City of Haines City

Scope of Services
for
Water Use Permit 20008522-13 Modification Support

November 2024

Owner: City of Haines City (City)

Consultant: CHA, Inc. (CHA)

CHA, Inc., (CHA) is pleased to provide the City with this proposal to provide hydrogeological modeling, compliance support and final permitting for the City's Water Use Permit (WUP) No. 20008522 issued by the Southwest Florida Water Management District (SWFWMD).

BACKGROUND

The City of Haines City (City) operates its water supply system under Water Use Permit (WUP) No. 20008522, issued by the Southwest Florida Water Management District (SWFWMD) on October 25, 2011. The City must comply with conditions of the WUP in order to operate its water supply through 2031.

Recently adopted Central Florida Water Initiative (CFWI) Rules limit the City's ability to access "new" quantities of Upper Floridan Aquifer (UFA) groundwater to meet public water supply demands, unless the City can demonstrate that the increased quantity of UFA groundwater can be withdrawn without impacts through mitigative "impact offset" measures such as Land Use Transition Credits or groundwater recharge.

CHA Consulting, Inc. (CHA), with support from subconsultant Progressive Water Resources, a Division of RESPEC Company LLC (PWR) and AquaSciTech Consulting (AST), will assist the City to develop and submit a completed WUP modification application response that documents the steps the City will take to achieve and maintain permit compliance.

The CHA Team will assist the City modifying the existing WUP to increase groundwater allocation and in evaluating the status of other permit conditions and determine the City's method of compliance with those conditions identified in this scope of services. In addition, an implementation plan will be provided with recommendations and steps to address matters to ensure continued compliance with the City's WUP.

Under a previous potable water permitting project the City submitted a draft permit application with the intention of determining SWFWMD's stance on current and emerging water supply concerns regarding the City's unprecedent population growth. On August 14, 2024, the City received a Request for Additional Information from SWFWMD from the submitted draft application. The items included is this SWFWMD request materially differed from previously adopted potable water supply and demand models and require a new analysis of projected water supply and treatment scenarios and also groundwater withdrawal and mitigation impacts. Some specific items that must be addressed to continue the permitting process include: additional calculations for offsets from City Rapid Infiltration Basins (RIBs); creation of an

updated Water Conservation Plan; creation of an updated Monitoring Plan; siting of new groundwater supply wells and treatment infrastructure; as well as other requirements. The City requires responses to these SWFWMD-identified issues to support WUP Permit Modification issuance.

With the receipt of the SWFWMD Request for Additional Information, a full understanding of required task with regards to technical support and SWFWMD coordination are now understood and allow for completing the new and outstanding permitting and compliance assistance tasks.

SCOPE OF SERVICES

This Project includes project management, permitting, compliance support, conceptual design, and other necessary support services.

Specific additional and amended services to be provided are detailed below:

TASK 1 PROJECT ADMINISTRATION & PROJECT MEETINGS

Task 1.1 Project Administration

CHA will perform general project administration and coordination activities with the team members, including City staff, subconsultants, and other project stakeholders. Other duties performed under this task include budget management, invoicing, and project scheduling. Invoices will include the percent complete for each task, the overall progress of the tasks, and identification of completed, on-going, and pending activities.

Task 1.2 Project Meetings

The following meetings are anticipated during this design phase. Meetings specific to the permitting processes are covered in Task 4.

In-progress review meetings: CHA will participate in up to two in-progress review meetings with City staff to discuss the progressing conceptual design of water supply facilities. It is anticipated that elements such potential new water treatment plant (WTP) location(s); potential new well locations, conceptual level water main routing options, etc., will be reviewed and discussed at these meetings.

Final conceptual design review meeting: CHA will prepare for and attend a final conceptual level WTP location review meeting with City staff. It is anticipated that City comments will be provided to CHA a minimum of one week in advance of the meeting such that preliminary responses can be developed for discussion at the meeting.

CHA will provide a meeting summary for each of the four (4) meetings and distribute to all meeting attendees within five (5) business days.

TASK 2 COORDINATION WITH SOUTHWEST DISTRICT WATER MANAGEMENT DISTRICT

Task 2.1 Water Use Permit Request for Additional Information

The CHA team will prepare for and attend one (1) meeting with SWFWMD to discuss the RAI for the WUP application (with requested capacity of 7.3630 million gallons per day (MCD) annual

average daily flow (AADF)) and submission of a new Phase 3 WUP application (with a request capacity of 14.5859 MGD AADF). The CHA team will prepare a presentation, suitable for presentation to City staff and regulatory stakeholders, to review proposed impact analysis methods for the new WUP application.

Task 2.2 Response to an Additional Request for Additional Information

Given the significant deviation from previously understood future demand scenarios and new factors to be addressed by the SWFWMD RAI, a second RAI is anticipated. CHA will prepare the response to one additional (1) RAI issued by SWFWMD. This response will include necessary documents, supporting report(s), figures, tables and exhibits to support the application.

Task 2.3 Response to Request for Clarification (CLAR)

CHA will prepare the response to one (1) CLAR issued by SWFWMD. This response will include necessary documents, supporting report(s), figures, tables and exhibits to support the application.

Task 2.4 Revision of Environmental Monitoring Plan (EMP)

The CHA Team will review the current Haines City EMP and will recommend revisions based on the results of the groundwater impact analysis. CHA will prepare a draft document with proposed EMP revisions for review by City staff. CHA will respond to review comments from City staff, and will finalize the EMP revision recommendations document for submission to SWFWMD as part of the WUP application package.

TASK 3 Water Supply Analysis

Task 3.1 – Influence Coefficient Development

The CHA team will develop a matrix of groundwater response influence coefficients based on the new WUP model. The coefficients will be developed for the City's existing and currently-proposed wells (DIDs 1 through 11) and the City's existing and currently-proposed rapid infiltration basin (RIB) systems.

CHA will develop a matrix of influence coefficients on a grid system across the Haines City Urban Service Area, and will use the influence system matrix to develop contour maps of influence coefficients which will be provided as GIS shapefiles to identify viable zones for new wells and assist the City selection of additional new well locations to be used in the WUP application and groundwater impact analysis.

CHA will use the influence coefficient matrix and contours to develop a spreadsheet tool for rapid assessment of the permittability of alternative groundwater withdrawal and recharge scenarios to aid in selection of the groundwater withdrawal and recharge scenarios to be simulated in the groundwater impact analysis for submission to SWFWMD (see Task 4). CHA will also adapt the influence coefficient spreadsheet tool for submission to SWFMD as a proposed method for demonstrating compliance with impact permit mitigation requirements.

Task 3.2 –Develop Method for Estimating Recharge Changes Due to Urban Development

CHA will develop a numerical method to assess the changes in area-wide average annual recharge that will result from future urban development in the Haines City Urban Service Area. CHA will use the previously-developed projected urban development data and the urban recharge

alteration algorithm to assess the total urban recharge alteration that is expected within the timeframe of the new WUP.

If the potential urbanization recharge benefit appears to be large enough to make it worthwhile for inclusion as a drawdown impact mitigation CHA will include urban recharge alterations and resulting impact offsets in the spreadsheet tool(s) for screening of alternative withdrawal and impact mitigation scenarios.

Task 3.3 – Assess Reclaimed Water Availability & Mitigation Impact Recharge Requirements

In the WUP impact mitigation calculations, the CHA team will calculate the groundwater drawdown impacts from the proposed increased groundwater withdrawals and the resulting drawdown mitigation requirements at MFL and Guidance Lakes and on the average potentiometric elevation of the UFA.

CHA will use data on future reclaimed water supply projections from the City's Integrated Water Supply Plan to assess the quantity of reclaimed water available for impact mitigation. CHA will assess whether the combined mitigation effects of Land Use Transition (LUT) wells, new urbanization recharge alterations and reclaimed water recharge at RIB sites will be sufficient to satisfy the groundwater impact mitigation requirements for permit issuance.

TASK 4 PROPOSED NEW WATER TREATMENT PLANT AND WATER SUPPLY WELL LOCATION MEMORANDUM

Task 4.1 – Selection of Future Water Treatment Plant Locations and Hydraulic Modeling Analysis

To support the WUP modification request for addition water withdrawals, CHA will perform hydraulic modeling analysis and Geographic Information System (GIS) based analyses for candidate location for a new Water Treatment Plant (WTP). The analyses will consider such factors as:

- City-owned / right-of-way (ROW) parcels
- Areas without regulatory or zoning restrictions affecting WTP operations
- Areas with access to the existing City potable water distribution system infrastructure
- Areas which, according to the existing potable water model, have current potable water supply pressure issues
- Areas which, according to the existing potable water model and water demand scenarios, have projected potable water supply, pressure, or water age issues
- Proximity to existing Polk Regional Water Cooperative (PWRC) infrastructure

The new WTP will be added to the hydraulic model to determine the high-service pumping (flow and pressure) and storage requirements to supply the potable water distribution system for future scenarios (2030, 2040, and 2050 according to the Resilient Potable Water Master Plan).

The memorandum will provide up to three (3) candidate WTP locations. The CHA Team will meet with City staff to determine the best candidate location for WTP – this location will be used in Tasks 4.2 and 4.3 below.

Task 4.2 – Select Future Water Supply Well Locations

To support the WUP modification request for addition water withdrawals, CHA will perform a Geographic Information System (GIS) based analysis of candidate location for new water supply wells. The GIS analysis will prioritize such location and system factors as:

- City-owned / right-of-way (ROW) parcels
- Areas without regulatory or zoning restrictions affecting production well operations
- Areas with access to the proposed and selected City WTP from Task 4.1 above
- Areas which, according to the groundwater model, will have minimal effects on local waterbodies with any flow level requirements

The memorandum will provide up to seven (7) candidate well locations. The CHA Team will meet with City staff to determine the best candidate locations for wells.

Task 4.3 – Conceptual Level Raw Water Mains

After the candidate WTP and production well locations have been selected, CHA will develop a conceptual-level plan for raw water mains to connect the proposed production wells to the proposed WTP. These conceptual-level plans will be provided to the City as CADD shapefiles.

Task 4.4 – Conceptual Level Potable Water Mains

After the candidate WTP and production well locations have been selected, CHA will develop a conceptual-level plan for potable water mains to connect the proposed WTP to the existing potable water distribution system. These conceptual-level plans will be provided to the City as CADD shapefiles.

Task 5 SUBCONSULTANT TASKS

Task 5.1 – AquaSciTech Hydrogeological Consulting Services

Using the work products from Subtask 3.1, ASTC will provide input and advice to CHA to assist CHA's GIS/CAD and hydraulic modeling analysis for selection of candidate new water supply well locations. ASTC will assist CHA to present the well location options to CITY staff for their final selection of new well locations to be included in the WUP application (see Task 1.1 for associated meeting with CITY staff).

Using the rapid screening tools developed in Task 3, and the new well locations selected in Subtask 5.1, ASTC will perform a screening analysis of withdrawal impacts and impact mitigation requirements for up to ten (10) alternative facility permutations (alternative well locations, alternative withdrawal distribution allocations between wells, and effects of future UFA vs. Lower Floridan aquifer (LFA) withdrawals).

Based on the two permit facility combinations selected in Subtask 5.2, ASTC will perform three groundwater model simulations. A draft Technical Memorandum will be submitted to CHA and CITY staff for review and comment. ASTC will review and respond to client comments on the draft groundwater impact technical memorandum, and will issue the technical memorandum in final form signed and sealed by a Professional Engineer.

Task 5.2 – RESPEC Water and Environmental Consulting Services

RESPEC's assistance with the City's WUP Modification Application will consist of: 1) the development and submittal of a new WUP Modification Application; 2) assistance with the District's Development Questionnaire documentation in support of the updated demand projections 3) assistance with responses to Request for Additional Information (RAI) and Clarification of Received Information (CLAR) letters and 4) as-needed meetings and coordination.

RESPEC will assist CHA to develop and submit a Water Use Permit (WUP) modification application for the City that requests a Renewal with Modification and a 20-year permit term. RESPEC will assist the City and Client to obtain the necessary information and data required by the SWFWMD's Development Questionnaire for up to fifty (50) developments. RESPEC will use the Geographic Information System (GIS) Software to identify the Future Land Use Designation, Status of Development Planning and the status of Environmental Resource Permitting (ERP) for each development. RESPEC will coordination with the Client and City staff to identify any available information including copies of planning documents, development plan approvals and zoning changes that are available in the City's files. RESPEC will work with the City and Client to organize and compile the available information for each development to satisfy the requirements of the District's Development Questionnaire into a Summary Report.

RESPEC will assist the City and Client to develop and submit to the SWFWMD response packages for up to one (1) Request for Additional Information (RAI) Letter and up to one (1) Clarification of Received Information (CLAR) letter from the District. RESPEC will work with the Client and other subconsultants as needed to prepare the responses.

SERVICES NOT INCLUDED

The following services are currently not included in this scope of services and can be provided with an amendment to this scope of work, if necessary:

- Preliminary or final design of new WTP, wells, or raw, potable water main routing.
- Gathering or use of survey data for the above tasks

CITY PROVIDED SERVICES

In addition to the City's responsibilities pursuant to this scope of services, the City shall:

- Prepare for and attend all Project meetings
- Provide timely reviews of all submittals within two (2) weeks of receipt

SCHEDULE

The schedule for this Project is presented below.

Task	Begin Date	Duration	End Date*
Task 1 – Project Management and Meetings	NTP	180 days	Apr 2025
Task 2 – SWFWMD Coordination	NTP	150 days	Mar 2025
Task 3 – Water Supply Analysis	NTP	90 days	Jan 2025
Task 4 – Supply Location Analysis	NTP	90 days	Feb 2025

Task 5 – Support Services	NTP	180 days	Apr 2025

*Estimated End Date is based on a target Notice to Proceed (NTP) execution date of mid-October 2024; schedule will be adjusted based on actual NTP date.

COMPENSATION

Compensation will be a lump sum amount of **$306,714.00**. Compensation for the services provided herein shall be due and payable monthly on a percent complete basis. The following table shows the cost breakdown for each Task described herein.

Task	**Lump Sum Fee**
Task 1 – Project Management and Meetings	$ 36,040
Task 2 – SWFWMD Coordination	$ 61,344
Task 3 – Water Supply Analysis	$ 32,126
Task 4 – Supply Location Analysis	$ 49,320
Task 5 – Support Services	$ 127,884
Total	$ 306,714

APPROVAL

OWNER
CITY OF HAINES CITY

_____
Name:
Title:

DATE: _____

CONSULTANT
CHA CONSULTING, INC.

_____
Name:
Title:

DATE: 11/5/2024