

City of High Point

*Municipal Office Building
211 South Hamilton Street
High Point, NC 27261*



Meeting Agenda

Thursday, August 4, 2011

9:00:00 AM

Council Chambers, City Hall

City Council

*Rebecca R. Smothers, Mayor
Latimer B. Alexander, IV, Mayor Pro Tem
James Corey, Foster Douglas, A.B. Henley, III,
Britt W. Moore, Michael D. Pugh,
Bernita Sims, M. Christopher Whitley*

ROLL CALL, PRAYER, AND PLEDGE OF ALLEGIANCE**APPROVAL OF THE JOURNAL OF THE PREVIOUS MEETING**

Planning, Econ. Dev and IT Committee meeting held Thursday, June 9th @ 9:30 a.m.

Finance Committee Meeting held Monday, June 20th @ 3:30 pm.

Combined Council Meeting held Monday, June 20th @ 4:45/5:30 p.m.

Finance Committee Meeting held Monday, July 18th @ 4:00 p.m.

Combined Meeting held Monday, July 18th @ 4:45/5:30 p.m.

Planning, Econ. Dev & IT Committee Meeting held Tuesday, July 19th @ 9:00 a.m.

Regular Meeting held Thursday, July 21st @ 9:00 a.m.

Briefing Session held Thursday, July 21st @ 9:30 a.m.

CONSENT AGENDA**FINANCE COMMITTEE****110158****Contract - Bid No. 23 - Engineering Services - Eastside Wastewater Solids Handling Improvements**

Consideration of approval of Bid No. 23 for contract for engineering services related to the upgrade of the Eastside WWTP Solids Handling Facilities. Purchasing and Public Services recommend that contract be awarded to Hazen and Sawyer in the amount of \$946,310.00 which is the best qualified candidate.

8/1/2011	Committee of the Whole	recommended for approval, consent agenda
8/4/2011	City Council	approved

110159**Purchase of Equipment - 2011 John Deere Wheel Loader**

Consideration of approval of the purchase of a new 2011 John Deere 624K Wheel Loader from James River Equipment Company in the amount of \$120,987.82.

8/1/2011	Committee of the Whole	recommended for approval, consent agenda
8/4/2011	City Council	approved

110154**Contract - Electric Distribution Crews**

Council is requested to reject bids received for Bid No. 39 for Electric Distribution Crews; and approve the enclosed contract amendment prepared by the City Attorney extending the current contract with Pike Electric Contractors until June 2013.

8/1/2011	Committee of the Whole	approved
8/4/2011	City Council	approved

110161**Donation of Property - Centex Homes - Deep River Greenway and Lake Buffer**

Council is requested to authorize the City Attorney's office to execute the necessary documentation to accept a donation of 3.135 acres of land located at the southwest quadrant of the intersection of Deep River Road and Hickwood Road from Centex Homes for the Deep River Greenway connection and lake buffer.

8/1/2011	Committee of the Whole	recommended for approval, consent agenda
8/4/2011	City Council	approved

REGULAR MEETING ITEMS**FINANCE COMMITTEE - Council Member Alexander, Chair****110160****Contract - Sole Source Authorization - Equipment for Fleet Services Department**

City Council is requested to approve an exception to the bid laws under the "sole source qualification" for the purchase of a TEREX Trashmaster for landfill operations; and approve the acquisition of the equipment and related services from Road Machinery, Inc. in the amount of \$727,000.00.

At the Monday Committee of the Whole meeting this item was recommended for favorable approval however due to one dissenting vote (Council Member Douglas), it is placed on today's agenda for final vote.

8/1/2011	Committee of the Whole	recommended for approval, consent agenda
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ADJOURNMENT

Right of Way

Henry T. Moon, III
RIGHT OF WAY AGENT



MEMO

July 20 2011

To: JoAnne Carlyle, Assistant City Attorney

From: Henry T. Moon *Henry T. Moon*

Subject: Deep River Greenway and Lake Buffer

Please request Council approval at their August 1st meeting to accept a donation of 3.135 acres of land at the southwest quadrant of the intersection of Deep River Rd. and Hickswood Rd. from Centex Homes. Our future Greenway connection from the parking lot on Deep River Rd. over to Penny Rd. goes through the middle of this tract and the tract adjoins our lake buffer on the east and City land on the south. The area not used for the Greenway will serve as future banked land for mitigation purposes.

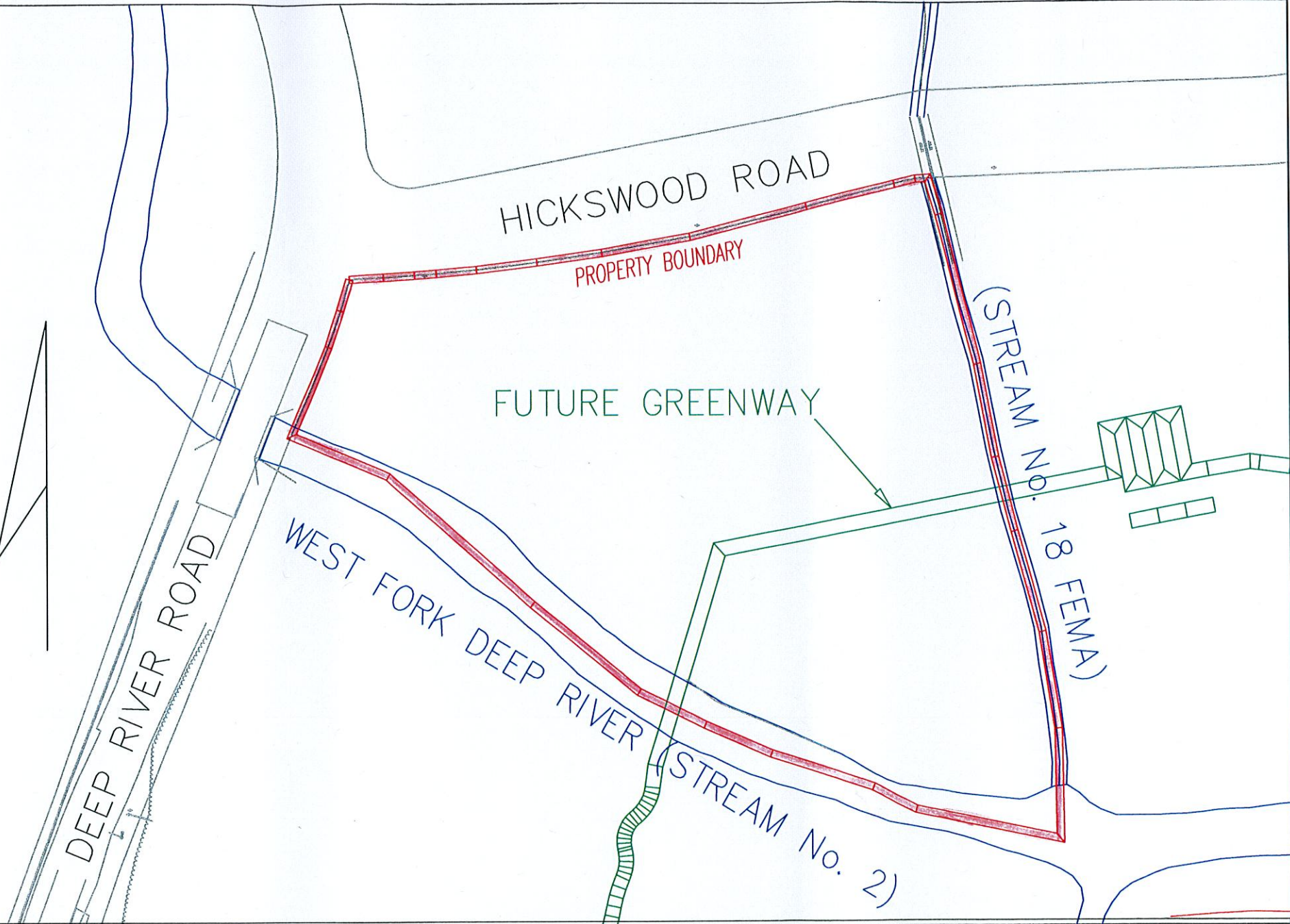
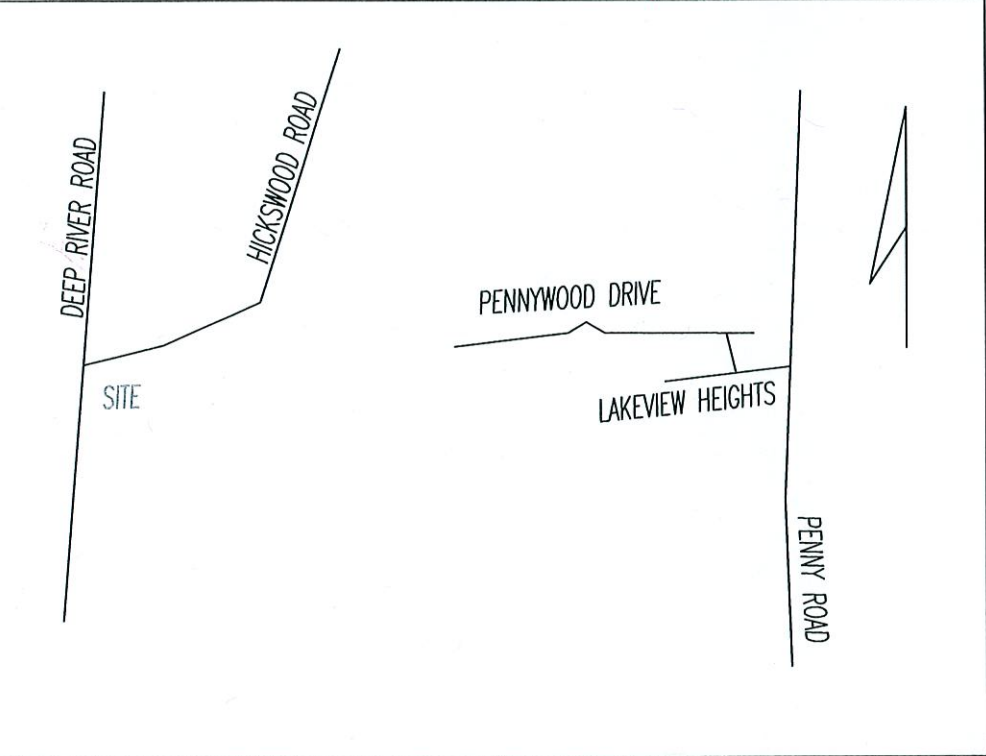
Cindy has the map for Council and Allen Oliver will be present to answer any questions.

Cc: Mark McDonald
Allen Oliver
Cindy Smith ✓
Pat Pate

THIS MAP IS NOT A CERTIFIED SURVEY AND
HAS NOT BEEN APPROVED BY A LOCAL
GOVERNMENT AGENCY FOR COMPLIANCE WITH
ANY APPLICABLE LAND DEVELOPMENT
REGULATIONS.

THE INFORMATION ON THIS MAP IS TAKEN
FROM A CITY OF HIGH POINT GIS
DEVELOPED IN 2005.

VICINITY : NOT TO SCALE



CITY OF HIGH POINT
NORTH CAROLINA

ENGINEERING SERVICES
DEPARTMENT

DONATION OF LAND FOR GREENWAY
AND FUTURE MITIGATION PURPOSES

PROPERTY OF CENTEX HOMES
#1906 HICKSWOOD ROAD
APPROXIMATELY 3.135 ACRES

SCALE: 1"=90'

BY: MBN

PROJECT: 2075 DATE: JULY 2011



MEMORANDUM

TO: Mayor, City Council, City Manager

FROM: *REN* Randy E. McCaslin, Assistant City Manager

DATE: July 26, 2011

SUBJECT: Bids for Electric Distribution Crews

As you are aware, we were requested to rebid our existing contract with Pike Electric for supplemental crews and services for our electrical distribution system, even though our current contract would allow the City to extend it for two more years. On May 11th, bids were opened to furnish contract crews to be used for new construction, rehabilitation, and reconstruction work upon the city's electrical distribution system. Six complete bids were received and were responsive to the bid specifications. The results are shown on the attached bid tabulation. The low bidder was Pike Electric in the amount of \$1,157,583.52.

However, mainly due to increased fuel prices, this new low bid represents an approximate \$127,500 annual increase in cost as compared to our current contract. Upon confirming that these new bids represented an approximate 10% plus increase in our cost, we approached Pike Electric in regards to honoring the remaining time covered under the existing agreement. After some discussion, Pike Electric agreed to honor the current contract.

Therefore, we recommend that the City Council reject the enclosed bids; and approve the enclosed contract amendment prepared by the City Attorney. This amendment will lock in the current contract prices until June 2013, at which time bids for a new contract will be required.

If you have any questions, please do not hesitate to contact me.

BID INFORMATION AND RECOMMENDATION**BID #** 39-051111**DATE OPENED:** 05/11/11**DESCRIPTION:** Electric Distribution Crews**BID PACKAGES DISTRIBUTED:** 16**DEPARTMENT:** Electric**SOURCE OF FUNDS:** 631795-527101**BUDGETED AMOUNT:** \$1,575,000.**RECOMMENDED AWARD**

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1 lot	Electric Distribution Crews	\$1,157,583.52	\$1,157,583.52

PURPOSE: For furnishing of one or more contract crews for new construction, rehabilitation and reconductoring work performed on the City's electric distribution system.

COMMENT: Nine Contractors responded and three were not responsive.

BID TABULATION

Pike Electrical Contractor 100 Pike Way Mount Airy, NC 27030	\$1,157,583.52
Williams Electric P O Box 2367 Shelby, NC 28151	\$1,172,246.40
Sumter Utilities, Inc. P O Box 579 Sumter, SC 29151	\$1,242,920.40
Contracting Enterprise, Inc. 2003 Russell Ave., SW Roanoke, VA 24015	\$1,367,551.76
E & R LLC 2173 Energy Drive Kinston, NC 28502	\$1,653,339.20
C. W. Wright Construction 11500 Ironbridge Rd. Chester, VA 23831	\$1,819,230.08

The **ELECTRIC DEPARTMENT AND THE PURCHASING DIVISION** recommend that the contract for **ELECTRIC DISTRIBUTION CREWS** be awarded to **PIKE ELECTRIC**, the lowest responsible and responsive bidder meeting specifications, for the amount of **\$1,157,583.52**.

DATE OF RECOMMENDATION: July 13, 2011


Strib Boynton, CITY MANAGER

CONTRACT EXTENSION AND ADDENDUM

Pike Electric Company and the City of High Point agree as follows:

1. The contract between them dated January 1, 2007 provides for annual automatic renewals and the last such renewal expires at the end of calendar year 2012.
2. The parties hereby extend the final expiration of the contract until June 30, 2013, with all terms and provisions of the original contract to remain in effect until that date.

This _____ day of _____, 2011.

ATTEST:

PIKE ELECTRIC COMPANY

Witness

By: _____

Witness

(Title)

CITY OF HIGH POINT

City Clerk

By: _____

Corporate Certification

I, _____, certify that I am the _____ of the corporation named as the Contractor herein, and that _____ who signed this Agreement on behalf of the Contractor, was then _____ of said corporation; and further that said Agreement was duly signed for an in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

RANDY McCASLIN

Subject: FW: Race and Ethnicity

From: Randall Fields [mailto:RFields@pike.com]
Sent: Wednesday, July 13, 2011 11:51 AM
To: Garey Edwards
Cc: Donald Anderson
Subject: FW: Race and Ethnicity

Garey – below are the EOC Numbers you requested. Thanks, Randy

From: Paige Horton
Sent: Wednesday, July 13, 2011 11:39 AM
To: Randall Fields; Jill Welch
Subject: RE: Race and Ethnicity

Randy,
Per your request, please find our present counts for the company:

3578	White
127	Black or African Americans
240	Hispanic or Latino
24	American Indian/Alaskan
12	Asian
4	Native Hawaiian or Other Pacific Islander
34	Two or more races
500	Not specified

Thanks,
Paige

The information contained in this electronic message is information intended for the use of only the individual or entity named above and may be PRIVILEGED and CONFIDENTIAL. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering it to the recipient, you are hereby notified that any review, disclosure, dissemination, distribution, or copying of this communication is strictly prohibited. If you received this electronic message in error, please notify the sender immediately by replying to this e-mail and permanently delete the original message. Thank you.



MEMORANDUM

July 26, 2011

MEMO TO: Pat Pate, Assistant City Manager
FROM: Jeffrey A. Moore, Financial Services Director
SUBJECT: Recommendation for Sole Source Authorization

Please place the following item for City Council's consideration at their August 1, 2011, Council meeting:

The ability to have versatile and reliable compaction is a key to full utilization of landfill space. Over the past several years, competitive bids have produced an opportunity to standardize on the TEREX Trashmaster series heavy equipment as superior product in active life as well as operational compaction in the landfill. A memo from Gary Smith in the Fleet Services Department is attached for additional justification of the request.

In order to complete the purchase, the following actions are requested from City Council to authorize the exception to the bid laws and approve the purchase of the TEREX Trashmaster from Road Machinery Services Inc.

1. City Council is requested to approve an exception to the bid laws under the "sole source qualification" for the purchase of equipment by the Fleet Services Department.

State statute (G.S. 143.129(f)) requires City Council to specifically authorize "qualified sole source" exceptions to the bid laws prior to awarding the contract. Based on the letter of justification, the Fleet Services Department appears to have met the standard for "standardization considerations" as a qualified exemption. Representatives of the Fleet Services and Public Services Department will be present to answer any questions which may arise.

2. City Council is requested to approve the acquisition of the equipment and related services from Road Machinery Services Inc. The required funds of \$727,000.00 for the purchase are budgeted in the Fleet Services Replacement account.

Accounting
336.883.3240

Internal Audit
336.883.3122

Purchasing
336.883.3219

Treasury Services
336.883.3230

Fleet Services Department

Gary L. Smith
DIRECTOR



DATE: July 20, 2011
TO: Randy McCaslin, Assistant City Manager
FROM: Gary L. Smith, Director of Fleet Services
SUBJECT: Agenda Item – Sole Source Compactor

Gary L. Smith

I respectfully request that the following be included for consideration on the Council Agenda scheduled for August 1, 2011:

Purchase of a Terex TC 550 via sole source item for the landfill operations.

Item	Terex TC550	CAT 836H
Total Weight	110,000	118,000
Compaction Width (inches)	150	110
Pounds per Linear Inch (PLI)	733	536
Pounds per Square Inch (PSI)	17.75	12.01

Terex TC550 compacts in one pass while the Cat 836H requires two for the same width - saves fuel and hours on equipment to accomplish the same task; Terex TC550 has a higher compaction effort (17.75 psi) than any other landfill compaction machine of similar size – CAT (12.01 psi), Al-Jon (13.26 psi), and Bomag (12.63 psi); Alamance County Landfill switched from a Cat compactor to a Terex compactor and gained an extra 1½ years on the life of the landfill due to additional compaction. The Kersey Valley Landfill currently has three Terex compactors (two active, one spare) and has been very pleased with the compaction and service from these compactors.

The City has used Terex since it resumed conventional landfill operation in 1997. One major advantage that we strongly believe has minimized accidents as well as employee fatigue is the seat configuration, which is ergonomically designed where the operator sits facing the side of the machine and thus can easily see while moving in a forward or reverse motion which is a constant for the operation of a compactor. Also, operator training requirements are minimized since they are using the same type of equipment. Finally, maintenance contracts can be done with one company versus multiple companies which makes the entire process for getting parts and service easier and more economical.

Unit Price: \$727,000
Account Number 501271-532401

EEOC Report

EEO Occupation Code: First/Mid-Level Officials and Managers

#	Ethnic Code	Total	Females	%	Males	%	Minority	Non Minority
1	White	58	7	12.1	50	86.2	0	58
2	Black or African Amer	3	0	0.0	3	100.0	3	0
3	Hispanic or Latino	1	0	0.0	1	100.0	1	0
4	Asian	4	0	0.0	4	100.0	4	0
5	American Indian or Al	1	0	0.0	1	100.0	1	0

Totals: 67 7 10.4 % 59 88.1 % 9 13.4 % 58 86.6 %

EEO Occupation Code: Professionals

#	Ethnic Code	Total	Females	%	Males	%	Minority	Non Minority
1	White	422	83	19.7	339	80.3	0	422
2	Black or African Amer	29	7	24.1	22	75.9	29	0
3	Hispanic or Latino	34	11	32.4	23	67.6	34	0
4	Asian	62	11	17.7	50	80.6	62	0

Totals: 547 112 20.5 % 434 79.3 % 125 22.9 % 422 77.1 %

EEO Occupation Code: Technicians

#	Ethnic Code	Total	Females	%	Males	%	Minority	Non Minority
1	White	61	18	29.5	42	68.9	0	61
2	Black or African Amer	13	4	30.8	9	69.2	13	0
3	Hispanic or Latino	7	3	42.9	4	57.1	7	0
4	Asian	12	5	41.7	7	58.3	12	0

Totals: 93 30 32.3 % 62 66.7 % 32 34.4 % 61 65.6 %

EEO Occupation Code: Administrative Support Workers

#	Ethnic Code	Total	Females	%	Males	%	Minority	Non Minority
1	White	38	30	78.9	8	21.1	0	38
2	Black or African Amer	11	8	72.7	3	27.3	11	0
3	Hispanic or Latino	10	8	80.0	2	20.0	10	0
4	Asian	6	6	100.0	0	0.0	6	0

Totals: 65 52 80.0 % 13 20.0 % 27 41.5 % 38 58.5 %

Grand Totals: 772 201 26.0 % 568 73.6 % 193 25.0 % 579 75.0 %

Public Services Department

W. Chris Thompson, P.E.
DIRECTOR



M E M O R A N D U M

DATE: July 26, 2011
TO: Pat Pate, Asst. City Manager
FROM: W. Chris Thompson, PE, Director of Public Services
SUBJECT: Agenda Item – EWWTP Wastewater Solids Handling Improvements

This memo serves as a summary of our procedure for choosing a consultant for the design and construction services for the Wastewater Solids Handling Improvements at the Eastside Wastewater Treatment Plant (EWWTP).

A request for qualifications (RFQ# 23-031811, attached) was sent out to ten (10) prospective consultants for this project and four (4) responded with submittals on the due date of March 18, 2011. By addendum to the RFQ a meeting was held at the EWWTP on February 23 to give all interested parties an opportunity to tour the plant and meet with City personnel to answer questions about the project.

Following receipt of the four submittals, Chris Thompson selected three key staff members to join him on the review panel for the selection process. He also invited Bob Martin, Purchasing Manager to be a part of the panel. The panel scrutinized the submittals and determined positive and negative aspects of each one. After much comparison it was decided that all four consultants should be interviewed to determine the best selection and they were given notification to prepare a presentation for the review panel. The interviews were held on April 18, 2011.

The panelists reconvened on April 21, 2011 to discuss and finalize their decision. It was concluded that Hazen and Sawyer was the most qualified firm based on recent similar project experience and the overall project team that they presented. Letters of notification to the candidates were distributed that day. A copy of Hazen and Sawyer's submittal of qualifications is attached.

Staff has since negotiated with Hazen and Sawyer to provide the following basis of compensation:

<u>TASK</u>	<u>Lump Sum</u>	<u>Cost Ceiling</u>
• Preliminary Design Criteria	\$13,500	
• Incinerator Inspection and Report	\$38,000	
• Preliminary Design Report	\$24,000	
• Design	\$358,050	
• Bid Period Services	\$16,800	
• Construction Administration	\$193,080	
• Operation and Maintenance Manual	\$25,000	
• Construction Inspection		\$227,880
• Incinerator Stack/Shell Testing		\$50,000
Total Project	\$668,430	+ \$277,880 = \$946,310



Request for Qualifications

For Professional Engineering Services Related to:

**Eastside Wastewater Treatment Plant
Wastewater Solids Handling Improvements**

RFQ# 23-031811

**City of High Point
P. O. Box 230
High Point, North Carolina 27261**

REQUEST FOR QUALIFICATIONS
Wastewater Solids Handling Improvements
RFQ# 23-031811
CIP CODE: MAA

1.0 Introduction

The City of High Point is seeking a qualified firm to provide comprehensive municipal engineering services for the above referenced project. Services may include surveying, design, and construction related services. The purpose of this Request for Qualifications (RFQ) is to generally describe the work desired by the City and to invite qualified persons or firms to submit written descriptions of their qualifications and proposed approach for providing that work.

All firms submitting qualifications must have a history of demonstrated knowledge, experience and expertise in incinerator solids disposal system planning, design and construction administration services, and must have provided such services within the previous twenty-four (24) months. The City of High Point is an Equal Opportunity Employer and Service Provider. Local, minority, female owned and small businesses are encouraged to submit Qualifications.

Responses to this request shall be submitted in accordance with the procedures outlined in Section 7.0 Submittal Requirements.

From the Qualifications received, the City of High Point will conduct a competitive QUALIFICATIONS BASED selection process to identify the best qualified firm with which to negotiate a contract.

2.0 Project Description

The City of High Point disposes of biosolids from two (2) wastewater plants by incineration. Biosolids are dewatered by centrifuges (located at the Eastside WWTP and the Westside WWTP) and then the cake is injected into the sanitary sludge incinerator (fluidized bed located at the Eastside WWTP).

This project consists of design and construction services for replacement and rehab of the following components of the biosolids process located at the Eastside WWTP:

1. Replacement of sludge dewatering equipment.
2. Replacement of sludge injection pumps.
3. Rehabilitation of the fluidized bed incinerator.
4. Associated work such as air emissions calculations or continuous emission monitoring system (CEMS) improvements.
5. Electrical improvements.
6. Sludge conveyance.
7. Other issues identified after the Preliminary Engineering Report.

Other issues that may be evaluated by the engineering firm selected are:

1. Future equipment upgrades and or improvements as a result of the possible EPA requirements for Maximum Achievable Controlled Technology (MACT) for sanitary sludge incinerators.
2. Options to improve pounds per day processing capabilities.

3.0 Scope of Services

The engineering services required by the City of High Point for this project shall generally follow the tasks outlined below. The final scope of services will be negotiated with the selected engineering firm.

- **Preliminary Design** – includes developing and evaluating alternatives
- **Final Design** – includes Plans and Specifications
- **Permitting Services** – all required permits
- **Bidding Services** – tabulate bids, evaluate and recommend award
- **Construction Services** – includes contract administration, shop drawings, on-site inspections, change orders, progress meetings, pay requests, etc.

3.1 Additional Services

At the request of the Owner, the Engineer shall perform services in addition to those described above, and the Owner will compensate the Engineer by hourly charges as mutually agreed to at the acceptance of the proposal and execution of the agreement.

4.0 Schedule of Performance

The schedule will be as mutually agreed to at the acceptance of the proposal and execution of the agreement. In the response to their RFQ, the Consultant should describe the approach to complete design and construction services, and include a proposed timeframe and anticipated completion dates for each element of work required for this project (using Notice to Proceed as the starting point).

5.0 Proposal Content Requirements

Qualifications must be limited to a maximum of twenty (20) pages single-sided (ten (10) pages double-sided) with a minimum font size of 12. Advertising material should not be included in the proposal and will not be considered in the selection process.

- **Project Approach** – should reflect your firm's understanding of the requirements of the project. It should also contain a detailed proposed scope of services, including specific task descriptions and estimated man-hours of each work item to be accomplished. QA/QC measures, etc.
- **Schedule** – should include a schedule depicting the tasks described above.

- **Project Personnel** – shall contain the names of personnel with key responsibilities for this project, including a description of their roles and duties, percentage of time dedicated to this project, and biographical resumes of the individuals with emphasis on their background on comparable projects where they held similar roles to those proposed for this project.
- **Qualifications and Experience** – should discuss the demonstrated qualifications and experience of your firm and your project team with projects similar in size, nature and complexity to this project. Date and duration of construction for similar projects should be included.
- **References** – should contain references, including names, telephone numbers, and mailing addresses, that may be contacted for the projects discussed in the previous section.
- **Construction Cost Estimate** – a preliminary construction cost estimate based on the firm's project approach and experience from other similar projects.

6.0 Evaluation Criteria

Qualifications will be evaluated on the information provided in the Qualifications and contacts with references, specifically:

- Availability and interest in providing services.
- Firm's proximity to the City and knowledge of issues from previous work at the City.
- Related experience of the firm including timeliness of services and cost control.
- Related experience of the proposed Project Team to be assigned to this project.
- Project schedule and approach.
- References for similar projects from similar clients.
- Other information regarding the firm that may prove beneficial to the City.

7.0 Submittal Requirements

Responses to this RFQ must be received by 4:00 p.m. (EST) on Friday, March the 18th 2011. Qualifications received after the due date and time specified will not be considered.

Firms that desire to be considered shall submit six (6) copies of their proposal to:

Patty Sykes, Senior Buyer
City of High Point Purchasing Division
P. O. Box 230 (27261)
211 S. Hamilton Street
High Point, NC 27260

All RFQ'S will become the property of the City of High Point and will be evaluated to determine which firm(s) is best qualified to meet the City's requirements.

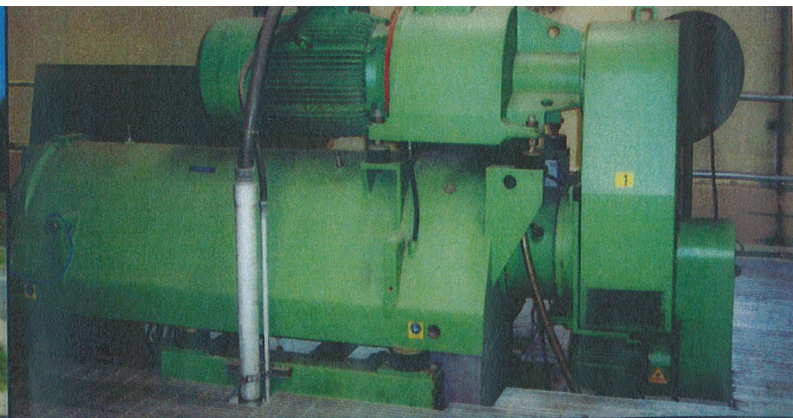
To be considered for this project, each proposal must contain the information indicated in this RFQ. It is the intent of the City of High Point to complete the selection of the most qualified firm within ten (10) days of the submittal date. The City of High Point reserves the right to

reject any or all Qualifications or to waive any and all formalities and the right to disregard all non-conforming or conditional Qualifications and to award the contract to the firm that will serve in the best interest of the City of High Point. The City is not legally required to enter into a contract as a result of this Request for Qualifications.

Interviews will not be required for this selection process, unless otherwise determined to be needed once the Qualifications have been reviewed. The selection committee may elect to short list three (3) firms to conduct an informal interview to discuss any innovative project approach, schedule, and to meet key members of the proposed project team. All firms submitting Qualifications will be notified in writing as to the outcome of the selection process.

An electronic copy of this information is available from the City of High Point upon request. The City requests that no contact be made during the selection process. However, should you have a procedural question, it should be directed to:

W. Chris Thompson, P.E. - Director of Public Services or
Terry Houk – Assistant Director of Public Services
City of High Point
P. O. Box 230
211 S. Hamilton Street
High Point, NC 27261
Office: 336.883.3166 - Fax: 336.883.1675
E-mail: chris.thompson@highpointnc.gov
E-mail: terry.houk@highpointnc.gov



Qualifications for Professional Engineering Services Related to:

Eastside Wastewater Treatment Plant Wastewater Solids Handling Improvements RFQ# 23-031811

City of High Point, North Carolina

March 18, 2011

HAZEN AND SAWYER
Environmental Engineers & Scientists

March 18, 2011

Ms. Patty Sykes
Senior Buyer
City of High Point Purchasing Division
211 S. Hamilton Street
High Point, NC 27260

RECEIVED

MAR 18 2011

Public Service Dept.

Re: Request for Qualifications for Professional Engineering Services
Eastside WWTP – Wastewater Solids Handling Improvements
RFQ #23-031811

Dear Ms. Sykes:

We are pleased to submit six (6) copies of this Statement of Qualifications for providing professional engineering services related to the Wastewater Solids Handling Improvements at the Eastside WWTP. The team of Hazen and Sawyer and Davis Martin and Powell is uniquely qualified for this project.

Our Team brings the following key assets to this project:

- Nationally recognized expertise in wastewater treatment processes and residuals management
- Extensive experience in incinerator design and construction
- Detailed local knowledge of the City of High Point's wastewater system and sludge management practices
- Recent local experience in solids dewatering and incineration

This document is organized into the following sections, similar to the City's February 14, 2011, Request for Qualifications:

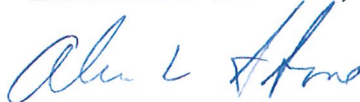
1. Project Approach
2. Project Personnel
3. Qualifications and Experience

We have included the requested project cost and schedule in our Project Approach section. Our project references are included in our Qualifications and Experience section.

Thank you for considering Hazen and Sawyer for this very important project. Please contact us if you have any questions.

Sincerely,

HAZEN AND SAWYER, P.C.



Alan L. Stone, P.E.
Vice President

ALS:sra
MR238 - Cover Ltr
Enclosures

Section 1

Project Approach

Section 1 describes the methodology and technical approach that the Hazen and Sawyer (H&S) and Davis-Martin-Powell (DMP) Team proposes to use in executing the Eastside Wastewater Treatment Plant – Wastewater Solids Handling Improvements project. We believe our approach to managing and engineering this project will bring strengths to the project that are unique to the H&S/DMP Team.

Management Team

Our approach to this project will be to commit senior level staff to all critical decision-making processes in the conceptual design and detailed engineering phases of the project, working closely with the City of High Point personnel to develop the most cost effective design solutions to meet the City's needs. Hazen and Sawyer's Project Management Team of **C. Todd Johnson, PE, Project Manager**, and **Alan L. Stone, PE, Project Director** combined with Davis-Martin-Powell's **Project Manager, Michael L. Slusher, PE** bring a wealth of proven management experience and institutional knowledge to the Eastside Wastewater Treatment Plant – Wastewater Solids Handling Improvements project.

The H&S/DMP Team has proven successful on a number of detailed design efforts such as this one and our team provides the City the highest level of institutional knowledge, experience and expertise needed to complete this project. As Project Director, Mr. Stone will be responsible for overall technical direction of the project and commitment of resources to the project. As Project Manager, Mr. Johnson will handle the day to day design management and provide coordination of engineering and technical staff from both firms working directly with Mr. Slusher. This team will manage the Solids Handling Improvements project from the conceptual design phase through the con-

struction phase. We have thoroughly enjoyed the working relationships with the City of High Point and believe our management

approach will provide the City with the strongest possible leadership for project success.



Design Approach

As the City's engineer for many wastewater treatment plant projects, Hazen and Sawyer has applied a rigorous technical approach to ensure that proposed engineering solutions best meet the City's immediate and long term needs. Hazen and Sawyer is committed to carrying the same level of technical rigor into this project. From our work on several City of High Point projects, we have developed a detailed knowledge of the City's wastewater treatment systems including the dewatering facilities at both the Eastside and Westside WWTPs, and we have a well-developed understanding of the City's operating and management philosophies.

The H&S/DMP Team will prepare a Preliminary Engineering Report (PER) that will define the project and serve as the basis for final design with participation from the City through design workshops. With our knowledge of the existing facilities, this team can hit the ground running since no learning curve is required. The PER will identify the infrastructure improvements that will be included in the project that meet the goals of the City and provides for a cost effective approach to the City's needs. We envision this PER to contain the following sections:

- Biosolids Quantities and Characteristics

- Existing biosolids management infrastructure
- Biosolids Receiving, Conveyance, and Storage Improvements
- Biosolids Dewatering Improvements
- Incinerator Improvements
- Odor Control Improvements
- Auxiliary Systems Improvements
- Implementation Plan/Maintenance of Plant Operations

The PER will be equivalent to a 20 percent design effort and will include engineering calculations supporting the design of the equipment and mechanical plan and section layouts.

A key item that will be addressed in the PER will be an implementation plan. Much of the existing equipment will need to stay operational during construction, therefore the ability to maintain dewatering operations during construction will be of great importance. The PER will also include a refined construction cost estimate and schedule for the recommendations in the PER.

After completion of the PER, the design team will develop final design documents for permitting, bidding and construction. These documents will include plans and technical specifications for all site/civil, mechanical, structural, electrical and instrumentation disciplines.

Hazen and Sawyer will use our advanced three-dimensional CAD modeling capabilities to develop the design of the Solids Handling Improvements. The initial model will be developed during the conceptual design period and will serve as a visualization tool to help all levels of City staff better understand what the facilities will be like when constructed. This powerful tool will be used to produce the plan layouts at the PER stage and will be continued throughout the detailed design phase, providing for the highest level of quality in the development of the design documents as well as allowing three-dimensional visualization to be provided at any point in the design process. We propose to meet with the City at different stages throughout the detailed design and present the design effects in 3D to allow you to better under-

stand and comment on the facilities. Hazen and Sawyer used similar three-dimensional design tools in the design of the Westside WWTP Preliminary Treatment Facility and Effluent Filters. Figures 1.1 and 1.2 illustrate these previous design efforts.

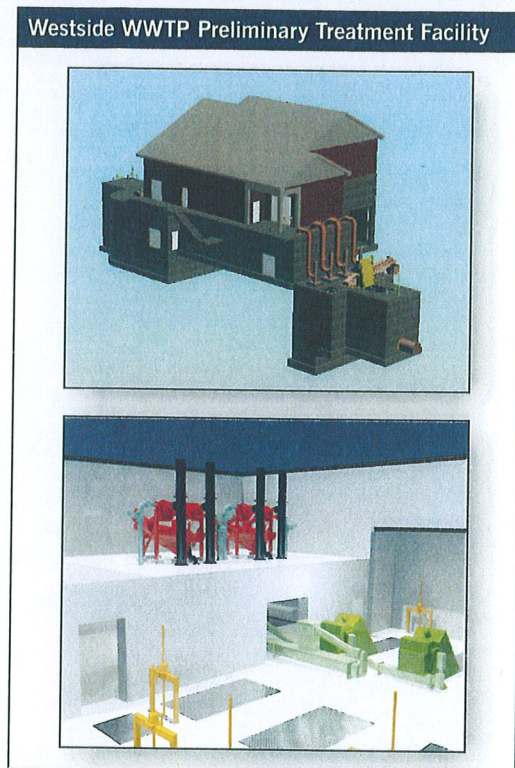


Figure 1.1

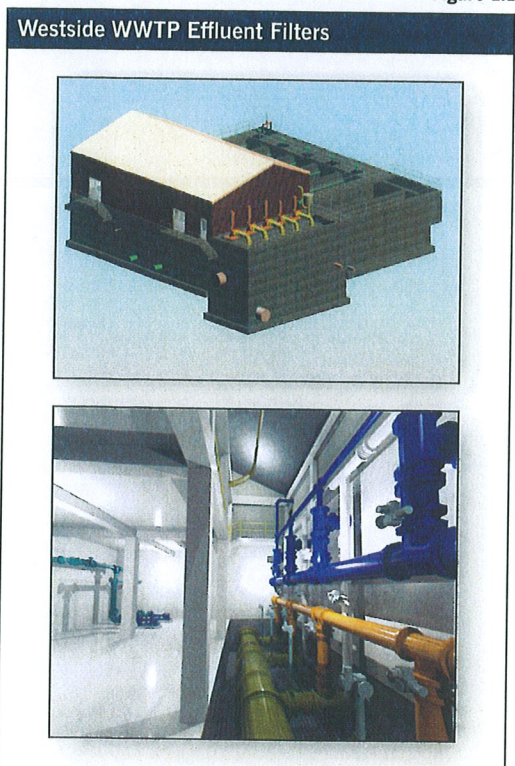


Figure 1.2

During the final design stage, Hazen and Sawyer recommends Progress Workshops at 60 and 90 percent milestones to present the design elements and submit documents representative of the respective milestone completions for review and comment by the City.

In order to develop a planning level cost estimate as required in the Request for Qualifications, Hazen and Sawyer developed preliminary conceptual design. The conceptual design includes the following improvements to the Solids Handling Facilities at the Eastside WWTP.

- New high solids dewatering centrifuges
- Modifications to the dewatered sludge conveyance
- New dewatered sludge pumps
- Rehabilitation of the existing incinerator
- New emissions control equipment

Determination of Design Parameters

Hazen and Sawyer recently performed a Re-Rate Study for the Eastside WWTP and is currently involved in the ongoing expansion and improvements program at the Westside WWTP. As part of these efforts, Hazen and Sawyer has performed extensive BioWin™ modeling to predict treatment performance and future sludge production rates. Table 1.1 shows the predicted sludge production at the Eastside and Westside WWTPs at design capacities using these models.

City of High Point Anticipated Sludge Production Annual Average			
Plant	Primary Sludge (lb/day)	Waste Activated Sludge (lb/day)	Total (lb/day)
Eastside WWTP	34,120	25,690	59,810
Westside WWTP	14,700	11,280	26,070
Total			85,880

Table 1.1

Based on these sludge production values, it is recommended that two 3,000 pound per hour centrifuges be installed to match the capacity of the incinerator.

An important feature of the solids handling improvements design will be general equipment layout. The proposed layout of the new centrifuges

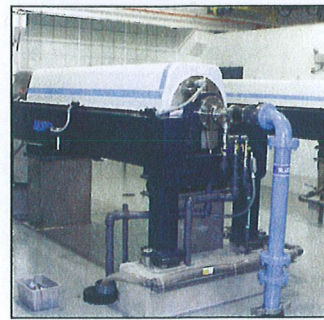


Figure 1.3
Centrifuge Room - South Cary WRF
Cary, NC

will be an open layout providing access to all sides of the centrifuge. The H&S/DMP Team understands that one of the City's goals of this improvements project is to eliminate a majority of the existing platforms

around the centrifuges in favor of the style centrifuge room shown in Figure 1.3.

Hazen and Sawyer recommends the control panels for the new centrifuges be located in a new room, isolating them from potential corrosive gases present in dewatering facilities. An alternative to constructing a new room for the control panels is to provide the cabinets with filter assemblies that include small compressors that force clean air into the panels, the corrosive gases from the area surroundings into the panels. Hazen and Sawyer provided these filter assemblies on the belt filter press panels for the Metropolitan Sewerage District of Buncombe County. These panels were installed in 2005 and the Owner has not seen any corrosion of the electronics that are typically seen in these types of environments.

The incinerator feed pumps will be replaced with pumps capable of feeding 3,000 pounds per hour of dewatered sludge with 23-28% dry solids. The truck loading bay may be retrofitted to a sludge cake feed pump and cake hopper room. This arrangement will provide several advantages over the current installation. This location will allow the deletion of a belt conveyor which will reduce cost and maintenance and one potential point of system failure. The new hopper will provide cake storage upstream of the sludge cake feed to allow for incinerator downtime for short periods without handling cake via truck. The cake feed pumps may be provided with secondary discharge to a truck

loading area. The space where the existing pumps are located will provide room for potential incinerator emissions treatment equipment such as carbon absorption. This approach will also allow the existing pumps to stay in operation during some duration of the construction period, shortening the time the City will be required to dispose of dewatered sludge. Figure 1.4 illustrates a proposed layout for the new equipment.

At the anticipated sludge production rates shown in Table 1.1, the dewatering operation at Eastside WWTP will be required to run 5.8 days per week at 3,000 pounds dry solids per hour for the permitted maximum month flow of 26 mgd. It should also be noted that when the Eastside and Westside WWTPs reach their design flow rates of 26 and

10 mgd, respectively, the combined average daily sludge production rate equates to 3,578 pounds per hour dry solids. When these flows are realized, alternate solids disposal methods will be required to supplement incineration. It is anticipated that the City's sludge production rate will exceed the incinerator capacity in approximately 2024 based on current flow projections.

Installing the new cake feed pumps in the proposed area will allow space for potential incinerator emissions treatment equipment. If implemented in their present form, the new EPA regulations will, in all likelihood, require some additional infrastructure to reduce priority pollutants in the emissions from incinerators. Regulatory concerns are discussed further below.

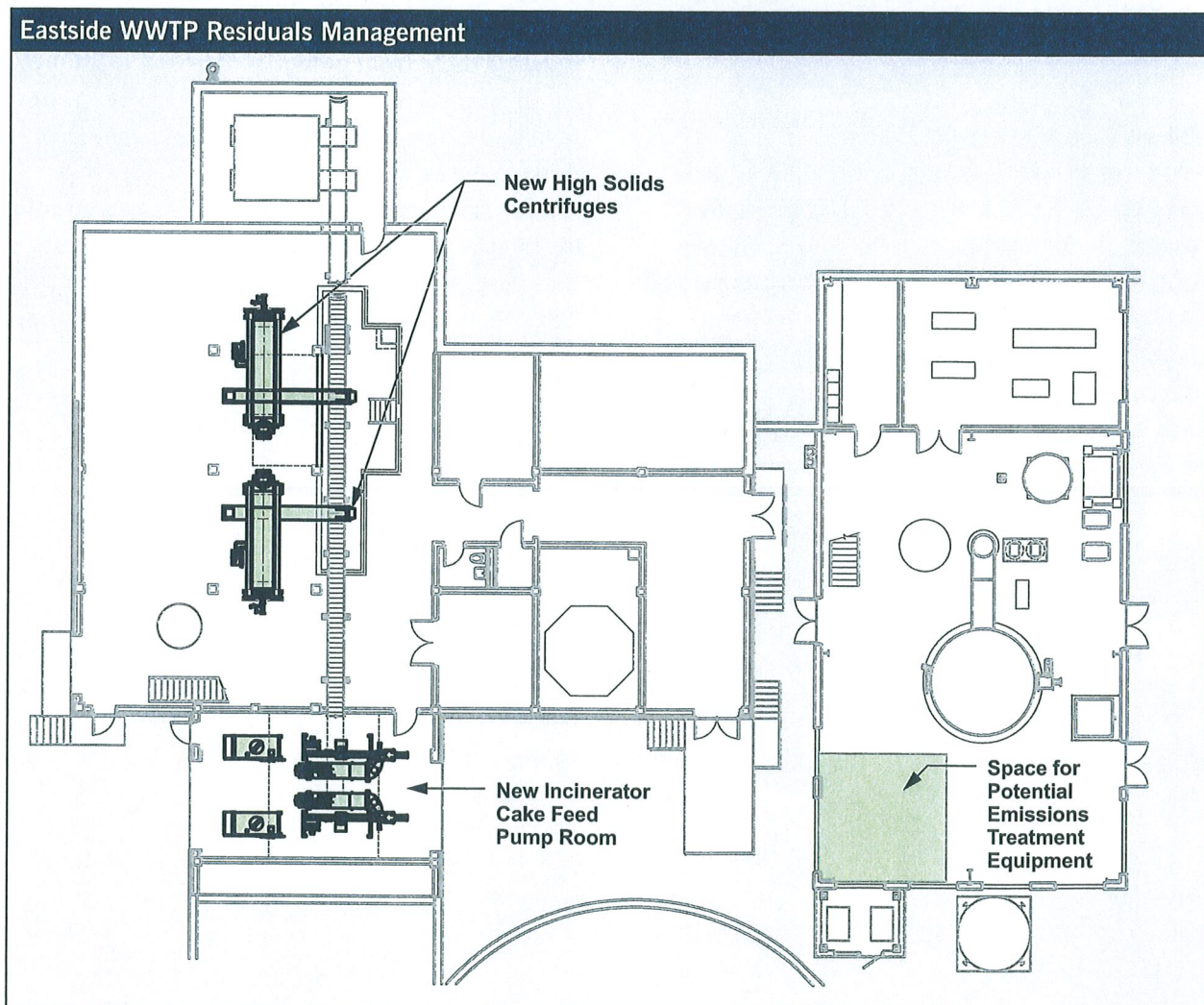


Figure 1.4

Regulatory Compliance

As the City is aware, new regulations for sewage sludge incinerators (SSIs) have been recently promulgated, in spite of major comments and issues expressed by municipalities and agencies that utilize this technology for biosolids stabilization and disposal. The City, along with other N.C. municipalities that utilize incineration (Greensboro, Asheville and WSACC), have been meeting since mid-2010 to evaluate the impacts of these regulations and have prepared and submitted review comments and participated in public meetings and conference calls with EPA and NAWQA officials. Robert S. DiFiore of H&S who will lead regulatory compliance efforts, has participated in this consortium and provided technical input. As such, he has an excellent understanding of the regulations and their impacts.

The regulations were originally to be promulgated in January 2011 with compliance required in January 2016. Due to the nature and volume of comments received, EPA requested a six-month extension from the U.S. District Court for the District of Columbia. EPA's request was denied, and the Court granted only a one-month extension to February 21, 2011. At this time, it is expected that NACWA and perhaps other agencies representing municipalities will file suit and legally challenge these regulations.

Proposed regulations address emission limits for regulated pollutants for both existing and new SSIs. See Table 1.2.

As shown in Table 1.2, the regulations for existing incinerators are considerably more relaxed than for a new incinerator. It may be most practical for the City to rebuild the existing incinerator for both cost reasons and to allow time for the regulations for new incinerators to potentially be relaxed after litigation.

Pollutant	Units (@ 7% O ₂)	Existing Fluid Bed Incinerators	New Fluid Bed Incinerators
Cd	mg/dscm	0.0016	0.0011
CDD/CDF, TMB	ng/dscm	1.2	0.013
CDD/CDF, TEQ	ng/dscm	0.10	0.0044
CO	Ppmvd	64	27
HCl	Ppmvd	0.51	0.24
Hg	mg/dscm	0.037	0.0010
NOx	Ppmvd	150	30
Opacity	%	0	0
Pb	mg/dscm	0.0074	0.00062
PM	mg/dscm	18	9.6
SO ₂	Ppmvd	15	5.3

*Any unit that commenced construction prior to 10/14/2010.

Table 1.2

The overwhelming consensus from the regulated community and their consultants is that these regulations will require major upgrades to existing SSIs, including additional air pollution control equipment, chemical addition and other improvements. EPA has estimated the cost for compliance at \$1.0 to \$1.7 million per unit. However, site-specific evaluations performed at individual facilities have indicated much higher costs. For example, at the T.Z. Osborne Plant in Greensboro, compliance costs are estimated at \$8 to \$10 million. This includes carbon absorption units for compliance with mercury standards.

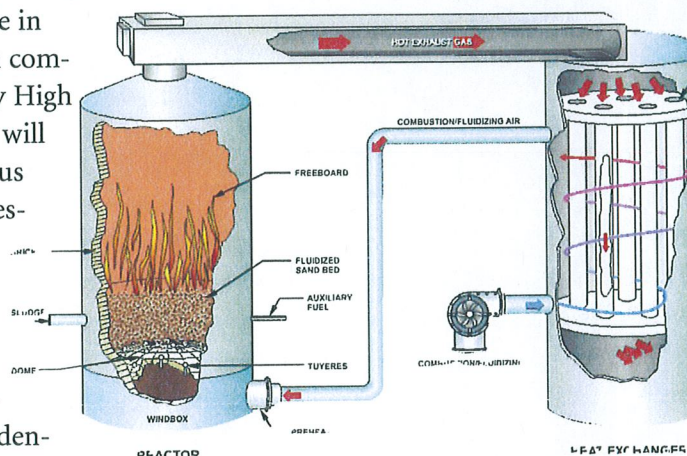
Given the uncertainty regarding the fate of the legal challenges, installation of additional emissions equipment, like carbon absorption is not recommended as part of the initial phase of refurbishment. However, provisions to add additional emission controls in the future should be incorporated into the design. These include:

- Provide space and electrical distribution capacity for a future carbon absorption unit and associated equipment.

- Include provisions for activated carbon injection, a lower capital cost alternative for mercury control.
- Provide space for future carbon storage and feed facilities.
- Provide space for chemical feed and storage facilities (i.e. caustic) for SO₂ control.

Incinerator Rehabilitation

Hazen and Sawyer's experience with fluidized bed incinerators (FBI) has produced an extensive amount of knowledge concerning incinerator rehabilitation. This knowledge will serve as a guide in determining which components of the City High Point's incinerator will be the primary focus of engineering investigation and subsequent remediation. Our efforts will focus on the individual incinerator components identified below.



Schematic of the fluidized bed incinerator at the Metropolitan Sewer District WRF

Refractory Arch and Lining

The condition of the refractory arch can greatly impact the performance of a fluidized bed incinerator. Therefore, Hazen and Sawyer will thoroughly inspect the existing arch (center plug, tuyeres, arch block and skew back blocks) to determine the overall condition of the arch. Based on the results of our inspection, we will develop remediation measures that will ensure continued performance of the arch in the years to come. It should be noted that an existing arch can sometimes be fully remediated; however, our experience has demonstrated that the arch in all likelihood will require removal and replacement. If replacement is required, Hazen and Sawyer will consider the most recent arch design and construction techniques (such as monolithic casting) to ensure that the City of High Point receives the best possible arch and can therefore be

assured of superior arch performance. Hazen and Sawyer will thoroughly inspect the refractory lining in each area of the incinerator (windbox, bed area and freeboard) to determine if the refractory lining can be repaired or if replacement will be required. Again it should be noted that on previous projects, the refractory lining has often been replaced as doing so extends the life of the FBI and limits the number of future shutdowns to enact refractory lining repairs.

Exterior Shell

The incinerator's exterior steel shell is protected by the refractory lining. However, the shell can be exposed to corrosive gases and heat if the lining has failed in localized areas.

Therefore, Hazen and Sawyer will inspect the shell closely to look for "hot spots" and will utilize metallurgical testing as needed to determine the condition of suspect areas in the shell. The metallurgical testing is more accurate when the refractory lining is removed

from the inside surface of the shell, therefore the testing will be coordinated with remediation and/or replacement of the refractory lining to ensure that the most accurate test results are achieved. Since the condition of the exterior shell is difficult to quantify with the refractory lining in place, we will suggest including a bid allowance for an anticipated amount of shell to be replaced during construction. This approach will allow the City to get competitive bids on this work which would otherwise be a change order to the contract. Our experience of getting competitive bids for the shell work saved Buncombe County MSD approximately \$200,000.

Exhaust Gas Duct and Gas Scrubbing System

The exhaust gas duct and gas scrubbing system will be inspected by Hazen and Sawyer to determine if

remediation of these components will be required. Specific items that we will inspect will include the interior of the exhaust gas duct section from the incinerator to the heat exchanger and the throat lining and plug of the venturi scrubber. Also, we will provide modifications to the duct and gas scrubbing system as needed to enable the City of High Point to be ready for installation of future gas scrubbing components that may be required to comply with EPA's potential MACT requirements.

Ancillary Items

In order to ensure reliable operation of the remediated incinerator, Hazen and Sawyer will inspect all ancillary items such as the pre-heat burner, auxiliary fuel guns, sludge injection ports, quench sprays, sight glasses and field instruments to determine which items need replacement. Also, we will meet with operational staff to determine if additional field instruments and monitoring locations are desired. If so, these additional items will be included in the incinerator remediation effort.

In summary, the design of improvements to the Eastside incinerator will need to consider the impacts of the new regulations. However, given the uncertainty associated with the results of potential lawsuits by NAWQA and others, any major additions such as carbon absorption should be deferred pending their outcome.

In addition, every effort should be made to classify refurbishment of the incinerator as a modification to an existing unit as opposed to a new unit. EPA has historically utilized a cost base analysis to determine the definition of modification. For example, if the cost of modifications exceeds 50% of the original cost of the unit (inflated to today's dollars), it could be classified as a new unit. The cost of a new incinerator to meet future capacities and emission standards would likely be between \$20-\$30 million.

Construction Management/ Construction Administration

The H&S/DMP Team offers the City a tremendous advantage related to resident construction observa-

tion since we have an experienced team that has been involved in construction, start-up and operations services on several projects with the City. We have compiled a team of professionals that will ensure the highest level of success for this project.



Barry F. Bickerstaff, PE will serve as the **Construction Manager**.

Mr. Bickerstaff has experience on several solids handling and incinerator construction projects.

M. Carol McDowell, PE will perform construction administration

office services and **David R. Burrows** of DMP will be the **Resident Project Inspector**.

During construction, it is critical that the design team, including all disciplines, be integrated into the construction administration effort. **C. Todd Johnson, PE** will serve as the **Project Manager** for all phases of this project, including construction services. The PER and design teams will remain involved throughout construction and will ensure that the design concepts are properly implemented during construction.

Hazen and Sawyer will provide experienced operations specialists for startup of this project. **Arthur L. White** will lead our efforts for this assignment.

Project Schedule and Estimated Construction Cost

The Eastside Wastewater Treatment Plant Solids Handling Improvements project comes at an excel-



lent time based on our anticipated workload in 2011. Essentially the same Project Management Team that is completing the design of the Westside WWTP Expansion and Improvements project is available to design the

Eastside Solids Handling Improvements. Additionally, **C. Todd Johnson, Alan L. Stone, Michael L. Slusher** and **Laurissa H. Cubbage** are available to be fully committed immediately to the Preliminary Engineering Report and conceptual design phase efforts anticipated to commence in the second quarter of 2011.

The H&S/DMP Team is prepared to begin work immediately upon the City's notification to proceed. The proposed project schedule is shown in Figure 1.5. From our previous design efforts, the H&S/DMP Team already has much of the information required to start design, allowing this design work to proceed in a timely manner. Hazen and Sawyer is also fortunate to have sufficient resources in the Region to allow discipline design of this project. The H&S/DMP Team realizes that schedule is an important aspect of this project for the City, since construction pricing continues to be somewhat depressed due to market conditions, making it desirable to design and bid this work as timely as possible.

The estimated construction cost for the proposed improvements detailed in this approach is \$6,950,000. Table 1.3 shows the estimated construction cost for the separate areas of work discussed herein.

Construction Costs	
Item	Estimated Construction Cost
New High Solids Centrifuges (2) and appurtenances	\$2,450,000
New Cake Feed Pump including Building Modifications	\$2,200,000
Rehab Incinerator	\$2,300,000
Total	\$6,950,000

Table 1.3

Estimated Project Man Hours

We have included the necessary project man hours we expect that are required to complete the tasks as labeled in Table 1.4. We are assuming the incinerator will be required to be rebuilt and the man hours necessary for design are included in our estimate. For construction administration, we have assumed an 18 month construction period with a full time inspector and specialty inspectors and startup specialist as required.

Project Man Hours	
Preliminary Engineering Report	680 man hours
Design	3,500 man hours
Construction Administration (Office)	1,750 man hours
Construction Inspection and Start-up	3,420 man hours

Table 1.4

9350 AFS

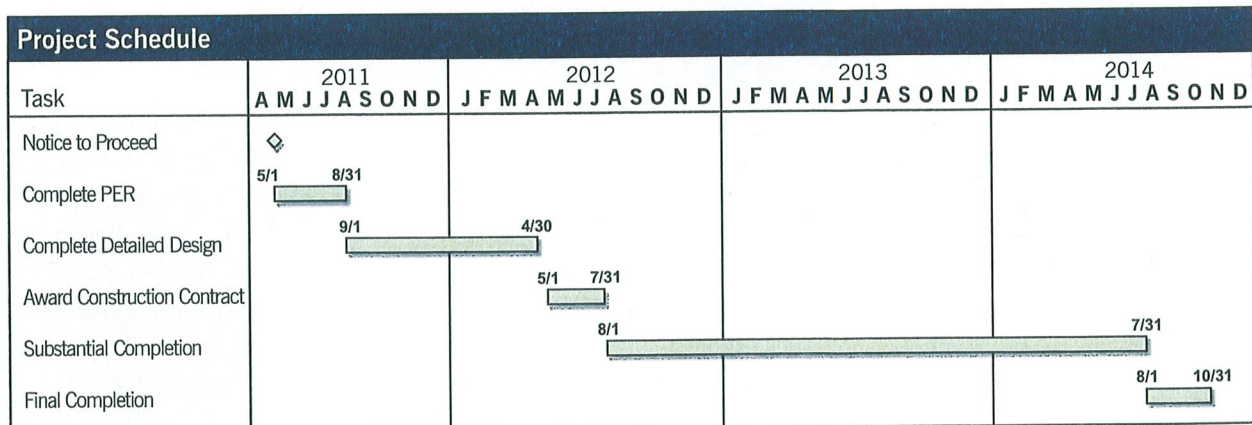


Figure 1.5

Section 2

Project Personnel

Our project staffing plan has been assembled based on qualifications of staff and availability of resources (Figure 2.1). Hazen and Sawyer carefully reviews criteria to ensure that we are providing a team of professionals that will meet and exceed expectations. In assembling the team, we have adhered to a basic philosophy of assigning the tasks to the most qualified and available staff mem-

bers. Our criteria in assigning team member roles and responsibilities includes:

- Technical expertise.
- Understanding of local conditions.
- Previous experience in the service area or on similar projects.
- Availability over the duration of the project.

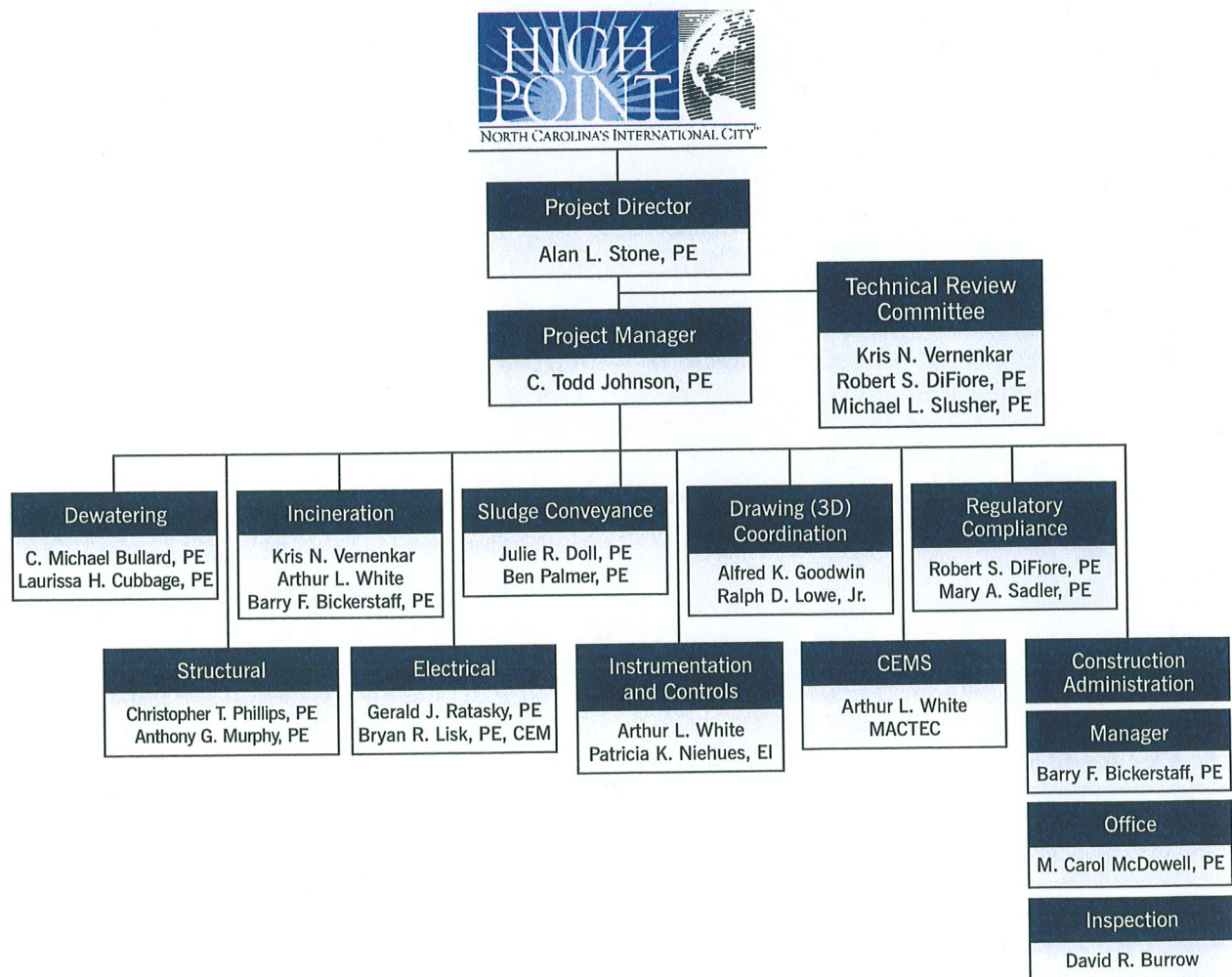


Figure 2.1

Alan L. Stone, PE, Vice President, will serve as the **Project Director** providing administrative oversight for

Alan L. Stone, PE	
Project Director	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	25 years
Education:	MSCE - North Carolina State University BSCE - North Carolina State University
PE:	NC, NY, VA, SC, NE
Availability:	50%

the work, ensuring that the necessary resources are made available in order to complete all assignments in a timely and effi-

cient manner. He brings over 25 years of broad-based experience in the planning, detailed design and construction of water and wastewater treatment facilities. Mr. Stone was the Project Manager for the Upgrade and Expansion of the City of High Point's Eastside WWTP from 16 mgd to 26 mgd.

Recently, Mr. Stone has worked with Mr. Johnson as Project Director for the Upgrade and Expansion of the Westside Water Reclamation Facility. Mr. Stone managed the solids handling improvements project for the Metropolitan Sewerage District of Buncombe County, NC which included new dewatering equipment and upgrade of an existing incinerator and was also involved with several other incineration projects for the City of Greensboro and the City of High Point. Mr. Stone will ensure the City receives the highest level of service.

C. Todd Johnson, PE, Associate, will serve as **Project Manager** and will ultimately be responsible to the

C. Todd Johnson, PE	
Project Manager	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	17 years
Education:	MSEnvSc - University of Central Florida BSEnvE - University of Central Florida
PE:	NC, VA, FL
Availability:	75%

City of High Point for the quality and completion of all tasks associated with the project. He will manage the day-to-day

efforts of all Project Team members, serve as the primary client contact, establish and monitor schedules as well as budgets, and will be responsible for all QA/QC efforts. Mr. Johnson has 17 years of directly related experience in design and construction administration of water and wastewater treatment plants and water pipelines, water transmission and force main hydraulic modeling, and master planning. Currently, Mr. Johnson is serving as the Project Manager for the Phase 2 Improvements for the City of High Point's West-

side WWTP. This project includes effluent filters, expansion of ultraviolet disinfection facilities, effluent pumping and solids handling facility improvements for the 6.2-mgd WWTP. He also served as the design engineer for the Preliminary Treatment Facility for the Westside WWTP. The project included new coarse screening, influent pumping, fine screening, grit removal and odor control facilities. Mr. Johnson served as the project manager for the 15-mgd Enhanced Nutrient Removal Improvements Project for the Rivanna Water and Sewer Authority's Moores Creek WWTP. The project included expansion and improvements to the biological treatment, bulk chemical storage and feed facilities, denitrification filters, ultraviolet disinfection and solids handling improvements. The project also included significant improvements to increase the hydraulic capacity of the facility.

Kris N. Vernenkar is an internationally recognized expert in incineration. Mr. Vernenkar has more than 4 decades of incineration experience that includes design, startup, operations and optimization. He will assist our team with the design and startup services for the incinerator as he did with a very similar project that was successful for Buncombe County MSD. Mr. Kernenkar has worked directly with the City in the past and is very familiar with the installation and operation of the Eastside incinerator.

Robert S. DiFiore, PE, Vice President, will provide **Technical Review** for evaluating **Incineration**. Additionally,

Robert S. DiFiore, PE	
Technical Review - Incineration Task Manager - Regulatory Compliance	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	39 years
Education:	BSCE - Clarkson University
PE:	NC, GA, NY, VA, DC, MD, SC
Availability:	30%

Mr. DiFiore will serve as **Task Manager** for the **Regulatory Compliance** task. Mr. DiFiore has 39 years of experience in the

design, construction administration, and operation of large wastewater facilities and has operated in this role on most of the significant wastewater treatment plant projects performed by Hazen and Sawyer in the Mid-Atlantic Region. He is one of our leading experts in wastewater treatment and has extensive experience in biosolids handling

including thermal technologies such as incineration and thermal drying. Mr. DiFiore has managed and provided technical input on several incinerator projects including both fluidized bed and multiple hearth units. These projects include design and construction of new incinerators for the T.Z. Osborne Plant, Greensboro, NC, where multiple hearth incinerators were replaced with new fluidized bed units; the City of High Point, NC, where new fluidized bed units were installed; Oneida County Sewer District, NY, where new fluidized bed units were installed; and Asheville, NC (MSD) where an existing fluidized bed incinerator was completely refurbished. All of these projects included biosolids conveyance, odor control, and complete instrumentation and process control. Mr. DiFiore is a Grade IV wastewater treatment plant operator in North Carolina and has had extensive experience in operation and startup of wastewater facilities. He frequently teaches at the state operator's school at the advanced level and has given numerous technical papers related to nutrient removal and wastewater biosolids issues.

Michael L. Slusher, PE, Managing Principal and President, will provide **Technical Review** for **Sludge Dewatering**

Michael L. Slusher, PE	
Technical Review Committee	
Firm:	Davis-Martin-Powell
Location:	High Point
Experience:	21 years
Education:	BSAgE - Virginia Polytechnic and State University
PE:	NC
Availability:	70%

and Conveyance as well as overall **Quality Control and Quality Assurance** for the project. Mr. Slusher has 21 years of experi-

ence in municipal water and wastewater upgrade and renovation projects. His experience includes water/wastewater treatment facilities up to 32 mgd, sludge dewatering, numerous pumping stations, and over 100 miles of distribution and collection system improvements. He is well versed in project planning and funding and stays abreast of the latest technology trends. Most recently, Mr. Slusher has been involved with wastewater treatment plant upgrade projects for the Town of Hillsborough (2011), Town of Holly Springs (2010), and City of Dunn (2011). He has also worked on several projects at the City of High Point's Eastside and Westside plants.

C. Michael Bullard, PE, Senior Associate, will serve as **Task Manager** for the **Dewatering** task. Mr. Bullard has 25

C. Michael Bullard, PE	
Task Manager - Dewatering	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	25 years
Education:	MCE - North Carolina State University BSCE - North Carolina State University
PE:	NC, VA, SC, TN
Availability:	40%

years of experience and is a nationally recognized expert in the field of biosolids management. He serves as Hazen and Sawyer's

Corporate Technical Leader for Residuals and Biosolids Management and has experience across a full range of residuals and biosolids thickening, stabilization, dewatering and ultimate management processes. Mr. Bullard has extensive experience in the evaluation, design and operation of residuals dewatering unit processes including centrifuges, belt filter presses, filter presses and rotary presses. He has served in leadership roles at the Project Engineer, Project Manager, or Technical Review Team for the following centrifuge dewatering projects: South Cary WWTP (Cary, NC), T.P. Smith WWTP (Tallahassee, FL), Neuse River WWTP (Raleigh, NC), Moores Creek WWTP (Charlottesville, VA), and Henrico County WWTP (Richmond, VA).

In addition to Mr. Bullard's high solids centrifuge dewatering experience he brings a wealth of experience with other dewatering technologies, including belt filter press dewatering facilities for the Cape Fear Public Utility Authority (formerly, City of Wilmington) Northside WWTP, the Hominy Creek WWTP (Wilson, NC), and the Greenville Utilities Commission WWTP (Greenville, NC). This other dewatering facility experience also provides additional background in the integration of ancillary process systems (e.g., polymer make-up and feed, sludge feed pumping, conveyance, and process controls) with the main dewatering unit.

Laurissa H. Cubbage, PE, Senior Principal Engineer, with 9 years experience will provide assistance for the

Laurissa H. Cubbage, PE	
Assistance with Dewatering	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	9 years
Education:	MCE North Carolina State University BSCE North Carolina State University
PE:	NC
Availability:	75%

Dewatering task. Ms. Cubbage brings experience in the design of sludge dewatering, including polymer

feed systems, sludge pumping and conveyance, and incineration. Her experience includes thickening and dewatering process and equipment design for the M'Kean Maffitt WWTP owned and operated by the Cape Fear Public Utility Authority, and equipment design for thickening at the Nansemond Treatment Plant owned and operated by Hampton Roads Sanitation District. He served as project coordinator and provided QA/QC for the T.Z. Osborne Incineration Project and will apply this knowledge of incinerator rehabilitation for the this project. Ms. Cubbage was also extensively involved in the City of High Point's Westside WWTP Improvements – Phases 1 and 2 as well as Odor Control Facilities at the City of High Point's Eastside WWTP.

Julie R. Doll, PE, Senior Principal Engineer, will serve as **Task Manager** for the **Sludge Conveyance** task.

Julie R. Doll, PE	
Task Manager - Sludge Conveyance	
Firm:	Hazen and Sawyer
Location:	Charlotte
Experience:	9 years
Education:	BSCE - North Carolina State University
PE:	NC
Availability:	80%

Ms. Doll is currently serving as a Project Engineer for the City of High Point's Westside WWTP

Improvements – Phase 3 project. She is involved in the design of the new BNR basins, NRCY pumps, RAS pumps, new secondary clarifier, and Methanol Feed Facility. Ms. Doll has 9 years of directly related experience and has served as Project Engineer for several projects including the Hominy Creek WWMF Sludge Facilities Upgrade in Wilson, North Carolina where she participated in the design associated with the waste activated sludge pump station, digester gas handling and boiler building, solids thickening and dewatering facilities, and modifications to their Primary Sludge Pump Stations. She also performed Construction Administration for the new Solids Handling Facility at the Greenville Utilities 35-mgd Wastewater Treatment Plant in Greenville, North Carolina. Ms. Doll recently completed a Preliminary Engineering report for the Fairfax County Noman M. Cole Jr. Pollution Control Plant that included recommendations for numerous upgrades and modifications within their Dry Ash Handling Facility

and she is slated to be the Project Engineer for the upcoming design project.

Alfred K. Goodwin, Senior Principal Designer, will serve as **Lead Designer** for the **Drawing (3D) Coordination**.

Alfred K. Goodwin	
Lead Designer - Drawing (3D) Coordination	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	35 years
Availability:	90%

Mr. Goodwin has over 35 years of experience and is Hazen and Sawyer's most

qualified wastewater treatment plant designer will lead the AutoCAD production of contract documents and coordinate all site development work. Mr. Goodwin served as lead designer for the City of High Point's Eastside and Westside expansions and is very familiar with coordinating the production of design drawings with DMP.

Barry F. Bickerstaff, PE, Senior Associate, will serve as **Construction Manager**. Additionally, Mr. Bickerstaff

Barry F. Bickerstaff, PE	
Construction Administration Manager Assistance with Incineration	
Firm:	Hazen and Sawyer
Location:	Greensboro
Experience:	25 years
Education:	BSCE - North Carolina State University
PE:	NC
Availability:	50%

will provide assistance on the team's **Incineration** task. Mr. Bickerstaff has more than 25 years of experience, primarily

in construction engineering. He has been involved with numerous types of construction projects such as water and wastewater treatment facilities, dam and reservoir projects, raw water/finished water transmission piping, and wastewater collection facilities. Specific to solids handling facility projects, Mr. Bickerstaff has extensive experience in incineration construction through his involvement with incineration facilities at the Eastside WWTP in High Point, the T.Z. Osborne WWTP in Greensboro and the French Broad River WWTP in Asheville, NC.

In regard to wastewater treatment facilities, Mr. Bickerstaff has provided Construction Management and/or Resident Project Representative services for projects involving construction of treatment facilities such as influent screening and grit removal facilities, primary and secondary clari-

fication facilities, activated sludge facilities including aeration systems, effluent filtration, solids handling facilities, chemical feed systems, electrical/standby power facilities, and advanced instrumentation/control systems. Other wastewater projects that Mr. Bickerstaff has participated in include: Westside WWTP Preliminary Treatment Facilities, High Point, NC; Odor Control Facilities for Eastside WWTP, High Point, NC; BNR Pilot Facilities and WWTP Improvements, North Buffalo Creek WWTP, Greensboro, NC; T.Z. Osborne WWTP, Improvements to Solids Handling and Standby Power Facilities, Greensboro, NC; and Muddy Creek and Archie Elledge WWTPs, multiple projects, Winston-Salem, NC.

M. Carol McDowell, PE, Senior Principal Engineer, will serve as **Task Manager** for **Construction Administration**.

M. Carol McDowell, PE	
Construction Administration - Office	
Firm:	Hazen and Sawyer
Location:	Greensboro
Experience:	18 years
Education:	BSCE - North Carolina State University
PE:	NC
Availability:	50%

Ms. McDowell has more than 18 years of experience in the public and private sector. With Hazen and Sawyer,

she has performed Contract Administration and Construction Management for numerous projects. She has constructability design review and field construction experience. Ms. McDowell has been the project manager for several water tank rehabilitation and construction projects as well as new construction for water, sewer and storm piping systems. Water and sewer experience includes design and constructability review for piping systems as well as limited design for small pumping stations. Currently, Ms. McDowell is the Construction Manager and Inspector for upgrades to Rivanna Water and Sewer Authority's Moores Creek WWTP. Work includes day-to-day inspection of construction activities, including but not limited to rebar, concrete, pipe, masonry, equipment and instrumentation, and start-up and testing of installed equipment and instrumentation. Ms. McDowell also designs and prepares specifications/contract drawings for small projects for the Cities of High Point and Greensboro. This work includes pulse air for sludge holding tanks, minor structural mod-

ifications required for owner installation of new equipment and replacement of storm sewer.

David R. Burrow, Senior Construction Representative, will provide assistance with **Construction Inspection**.

David R. Burrow	
Construction Administration - Inspection	
Firm:	Davis-Martin-Powell
Location:	High Point
Experience:	42 years
Education:	BET - ME - UNC Charlotte
Availability:	100%

Mr. Burrow has 42 years of experience including responsibilities in design, manufacturing, sales,

equipment installation, and facility construction. He has excellent knowledge of equipment layout, startup, and troubleshooting. He is also experienced with electrical and control systems, pumping applications, and pumping system hydraulics. Mr. Burrow has provided inspection services on the following projects: City of Dunn's WWTP Upgrade; Town of Holly Springs' Wastewater Treatment Plant Upgrade; and Waterview Pump Station & Forcemain, Lake Forest Forcemain, City Lake Raw Water Pump Station Upgrade, East Fork Pump Station & Forcemain, Ward Water Treatment, Deep River Sewer Replacement Segments 2 and 3, Randleman Lake Buffer Crossings, Lower Kindergarden Outfall Replacement, and Corbett Outfall Replacement, all for the City of High Point.

Christopher T. Phillips, PE, Senior Associate, will serve as **Task Manager** for the **Structural Design** task.

Christopher T. Phillips, PE	
Task Manager - Structural Design	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	26 years
Education:	MCE - NC State University BSCE - NC State University
PE:	NC, SC, VA, NY, NJ, OH
Availability:	25%

Mr. Phillips has 26 years of experience in structural engineering and serves as the Structural Department Manager for

Hazen and Sawyer's Mid-Atlantic Region. He has extensive structural design experience on wastewater facilities including the 26 mgd Upgrade and Expansion of the Eastside WWTP, High Point, North Carolina; Phase 1 and Phase 2 of the Westside WWTP Improvements, High Point, North Carolina, 60-mgd Neuse River WWTP, Raleigh, NC; the 40-mgd T.Z. Osborne WWTP, Greensboro, NC; the 30-mgd Nansemond WWTP, Hampton Roads Sani-

tation District, Suffolk, VA; and the 20-mgd South Durham WRF, Durham, NC. He has conducted concrete structural evaluations for existing structures at water and wastewater treatment plants and sewer manholes and has made rehabilitation/repair recommendations based on his observations.

Gerald J. Ratasky, PE, Senior Associate, will serve as **Task Manager** for the **Electrical Design** task.

Gerald J. Ratasky, PE	
Task Manager - Electrical Design	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	35 years
Education:	BSEE - University of Toledo
PE:	NC, SC, VA, MD, DC, GA, FL, OH, MI, CA, IL
Availability:	40%

Mr. Ratasky has 35 years of experience in electrical and control systems engineering, most of which are in the water and

wastewater treatment industry. Mr. Ratasky has directed planning, design, and construction administration services for many water and wastewater projects. His electrical design experience includes medium and low voltage power distribution systems, lighting systems, electrical equipment layouts, equipment controls, and equipment specifications. Some of his recent projects as lead electrical engineer include the 26-mgd Eastside WWTP upgrade, High Point, NC; the 30 and 40-mgd expansions of the T.Z. Osborne WWTP, Greensboro, NC; 15-mgd Moores Creek WWTP Nutrient Removal Improvements, Charlottesville, VA; the 5/30-mgd Totopotomoy WWTP, Hanover, VA; and various projects for the City of Raleigh, NC including the 60-mgd Neuse River WWTP.

Bryan R. Lisk, PE, CEM, Senior Associate, with 15 years of experience will provide assistance to Mr. Ratasky

Bryan R. Lisk, PE, CEM	
Assistance with Electrical Design	
Firm:	Hazen and Sawyer
Location:	Raleigh
Experience:	15 years
Education:	BS - North Carolina State University
PE:	NC
Availability:	25%

on the **Electrical Design** task.

Mr. Lisk is accredited by the Association of Energy Engineers as a Cer-

tified Energy Manager (CEM) and brings unique expertise to the evaluation from that accreditation.

He has been instrumental in “unlocking” hidden value for our clients by applying his energy management expertise on many previous combined heat and power generation projects and energy related projects. Mr. Lisk also brings a wealth of direct design related knowledge on digester gas utilization systems having played key roles in multiple related projects including the facilities for the Rivanna Water and Sewer Authority and Western Virginia Water Authority projects. Mr. Lisk was involved with the new incinerator project for the City of Greensboro’s T.Z. Osborne WWTP and is an expert in energy recovery which may be a key component in this project.

Arthur L. White, Operations Specialist, will serve as **Task Manager** for **Instrumentation and Controls** and **Continuous Emissions Monitoring Systems (CEMS)** tasks.

Arthur L. White	
Task Manager - I&C and CEMS Assistance with Incineration	
Firm:	Hazen and Sawyer
Location:	Greensboro
Experience:	47 years
Education:	BS - Guilford College AAS - Fayetteville Technical Institute NC Grade IV Wastewater Treatment Plant Operator
Availability:	30%

Additionally, Mr. White will provide assistance to Mr. Vernenkar on the **Incineration**

task. He has 47 years of experience in operation and maintenance of wastewater collection and treatment facilities. Prior to joining Hazen and Sawyer in 2005 as an operations and maintenance specialist and troubleshooter, Mr. White served as wastewater manager for the City of Greensboro for almost 36 years where he was involved in all facets of wastewater treatment operations including responsibility for two major wastewater treatment plants and the operation and maintenance of multiple hearth and fluidized bed incinerators. During this time, in addition to serving his utility, he provided his expertise in helping other utilities solve their problems. Mr. White continues in this capacity to this day and with his many years of operation and maintenance experience of incineration systems will be an asset in that capacity.

Section 3

Qualifications and Experience

Hazen and Sawyer is a nationally recognized environmental engineering and consulting firm which specializes in the engineering and management of wastewater and water resources for municipalities and industry. Since its founding in 1951, the firm has completed several thousand major assignments in the United States and abroad. The firm has successfully completed multiple projects for the City of High Point in the last 30 years and the City continues to be a key client.

This project will be managed and designed out of Hazen and Sawyer's Raleigh and Greensboro offices and DMP's High Point office. Hazen and Sawyer has grown steadily over the years to approximately 760 employees with 154 professionals located in our Raleigh office and 8 in our local Greensboro office. Davis Martin and Powell is headquartered in High Point and has 40 employees. The team of Hazen and Sawyer and DMP has worked together on several projects for the City of High Point and other clients. Our similar corporate culture has allowed our companies to operate as a seamless team to provide our clients with the service of a strong local firm coupled with a firm with a strong national presence.

The Mid-Atlantic Regional Office of Hazen and Sawyer in Raleigh is a full-service office offering all engineering and related scientific disciplines. Virtually all of the work for this project will be performed by forces located in North Carolina that have worked on similar projects in the past.

Hazen and Sawyer has a long history of working on sludge dewatering and conveyance systems as listed in Table 3.1 as well as biosolids incinerators going back to the 1970s as listed in Table 3.2. We have

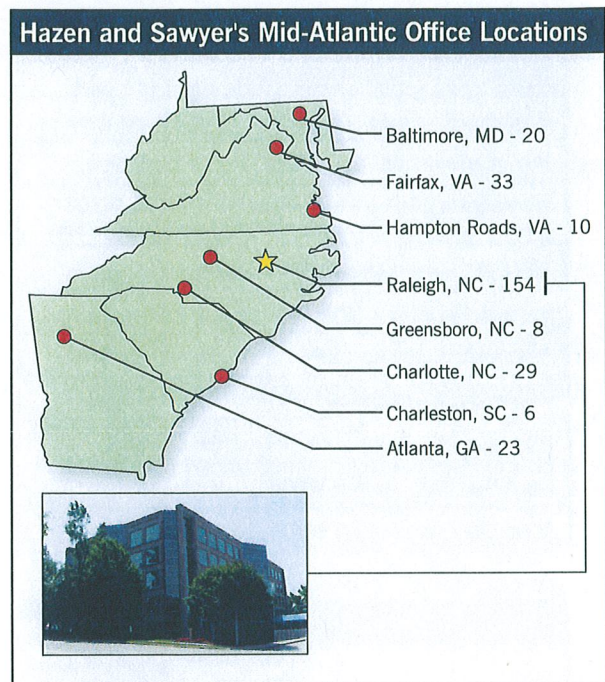


Figure 3.1

highlighted three of our projects that are all located in North Carolina and designed by staff located in North Carolina. The references for these projects are included in the write-ups for the individual experience. The professionals that are proposed for the Eastside Wastewater Treatment Plant - Wastewater Solids Handling Improvements project are the same professionals that have completed these projects, and their involvement is highlighted in the project write-ups. Our featured projects are:

- City of High Point's Eastside Wastewater Treatment Plant
- Buncombe County Metropolitan Sewerage District French Broad Water Reclamation Facility
- City of Greensboro's Thomas Z. Osborne Advanced Wastewater Treatment Plant

Hazen and Sawyer's and DMP's Biosolids Dewatering and Solids Handling Experience

Referenced Project	Capacity	Dewatering	Polymer System Dry	Polymer System Emulsion	Solids Conveyance	Solids Pumping	New Solids Handling Facilities	Rehab of Ex Solids Handling Facilities
Cary, NC - South Cary WRF Biosolids Management Facilities	24 mgd	●	●	●	●	●	●	●
City of Wilson, NC - Hominy Creek WWTP Biosolids Management	17 mgd	●	●	●	●	●	●	●
Greensboro, NC - Thomas Z. Osborne Advanced WWTP - Residuals Handling and Incineration Improvements	40 mgd	●	●	●	●	●	●	●
Greenville, NC - Biosolids Management Evaluations and Upgrades	17 mgd	●	●	●	●	●	●	●
Henrico, VA - Henrico County WRF Solids Handling Facilities	75 mgd	●	●	●	●	●	●	●
Rivanna Water and Sewer Authority Moore's Creek Wastewater Treatment Plant Expansion / Upgrades	15 mgd	●	●	●	●	●	●	●
Raleigh, NC - Neuse River WWTP Upgrade/Expansion	60 mgd	●	●	●	●	●	●	●
Sanitation District No.1, KY - Biosolids Management Improvements	46.5 mgd	●	●	●	●	●	●	●
Tallahassee, FL - Thomas P. Smith WRF Improvements Project	26.5 mgd	●	●	●	●	●	●	●
Waynesboro, VA - Waynesboro WWTP	6 mgd	●	●	●	●	●	●	●
Wilmington, NC - Northside WWTP Expansion & Upgrade	16 mgd	●	●	●	●	●	●	●
City of High Point - Westside WWTP	10 mgd	●	●	●	●	●	●	●
City of High Point - Eastside WWTP	26 mgd	●	●	●	●	●	●	●

Table 3.1**Hazen and Sawyer's Incinerator Technology Experience**

Project Name and Location	Type of Incinerator Technology	Capacity	No. of Units	Services Provided	Relevant Project Details
Eastside WWTP - High Point, NC	Fluidized Bed and Multiple-Hearth	36 mgd	1	Study, design, and construction administration	Install a new fluidized bed incinerator.
T.Z. Osborne WWTP - Greensboro, NC	Fluidized Bed and Multiple-Hearth	56 mgd	2 FB	Study, Design, and construction administration	Install a multiple-hearth incinerator, replaced multiple-hearth incinerator with a fluidized bed incinerator
French Broad River TP Metropolitan Sewage - Asheville, NC	Sludge incinerator evaluation, rehabilitation design and construction	40 mgd 22 tons/day	1	Study, design and construction administration	Major rehabilitation to existing fluidized bed incinerator
Arlington County WPCP Expansion (Preliminary Report and Permitting for Modifications to Multiple-Hearth Incinerators) - Arlington, VA	Multiple-Hearth	40 mgd	2	Study, permitting and design	Evaluated and permitted replacement of a multiple-hearth incinerator with a fluidized bed incinerator
Williamsburg WWTP Biosolids Improvements - Hampton Roads Sanitation District (HRSD) - Virginia Beach, VA	Multiple-Hearth	25 mgd 2 dry tons/hour	2	Design	Miscellaneous improvements including cake conveyance
Sludge Processing Evaluation and Facilities Design at Plum Island WPCP - Charleston, SC	Multiple-Hearth	27 mgd 1.5 dry tons/hour	1	Design	New scrubber system
Design and Construction of Incinerator for New Wastewater Facilities - Oneida County Sewer District, NY	Fluidized Bed	48 mgd	3	Study, design and construction administration	3 new FB units

Table 3.2

1

Eastside Wastewater Treatment Plant Residuals Management Systems High Point, North Carolina

Date:

June 1995

Duration of Construction:

2 years

Contact:

Terry Houk
Assistant Director of Public Services
City of High Point
(336) 883-3279
Terry.Houk@highpointnc.gov

Project Team:

Robert S. DiFiore, Alan L. Stone, Barry F. Bick-
erstaff, Christopher T. Phillips, Mike L. Slusher,
Ralph Lowe, Kris N. Vernenkar, C. Todd John-
son (Odor), M. Carol McDowell (Odor)

The team of Hazen and Sawyer/DMP successfully completed the dewatering and incineration project



Eastside WWTP

for the City of High Point in the late 1990's. The Team also completed the upgrade and expansion from a treatment capacity of 16 mgd to 26 mgd to meet discharge

effluent requirements associated with the impoundment of the Deep River to form Randleman Lake. Due to the discharge of treated effluent to an impounded drinking water supply, the upgrade and expansion was designed to meet effluent limits of 6.0-mg/L total nitrogen and 0.5 mg/L total phosphorus. The performance of the treatment facilities has been excellent and the Team continues to support the City on any problems that may arise from operation issues to structural safety supports.

Incinerator Design Summary

Number	One (1)
Capacity	2,500 - 3,000 dry pounds/day
Feed Solids Concentration	25% to 30% TS
Feed Volatile Solids Content	70% to 80% VS
Ash Removal System	Wet Ash / Lagoon
Sludge Feed	Duplex Piston Pump

The dewatering and incineration and upgrade projects included the following:

- Two (2) high speed dewatering centrifuges. The feed facilities were designed to deliver combined thickened WAS and primary sludge from a holding tank to the centrifuges.
- Conveyance system from the centrifuges to the incinerator including screw conveyors, belt conveyors and high solids piston pumps. The conveyance facilities were recently upgraded.
- Fluid bed incinerator rated at 2,500-3,000 dry tons per hour. The incinerator includes the fluidizing blower, heat exchanger, scrubber and all ancillary equipment including controls.
- Odor control facilities that were designed and constructed under a separate project. These facilities corrected the high hydrogen sulfide conditions that existed in the dewatering room.

Solids production rates were confirmed for the upgraded and expanded treatment facility, and the capability of the existing digestion, dewatering and solids handling system were assessed as part of the upgrade project. Based on expanded plant capacity the incinerator was estimated to require operation at 95% of design capacity under maximum month loading conditions at the expanded flow and 78% design capacity under annual average loadings at the expanded flow. Recommendations were made to install a second incinerator at the Eastside WWTP plant as flows approach the 26-mgd design at the Eastside WWTP and 10-mgd design at the Westside WWTP.

2

French Broad River Water Reclamation Facilities Metropolitan Sewerage District of Buncombe County Asheville, North Carolina

Date:

NTP September 2003

Duration of Construction:

December 2000 | 15 months

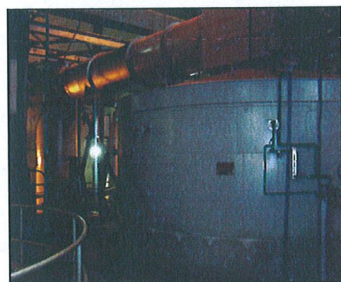
Contact:

Mr. John Kiviniemi
Director - Waste Treatment Services
MSD of Buncombe County
(828) 225-8223
sewerman@msd.buncombe.nc.us

Project Team:

Robert S. DiFiore, Alan L. Stone, Barry F. Bick-
erstaff, Christopher T. Phillips, Kris N. Ver-
nenkar, Gerald J. Ratasky, Arthur L. White

Hazen and Sawyer performed the preliminary engi-
neering, design and construction administration



French Broad River WRF Incinerator

services for the upgrade of the sludge handling facilities at the Metropolitan Sewerage District (MSD) 40-mgd French Broad River WRF. The project consisted of the complete replacement of the dewatering belt filter presses and the rebuild of the existing fluid bed incinerator. The capacity of the incinerator is 3,000 dry pounds per hour.

This project involved the replacement of three existing belt filter presses with three new belt filter presses in an existing solids handling building. The new belt filter press equipment included an upgrade from a conventional "two-belt" design style dewatering unit to a "three-belt" style unit with an independent gravity drainage section to allow higher solids processing capacity and

increased dewatered cake solids when handling a dilute feed solids stream. As a result of the equipment replacement, dewatered cake solids concentrations increased approximately 5% to the 25% to 27% range. The reduced moisture content allowed the facility's incineration unit to achieve an autogenous burn, significantly reducing the need for external thermal energy from fuel oil.

The three-belt units for this project were furnished by BDP Industries and were specifically desired by



French Broad River WRF Belt Filter Press

the client and were also of a unique configuration. Hazen and Sawyer worked with the MSD operations, engineering, and procurement staff in developing a procurement approach which satisfied internal procurement processes while simultaneously providing a competitive market-based price for the dewatering unit process equipment.

Hazen and Sawyer worked with MSD to design the facilities necessary for a complete overhaul of the



French Broad WRF Incinerator Building

fluid bed incinerator. The refractory lining and the refractory dome (arch) of the fluid bed incinerator were replaced as a part of the improve-
ments. Significant sections of the incinerator shell were also replaced as a part of the upgrade.

Most of the incinerator's auxiliary equipment was also replaced, including the heat exchanger, most of the refractory lined ductwork, the fluidizing air blowers and the venturi scrubber. A new larger heat exchanger significantly increased the incinerator influent air temperature by approximately 200°F.

3

Thomas Z. Osborne Advanced Wastewater Treatment Plant - Residuals Handling and Incineration Improvements Greensboro, North Carolina

Date:

December 2009

Duration of Construction:

Anticipated Completion September 2011

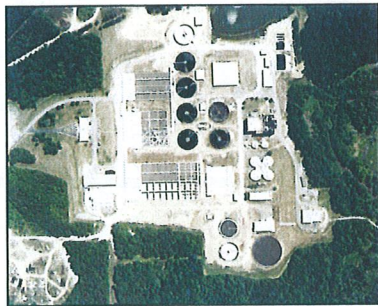
Contact:

Allan E. Williams, PE
Director of Water Resources
City of Greensboro
(336) 373-2055
allan.williams@greensboro-nc.gov

Project Team:

Robert S. DiFiore, Alan L. Stone, C. Michael Bullard, Barry F. Bickerstaff, Christopher T. Phillips, Kris N. Vernenkar, Laurissa H. Cubbage, Arthur L. White

Hazen and Sawyer has enjoyed an association with the City of Greensboro for over 45 years. Among



T.Z. Osborne WWTP

other assignments, the firm planned, designed and supervised the construction of the Thomas Z. Osborne Advanced Wastewater Treatment

Plant. The T.Z. Osborne WWTP has a current rated capacity of 40 mgd and provides consolidated residuals treatment for both residuals generated at the T.Z. Osborne WWTP and the 16-mgd North Buffalo Creek WWTP.

Hazen and Sawyer has been involved in the progressive improvement of residuals handling facilities at the T. Z. Osborne and North Buffalo Creek WWTPs, including the following projects:

- North Buffalo Creek WWTP improvements include gravity thickening facilities to thicken residuals to approximately 4.0% and pumping facilities to the T.Z. Osborne plant.
- T. Z. Osborne WWTP dewatering improvements include installation of high solids centrifuge dewatering facilities to replace aging belt filter press equipment in the dewatering unit process area.
- T. Z. Osborne WWTP thermal oxidation improvements included the replacement of a multiple hearth incineration unit with a fluidized bed thermal oxidation system in the existing solids handling building.
- T. Z. Osborne WWTP thermal oxidation improvements project includes expansion and multiple hearth replacement for additional capacity and system reliability and redundancy. This project has completed design and is currently under construction to replace the remaining multiple hearth incinerator unit with a 65-dry ton per day fluidized bed incineration unit. This project was conducted in partnership with another consulting firm.

The current fluid bed thermal oxidation units include the main combustion reactor, primary heat exchanger, quencher, hydro-sonic scrubber, stack fluidizing air blower, preheat burner, sludge cake pumps, sludge conveyance equipment, continuous emissions monitoring equipment, and associated process control (SCADA) systems.

Currently ash from the incineration system is managed through a wet ash system and is mechanically dewatered via belt filtration; however, the City of Greensboro is currently considering conversion of the dewatering system to a screw type dewatering unit process.



MEMORANDUM

Date: July 26, 2011

To: Pat Pate, Assistant City Manager

From: Terry Houk, Assistant Director of Public Services (TLH)

Re: Agenda Item

I respectfully request that the following be included for consideration on the next Council Agenda:

Acceptance of contract for engineering services related to the Upgrade of the Eastside WWTP Solids Handling Facilities between the City of High Point and Hazen and Sawyer, P. C. (Engineers)

Engineering services refers to design and contract administration during construction of the upgrade of the incinerator and dewatering facilities at the Eastside WWTP.

Public Services is recommending this contract be accepted for:

Engineering Services for Solids Handling Facilities	\$946,310.00
---	--------------

Funding for this amendment will come from 421779-527105-421111025205-40205.

Cc: Chris Thompson
Jeff Moore
Bob Martin
Patty Sykes
File

BID INFORMATION AND RECOMMENDATION**BID #** 23-031811**DATE OPENED:** 03/18/11**DESCRIPTION:** Engineering Services-Eastside Wastewater Solids Handling Improvements**BID PACKAGES DISTRIBUTED:** 55**DEPARTMENT:** Public Services**SOURCE OF FUNDS:** 421779-527105-421111025205-40205**BUDGETED AMOUNT:** \$956,094.**RECOMMENDED AWARD**

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1 lot	Engineering Services for Solids Handling Facilities	\$946,310.00	\$946,310.00

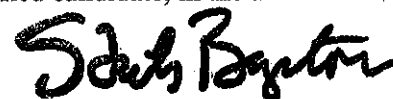
PURPOSE: This contract is to provide design services and contract administration services during the construction upgrade of the incinerator and dewatering facilities at Eastside WWTP.

COMMENTS: Responses were received from the following companies. Based on qualifications submitted in their proposals the Selection Committee selected and conducted interviews with all the companies that submitted proposals. The committee chose **Hazen & Sawyer, P.C.** as the most qualified engineer and negotiated the fee shown above.

RESPONDENTS ENGINEERING SERVICES EASTSIDE WWTP-WASTEWATER SOLIDS HANDLING IMPROVEMENTS RFQ# 23-031811
Hazen & Sawyer, P.C. 4011 West Chase Blvd., Suite 500 Raleigh, NC 27607
CDM 5400 Glenwood Ave., Suite 300 Raleigh, NC 27612
HDR Engineering 440 S. Church St., Suite 1000 Charlotte, NC 28202
Arcadis G & M of NC One Centerview Dr., Suite 208 Greensboro, NC 27407

The **PUBLIC SERVICES DEPARTMENT** and the **PURCHASING DIVISION** recommends that the contract for **ENGINEERING SERVICES FOR SOLIDS HANDLING FACILITIES AT EASTSIDE WWTP** be awarded to **HAZEN AND SAWYER**, the best qualified candidate, in the amount of **\$946,310.00**

DATE OF RECOMMENDATION: July 26, 2011



Strib Boynton, CITY MANAGER

Fleet Services Department

Gary L. Smith
DIRECTOR



DATE: July 20, 2011
TO: Randy McCaslin, Assistant City Manager
FROM: Gary L. Smith, Director of Fleet Services
SUBJECT: Agenda Item – Wheel Loader at MRF

Gary L. Smith

I respectfully request that the following be included for consideration on the next Council Agenda:

Acceptance of the quote submitted by James River Equipment Company for a new 2011 John Deere 624K Wheel Loader per the current U.S. General Services Administration (GSA) contract at a cost of \$120,987.82

The material recycling facility is currently using a 1999 Case 621B wheel loader with over 12,300 hours. At the time of initial acquisition it worked well, but the volume of materials has grown significantly and increased the operating demands. The replacement machine is larger and better suited for the amount of material being processed daily. Having reliable and proper sized equipment is a crucial component to operating this facility. The local service facility closed last year, leaving Charlotte as the nearest service facility. John Deere has a service facility through James River Equipment in Greensboro and nine others in North Carolina.

Funding for this equipment will come from the following account:

501271-532401

pc: Bob Martin, Purchasing
pc: Patty Sykes, Purchasing

BID INFORMATION AND RECOMMENDATION**BID NO.** GSA Contract #GS-30F-0013U**DATE OPENED:** N/A**DESCRIPTION:** Wheel Loader at MRF**BID PACKAGES DISTRIBUTED:****DEPARTMENT:** Fleet Services**SOURCE OF FUNDS:** 501271-532401**BUDGETED AMOUNT:** \$120,987.82**RECOMMENDED AWARD**

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1 EA	2011 John Deere 624K Wheel Loader	\$ 120,987.82	\$ 120,987.82

PURPOSE: To replace a 1999 Case 621 Wheel Loader with over 12,300 hours. The replacement machine is larger and better suited for the amount of material being processed daily. Having reliable and proper sized equipment is a crucial component to operating this facility. The local service facility closed last year, leaving Charlotte as the nearest service facility. John Deere has a service facility through James River Equipment in Greensboro and nine others in North Carolina.

COMMENT: This purchase is being made from GSA Contract #GS-30F-013U which offers the City of High Point a 36.5% Discount.

VENDOR NAME	AMOUNT
James River Equipment 411 South Regional Road Greensboro, NC 27409 P - 336-210-6451 Email - bneel@jamesriverequipment.com	\$ 120,987.82

The **FLEET SERVICES DEPARTMENT** and the **PURCHASING DIVISION** recommend that the purchase of a **2011 JOHN DEERE 524K WHEEL LOADER** be awarded to **JAMES RIVER EQUIPMENT COMPANY**, the GSA Contract awarded vendor, for the total amount of **\$120,987.82**.

DATE OF RECOMMENDATION: July 26, 2011



Strib Boynton, CITY MANAGER