helped secure millions of dollars of funding for Florida utilities through the SRF and Resilient Florida programs.

RELEVANT EXPERIENCE

- Reclaimed and Potable Distribution System Condition Assessment Program, St. Petersburg, FL
- Southwest Florida Water Management District, Old Homosassa Septic to Sewer, Citrus County, FL
- Integrated Water Master Plan, Indian River County, FL



Alex Palmatier
Lead, System Integration
Collection System O&M

Alex specializes in utility business intelligence services. He has more than 28 years of experience providing regulatory compliance assistance, including preparing and assisting with implementing consent decree compliance and computerized maintenance management systems. His diverse experience includes extensive management and operational assessments across customer service, billing and collections, accounting, business unit development, and project/transition management. His management consulting experience includes work in cost of capital determination market and competitive assessments and financial modeling.

RELEVANT EXPERIENCE

- Great Lakes Water Authority, Linear System Integrity Program, Detroit, MI
- Winston-Salem/Forsyth County Utilities, Distribution System Master Plan, Winston-Salem, NC
- Orange Water and Sewer Authority, Distribution System Prioritization Model, Carrboro, NC



Sonia Oton, PE
Lead, Inspection & Condition Assessment
Pipe Renewal

Sonia is a Regional Condition Assessment Business Class Lead with 27 years of experience in the industry. She has experience understanding and anticipating to the client's needs, developing project scope of work, schedules, budgets, coordinating and managing staff activities, and negotiating subconsultant scopes and fees. Sonia has spent the last 15 years working on pipeline projects, including inspection and condition assessment, evaluation and design of pipeline renewal projects, and helping clients, like DC Water and WSSC Water in Maryland, manage their Capital Improvement Programs in a fiscally responsible way.

RELEVANT EXPERIENCE

- Sewer Condition Assessment Program, DC Water, Washington, DC
- Linear System Integrity Program | Great Lakes Water Authority (GLWA), Detroit, MI
- PCCP Engineering Services | WSSC Water, Laurel, MD



Chris Makransky, PE
Force Main Modeling & Lift Stations

Chris is a Water/Wastewater Project Engineer with extensive experience in sewer master planning, hydraulic modeling, and system assessments. He has worked on various infrastructure projects, including updates to sewer master plans, capacity analysis programs, and system performance improvements for utility providers. Chris has managed several projects, including lift station rehabilitation, collection system inspection, and asset management planning. His expertise includes providing hydraulic modeling services to evaluate and optimize wastewater systems.

RELEVANT EXPERIENCE

- Charlotte County Utilities, Resiliency Master Plan, Charlotte County, FL
- City of Sterling Heights, Wastewater and Stormwater Asset Management Plans, MI
- Charlotte County Utilities, Sewer Master Plan, Charlotte County, FL

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Rodger Insignares, EIT
Gravity Sewer Condition Assessment

Rodger is an Environmental Engineer (EIT) with hands on experience in pipeline condition assessment, utility design, and water and wastewater infrastructure. He has contributed to projects across various phases, from field investigations to construction support and final design. Rodger possesses a detailed understanding of both technical design requirements and practical construction challenges, facilitating effective and sustainable solutions. He is dedicated to delivering high-quality work that meets client needs and supports long-term infrastructure resilience.

RELEVANT EXPERIENCE

- Braddock Heights Condition Assessment, City of Alexandria, VA
- Sanitary Sewer Inspections at Stream Crossings, City of Alexandria, VA
- Old Town Condition Assessment - Sewers and Structures, City of Alexandria, VA

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Jamie Zimmerman, PE
CIP Coordination & Cost Evaluation

Jamie has over 12 years of experience in water, wastewater, and stormwater infrastructure, with a strong focus on condition assessment, utility planning, and facility design. She has served as Project Manager or Deputy PM on multiple high-profile assignments for Charlotte County Utilities, including the West Port Water Reclamation Facility Expansion, post-Hurricane Ian damage assessments at the Burnt Store facilities, upgrades to the Gulf Cove, Rotonda, and Walenda booster pump stations, and development of the County’s Resiliency Master Plan. Jamie’s role has included managing multidisciplinary design teams, coordinating technical deliverables, supporting FEMA documentation, and contributing to long-term capital planning. Her broader experience includes SCADA system improvements, water transmission system planning, and risk-based assessments for large-scale infrastructure in Florida and New York.

RELEVANT EXPERIENCE

- Charlotte County Utilities, Charlotte County Resiliency Master Plan | Charlotte, FL
- NYCDEP Catskill Aqueduct Pressure Tunnel Assessment and Design, Westchester, NY
- Charlotte County Utilities, West Port Water Reclamation Facility Expansion | Charlotte, FL

Proposed Subconsultants



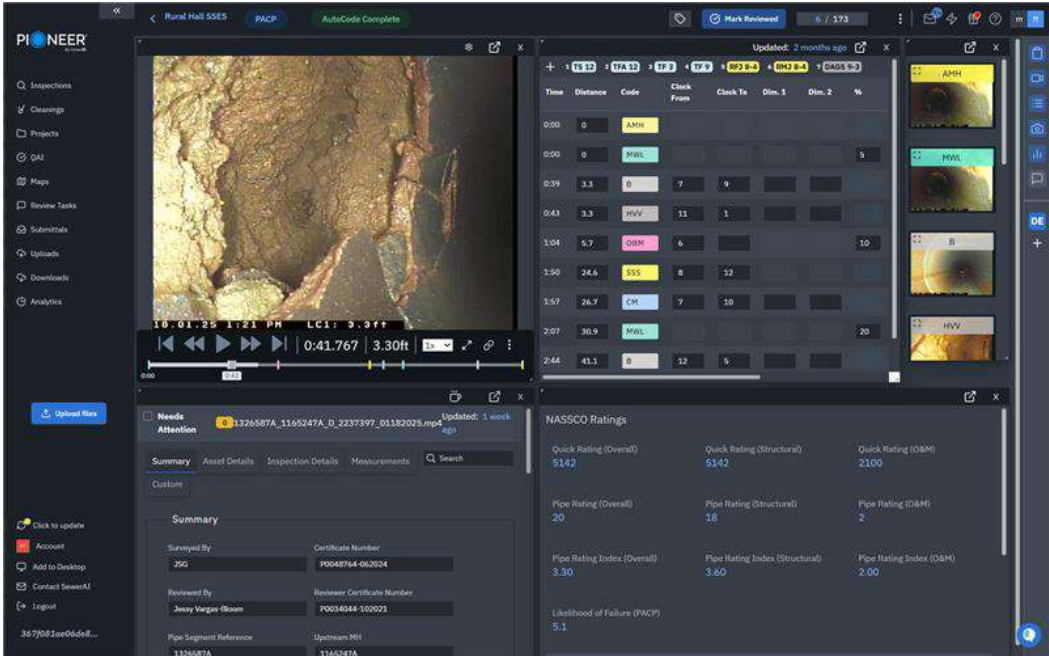
SewerAI is transforming the way cities maintain their infrastructure by utilizing massive amounts of data to train and develop AI/Machine learning (ML) tools to accelerate and improve the quality of sewer condition assessment. SewerAI's tools have been used on over 300,000 inspections and 9,000 miles of gravity sewer. HDR has selected SewerAI as part of our team to support our approach to addressing sewer defect coding data gaps for the County's historical CCTV inspection data; see our Project Approach for more detail on how we propose to leverage SewerAI to support the project. HDR has worked with SewerAI on projects for Winston-Salem/Forsyth County Utilities (WSFC Utilities), Raleigh Water, and Orange County Water and Sewer Authority (OWASA).

CCTV Subcontractor

For CCTV services, HDR has worked with multiple trusted subcontractors. The HDR team understands the unique characteristics and challenges associated with this Inspection and Condition Assessment project and is committed to collaboratively working with the County to successfully deliver this project.

A CCTV subcontractor will be chosen in collaboration with Charlotte County Utilities, based on qualifications, past performance, availability, and cost. This will support efficient spending and selection of the most suitable CCTV inspection firm.

HDR brings deep experience with leading asset management platforms, including Cityworks and GraniteNet. As a Trimble Partner (parent company of Cityworks), we have strong expertise in configuring, managing, and analyzing all data types—including CCTV. We also own and use GraniteNet, a widely adopted sewer inspection and asset management tool. While a CCTV subcontractor has not yet been selected, any firm will be expected to operate within GraniteNet to align with the County's systems. Our in-house knowledge facilitates seamless data integration, efficient analysis, and long-term asset management.



From CCTV Capture to cloud data storage and Digital Submittal, **PIONEER, SewerAI's software**, is the end-to-end AI solution for intelligent, automated, rapid assessment.



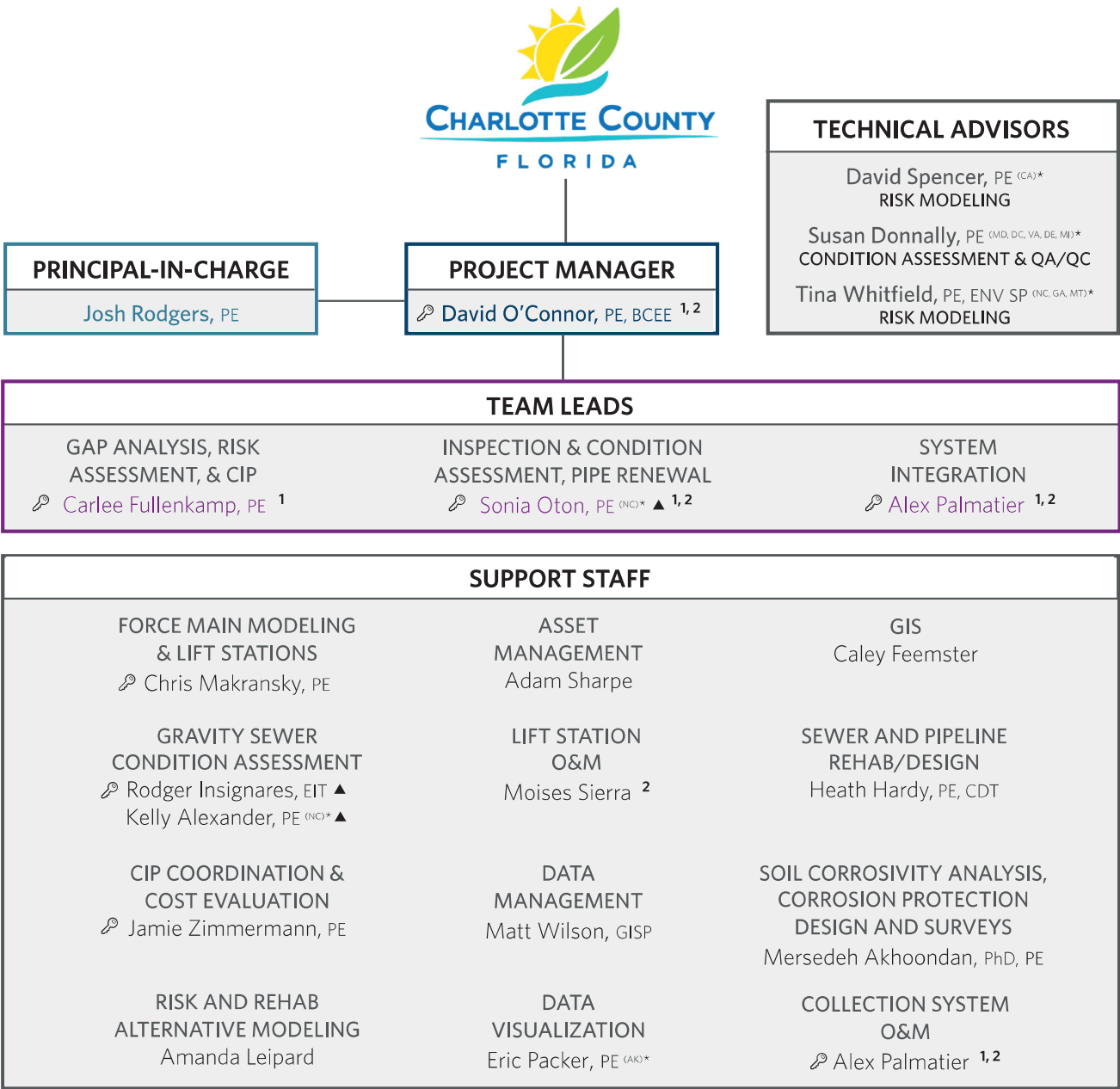
Proposed Management Plan



II. Proposed Management Plan

Team Organization

HDR has developed a team of professionals with the right experience for this project. The organization chart below shows the leadership team, technical advisors, and project planning and delivery teams. **David O'Connor, Project Manager**, will be responsible for all aspects of the day-to-day execution of projects under this contract, including schedule and project coordination. **Josh Rodgers, Principal-in-Charge**, will provide management oversight of the overall project team and serve as an additional point of contact for the County. He will also work with David to oversee that proper resources are available and assigned to the project effort. David and Josh are supported by a strongly qualified group of engineers and professionals who will deliver the technical work products. The combined areas of expertise in the project team were selected to be most responsive to the County's needs. Below, we have identified which key team members are assigned to the Assessment and Strategy Phases, and those supporting the O&M Phase.




HDR’s approach to managing this project is grounded in **clear communication, experienced leadership, and a strong understanding** of CCU’s goals. Our team is committed to delivering a well-organized and responsive process that supports the County through all phases of the wastewater system inspection and condition assessment effort. This management plan outlines how we will coordinate the work, manage resources effectively, and maintain a high level of quality and accountability. By building on established working relationships and proven project delivery practices, we aim to provide a smooth, efficient, and successful project experience for the County and its stakeholders.

We collaborate closely with the County’s project managers to establish clear baselines and performance metrics, facilitating efficient delivery and minimizing setbacks. To support this, HDR provides an interactive online Project Management Office platform offering access to best practices, training, tools, and resources. Recognizing that County staff may oversee multiple projects simultaneously, our objective is to streamline the management of individual work orders, reducing the administrative burden on County personnel. As **HDR’s Project Manager, David O’Connor** will be your primary point of contact. He will provide continuity, oversight and work with the team to implement HDR’s project management, organization, communication, and quality assurance practices established for this contract.

HDR’S PROJECT-SPECIFIC MANAGEMENT CONCEPTS

To successfully deliver this program, HDR has developed management concepts that are both project-specific and grounded in proven utility best practices. These



Principal-in-Charge: Josh Rodgers, PE

Project Manager: David O’Connor, PE, BCEE

Principal-in-Charge, Josh, and Project Manager, David, are both responsible for the project; they will remain assigned to the project and will not be substituted without Charlotte County’s express written permission.

HDR’s Management Approach

01

•

ASSIGN A PROJECT MANAGER

Assign a Project Manager with experience relative to the project type.



02

•

SELECT THE RIGHT RESOURCES

Allocate the appropriate resources & technical skills for County project tasks.



03

•

SOLVE THE PROBLEM

Apply our knowledge and familiarity with latest technologies to solve issues.



04

•

TIMELY PROJECT DELIVERABLES

Deliver services and resources on schedule to keep your project moving.



05

•

PROJECT TEAM COORDINATION

Direct staff, monitor performance, and foster seamless collaboration.



06

•

MANAGE TIMELINE & BUDGET

Drive schedule, budget, and deliverable oversight for smooth project execution.



07

•

IMPLEMENT QA/QC PROGRAM

Employ strict QA/QC processes to project deliverables for accuracy & consistency.



08

•

EFFECTIVE COMMUNICATION

Maintain regular communication with CCU PMs for cohesive collaboration.



concepts reflect our understanding of Charlotte County Utilities’ operational environment, regulatory drivers, and commitment to proactive infrastructure stewardship.

Collaborative Development and Stakeholder Engagement

Charlotte County Utilities has unique operational priorities and stakeholder needs that require a tailored, inclusive approach. HDR believes the most effective management strategies are those developed in collaboration with the individuals who plan, operate, approve, and support utility systems. Our team will facilitate structured input from wastewater operations, engineering, asset management, planning, and other relevant departments.



HDR’S CORPORATE PROJECT MANAGEMENT CONCEPTS

Project Management Plan (PMP)

Our Project Management Approach utilizes the data, reports, and figures captured through HDR’s Program Controls and Project Management System.

Utilizing the established Project Management Plan (PMP), shown in the figure below, provides a framework for reaching the highest levels of quality—for you and for us. HDR’s Project Management Approach includes programs, policies, and business processes, with the following key elements:

- A PMP is created and communicated to the project team by the **Project Manager, David O’Connor**. The PMP includes detailed schedule and budget information for project team members to efficiently and effectively execute a project.
- A Quality Management Plan (QMP) is created and communicated to the team by the Project Manager.
- The QMP provides details on how QA and QC activities shall be performed and by whom they should be performed.
- A Project Planning Review is scheduled with the Project Manager and appropriate leadership to discuss and verify that contractual, business, and management issues have been adequately prepared and planned for prior to start of the project.
- Risk Assessments are performed from project development through execution. Mitigation plans are developed and reviewed with senior managers for projects with elevated risks.
- We use a Quality Management Information System (QMIS) to schedule and monitor project QA and QC reviews. This system aids project managers and HDR leadership with organizing scheduled reviews, notifying reviewers, and tracking completed reviews.
- QC Checking verifies the accuracy of information relative to its intended purpose in accordance with project requirements and standards. QC Reviews are conducted according to the QMP as integral components of project activities.

- Project schedule and budget reviews occur throughout project execution to facilitate communication between the Project Manager and Charlotte County.

Our QA/QC program is continuously refined, with one goal: to deliver high-quality service and deliverables to the County

We give a very high priority to Quality Assurance and Quality Control. HDR is committed to the delivery of high-quality service and products at every level of the team and every aspect of each task order. Our goal is to set the industry benchmark for excellence in services. We accomplish this through delivering quality work and exercising discipline. As shown in the Organization Chart, the HDR team has identified our Technical Advisor, **Susan Donnally, PE**, as the QA/QC Officer. She will work closely with the project team to make sure the proposed solutions meet the project needs.

Not all pipeline assets
require the same attention—
our targeted strategies
maximize value and minimize
unnecessary efforts.



“**Having worked with many utilities over the past two decades**, I have learned key lessons on how to build and maintain a successful pipeline condition assessment program. Using these lessons, I am eager to help CCU build a program that will provide resiliency for your collection system for decades to come.”

- **Susan Donnally, PE**
Technical Advisor and QA/QC

Share Goals

- Vision for the Future
- Team Relationships
- Complete Plans
- Determine Resources
- Project Guidelines & Procedures

Execute Project

- Risk Assessment/Project Initiation
- Project Monitoring/Control
- Project Development
- Project Deliverables



Effectively Communicate

- CCU Staff
- Project Team
- Teaming Partners
- Stakeholders
- Alternative Dispute Resolution

Monitor Quality

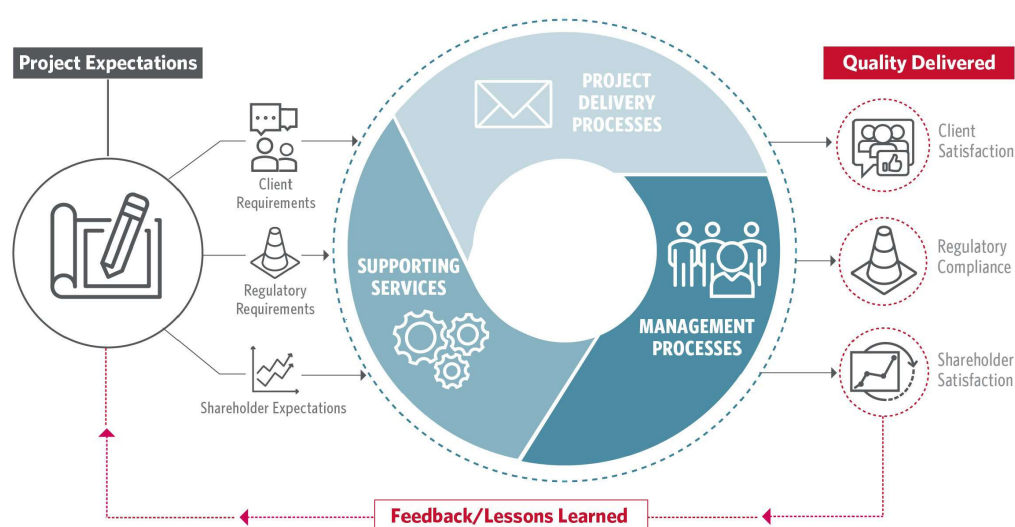
- Project Planning Review
- Risk Assessments
- QA/QC Checking
- QC Reviews
- Project Reviews

HDR’s project management approach is **built on trust, a clear definition of shared goals with the County, and a mutual understanding of the necessary steps to achieve these goals.**

Currently, Susan is the Program Manager for the GLWA program, which has implemented many of the concepts envisioned for this project. In addition to the technical depth she brings, she will be responsible for making sure the project follows HDR’s Quality Management System and perform quality reviews of HDR’s submittals. Susan is excited to bring forward the insights gained from developing program workflows and business processes in close partnership with Michigan’s Great Lakes Water Authority (GLWA)—*experience that directly aligns with the goals and structure of this project.*

HDR administers a Quality Management System (QMS) focused on achieving our strategic and tactical business objectives, rooted in the principles and guidelines set forth by ISO 9001:2015. The system links activities together to function as a system for predictable results and applies the [Plan, Do, Check, Act process](#) throughout the quality control process to combine planning, implementing, controlling, and continual improvement.

Integrated QMS Approach



- Deliverables are reviewed to verify that:**
- ☑ Deliverables comply with standard engineering and professional practices.
 - ☑ The scope and content of each deliverable is consistent with project requirements.
 - ☑ The data/criteria/guidance followed are appropriate.
 - ☑ Documents produced are consistent, accurate, comprehensive, reasonable, and free of disconnects across all disciplines involved.
 - ☑ The engineering concepts are valid, and the engineering analyses are correct.



Previous Experience of Team



III. Previous Experience of Team Proposed for This Project

When it comes to delivering wastewater system assessments and strategic infrastructure planning, our team doesn’t just meet expectations—we’ve built a reputation for exceeding them. Our experienced, multidisciplinary team is actively leading similar projects in Florida and across the US, including right here in Charlotte County, bringing the practical knowledge and regional insight needed to hit the ground running. Our team has **completed hundreds of miles of wastewater infrastructure condition assessments and inspections**—ranging from gravity sewers and manholes to complex force mains and lift stations—helping utilities prioritize investments, reduce risk, and improve system reliability. That depth of experience makes us uniquely qualified to support the County’s goals **from day one**.

ESTABLISHED COLLABORATION NATIONWIDE, INCLUDING 3+ FL PROJECTS						
PERSONNEL/ROLE	1	2	3	4	5	6
David O’Connor, PE, BCEE Project Manager	■		■			■
Carlee Fullenkamp, PE Lead, Gap Analysis, Risk Assessment & CIP	■		■			■
Sonia Oton, PE Lead, Condition Assessment & Inspection		■	■			■
Alex Palmatier Lead, System Integration	■	■	■	■	■	■
Chris Makransky, PE Hydraulic Modeling	■		■			■
Matt Wilson, GISP Data Management			■	■	■	■
Jamie Zimmerman, PE CIP Coordination	■		■			
Adam Sharpe Asset Management	■	■		■		■
Eric Packer, PE Data Visualization		■	■			■
Heath Hardy, PE Pipeline Design		■	■			
Kelly Alexander Gravity Sewer Condition Assessment		■		■	■	■
Amanda Leipard Risk Modeling		■		■	■	■

FEATURED PROJECTS

- 1

Resiliency & Modernization Plan, Charlotte County Utilities, FL
- 2

Linear System Integrity Program | Great Lakes Water Authority (GLWA), Detroit, MI
- 3

Reclaimed & Potable Water Pipes Physical Condition Assessment, City of St. Petersburg, FL
- 4

OWASA, Gravity Sewer Rehabilitation (GSR) Program, Carrboro, NC
- 5

City of Winston-Salem, Collection System Improvement Program, Winston-Salem, NC
- 6

Indian River County, Integrated Water Master Plan, FL





EDUCATION
BS, Environmental Engineering, 1996

REGISTRATIONS
Professional Engineer, FL, No. 56803

INDUSTRY TENURE
30 Years

HDR TENURE
4 Years

LOCATION
Tampa, FL

- VALUE TO CHARLOTTE COUNTY**
- ◆ Deep knowledge of Charlotte County’s infrastructure, staff, and processes
 - ◆ 30 years of experience leading wastewater condition assessments
 - ◆ Proven leader managing multidisciplinary teams to deliver successful projects

David O’Connor, PE, BCEE, DBIA

PROJECT MANAGER (LEAD CONSULTANT)

For 30 years, David has assisted clients with the planning, design, permitting and construction management of water, wastewater and reclaimed water projects. His projects have included pressure pipeline condition assessments and developing long-term capital improvement plans.

RELEVANT EXPERIENCE

Resiliency and Modernization Program, Charlotte County Utilities, FL
Principal-in-Charge. The program allows Charlotte County to prepare for, schedule, and develop strategies for modernization and operational resiliency of its Utility Systems. The program will consider potential improvements for six areas: automation, optimization, controlling, monitoring, mobilization, and modernization. The integrated master plan will provide the County with a comprehensive, strategic, and implementable plan for its long-term capital and maintenance plan. This plan will connect prioritized projects with the County’s asset management and work order management systems.

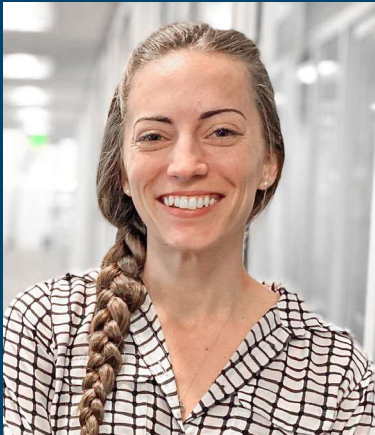
Pipeline and Valve Management Program, Rancho California Water District | Temecula, CA
QC Review. David provided QC review of the Pipeline Condition Assessment Work Plan. The District owns approximately 1,000 miles of metallic pipeline and 24,000 valves. HDR helped the District establish budgets for valve replacement and pipelines condition assessment; update the District’s risk model; integrate systems needed to develop CIP extents; establish an opportunistic condition assessment program; enhance measurement of consequence of failure; and execute pipeline condition assessment program.

Pipeline and Valve Risk Prioritization, and Potable Water Pipeline Condition Assessment, Padre Dam Municipal Water District | Santee, CA*
QC Review. HDR is completing the Potable Water Pipeline Condition Assessment for the District which includes utilizing risk assessment results to identify high-risk pipelines for condition assessment, performing condition assessment and identifying capital improvement projects and timing. Capital improvement project development includes alternative analysis of different methods to extend asset remaining life. These solutions include a comparison of cathodic protection retrofits (based on WRF Study 4618 developed by HDR staff), repairs, rehabilitation through lining, and replacement, resulting in optimized low-cost solutions that extend asset life.

City of St Petersburg (Utilities) Reclaimed & Potable Water Pipes CA Program, St. Petersburg, FL
Deputy Project Manager. HDR is assisting the City with a multi-year program for potable and reclaimed water mains, moving away from an age-based replacement plan to a risk-based approach that assesses the likelihood and consequences of failure. The program began with a data inventory and management evaluation, followed by the development of a 5-year Capital Improvement Plan (CIP) based on risk prioritization. The CIP will be updated regularly through ongoing condition assessments.

City of St. Petersburg (Utilities) Potable Hydraulic Model Update, St. Petersburg, FL
Quality Reviewer for the initial phase of the City’s potable water system hydraulic model update. In this role, David provided oversight of technical deliverables to confirm alignment with industry standards and project objectives. He reviewed modeling assumptions, validation methodologies, and documentation to validate clarity, consistency, and technical accuracy. David assisted with the evaluation of the existing model structure, supported a limited field validation effort, and guided a functional assessment to identify performance gaps and opportunities for refinement. He also facilitated two technical workshops with City staff to establish modeling priorities and inform the next phase of the project. The effort concluded with a comprehensive technical memorandum outlining the recommended scope and approach for full model update and calibration.

Integrated Water Master Plan, Indian River County, FL
Deputy Project Manager. The County is implementing an Integrated Water Master Plan (IWMP) to prioritize programmatic and capital investments. HDR has been retained to collaborate with the County in development of the IWMP, which will align with the framework outlined by the USEPA. The goal of the IWMP is to develop an adaptable and affordable long-term plan for addressing the County’s drinking water, wastewater, and reuse needs. The scope includes ancillary support services including asset management, vertical condition assessment, linear risk assessment, hydraulic model updates, strategic communications support, and alternative funding reviews.



EDUCATION

BS, Civil Engineering, 2019

REGISTRATIONS

Professional Engineer, FL, No. PE98074

INDUSTRY TENURE

5 Years

HDR TENURE

5 Years

LOCATION

Ann Arbor, MI

VALUE TO CHARLOTTE COUNTY

- ◆ Transforms complex data into clear priorities, helping Charlotte County confidently invest in the right projects at the right time
- ◆ Reduces system risk by pinpointing vulnerabilities and guiding proactive, cost-effective improvements
- ◆ Delivers capital improvement plans that secure funding, enhance compliance, and strengthen long-term system performance

Carlee Fullenkamp, PE
LEAD, GAP ANALYSIS, RISK ASSESSMENT, & CIP

Carlee has a range of experience in condition assessment and facility planning for drinking water and wastewater treatment facilities. Her contributions to facility planning and design have included biological nutrient removal modeling, filter evaluation and design, hydraulic modeling, pump design, cost estimating, geographic information systems (GIS), asset management, and permitting. Her work in capital planning motivated her to develop a user-friendly tool that utilities can use to align their capital improvement plans with grant and loan opportunities. She has helped secure millions of dollars of funding for Florida utilities through the SRF and Resilient Florida programs.

RELEVANT EXPERIENCE

Reclaimed and Potable Distribution System Condition Assessment Program, St. Petersburg, FL
Deputy Project Manager. The City of St. Petersburg selected HDR to develop and implement a multi-year program for the condition assessment and monitoring, rehabilitation, or replacement of the City’s reclaimed distribution pipelines and the City’s potable transmission and distribution pipelines. The Program includes desktop assessment and targeted physical condition assessment, rehabilitation and replacement; owner’s advisor services where required; capital improvement planning and budgeting. HDR has developed dynamic, spatial tools to enable the City to evaluate risk and develop projects based on custom data inputs, evaluation criteria, and weighting. Carlee has served as project manager and assisted in quality reviews of spatial tools and CIP development.

Southwest Florida Water Management District, Old Homosassa Septic to Sewer, Citrus County, FL
Project Support. HDR performed an independent review of the 30% design of the collection system improvements for septic to sewer conversion within the Old Homosassa West area. The independent review included review and assessment of the Conceptual Design Report’s technical approach, constructability, proposed project schedule, and opinion of probable construction cost. To perform this effort, HDR performed an initial review of the information received and quickly requested supplemental data. HDR reviewed the hydraulic model outputs for system hydraulic acceptability in comparison to standard practice. HDR reviewed system flow projections, reviewed environmental concerns with proposed construction areas, compared proposed pipeline routes and construction schedule to standard construction practices, performed a side-by-side cost opinion.

Integrated Water Master Plan, Indian River County, FL
Project Manager. Indian River County, Florida is implementing an Integrated Water Master Plan (IWMP) to prioritize programmatic and capital investments. HDR has been retained to collaborate with the County in development of the IWMP, which will align with the framework outlined by the USEPA. The goal of the IWMP is to develop an adaptable and affordable long-term plan for addressing the County’s drinking water, wastewater, and reuse needs. The scope includes ancillary support services including asset management, vertical condition assessment, linear risk assessment, hydraulic model updates, strategic communications support, and alternative funding reviews. Carlee is both managing the project and assisting with technical aspects of scope delivery.

City of St. Petersburg | NEWRF Master Planning Design Services | St. Petersburg, FL
Design Support. HDR was contracted by the City of St. Petersburg to develop a facility plan for the upgrades to the Northeast Water Reclamation Facility. The goal of the project will be to outline a 20-year plan for the facility and design and manage implementation of improvements over the initial 5 years. The initial phase of the project includes review of existing data including previous reports and record drawings. Additional phases include development of a detailed facility plan, which includes establishing levels of service for capacity and treatment.

Treated Water Transmission and Pumping, St. Petersburg, FL
Project Engineer. HDR was selected to assess the Treated Water Transmission system, booster pumping systems and water storage to evaluate different improvement options for the potable water transmission and storage systems and provide a Facilities Plan that outlines key replacement, rehabilitation and upgrades for the transmission mains, and booster pumping stations. Services will involve an initial desktop condition assessment of the water transmission mains, creation of a prioritized upgrade and replacement schedule, a capital improvement planning workshop, and a facilities plan with recommendations for upgrades and replacements. The capital improvement planning workshop will include a cost-benefit analysis and weighted criteria to determine viable solutions.



EDUCATION

MS, Environmental Engineering, 2000
BS, Chemical Engineering, 1995

REGISTRATIONS

Professional Engineer, NC, No. 031503

NASSCO: PACP, LACP, MACP
[U-0920-703R4377]

ITCP-Manhole Rehab Certification
[MR-1213-010095]

INDUSTRY TENURE

27 Years

HDR TENURE

< 1 Year

LOCATION

Vienna, VA

VALUE TO CHARLOTTE COUNTY

- ◆ 15 years of expertise delivering condition assessments and pipeline rehabilitation for major utilities
- ◆ Skilled in inspection planning, data analysis, and risk-based prioritization for smarter investments
- ◆ Proven leader aligning technical solutions with client goals, budgets, and regulatory needs

Sonia Oton, PE

LEAD, INSPECTION AND CONDITION ASSESSMENT, PIPE RENEWAL

Sonia is a Regional Condition Assessment Business Class Lead with 27 years of experience in the industry. She has experience understanding and anticipating to the client’s needs, developing project scope of work, schedules, budgets, coordinating and managing staff activities, and negotiating subconsultant scopes and fees. Sonia has spent the last 15 years working on pipeline projects, including inspection and condition assessment, evaluation and design of pipeline renewal projects, and helping clients, like DC Water in Washington, DC and WSSC Water in Maryland, manage their Capital Improvement Programs in a fiscally responsible way. She has conducted multiple pipeline condition assessment presentations in local and national conferences.

RELEVANT EXPERIENCE

Small Diameter Sewer Rehabilitation (G800), Basic Ordering Agreement, DC Water, Washington, DC
Project Manager and Project Engineer. Sonia was responsible for the rehabilitation design of 4,000 lf 8-inch to 15-inch diameter sewer pipe, as well as lateral connections and manholes.

Local Sewer Rehabilitation (G100), Basic Ordering Agreement (BOA), DC Water, Washington, DC
Deputy Project Manager and Project Engineer. Sonia is responsible for the rehabilitation design of 20,000 lf 8-inch to 54-inch diameter sewer pipe, as well as lateral connections and manholes.

Sewer Condition Assessment Program, DC Water, Washington, DC
Project Manager. Sonia assisted with the planning of the inspection of 23 miles of the 24-inch to 78-inch diameter reinforced concrete pipe (RCP) Potomac Interceptor, 2.3 miles of the 66-inch to 75-inch diameter RCP and brick Lower East Side Interceptor, 1 mile of the 42-inch to 96-inch diameter RCP Anacostia Force Main and Gravity Sewer, and 1 mile of 60-inch diameter RCP Anacostia Siphons.

Anacostia Force Main Gravity Sewer, DC Water, Washington, DC
Project Manager and Owner’s Agent. Sonia managed the inspection and condition assessment data analysis of 23,000 lf of 66-inch to 96-inch RCCP and RCP sewer and 40 sewer manholes (including manhole retrofit for inspection).

WSSC Water PCCP Engineering Services BOA, Laurel, MD
Project Manager. HDR is supporting a comprehensive PCCP assessment program for WSSC Water’s 400-mile inventory by providing program level support and recommendations, assessing specific pipelines, performing engineering analysis of condition data, and providing recommendations on how to safely manage specific PCCP mains. Sonia is managing the inspection planning and execution of the 66/60-inch PCCP water main.

GLWA Linear System Integrity Program, Detroit, MI
Condition Assessment Technical Expert. This multi-year condition assessment program is one of the nations’ largest—addressing 800 miles of large-diameter water transmission main of varying materials. HDR is helping GLWA to establish their program structure for developing condition assessment and rehabilitation recommendations for their large-diameter water transmission mains. HDR also is supporting the physical assessment of the transmission mains, as well as emergency response to failures. Sonia supports the local team with inspection and rehabilitation of water mains, providing recommendations on inspection tools and rehabilitation alternatives. She is developing business processes for sewer trunk and interceptor inspections, managing revisions to the Water Linear Asset Master Plan, and is contributing to water main inspection tasks.

City of St Petersburg (Utilities) Reclaimed & Potable Water Pipes CA Program, St. Petersburg, FL
Condition Assessment Lead. HDR is assisting the City with a multi-year program for potable and reclaimed water mains, moving away from an age-based replacement plan to a risk-based approach that assesses the likelihood and consequences of failure. Sonia is providing technical expertise on inspection approach, tools and technologies.

Sewer Rehabilitation Program, New Castle County, DE
Project Engineer. Sonia was responsible for the review of digital material to assess the existing condition and propose techniques for the rehabilitation of 30,000 lf of 8-inch to 12-inch diameter pipes, as well as lateral connections and manholes.



EDUCATION

BS, Environmental Sciences/Studies,
1996

REGISTRATIONS

N/A

INDUSTRY TENURE

28 Years

HDR TENURE

28 Years

LOCATION

Winston-Salem, NC

VALUE TO CHARLOTTE COUNTY

- ◆ Streamlines data across systems to give Charlotte County a clear, unified view of asset conditions and risks—enabling smarter, faster decisions
- ◆ Leverages 28 years of experience integrating condition, risk, and financial data to guide cost-effective rehabilitation and capital planning
- ◆ Builds practical, adaptable data frameworks that align with Charlotte County’s operations, promoting long-term program success and ease of use

Alex Palmatier

LEAD, SYSTEM INTEGRATION; COLLECTION SYSTEM O&M

Alex specializes in utility business intelligence services. He has more than 28 years of experience providing regulatory compliance assistance, including preparing and assisting with implantation of consent decree compliance and computerized maintenance management systems. His diverse experience includes extensive management and operational assessments in customer service billing and collection accounting business unit development and project/transition management. His management consulting experience includes work in cost of capital determination market and competitive assessments and financial modeling.

RELEVANT EXPERIENCE

Great Lakes Water Authority (GLWA), Linear System Integrity Program, Detroit, MI
Data Technical Advisor. This multi-year condition assessment program is one of the nations’ largest—addressing 800 miles of large-diameter water transmission main of varying materials. HDR is helping GLWA to establish their program structure for developing condition assessment and rehabilitation recommendations for their large-diameter water transmission mains. Alex serves as the data technical advisor for this program which includes development of a comprehensive risk-based model to prioritize the mains for assessment, development of a framework for assessment of the entirety of their transmission system, including three business processes which are to be used for unbiased selections of pipeline inspection methods, pipeline renewal types and long-term management strategies. HDR also is supporting the physical assessment of the transmission mains, as well as emergency response to failures.

Winston-Salem/Forsyth County Utilities, Distribution System Master Plan, Winston-Salem, NC
Data Integration Technical Advisor. HDR updated Winston-Salem’s Water Facility’s Master Plan to provide long-term guidance, planning, and estimated costs for future capital improvement projects over a 20-year planning period. HDR assisted with AWIA compliance, developed future demand projections based on recent CommunityViz population projections through the year 2045, conducted modeling of the system, and evaluated the three water treatment plants for water quality and performance.

Orange Water and Sewer Authority (OWASA), Distribution System Prioritization Model, Carrboro, NC
Technical Advisor. To maintain the high-quality water that their technology and medical clients depend upon, HDR partnered with OWASA to develop a comprehensive and data-driven approach to address challenges associated with its water distribution system. Phase 1 included a system deterioration analysis, risk prioritization, and renewal investment scenario analysis. Phase 2 included pipe break response planning, condition assessment and system monitoring planning, corrosion control review, and capital investment planning. Alex led the integration of asset inventory, condition assessment, and other data needed to make cost-effective, practical decisions.

City of St Petersburg (Utilities) Reclaimed & Potable Water Pipes CA Program, St. Petersburg, FL
Data Integration. HDR is assisting the City with a multi-year program for potable and reclaimed water mains, moving away from an age-based replacement plan to a risk-based approach that assesses the likelihood and consequences of failure. The program began with a data inventory and management evaluation, followed by the development of a 5-year Capital Improvement Plan (CIP) based on risk prioritization. The CIP will be updated regularly through ongoing condition assessments.

Palm Beach County, Regional Force Main Evaluation, West Palm Beach, FL
Data Manager. Alex performed an assessment of 10 miles of PCCP and DIP force mains for Palm Beach County Water Utilities Division and the City of Lake Worth, including acoustic leak and gas pocket detection and external corrosion analyses. Efforts involved structural analyses and development of recommendations for the overall management of the force main system, including remaining useful life calculations and renewal recommendations. Alex led the interface of data developed under this evaluation with the County’s and the City’s existing data-management systems.



EDUCATION

BS, Civil Engineering, 2018

REGISTRATIONS

Professional Engineer, FL, No. 95778

INDUSTRY TENURE

7 Years

HDR TENURE

<1 Year

LOCATION

Tampa, FL

VALUE TO CHARLOTTE COUNTY

- ◆ Delivers expert insights to CCU projects, drawing on extensive experience with the County's critical Master Plans
- ◆ Proven track record of leading high-impact CCU projects, driving results with Annual Reports, Development Reviews, and Hydraulic Modeling
- ◆ Trusted partner for CCU, consistently called upon for specialized knowledge and strategic project guidance

Christopher Makransky, PE

FORCE MAIN MODELING AND LIFT STATIONS

Chris is a Water/Wastewater Project Engineer with extensive experience in sewer master planning, hydraulic modeling, and system assessments. He has worked on various infrastructure projects, including updates to sewer master plans, capacity analysis programs, and system performance improvements for utility providers. Chris has managed several projects, including lift station rehabilitation, collection system inspection, and asset management planning. His expertise includes providing hydraulic modeling services to evaluate and optimize wastewater systems.

RELEVANT EXPERIENCE

City of Sterling Heights Public Works, Wastewater and Stormwater System Asset Management Plan, MI
Project Engineer. Projects for the fourth-most populated city in Michigan encompassed a detailed NASCO-certified condition assessment of every pipe gravity segment and manhole within the systems. For each gravity pipe, cleaning and CCTV was performed by a contractor and video/photos provided to the engineer. All pipe and manhole assets were evaluated and assigned a rating based on probability of failure (POF) and criticality of failure (COF) in accordance with NASCO's Pipeline/Manhole Assessment Certification Programs (PACP/MACP). Improvement projects were recommended based on condition and ranged from point repairs to sectional and full pipe linings to full replacement.

Charlotte County Utilities, Sewer Master Plan, Charlotte County, FL
Project Manager/Lead Engineer. Project encompassed updating the County's 2017 Sewer Master Plan to integrate future planning with present-day County water quality objectives and regulatory drivers, such as Senate Bill 64 (2021), House Bill 1379 (2023) and CMOM program. Project included hydraulic modeling of the County's three (3) wastewater collection and transmission systems for Mid, West, and South County and development of a new Capacity Analysis Program to meet CMOM requirements. The Capacity Analysis Program included evaluation of 5-10% of the County's wastewater collection/transmission system (gravity pipe and lift stations) and provided a roadmap for CCU to analyze and improve system capacity using available SCADA data, CCTV evaluation, and relining and rehabilitation projects where applicable. The goal of the Capacity Analysis Program is to minimize SSOs and improve system performance under wet-weather conditions.

Indian River County Department of Utility Services Integrated Water Master Plan, Indian River County, FL
Project Engineer. HDR is assisting with developing an Integrated Water Master Plan for its water, wastewater, and reuse utility systems. Performed condition assessments of wastewater plant assets for preliminary, secondary, tertiary treatment, and solids handling processes. This field evaluation included inspection and assignment of a rating of 1 to 5 for piping, valves, pumps, motors, mixers, process equipment, and more. The field inspections were streamlined in a time-efficient and client-friendly manner through GIS integration of real-time data recording.

Seminole Tribe of Florida PWD, Big Cypress Stormwater Lift Station Rehabilitation, Clewiston, FL
Project Engineer. Field evaluation and rehabilitation of approximately 20 lift stations for the watershed management system in Big Cypress, originally designed by USACE. The field evaluation included a thorough condition assessment of each asset and associated equipment. The rehabilitation included design drawings and specifications for improvements to maintain effective operations of the water management system.

Charlotte County Utilities, Annual Report 2021-2024, Charlotte County, FL
Project Manager/Lead Engineer. The Annual Report included condition assessment, reporting, and developing improvements for the County's water distribution, wastewater collection/transmission, and reclaimed water distribution systems. The report included detailed descriptions of the County's wastewater collection/transmission system consisting of gravity, LPS, and vacuum, and working closely in the field with CCU Operations staff to incorporate O&M issues or concerns.

Charlotte County Utilities, Hydraulic Modeling Services, Charlotte County, FL
Project Engineer. Assisted CCU with hydraulic modeling services to evaluate CCU's wastewater collection/transmission systems on an as-needed basis. Tasks for this project included updating the models to reflect recent infrastructure changes, evaluating new and potential developments, analyzing current and future system capacities, and working closely with CCU staff to recommend infrastructure sizing and/or improvement projects to accommodate hydraulic capacity needs.



EDUCATION
BS, Environmental Engineering, 2018

REGISTRATIONS
Engineer Intern / EIT, FL, No. 1100021769

OSHA 10-Hr Training for the Construction Industry

OSHA Confined Space Entry for General Industry Course

NASSCO Pipeline Assessment and Certification Program (PACP), Manhole Assessment and Certification Program (MACP), Lateral Assessment and Certification Program (LACP)

INDUSTRY TENURE
7 Years

HDR TENURE
< 1 Year

LOCATION
Doral, FL

VALUE TO CHARLOTTE COUNTY

- ◆ Led pipeline assessments, recommending rehab and replacement to improve system reliability
- ◆ Delivered cost estimates by analyzing data, evaluating alternatives, & integrating industry innovations for cost savings
- ◆ Supported project delivery through field investigations, submittal reviews, & contractor coordination to confirm quality outcomes

Rodger Insignares, EIT

GRAVITY SEWER CONDITION ASSESSMENT

Rodger has 7+ years of hands-on experience in pipeline condition assessment, utility design, and water and wastewater infrastructure. He has contributed to projects across various phases, from field investigations to construction support and final design. Rodger possesses a detailed understanding of both technical design requirements and practical construction challenges, facilitating effective and sustainable solutions. He is dedicated to delivering high-quality work that meets client needs and supports long-term infrastructure resilience.

RELEVANT EXPERIENCE

Braddock Heights Condition Assessment, City of Alexandria, VA
Project Manager. Led the sanitary sewer inspection project, covering 461 manholes, 78,335 linear feet of sewer pipe, and 985 CITY-owned laterals. Developed a detailed Work Plan outlining project scope, team responsibilities, schedule, and inspection procedures including CCTV operations, flow control, and GIS updates. Supervised NASSCO PACP-compliant pipe inspections and MACP Level 1 manhole surveys, coordinated lateral inspections per City ownership criteria, and updated GIS databases. Delivered monthly condition assessment reports, quarterly rehabilitation recommendations, and maintained regular progress meetings to monitor quality assurance, manage deliverables, and provide actionable insights into the City’s sanitary sewer infrastructure.

Sanitary Sewer Inspections at Stream Crossings, City of Alexandria, VA
Civil Engineer. This study aimed to aid the City in taking proactive measures to evaluate the conditions of its 160 sanitary sewers and associated structures in stream areas prone to stream erosion. The study prioritized sewer pipeline rehabilitation projects for cost-effective risk management in environmentally sensitive regions. Rodger was responsible for the condition assessment of these sewers. This involves QA/QC of the most recent CCTV inspection data, creating a Likelihood of Failure (LoF) and Consequence of Failure (CoF) for critical sewer assets, and preparing permits within CSX right of way to support field inspections.

Four Mile Run Relief Sewer Investigation, City of Alexandria, VA
Civil Engineer. Oversaw the review process from the contractor submittals and provided the rehabilitation recommendations based on the NASSCO condition assessment of the large diameter sewers that discharge into the Four Mile Run pumping station. Rodger was in charge of deliverables and updating existing GIS Data.

Del Ray (EAST) Sewer System Condition Assessment, City of Alexandria, VA
Civil Engineer. Used NASSCO coding and rating standards to evaluate their collection system for structural defects and inflow and infiltration (I/I) to help prevent basement back-ups and sanitary sewer overflows and provide rehabilitation recommendations. Del Ray project consisted of inspecting 600 manholes and 117,698 linear feet of sewer pipe. Rodger reviewed contractor submittals, schedules, and deliverables and updated existing GIS Data.

Old Town South Sewer System Condition Assessment, City of Alexandria, VA
Civil Engineer. The project consisted of the Inspection of 182,385LF of sewer pipe ranging from 8” to 60” in diameter and 2,610 sewer laterals within 18 months using NASSCO coding and rating standards to evaluate the structural and maintenance conditions of sewer pipes. Rodger worked in the review process of contractor submittals, monthly schedules, and submittals to the City and reviewed contractor invoices. He updated existing GIS Data to represent the actual conditions found during inspections and created biweekly schedules and progress maps.

Del Ray West Sewer System Condition Assessment, City of Alexandria, VA
Civil Engineer. To mitigate the risks of basement backups and sanitary sewer overflows, the Del Ray project utilized the NASSCO coding and rating standards to assess their collection system for structural defects and inflow and infiltration (I/I). The project involved a comprehensive inspection of 447 manholes, 101,206 linear feet of sewer pipe, and 1,543 sanitary service laterals. Rodger oversaw the evaluation of contractor submittals, schedules, and deliverables on behalf of the client. He confirmed that the existing GIS data accurately reflected current conditions.

Old Town Condition Assessment - Sewers and Structures, City of Alexandria, VA
Project Engineer. The Old Town Condition Assessment project involved the evaluation and rehabilitation suggestions for various infrastructure components, namely sewers, catch basins, manholes, and inlets, based on the analysis of previously conducted CCTV video inspections. The project encompassed multiple tasks, including proposing rehabilitation techniques for significant mainlines and developing a decision matrix to determine when assets necessitate rehabilitation. Three reports were compiled, summarizing the outcomes of asset evaluations, the corresponding recommendations, and the estimated rehabilitation costs.



EDUCATION

BS, Environmental Engineering, 2017

REGISTRATIONS

Professional Engineer, NC, No. 053029

Confined Space Entry Certification

NASSCO Lateral Assessment Certification Program (LACP / Manhole Assessment Certification Program (MACP) / Pipeline Assessment Certification Program (PACP)

INDUSTRY TENURE

7 Years

HDR TENURE

7 Years

LOCATION

Winston-Salem, NC

VALUE TO CHARLOTTE COUNTY

- ◆ Employs advanced inspection technologies to thoroughly identify and assess gravity sewer defects
- ◆ Converts assessment insights into practical rehabilitation strategies to enhance sewer system longevity
- ◆ Creates customized tracking tools to streamline field data collection, accelerating project timelines and improving outcomes

Kelly Alexander, PE

GRAVITY SEWER CONDITION ASSESSMENT

Kelly serves as condition assessment task lead for numerous wastewater and stormwater projects nationwide. Her role spans technical specification and contract preparation, defect identification, risk assessment, and gravity sewer rehabilitation. Her experience includes multi-year SSES programs, focused investigations, and rapid assessments. She has conducted assessments using technologies such as conventional and 360° CCTV, double-blower smoke testing, I/I investigation, remote inspection, acoustic testing, and AI-based NASSCO coding. She has also developed applications to track and manage utility contractor work, emergency construction, and field surveys through real-time data collection, improving project efficiency and saving client time.

RELEVANT EXPERIENCE

City of Winston-Salem, Collection System Improvement Program, Winston-Salem, NC

Project Engineer. To address negative system performance, WSFC Utilities established the Collection System Improvement Program (CSIP), WSFC Utilities collaborated with HDR to develop a strategic plan. Once a shared asset management vision was established, an organizational maturity assessment was performed to evaluate the state of asset management knowledge, skills, and capabilities within the organization.

OWASA, Gravity Sewer Rehabilitation Program (GSR), Carrboro, NC

Condition Assessment. In 2023, Orange Water and Sewer Authority (OWASA) began the development of its Gravity Sewer Rehabilitation Program (GSR Program). The purpose of this program is to develop and implement a comprehensive approach to efficiently and effectively rehabilitate or replace gravity sewer mains in OWASA's wastewater collection system, with a target goal of rehabilitating or replacing three miles of gravity sewer per year. The ultimate objective of the GSR Program is to establish a long-term, self-sustaining, and forecasted asset management program for OWASA that moves from wastewater collection system issue identification to solution implementation efficiently and in a streamlined manner.

City of Raleigh, Integrated Master Plan, Raleigh, NC

Project Engineer. HDR led preparation of an integrated master plan that incorporated the city's utility system, including both linear and vertical facility components, into one master plan framework. The integrated master plan provides a common basis of planning for system planning, address interdependencies between the utility systems, integrate asset management with traditional capacity-based master planning, and develop a planning framework for capital projects and priorities.

Town of Mooresville, Water/ Wastewater Comprehensive Master Plan, Mooresville, NC

Project Engineer. HDR worked with the Town of Mooresville Public Utilities Department to develop a comprehensive utility-wide master plan that identifies and prioritizes expansion, improvement, rehabilitation, and replacement projects for Mooresville's water and wastewater treatment facilities, pump stations, water distribution and sanitary sewer collection systems for continued service area growth, future regulatory requirements, resilience, and reliability.

City of Winston-Salem, Reynolds Creek Outfall, Winston-Salem, NC

Project Engineer. Design of 11,000 LF of 24 to 36-inch gravity sewer. Alignment was mostly within developed residential neighborhoods through back yards and under streets. In areas, the new pipe was a direct replacement of the existing within the same trench requiring additional coordination and significant bypass pumping to maintain service.



EDUCATION

MS, Water Resources Engineering, 2013

BS, Environmental Engineering, 2012

REGISTRATIONS

Professional Engineer, FL, No. 95904, NY, No. 097385

INDUSTRY TENURE

12 Years

HDR TENURE

12 Years

LOCATION

Orlando, FL

VALUE TO CHARLOTTE COUNTY

- ◆ Proven track record managing critical Charlotte County Utilities projects, including the Resiliency Master Plan, Hurricane Ian Damage Assessment, and West Port WRF Expansion
- ◆ Brings 12 years of experience in condition assessment, capital improvement planning, and risk-based project prioritization for water and wastewater systems
- ◆ Provides integrated expertise connecting technical design, data management, and asset management to advance the County’s infrastructure goals

Jamie Zimmermann, PE
CIP COORDINATION & COST EVALUATION

Jamie has worked in planning, design, procurement, and design services during construction phase work for water distribution systems, wastewater treatment plants, and stormwater management systems. Jamie has experience with large and small scale design projects as a technical designer. Jamie has also been involved in several condition assessment projects, both as the inspector and the project manager.

RELEVANT EXPERIENCE

City of St Petersburg Utilities, Treated Water Transmission, Storage and Pumping Facilities Plan, CIP Planning | St. Petersburg, Pinellas, FL

Project Manager. The City of St. Petersburg was looking for a desktop assessment of their aged water transmission pipe system. HDR provided a road map for the City to maintain it’s high quality and reliable water supply by focusing on sustainability, cleanliness, and safety through a comprehensive review, evaluation and facilities plan for the delivery of the potable water produced at the Cosme Water Treatment Plant to the Boosters Station Storage tanks that serve the City Distribution System. The road map included a prioritization for repair and replacement of the critical sections of piping, and other actions the City can take to further the condition assessment of inaccessible piping using internal non-destructive testing methods. Jamie was responsible for coordinating the desktop assessment, the facility plan and the prioritization of the repair projects.

Charlotte County Utilities Resiliency Master Plan | Charlotte County, FL

Deputy Project Manager. The Resiliency and Modernization program will allow Charlotte County to prepare for, schedule, and develop strategies for modernization and operational resiliency of its Utility Systems. The program will consider potential improvements for six areas: automation, optimization, controlling, monitoring, mobilization, and modernization. The integrated plan will provide the County with a comprehensive, strategic, and implementable plan for its long-term capital and maintenance plan. This plan will connect prioritized projects with the County’s asset management and work order management systems. Jamie is assisting with the Capital Improvement Project development and prioritization as well as developing other technical reports that will supplement the County’s existing protocols to provide recommendations for enhancing and growing their maintenance programs and resilience approaches.

Charlotte County Utilities, Hurricane Ian Damage Assessment, Charlotte County, FL

Project Manager. HDR was hired to assist Charlotte County with documenting the damage of the Burnt Store Reverse Osmosis Facility, and Burnt Store Water Reclamation Facility following Hurricane Ian in 2022. HDR performed on-site assessment of each facility component, and provided photos and notes to FEMA for reimbursement of the repairs. Jamie was responsible for coordinating the field inspectors, overseeing the data collection, and confirming all data was vetted and submitted to FEMA properly.

NYCDEP Catskill Aqueduct Pressure Tunnel Assessment and Design, Westchester, NY

Project Manager. HDR was selected to investigate and inspect the condition of the Catskill Aqueduct and prepare a risk report. Jamie was the project manager for the first 4 years of the project, overseeing the desktop inspection, and the condition assessment reports for the four pressure tunnels. The pressure tunnels are deep siphons built in 1908 through the bedrock of upstate New York. The condition assessment evaluation provided NYC DEP with the basis for a design contract to repair any leaking or deteriorated sections of the water supply tunnel.

Charlotte County Utilities, West Port Water Reclamation Facility Expansion | Charlotte, FL

Project Manager. This project involves initial multi-criteria decision analysis (MCDA) of keeping, expanding, or consolidating Rotonda WRF flows to West Port WRF based on 20-year flow projections. It was decided that the West Port WRF will be expanded to accommodate future flow projections and improve their treatment processes to meet advanced wastewater treatment regulations. HDR will also perform services during construction. Jamie is managing the project, and overseeing the discipline design for the West Port expansion.



EDUCATION

MS, Civil Engineering, 2015

BS, Civil Engineering, 2014

BA, Psychology, 2005

REGISTRATIONS

N/A

INDUSTRY TENURE

20 Years

HDR TENURE

9 Years

LOCATION

Saint Louis Park, MN

VALUE TO CHARLOTTE COUNTY

- ◆ Applies cutting-edge risk modeling techniques to identify and prioritize vital infrastructure renewal needs
- ◆ Harnesses geospatial analysis to visualize complex data, enabling strategic, high-impact decisions for system optimization
- ◆ Translates flow monitoring data into powerful insights that drive effective long-term planning and enhanced system performance

Amanda Leopard

RISK AND REHAB ALTERNATIVE MODELING

Amanda is a Utility Management Services Analyst that specializes in risk and renewal modeling. Her skill sets include hydrologic & hydraulic modeling, open channel computations, watershed analysis, and GIS-based applications. Amanda is skilled at maximizing the use of available data to support design decisions and creating effective geospatial displays. She specializes in the identification and prioritization of renewal and replacement needs for collection systems and brings vast experience helping utilities develop renewal and replacement plans.

RELEVANT EXPERIENCE

Water and Sewer Authority of Cabarrus County (WSACC), Inflow and Infiltration Study, Concord, NC
Utility Management Analyst. With WSACC and its partners, HDR defined a proactive approach, leveraging the wealth of flow monitoring data collected for WSACC's and WSACC's partners' collection systems to draw insights on priority basins relative to key I/I benchmarks. HDR utilized a data analytics approach to identify priority focus areas to develop a targeted and programmatic approach to I/I management (including the collection of additional system flow monitoring data), to support the preservation of existing system capacity in parallel with building additional system capacity with a long-term continual improvement objective for I/I management.

OWASA, Gravity Sewer Rehabilitation Program (GSR), Carrboro, NC
Utility Management Analyst. In 2023, OWASA began the development of its Gravity Sewer Rehabilitation Program (GSR Program). The purpose of this program is to develop and implement a comprehensive approach to efficiently and effectively rehabilitate or replace gravity sewer mains in OWASA's wastewater collection system, with a target goal of rehabilitating or replacing three miles of gravity sewer per year. The ultimate objective of the GSR Program is to establish a long-term, self-sustaining, and forecasted asset management program for OWASA that moves from wastewater collection system issue identification to solution implementation efficiently and in a streamlined manner.

Johnson County Wastewater, Integrated Master Plan and Collection System Wet Weather Plan Development & Optimization
Asset Management. HDR developed a program for JCW for a phased long-term wet weather control plan to address capacity constraints for sewer basins with high inflow/infiltration to the Nelson Complex WWTF. The HDR team used advanced collection system optimization tools to select the ideal set of improvements based on cost and level of service goals.

City of Winston-Salem, Collection System Improvement Program, Winston-Salem, NC
Utility Management Services. Provided ongoing support of the optimization roadmap improvements, which included ongoing cleaning/sanitary sewer overflow (SSO) training, repair effectiveness, construction spring training, SSO tracking, key performance indicators, change management design, CMOM (capacity, management, operation, and maintenance) program update, information management master plan prioritization and update, and key performance indicator dashboard maintenance. Prepared a preliminary engineering report for sewer system evaluation survey and system-wide rehabilitation.

Charlotte Water, Collection System Assistance, Charlotte, NC
Utility Management Analyst. Assisted Charlotte Water with identifying and leveraging existing data and assets to achieve an optimized approach to collection system operations and maintenance (O&M). Compiled and reviewed collection system data and documents provided by Charlotte Water, and conducted interviews to understand current collection system data and processes, and identify potential gaps, and opportunities. Reviewed the wastewater system capacity assurance program business process to identify the general status of the program against stated program objectives and performance targets. Developed and implemented tools and processes to identify and prioritize when pipe cleaning work orders should be performed to reduce sanitary sewer overflows (SSOs).



EDUCATION

MS, Natural Resources, 2005

BS, Biology, 2000

REGISTRATIONS

Professional Certificate: Strategic Decision Making and Risk Management, 2012

INDUSTRY TENURE

21 Years

HDR TENURE

7 Years

LOCATION

Raleigh, NC

VALUE TO CHARLOTTE COUNTY

- ◆ Guides data-driven asset management strategies to prioritize pipeline rehabilitation and extend system capacity
- ◆ Connects condition assessment results to long-term capital planning for sustainable, cost-effective investments
- ◆ Facilitates cross-department collaboration to align infrastructure priorities with organizational goals and regulatory drivers

Adam Sharpe

ASSET MANAGEMENT

Adam has a diverse range of utility management consulting, project management, and technical leadership experience supporting the strategic planning, organizational assessment, workforce planning, integrated water resources planning, infrastructure master planning, and asset management needs of local governments and utilities across the Eastern US. He specializes in leading and advising on planning efforts that set the strategic direction for organizations and in the facilitation of multi-stakeholder, multi-objective projects that require a collaborative approach that integrates multiple perspectives and technical disciplines. Adam has spent his entire career working on a wide range of projects leading planning efforts ranging from strategic long-range planning to very detailed infrastructure master planning projects.

RELEVANT EXPERIENCE

Water and Sewer Authority of Cabarrus County (WSACC), Inflow and Infiltration Study, Concord, NC

Deputy Project Manager. With WSACC and its partners, HDR defined a proactive approach, leveraging the wealth of flow monitoring data collected for WSACC’s and WSACC’s partners’ collection systems to draw insights on priority basins relative to key I/I benchmarks. HDR utilized a data analytics approach to identify priority focus areas to develop a targeted and programmatic approach to I/I management (including the collection of additional system flow monitoring data), to support the preservation of existing system capacity in parallel with building additional system capacity with a long-term continual improvement objective for I/I management.

City of Winston-Salem, Collection System Improvement Program, Winston-Salem, NC

Senior Consultant. To address negative system performance, WSFC Utilities established the Collection System Improvement Program (CSIP). WSFC Utilities collaborated with HDR to develop a strategic plan. Once a shared asset management vision was established, an organizational maturity assessment was performed to evaluate the state of asset management knowledge, skills, and capabilities within the organization.

Johnson County Wastewater, Integrated Master Plan and Collection System Wet Weather Plan Development & Optimization, KS

Senior Consultant. HDR developed a program for JCW for a phased long-term wet weather control plan to address capacity constraints for sewer basins with high I/I to the Nelson Complex WWTF. The HDR team used advanced collection system optimization tools to select the ideal set of improvements based on cost and level of service goals.

OWASA, Gravity Sewer Rehabilitation Program (GSR), Carrboro, NC

Project Manager. In 2023, OWASA began the development of its Gravity Sewer Rehabilitation Program (GSR Program). The purpose of this program is to develop and implement a comprehensive approach to efficiently and effectively rehabilitate or replace gravity sewer mains in OWASA’s wastewater collection system, with a target goal of rehabilitating or replacing three miles of gravity sewer per year. The ultimate objective of the GSR Program is to establish a long-term, self-sustaining, and forecasted asset management program for OWASA that moves from wastewater collection system issue identification to solution implementation efficiently and in a streamlined manner.

Raleigh Water, PM Sanitary Sewer Rehabilitation Projects, Raleigh, NC

Senior Consultant. Raleigh Water has chosen to address multiple rehabilitation and repair needs while minimizing the effort required of capital project management staff. HDR staff coordinate directly with City collaborators such as real estate, code enforcement, procurement, MWBE program, and engineering staff. The programmatic approach begins with a project list generated from Raleigh Water’s CMMS. Risk criteria are applied to each project to prioritize the locations where repairs are most urgent.



EDUCATION

BS, Biology, 2003

REGISTRATIONS

Water Treatment Plant Operator, TX, PR

Class A Water Operator, FL

INDUSTRY TENURE

24 Years

HDR TENURE

4 Years

LOCATION

Doral, FL

VALUE TO CHARLOTTE COUNTY

- ◆ Brings hands-on O&M expertise to improve asset reliability, extend pipeline life, and reduce maintenance costs
- ◆ Applies field-tested strategies from condition assessments and operability reviews to prioritize critical pipeline improvements
- ◆ Aligns condition assessment findings with actionable maintenance plans to support proactive, sustainable utility operations

Moises Sierra
OPERATIONS & MAINTENANCE, LIFT STATIONS

Moises is a Senior Operations Specialist for the Water Business Group who works in HDR's operations and maintenance line of business for both municipal and industrial water treatment facilities, creating solutions with better reliability and improved operability for our clients. He provides operation and maintenance contracts, start-up and commissioning services, asset management, operability reviews, resolution of operations problems, and operational efficiency studies.

RELEVANT EXPERIENCE

Cape Fear Public Utility Authority (CFPUA) Asset Management Master Plan | NC
Startup/ Operation Support. The objectives of the project are to (1) evaluate the existing asset management program, identify gaps, and recommend industry standard performance metrics beyond those currently used; (2) assess the cost-benefit for implementing industry standard predictive maintenance strategies for treatment plant and pump station assets; (3) evaluate the benefits of asset management plans for specific asset classes and provide guidance for implementing these plans. The deliverable was a 2023 Asset Management Master Plan report that summarizes progress in the current asset management program, notable achievements and challenges, the findings and recommendations for the three objectives outlined above, and asset management goals for the next five years.

Wastewater Treatment Plant Commissioning | City of South Sioux City| South Sioux City, NE
Operations Specialist. For this project, South Sioux City is contracting with a third-party operations company to operate and maintain the plant. HDR will be providing advisory services and assistance in setting up initial contracts, procedures, best practices etc. for operations and maintenance of the new wastewater treatment facility. HDR is providing operational advisory services, including startup and commissioning services.

Integrated Water Master Plan, Indian River County, FL
Operations Specialist. Indian River County, Florida is implementing an Integrated Water Master Plan (IWMP) to prioritize programmatic and capital investments. HDR has been retained to collaborate with the County in development of the IWMP, which will align with the framework outlined by the USEPA. The goal of the IWMP is to develop an adaptable and affordable long-term plan for addressing the County's drinking water, wastewater, and reuse needs. The scope includes ancillary support services including asset management, vertical condition assessment, linear risk assessment, hydraulic model updates, strategic communications support, and alternative funding reviews. Moises assisted with performing a condition assessment for all County water and wastewater plants.

James River Treatment Plant Advanced Nutrient Reduction Improvements Design-Build | Hampton Roads Sanitation District | Newport News, VA
Operations Specialist. Designing advanced nutrient reduction improvements for the James River Treatment Plant, which included administration building, maintenance building, electrical building, main power distribution equipment and facilities, generator and fuel storage facilities, wastewater chemical storage and feed equipment facilities, integrated fixed film activated sludge (IFAS) effluent channel, secondary clarifier equipment and facilities, moving bed bioreactor equipment and facilities, hydraulic connection to existing chlorine contact facilities, main distributed control system programming and equipment, and site work, including stormwater management.

Galveston County WCID 1, 2021 WP & LS Conditions Assessment | Dickinson, TX
Startup/ Operation Support. County WCID1 has a wastewater collection system with 26 wastewater lift stations that help move wastewater toward its wastewater treatment plant. In addition, the district has four major pump station/dechlorination stations and two water wells used to augment the surface water purchased from a regional water authority. The team performed a condition assessment of 23 lift stations and the water facilities. We evaluated each site from the following standpoints: compliance with TCEQ design requirements, structural, mechanical, electrical, site, and instrumentation. Assets were identified, age was determined, and an estimated remaining useful life was developed for each.



EDUCATION

MS, Geography, 2019

BS, Geographic Information Science,
2018

REGISTRATIONS

Certified GIS Professional, No. 161364

INDUSTRY TENURE

5 Years

HDR TENURE

4 Years

LOCATION

Winston-Salem, NC

VALUE TO CHARLOTTE COUNTY

- ◆ Leads integration of GIS and CMMS platforms to support proactive asset management
- ◆ Delivers actionable insights through data-driven risk assessment and prioritization
- ◆ Leverages GIS tools to optimize pipeline rehabilitation and replacement planning

Matt Wilson, GISP

DATA MANAGEMENT

As a GIS developer, Matt works with clients and coworkers to design and implement both desktop and web applications that assist with the creation, aggregation, and visualization of spatial data for a variety of projects. He has extensive experience working with multiple GIS platforms, synthesizing data from multiple data sources, communicating analytical results visually, in writing, and through oral presentations to a wide variety of audiences. Matt has been assisting clients with preparing computerized maintenance management system (CMMS) design guides to support the implementation of asset management, work orders, preventative maintenance, and replacement schedules for client utility assets, and has been assisting clients with implementing systems in existing GIS) and Cityworks platforms.

RELEVANT EXPERIENCE

City of St Petersburg (Utilities) Reclaimed & Potable Water Pipes CA Program, St. Petersburg, FL

GIS Lead. HDR is assisting the City with a multi-year program for potable and reclaimed water mains, moving away from an age-based replacement plan to a risk-based approach that assesses the likelihood and consequences of failure. The program will start with a data inventory and management evaluation, followed by the development of a 5-year Capital Improvement Plan (CIP) based on risk prioritization. The CIP will be updated regularly through ongoing condition assessments.

Great Lakes Water Authority (GLWA), Linear System Integrity Program, Detroit, MI

GIS Lead. Multi-year program for providing condition assessment and rehabilitation recommendations for GLWA's large diameter water transmission mains. As part of a holistic Asset Management approach, GLWA is implementing a condition assessment program that includes assessment and renewal of their large diameter pipeline inventory. Development of the LSIP included multi-disciplinary engineering services including a pipeline risk prioritization.

City of Winston-Salem, Collection System Improvements Program Management, Winston-Salem, NC

GIS Lead. To address negative system performance, WSFC Utilities established the Collection System Improvement Program (CSIP), WSFC Utilities collaborated with HDR to develop a strategic plan. Once a shared asset management vision was established, an organizational maturity assessment was performed to evaluate the state of asset management knowledge, skills, and capabilities within the organization.

Orange Water and Sewer Authority (OWASA), Gravity Sewer Rehabilitation Program (GSR), Carrboro, NC

GIS Analyst. In 2023, OWASA began the development of its Gravity Sewer Rehabilitation Program (GSR Program). The purpose of this program is to develop and implement a comprehensive approach to efficiently and effectively rehabilitate or replace gravity sewer mains in OWASA's wastewater collection system, with a target goal of rehabilitating or replacing three miles of gravity sewer per year. The ultimate objective of the GSR Program is to establish a long-term, self-sustaining, and forecasted asset management program for OWASA that moves from wastewater collection system issue identification to solution implementation efficiently.

City of Rock Hill, 17 Acres Sanitary Sewer Rehabilitation Design, Rock Hill, SC

GIS Analyst. The City of Rock Hill (City) has identified the need to assess and rehabilitate portions of their existing gravity sewer collection system. Under an on-call contract, HDR prepared design drawings and specifications for the rehabilitation of approximately 13,750 feet of gravity sewer, 58 manholes and 330 service connections.

Johnson County Wastewater, Integrated Master Plan and Collection System Wet Weather Plan Development & Optimization, Kansas, MO

GIS Analyst. HDR developed a program for JCW for a phased long-term wet weather control plan to address capacity constraints for sewer basins with high inflow/infiltration to the Nelson Complex WWTF. The HDR team used advanced collection system optimization tools to select the ideal set of improvements based on cost and level of service goals.



EDUCATION

BE, Engineering, 2012

BA, Engineering Sciences, 2012

Management Certificate in Business, 2021

REGISTRATIONS

Professional Engineer, AK,
(CE-200694)

INDUSTRY TENURE

9 Years

HDR TENURE

7 Years

LOCATION

Anchorage, AK

VALUE TO CHARLOTTE COUNTY

- Coordinates data integration across departments and enterprise systems to support large-scale infrastructure programs
- Develops tools and dashboards for real-time performance metrics, KPIs, and automated data analysis
- Leads digital transformation and data-driven decision-making for multi-billion-dollar infrastructure portfolios

Eric Packer, PE

DATA VISUALIZATION

Eric is data science engineer in HDR's Anchorage Office, as well as the lead of HDR's National Data Analytics practice group. Eric will serve the Charlotte County as a data scientist, developing data processing, analysis, and vizualization systems to support the Inspection & Condition Assessments of WW Pipelines, Manholes, Force Mains. In the past two years, Eric has developed data science and dashboarding solutions for clients in Alaska, California, Florida, Idaho, Kansas, Michigan, Missouri, Nevada, New York, North Carolina, South Carolina, Tennessee, Texas, Virginia, Utah and Washington. Eric's work includes development of custom cloud-based dashboard applications for water distribution, collection, and treatment systems. turning millions of lines of data into actionable insight.

RELEVANT EXPERIENCE

Washington State Department of Transportation (WSDOT), Fish Passage Barrier Removal, WA Business Intelligence Engineer. HDR is working as an extension of WSDOT Headquarters Hydraulics staff to support WSDOT's Fish Passage Barrier Removal Program, a \$3.2 billion dollar program to satisfy the constraints of a 2013 injunction and restore 90% of the fish habitat in the state of Washington. Eric developed a custom business intelligence application to coordinate and manage efforts across WSDOT regions, offices, and 15+ consultants to coordinate replacement of 500+ bridges and culverts.

City of St Petersburg (Utilities) Reclaimed & Potable Water Pipes CA Program, St. Petersburg, FL Data Scientist. HDR is under contract with St. Petersburg, Florida to develop a system-wide condition assessment strategy for the city water distribution and reuse networks. Eric developed an automated dashboard to provide real-time analytics for the system. The dashboard specifically analyzes pipe performace broken down by cohorts such as pipe age, season, pipe type, and geographical distribution.

Great Lakes Water Authority, Linear System Integrity Program, Detroit, MI Business Intelligence Engineer. HDR is supporting the Great Lakes Water Authority with a multi-year program for providing condition assessment and rehabilitation recommendations for GLWA's large diameter water transmission mains. Eric supported development of an inspection cost estimation tool to rapidly evaluate the suitability of various pipe inspection methodologies and provide cost estimates based on pipe length, pipe geometry, and pipe attributes.

Winston-Salem Forsyth County Utilities, Collection System Improvement Project Management, NC Business Intelligence Engineer. The Collection System Improvement Program is a 5-year program for the City of Winston-Salem to reduce sanitary sewer overflows (SSOs), increase operational efficiency, and help prioritize and schedule collection system preventative maintenance measures. Eric has supported the project by developing key business intelligence dashboards based on live data to deliver KPI's measuring system performance.

Port Authority of New York, New Jersey Digital Transformation Advisory Services, NY Business Intelligence Engineer. HDR was contracted by the Port Authority of New York, New Jersey (PANYNJ) Engineering to analyze current business workflow processes within the Dept, advise where gaps exist and update technology procedures. Eric developed business intelligence dashboards to manage 130 digital transformation objectives across departments and disciples.

Johnson County Wastewater (JWC), Integrated Plan Delivery, Johnson County, KS Business Intelligence Engineer. JCW and HDR embarked on development of a Phase 1 Integrated Plan (IP) using the EPA Integrated Municipal Stormwater and Wastewater Planning Approach Framework to inform a long-range program. This effort identified approximately \$3 billion in potential projects and solutions. Eric supported the development of an integrated planning dahsboard tracking customer service, corrective work orders, financial performance, asset management activities, and more.



EDUCATION
MS, Geography/GIS, 2023

BS, Atmospheric/Environmental
Science, 2020

INDUSTRY TENURE
5 Years

HDR TENURE
< 1 Year

LOCATION
Tampa, FL

VALUE TO CHARLOTTE COUNTY

- Delivers organized, actionable data to support confident decisions across wastewater system assets
- Provides accurate, up-to-date mapping to guide targeted condition assessments and rehabilitation planning
- Transforms raw survey, CAD, and tabular data into integrated, client-ready datasets for seamless project execution

Caley Feemster

GIS

Caley is a highly skilled GIS Analyst and Atmospheric Scientist with over 5 years of experience supporting cross-disciplinary engineering and environmental projects. She has expertise in utilizing Geographic Information Systems (GIS), risk assessment methodologies, and data analytics to inform decision-making and enhance system resilience. She is proficient in GIS technologies and spatial analysis (ArcGIS Pro, Python, AI-simulated data processing) and has a strong background in flood risk management, stormwater planning, and climate resilience modeling.

RELEVANT EXPERIENCE

Pinellas County Vulnerability Assessment Phase II and Collaborative Communities, Pinellas County, FL
GIS Support. HDR was selected to develop a Vulnerability Assessment (VA) for compliance with the most recent legislation, F.S. 380.093 Resilient Florida Grant Program for County, nine coastal communities, and Pinellas Park for eleven (11) VAs. This includes Phase I data for St. Petersburg, City of Largo, and Clearwater. The project involves intensive data management, GIS processes, and reporting. Caley provides GIS support and data management by collecting asset data, applying standardized fields and metadata to meet client requirements, and assisting with exposure and sensitivity analysis through data collection and mapping.

Alabama Port Authority Coastal Resilience Study, Mobile, AL
GIS Support. This project involved identifying wind, storm surge, and flooding risks affecting the Port of Mobile and developing mitigation measures to reduce vulnerability. HDR prepared a comprehensive deliverable outlining preparedness and mitigation strategies tailored to the port’s operations, modeled after resources such as the 2019 Seaport Resiliency Report for the Florida Ports Council. Caley supported the effort by providing GIS services, including data collection and management of critical infrastructure to assess the vulnerability of key assets to wind and storm surge. This work involved compiling and structuring a detailed geodatabase to meet client specifications and support risk analysis.

Engineering, Planning and Consulting Firm, Various Clients and Projects, Denver, CO
Lead GIS Analyst, Stormwater Engineering Group. Supported cross-disciplinary engineering practices: water resource planning, urban development, transportation and utilities, and water and wastewater (master planning).
Key Projects:

- FEMA FY22 Region 3 Production |** Federal Emergency Management Agency | updated the FIRM database by verifying FEMA floodplain documentation and making necessary changes to the geodatabase to create updated floodplain maps.
- 2026 Region F Water Plan |** Colorado River Municipal Water District | Compiled databases and created maps to support water conservation and drought-management practices visualizing drought triggers for each water source and development of model water conservation and drought contingency plans for the client.
- Central Region Flood Studies |** TX General Land Office | Provided GIS services to create a data management system and support H&H 1D and 2D modeling analysis assisting 20 Hurricane Harvey impacted counties and municipalities in identifying and funding flood risk reduction strategies and community resilience.

Multidisciplinary Science And Engineering Research Center / National Laboratory, Lemont, IL
Atmospheric Scientist. Caley created and updated databases to enhance the CLIMRR (Climate Risk & Resilience) portal in collaboration with FEMA and AT&T. Processed AI-simulated flood depth data using Python and ArcGIS Pro for storm surge and inland and coastal flood risk mapping for the portal. Conducted statistical extreme value analysis (EVA) to refine flood risk models and created public-facing maps and visualizations.



EDUCATION
BS, Environmental Engineering, 2007

REGISTRATIONS
Professional Engineer, FL, No. 75444,
AL, No. 39154

Construction Documents Technologist,
FL, No. 2032979

INDUSTRY TENURE
17 Years

HDR TENURE
17 Years

LOCATION
Pensacola, FL

VALUE TO CHARLOTTE COUNTY

- ◆ Combines design and rehab expertise to translate condition assessment findings into actionable, constructible solutions
- ◆ Brings hands-on Florida experience managing critical sewer and force main projects from assessment through rehabilitation
- ◆ Supports seamless project delivery with integrated design, permitting, and construction-phase services

Heath Hardy, PE, CDT

SEWER AND PIPELINE REHAB & DESIGN

Heath Hardy has 17 years of experience in water and wastewater engineering, including design, permitting, cost estimating, and construction inspection for a variety of water and wastewater projects. His projects include water distribution and wastewater collection systems, wastewater lift stations, water treatment plant improvements, wastewater treatment plant improvements, and master planning. In addition, Heath’s project experience includes developing civil site design plans including demolition, site layout, grading and drainage, utility work, and erosion control plans.

RELEVANT EXPERIENCE

Gainesville Regional Utilities, Professional Architectural and Engineering Consulting Services: 36-inch Force Main Condition Assessment, Gainesville, FL

Project Manager. GRU’s existing force main system along 34th Street and Archer Road is a critical transmission line with no existing redundancy. Due to the age, location, and criticality of the force main, GRU determined that a detailed condition assessment was prudent to determine if any rehabilitation or replacement was needed. The force main extends roughly 9.5 miles from Lift Station #59 to the Kanapaha WRF. The most critical portion within this alignment is a 5.6-mile stretch of 36-inch ductile iron (DI) force main that extends from Lift Station #1 to the Kanapaha WRF. This section of 36-inch DI force main was built in 1976. GRU identified this section as having a high consequence of failure due to its size, location, and lack of redundancy.

Gainesville Regional Utilities, 36-inch Water Main Commissioning, Gainesville, FL

Project Manager. GRU self-performed the construction of the NW 43rd Street Utility Extension project in April 2003. Upon completion of construction, the 36-inch water main was flushed and tested by GRU but was neither disinfected nor cleared for operation. GRU has recently performed limited flushing and pressure testing on the 36-inch water main and has repaired some identified pipe leaks. In order to properly flush, disinfect, and pressure test the water main, GRU has requested the services of HDR to coordinate the necessary permitting and clearance documents.

Gainesville Regional Utilities, Fort Clark - Gravity Sewer Replacement, Gainesville, FL

Project Manager. HDR is currently working with GRU to develop design plans for the replacement of roughly 2,500 feet of 18” gravity sewer and 7,500 feet of 16” ductile iron force main. HDR’s services include the planning, design, permitting, bidding, and construction administration services associated with this project.

Emerald Coast Utilities Authority, Continuing Engineering Services for Water and Wastewater Projects, Pensacola, FL

Project Manager. HDR has provided engineering services to ECUA since 2006. The type of projects has ranged from water transmission mains and gravity sewer projects to lift stations and water treatment facilities (WTFs). HDR has provided design and construction administration services throughout the life cycle of multiple projects. Heath has provided engineering and project management for a variety of pump station and pipeline projects for ECUA.

Mobile Area Water & Sewer System (MAWSS) Causeway Water Main Replacement, Mobile, AL

Project Manager. HDR partnered with MAWSS to do a technical evaluation of alternatives for replacing and/or rehabilitating the Blakeley and Apalachee River Water Main Crossings. HDR’s evaluation included analyzing various pipe materials, installation methods, rehabilitation alternatives, condition assessment tools, and environmental/permitting impacts of each option. HDR then worked with MAWSS to collect subsurface utility information, geotechnical data, and hydrographic survey, which was used to design, permit, and manage the construction of two new 20” steel water mains that were successfully installed via horizontal directional drilling under the Blakeley and Apalachee Rivers.



EDUCATION
PhD, Civil & Environmental Engineer
(Specialization: Infrastructure
Corrosion Engineering), 2012

ME, , Civil Engineering (Structural
Engineering), 2007

BE, Civil Engineering, 2007

REGISTRATIONS
Professional Civil Engineer – FL
(83483), TX (127975), NY (103135)

AMPP SSPC Bridge Coatings Inspector
(BCI) Level I, No. 137704,

AMPP NACE Cathodic Protection
Technologies CP3, No. 137704,

AMPP Materials Performance (MP)
Journal Technical Editor

INDUSTRY TENURE
17 Years

HDR TENURE
11 Years

LOCATION
Tampa, FL

VALUE TO CHARLOTTE COUNTY

- ◆ Coating and cathodic protection design expert
- ◆ Service life and durability analysis and modeling
- ◆ Soil corrosivity testing and analysis

Mersedeh Akhoondan, PhD, PE

SOIL CORROSIVITY ANALYSIS, CORROSION PROTECTION DESIGN AND SURVEYS

Dr. Mersedeh Akhoondan has over 17 years of experience in corrosion condition assessment and rehabilitation of water/wastewater facilities, pipelines, bridges and reinforced concrete structures. She has designed and managed corrosion testing programs, developed rehabilitation plans and specifications for corrosion control, performed failure analysis and metallographic evaluations of field coupons, and conducted soil corrosivity studies. She is specialized in computational service life modeling and cathodic protection of new and existing concrete structures. She has authored or co-authored over 30 technical publications. She currently serves as Technical Editor for Materials Performance (MP) Journal published by The Association for Materials Protection and Performance (AMPP).

RELEVANT EXPERIENCE

South Florida Water Management District & USACE, C-23/24 South Reservoir Project, St. Lucie County, FL
Corrosion Design Lead. HDR is currently providing design efforts for the project under a contract to USACE. The SFWMD as the local sponsor for CERP in conjunction with the USACE is transferring the lead agency for the project from the USACE to SFWMD in order for SFWMD to perform construction. The project includes a reservoir, pump station, structures, canals and similar features for a fully functional project. Mersedeh performed soil corrosivity analysis and cathodic protection design for discharge piping.

Peace River Manasota Regional Water Supply Authority, Reservoir No. 3, Arcadia, FL
Corrosion Design Lead. HDR provided the preliminary design of and permitting for a new third reservoir (Reservoir No. 3) and associated infrastructure on the RV Griffin Reserve and Peace River Water Treatment Facility (PRWTF). This project included a new river water intake and pump station on the Peace River, raw water transmission main to the new and existing reservoir system, and new reservoir pump station. Mersedeh performed soil corrosivity analysis and ongoing cathodic protection design for large diameter pipeline.

Southern Nevada Water Authority Garnet Valley Water System Final Design, Las Vegas, NV
Corrosion Specialist. The Garnet Valley Water System project supports the development of Apex Industrial Park in North Las Vegas, covering over 11,000 acres. It involves the design and installation of water pipelines, a pumping station, reservoirs, fiber optic SCADA communication systems, and power supply infrastructure. Task Order 1 focuses on nearly 11 miles of 36-inch steel piping and associated infrastructure, while Task Order 2 includes over four miles of 24-inch ductile iron piping and a pressure reducing station. Task Order 3 covers the construction of the Apex Pump Station, with a peak flow of 20 MGD, and the Apex 2920 Reservoir, with two 2.5 million-gallon concrete tanks. Mersedeh performed soil corrosivity analysis, cathodic protection design and AC induced voltage studies for pipeline paralleling the high voltage power lines.

NYDEP | City Water Tunnel No. 3, Piping and Support Structure Condition Assessment, New York, NY
Protective Coating and Corrosion Design Lead. The project involved condition assessment of major piping and reinforced concrete support structures in the New York City Department of Environmental Protection City Water Tunnel No. 3 facilities. The Water Tunnel No. 3 facilities include a variety of large diameter carbon steel and stainless steel piping and control systems in deep underground tunnels and vaults. These systems supply water to the majority of Manhattan and Queens, New York. The assessments were performed to identify areas of corrosion damage, the cause(s) for observed damage, and remediation actions necessary to address corrosion within the valve chambers of the facilities. Mersedeh assisted in condition assessment of piping structures and development of design alternatives for rehabilitation. She currently leads the design for protective coating of large diameter distribution piping.

Cathodic Protection Survey of 60-in Water Transmission Main North and South Divisions, Pinellas Co., FL
Corrosion Specialist and Corrosion QC Lead. The project included cathodic protection survey of 12 miles of a 60-inch water main located within the Florida Power Corridor. The pipe is constructed of carbon steel pipe that has a cement mortar lining and an 80 mil, three-layer, tape wrap coating. The carbon steel pipe is afforded additional corrosion protection by a galvanic cathodic protection (GACP) system, which the County surveys every four years to evaluate performance levels. HDR performed cathodic protection survey of pipeline along with AC measurements to verify that the induced AC mitigation measures are still working as intended. She led the cathodic protection field investigations and analysis.

IV.

Project Control



IV. Project Control

A. Schedule Control

HDR recognizes that effective schedule control is essential to delivering a successful program for CCU. Our approach begins with the development of a clear and detailed Work Breakdown Structure (WBS), which defines all major tasks and deliverables aligned with the County’s scope and priorities. This WBS serves as the foundation for a realistic and achievable baseline schedule, allowing our team to proactively allocate resources, manage dependencies, and monitor progress at a granular level. Through **consistent communication, milestone tracking, and early identification of potential delays, we maintain strong schedule adherence**, while remaining flexible to the County’s evolving operational needs.

As a practice, HDR conducts internal business reviews of each project on a monthly basis. At this meeting, the Principal-in-Charge, Josh, and Florida leadership team will review project metrics with the Project Manager, David, including costs to date, costs to complete, schedule status, quality control milestones and staffing/workload status. As a result, project managers are held accountable for keeping projects within schedule and budget constraints and have the support of leadership to deliver commitments to our clients.



Enhanced Project Controls Set to Keep Projects On Time and On Budget



We start with upfront planning by the Project Manager and Task Managers to develop a scope of work and schedule that meets the County’s requirements. A detailed work breakdown structure and manpower projection is then prepared.



Once the manpower projection is developed with the necessary resources to execute the assignment, the Project Manager will develop a resource-loaded schedule.



Schedules will be issued during monthly “as-needed” management meetings with the County and HDR staff to demonstrate that all work tasks are sufficiently loaded with manpower resources to deliver projects on or ahead of schedule.

	MONTHS											
KEY ACTIVIES & DELIVERABLES	1	2	3	4	5	6	7	8	9	10	11	12
Launch Risk Evaluation												
Sewer AI Defect Coding												
Select Manhole Condition Assessment												
Deliverable: Manhole Condition Assesment TM												
Complete Risk Evaluation												
Deliverable: Risk Evaluation TM												
Develop 5-Yr CIP (of Priority Projects)												
Build Power BI Dashboard												
Finalize 5-Year CIP												
Initiate M3R Implementation												
Deliverables: 5-Year CIP & Power BI Dashboard												

Our team is confident we can deliver this project within a schedule that meets the needs of the County and its stakeholders.

B. Cost Control

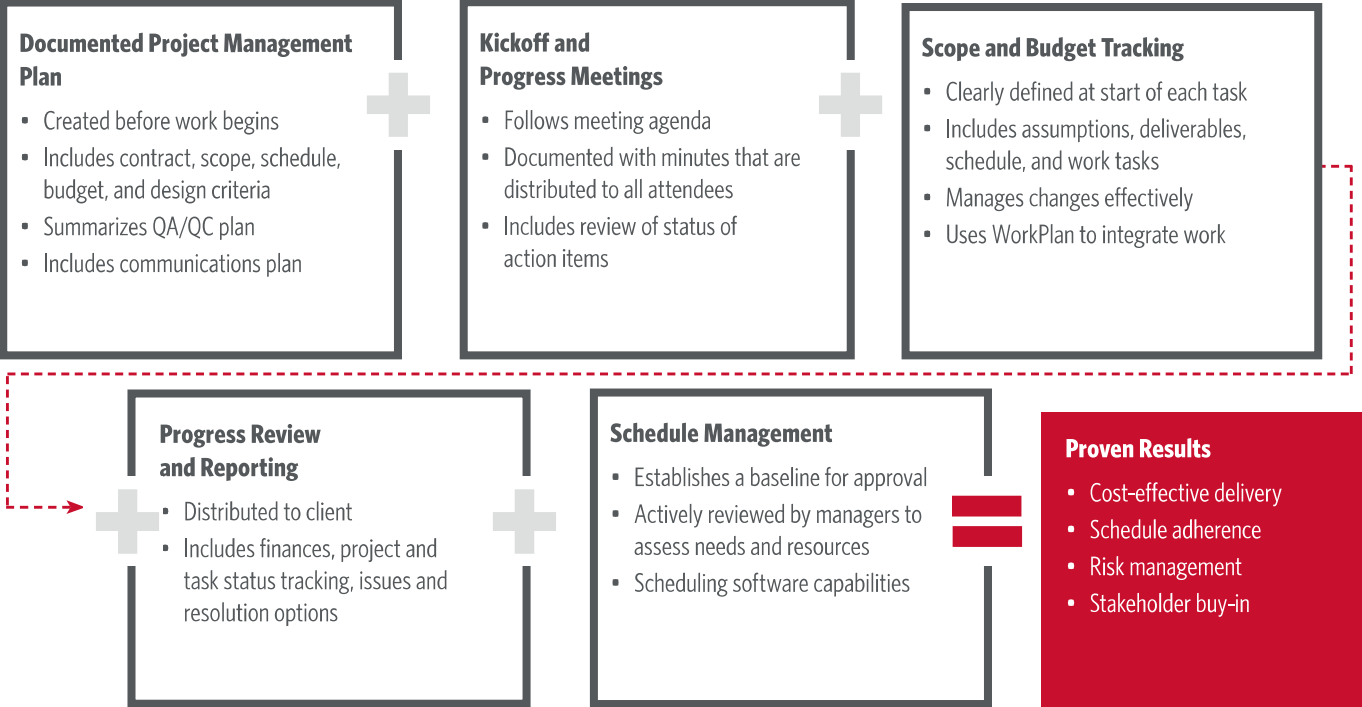
HDR uses Oracle E-Business Suite software, as depicted in the graphic below, to track all project costs (labor and expenses) on a task and subtask level. Timesheet and expense report data is automatically integrated into this system weekly. As a result, the HDR Project Manager, David O'Connor, will have real-time access to all cost data associated with this project on an easy to monitor dashboard. Given this timely data, Josh can quickly adjust staffing mix, individual workload assignments, and pace of delivery to keep the project progressing within the budgeted spend rate.

HDR’s readily accessible team, led by **David O’Connor**, will be available to address potential contract issues quickly to help keep projects on schedule and on budget.



Oracle E-Business Suite software monitors budget and schedule.

Proven Communication Tools to Deliver a Project on Time and Budget



C. Recent, Current and Projected Workload

Proposed Staff Availability

Our personnel are dedicated to providing sufficient time and effort to produce quality services. With this in mind, our team members were carefully selected for their expertise and availability to work on Charlotte County’s projects. **HDR uses Business Intelligence software to monitor project commitments and project future staff workloads.** Based on current data, the key personnel shown in our organization chart have the technical and management skills and the appropriate availability to serve the County for the duration of this contract.



On-site investigation at the Charlotte County West Port Water Reclamation Facility

PROPOSED STAFF / ROLE	AVAIL.	PROPOSED STAFF / ROLE	AVAIL.
David O'Connor, PE, BCEE, Assoc. DBIA Project Manager (Lead Consultant)	60%	Jamie Zimmerman, PE CIP Coordination & Cost Evaluation	75%
Susan Donnally, PE QA/QC	30%	Mersedeh Akhoondan, PhD, PE Soil Corrosivity	50%
Carlee Fullenkamp, PE Lead, Gap Analysis, Risk Assessment & CIP	60%	Moises Sierra Operations & Maintenance, Pump Stations	65%
Sonia Oton, PE Lead, Condition Assessment and Inspection, Pipe Renewal	70%	Adam Sharpe Asset Management	55%
Alex Palmatier Lead, System Integration	35%	Eric Packer Data Visualization	45%
Chris Makransky, PE Force Main Modeling	90%	Rodger Insignares Gravity Sewer Condition Assessment	85%
Matt Wilson, GISP Data Management	55%	Heath Hardy, PE, CDT Sewer and Pipeline Rehab/Design	70%
Caley Feemster GIS	85%	Kelly Alexander, PE Gravity Sewer Condition Assessment	70%
Amanda Leipard Risk and Rehab Alternative Modeling	60%		

The Principal-in-Charge and the Proposed Project Manager will not be substituted without the express permission of the County.

Current and projected workload

We built our team with multiple levels of skills and resources to assist you in any capacity. The capacity to meet project deadlines requires strong leadership and staff with the technical skills and ability to perform various tasks. Having a team built with diverse industry-leading experts allows us to reach out and select the best-qualified personnel when needed.

We offer the right resources to tackle and complete any assignment. Our management approach is based on proven standards and has been used successfully on similar projects. We are committed to providing consistent management and key personnel throughout the project. As an employee-owned company, we hold ourselves accountable and take personal responsibility to see things through.

Our ability to efficiently staff projects, share information, communicate openly, and maintain project controls have been a benchmark of our success in building long-term relationships with municipalities across the state.



HDR’s proposed team has the capacity to service Charlotte County today and into the future.

V.

Proposed Design Approach



V. Proposed Design Approach for This Project

Project Understanding

Charlotte County Utilities (CCU) seeks to assess and prioritize maintenance and rehabilitation of its wastewater system—including gravity sewer, manholes, force mains, and lift stations—in alignment with its CMOM and capacity analysis objectives. HDR brings deep national experience with similar utilities and the technical expertise to deliver NASSCO-compliant CCTV inspections, condition ratings, and risk-based asset evaluations using tools like GraniteNet. Our team will support the County’s project goals by establishing a priority ranking for each of their target assets based on existing condition and maintenance and rehabilitation needs. Asset management software will be used as the platform to provide data to the County in a readily available and modifiable manner by integrating GraniteNet (CCTV inspections) with the County’s GIS and Cityworks programs. With this approach, the County will be able to easily access and review asset inspection data, condition scoring (LOF/COF), maintenance schedules, and rehabilitation or replacement timelines that can be extracted for CIP/CNA planning.

Proven Integration Experience

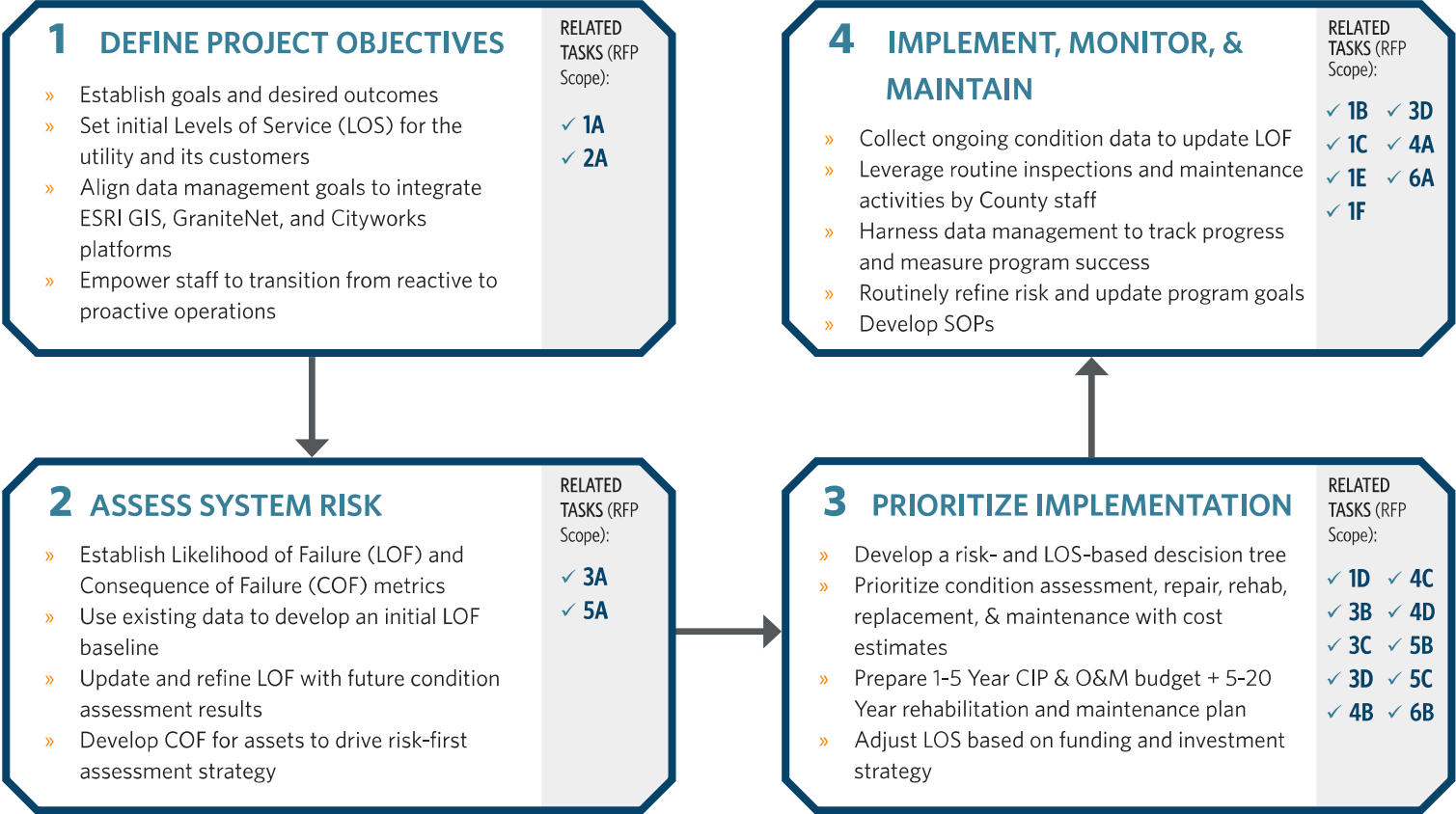
HDR has **successfully integrated GraniteNet and Cityworks** for major utilities, including Winston-Salem and the City of Sacramento—bringing **seamless data flow** and operational efficiency to complex wastewater programs.

Our Design Philosophy

Our approach is built on proven methodologies we’ve successfully applied to similar projects nationwide. For the County, we will focus on the following principles to guide project success:

- Align targeted levels of service (LOS) with available budgets and staffing resources
- Rapidly refine infrastructure risk to establish clear project priorities
- Deliver processes, tools, and training that support an asset-focused, risk-based prioritization framework
- Equip County staff with processes, tools, and training to track outcomes and advance a continuously improving program

Your Path to Optimized Condition Assessment & System Reliability



HDR brings unmatched familiarity with Charlotte County Utilities’ systems, along with the technical depth and institutional knowledge needed to deliver a solution tailored to your specific goals and resources. Drawing on our experience delivering dozens of similar wastewater collection system programs nationwide, we’ve established proven strategies that form the foundation of successful, risk-based asset management. Our approach builds directly on the County’s progress to date—including your CMOM Program, Capacity Assessment and Assurance Program (CAAP) work, Master Planning, and Risk and Resilience initiatives—advancing these efforts into a unified, data-driven program that targets the highest-risk components of your system.

Define Project Objectives: *Setting the Course for Long-Term Success*

Establishing clear and achievable Levels of Service (LOS) is a critical first step in shaping a sustainable long-term plan for managing, operating, and maintaining your wastewater collection and transmission system. These service goals—such as minimizing sanitary sewer overflows (SSOs) or reducing the number of pipe breaks per 100 miles—will directly inform the level of capital, maintenance, and staffing resources needed to assess and maintain adequate system capacity to support the growing community. By aligning financial planning with performance targets, Charlotte County can better anticipate and justify annual budget needs while building confidence among stakeholders. Key Performance Indicators (KPIs) will be developed alongside your LOS to provide a transparent framework for measuring progress and continuously improving system performance.

Powering Efficiency Through Smart Data Integration

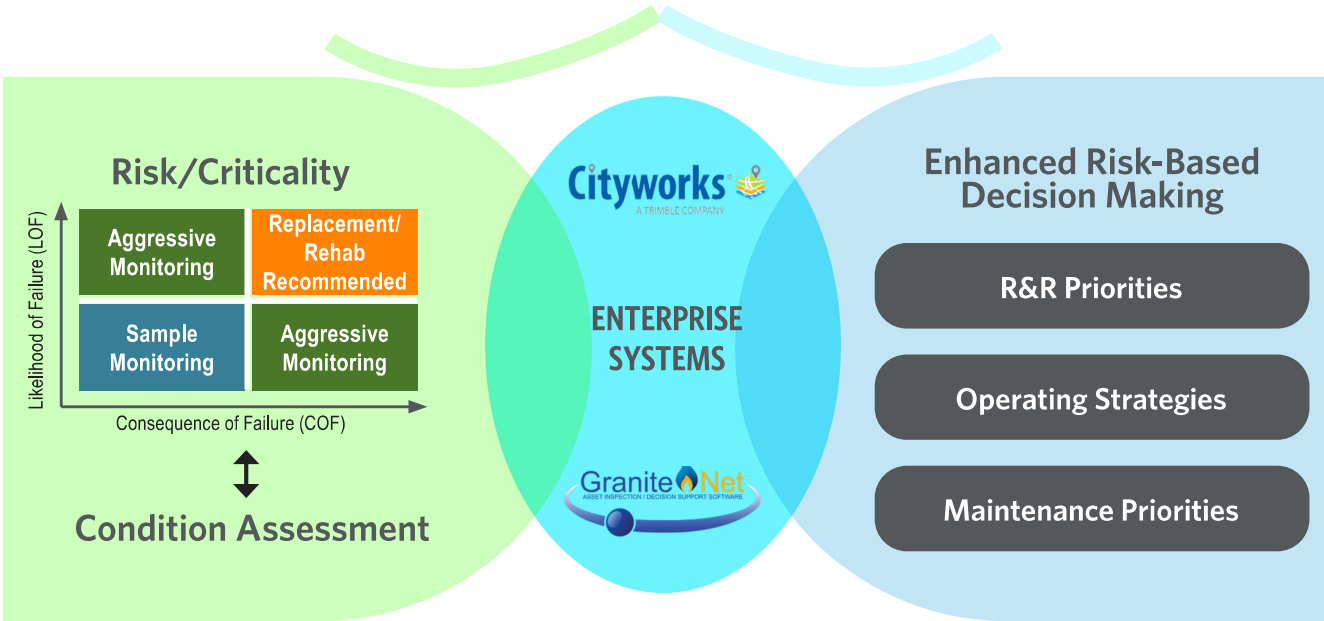
Before initiating Tasks 1 through 6 as outlined in the RFP, it’s essential to align with Charlotte County on the intended use of existing software platforms and how data from this program will be collected, stored, and applied. Defining this strategy upfront will drive efficiency across the entire program and maximize value from all data collected. HDR has delivered numerous successful projects utilizing both GraniteNet and Cityworks—your two primary platforms for this effort—and we are highly familiar with the County’s hydraulic models and overarching asset management strategy.

In collaboration with County staff, we will evaluate the current enterprise and modeling systems listed below to determine how this program can integrate with and enhance each. Our team can help leverage the GraniteNet environment to enable bi-directional data flows and support streamlined operations:

- Trimble Unity Maintain (formerly Cityworks)
- GIS (Esri)
- Hydraulic Models (SewerGEMS)

Integrated Data. Informed Decisions.

A Single Source of Truth Connecting Risk, Assessment, and Your Existing Systems



HDR integrates risk evaluation and condition assessment with your existing software platforms, creating a single source of truth to drive risk-based decision making.

Empowering Staff to Sustain Long-Term Success

To fully realize the goals tied to your Levels of Service (LOS), Charlotte County must invest in the people who will manage, operate, manage, and maintain the program. Targeted staff training will be a key component of long-term program sustainability, equipping County personnel with the knowledge and tools needed to make data-driven decisions and manage infrastructure efficiently and proactively. This training can be delivered through third-party providers or directly by HDR as part of this engagement and may include:

- Foundational training in asset management principles
- Certification through NASSCO’s PACP, MACP, and LACP programs
- Software-specific instruction for platforms such as GraniteNet, Trimble Unity Maintain, Esri, SewerGEMS, and Power BI

As a trusted Cityworks partner, HDR integrates condition assessment data with asset management systems to help utilities like Charlotte County streamline workflows, improve data accuracy, and drive smarter, risk-based decisions.

By building internal capacity, the County can maintain momentum, adapt to evolving needs, and foster a culture of continuous improvement.

Every day, County field crews generate valuable insights through routine maintenance and emergency work. Capturing this data in a standardized format is critical to unlocking its full potential. This information will be further enriched with formal condition assessment data, collected by the County or HDR, as part of this program.

Key data inputs include:

- Observations and records from County field staff (from routine maintenance and emergency work)
- Formal condition assessment data (CCTV, manhole inspections, physical pipeline evaluations)

By fast-tracking key discussions around data and system integration, we will help the County:

- Leverage data to drive informed, efficient decisions
- Improve accessibility and organization across platforms
- Establish single “source of truth” for wastewater asset data
- Build a comprehensive historical record that supports future planning

Creating a Risk-Informed Path Forward




Our approach is built on delivering a clear, risk-informed roadmap for future condition assessment, maintenance, rehabilitation, and replacement of Charlotte County’s wastewater collection and transmission system—including, but not limited to, gravity sewer, manholes, lift stations, force mains, and ARVs. HDR understands the financial burden that new regulatory requirements, such as CMOM, can place on a large utility like CCU. Before launching a multi-year condition assessment program, it’s essential to identify and prioritize the wastewater assets that carry the highest potential impact if they fail. This starts with evaluating the COF, a key component of any effective risk-based approach. By first focusing on assets where failure would have the most significant operational, environmental, or regulatory consequences, CCU can direct resources toward higher-risk assets—where investment yields the greatest return. Examples of high-priority areas within your system may include:

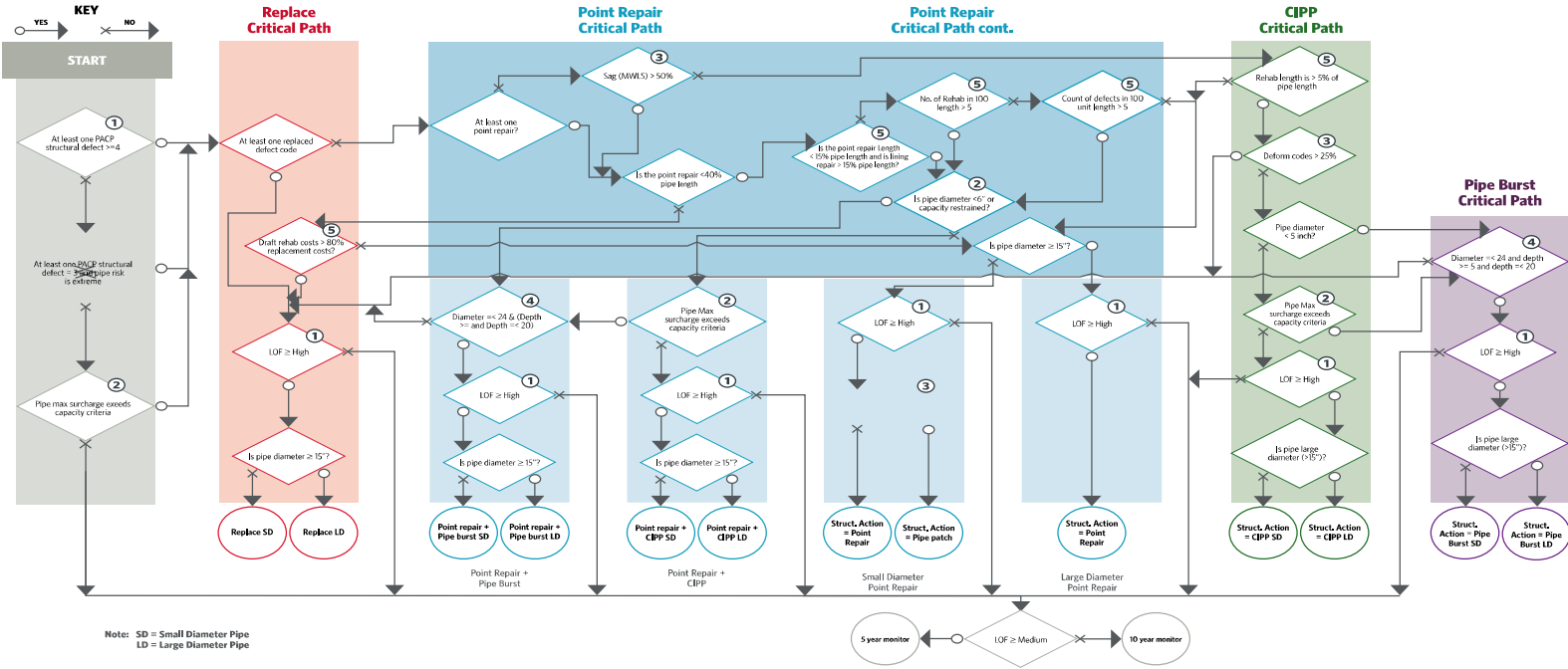
- Infrastructure located in low-lying or flood-prone zones
- Pipelines or manholes situated in high-traffic corridors
- Assets near environmentally sensitive areas
- Components whose failure could result in sanitary sewer overflows (SSOs) and trigger regulatory reporting
- Critical force mains with high reliance and limited redundancy

This forward-thinking, risk-based strategy allows the County to act with purpose—prioritizing inspections and investments that mitigate the greatest risks to your system and the community.

Evaluate and Prioritize Implementation Strategies

With a clear understanding of Charlotte County Utilities’ goals and system priorities, HDR is prepared to deliver targeted, practical solutions across each task area. Our approach combines **proven methodologies, advanced data management tools, and deep institutional knowledge** to support efficient execution and long-term value. The following scope outlines our plan to implement the County’s vision—translating strategy into meaningful progress, one step at a time.

CHALLENGES		HDR SOLUTION-BASED BENEFITS	
	Data inconsistencies across software platforms create inefficiencies and reduce confidence in decision-making.	• Establish a centralized, integrated data management system as a single, authoritative “source of truth.”	
	Limited staff and budget resources can constrain implementation and long-term planning.	• Develop a prioritized, adaptable program tailored to Charlotte County’s needs—flexible enough to adjust annually based on available resources.	
	Reactive (vs. proactive) maintenance leads to increased system stress, emergency repairs, and higher long-term costs.	• Foster a data-driven culture and operational practices that reduce emergency repairs and prioritize proactive, preventive maintenance.	



HDR will develop a custom decision tree for Charlotte County to provide the largest return on resource investment.

Strategic Planning for Sewer System Management

Leveraging the prioritization, LOS, and long-term investment strategies outlined above, we will help the County develop a comprehensive program for gravity sewer and manhole cleaning, inspection, and condition assessment. This program will be driven by a clear risk and investment profile and implemented through your Trimble Unity Maintain platform. It will integrate seamlessly with your GIS and hydraulic models. As condition assessments are conducted annually, the risk model will be updated, so that the program continues to optimize and refine recommended Maintenance, Repair, Rehabilitation, and Replacement (M3R) strategies.

Gravity Sewer and Manhole Condition Assessment and Maintenance Investment Strategies

HDR brings extensive experience in gravity sewer and manhole condition assessment, having successfully delivered dozens of similar programs across the U.S. We understand the critical importance of developing a program that aligns with the National Association of Sewer Service Companies' (NASSCO) standards, including PACP, MACP, and LACP compliance. For Charlotte County, we will leverage a combination of institutional knowledge, existing system data, and new field data, such as CCTV collected through GraniteNet, to create a comprehensive, risk-based assessment strategy.

Key elements of our approach include:

- **Institutional Knowledge** – Building on our familiarity with Charlotte County's infrastructure and past initiatives.
- **Existing Data** – Reviewing and validating current system information and previous assessments.
- **Data to Be Collected** – Executing field investigations that fill data gaps and support informed maintenance investment strategies.
- **Efficient Data Collection** - HDR will streamline efficient field condition assessments for manholes, lift stations, and other

assets using tablets and smartphones with pre-populated forms to capture high-value data in a consistent, standardized format.

Enhancing Charlotte County with SewerAI

HDR will bring innovation to the County's CMOM program by introducing Sewer AI to efficiently process GraniteNet gravity pipe assessment data. SewerAI's tools have been used on **over 300,000 inspections and 9,000 miles of gravity sewer**. With SewerAI, HDR will deliver more consistent, accurate data and significantly reduce engineering review time and costs, allowing CCU to allocate more economy for maintenance and rehabilitation. HDR has utilized SewerAI on projects for Winston-Salem/ Forsyth County Utilities (WSFC Utilities), Raleigh Water, and Orange County Water and Sewer Authority (OWASA).

SewerAI is a cutting-edge tool that streamlines CCTV reviews **with 99% accuracy and identifies 30-45% more conditions and defects** compared to manual assessments.

BENEFIT TO CCU: Faster decision-making and higher confidence in inspection results, all while maximizing return on investment.

Optimizing Data Integration for Seamless Asset Management

Our data integration experts will guide you on development of a long-term strategy to link CCTV inspection information to individual assets between GraniteNet, GIS, and Cityworks.

Expert-Led Solutions for Complex Pressurized Pipe Assessment

Condition assessment of pressurized pipe is challenging—few water mains or force mains were designed with features and appurtenances to facilitate easy inspection from inside the pipe. No single inspection method can be used for pipeline assessment and, as a result, a layered approach to condition assessment often provides best value, especially where high confidence assessment techniques are logistically challenging or cost prohibitive.

Each assessment method has its strengths and limitations and the more techniques that are applied, the more failure modes are assessed for and the higher the confidence of the overall assessment of the pipe. While there is no industry standard approach for assessment of pressure pipes, there are industry guidelines.



HDR can assist with developing custom data management tools to assist the County with data driven decisions

HDR played a leading role in a variety of Water Research Foundation projects. In addition, several of our team members have been involved with advancing new technologies and assessment methods, so we have in depth knowledge of their capabilities and limitations—an important aspect of determining how to assess a pipeline.

We will bring this leadership to the project to develop a standard process, in collaboration with the County, to develop a decision tree to determine how to assess specific pipelines. During the development of this process, it is important to understand specific pipe material failure modes, the risk associated with a specific asset (higher risk mains warrant higher confidence inspections) and the operational constraints.

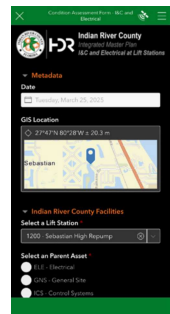
Some lessons learned from the development of this process that may be applied to the County include:

- **High Speed Pressure Monitoring** - For pumped systems, high speed pressure loggers are an inexpensive and easy source of important data on pipeline loading, magnitude and frequency of pressure transients, and roughness (which can indicate the presence of pipeline restrictions from debris or air pockets).

- **Sewer Force Mains** - Force mains are often vulnerable where pockets of gas are trapped in the main which can lead to H2S corrosion. Also, debris build up can be a problem for force mains. To assess pockets of gas, acoustic surveys are performed with inline leak and gas pocket detection. The pipe can be excavated for direct assessment at these locations. Debris build up can be quantified with sonar inspection devices.

Lift Stations Assessments

HDR has completed lift station condition assessments for hundreds of utilities across the US. We have developed standardized condition assessment templates utilizing Survey123, which allows us to capture the pertinent information in a standardized format. For lift stations, it is important to have a team that can cover the multiple disciplines required, including mechanical, structural, electrical, and I&C. We recently completed the assessment of 50 lift stations for Indian River County as part of an Integrated Water Master Plan (full description in Section VI).



HDR has standardized condition assessment for lift stations through **hundreds of assessments** in the US.



In 2022, HDR assessed 53 CCU pump stations post-Hurricane Ian—providing valuable data that can support this broader collection system program.

Lift Stations Operations

HDR can assist in reviewing existing standard operating procedures and providing recommendations for updates or additions. We also know the importance of emergency power for lift stations and can review your readiness through assessment of your permanent and portable generators. HDR will provide recommended workflows and training related to lift station and generator operation and maintenance. We have certified operators that can support training of staff on all elements of lift station and generator operation and maintenance. This can include a pump rotation operation strategy to create a proactive, preventative maintenance approach for your facilities. This will be seamlessly integrated with your Cityworks platform.

Air Release Valves (ARVs)

ARVs are a critical—but often overlooked—component of wastewater collection systems. These valves remove trapped air from force mains, preventing operational issues and conditions that can accelerate pipe degradation. HDR uses standardized condition assessment protocols for ARVs that capture both asset data (e.g., GPS location, size, condition) and performance status (functional/non-functional). This data can be used to update your GIS system and support integration into proactive maintenance programs.



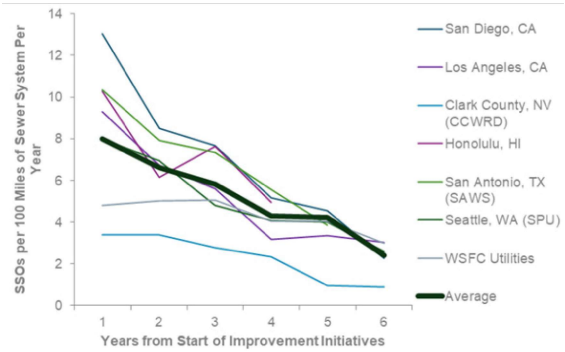
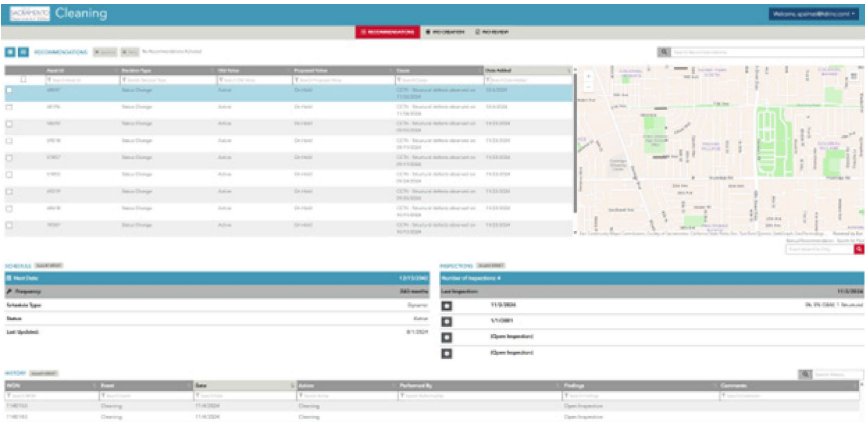
HDR will help the County turn ARVs into maintained, mapped, and proactively managed assets.

Cleaning Schedule

HDR helps utilities nationwide optimize sewer cleaning operations through risk-based programs that enhance efficiency and minimize sanitary sewer overflows (SSOs). These programs assess blockage-related risks and prioritize cleaning based on data-driven insights. A key tool in this effort is FreeFlowH2O, HDR’s web-based O&M platform that streamlines sewer cleaning planning and scheduling.

By consolidating data from sources like CCTV inspections and cleaning records, FreeFlowH2O generates optimized cleaning schedules, minimizes SSOs, and improves resource allocation. Its smart algorithms recommend cleaning frequencies and schedule updates, which are reviewed and approved by utility staff before implementation. Real-time dashboards offer visibility into workloads and help utilities plan more effectively.

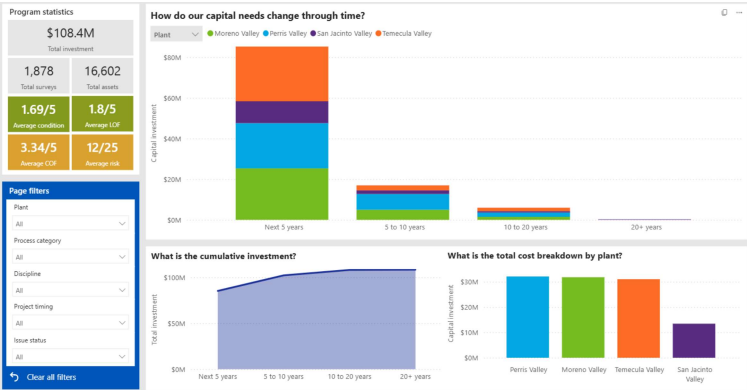
FreeFlowH2O also integrates seamlessly with Cityworks, enabling real-time tracking and coordination of cleaning activities within existing workflows, which supports **proactive decision-making and fosters more reliable, cost-effective sewer maintenance programs.**



HDR’s proven collection system maintenance approach will reduce SSOs.

Develop Short- and Long-Term Investment Strategies

Based on system risk, we will collaborate with you to develop short-term (1-5 year) and long-term (5+ year) implementation strategies. These plans will balance available resources—including staffing and capital or operational budgets—and remain flexible to accommodate future changes. As investment levels shift, your target Levels of Service (LOS) may need to be adjusted accordingly.



HDR will develop custom dashboards to help plan and track your near and long-term investments

Execute the Plan and Track Progress

Once LOS, risk, and initial investment strategies are established, HDR will support program implementation and progress tracking. This ongoing effort involves collecting data on system performance, condition, and spending. We’ll leverage your existing platforms—Esri GIS, GraniteNet, and Cityworks—for efficient data management and use visualization tools like dashboards to provide clear, accessible summaries. These dashboards offer quick insights for staff at all levels and can be easily shared with customers and County leadership.

HDR will provide tools, like **FreeFlowH2O**, to optimize cleaning schedules, minimize SSOs, and improve resource allocation. It also integrates seamlessly with Cityworks, enabling **real-time tracking** and coordination of cleaning activities within existing workflows.

VI.

Present Examples of
Similar Projects



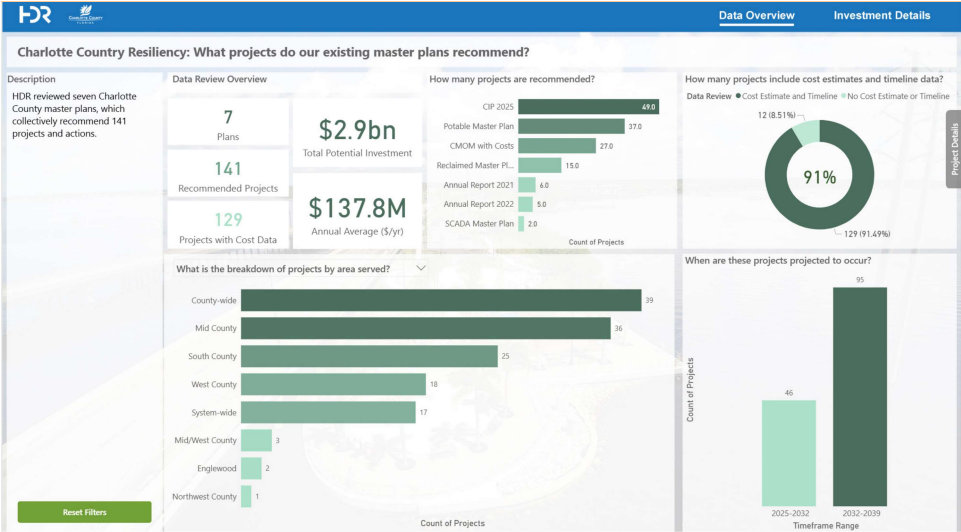
VI. Present Examples of Recently Accomplished Similar Projects

The project examples below showcase HDR’s proven expertise in delivering services that align directly with the scope of work outlined in this RFP. These projects highlight our ability to implement condition assessments, risk-based prioritization, asset management strategies, and infrastructure planning solutions for wastewater collection systems—demonstrating **the knowledge, technical strength, and practical experience** we will bring to the County.

HDR PROJECT EXAMPLES AND RELEVANCE TO RFP TASK DESCRIPTIONS						
FEATURED PROJECT	DATE	Data Management and Software Solutions	Gravity Sewer & Manhole Assessment	Pressure Pipe Condition Assessment	Risk Assessment and Project Prioritization	Lift Station Condition Assessment / O&M
Resiliency & Modernization Plan, Charlotte County Utilities Charlotte County, FL	Est. 2026	■			■	
Linear System Integrity Program Great Lakes Water Authority (GLWA) Detroit, MI	Est. 2027	■		■	■	
Reclaimed and Potable Water Pipes Physical Condition Assessment City of St. Petersburg, FL	2025	■		■	■	
Force Main Condition Assessment Program Region of Municipality of Peel Ontario, Canada	2025	■		■	■	
PCCP Engineering Services, WSSC Water Laurel, MD	2025	■		■	■	
Water Transmission, Large Diameter Sewers, and Force Main Condition Assessment & Management Program City of Lee's Summit Water Utilities, MO	2023	■	■	■	■	
OWASA, Gravity Sewer Rehabilitation (GSR) Program Carrboro, NC	Est. 2026	■	■		■	
City of Winston-Salem, Collection System Improvement Program Winston-Salem, NC	Est. 2025	■	■		■	■
Johnson County Wastewater, Integrated Master Plan and Collection System Wet Weather Plan Development and Optimization Johnson Co., KS	Est. 2026	■	■	■	■	■
Integrated Waster Master Plan, Indian River County Department of Utility Services, FL	Est. 2026	■			■	■

HDR’s national experience leading similar programs brings proven strategies to advance the County’s wastewater assessment and rehabilitation goals.





Dates: 2023 - Est. 2026

Reference: Ken Stecher, Operations Mgr.
Charlotte County Utilities
(941) 764-4323
Kenneth.stecher@charlottecountyfl.gov

Cost: \$941,205

- RELEVANCE:**
- ◆ Data Management and Integration
 - ◆ Goal Setting and Levels of Service
 - ◆ Project Prioritization

RESILIENCY & MODERNIZATION PLAN

Charlotte County Utilities, Charlotte County, FL

The Charlotte County Utilities (CCU) maintains and operates two separate potable water systems and four wastewater treatment facilities, including potable water transmission and distribution system, wastewater transmission and collection system, and a reclaimed water distribution system.

The Resiliency and Modernization Plan will allow Charlotte County to prepare for, schedule, and develop strategies for modernization and operational resiliency of its Utility Systems. The program will consider potential improvements for six areas: automation, optimization, controlling, monitoring, mobilization, and modernization. The integrated plan will provide the County with a comprehensive, strategic, and implementable plan for its long-term capital and maintenance plan. This plan will connect prioritized projects with the County’s asset management and work order management systems.

The Program will identify risks associated with hurricanes, flooding, severe storms, coastal erosion, fires, and potential climate change impacts and provide potential recommendations for risk mitigation and a numerical risk matrix. The Program will identify critical assets, vulnerabilities and risks associated with natural and human caused hazards. The Program will identify and evaluate potential innovative information technology enhancements that may be available to provide additional resiliency of CCU’s systems in the face of natural hazards.

The HDR team has been tasked with reviewing capital improvement, maintenance, master plans and more to collaboratively develop an asset management framework that includes resiliency and modernization. Through gap reviews and program analyses, the team is creating an Integrated Management Plan (IMP) that uses the asset management decision making framework to prioritize project implementation across Charlotte County Utilities. Using information from models, interviews, and site visits, the IMP will include resiliency and modernization recommendations for operations as they relate to resiliency and modernization.

- PROJECT CONTROL MEASURES:**
- 1. Schedule Control.** HDR is executing a phased, collaborative process tied to milestone reviews and County priorities to deliver the Integrated Management Plan (IMP) on schedule.
 - 2. Cost Control.** By integrating asset management principles and risk-based prioritization, HDR is helping the County focus investments where they offer the highest long-term value.
 - 3. Construction Issues & Ways to Solve.** While construction is not part of this phase, HDR’s evaluations consider future implementation constraints to support the development of practical and feasible recommendations.
 - 4. Management of Additional Construction Costs.** The IMP will include prioritized, cost-informed recommendations and risk mitigation strategies to help the County anticipate future capital and O&M funding needs.



Dates: 8/2021 - 7/2027 (Scheduled)

Reference: Jody Caldwell, Chief Planning Officer, GLWA
313.410.2486/Jody.Caldwell@glwater.org

Cost: \$29,000,000

- RELEVANCE:**
- ◆ Pipe Renewal Recommendations
 - ◆ Wastewater Business Processes
 - ◆ Data Collection and Management
 - ◆ Hydraulic Modeling
 - ◆ Risk Assessment (LOF and COF)
 - ◆ Project Prioritization
 - ◆ CIP Planning

LINEAR SYSTEM INTEGRITY PROGRAM

Great Lakes Water Authority (GLWA), Detroit, MI

Following a major pipeline failure that impacted more than 300,000 people, GLWA implemented a linear asset management program to improve reliability of their water conveyance and wastewater collection systems. HDR supported GLWA in the development of the risk prioritization of the 800 miles of water pipe and is currently serving as the program manager for the implementation of a holistic condition assessment program. This includes development of a sustainable program framework, including business processes and guidelines for determining the most applicable and cost-effective method for:

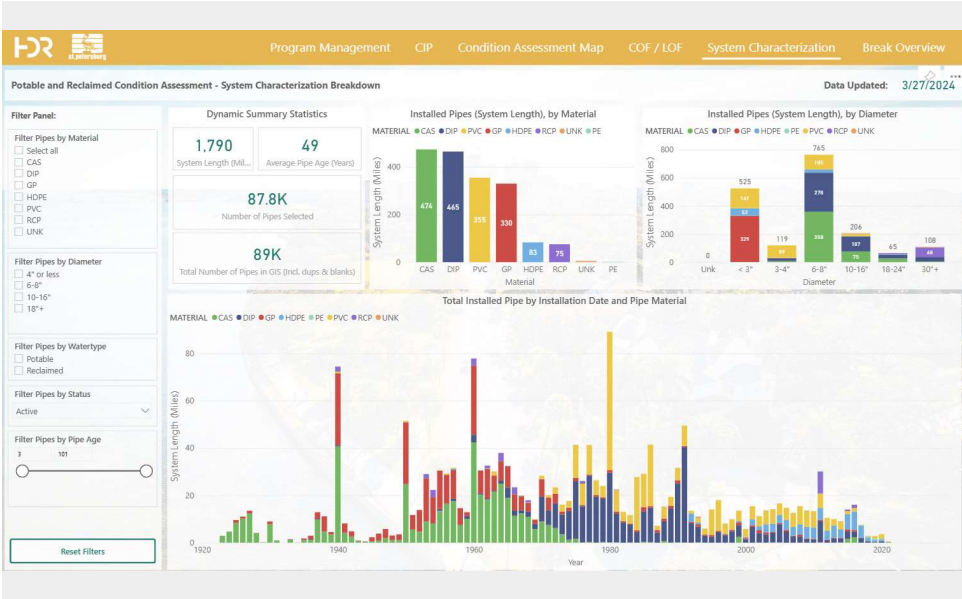
- Assessment of each pipeline based on risk profile (consequence and likelihood of failure)
- Pipeline renewal based on material, diameter, system operations, and field limitations
- Long-term management of the pipeline based on risk profile

HDR is supporting GLWA with planning for and execution of field condition assessments of both Prestressed Concrete Cylinder Pipe (PCCP) and metallic pipelines. The types of assessments being conducted include low-, medium- and high-resolution techniques, including:

- Corrosion evaluations
- High-speed transient pressure monitoring
- In-line acoustic inspection to identify leaks and pockets of trapped gas
- In-line structural assessment of the pipe wall with high-resolution electromagnetic and ultrasonic technologies
- Internal wall defect screening using acoustic based, dynamic response imaging
- External wall condition screening, including broadband electromagnetics, pulsed eddy current, and ultrasonic thickness

PROJECT CONTROL MEASURES:

- 1. Schedule Control.** HDR implemented a phased plan aligned with risk priorities, sequencing assessments to minimize service disruptions and maintain progress across multiple sites.
- 2. Cost Control.** Using a risk-based approach, HDR focused efforts on high-priority assets, applied standardized protocols, and minimized unnecessary field mobilizations to optimize budget use.
- 3. Construction Issues & Ways to Solve.** While this phase does not involve direct construction, HDR proactively addressed constructability considerations during assessment planning—such as access limitations, operational constraints, and field conditions—to support future rehabilitation work.
- 4. Management of Additional Construction Costs.** HDR’s framework includes cost modeling and decision trees that guide inspection methods and renewal strategies, helping the client anticipate and plan for potential construction costs in future implementation phases.



Dates: 6/2023 - Ongoing

Reference: City of St. Petersburg
Diana Smilova, Engineering Design Mgr.
727.893.7238/diana.smilova@stpete.org

Cost: \$790,000

- RELEVANCE:**
- ◆ Data Collection and Management
 - ◆ Hydraulic Modeling
 - ◆ Risk Assessment (LOF and COF)
 - ◆ Pressure Pipeline Condition Assessment
 - ◆ Project Prioritization
 - ◆ CIP Planning

RECLAIMED & POTABLE WATER PIPES PHYSICAL CONDITION ASSESSMENT

City of St. Petersburg, FL

HDR is supporting the City of St. Petersburg to develop and implement a multi-year program for the condition assessment and monitoring, rehabilitation, or replacement of their reclaimed distribution pipelines and the City’s potable transmission and distribution pipelines. The Program includes desktop assessment and targeted physical condition assessment, rehabilitation and replacement; owner’s advisor services where required; capital improvement planning and budgeting; planning; and workforce development planning and implementation.

The culmination of these tasks was program was the development of a 5-year Capital Improvement Program.

Additionally, HDR is preparing a feasibility study to evaluate methods of assessment for the City’s major transmission mains, which include 23 miles each of 36-inch Bar Wrapped Pipe and 48-inch PCCP. The feasibility study will result in a recommendation for assessment technology, insertion and extraction of any recommended tools, as well as a schedule to implement any required pipeline modifications.

HDR completed the following as part of this program:

- Consequence of Failure (CoF) analysis
- Risk assessment and pipeline prioritization
- Long-term renewal investment strategies

PROJECT CONTROL MEASURES:

- 1. Schedule Control.** HDR developed a phased assessment and planning schedule aligned with risk priorities and City resources to maintain steady program momentum.
- 2. Cost Control.** Risk-based prioritization and long-term investment strategies helped focus funds on high-impact assets, supporting efficient CIP development.
- 3. Construction Issues & Ways to Solve.** While no construction was performed under this scope, HDR identified constructability considerations during feasibility studies to inform future rehabilitation plans.
- 4. Management of Additional Construction Costs.** HDR’s planning approach included early cost modeling and tool feasibility to help the City anticipate future pipeline modification costs and align budget strategies.



Dates: 9/2023 - 12/2025

Reference: Nicholas Gan, P.Eng., PMP
Manager, Engineering
Condition Assessment and Rehabilitation
Public Works, Region of Peel
647.403.3711/nicholas.gan@peelregion.ca

Cost: \$357,819 (USD)

- RELEVANCE:**
- ◆ Data Management
 - ◆ Force Main Condition Assessment
 - ◆ Risk Assessment
 - ◆ Project Prioritization

FORCE MAIN CONDITION ASSESSMENT PROGRAM

Region of Municipality of Peel, Ontario, Canada

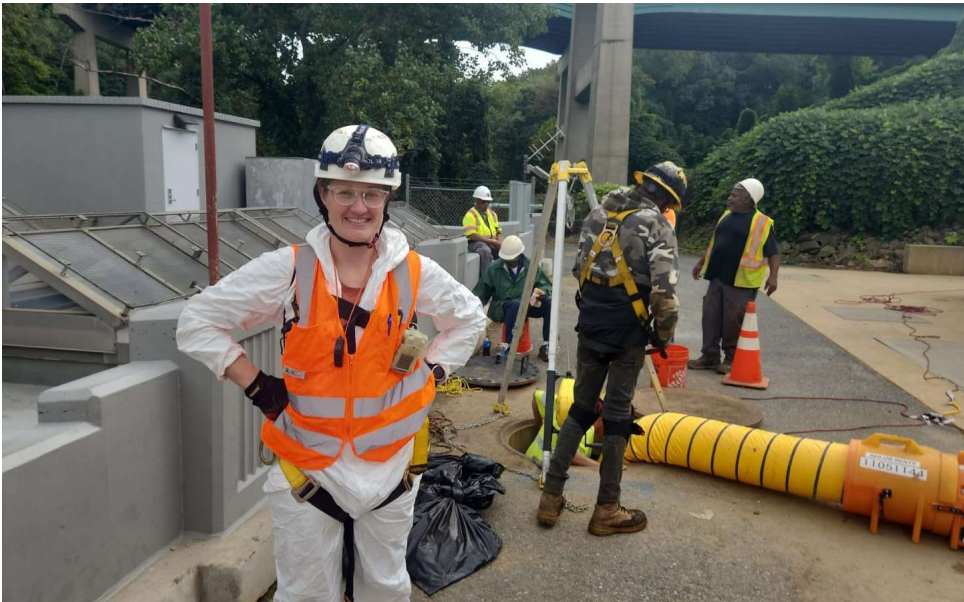
The Region of Peel is a municipality in Ontario Canada that operates 3,760 km of sanitary sewer mains, thirty-two sewage pump stations, and 51 km of force mains. The Region recently completed a risk assessment of their sanitary sewer force mains and identified twenty force mains at high risk for failure. To increase the reliability of their force main system, the Region implemented a proactive condition assessment and renewal program of high and very high risk force mains.

HDR is supporting the Region in the development and implementation of this proactive program, which includes a phased approach to condition assessment focusing resources where they are needed most and reducing overall costs while helping the Region manage risk and improve system reliability. The approach involved project bundling of like force mains to reduce mobilization costs and compress overall inspection schedules.

Thus far, HDR has completed a feasibility review of different inspection methodologies for each of the high-risk force mains and prepared a matrix of recommended inspection methods based on access, pipe material, and diameter. After developing the program framework, Phase 1 of the program, which focuses on high value, low-cost assessment methods, such as above ground assessment, hydraulic and pressure transient analysis, camera inspections, hydrogen sulfide monitoring, and soils and corrosivity evaluations were completed and recommendations for further assessments for each main were provided. Follow-on phases will include deploying screening level and high-resolution structural assessment methods where needed to provide the Region with reliable information to manage their high-risk force mains.

PROJECT CONTROL MEASURES:

- 1. Schedule Control.** HDR implemented a phased, risk-based approach and bundled similar force mains to streamline mobilization and compress inspection timelines.
- 2. Cost Control.** Focused assessments on high-risk assets and selected cost-effective inspection methods, reducing unnecessary expenses and improving budget efficiency.
- 3. Construction Issues & Ways to Solve.** While construction was not part of the scope, HDR evaluated site access, pipe materials, and field conditions to recommend inspection strategies that support future rehabilitation planning.
- 4. Management of Additional Construction Costs.** HDR’s feasibility reviews and phased strategy provided the Region with planning-level insight to anticipate future assessment and renewal costs across high-risk assets.



Dates: 06/2021 - 2025 (Scheduled)

Reference: Arturo Acevedo, Section Manager, Water Condition Assessment Section
301.206.8478/arturo.acevedo@wsscwater.com

Cost: \$7,500,000

- RELEVANCE:**
- ◆ Detailed Condition Assessment
 - ◆ Data Management
 - ◆ Risk Assessment

PCCP ENGINEERING SERVICES

WSSC Water, Laurel, MD

HDR is supporting a comprehensive PCCP assessment program for WSSC Water’s 400-mile inventory by providing program level support and recommendations, assessing specific pipelines, performing engineering analysis of condition data, and providing recommendations on how to safely manage specific PCCP mains. These efforts have ranged from visual and sounding inspection of pipeline assets, electromagnetic inspection and comparing results between multiple providers recommending repairs, and developing programmatic improvements for WSSC Water’s PCCP Management Program. The following projects were performed under WSSC Water’s PCCP BOA contract.

- Developed the “Maximizing PCCP Reliability Report” that evaluated and documented the current WSSC Water’s PCCP practices and recommended improvements
- Inspected a failed section of the 42-inch Patuxent Steel Main to determine failure mode
- Performed a non-destructive internal visual and sounding inspection inside the 60-inch Montgomery County High Zone (MCHZ) PCCP transmission main
- A partial list of inspections in the field included: 42-inch steel pipe Kenwave inspection; 60-inch electromagnetic, visual, and sounding inspection; 48-inch steel pipe inspection; and 42-inch PCCP forensic investigation
- Performed forensic evaluation of damaged PCCP and compared to near field testing and AFO monitoring results. Documented lessons learned and recommended program improvements
- Conducted a detailed condition assessment of approximately 2.7 miles of the 60-inch Montgomery High Zone PCCP Transmission Main
- Inspected the 48-inch steel pipe at the Rocky Gorge Pump Station due to a leak, responded within two hours of notification of the leak
- Compared results from two leading near field electromagnetic inspection technologies and performed forensic evaluation

PROJECT CONTROL MEASURES:

1. **Schedule Control.** HDR coordinated inspections and engineering analysis across multiple sites and technologies, maintaining responsiveness and meeting program milestones—often under urgent conditions, such as rapid leak response.
2. **Cost Control.** By comparing inspection technologies and focusing on the most effective approaches, HDR helped WSSC Water make informed, cost-conscious decisions and prioritize targeted repairs.
3. **Construction Issues & Ways to Solve.** While construction was not directly performed, HDR supported safe management of active PCCP mains and evaluated field conditions to inform future repair strategies and reduce constructability risks.
4. **Management of Additional Construction Costs.** Through forensic evaluations and lessons-learned reporting, HDR provided WSSC Water with actionable insights to refine future planning, reduce risk exposure, and avoid unnecessary repair or replacement costs.



Dates: Phase 1 (Complete); Phase 2 (Est. June 2025)

Reference: Jeff Thorn
Deputy Director of Water Utilities
816.969.1922/jeff.thorn@cityofls.net

Cost: \$5,400,000

- RELEVANCE:**
- ◆ Data Management and Software Solutions
 - ◆ Gravity Sewer and Manhole Assessments
 - ◆ Pressure Pipe Condition Assessment
 - ◆ Risk Assessment and Project Prioritization

WATER TRANSMISSION, LARGE DIAMETER SEWERS, AND FORCE MAIN CONDITION ASSESSMENT AND MANAGEMENT PROGRAM

City of Lee’s Summit Water Utilities, MO

HDR is engaged in the development, program management, and implementation of a 5-year, phased condition assessment and rehabilitation program for the City’s metallic and PCCP water pipe, as well as select wastewater interceptors. More than 45 miles of pipelines are being evaluated.

- For Phase 1 condition assessments, HDR managed multiple technology subcontractors that deployed cost-effective, field inspection technologies, and our team assimilated large volumes of data. HDR’s efforts included:
- Pre-inspection planning, work plan development, field/operations coordination, valve inspections, and access design and construction support
 - Condition assessments, including Xylem’s PipeDiver on a 7-mile 30” PCCP transmission main; Xylem’s SmartBall for internal assessments; and external direct corrosion assessments on four metallic force mains with the highest consequence-of-failure ratings
 - Evaluation of condition assessment findings and linear asset renewal recommendations, project cost estimating, prioritization, and financial planning

In parallel with Phase 1 assessments, HDR is developing a risk-based prioritization based on consequence and likelihood of failure ratings for all pipelines included in the program. After completion of the prioritization, HDR will develop a plan to assess other high-priority pipelines included in the program.

- PROJECT CONTROL MEASURES:**
- 1. Schedule Control.** HDR managed multiple technology providers under a phased 5-year program, coordinating planning, access, and inspections to meet assessment timelines and minimize disruptions.
 - 2. Cost Control.** By deploying targeted, cost-effective inspection technologies and focusing on high-risk assets, HDR helped the City prioritize investments and manage program costs efficiently.
 - 3. Construction Issues & Ways to Solve.** HDR supported constructability through access design, valve inspections, and coordination with field crews—supporting inspection activities aligned with operational and future construction needs.
 - 4. Management of Additional Construction Costs.** HDR’s condition assessment findings were paired with renewal recommendations and cost estimates, giving the City a clear financial roadmap to manage future repair and replacement costs.



Dates: 2023 - Est. 2026

Reference: Vishnu Gangadharan, PE, PMP, Director of Engineering & Planning
919.537.4248 / vgangadharan@owasa.org

Cost: \$972,000

- RELEVANCE:**
- ◆ Data Management and Software Solutions
 - ◆ Gravity Sewer & Manhole Assessment
 - ◆ Risk Assessment and Project Prioritization

OWASA, GRAVITY SEWER REHABILITATION (GSR) PROGRAM

Carrboro, NC

In 2023, Orange Water and Sewer Authority (OWASA) began the development of its Gravity Sewer Rehabilitation Program (GSR Program). The purpose of this program is to develop and implement a comprehensive approach to efficiently and effectively rehabilitate or replace gravity sewer mains in OWASA's wastewater collection system, with a target goal of rehabilitating or replacing three miles of gravity sewer per year. The ultimate objective of the GSR Program is to establish a long-term, self-sustaining, and forecasted asset management program for OWASA that moves from wastewater collection system issue identification to solution implementation efficiently and in a streamlined manner.

- The GSR Program is being implemented in phases, Phase 1 is complete and included core planning tasks:
- Risk Framework Development and Prioritization – identification of system-wide risks, leveraging CCTV defect coding data where available, to support the prioritization of inspection and renewal activities
 - Renewal Decision Logic Development – development of a standardized renewal decision logic to allow the programmatic forecasting and decision making of systemwide renewal needs
 - Aquanuity AquaTwin Asset Configuration – asset management, risk and renewal decision support tool implementation and configuration to support the ongoing GSR Program.
 - SewerAI Defect Coding – an initial pilot was completed demonstrating the efficacy of the use of the AI tool for defect coding for OWASA, then roll out to 100+ miles of CCTV data.

- Phase 2 is currently underway supporting OWASA's progress on the GSR Program including:
- Business Process Mapping & Data Management Strategy – mapping out the ongoing business process workflows for the GSR Program for OWASA and HDR staff to create clear business processes and roles & responsibilities.
 - CCTV Management Strategy – development of an updated strategy and prioritization of CCTV activities in support of the GSR program.
 - FY2026 Renewal Package Preliminary Engineering & Design – Preliminary Engineering Report (PER) and detailed design development for the FY2026 renewal work package identified in Phase 1.

Overall, the OWASA GSR program has continued as a strong collaboration between OWASA and HDR to support their goals to advance progress on reducing structural risk, I/I issues, and the implementation of renewal projects in a logical, cost effective manner.

- PROJECT CONTROL MEASURES:**
- 1. Schedule Control.** HDR developed a phased implementation plan aligned with OWASA's annual rehabilitation targets, leveraging risk-based prioritization and streamlined workflows to keep progress on track.
 - 2. Cost Control.** Through standardized decision logic and AI-assisted defect coding, HDR supported cost-effective program delivery by targeting renewal work where it delivers the highest value.
 - 3. Construction Issues & Ways to Solve.** HDR's preliminary engineering and PER efforts for the FY2026 package were informed by early field data and access planning, helping identify and address constructability challenges before design.
 - 4. Management of Additional Construction Costs.** By aligning asset condition, risk, and business process strategies, HDR helped OWASA forecast future capital needs, minimizing unanticipated costs through proactive planning and prioritization.



Dates: 2023 - Est. 2026

Reference: Michael Stover, PE
Deputy Director, Operations
336.747.6840
Michaelws@cityofws.org

Cost: \$50,545,795 (Years 1-9)

- RELEVANCE:**
- ◆ Data Management and Software Solutions
 - ◆ Gravity Sewer and Manhole Assessment
 - ◆ Risk Assessment and Project Prioritization
 - ◆ Lift Station Condition Assessment and Operation & Maintenance

COLLECTION SYSTEM IMPROVEMENT PROGRAM

City of Winston-Salem, NC

Winston-Salem/Forsyth County (WSFC) Utilities operates and maintains over 1,800 miles of sewer mains, 48 lift stations, and 2 wastewater treatment facilities. In 2014, the utility was experiencing historically low levels of service and facing a potential consent decree from the United States Environmental Protection Agency relating to high rates of sanitary sewer overflows (SSOs) and poor collection system performance. To address negative system performance, WSFC Utilities established the Collection System Improvement Program (CSIP), partnering with HDR for a multi-year effort to reevaluate the strategic direction of the organization, implement asset management best practices, and change the trajectory of the organization – focusing primarily on the wastewater collection system. This program included the Condition Assessment of over 108,000 LF of Sewer 24" and larger. In total, this project included the renewal of over 50 miles of existing pipe.

As part of the CSIP, HDR has completed hydraulic modeling, planning, risk assessments, inflow and infiltration evaluations, flow monitoring, SSES, asset R&R planning and identification, as well as capital project capacity verification (confirmed capacity constraint drivers for master plan identified capital projects). The purpose of the I/I program includes the assessment of both public and private-side inflow and infiltration. This allows for the recommendation of targeted actions to address these issues including condition assessment, repair and rehabilitation, and regulatory actions.

HDR's role includes the ongoing coordination of the overall I/I assessment approach including monitoring of total I/I impacts and measurement of changes to I/I impact, planning for future monitoring activities, evaluation of flow monitoring data, and coordinating the movement of monitors in the system to isolate concentrated areas of I/I and conveying I/I related metrics and findings to the Utility as well as the Condition and Capital Delivery teams for further recommendations including SSES, smoke testing and remediation.

“HDR Engineering has assisted WSFC Utilities with creating a high performing Collection System Improvement Program, that has produced undeniable results, led by their professional staff’s desire to provide quality and responsive service to their clients.”

- Michael Stover, PE
Deputy Director of Operations, City of Winston-Salem

PROJECT CONTROL MEASURES:

- Schedule Control.** HDR implemented a multi-year, phased plan prioritizing critical condition assessments and I/I evaluations to meet regulatory deadlines and improve system performance steadily.
- Cost Control.** By focusing on targeted repairs and risk-informed prioritization, HDR optimized budget allocation across extensive sewer renewal and rehabilitation efforts.
- Construction Issues & Ways to Solve.** HDR coordinated closely with WSFC operations to minimize disruption during field activities and aligned condition assessments with planned rehabilitation and capital projects.
- Management of Additional Construction Costs.** Ongoing I/I monitoring and hydraulic modeling informed strategic decision-making, helping WSFC anticipate and manage potential additional costs tied to capacity constraints and regulatory compliance.



Duration: 2023 - Est. 2026

Reference: Aaron Witt, Collection Systems Engineer, JCW
913.715.8546 / aaron.witt@jcw.org

Cost: \$18,900,000 (over 5 years)

- RELEVANCE:**
- ◆ Data Management and Software Solutions
 - ◆ Gravity Sewer & Manhole Assessment
 - ◆ Force Main Condition Assessment
 - ◆ Risk Assessment and Project Prioritization
 - ◆ Lift Station Condition Assessment / O&M

INTEGRATED MASTER PLAN AND COLLECTION SYSTEM WET WEATHER PLAN DEVELOPMENT AND OPTIMIZATION

Johnson County Wastewater, Johnson County, KS

Johnson County Wastewater (JCW) is a regional service provider for over 500,000 customers in 16 municipalities in the Kansas City Metro area. JCW’s system includes 7 wastewater treatment facilities (WWTF), 31 pump stations, and a collection system containing over 2,250 miles of pipe. As the system continues to grow and age, investments in maintenance, renewal, I/I reduction, and knowledge transfer to continue to meet JCW’s high level of service and manage risk will continue to grow. For the past 11 years, HDR has supported JCW in developing long-term programmatic strategies to address these needs. HDR has led the development, and ongoing implementation and management of JCW’s wet weather programmatic efforts, including:

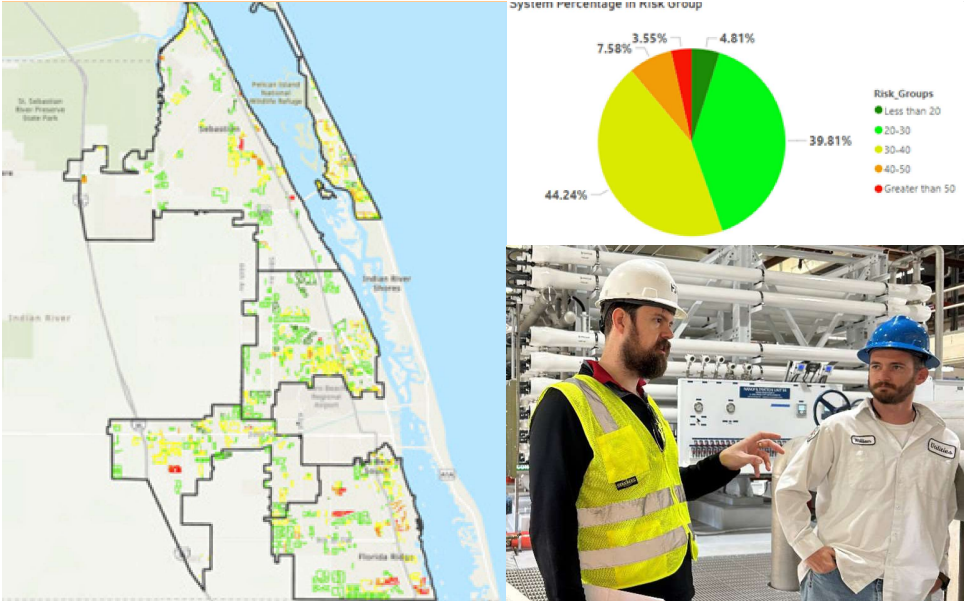
Since 2013, JCW and HDR have begun development of the ongoing Collection System Asset Management Program (CAMP) and retained HDR to support the ongoing implementation of the program. For the past 10 years, JCW has executed their public sector condition assessment, I/I reduction, and renewal programs through the CAMP using a risk-based assessment approach. These efforts have included leading the implementation of JCW’s program strategies, including data collection, cost effective renewal strategy development for I/I reduction and structural renewal, and program implementation. HDR has developed automated prioritization and renewal tools that utilize condition assessment data to provide recommended next actions and risk scores for all collection system assets.

In 2020, JCW selected HDR as program manager to support the implementation of the 25-year, system-wide Integrated Plan. These efforts include leading the implementation of JCW’s I/I reduction programs; and the public sector rehabilitation program executed through the CAMP, I/I reduction program. These efforts include leading the flow monitoring program to assess program results and modify strategies, community and public engagement, ongoing basin planning and modeling of I/I reduction results and conveyance projects, and facility planning for future conveyance and storage projects.

JCW’s Manhole Condition Assessment and Renewal Program is focused on achieving cost-effective I/I reduction. To date results through this program have exceeded program goals. Post-rehabilitation flow monitoring of 14 unique sub-basins has shown an average inflow reduction of 20%, with 9 exceeding 20% reduction. This success is attributed to the programmatic efforts including the development of a custom data collection and renewal decision approach, piloting different assessment technologies, and extensive manhole cover/frame inflow testing and mitigation strategy development focused on addressing older, leaky manhole covers susceptible to inflow. This program included developing custom decision processes based on the manhole material, location (e.g. in floodplain, pavement, easement), and type of cover.

PROJECT CONTROL MEASURES:

- 1. Schedule Control.** HDR implemented a phased plan aligned with JCW’s 25-year Integrated Plan to meet key milestones and regulatory goals.
- 2. Cost Control.** Risk-based prioritization and automated tools focus spending on cost-effective renewals and I/I reduction.
- 3. Construction Issues & Ways to Solve.** Close coordination minimizes disruptions and adapts strategies using real-time monitoring and basin planning.
- 4. Management of Additional Construction Costs.** Data-driven monitoring helps anticipate costs, adjust strategies, and sustain system improvements.



Dates: 2024 - Est. 2026

Reference: Sean Lieske, Director
Indian River County Department of Utility Services
(772) 226-1835 / slieske@indianriver.gov

Cost: \$2,475,840

- RELEVANCE:**
- ♦ Asset Management
 - ♦ Pipeline Risk Assessment
 - ♦ Hydraulic Modeling
 - ♦ CIP Planning

INTEGRATED WATER MASTER PLAN

Indian River County Department of Utility Services, Indian River County, FL

Indian River County’s (IRC’s) Department of Utility Services (IRCDUS) provides drinking water, wastewater, and reuse services to nearly 130,000 customers in Indian River County, Florida. IRC is located along the east coast of Florida and borders the ecologically important Indian River Lagoon, which has historically been impacted by nutrient loads from stormwater runoff and septic systems. In response to recent population growth, developer interest, regulatory pressures, and infrastructure investment needs, IRCDUS has contracted with HDR to develop a dynamic Integrated Water Master Plan (IWMP) for its drinking water, wastewater, and reuse systems. The IWMP will include recommendations for capital improvement projects to meet the County’s needs over the 20-year planning horizon based on a thorough evaluation of its existing systems, a series of multi-criteria decision analyses performed with County staff, and input from stakeholders and the community. In addition to direct efforts related to planning, HDR will establish a strong foundation for future IRCDUS planning and operations through the provision of ancillary support services including asset inventory development, vertical condition assessment, pipeline risk assessment, hydraulic model update and calibration, strategic communications and branding support, financial capability assessment, and alternative funding exploration. The outcome of the IWMP will be an adaptable, digital master plan that the County can modify over the planning horizon to reflect actual growth, regulatory, and condition-related capital project triggers.

- PROJECT CONTROL MEASURES:**
- 1. Schedule Control.** HDR is delivering the IWMP through a structured, milestone-driven schedule aligned with County priorities and stakeholder engagement timelines.
 - 2. Cost Control.** By leveraging multi-criteria decision tools and risk-based prioritization, HDR is helping the County make cost-effective, high-impact capital investment decisions.
 - 3. Construction Issues & Ways to Solve.** While not a construction project, HDR’s planning includes asset assessments and hydraulic modeling that inform future construction needs and reduce risk of implementation delays.
 - 4. Management of Additional Construction Costs.** The digital master plan framework enables real-time updates based on actual growth and system triggers—helping the County plan for and mitigate future construction cost variability.

Our track record reflects our commitment to the County. We encourage you to contact our references to find out more about our expertise with similar projects.



OWASA
Project: Gravity Sewer Rehabilitation (GSR) Program

Client Contact:
Vishnu Gangadharan, PE, PMP
Director of Engineering and Planning
919.537.4248
vgangadharan@owasa.org

- Relevance:**
- Data Management and Software Solutions
 - Gravity Sewer and Manhole Assessment
 - Risk Assessment and Project Prioritization

Status:
Ongoing (Est. 2026)



City of Winston-Salem, NC
Project: Collection System Improvement Program

Client Contact:
Michael Stover, PE
Deputy Utilities Director
336.747.6840
Michaelws@cityofws.org

- Relevance:**
- Data Management and Software Solutions
 - Gravity Sewer and Manhole Assessment
 - Risk Assessment and Project Prioritization
 - Lift Station Condition Assessment and Operation & Maintenance

Status:
Ongoing (Est. 2026)



City of St. Petersburg
Project: Reclaimed & Potable Water Pipes
Physical Condition Assessment

Client Contact:
Diana Smilova
Engineering Design Manager
727.893.7238
diana.smilova@stpete.org

- Relevance:**
- Data Collection and Management
 - Hydraulic Modeling
 - Risk Assessment (LOF and COF)
 - Pressure Pipeline Condition Assessment
 - Project Prioritization
 - CIP Planning

Status:
Year 1 Risk Assessment Completed March 2025

VII.

Firm Experience and Capabilities




VII. Firm Experience and Capabilities

Experience That Aligns With Your Priorities

The HDR Team brings proven expertise to optimize Charlotte County’s operations, improve compliance, and maximize infrastructure investment. Our approach is informed by decades of hands-on experience, national best practices, and a strong understanding of the operational and regulatory realities facing utilities like Charlotte County. These core service areas represent the expertise we’ll apply to deliver a focused, risk-informed program tailored to your system.

With a team of over 100 professionals based in Southwest Florida and the strength of HDR’s global network, we bring deep expertise in CMOM programs, asset management, inflow and infiltration (I/I) reduction, wastewater collection inspection and condition assessment, data management, and regulatory compliance. Our tailored solutions focus on sustainability, resilience, and long-term performance—aligning closely with Charlotte County’s infrastructure priorities. Through proven collaboration and clear communication, we work as an extension of your team to advance reliable, efficient, and forward-looking wastewater systems.

HDR’s Lead for System Integration, Alex Palmatier, has supported numerous large US-based utilities, including New York City, Honolulu, San Antonio, Winston Salem, and Johnson County Wastewater (JCW), Kansas, focusing on infiltration and inflow (I/I) reduction, water quality compliance, and asset management. For more than a decade, JCW and HDR have partnered to implement a holistic Integrated Master Plan that addresses state and federal regulatory obligations, proactively renews aging infrastructure, reduces peak wet weather flows through strategic I/I reduction, and provides cost-effective wet weather management.



Technical Excellence for Charlotte County: HDR Has Expertise in CMOM, I/I Reduction, Hydraulic Modeling, and Asset Management — delivering integrated, data-driven solutions to enhance system performance, optimize operations, and support long-term infrastructure resilience.

A. Optimizing Wastewater Operations Through Tailored CMOM Program Development

HDR brings deep experience in developing Capacity, Management, Operations, and Maintenance (CMOM) programs that align with regulatory expectations, improve operational efficiency, and strengthen long-term asset stewardship. Our team partners with utilities to translate day-to-day operational activities into actionable insights, reducing risk, improving system reliability, and enhancing performance over the long term.

For Charlotte County, we offer tailored CMOM solutions that reflect the unique characteristics of your wastewater system. Our approach focuses on operational excellence and resilience, positioning your utility to confidently address both current needs and future challenges.

An exemplary project is the CMOM Implementation Program for Seattle Public Utilities (SPU). HDR developed processes and policies for SPU’s gravity sewer system, including a risk-based framework for maintenance and rehabilitation. We integrated these updates into SPU’s GIS-based Field Operations Mapping System, enabling the utility to cost-effectively reduce pipe failures and inflow/infiltration (I/I), while meeting asset service level and regulatory compliance requirements. HDR delivered a 6-year CMOM implementation plan aligned with EPA CMOM principles, which helped SPU achieve its sanitary sewer overflow (SSO) reduction goals and positioned the utility for sustained operational success.

B. Wastewater System Equalization Analysis

Equalization of flows is a valuable way to shave downstream peak flows, or even lessen the range of water quality fluctuations, lessening the overall downstream



HDR partners with utilities nationwide to deliver efficient, proven collection system inspection and assessment programs—bringing time and cost savings to Charlotte County.

infrastructure design requirements, and potentially saving overall energy costs during operation. HDR has many examples of daily and seasonal equalization studies and designs. Two specific recent examples are for Brevard County and Wilkesboro, NC. The HDR Team can efficiently balance the reasonable storage needed to optimize beneficial reuse while having the County’s deep injection well as excess flow disposal.

The Brevard County South Beaches Lift Station Analysis developed a SewerGEMS hydraulic model of the South Beaches service area lift station network, calibrated the model to dry weather flows of 5.5 MGD and maximum wet weather flows of approximately 13 MGD, and sited an off-line 4 MG ground storage tank to manage wet weather flows. This would help reduce the competing pump station network and lessen the overall head requirement for the lift station system.

HDR’s familiarity with Charlotte County’s wastewater collection system—gained through our work on the Risk and Resilience Program and the Rotonda and West Port WRF projects—positions us to efficiently evaluate wastewater equalization and flow-shifting strategies that optimize use of the County’s existing assets. Chris Makransky, who has worked with the County’s hydraulic models for over 4 years, will lead this effort and apply his in-depth system knowledge to guide effective solutions.

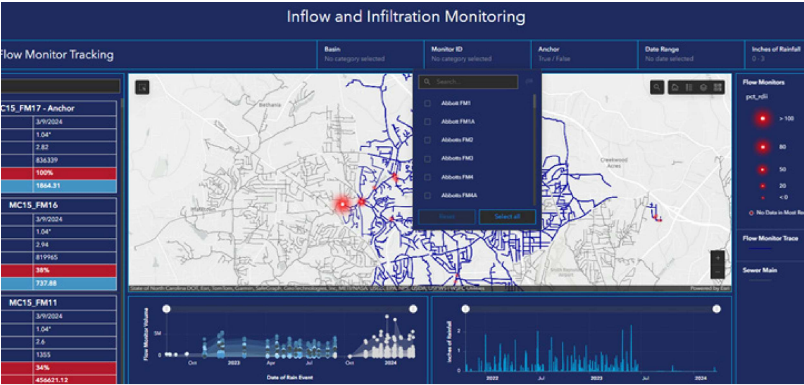
C. Maximizing System Performance Through Advanced Force Main Modeling and Hydraulic Analysis

HDR provides comprehensive hydraulic modeling services that strengthen wastewater system performance, optimize capacity, and support long-term infrastructure planning. HDR specializes in developing and calibrating advanced models for wastewater collection and transmission systems, utilizing state-of-the-art modeling software and GIS integration to analyze system hydraulics, flow dynamics, and operational risks. These models inform capital improvement planning, prioritization, and compliance with regulatory requirements. Our expertise spans master planning for utilities of all sizes, with services including model selection, GIS data integration, capacity verification, and scenario simulations to assess system response under various loading and

operational conditions. In addition to traditional gravity systems, HDR excels in modeling complex force main networks, identifying and resolving hydraulic challenges that impact system performance.

For Winston-Salem/Forsyth County (WSFC) Utilities, HDR played a pivotal role in the Collection System Improvement Program (CSIP), focusing on reducing sanitary sewer overflows (SSOs) and optimizing overall system performance. We developed and refined hydraulic models to assess capacity constraints, guide inflow and infiltration (I/I) evaluations, and verify the necessity of capital projects—providing WSFC with clear, data-driven strategies for infrastructure investment. The City of Winston-Salem program included the condition assessment of over 108,000 LF of Sewer 24” and larger. In total, this project included the renewal of over 50 miles of existing pipe.

Our force main modeling experience further demonstrates HDR’s technical capabilities. In Honolulu’s \$2.4 billion consent decree program, we hydraulically evaluated rehabilitation solutions to confirm system compatibility before recommending improvements for miles of large-diameter force mains.



Data visualization tools will be developed to monitor progress and track success.

In Lee’s Summit, MO, HDR assessed odor-control challenges within a 5-year condition assessment and long-term management plan, leveraging hydraulic analysis to develop practical mitigation strategies. We also identified capacity constraints and developed targeted design recommendations for force main upgrades for the Clark County Water Reclamation District in Las Vegas.

HDR’s hydraulic modeling expertise provides utilities with a critical foundation for decision-making—enabling optimized system operations, proactive risk management, and efficient allocation of capital resources across both gravity and pressurized wastewater infrastructure.

D. Inflow and Infiltration Analysis/Evaluation and Reduction

HDR offers deep expertise in evaluating and reducing inflow and infiltration (I/I), helping utilities safeguard system performance, preserve capacity, and extend asset life. Our experience spans the full range of solutions—from traditional

Building on our recent evaluation of the County’s hydraulic models, HDR is ready to deliver targeted recommendations that enhance this inspection and condition assessment project.

rehabilitation and replacement (R&R) of gravity systems and optimization of collection and transmission system operations to eliminating illegal connections. We develop prioritization methods that emphasize quality, quantity, resiliency, and equity, enabling clients to maximize return on investment while reducing strain on wastewater infrastructure. Our team is highly skilled in flow monitoring, data analysis, and basin prioritization to accurately pinpoint I/I sources and implement focused, cost-effective solutions. We also support utilities with long-term condition assessment programs, asset management planning, and regulatory compliance, driving measurable and sustained improvements. HDR partnered with the Water and Sewer Authority of Cabarrus County (WSACC) in Concord, NC, to apply flow monitoring and advanced data analytics, identifying key focus areas and implementing a targeted I/I management strategy that preserved capacity and enhanced long-term performance.

Nationwide, HDR brings decades of experience supporting utilities in cities like Honolulu, San Antonio, Winston-Salem, Chattanooga, New York City, and Johnson County. Notably, in Johnson County, Missouri, HDR has delivered long-term wastewater system improvement strategies over the past decade. Our efforts included condition assessments, I/I reduction, and renewal programs, guided by advanced tools such as automated prioritization systems.

JCW Success Metrics

» 20% average inflow reduction

» 40% & 20% I/I reductions in two critical areas

» Surpassed performance goals, improving system reliability

E. Evaluation of Hydrogen Sulfide, Odor, and Corrosion Control

HDR brings deep expertise in hydrogen sulfide mitigation, odor control, and corrosion management, supporting wastewater utilities across the U.S. with end-to-end solutions—from initial assessment through design, implementation, and long-term performance monitoring. Our approach combines advanced diagnostics with proven engineering strategies to safeguard infrastructure, extend asset life, and maintain compliance with environmental and health standards.



Dr. Mersedeh Akhoondan, led corrosion engineering and condition assessment programs for the City of San Diego’s sewer pipelines.

Hydrogen sulfide (H₂S) presents a significant challenge for wastewater systems, accelerating the deterioration of pipelines, manholes, and treatment facilities. In addition to infrastructure damage, H₂S contributes to odor issues that can disrupt surrounding communities and pose health risks for utility staff. HDR’s odor and corrosion control services focus on reducing H₂S emissions to non-detectable levels at property boundaries, protecting both system performance and public health.

Our technical capabilities include corrosion risk assessments, soil corrosivity studies, gas-phase and liquid-phase monitoring, failure analysis, and computational service life modeling. We also provide full-service odor control design and optimization, covering biotechnology, chemical scrubbers, chemical dosing systems, activated carbon, and thermal oxidation technologies. HDR’s Odor Control Guidance Manual—developed as a corporate best practice—supports our teams in delivering standardized, high-quality solutions across projects.

Notable experience includes leading corrosion engineering and condition assessment programs for the City of San Diego’s sewer pipelines (up to 120 inches in diameter), where HDR combined field inspections—CCTV, soil/gas sampling, and electromagnetic surveys—with statistical modeling to develop targeted rehabilitation and corrosion protection plans. At the Annapolis Water Reclamation Facility, HDR optimized odor control systems through detailed monitoring and H₂S detection, developing performance-based capital improvement strategies. Our work for Palm Beach County’s regional force main included external and internal corrosion risk assessments using advanced tools like Pure Technologies’ SmartBall acoustic monitoring and Wenner-4 pin testing to detect gas pockets and corrosive conditions, informing proactive mitigation.

With in-house expertise—including specialists like **Dr. Mersedeh Akhoondan, PhD, PE**, a corrosion engineer with over 17 years of experience—HDR offers clients

sophisticated, data-driven strategies to manage odor and corrosion challenges effectively. Our capabilities are designed to help utilities like Charlotte County reduce operational risks, extend infrastructure life, and maintain system integrity under demanding environmental conditions.

F. CCTV Inspections and Condition Assessment

HDR provides full-spectrum condition assessment services for both buried and vertical infrastructure, using advanced inspection technologies and proven methodologies to guide effective rehabilitation and maintenance strategies. Our team applies a risk-based framework, combining CCTV inspections, manhole surveys, smoke testing, and flow monitoring to identify structural deficiencies, assess I/I, and establish clear priorities for system improvements. We bring deep expertise across gravity and pressurized systems, equipping utilities with actionable insights that extend asset life, optimize capital spending, and enhance long-term system performance.

For the City of Rock Hill, HDR applied this integrated approach to assess over 15,000 linear feet of gravity sewer and 61 manholes within a key service area.



City of Rock Hill, 17 Acres Sanitary Sewer System Condition Assessment & Rehabilitation

Through detailed inspections and data-driven analysis, we identified critical defects and I/I sources, developing targeted rehabilitation strategies and cost-effective solutions that supported the City’s commitment to proactive system management and resilience.

G. Asset and Data Management

Proactive asset management strategies are essential for extending infrastructure lifespan and reducing long-term costs. By combining advanced tools with proactive maintenance and rehabilitation planning, HDR helps utilities maintain reliable and efficient systems over time.

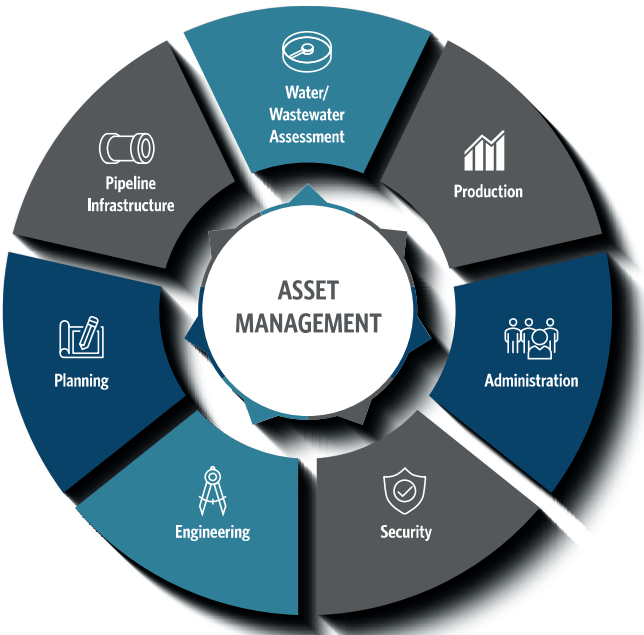
For more than 25 years, the HDR Team has been a leader in pipeline condition assessment and asset management program development.

Our expertise spans asset management, system optimization, and operational efficiency, backed by decades of collective experience. We are excited to collaborate with the County to elevate its pipeline condition assessment efforts and implement solutions that maximize the performance and longevity of its infrastructure.

With extensive experience supporting utilities across the nation, we bring a wealth of knowledge and proven strategies to pipeline condition management. Our approach incorporates industry best practices while customizing solutions to meet Charlotte County’s unique needs. One of the key tools in our asset management strategy is HDR’s Helix Connected Data Environment, which integrates engineering and asset data into a single system. This platform enhances collaboration and provides a trusted data backbone, allowing project teams to work more efficiently and effectively.

A strong example of our success in pipeline management is our work with OWASA (Orange Water and Sewer Authority) on the Gravity Sewer Rehabilitation Program (GSR Program) in 2023. This program aims to develop a comprehensive, sustainable approach to rehabilitate or replace gravity sewer mains within OWASA’s collection system, targeting the rehabilitation or replacement of three miles of gravity sewer each year. The ultimate goal is to establish a long-term, self-sustaining asset management program that moves seamlessly from issue identification to solution implementation, improving system reliability and efficiency. This aligns with our commitment to providing Charlotte County with a robust, forward-thinking pipeline management strategy.

OPTIMIZING ASSET MANAGEMENT

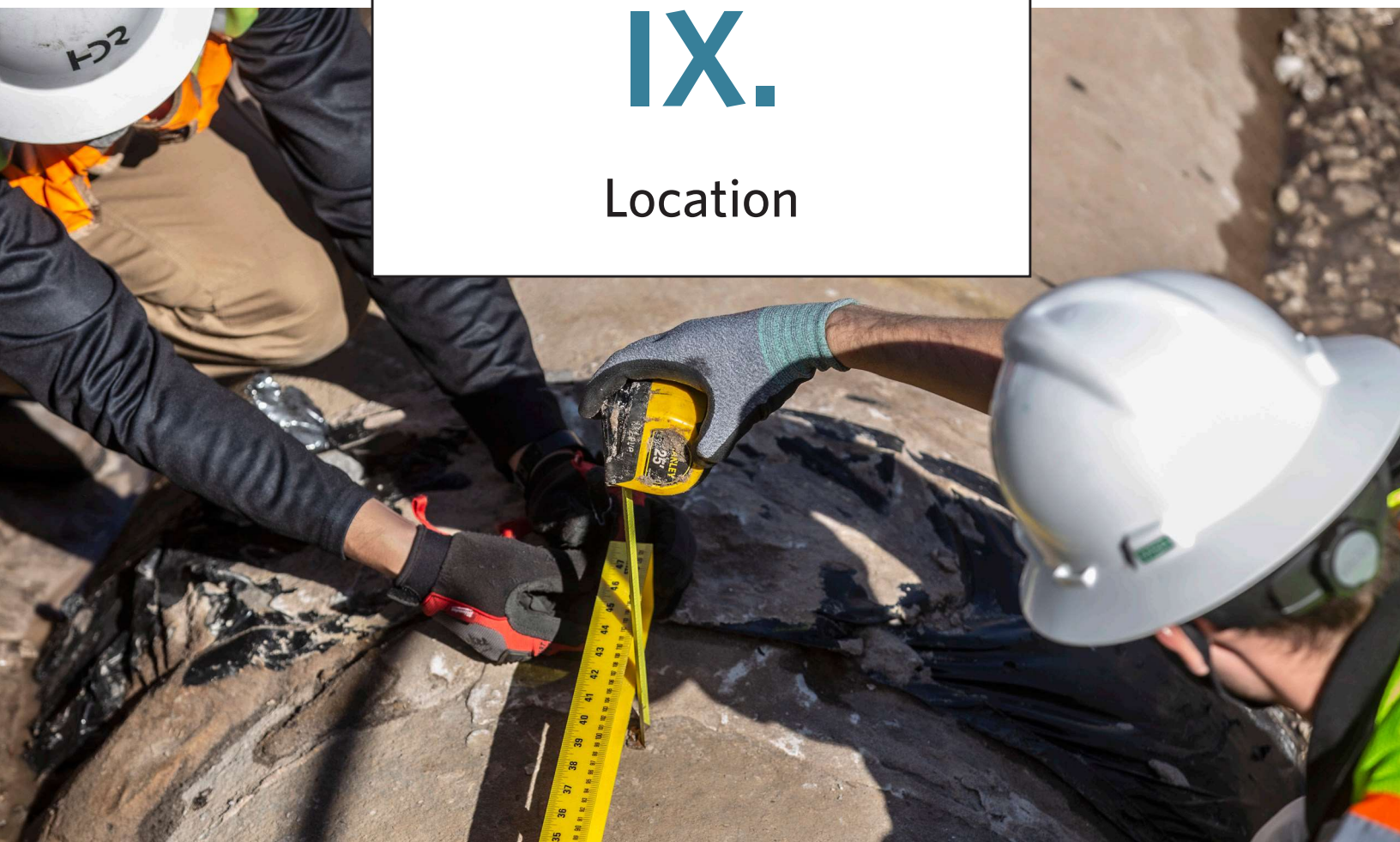


VIII.

Volume of Work

IX.

Location



VIII. Volume of Work- Total of Payments Received from County in Last 24 Months

HDR’s total payments received from Charlotte County Utilities within the last 24 months is **\$2,294,057.49**. This information is also reflected on the Proposal Submittal Signature Form.

IX. Location

HDR has been offering Florida clients comprehensive professional engineering services since 1974, and has been active in Charlotte County for 4 years. Our Florida staff provides engineering and planning services for clients throughout the state, as well as with locally-based professionals backed by nationally-recognized experts.

HDR’s locally-based team will be available to address potential contract issues quickly to help keep the tasks on schedule and on budget. We pride ourselves in providing the best possible customer service. **We are a local team with a track record of responding to changing priorities and adjusting quickly to project issues.** We anticipate completing most of the work through this contract from our Sarasota and Tampa offices and other Florida-based production centers. Although we will be utilizing services from other offices around Florida and the US, the main point of contact for this continuing contract will be through our Sarasota office located at:

401 North Cattleman Road
Suite 210
Sarasota, FL 34232-6441

STRATEGICALLY LOCATED TO SERVE CHARLOTTE COUNTY

HDR Florida

Practice Opened in

1974

670

Total FL Staff

100+

Southwest FL Staff

2

FL Offices,
1-2 hours away

●

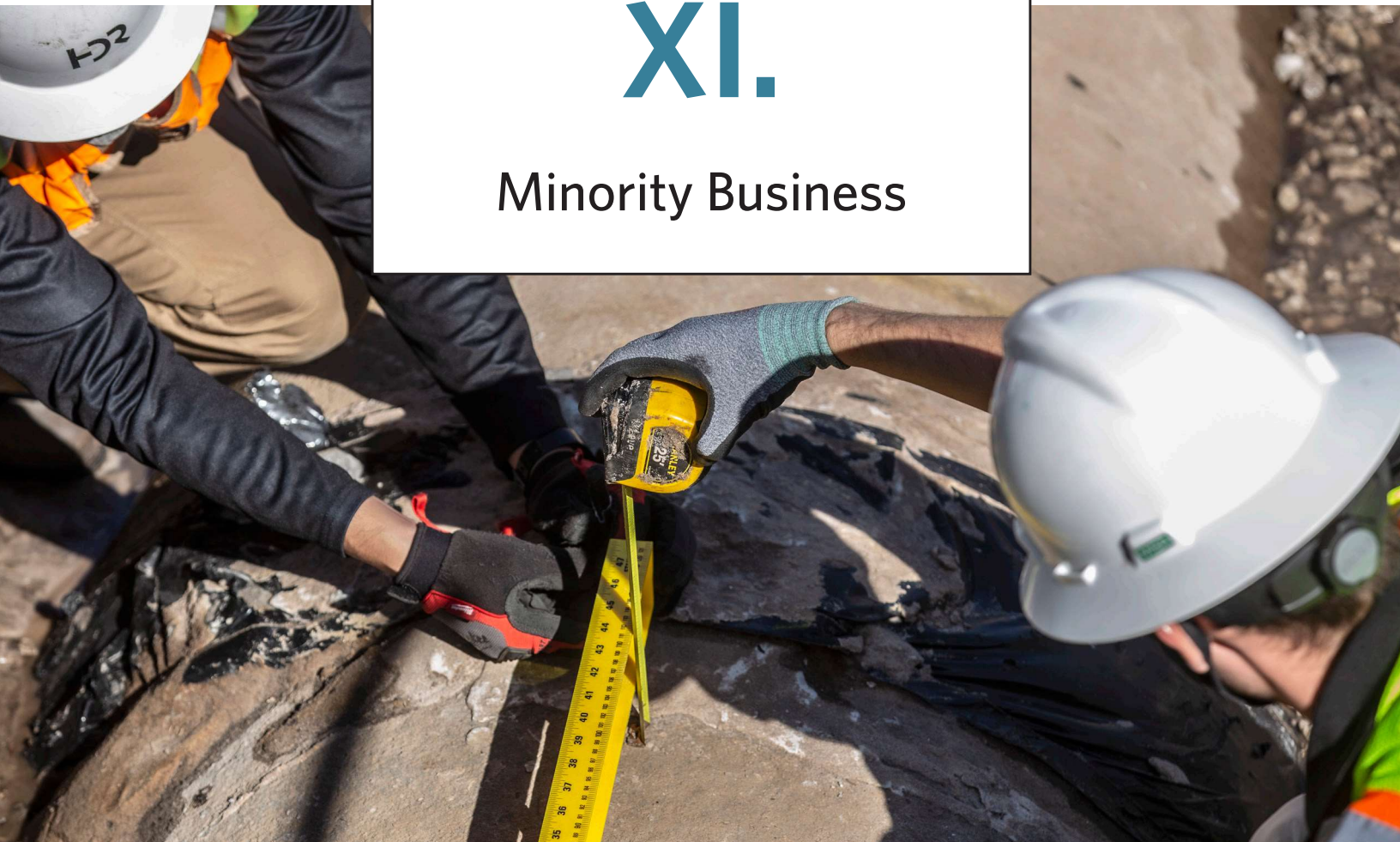
Main Project Office
for this contract

X.

Litigation

XI.

Minority Business



X. Litigation



Have you been named as a defendant or co-defendant in a lawsuit in the last five years?

In today’s legal environment, claims and litigation are a reality for any large company in the industry, regardless of performance or merit. When claims do occur, HDR is proactive and cooperative in reaching a resolution that is fair and reasonable to all. We value the confidences of our clients as well as our contractual commitments to confidentiality, and do not discuss with third parties the circumstances involving ongoing projects. We would take the same position with information regarding our work on this contract.

If necessary, we would be willing to meet in person with you to discuss the merits or background of past claims. There is no claim or litigation that could impede our ability to perform work on this contract, and we have maintained professional liability insurance in force continually since 1958 for the protection of us and our clients.

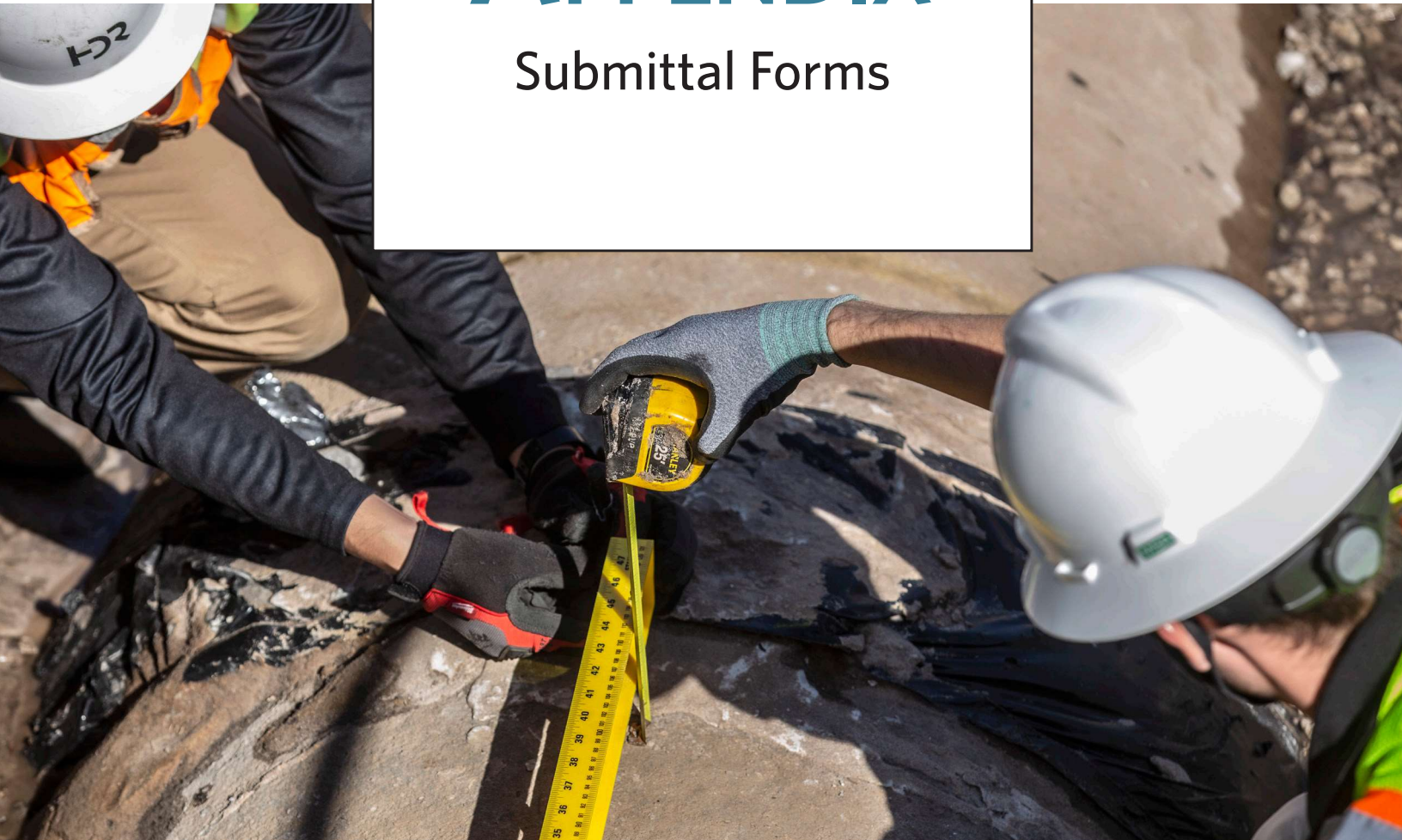
There is no claim or litigation that could impede our ability to perform work on this contract. Like we always have, we will be here for you.

XI. Minority Business

HDR is not a certified Minority Business Enterprise (MBE); however, when feasible, we often team with MBE subconsultant firms on projects.

APPENDIX

Submittal Forms



PART IV - SUBMITTAL FORMS
PROPOSAL SUBMITTAL SIGNATURE FORM

1.	Project Team Name and Title		Years experience	City of office individual will work out of for this project	City individual's office is normally located	City of individual's residence
	Josh Rodgers, PE - Principal-in-Charge		19	Tampa, FL	Tampa, FL	Tampa, FL
	David O'Connor, PE - Project Manager		28	Tampa, FL	Tampa, FL	Tampa, FL
	Carlee Fullenkamp, PE - Lead (Gap Analysis, Risk Assess., CIP)		5	Ann Arbor, MI	Ann Arbor, MI	Ann Arbor, MI
	Sonia Oton, PE - Lead (Inspection & CA)		32	Vienna, VA	Vienna, VA	Washington, DC
	Alex Palmatier, Lead (System Integration)		28	Winston-Salem, NC	Winston-Salem, NC	Winston-Salem, NC
	Chris Makransky, PE - Force Main Modeling		7	Tampa, FL	Tampa, FL	Tampa, FL
	Matt Wilson, GISP - Data Management		5	Winston-Salem, NC	Winston-Salem, NC	Winston-Salem, NC
	Caley Feemster - GIS		5	Tampa, FL	Tampa, FL	Tampa, FL
	Jamie Zimmermann, PE - CIP Coordination		12	Orlando, FL	Orlando, FL	Orlando, FL
2.	Magnitude of Company Operations					List of Project Team continued on next page
	A) Total professional services fees received within last 24 months:				\$ 64,601,826 *	
	B) Number of similar projects started within last 24 months:				10	
	C) Largest single project to date:				\$ 4,696,470 *	
3.	Magnitude of Charlotte County Projects					West Port WRF Expansion, Charlotte Co., FL
	A) Number of current or scheduled County Projects				4	
	B) Payments received from the County over the past 24 months (based upon executed contracts with the County).				\$ 2,294,057.49	
4.	Sub-Consultant(s) (if applicable)	Location	% of Work to be Provided	Services to be Provided		
	N/A					
5.	Disclosure of interest or involvement: List below all private sector clients with whom you have an active pending contract and who have an interest within the areas affected by this project. Also, include any properties or interests held by your firm, or officers of your firm, within the areas affected by this project.					
	Firm	N/A	Address			
	Phone #		Contact Name			
	Start Date		Ending Date			
	Project Name/Description					

* Due to size of company, these numbers only represent FL Engineering business group.

NAME OF FIRM HDR Engineering, Inc.
(This form must be completed and returned)

Project Team Members Table (Continued)

Name and Title	Years Experience	City of office individual will work out of for this project	City individual's office is normally located	City of individual's residence
Mersedeh Akhoondan, PhD, PE Soil Corrosivity Analysis, Corrosion Protection Design and Surveys	17	Tampa, FL	Tampa, FL	Tampa, FL
Moises Sierra - Operations & Maintenance	24	Doral, FL	Doral, FL	Doral, FL
Adam Sharpe - Asset Management	21	Raleigh, NC	Raleigh, NC	Raleigh, NC
Amanda Leopard - Risk Modeling	20	Saint Louis Park, MN	Saint Louis Park, MN	Saint Louis Park, MN
Erick Packer, PE - Data Visualization	9	Anchorage, AK	Anchorage, AK	Anchorage, AK
Rodger Insignares, EIT - Gravity Sewer CA	7	Doral, FL	Doral, FL	Doral, FL
Kelly Alexander, PE - Gravity Sewer CA	7	Winston-Salem, NC	Winston-Salem, NC	Winston-Salem, NC
Heath Hardy, PE - Sewer and Pipeline Rehab/Design	17	Pensacola, FL	Pensacola, FL	Pensacola, FL

6. Minority Business: The County will consider the firm's status as an MBE or a certified MBE, and also the status of any sub-contractors or sub-consultants proposed to be utilized by the firm, within the evaluation process.	Yes _____ No <u>X</u>
Comments or Additional Information:	
N/A	

The undersigned attests to his/her authority to submit this proposal and to bind the firm herein named to perform as per contract, if the firm is awarded the Contract by the County. The undersigned further certifies that he/she has read the Request for Proposal, Terms and Conditions, Insurance Requirements and any other documentation relating to this request and this proposal is submitted with full knowledge and understanding of the requirements and time constraints noted herein.

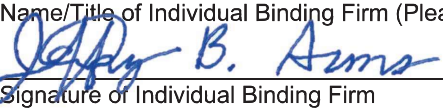
By signing this form, the proposer hereby declares that this proposal is made without collusion with any other person or entity submitting a proposal pursuant to this RFP.

In accordance with section 287.135, Florida Statutes, the undersigned certifies that the company is not on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and does not have business operations in Cuba or Syria (if applicable) or the Scrutinized Companies that Boycott Israel List, or is not participating in a boycott of Israel.

As Addenda are considered binding as if contained in the original specifications, it is critical that the Consultant acknowledge receipt of same. The submittal may be considered void if receipt of an addendum is not acknowledged.

Addendum No. 1 Dated 02/26/25 Addendum No. 3 Dated 03/28/25 Addendum No. 5 Dated 04/16/25
Addendum No. 2 Dated 03/19/25 Addendum No. 4 Dated 04/11/25 Addendum No. 6 Dated 04/29/25
Addendum No. 7 Dated 05/02/25

Type of Organization (please check one): INDIVIDUAL () PARTNERSHIP ()
 CORPORATION (X) JOINT VENTURE ()

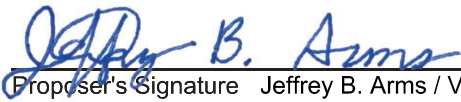
HDR Engineering, Inc.	<u>(941) 342-2700</u>
Firm Name	Telephone
<u>N/A</u>	<u>47-0680568</u>
Fictitious or d/b/a Name	Federal Employer Identification Number (FEIN)
<u>1917 S. 67th Street</u>	
Home Office Address	
<u>Omaha, NE 68106-2973</u>	<u>108</u>
City, State, Zip	Number of Years in Business
<u>401 North Cattleman Road, Suite 210, Sarasota, FL 34232-6441</u>	
Address: Office Servicing Charlotte County, other than above	
<u>N/A</u>	<u>N/A</u>
Name/Title of your Charlotte County Rep.	Telephone
<u>Jeffrey B. Arms, Vice President</u>	
Name/Title of Individual Binding Firm (Please Print)	
<u></u>	<u>May 8, 2025</u>
Signature of Individual Binding Firm	Date
<u>jeff.arms@hdrinc.com</u>	
Email Address	

DRUG FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that HDR Engineering, Inc.
does: (name of business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.


Proposer's Signature Jeffrey B. Arms / Vice President

May 8, 2025
Date

(This form must be completed & returned)

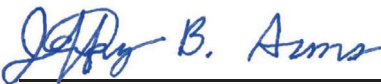
HUMAN TRAFFICKING AFFIDAVIT
for Nongovernmental Entities Pursuant To FS. §787.06
Charlotte County Contract #20250188

The undersigned on behalf of the entity listed below, (the “Nongovernmental Entity”), hereby attests under penalty of perjury as follows:

1. I am over the age of 18 and I have personal knowledge of the matters set forth except as otherwise set forth herein.
2. I am an officer or representative of the Nongovernmental Entity and authorized to provide this affidavit on the Company’s behalf.
3. Nongovernmental Entity does not use coercion for labor or services as defined in Section 787.06, Florida Statutes.
4. This declaration is made pursuant to Section 92.525, Florida Statutes. I understand that making a false statement in this declaration may subject me to criminal penalties.

Under penalties of perjury, I declare that I have read the foregoing Human Trafficking Affidavit and that the facts stated in it are true.

Further Affiant sayeth naught.



Signature

Jeffrey B. Arms

Printed Name

Vice President

Title

HDR Engineering, Inc.

Nongovernmental Entity

May 8, 2025

Date



401 North Cattleman Road
Suite 210
Sarasota, FL 34232
(941) 342-2700

hdrinc.com

We practice increased use of sustainable materials and reduction of material use.

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