



TOWN OF KILL DEVIL HILLS
Land Where Flight Began

MEMORANDUM

July 10, 2023

TO: Mayor and Board of Commissioners

FROM: Debora P. Díaz, Town Manager

REF: New Business

1. Recommendation for Engineering Design for 2024-2025 Street, Drainage, and Right-of-Way Improvements Projects (Attached NB-1)

At its September 12, 2022, meeting, the Board of Commissioners approved the transition of the planned Wrightsville Boulevard infrastructure project to the 2024-2025 year. Additionally, with Staff recommendation and BOC approval, infrastructure project bidding windows are being expanded when possible to provide contractors additional time to secure project materials in response to recent national supply chain delays. This project's bidding window has been moved up to the spring. Public Services Director Steve Albright's attached memorandum highlights this project's schedule, along with American Engineering's proposal for the design and bidding of the 2024-2025 Wrightsville Project Group, which is recommended to be separated into three phases, for increased flexibility:

- **Wrightsville Boulevard Phase 1:** Wrightsville Boulevard paving, 30" "sock drain" trunk drainage and water main replacement from Goddard Avenue to East Atlantic Street
- **Wrightsville Boulevard Phase 2:** Wrightsville Boulevard paving, 30" & 24" "sock drain" trunk drainage and water main replacement from East Atlantic Street to Carolyn Drive
- **Southeast Area Water main Replacement:** Neptune Drive water main replacement and pavement overlay, and water main replacements for East Atlantic, East Clark, and East Baum Streets.

American Engineering’s design and bidding phases proposal for these projects is as follows:

2024-2025 Project Phase	Design Phase Costs		
	Streets & Drainage	Water	Total
Wrightsville Boulevard, Phase 1	\$52,405	\$28,300	\$80,705
Wrightsville Boulevard, Phase 2	\$35,480	\$35,480	\$70,960
Southeast Area WM Replacement		\$57,495	\$57,495
Grand Totals	\$87,885	\$121,275	\$209,160

The bidding phase for the three project phases includes a total cost of **\$22,710** (\$9,110 streets funding and \$13,600 water funding). American Engineering would plan to start survey work in August 2023, followed by design phase work and permitting throughout the winter allowing for bidding in spring 2024.

If the Board of Commissioners agrees with these recommendations for the 2024-2025 Wrightsville Project Group Street, Drainage, and Right-of-Way Improvements Projects, a motion will be in order to:

- Approve the engineering services agreement with American Engineering for the design and bidding of three phases of the 2024-2025 Wrightsville Project Group Street, Drainage, and Right-of-Way Improvements Projects in the total amount of \$231,870 and authorize its execution by the Town Manager;
- Authorize expenditure of \$96,995 from the Streets Capital Reserve Fund and \$134,875 from the Water Capital Reserve Fund for design and bidding costs; and
- Approve any necessary budget amendments to appropriate funds from the Streets and Water Capital Reserve Funds for the 2024-2025 Wrightsville Project Group Street, Drainage, and Right-of-Way Improvements Projects.

A motion will be in order.



TOWN OF KILL DEVIL HILLS PUBLIC SERVICES

Post Office Box 1719, 107 Town Hall Drive
Kill Devil Hills, NC 27948
Administration (252) 480-4080 Fax (252) 441-6136
Office Hours: 8:00 a.m. – 5:00 p.m. Mon. – Fri.
Water Plant (252) 480-4090
www.kdhnc.com

STEPHEN F. ALBRIGHT
Director

July 10, 2023

Memorandum

DEREK A. DAIL
Assistant Director

To: Debora P. Diaz, Town Manager

MARCIA K. OLLIS
Administrative Services

From: Stephen F. Albright, Public Services Director *SFA*

ALFRED BURTON
Water Plant

Subject: **Recommendation for Engineering Design for 2024-2025
Street, Drainage and Right-Of-Way Improvements Projects**

WILLIAM H. WATERFIELD
Water Systems

At the September 12, 2022 meeting, the Board of Commissioners approved the delay of the Wrightsville Boulevard project moving it to the 2024-2025 year. This delay allowed the separation of the 2022-2023 *N. Croatan - W. Durham Project Group* and the 2023-2024 *Seminole – Indian - Apache Project Group* based on price escalation and available budget considerations. Additionally, the bidding window was moved up to the spring to allow contractors additional time to secure project materials based on recent national supply chain delays. To proceed with this planned schedule, American Engineering has provided the attached proposal for the design and bidding of the 2024-2025 Wrightsville Project Group.

L. RANDOLPH TURNER
Streets

LYNN E. LINDSEY
Solid Waste

Based on the recent project cost increases, American has recommended separating the Wrightsville Project Group into three separate phases to allow the Town flexibility with award. These phases include:

- 2024-2025 Project- ***Wrightsville Boulevard Phase 1***
 - Wrightsville Boulevard paving, 30” “sock drain” trunk drainage and water main replacement from Goddard to E. Atlantic Street
- 2024-2025 Project- ***Wrightsville Boulevard Phase 2***
 - Wrightsville Boulevard paving, 30” & 24” “sock drain” trunk drainage and water main replacement from E. Atlantic Street to Carolyn Drive
- 2024-2025 Project- ***Southeast Area Watermain Replacement***
 - Neptune Drive water main replacement and pavement overlay
 - E. Atlantic Street water main replacement
 - E. Clark Street water main replacement
 - E. Baum Street water main replacement

The American Engineering attached proposal for the design and bidding phases of these projects includes detailed cost breakdowns for each phase including both Water and Streets funding requirements. The proposal also includes an updated construction cost estimate on the bottom of page #3. The design phase costs breakdown as follows:

2024-2025 Project Phase	Design Phase Costs		
	Streets & Drainage	Water	Total
Wrightsville Boulevard, Phase 1	\$52,405	\$28,300	\$80,705
Wrightsville Boulevard, Phase 2	\$35,480	\$35,480	\$70,960
Southeast Area WM Replacement		\$57,495	\$57,495
Grand Totals	\$87,885	\$121,275	\$209,160

The bidding phase for the three project phases is also included on page #5 of the proposal and includes a total cost of **\$22,710** (\$9,110 streets funding and \$13,600 water funding).

Staff recommends approval of the design and bidding proposal from American Engineering for these projects. American plans to start survey work in August followed by design phase work and permitting throughout the winter allowing for bidding in the Spring of 2024.

Thank you for your consideration.



June 28, 2023

Mr. Steve Albright, Director of Public Services
Town of Kill Devil Hills
P. O. Box 1719
Kill Devil Hills, NC 27948
By email to steve@kdhnc.com

V23026 – Wrightsville Boulevard Improvements and Southeast Area Watermain Replacement Proposal

Dear Mr. Albright:

American Engineering Associates – Southeast, P. A., Inc (American) is pleased to offer this proposal for professional services in connection with this project pursuant to the recommendations of the Street Improvements and Special Projects Committee at its May 8, 2023 meeting. Our Design Phase work will consist of the following:

Design Phase

This proposal is for three (3) separate construction plans that will encompass the drainage and watermain improvements for Wrightsville Boulevard (Phase 1 and Phase 2), and the waterline improvements on E. Baum St., E. Clark St., E. Atlantic St., and Neptune Dr. Topographic survey is included for these three plans.

Wrightsville Boulevard Phase 1 – Goddard Ave. to E. Atlantic St. – (Approx. 3,400 ft)

The scope of Phase 1 includes the replacement of the existing drainage with a 30-inch "sock drain" trunk line, stormwater connection to stub streets and the regrading of existing driveway aprons to meet the new surface flow.

These plans will upgrade the existing watermain system from Goddard Ave. to Calvin St. by installing a 6-inch watermain where one does not exist or by replacing the existing 2-inch waterline. A pavement overlay is proposed for Phase 1 of Wrightsville Boulevard.

Wrightsville Boulevard Phase 2 – E. Atlantic St. to Carolyn Dr. – (Approx. 2,000 ft)

Phase 2 includes the portion of drainage and pavement overlay from E. Atlantic St., southern right of way, to Carolyn St. A 30-inch "sock drain" trunk line will be installed from E. Atlantic St. to Holly St., and 24-inch "sock drain" trunk line would be installed from the southern right-of-way of Holly St. to Carolyn Drive. Portions of the waterline are currently 2-inch PVC, these areas will be replaced with 6-inch pipe to improve water service and quality in this area.

Wrightsville Boulevard Improvements and Southeast Area Watermain Replacement Design Proposal

June 28, 2023

Page 2 of 8

Southeast Area Watermain Replacement and Neptune Dr. Stormwater Improvements (Approx. 3,590 ft)

Waterline improvements for E. Baum St., E. Clark St., E. Atlantic St., and Neptune Dr. will be included in this construction set. The scope of this work will include the replacement of the existing 6-inch and 8-inch asbestos cement waterline with PVC waterline of the same size, including valves, fire hydrants, and appurtenances.

E. Baum St., E. Clark St., and E. Atlantic St., will be patched in water replacement as the streets are mostly in "Fair 2" to "Good" condition, and would be expected to be re-surface later in the Poor Streets upgrade program.

Additional improvements are proposed for Neptune Dr. Due to its high traffic volume, being a major connector from the US-158 to S. Virginia Dare Trail (Beach Road), and its current road rating of Fair 3, we recommend this road to be overlaid. The portions of road that have curb and gutter, from US-158 to Wrightsville Blvd, will be milled 1" at the edge of the pavement, and depending on topographic survey, receive a thicker overlay at the road's centerline to provide a better road crown. This effort will also show driveways being overlapped with asphalt as needed.

Any CMP encountered within this corridor will be replaced unless the Town prefers to leave it in place after careful inspection of its current condition is considered. At which point American Engineering will pro-rate the storm design amount back to the Town.

Deliverables

Topographic survey data will be collected on 50' sections, with supplemental shots. The data will be collected within a corridor that extends approximately 35 feet outside of the edge of pavement on Wrightsville Blvd, Baum St., Clark St., Atlantic St., and Neptune Dr. and approximately 50 feet past each intersection at the ends of the work area.

Existing condition sheets will be prepared and included in each set.

American Engineering will contact North Carolina 811 to mark out existing utilities prior to field survey activities. Locations of utilities marked by North Carolina 811 will be picked up by our surveyors and shown on the construction plans. Subsurface investigation of utilities by American Engineering is not included within this scope of work.

The construction plans format will be 1" = 20', 24" x 36" plan and profile sheets, supplemented with overall sheet, cover sheet, existing condition sheets, detail sheet(s) as required to describe the work fully.

Plans and contract documents will be formatted to allow separate bids to be received on each component street/segment, to the extent feasible. The contract documents (General Conditions, Technical Specifications, etc.) will be developed using most recent documents as bases.

Design Meetings

For the above-referenced project segments, we will produce Pre-Final Design and Final Design documents and submit them to the Town for review. Within 14 days of each of these submittals, and after the Town has completed their review, we will have a meeting with Town staff to discuss comments on the submittals.

Wrightsville Boulevard Improvements and Southeast Area Watermain Replacement Design Proposal

June 28, 2023

Page 3 of 8

At the completion of the Pre-Final design meeting, we will incorporate Town comments into the Final Design. At the completion of the Final Design meeting, we will incorporate any comments into the set of Contract Documents to be submitted to permitting agencies for review and approval.

Permitting

After incorporating the Town's Final Design comments into the Contract Documents, they will be submitted to the following permitting agencies for their review and approval:

- NC DEQ PWS for water construction approval
- NC DEQ for E&S approval
- NC DEQ for Stormwater approval

Upon receipt of comments from these agencies, we will discuss any comments with Town staff. At the completion of that discussion, we will address any comments and resubmit to the permitting agency for approval. If resubmittal is not required, Bid Set Contract Documents will be prepared for release for public bids. Permit fees have been included in our proposal.

Our preliminary estimate of total project cost is \$3,425,000.00 (\$1,586,000 drainage/street funding, and \$1,839,000 in water main funding).

	Water Funding	Drainage/Street Funding	Total Construction Cost
Wrightsville Blvd, Phase 1	\$499,000.00	\$885,000.00	\$1,384,000.00
Wrightsville Blvd, Phase 2	\$332,000.00	\$513,000.00	\$845,000.00
Southeast Area WM Replacement and Neptune Dr. Improvements	\$1,008,000.00	\$188,000.00	\$1,196,000.00
Total	\$1,839,000.00	\$1,586,000.00	\$3,425,000.00

Wrightsville Boulevard Improvements and Southeast Area Watermain Replacement Design Proposal

June 28, 2023

Page 4 of 8

The **Lump Sum Fee** for all the design services as described above is **\$209,160.00**, which is about 6% of the total anticipated construction cost. Below is a breakdown of the hours required to design each construction set.

Wrightsville Boulevard, Phase 1			
Staff Classification	Hours	Rate per Hour	Extension
Senior Consultant (W. P. Burkheimer, Jr.)	35	\$190.00	\$6,650.00
Senior Project Engineer (Patrick Lewis)	43	\$155.00	\$6,665.00
Project Engineer (Emily Zeltmann)	132	\$130.00	\$17,160.00
Staff Engineer (Hannah Jones)	132	\$100.00	\$13,200.00
CADD Operator (Engineering)	144	\$ 90.00	\$12,960.00
CADD Operator (Survey)	60	\$ 90.00	\$5,400.00
Licensed Surveyor	12	\$155.00	\$1,860.00
Survey Party Chief w/Robotic Instrument	120	\$125.00	\$15,000.00
Clerical	3	\$60.00	\$180.00
Duplication Costs		Lump Sum:	\$675.00
Permit Fees		Lump Sum:	\$955.00
Lump Sum Fee:			\$80,705.00
Streets/Drainage Funding: \$52,405.00		Water Funding: \$28,300.00	

Wrightsville Boulevard, Phase 2			
Staff Classification	Hours	Rate per Hour	Extension
Senior Consultant (W. P. Burkheimer, Jr.)	30	\$190.00	\$5,700.00
Senior Project Engineer (Patrick Lewis)	34	\$155.00	\$5,270.00
Project Engineer (Emily Zeltmann)	116	\$130.00	\$15,080.00
Staff Engineer (Hannah Jones)	112	\$100.00	\$11,200.00
CADD Operator (Engineering)	136	\$ 90.00	\$12,240.00
CADD Operator (Survey)	60	\$ 90.00	\$5,400.00
Licensed Surveyor	12	\$155.00	\$1,860.00
Survey Party Chief w/Robotic Instrument	100	\$125.00	\$12,500.00
Clerical	3	\$60.00	\$180.00
Duplication Costs		Lump Sum:	\$675.00
Permit Fees		Lump Sum:	\$855.00
Lump Sum Fee:			\$70,960.00
Streets/Drainage Funding: \$35,480.00		Water Funding: \$35,480.00	

Wrightsville Boulevard Improvements and Southeast Area Watermain Replacement Design Proposal

June 28, 2023

Page 5 of 8

Southeast Area WM Replacement and Neptune Dr. Improvements			
Staff Classification	Hours	Rate per Hour	Extension
Senior Consultant (W. P. Burkheimer, Jr.)	22	\$190.00	\$4,180.00
Senior Project Engineer (Patrick Lewis)	36	\$155.00	\$5,580.00
Project Engineer (Emily Zeltmann)	105	\$130.00	\$13,650.00
Staff Engineer (Hannah Jones)	64	\$100.00	\$6,400.00
CADD Operator (Engineering)	124	\$ 90.00	\$11,160.00
CADD Operator (Survey)	56	\$ 90.00	\$5,040.00
Licensed Surveyor	12	\$155.00	\$1,860.00
Survey Party Chief w/Robotic Instrument	64	\$125.00	\$8,000.00
Clerical	2	\$60.00	\$120.00
Duplication Costs		Lump Sum:	\$650.00
Permit Fees		Lump Sum:	\$855.00
		Lump Sum Fee:	\$57,495.00

Bid Phase Support

We will prepare Bid Set Contract Documents, in both digital and paper format, for release for public bids. Our fee for the **Bid Phase** of this project is **\$22,710.00** (\$9,110.00 drainage/street funding, and \$13,600.00 in water main funding) and is based on recent cost experience with prior projects. If it is the pleasure of the Board of Commissioners to authorize the project to be bid when design is complete, this amount should be approved at this time. This includes preparation of contract documents, coordinating newspaper advertising, arranging, and conducting pre-bid meeting(s), responding to Requests for Information, including preparation of addenda, conducting the bid opening, preparing and presenting the recommendation for award to the Board, and coordinating the execution of the contract agreement by the parties to the contract.

Upon completion of our work on this project, the Town of Kill Devil Hills will own and have the right to copy and re-use such drawings on future projects without separate compensation to American Engineering, its subconsultants, or anyone else; provided, however, that the engineer designing and sealing any such plans for a future project assumes responsibility for the complete design of that future project, including any design elements re-used from this project, and—further—the Town agrees that neither we nor our subconsultant would have any professional responsibility for the design resulting from any such re-use. Accordingly, in any such future copying and re-use by others, the seals, signatures, and title blocks of American Engineering and/or its subconsultant must be removed. However, such removal shall not in any way negate American Engineering’s responsibility for the design of the original project.

**Wrightsville Boulevard Improvements and Southeast Area Watermain
Replacement Design Proposal**

June 28, 2023

Page 6 of 8

Additional Services

Any work not covered within the scope outlined above shall be performed at our hourly rates noted below (through June 30, 2024). Our hourly rates for the term of this proposal, which will be the basis for calculating lump sum fees and the basis of billing hourly work, are set forth below:

Staff Categories	Hourly Rates
Principal Professional /Engineer.....	\$180.00
Senior Consultant (W. P. Burkholder, Jr.).....	\$190.00
Senior Project Engineer or Licensed Surveyor (Patrick Lewis).....	\$155.00
Project Engineer (Emily R. Zeltmann)	\$130.00
Staff Engineer.....	\$100.00
Engineering or Surveying Technician	\$95.00
4 Person Survey Party	\$165.00
3 Person Survey Party	\$150.00
2 Person Survey Party/Party Chief w/Robotic Instrument	\$125.00
CADD Operator	\$90.00
Other Project Representative	\$50.00
Clerical	\$60.00

Reimbursable Expenses

Reimbursable expenses are those which are associated with professional services performed on a time and materials basis and include out-of-pocket expenditures advanced in the interest of the project. Almost all printing and copying are done in-house and are invoiced at the unit rates specified, except they are included in lump-sum project fees. The reimbursable expenses we anticipate will be incurred on this project are:

PWS Permit Fees	\$ 450.00
NC DEQ E&S (Standard review, not Express Permitting)	\$ 700.00
NC DEQ Stormwater (Standard review, not Express Permitting)	\$1,515.00
Copies of maps, plats, deeds, plans, data, etc.	cost +10%
Long distance/Conference phone calls	cost +10%
Overnight delivery (UPS, FedEx)	cost +10%
Mileage	\$0.585 / mile
Prints/Copies on:	
Bond	\$0.20/square foot
Vellum	\$1.50/square foot
Mylar	\$3.00/square foot
Color Prints on Bond	
Letter	\$1.00/copy
Legal	\$2.00/copy
12" x 24"	\$3.00/copy
Large Scale	\$1.50/square foot
Specialty Printing/Plotting/Mounting	cost +10%
Printing/copying/mounting by others	cost +10%

**Wrightsville Boulevard Improvements and Southeast Area Watermain
Replacement Design Proposal**

June 28, 2023

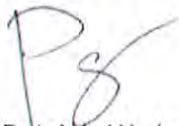
Page 7 of 8

CLOSING

Thank you for your time and consideration in reviewing this proposal. Please note that our standard Terms and Conditions, included with our April 24, 2023 General Services proposal are an integral part of this proposal. American Engineering looks forward to working with you on this project. Please feel free to contact me with any questions or comments you may have.

Sincerely,

American Engineering Associates – Southeast, PA, Inc.



Patrick W. Lewis, P.E., ENV SP
Senior Project Engineer



Emily R. Zeltmann
Project Engineer

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**Wrightsville Boulevard Improvements and Southeast Area Watermain
Replacement Design Proposal**

June 28, 2023

Page 8 of 8

ACCEPTANCE

IN WITNESS WHEREOF, the parties have executed this Agreement by their authorized representatives to be effective as of the day and year first mentioned above.

American Engineering Associates
– Southeast, PA, Inc.

Town of Kill Devil Hills, NC

By: *Randy D. Darden, Jr.*

By: _____

Name: **Randy D. Darden, Jr.**

Name: _____

Title: **Managing Principal**

Title: _____

Date: _____

Date: _____

STANDARD TERMS AND CONDITIONS

Shall be as set forth in our April 24, 2023 General Services proposal to you.