



AGENDA REPORT
April 24, 2018

SUBJECT:

Approval of Task Order No. 2 with Kimley-Horn & Associates, Inc. for South Beaches I&I Smoke Testing – Phase 2. (District 4)

FISCAL IMPACT:

\$182,600

DEPT/OFFICE:

Utility Services

REQUESTED ACTION:

It is requested that the Board approve and authorize the Chairman to execute Task Order No. 2 with Kimley-Horn & Associates, Inc. for South Beaches Inflow & Infiltration Smoke Testing-Phase 2, authorize the chairman to sign remaining phase task orders for South Beaches smoke testing and approve any associated budgetary changes.

SUMMARY EXPLANATION and BACKGROUND:

The County has identified the need to reduce Inflow and Infiltration (I & I) in the South Beaches sewer service area. Projects are underway to reline gravity sewers to eliminate leaks of groundwater into the sewer treatment system. In addition to the I & I directly entering the county's sewer mains, the I & I entering the system through unmaintained infrastructure on the private property side of the sewer connection needs to be addressed. Identifying problems on the customer side of the connection will entail smoke testing each building or private residence to determine if leaks or illegal connections are present. While the entire area served by the South Beaches sewer plant in Melbourne Beach needs to be smoke tested, Phase 2 of the project involves partnering with the City of Indian Harbour Beach to perform smoke testing of all of the buildings and residences within the city and adjacent unincorporated area.

Kimley-Horn and Associates, Inc. (Kimley-Horn) was recently selected by the county for continuing consultant engineering services. Kimley-Horn has experience with the smoke testing of buildings and grounds for identification of leaks within sewer systems on private and public property and the county wishes to issue a task order in the amount of \$182,600 to Kimley-Horn Engineering to provide services to manage the project to include public information and coordination, smoke testing, evaluation and reporting. The entire Phase 2 project is expected to take four months to complete.

Funds are available in Fund 4150 – Utility Services Water/Wastewater

Contact: Jim Helmer, Utility Services Director, 321-633-2091, Jim.Helmer@brevardfl.gov

CLERK TO THE BOARD INSTRUCTIONS:

Please call Utility Services to pick-up two originals after execution. Rose Lyons 633-2091 (Retain 1 copy for Clerk's Records).

ATTACHMENTS:

Description

- [Task Order 2 Smoke Testing - IHB](#)

REVIEWERS:

Department
Utility Services
ACM Development
County Manager

Reviewer
Helmer, Jim
Denninghoff, John
Abbate, Frank



Tammy Rowe, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972
Tammy.Rowe@brevardclerk.us

April 25, 2018

MEMORANDUM

TO: Jim Helmer, Utility Services Director

RE: Item II.A.5., Task Order No. 2 with Kimley-Horn & Associates, Inc. for South Beaches I&I Smoke Testing, Phase 2

The Board of County Commissioners, in regular session on April 24, 2018, approved and authorized the Chair to execute Task Order No. 2 with Kimley-Horn & Associates, Inc., for South Beaches Inflow and Infiltration Smoke Testing, Phase 2; authorized the Chair to execute remaining phase task orders for the South Beaches smoke testing; and approved any associated budgetary changes. Enclosed are two fully-executed Task Orders No. 2.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Tammy Rowe

Tammy Rowe, Deputy Clerk

/kp

Encls. (2)

cc: Finance
Budget

Task Order No. 02

to the
Agreement for Engineering and Consulting Services Between

Brevard County Utilities
and
Kimley-Horn and Associates, Inc. (Kimley-Horn)

Project Name
South Beaches I/I Smoke Testing – Phase 2

In accordance with the terms and conditions of the agreement dated October 24, 2017, Kimley-Horn is pleased to present this scope and fee for the Infiltration and Inflow Smoke Testing services in the Indian Harbour Beach portion of the South Beaches service area.

A. BACKGROUND

Per discussions with Brevard County (County) staff, it was noted that the collection system within the South Beaches service area suffers greatly from either high rates of groundwater infiltration and/or rainfall inflow (I/I). Phase 2 of the smoke testing will cover all of the City of Indian Harbour Beach and portions of unincorporated Brevard County in the northern end of the service area. Based on the GIS information provided by the County, Indian Harbour Beach area constitutes approximately 32 miles of gravity sewer and 703 manholes. The unincorporated Brevard County area includes approximately another 10 miles of gravity sewers and another 300 manholes.

B. OBJECTIVES

The objective of this task order is to locate and document the sources of inflow from the Indian Harbour Beach portion of the South Beaches service area and determine the likely costs to reduce each source identified.

C. PROJECT APPROACH

Kimley-Horn will perform smoke testing with the following steps:

- Prepare a smoke-testing workplan and prepare spreadsheet and GIS geodatabases to support the work.
- Conduct smoke-testing of the sewers.
- Identify location and nature of leakage sources.
- Develop recommendations for rehabilitation to achieve various reductions in flows and improvements to the structural and hydraulic condition of the collection system.
- Prepare GIS geodatabases, maps, and figures reporting on the findings of the smoke testing and potential courses of actions to address excess inflow.
- Provide conceptual ranges of rehabilitation costs needed to achieve various levels of reduction of inflow or levels of service.

- Prepare an initial capital improvements budget and schedule.

Below is the specific scope of work proposed to accomplish these requirements.

D. SCOPE OF WORK

Task 1: Work Plan Development

Kimley-Horn will examine the basin identified to establish smoke-test locations, and will coordinate with the County operations group for manholes that require cleaning prior to actual work. A number of subtasks need to be accomplished during this work. These include:

- Perform visual surveys of the study areas to confirm trunk line and interceptor routing to confirm how the collection systems connect to them and open manholes as needed to determine the connectivity.
- Develop public notifications such as door hangers and public information letters for distribution to potentially impacted residents. This effort will be coordinated with County staff to determine the most effective mean of disseminating this information.
- Meet with County personnel to discuss any potential areas that require special provisions.
- Prepare work plans for smoke-testing including resource plans, schedules, QA/QC protocols, safety plans, notification plans (including emergency services), and deliverable outlines.

Task 2 – Smoke-Testing

The second component of the detailed investigation will be conducting daytime smoke-testing in the subject area. Smoke testing identifies sources of inflow such as stormwater cross connections and roof drains illegally connected to the sewer. It also identifies locations where there are major defects in the pipe integrity, such as missing lateral cleanout caps, pipe and lateral breaks, and separated joints.

Under this subtask, Kimley-Horn will prepare the following upon approval by the County:

- Post notices throughout the Smoke-Test Areas advertising that smoke-testing work on the sewers will be conducted.
- Smoke-test throughout the subject area. The smoke testing will be completed in each area sufficient to confirm that the smoke has reached each parcel. This is typically observed through visual confirmation of smoke emissions from the plumbing vent stacks on each building. The final number of smoke testing locations will be as described in the work plan established in Subtask 1.
- Photograph all areas where smoke appears to escape, other than at a building vent stack. Identify the smoke release point on the map and reference the appropriate picture number with address. If building or smoke release point (catch basin, ground, etc.) cannot be identified on the map, create a schematic of the area showing smoke release points, document with photos and nearby landmarks.

- Conduct manhole inspections and photo-documentation of the manholes being smoke tested.
- Summarize the data gathered by the smoke-testing crew on a GIS map and excel spreadsheet indicating the locations and types of inflow sources identified and prepare a photolog identifying the exact location each emission.
- Coordinate with County staff to perform minor repairs to identified inflow emissions such as clean out caps. During the testing, we can work with staff to have cleanout caps installed where identified to provide some immediate remediation.
- Meet with the Brevard personnel to discuss the findings identified in the report and further planning recommendations to address I/I impacts to the Satellite Beach gravity collection system.

Task 3 – Sanitary Sewer System Assessment: Presentation of Findings and Recommendations

Kimley-Horn will synthesize the findings of smoke-testing and prepare a final report documenting the results. This assessment will evaluate the field data to determine the nature, extent, and location of inflow in the subject area. Data will be presented as tables, photologs, and maps/figures identifying conditions and problems. Interpretation of these data will be presented in written and graphic form. The data will also be presented in a manner that the Utility can use to inform homeowners of defects in the homeowner portions of the system and track completed repairs.

Kimley-Horn will identify potential methods for reducing the inflow, including follow-up investigations needed to locate specific sources and points of entry, reasonable expectations for inflow reductions for each method, and estimates of costs and timelines required to achieve these reductions. These will generally be divided into cost-benefit groupings (i.e., bang for the buck) for the various sources/types of I/I or for specific locations of inflow.

E. SCHEDULE

This work will progress to quickly complete the smoke testing prior to the onset of rainy season. The development of the workplans will follow the same template as prepared for Phase 1 in order to quickly move into the smoke testing phase. The project will begin with meeting with City of Indian Harbour Beach officials to discuss scheduling and the distribution of informational mailings to the residents in the Phase 2 smoke testing area. The smoke testing for this area will be completed as quickly as possible and will proceed until approximately mid-June. The summary reporting will be completed in the following 6 weeks for a task completion at the end of July 2018.

- Task 1: April 26th through May 15th
- Task 2: April 30th through June 15th
- Task 3: June through July 31st

F. BASIS OF COMPENSATION

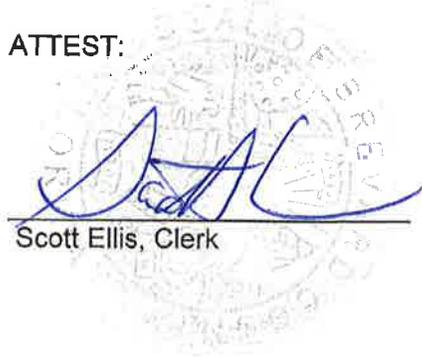
The fee for the scope of work described in Section D, above, shall not exceed a total of \$ 182,600 and shall not exceed the amounts shown in the table below for each specific task. The County shall periodically compensate the Consultant a portion of the task fee based on mutually agreed upon percentages of completion of each task.

Task Number	Task Description	Cost
1	Preliminary Field Work, Investigations, and Work Plan Development	\$25,400
2	Smoke Testing	\$124,500
3	Baseline Sanitary Sewer Assessment and Presentation of Findings and Recommendations	\$32,700
	Total	\$182,600

G. ACCEPTANCE

IN WITNESS WHEREOF, this 24 day of April, 2018.

ATTEST:





Scott Ellis, Clerk

For: BOARD OF COUNTY COMMISSIONERS
OF BREVARD COUNTY, FLORIDA

By: 

Rita Pritchett, Chair
As approved by the Board on II.A.5

WITNESS:



For: Kimley-Horn and Associates

By: 

Jay Jackson, Sr. Vice President