

THIS FORM ISSUED TO:

VOID IF USED BY ANY OTHER CONTRACTOR

BID NO. 21-0923

BIDDING DOCUMENT

LAKE COUNTY
FLORIDA

INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS,
SPECIAL PROVISIONS AND TECHNICAL SPECIFICATIONS,
BID FORM, CONTRACT FORM, CONTRACT BOND FORM

FOR

DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
PROJECT NO. 2021-04, BID NO. 21-0923

ROADWAY CONSTRUCTION

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Design Division Contact: George Gadiel, P.E., Lake County Public Works

NOTE: Attach Your Bid Bond or Letter of Credit to This Document. All Extensions Must Be Carried Out. Any Changes Made in Unit Bid Prices Must Be Initialed by Bidder.

This Notice to be issued if a Pre Bid Conference is to be held.

NON-MANDATORY PRE-BID CONFERENCE NOTICE

BID NO. 21-0923

DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
PROJECT NO. 2021-04

In Lake County, Florida

Non-Mandatory Pre-Bid Conference

THE ATTENTION OF PROSPECTIVE BIDDERS IS DIRECTED TO THE NON-MANDATORY
PRE-BID CONFERENCE TO BE CONDUCTED AT THE DATE, TIME AND PLACE INDICATED
BELOW:

DATE: May 20, 2021
TIME: 9:00 a.m.

INTERESTED PARTIES CAN ATTEND VIA A TELECONFERENCE MEETING BY DIALING
(321) 332-7400 AND ENTERING CONFERENCE NO. 307 555 960#

The County will point out specific job conditions which are difficult to describe or show on the Drawings. Questions that require additional clarification will be covered by an addendum which will be issued following the Non-Mandatory Pre-bid conference.

CONTRACT DOCUMENTS

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DIVISION A

INSTRUCTIONS TO BIDDERS

LAKE COUNTY TRANSPORTATION CONSTRUCTION PROGRAM

1. DEFINITIONS

Whenever the following terms, or pronouns used in place of them, are used in these Contract Documents, they shall have the meanings given below:

Addendum – A modification, revision or clarification of the Plans or other Contract Documents, issued by the Engineer and distributed to prospective bidders before the opening of bids.

Board of County Commissioners – Governing body of Lake County, hereinafter referred to as the Board.

Calendar Day – Every day shown on the calendar, ending and beginning at Midnight.

Change Order – A written order issued by the Engineer in accordance with Board policy, and accepted by the Contractor directing certain changes, additions or reductions in the work or in the materials used.

Consultant – The Professional Engineer or Engineering Firm registered in the State of Florida who performs Professional Engineering Services for the County, other than County personnel. The Consultant may be the Engineer of Record or may provide services through and be subcontracted to the Engineer of Record.

Contingency – A pay item included for usage as directed by the Engineer and for usage under conditions or circumstances unforeseen at the time of contract.

Contractor – The General Contractor, the Individual, Partnership or Corporation bidding or agreeing to do the work for the Owner as Prime Contractor.

Contract Documents – All documents referred to in Division X in addition to all duly executed and issued addenda, legal advertisements and change orders.

County/Owner – Lake, County, Florida, a political subdivision of the State of Florida.

Engineer – The County Senior Director of Public Works or his duly authorized representative, acting on behalf of the County.

Engineer of Record – The Professional Engineer or Engineering Firm contracted with by the County and registered in the State of Florida who develops criteria and concept for the project, performs the analysis and is responsible for the preparation of the Contract Plans and Specifications. The Engineer of Record may be County in-house staff or a Consultant retained by the County.

FDOT – The Florida Department of Transportation.

ID – Inside diameter, or dimension.

Inspector – An authorized representative of the Engineer, assigned to make any or all necessary inspections of the work performed and materials furnished by the Contractor.

LCPWD – The Lake County Public Works Department.

Plans – The approved drawings or reproductions thereof, that show the location, character, dimension and details of the work to be done as issued by the Engineer.

Regular Work Day – Any calendar day except a Saturday, Sunday or recognized Holiday.

Scope of Work – The general intent of the work to be accomplished as defined by the project plans and specifications.

Schedule of Values – The individual values as set forth by the Contractor as payment for the bid quantity units identified on the bid sheets. The total of the extended units in the schedule of values determines the contract limit. This contract limit amount may only be modified by change order approved in accordance with Board policy.

Special Provisions – Specific clauses adding to or revising the Standard Specifications, setting forth conditions varying from or additional to the Standard Specifications, for a specific project.

Specifications – The directions, provisions and requirements contained herein, together with all stipulations contained in the plans or in the Contract Documents, setting out or relating to the method and manner of performing the work, or to the quantities and qualities of materials and labor to be furnished under the contract.

Standard Specifications – FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," JANUARY, 2021, or 2021 FDOT DESIGN MANUAL (FDM) (or latest edition), and all supplemental specifications thereto, or otherwise depicted on the construction plans.

Technical Special Provisions – Specifications prepared, signed and sealed by an Engineer registered in the State of Florida other than the State Specifications Engineer, or his designee, which are made part of the Contract as an attachment to the Specifications Package.

Work – All labor, materials and incidentals required for the construction of the improvement for which the contract is made, including superintendence, use of equipment and tools, and all services and responsibilities prescribed or implied, which are necessary for the complete performance by the Contractor of his obligations under the contract. Unless otherwise specified herein or in the Contract, all costs of liability and of performing the work shall be at the Contractor's expense.

2. BIDS

- A. Sealed bids will be received by the Office of Procurement Services, on behalf of the Lake County Board of County Commissioners, until 3:00 p.m. on June 17, 2021, for the furnishing of all services, labor, materials and equipment for the construction of the following project:

BID NO. 21-0923

DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
PROJECT NO. 2021-04

- B. The Dead River Road at State Road 19 Intersection Improvements project shall consist of rebuilding the traffic signal with a box span and adding an additional eastbound approach lane. The new eastbound lane configuration is a left turn lane, shared left/through lane, and a right lane turn. Other work associated with this project includes utility relocation, storm pipe and structure installation/relocation, milling, paving, striping, sodding, and other miscellaneous incidental construction. The engineer's estimate is \$612,000.00
- C. Plans, specifications and bid forms may be obtained from Design and Print Solutions, Inc. at <https://www.dps-fl.com/> or at 553 Sheeler Avenue, Apopka, FL 32703, Phone (407) 703-2536 or at http://www.lakecountyfl.gov/departments/fiscal_and_administrative_services/procurement_services/view_all_bids.aspx.
- D. Hand delivery of submittals will not be accepted.
RESPONSES MUST BE SUBMITTED THROUGH THE SOLICITATION RESPONSE PORTAL TO BE CONSIDERED – <https://procurement.lakecountyfl.gov/login>
A response will not be accepted if completed and submitted after the official due date and time.
- Interested parties may listen to the 3:01 P.M. solicitation opening by calling 1-321-332-7400, Conference ID 971 920 36# or clicking on the MICROSOFT TEAMS MEETING link in the solicitation.
- E. All bids shall be received not later than the date and time specified above, at which time they will be publicly opened and read aloud in the Office of Procurement Services, Fourth Floor, Administration Building, Room 441, 315 West Main Street, Tavares, Florida. A bid will not be considered for award if received in the Procurement Services Office after the official opening date and time regardless of when or how it was received by the Lake County Clerk of the Circuit Court Mail Receiving Center. Allow sufficient time for transportation and inspection.
- F. Bids may be withdrawn prior to the date of opening, but no bids may be withdrawn for a period of sixty (60) days after the date of opening of bids.

- G. The Board of County Commissioners reserves the right to reject any or all bids, to waive formalities, and to award the contract in the best interest of Lake County, Florida.
- H. Bids which are incomplete, unbalanced, conditional, obscure, or which contain additions not allowed for, alterations or irregularities of any kind, or which do not comply with the Contract Documents may be rejected at the option of the County.
- I. Each Bid by an individual or firm shall state the name and address of each person who owns an interest therein, and, if a corporation, the name and addresses of its officers. Bids shall be signed by the person or member of the firm making the same, and if a corporation, by an authorized officer or agent subscribing the name of the corporation, together with his own name and the corporate seal.

3. BID GUARANTEE

- A. All bids must be accompanied by a Bid Guarantee acceptable to the County Attorney, which shall be one of the following; bid bond or letter of credit, in the sum of five percent (5%) of the base bid and made payable to Lake County. Said bid bond or letter of credit shall be a guarantee that should the bid be accepted, the bidder will, within ten (10) days after written notice of the award of the contract, enter into a contract with Lake County for the services proposed to be performed and will at that time furnish an acceptable contract surety. Cash, company, certified or personal checks will not be accepted.
- B. Said instruments and the monies payable thereon, will, at the option of the County, be forfeited if the bidder fails to execute the written contract and furnish the required surety bond within ten (10) consecutive calendar days following written notice of the award of the contract.
- C. Attorneys-in-fact who sign bonds must file with such bond one (1) certified copy of their power of attorney to sign said bond.
- D. All instruments shall have been issued within thirty (30) days of the date for receiving bids.

4. PRE-QUALIFICATION OF CONTRACTOR

This is not a pre-qualification project.

5. CONTRACT SECURITY

- A. The Contractor shall provide a Performance Bond and a Payment Bond, in the form prescribed in Division Y, each in the amount of 100% of the Contract amount, the costs of which are to be paid by the Contractor. The Bonds will be acceptable to the County only if the following conditions are met:
 - 1. For contracts that do not exceed \$500,000.00, the Surety Company:
 - a. is licensed to do business in the State of Florida;

- b. holds a certificate of authority authorizing it to write surety bonds in this state;
 - c. has twice the minimum surplus and capital required by the Florida Insurance Code at the time the invitation to bid is issued;
 - d. is otherwise in compliance with the provisions of the Florida Insurance Code; and
 - e. holds a currently valid certificate of authority issued by the United States Department of Treasury under 31 U.S.C. ss 9304-9308.
2. For contracts over \$500,000.00, all of the requirements of paragraph A.1 above apply. In addition, the Surety Company must have a current rating of at least Excellent (A or A-) all as reported in the most current Best Key Rating Guide, published by A.M. Best Company, Inc., of 75 Fulton Street, New York, New York 10038, with an underwriting limitation of at least two times the dollar amount of the contract.
- B. If the Surety for any Bond furnished by the Contractor is declared bankrupt, becomes insolvent, its right to do business is terminated in the State of Florida, or it ceases to meet the requirements imposed by the Contract Documents, the Contractor shall, within five (5) calendar days thereafter, substitute another Bond and Surety, both of which shall be subject to the County's approval.
- C. By execution of these bonds, the Surety acknowledges that it has read the Surety qualifications and Surety obligations imposed by the construction documents and hereby satisfies those conditions.

6. INTERPRETATIONS PRIOR TO BID OPENING

No oral interpretations will be made to any bidder as to the meaning of the Specifications, or any other Contract Documents. Every request for such an interpretation must be in writing, and shall be received by the Office of Procurement Services not less than ten (10) calendar days prior to the date set for opening of bids. Every interpretation made to a bidder will be made by an addendum to the Contract Documents, which, when issued, will be sent as promptly as is practicable to all persons to whom the Specifications have been issued by the County. All such addenda shall become part of the Contract Documents. No substitution of any kind or riders of any nature to the bids will be considered except by the above-described method. For purposes of this Contract the term "Interpretations" shall include the approval of product substitution.

7. LICENSES, PERMITS, FEES AND TAXES

A. Acquisition of Permits and Licenses

1. The County has obtained all known Federal and State environmental permits required for the construction of the project.
2. The Contractor shall secure and maintain all other permits required for the construction of the Project, including building permits, National Pollution Discharge Elimination System (NPDES) Construction Permits, and permits required for tree removal or relocation.
3. The Contractor shall secure and maintain all contractor licenses required for the prosecution of the work.

B. Payment of Fees and Taxes

1. All fees associated with those permits and licenses that the Contractor is required to obtain shall be paid by the Contractor.
2. All sales, consumer, use and other similar taxes associated with the work, or portions thereof, and which are applicable during the performance of the work, shall be paid by the Contractor.
3. All fees required in connection with the Contractor's recording of bonds or other documents in the public records shall be paid by the Contractor.
4. All County permit fees shall be waived or paid by the County.

C. Reimbursements to the Contractor

1. The County will reimburse the Contractor for those fees paid for applicable permits. Reimbursement will be for the actual amount paid, as evidenced by official receipts from the offices collecting the fees. Reimbursement will not include, nor will any separate payment be made for, Contractor mark-up, "interest" or other charges claimed by the Contractor in connection with the payment of permit fees.
2. No reimbursement will be made for Contractor license fees.
3. No reimbursement will be made for fees or other charges (such as the cost of documentary stamps) required in connection with the recording of bonds or other documents in the public records.

D. Compliance with Permit and Licenses Requirements

The Contractor shall comply with all permit conditions and license requirements, applicable building and construction code requirements, and such other rules and regulations as may apply to the prosecution of the work.

8. COMPLIANCE WITH LAWS

The Contractor agrees to comply, at its own expense, with all Federal, State and Local laws, codes, statutes, ordinances, rules, regulations and requirements applicable to the project, including but not limited to those dealing with taxation, Workers' Compensation, equal employment, safety (including, but not limited to, the Trench Safety Act, Chapter 553.60, Florida Statutes), labor, work hours, labor conditions, environment, and related matters. If the Contractor observes that the Contract Documents are at variance therewith, it shall promptly notify the Engineer in writing.

9. INSURANCE

The contractor shall purchase and maintain, at its expense, from a company or companies authorized to do business in the State of Florida, and which are acceptable to the County, insurance policies containing the following selected types of coverage and minimum limits of liability protecting from claims which may arise out of or result from the performance or non-performance of services under this Contract by the contractor or by anyone directly or indirectly employed by it, or by anyone for whose acts it may be liable:

At time of contract, the Contractor will be required to provide a copy of all policy endorsement(s), reflecting the required coverage, with Lake County listed as an additional insured along with all required provisions to include waiver of subrogation. Contracts cannot be completed without this required insurance documentation. (Note: A simple COI WILL NOT be accepted in lieu of).

Contractor shall not commence work under the Contract until County has received an acceptable certificate or certificates of insurance evidencing the required insurance and all policy endorsement(s), reflecting the required coverage, with Lake County listed as an additional insured, along with all required provisions to include waiver of subrogation, which is as follows:

General Liability insurance on forms no more restrictive than the latest edition of the Occurrence Form Commercial General Liability policy (CG 00 01) of the Insurance Services Office or equivalent without restrictive endorsements, with the following minimum limits and coverage:

Each Occurrence/General Aggregate	\$1,000,000/2,000,000
Products-Completed Operations	\$2,000,000
Personal & Adv. Injury	\$1,000,000
Fire Damage	\$50,000
Medical Expense	\$5,000
Contractual Liability	Included

Automobile liability insurance, including owned, non-owned, and hired autos with the following minimum limits and coverage:

Combined Single Limit	\$1,000,000
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Workers' compensation insurance based on proper reporting of classification codes and payroll amounts in accordance with Chapter 440, Florida Statutes, and/or any other

applicable law requiring workers' compensation (Federal, maritime, etc). If not required by law to maintain workers compensation insurance, the Contractor must provide a notarized statement that if he or she is injured, he or she will not hold the County responsible for any payment or compensation.

Employers Liability with the following minimum limits and coverage:

Each Accident	\$1,000,000
Disease-Each Employer	\$1,000,000
Disease-Policy Limit	\$1,000,000

Railroad Protective Liability with bodily injury protection of Two Million dollars (\$2,000,000) and property damage of Two Million dollars (\$2,000,000) for any project or portion of the project which is located on Railroad property. The Railroad shall be endorsed to this policy as an additional insured.

Lake County, a Political Subdivision of the State of Florida, and the Board of County Commissioners, shall be named as additional insured as their interest may appear on all applicable policies.

Certificate(s) of insurance shall provide for a minimum of sixty (60) days prior written notice to the County of any change, cancellation, or nonrenewal of the required insurance.

Certificate(s) of insurance shall identify the contract number in the Description of Operations section of the Certificate.

Certificate of insurance shall evidence a waiver of subrogation in favor of the County, that coverage shall be primary and noncontributory, and that each evidenced policy includes a Cross Liability or Severability of Interests provision, with no requirement of premium payment by the County.

Certificate holder shall be:

LAKE COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA,
AND THE BOARD OF COUNTY COMMISSIONERS.
P.O. BOX 7800
TAVARES, FL 32778-7800

The County shall be exempt from, and in no way liable for, any sums of money, which may represent a deductible or self-insured retention in any insurance policy. The payment of such deductible or self-insured retention shall be the sole responsibility of the Contractor and/or subcontractor providing such insurance.

The Contractor shall be responsible for subcontractors and their insurance. Subcontractors are to provide Certificates of Insurance to the County evidencing coverage and terms in accordance with the Contractor's requirements.

Failure to obtain and maintain such insurance as set out above will be considered a breach of contract and may result in termination of the contract for default.

Neither approval by the County of any insurance supplied by the Contractor, nor a failure to disapprove that insurance, shall relieve the Contractor of full responsibility of liability, damages, and accidents as set forth herein.

The Contractor shall submit to Lake County Public Works a copy of all accident reports arising out of any injuries to its employees or those of its subcontractors, or any personal injuries or property damage arising or alleged to have arisen on account of any work under the Contract.

If it is not possible for the Contractor to certify compliance, on the certificate of insurance, with all of the above requirements, then the Contractor is required to provide a copy of the actual policy endorsements(s) providing the required coverage and notification provisions.

10. QUANTITIES

- A. Quantities, if shown on the Bid, are estimated for bidding purposes only and shall be verified by the Contractor.
- B. Payment for work performed under this contract shall be based on a lump sum bid. Bidder shall determine quantities.
- C. Regardless of uncertainties of material supply and production at the time of bidding, Contractors shall base their bids in strict accordance with items, materials and methods as set forth in the Contract Documents.
- D. Pay items may be added, or deleted, to the list of pay items by the Engineer or Contractor, that are required to complete the scope of the work as defined by the project plans and specifications.

11. QUANTITIES REFLECTED IN PERMITTING DOCUMENTS

Any construction items or quantities reflected in the permitting documents, if any, required for this project are provided only for the purpose of enabling permitting authorities to assess the probable impact of the project, and are in no way intended to reflect or represent actual construction items or quantities for pay purposes.

12. ARITHMETIC DISCREPANCIES IN BIDS

- A. For the purpose of evaluation of bids, the following criteria will be utilized in resolving discrepancies in arithmetic found on the face of the bidding schedule of values as submitted by the bidders:
 - 1. In case of discrepancy between unit values and extended values the unit value shall take precedence.
 - 2. Errors in extension of unit values will be corrected by the County.
 - 3. Errors in addition of lump sum and extended values to determine the total bid amount will be corrected by the County.

- B. For the purposes of bid evaluation, the County will proceed on the assumption that the bidder intends his bid to be evaluated on the basis of a lump sum bid with the numerical unit values, extensions and totals arrived at by resolution of arithmetic discrepancies as provided above.

13. AWARD OF CONTRACT

The Contract will be awarded for the entire work on the Base Bid plus any accepted options to the lowest responsive and responsible bidder, provided that the bid is reasonable, and that it is in the best interest of the County to accept. Lake County reserves the right to award any and all options as part of this contract. County will provide written notice of award to the Contractor.

14. NOTICE TO PROCEED TO CONTRACTOR

After all contract documents are signed and approved, a Notice to Proceed will be issued which shall include the commencement date. The Contractor shall be required to set up a pre-construction conference before any work shall begin.

15. INDEMNIFICATION

The Contractor will agree to indemnify the County as described in Division X of the Contract documents.

16. CONTRACT DOCUMENTS

The Contractor will be furnished with one (1) original of the Contract Documents for the project. Additional copies may be purchased from the LCPWD at the price per set listed in Division A. Copies of the "Standard Specifications" may be purchased from the FDOT. The Contractor shall have available on the job, at all times, one (1) copy of the Contract Documents.

DIVISION B

GENERAL CONDITIONS

1. INTENT OF THE CONTRACT DOCUMENTS

- A. It is the intent of the Contract Documents to describe a functionally complete project (or portion thereof) to be constructed in accordance with the Contract Documents which combine to define the Scope of Work. Any work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words that have a well-known technical or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association or to the laws or regulations of any governmental authority having jurisdiction over the Project, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, law or regulation in effect at the time the work is performed, except as may be otherwise specifically stated herein.
- B. The Contract Documents and all referenced standards cited therein are essential parts of the Contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complimentary and to describe and provide for a complete project.
- C. Drawings are intended to show general arrangements, design and extent of work. Specifications are separated into divisions for convenience of reference only and shall not be interpreted as establishing divisions for the work, trades, subcontracts, or extent of any part of the work. In the event of a discrepancy between or among the drawings, specifications or other Contract Document provisions, the Contractor shall be required to comply with the provision, which is the more restrictive or stringent requirement upon the Contractor, as determined by the Engineer. Unless otherwise specifically mentioned, all anchors, bolts, screws, fittings, fillers, hardware, accessories, trim and other parts required in connection with any portion of the work to make a complete, serviceable, finished and first quality installation shall be furnished and installed as part of the work, whether or not called for by the Contract Documents.

2. STORAGE OF MATERIALS

Materials shall be so placed so as to permit easy access for proper inspection and identification of each shipment. Any material which has deteriorated, become damaged, or is otherwise unfit for use, as determined by the Engineer, shall not be used in the work, and shall be removed from the site by the Contractor at his expense.

3. SANITATION

The Contractor shall provide and maintain adequate sanitary conveniences for the use of persons employed on the work. These conveniences shall be maintained at all times

without nuisance, and their use shall be strictly enforced. The location of these conveniences shall be subject to the Engineer's approval.

4. MAINTENANCE OF CONSTRUCTION SITE

- A. **Mowing:** Contractor shall be responsible to mow and maintain all rights of way owned by the County within the limits of the construction project. Any retention areas that are built in conjunction with the road project shall also be mowed and maintained. Contractor shall be responsible to pick up trash prior to mowing. Mowing shall be completed every four (4) weeks (equivalent to 28 calendar days) unless authorized by the Project Manager. The height of the mowed vegetation shall be between four (4) and six (6) inches. At no time shall the Contractor mow wildflowers that may be growing whether or not they are in designated wildflower area. Sign posts, trees, retention pond inlet/outfall structures, fences, shrubs, plants, light poles, utility flags, mailboxes or other such obstacles to mowing shall be hand mowed or trimmed around as necessary to present a groomed appearance. Areas determined to be unsatisfactory by the Project Manager shall be re-mowed at no additional cost to the County.
- B. **Trash Removal:** Contractor shall be responsible to remove trash and debris from the rights of way owned by the County within the limits of the construction project. The Contractor shall be responsible for the pickup, removal, and disposal of items such as, but not limited to: bottles, cans, tires, bags of trash, newspapers, cigarette packages, magazines, boxes, cups, food containers, sheets of paper, etc. The Contractor is responsible to remove trash from drainage ditches, headwalls, and along fence/tree lines. Trash removal shall not precede the mowing by more than twenty-four (24) hours.
- C. **Maintenance Liquidated Damages:** In the event Contractor fails to comply with sections 4(A) and 4(B) above, the County may assess against the Contractor liquidated damages in the amount of \$200 (two hundred dollars) per day if the Contractor does not correct any deficient area within two (2) calendar days after written notification from the County, unless otherwise authorized by the Project Manager. Written notification may be delivered to the Contractor or its agent by email, fax, mail or hand delivery. These liquidated damages will start the third (3rd) calendar day after notification and will continue for each calendar day thereafter until reported deficiencies are corrected to the satisfaction of the Project Manager.

5. ERRORS AND OMISSIONS

The Contractor shall not take advantage of any apparent error or omission in the Contract Documents. If any errors and/or omissions appear in the Contract Documents, or construction stakeout, the Contractor shall immediately notify the Engineer, in writing, of such errors and/or omissions. In the event the Contractor knows or should have known of any errors and/or omissions and fails to provide such notification, he shall be deemed to have waived any claim for increased time or compensation he may have had and he shall be held responsible for the results and the costs of rectifying any such errors and/or omissions.

6. CONTRACTOR'S OBLIGATIONS.

A. Qualification

1. The Contractor shall assure that all personnel are competent, careful and reliable. All personnel must have sufficient skill and experience to properly perform the work assigned them. All personnel shall have had sufficient experience to perform their assigned task properly and satisfactorily and to operate any equipment involved, and shall make due and proper effort to execute the work in the manner prescribed in the Contract Documents, or the Engineer may take action as prescribed below.
2. Whenever the Engineer shall determine that any person is incompetent, unfaithful, intemperate, disorderly or insubordinate, the Engineer shall notify the Contractor that such person is to be discharged from the work. The Contractor shall immediately discharge said person from the work and shall not again employ said person on this work except with the written consent of the Engineer. Should the Contractor fail to remove such person or persons the Engineer may withhold all payments.
3. Contractor acknowledges and agrees that, in accordance with Section 255.099, Florida Statutes, if this Project is being supported in whole or in part by State funding the Contractor shall give preference to the employment of state residents in the performance of the work on the Project if state residents have substantially equal qualifications to those of non-residents. If the Contractor is required to employ state residents, the Contractor shall contact the Department of Economic Opportunity to post the employment needs in the State's job bank system. However, in work involving the expenditure of federal aid funds, this section may not be enforced in such a manner as to conflict with or be contrary to federal law prescribing a labor preference to honorably discharged soldiers, sailors, or marines, or prohibiting as unlawful any other preference or discrimination among the citizens of the United States.
4. The Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify employment eligibility of all new employees hired by the Contractor during the term of the Contract and shall expressly require any subcontractors performing work or providing services pursuant to the Contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the Contract term.

B. Identification

1. Within ten (10) days after the award of any subcontract, either by himself or a subcontractor, the Contractor shall deliver to the Engineer a statement setting forth the name and address of the subcontractor and a summary description of the work subcontracted.
2. The Contractor shall be as fully responsible to the Owner for acts and omissions of his subcontractor and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

C. Contractor's Supervision

1. Prosecution of Work:

The Contractor shall give the work the constant attention necessary to assure the scheduled progress and he shall cooperate fully with the Engineer and with other Contractors at work in the vicinity.

2. Contractor's Superintendent:

- a. The Contractor shall at all times have on the work as his agent, a competent superintendent capable of thoroughly interpreting the plans and specifications and thoroughly experienced in the type of work being performed, who shall receive the instructions from the Engineer or his authorized representatives. The superintendent shall have full authority to execute the orders or directions of the Engineer and to supply promptly any materials, tools, equipment, labor and incidentals, which may be required. Such superintendence shall be furnished regardless of the amount of work sublet.
- b. The Contractor's superintendent shall speak and understand English, and at least one responsible person who speaks and understands English shall be on the project during all working hours.

3. Supervision for Emergencies:

The Contractor shall have a responsible person available at or reasonably near the work site on a twenty-four (24) hour basis, seven (7) days a week, in order that he may be contacted in emergencies and in cases where immediate action must be taken to maintain traffic or to handle any other problem that might arise. The Contractor's responsible person for supervision for emergencies shall speak and understand English. The Contractor shall submit to the Engineer, by certified mail, phone numbers and names of personnel designated to be contacted in cases of emergencies along with a description of the project location to the Florida Highway Patrol and all other local law enforcement agencies.

4. Worksite Traffic Supervisor:

- a. The Contractor shall have a Worksite Traffic Supervisor who will be responsible for initiating, installing and maintaining all traffic control devices as described in Section 102 of the FDOT Standard Specifications for Road and Bridge Construction, and in the plans. The Worksite Traffic Supervisor shall have at least one year of experience directly related to worksite traffic control in a supervisory or responsible capacity and shall be certified by the American Traffic Safety Services Association Worksite Traffic Supervisor Certification Program or an equal approved by the FDOT. Approved alternate Worksite Traffic Supervisors may be used when necessary.
- b. The Worksite Traffic Supervisor shall be available on a twenty-four (24) hour per day basis and shall review the project on a day to day basis as well as

being involved in all changes to traffic control. The Worksite Traffic Supervisor shall have access to all equipment and materials needed to maintain traffic control and handle traffic related situations. The Worksite Traffic Supervisor shall ensure that routine deficiencies are corrected within a 24-hour period.

- c. The Worksite Traffic Supervisor shall be available on the site within forty-five (45) minutes after notification of an emergency situation, prepared to positively respond to repair the work zone traffic control or to provide alternate traffic arrangements.
- d. Failure of the Worksite Traffic Supervisor to comply with the provisions of the Section 102 of the FDOT Standard Specifications for Road and Bridge Construction may be grounds for decertification or removal from the project or both. Failure to maintain a designated Worksite Traffic Supervisor or failure to comply with these provisions will result in temporary suspension of all activities except traffic and erosion control and such other activities deemed to be necessary for project maintenance.

D. General Inspection Requirements

1. Cooperation by the Contractor:

No work shall be done nor materials used, without suitable supervision or inspection by the Engineer or his representative, and the Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether the work performed and materials used are in accordance with the requirements and intent of the plans and specifications. If the Engineer so requests, the Contractor shall, at any time before final acceptance of the work, remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore the uncovered portions of the work to the standard required by the specifications. Should the work so exposed or examined prove unacceptable, the uncover or removal, and the replacing of the covering or making good of the parts removed, shall be at the Contractor's expense. However, should the work thus exposed or examined prove acceptable, the uncovering or removing, and the replacing of the covering or making good of the parts removed, shall be paid for as Unforeseeable Work.

2. Failure to Remove and Renew Defective Materials and Work:

- a. Should the Contractor fail or refuse to remove and renew any defective materials used or work performed, or to make any necessary corrections in an acceptable manner and in accordance with the requirements of the specifications, within the time indicated in writing, the Engineer shall have the authority to cause the unacceptable or defective materials or work to be repaired, removed and renewed, as may be necessary; all at the Contractor's expense.
- b. Any expense incurred by the County in making these repairs, removals, or renewals, which the Contractor has failed or refused to make, shall be paid

for out of any moneys due or which may become due the Contractor, or may be charged against the contract bond. Continued failure or refusal on the part of the Contractor to make any or all necessary repairs promptly, fully and in an acceptable manner shall be sufficient cause for the County, at its option, to perform the work with its own organization, or to contract with any other individual, firm or corporation to perform the work. All costs and expenses incurred thereby shall be charged against the defaulting Contractor and the amount thereof deducted from any moneys due or which may become due him, or shall be charged against the contract bond. Any work performed subsequent to forfeiture of the contract, as described in this Paragraph, shall not relieve the Contractor in any way of his responsibility for the work performed by him.

3. Inspection by the Federal Government or State of Florida:

When the United States Government, or State of Florida, is to pay a portion of the cost of construction, the construction work will be subject to such inspection by its representatives as they may deem necessary, but such inspection will in no case make the Federal Government, or State of Florida, a party to this contract.

7. AUTHORITY OF THE ENGINEER AND ENGINEER'S ASSISTANTS

- A. All work shall be done in accordance with the Contract Documents.
- B. It is agreed by the parties hereto that the Engineer shall decide all questions, difficulties and disputes, of whatever nature, which may arise relative to the interpretation of the plans, construction, prosecution and fulfillment of the contract, and as to the character, quality, amount and value of any work done, and materials furnished, under or by reason of the contract.
- C. The County retains the right to inspect all work to verify compliance with the Contract Documents. The Engineer may appoint such assistants and representatives as desired. They shall be authorized to inspect all work done and all materials furnished. This right of inspection in no way means or implies County control or other supervision over the work done or the work site. This right is solely for the County's benefit and imposes no duties or responsibilities on the County and confers no rights on any other parties. Such inspection may extend to all or any part of the work and to the manufacture, preparation or fabrication of the materials to be used. Such assistants shall not be authorized to revoke, alter or waive any requirement of the Contract Documents.
- D. The assistants and representatives shall be authorized to call to the attention of the Contractor any failure of the work or materials to conform to the Contract Documents, and shall have the authority to reject materials or suspend the work until any questions at issue can be referred to and decided by the Engineer. The Contractor shall be immediately notified in writing of any such suspension of the work and such notice shall state in detail the reasons for the suspension. The presence of the Inspector or other assistant shall in no way lessen the responsibility of the Contractor.

E. Failure of the Engineer to Reject Work During Construction:

If, during or prior to construction operations, the Engineer should fail to reject defective work or materials, whether from lack of discovery of such defect or for any other reason, such initial failure to reject shall in no way prevent his later rejection when such defect is discovered, or obligate the County to final acceptance, and the Contractor shall make no claim for losses suffered due to any necessary removals or repairs of such defects.

F. Authority to Suspend Contractor's Operations:

The Engineer has the authority to suspend the Contractor's operations, wholly or in part. The Engineer will order such suspension in writing, giving in detail the reasons for the suspension. Contract Time will be charged during all suspensions of Contractor's operations. The County may grant an extension of Contract Time in accordance with 8-7.3.2 when determined appropriate in the County's sole judgment.

No additional compensation or time extension will be paid or granted to the Contractor when the operations are suspended for the following reasons:

1. The Contractor fails to comply with the Contract Documents.
2. The Contractor fails to carry out orders given by the Engineer.
3. The Contractor causes conditions considered unfavorable for continuing the Work.

The Contractor shall immediately comply with any suspension order and should not resume operations until authorized to do so by the Engineer in writing. Any operations performed by the Contractor, and otherwise constructed in conformance with the provisions of this contract, after the issuance of the suspension order and prior to the Engineer's authorization to resume operations will be at no cost to the County. Further, failure to immediately comply with any suspension order will also constitute an act of default by the Contractor and is deemed sufficient basis in and of itself exception that the Contractor will not have ten (10) calendar days to correct the conditions for which the suspension was ordered.

G. State of Emergency:

The Engineer has the authority to suspend the Contractor's operations, wholly or in part, pursuant to a Governor's Declaration of a State of Emergency. The Engineer will order such suspension in writing, giving in detail the reasons for the suspension. Contract Time will be charged during all suspensions of Contractor's operations. The County, at its sole discretion, may grant an extension of Contract Time and reimburse the Contractor for specific costs associated with such suspension. Further, in such instances, the County's determination as to entitlement to either time or compensability will be final, unless the Contractor can prove by clear and convincing evidence to a Disputes Review Board that the County's determination was without any reasonable factual basis.

H. Prolonged Suspensions:

If the Engineer suspends the Contractor's operations for an indefinite period, the Contractor shall store all materials in such manner that they will not obstruct or impede the traveling public unnecessarily or become damaged in any way and shall

take every reasonable precaution to prevent damage to or deterioration of the work performed. The Contractor shall provide suitable drainage of the roadway by opening ditches, shoulder drains, etc., and provide any temporary structures necessary for public travel through the project.

I. Permission to Suspend Contractor's Operations:

The Contractor shall not suspend operations or remove equipment or materials necessary for completing the work without obtaining the Engineer's written permission. The Contractor shall submit all requests for suspension of operations in writing to the Engineer, and identify specific dates to begin and end the suspension. The Contractor is not entitled to any additional compensation for suspension of operations during such periods.

8. CONTRACT TIME AND TIME EXTENSIONS

- A. Unless otherwise provided, contract time shall mean the number of consecutive calendar days from the commencement date noted in the Notice to Proceed to the date on which all work is to be completed. The Contractor shall diligently pursue the completion of the work and coordinate the work being done on the project by its subcontractors and material suppliers, as well as coordinate his work with the work of other contractors so that his work or the work of others shall not be delayed or impaired by any act or omission of any act by a Contractor. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures, as well as coordination of all portions of the work under the Contract Documents.
- B. Should the Contractor be obstructed or delayed in the prosecution of or completion of the work as a result of unforeseeable causes beyond the control of the Contractor, and not due to his fault or neglect, including but not restricted to acts of God or the public enemy, acts of government, fires, floods, discovery of pre-existing hazardous materials, utility conflicts, epidemics, quarantine regulations, strikes or lockouts, the Contractor shall notify the Engineer in writing within two (2) regular work days after the commencement of such delay, stating the cause or causes thereof, or be deemed to have waived any right which the Contractor may have had to request a time extension.
- C. **NO CLAIM FOR DAMAGES OR ANY CLAIM OTHER THAN FOR AN EXTENSION OF TIME SHALL BE MADE OR ASSERTED AGAINST THE COUNTY BY REASON OF ANY DELAYS.** No interruption, interference, inefficiency, suspension or delay in the commencement or progress of the work shall relieve the Contractor of his duty to perform or give rise to any right to damages or additional compensation from the County. The Contractor expressly acknowledges and agrees that the Contractor shall receive no damages for delay. However, this provision shall not preclude recovery or damages by the Contractor for hindrances or delays due solely to fraud, bad faith or active interference on the part of the County. Otherwise, Contractor shall be entitled to extensions of the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to the extent specifically provided above. This provision applies to claims for early completion as well as late completion. Such extensions of time will not be granted for delays caused by unfavorable weather, ground conditions related to the weather,

inadequate construction force or for the failure of the Contractor to timely order equipment or materials.

- D. If the Contractor complies with the two (2) regular work days' notice requirement, the Engineer shall ascertain the facts and the extent of the delay being claimed. The Engineer's findings of fact justify such an extension, and the Engineer's finding of fact shall be final and conclusive on the parties. The Contractor shall cooperate with the Engineer's investigation of the delays by providing any schedules, correspondence or other data that may be required to complete the findings of fact. Extensions to the contract time may be granted for only those delays that impact the Contractor's Construction Schedule. Extensions of contract time must be authorized by Change Order approved in accordance with Board policy.

9. PROSECUTION OF WORK ON SATURDAYS, SUNDAYS AND RECOGNIZED HOLIDAYS

- A. Unless the Contractor submits a written request to work during one or more days of a Holiday or Special Event at least ten (10) calendar days in advance of the beginning date of the Holiday or Special Event and receives written approval from the Engineer, the Contractor shall not work on the following days: Martin Luther King, Jr. Day; Memorial Day; the Saturday and Sunday immediately preceding Memorial Day; Independence Day (Observed); Labor Day; the Friday, Saturday, and Sunday immediately preceding Labor Day; Veterans Day; Veterans Day (Observed); the Wednesday immediately preceding Thanksgiving Day; the Friday, Saturday and Sunday immediately following Thanksgiving Day; December 24 through January 2, inclusive; and Special Events noted in the Plans. Contract Time will be charged during these Holiday and Special Event periods. The Contractor is not entitled to any additional compensation beyond any allowed Contract Time adjustment for suspension of operations during such Holiday and Special Event Periods.

- B. No work will be permitted on:

New Years Day
Independence Day
Thanksgiving Day
Christmas Day

- C. If Christmas or New Year's Day shall fall on Tuesday or Thursday, the preceding Monday or the following Friday shall be recognized as a holiday also. If any recognized holiday shall fall on a Saturday, the preceding Friday shall be observed as a holiday. If any recognized holiday shall fall on a Sunday, the following Monday shall be observed as a holiday.
- D. The Contractor shall pay to the County, as reimbursement of costs incurred by the County, the sum of TWO HUNDRED FIFTY and 00/100 DOLLARS (\$250.00) per man per day for each Sunday or recognized Holiday on which the Contractor works. Payment to the County of such sums as may become payable under the provisions of this Article shall be made by identifying the said sums as a credit item on the Contractor's pay estimate for the period during which the liability for the sums occurred. The credit item shall show the total number of days applicable under (D) times the corresponding per day or per hour cost.

- E. During such suspensions, remove all equipment and materials from the clear zone, except those required for the safety of the traveling public and retain sufficient personnel at the job site to properly meet the requirements of Sections 102 and 104 of the Standard Specifications.

10. LIQUIDATED DAMAGES

- A. The County and the Contractor recognize that, since time is of the essence for this Contract, the County will suffer financial loss if the work is not completed within the time specified.
- B. The County shall be entitled to assess, as liquidated damages, but not as a penalty, for each calendar day after the scheduled completion date. The project shall be deemed to be completed on the date the work is deemed complete to the satisfaction of the Engineer. The Contractor hereby expressly waives and relinquishes any right which it may have to seek to characterize the above-noted liquidated damages as a penalty. The parties agree that the liquidated damages sum represents a fair and reasonable estimate of the County's actual damages at the time of contracting if the Contractor fails to complete the work in a timely manner. The liquidated damages shall be as follows:

Original Contract Amount	Daily Charge Per Calendar Day
\$50,000 and under	\$868
Over \$50,000 but less than \$250,000.....	\$882
\$250,000 or more but less than \$500,000	\$1,197
\$500,000 or more but less than \$2,500,000	\$1,694
\$2,500,000 or more but less than \$5,000,000.....	\$2,592
\$5,000,000 or more but less than \$10,000,000.....	\$3,786
\$10,000,000 or more but less than \$15,000,000	\$4,769
\$15,000,000 or more but less than \$20,000,000	\$5,855
\$20,000,000 and over.....	\$9,214 plus 0.00005 of any amount over \$20,000,000 (round to nearest whole dollar)

- C. Any Contractor that is in default for not completing the work within the time specified will be removed from the bidder's list, at the option of the County, and not permitted to bid work for Lake County until the project is complete and the liquidated damages sum is satisfied.

11. CHANGES IN THE WORK

- A. Without invalidating the contract, the Engineer may at any time, by written order, direct extra work within the general scope or alter the work by addition or deduction of items that do not alter the scope of the work. Such changes may be effected by Change Order or by other written order. Such changes shall be binding on the Contractor. No officer, employee, or agent of the County is authorized to direct any extra or change work orally. All changes orders shall be executed in the manner set forth in the Lake County Purchasing Procedures. A copy of such procedures shall be available upon request.

- B. If changes to the scope of the work are required or if the contract time or the total contract price is increased or decreased, a Change Order in accordance with Board policy will be required.
- C. The value of such extra work or change shall be determined by contract unit values if applicable unit values are set forth in the contract. The amount of the change shall be computed from such values and added to or deducted from the contract price. If the applicable unit values are not in the contract, the value of such extra work or change shall be determined by negotiation.
- D. Should a Change Order be required, and the County and the Contractor are unable to agree on the requested change, the Contractor shall, nevertheless, promptly perform the change as directed in writing by the Engineer. If the Contractor disagrees with the Engineer's adjustment determination, the Contractor must make a claim pursuant to the Claims and Dispute Section herein, or else be deemed to have waived any claim on this matter it might otherwise have had.
- E. For new work not covered by contract unit values, the amount of an increase shall be limited to the Contractor's reasonable direct labor and material costs and reasonable actual equipment costs as a result of the change (including allowance for labor burden costs) plus a maximum ten percent (10%) markup for all overhead and profit. In the event such change work is performed by a subcontractor, a maximum ten percent (10%) markup for all overhead and profit for all subcontractors' direct labor and material costs and actual equipment costs shall be permitted, with a maximum five percent (5%) markup thereon by the Contractor for all of its overhead and profit, for a total overall maximum markup of fifteen percent (15%) of the amount of change work. All compensation due the Contractor and any Subcontractor or sub-subcontractor for field and home office overhead is included in the markups noted above.
- F. In an emergency endangering life or property, or as expressly set forth herein, the Engineer has the authority to order the necessary work in writing. The County shall not be liable to the Contractor for any increased compensation without such written order. The payment authorized by a written order shall represent full and complete compensation to the Contractor for labor, materials, incidental expenses, overhead, profit, impact costs, and time associated with the work authorized by such written order.
- G. Execution by the Contractor of a properly authorized Change Order (see appendix) shall be considered a waiver of all claims or requests for additional time or compensation for any activities prior to the time of execution related to items included in the Change Order.

12. CLAIMS AND DISPUTES

- A. Claims by the Contractor shall be made in writing to the Engineer within two (2) business days after the commencement of the event giving rise to such claim or else the Contractor shall be deemed to have waived the claim. Written supporting data shall be submitted to the Engineer within ten (10) calendar days after the occurrence of the event, unless the County grants additional time in writing, or else the Contractor shall be deemed to have waived the claim. All claims shall be priced in

accordance with the provisions of the section in this document entitled "Changes in Work".

- B. The Contractor shall proceed diligently with its performance as directed by the County, regardless of any pending claim, action, suit, or administrative proceeding, unless otherwise agreed to by the County in writing. The County shall continue to make payments on the undisputed portion of the contract in accordance with the contract documents during the pendency of any claim.
- C. Claims by the Contractor shall be resolved in the following manner:
 - 1. Upon receiving the claim and supporting data, the County shall within fifteen (15) business days respond to the claim in writing stating that the claim is either approved or denied. If denied, the County shall specify the grounds for denial. The Contractor shall then have fifteen (15) calendar days in which to provide additional supporting documentation, or to notify the County that the original claim stands as is.
 - 2. If the claim is not resolved, the County may, at its option, choose to submit the matter to mediation. A mediator shall be mutually selected by the parties and each party shall pay one-half (1/2) the expense of mediation. If the County declines to mediate the dispute, the Contractor may bring an action in the County or Circuit Court sitting in Lake County, Florida.
- D. Claims by the County against the Contractor shall be made in writing to the Contractor as soon as the event leading to the claim is discovered by the County. Written supporting data shall be submitted to the Engineer. All claims shall be priced in accordance with the provisions of the section in this document entitled "Changes in Work". The Engineer shall make a determination on the claim within fifteen (15) business days of receipt of the claim and shall communicate said determination to the County and the Contractor in writing. The Contractor may appeal the determination as set forth in subsection C(2) above.
- E. Arbitration shall not be considered as a means of dispute resolution.

13. MEASUREMENT AND PAYMENT

- A. All work completed under the terms of this contract shall be measured according to United States Standard Measures.
- B. All measurements shall be taken horizontally or vertically, unless specifically provided otherwise.
- C. In the measurement of items to be paid for on the basis of area of finished work, when the pay quantity is designated to be determined by calculation, the lengths and/or widths to be used in the calculations shall be the station-to-station dimensions shown on the plans, the station-to-station dimensions actually constructed within the limits designated by the Engineer, or the final dimensions measured of the completed work within the lines shown on the plans or designated by the Engineer. The method, or combination of methods, shall be those which

reflect with reasonable accuracy the actual area of finished work as determined and authorized by the Engineer.

- D. No payment will be made for either construction over a greater area than authorized, or for material moved from outside of stakes and data shown on the plans, except when such work is performed upon instructions of the Engineer.
- E. The Contractor shall accept compensation provided under the terms of this contract as full payment for furnishing all materials and for performing all work contemplated and embraced under this contract. Such compensation shall also be for any and all loss or damage arising out of the nature of the work or from the action of the elements, or from any unforeseen difficulties or obstructions encountered during the contract period until final acceptance by the County.
- F. Whenever any change, or combination of changes in the plans, results in an increase or decrease in the original contract quantities, and the work added or decreased/eliminated is of the same general character as that called for in the plans, the Contractor shall accept payment in full at the original contract unit prices for the actual quantity of work performed, with no allowance for any loss of anticipated profits.
- G. Where the pay quantity for an item is designated to be Lump Sum, and the plans or specifications indicate an estimated quantity, compensation for that item will be adjusted proportionately if a plan change results in a significant change in the quantity from such estimated plan quantity.
- H. Failure to construct any item to plan or authorized dimensions within the specification tolerances shall result in reconstruction by the Contractor to acceptable tolerances at no additional cost to the County, acceptance at no pay, or acceptance at reduced final pay as determined by the Engineer. Adjustments to final pay for those items designated to be paid on the basis of Lump Sum quantity under these provisions shall not be made unless such adjustments results in an aggregate change per item of more than \$1,000.00 for earthwork items, or more than \$100.00 for any other item.
- I. Materials purchased by the Contractor for drainage structures, drainage pipe, and road base delivered to job site for this contract are eligible as determined by the Engineer for payment up to one half the bid unit price. If payment is made the materials shall become the property of Lake County. The Contractor shall be responsible for loss or theft and shall replace, at the Contractor's expense, any such materials lost for any reason. The remainder of payment shall not be made until such materials are properly constructed and in place per plans and specifications.

14. PAYMENTS TO CONTRACTOR

Monthly progress payments will be made to the Contractor. In accordance with the items listed within the Bid Form - Tabulation of Estimated Quantities (Division W), a list of items rendered complete, satisfactory, and acceptable will be prepared by the Contractor and submitted with each payment request. The payment request shall be based on extension of the unit values for said quantities. The Contractor's project representative will be required to review the payment requests with the Inspector and

sign the request in agreement. The payment request will then be checked by the Inspector's supervisor, who will reconfirm with the Inspector and Contractor any required corrections, before further processing for payment. If a good-faith dispute exists as to whether one or more items have been completed pursuant to the Contract, the County may continue to withhold an amount not to exceed 150 percent of the total costs to complete the remaining items.

All payments made to the Contractor and all payment of subcontractors, sub-contractors, materialmen, and suppliers shall be in accordance with Part VII, Chapter 218, Florida Statutes.

Federal or State Funding: If any project given to the Contractor under this Agreement is one in which federal or state funds shall be used, the Contractor is hereby informed that payment shall be contingent upon receipt of said federal or state funds or approval. Additionally, payment shall be contingent upon the Contractor completing all required forms and documentation as is necessary in order to obtain such federal or state funding or approval.

15. ACCEPTANCE AND FINAL PAYMENT

A. Final Inspection

Whenever all materials have been furnished, all work has been performed, and the construction contemplated by the contract has been satisfactorily completed, the Engineer will make the final inspection.

B. Maintenance of Work

The Contractor shall maintain all work in first-class condition until final inspection is completed and accepted by the Engineer. All Bonds and Insurance shall be maintained until final acceptance by the Board of County Commissioners.

C. Final Acceptance

1. Upon completion of the final construction inspection and where the work is found to be completed satisfactorily, the Contractor shall prepare a final estimate.
2. Whenever the work provided for under the contract has been completely performed by the Contractor, and the final inspection has been made by the Engineer, a final pay request showing the value of the work will be prepared by the Contractor as soon as the necessary measurements and computations can be made. All prior estimates and payments shall be subject to correction in the final estimate and payment. The amount of this estimate, less any sums that may have been deducted or retained under the provisions of the contract, will be paid to the Contractor as soon as practicable, after the Contractor has furnished a sworn Affidavit in the form provided in Division Z of this Contract, to the effect that all bills are paid and no suits are pending, and after the Contractor has agreed in writing to accept the balance due, as determined by the County, as full settlement of his account under contract and of all claims in connection therewith.

3. The surety on the contract bonds consents, by completion of their portion of the affidavit and surety release subsequent to the Contractor's completion of his portion, to final payment to the Contractor and agrees that the making of such payment shall not relieve the surety of any of its obligations under the bonds.

D. Waiver of Claims

1. The Contractor's acceptance of final payment shall constitute a full waiver of any and all claims by the Contractor against the County arising out of this Contract or otherwise related to the project, except those previously made in writing and identified by the Contractor as unsettled at the time the final estimate is prepared.
2. Neither the acceptance of the work nor payment by the County shall be deemed to be a waiver of the County's rights to enforce any continuing obligations of the Contractor hereunder or to the recovery of damages for defective work not discovered by the County at the time of final inspection.

E. Termination of Contractor's Responsibility

The contract will be considered complete when all work has been completed and has been accepted by the Engineer. The Contractor will then be released from further obligation except as set forth in his bonds and in this Division.

F. Recovery Rights, Subsequent to Final Payment

The County reserves the right, should an error be discovered in the partial or final estimates, or should proof of defective work or materials used by or on the part of the Contractor be discovered after the final payment has been made, to claim and recover from the Contractor or his surety, or both, by process of law, such sums as may be sufficient to correct the error or make good the defects in the work and materials.

16. COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees of bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the County shall have the right to annul this Contract without liability or, in its discretion, to deduct from the Contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage or contingent fee.

17. LANDS FOR WORK AND ACCESS THERETO

- A. The County will furnish and define the limits of land for access to the construction site and for the site proper. All information shown in the Contract Documents constitutes the extent of land provided by the County. Any and all other lands required by the Contractor shall be procured by the Contractor at the Contractor's expense.

- B. As the work progresses, the Contractor shall keep the site reasonably clear of rubbish, trash, waste and other disposable materials on a daily basis.
 - 1. If the Contractor allows the site to become littered and unsightly, any payments otherwise due may be withheld until the Contractor cleans up the site to the satisfaction of the Engineer. If the Contractor fails to clean-up the site, the County may choose to clean-up the site at the Contractor's expense.
- C. Temporary buildings (storage sheds, shops, offices, etc.) may be erected by the Contractor only with the approval of the Engineer after obtaining necessary permits, and shall be built with labor and materials furnished by the Contractor without expense to the County. Such temporary buildings and/or utilities shall remain the property of the Contractor and will be removed by him at his expense upon the completion of the work. With the written consent of the Engineer, such buildings and/or utilities may be abandoned and need not be removed.
- D. The Contractor shall confine all construction equipment, the storage of materials and equipment and the operations of workers to the project site and land and areas identified in and permitted by the Contract Documents, and shall not unreasonably encumber the project site with construction equipment or other material or equipment. The Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or any land or areas contiguous thereto, resulting from the performance of the work.
- E. The Contractor is responsible for ensuring and complying with any permit requirements from Federal, State, County, or local agencies in the storage of material on properties not under the control of Lake County. The Contractor shall provide best management practices at storage sites to prevent erosion, hazardous materials contamination, or other contaminations from occurring.

18. EXCAVATED MATERIAL AND FILL MATERIAL

- A. Any and all excavated material shall be hauled to legally permitted and environmentally appropriate locations only. Legally permitted locations shall be able to receive such material complying with all federal, state, and local laws.
- B. Any fill material used for a County project shall be exclusively sourced from legally permitted and properly zoned sources. Legally permitted sources shall mean those sources complying with all federal, state, and local laws. Properly zoned shall refer to county and municipal local laws or regulations that govern how real property can and cannot be used in certain geographic areas.
- C. Any contractor found not to be in compliance with Sections A and B above shall be held responsible and liable to repair and bring back into compliance any location in accordance with federal, state, or local requirements.

19. SITE INVESTIGATION

- A. Each Contractor shall visit the site of the proposed work and fully acquaint himself with conditions relating to construction and labor so that he may fully understand the facilities, difficulties and restrictions attending the execution of work under the contract. The Contractor shall thoroughly examine and be familiar with the Contract

Documents. Failure or omission of the Contractor to receive or examine any form, instrument, addendum or other documents, or to visit the site and acquaint himself with conditions existing thereon, shall in no way relieve the Contractor from any obligation with respect to the Contract.

The Geotechnical Report dated February 23, 2021, as prepared by William R. Braswell, PE, SE is included in Appendix B-1 for review.

Lake County does not warrant the accuracy or completeness of these reports, soil samples, or any other site condition information or data made available including, but not limited to, underground utility location. The submission of a bid shall be taken as prima-facie evidence of compliance with this section.

- B. The Contractor acknowledges that he has satisfied himself as to the nature and location of the work; the general and local conditions, including but not restricted to, those bearing upon transportation, disposal, handling and storage of materials; availability of labor, water, electric power, roads; and uncertainties of weather, river stages, tides or similar physical conditions at the site; the conformation and conditions of the ground; the character of equipment and facilities needed preliminary to and during prosecution of the work.
- C. The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials, obstacles, or conditions to be encountered.
- D. Any failure by the Contractor to acquaint himself with any aspect of the work or with any of the applicable conditions shall not relieve the Contractor from responsibility for adequately evaluating the difficulty or cost of successfully performing the work under the Contract Documents, nor shall it be considered the basis for any claim for additional time or compensation.
- E. The County assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the County. The County also assumes no responsibility for any understanding or representations made by its officers or agents during or prior to the execution of this Contract, unless such understanding or interpretations are made in writing.

20. PROTECTION OF EXISTING STRUCTURES, UTILITIES, WORK AND VEGETATION

- A. Location of existing structures and utilities provided in the Contract Documents are approximate only. Any damage to existing structures or work of any kind, or the interruption of a utility service resulting from failure to comply with the requirements of the Contract Documents, shall be repaired or restored promptly by, and at the expense of the Contractor.
- B. The Contractor will preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which do not unreasonably interfere with the construction as may be determined by the Engineer. The Contractor will be responsible for all unauthorized cutting or damaging of trees and shrubs, including

damage due to careless operation of equipment, stockpiling of materials or tracking of grass areas by equipment.

- C. Care will be taken by the Contractor in felling trees authorized for removal to avoid unnecessary damage to vegetation that is to remain in place. Any limbs or branches of trees broken during such operations shall be trimmed without cutting into the trunk and left with a clean cut and a small stub. The Contractor will be liable for, or may be required to replace or restore at his own expense, all vegetation that may be destroyed or damaged due to the Contractor's failure to protect and preserve same as required herein.
- D. Where the Contractor hauls material or equipment to the project over roads and bridges on the State road system, County road system or City street system, and such use causes damage, he shall immediately, at his expense, repair such road or bridge to as good a condition as before the hauling began. Such hauling shall be conducted in accordance with all applicable environmental and safety regulations.
- E. The Contractor shall fully protect the work from loss or damage and shall bear the cost of any such loss or damage until final payment has been made. If the Contractor or any one for whom the Contractor is legally liable for is responsible for any loss or damage to the work, or other work or materials of the County or County's separate contractors, the Contractor shall be charged with the same, and any monies necessary to replace such loss or damage shall be deducted from any amounts due the contractor.
- F. All existing monuments shown on these plans are to be preserved, if possible. Any monuments damaged or destroyed without the express written permission of Lake County, including but not limited to horizontal and vertical control points and property corners, are to be restored at the expense of the Contractor by a professional surveyor and mapper, licensed to do business in the State of Florida.

21. OTHER WORK

- A. The Contractor will cooperate with County forces or others who may be engaged in authorized work prior to final completion of the project.
- B. The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner and that service rendered by these parties will not be interrupted.
- C. The County may perform other work related to the project at the site by the County's own forces, have other work performed by utility owners or let other direct contracts. If the fact that such other work is to be performed is not noted in the Contract Documents, notice thereof will be given to the Contractor. If the Contractor believes that such performance will involve additional expense to the Contractor or require additional time, the Contractor shall send written notice of that fact to the County and the Engineer within forty-eight (48) hours of being notified of the other work. If the Contractor fails to send the above required forty-eight (48) hour notice, the Contractor will be deemed to have waived any rights it otherwise may have had to seek an extension to the contract time or adjustment to the contract amount. The

Contractor shall afford each utility owner and other contractors (or the County, if the County is performing the additional work with the County's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work and shall properly connect and coordinate its work with theirs. The Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the Engineer and the others whose work will be affected.

- D. If any part of the Contractor's work depends, for proper execution or results, upon the work of any other contractor other than a subcontractor or utility owner, the Contractor shall inspect and promptly report to the Engineer, in writing, any delays, defects or other problems in such other work that render it impossible for the Contractor to obtain proper execution or results. The Contractor's failure to report will constitute an acceptance of the other work as fit and proper for integration with the Contractor's work.

22. TERMINATION

A. Termination for Default

1. The Contractor shall be considered in material default of the Contract and such default shall be considered cause for the County to terminate the Contract, in whole or in part, as further set forth in this Section, for any of the following reasons:
 - a. Failing to begin the work under the Contract Documents within the time specified herein;
 - b. Failing to properly and timely perform the work as directed by the Engineer or as provided for in the approved Construction Schedule;
 - c. Performing the work unsuitably or neglecting or refusing to remove materials or to correct or replace such work as may be rejected as unacceptable, unsuitable or otherwise defective;
 - d. Discontinuing the prosecution of the work;
 - e. Failing to resume work that has been suspended within a reasonable time after being notified to do so;
 - f. Becoming insolvent or declared bankrupt, or committing any act of bankruptcy;
 - g. Allowing any final judgment to stand unsatisfied for more than ten (10) days;
 - h. Making an assignment for the benefit of creditors;
 - i. Failing to obey laws, ordinances, regulations or other codes of any governmental authority with jurisdiction on the project;

- j. Failing to perform or abide by the terms or spirit of the Contract Documents.
 - k. Failing to maintain contract security as required by the Contract Documents.
2. The County shall notify the Contractor in writing of the Contractor's default. If the County determines that the Contractor has not taken substantial steps toward effecting a remedy or cure of the default or defaults in his performance within seven (7) calendar days following receipt by the Contractor of written notice of default or defaults, then the County, at its option, without releasing or waiving its rights and remedies against the Contractor's sureties, and without prejudice to any other right it may be entitled to hereunder or by law, may terminate the Contractor's right to proceed under this Contract, in whole or in part, and may take possession of the work and any materials, tools, equipment, and appliances of the Contractor, take assignments of any of the Contractor's subcontracts and purchase orders and complete the Contractor's work by whatever means, method or agency which the County, in its sole discretion, may choose.
 3. If the County deems any of the foregoing remedies necessary, the Contractor agrees it shall not be entitled to receive any further payment until after the work is completed. All money expended and all of the costs, losses, damages and extra expenses, including all management, administrative and other overhead and other direct and indirect expenses, (including engineering, architectural and attorney's fees) or damages incurred by the County incident to such completion, shall be deducted from the contract price, and if such expenditures exceed the unpaid balance of the contract price, the Contractor agrees to pay promptly to the County on demand, the full amount of such excess, including costs of collection, attorneys' fees (including appeal) and interest thereon at the maximum legal rate of interest until paid.
 4. The liability of the Contractor hereunder shall extend to and include the full amount of any and all sums paid, expenses and losses incurred, damages sustained and obligations assumed by the County in good faith under the belief that such payments or assumptions were necessary or required, in completing the work and providing labor, materials, equipment, supplies, and other items therefore or relating to the work, and in settlement, discharge, or compromise of any claims, demands, suits or judgments pertaining to or arising out of the work hereunder.
 5. If after notice of termination of the Contractor's right to proceed pursuant to this subparagraph A it is determined for any reason that the Contractor was not in default or that his default was excusable, or that the County is not entitled to the remedies against the Contractor provided herein, then the Contractor's remedies against the County shall be the same as and limited to those afforded the Contractor pursuant to the Termination for Convenience subparagraph B below.

B. Termination for Convenience and Right of Suspension

1. The County shall have the right to terminate or suspend this Contract, in whole or in part, without cause upon seven (7) calendar days written notice to the Contractor.
2. In the event of such termination or suspension for convenience, the Contractor's sole recovery against the County shall be limited to that portion of the contract price earned through the date of termination or suspension, together with any retainage withheld and reasonable termination or suspension expenses incurred, but the Contractor shall not be entitled to any other or further recovery against the County, including, but not limited to, damages and any anticipated profit or work not performed.

23. SUBMITTALS

A. Schedule

1. At or before the Pre-construction Conference, the Contractor shall submit a preliminary Construction Progress Schedule to the Engineer. The County will review the schedule and provide the Contractor with comments. Within ten (10) days after receipt of the County's comments, the Contractor shall deliver to the Engineer a Construction Progress Schedule in a form satisfactory to the Engineer and showing the proposed dates of commencement and completion of each of the various subdivisions of work. A bar graph format is acceptable for the Construction Progress Schedule. If required by the Engineer, at or before the Pre-construction Conference, the Contractor shall provide to the County a breakdown of estimated monthly payments for the entire duration of the contract period.
2. For lump sum contracts the Contractor shall also furnish the Engineer with a detailed estimate giving a complete breakdown of the value of items of work to be paid for the purpose of making partial payments thereon. The values employed in making up this estimate and the schedule will be used for determining the basis of partial payment and as a basis for determining work quantity pricing for additions to or deductions from the contract price.
3. The Construction Progress Schedule shall be updated by the Contractor. All updates to the progress schedule shall be submitted for the Engineer's file.
4. The work shall be planned and carried out so as to minimize the interruption of existing services, and/or traffic, or as directed by the Engineer.
5. The Contractor is to furnish the Engineer for approval a Traffic Control Plan (TCP) that complies with the Manual on Uniform Traffic Control Devices (MUTCD).
6. If a National Pollution Discharge Elimination System (NPDES) Construction Permit is required for the Project, prior to construction the Contractor is to furnish the Engineer a copy of the Stormwater Pollution Prevention Plan (SWPPP).

B. Shop Drawings/Working Drawings

1. Four (4) complete sets of detailed shop or working drawings shall be furnished by the prime Contractor to the County for review and processing. The submittal shall include all details, computations, materials, loads, stresses, member sizes, deflections, and temporary connections for precasting.
2. All shop, working and erection drawings prepared by the Contractor or his subcontractor, fabricator or supplier shall be REVIEWED, DATED, STAMPED, APPROVED, SEALED (if required), and SIGNED BY THE CONTRACTOR prior to submission to the County for Public Works' approval. By approving and submitting shop or working drawings, the Contractor represents that he has verified work requirements, field measurements, construction criteria, sequence of assembly and erection, access and clearances, catalog numbers and other similar data. Each submission shall indicate the specification section or bid item number and page and/or sheet number to which the submission applies. Under no circumstances will submittals be accepted from subcontractors.

The Contractor shall indicate on the working, shop and erection drawings all deviations from the Contract Documents and shall itemize all deviations in the letter of transmittal.

3. Submittals shall be made to the County for approval by the Department of Public Works. The Contractor shall identify each submittal by contract number and title on the form provided by the Engineer. All submittals are to be transmitted in an expeditious manner to ensure "next day delivery". The approval by the County of shop drawings does not relieve the Contractor of liability to order materials and construct per FDOT specifications and the approved construction plans.
4. All submittals by the Contractor shall be made sufficiently in advance of the scheduled start of the applicable construction operation to allow for shop drawings review and for Contractor action required in addressing review comments. The review period shall begin on the day the submittal is received by the Department of Public Works and shall be completed on the day the County transmits reviewed drawings to the Contractor.
5. The Contractor shall schedule the submission of shop drawing sheets (to be discussed at the pre-construction meeting) so that approximately twenty-one (21) days are allowed for review by the County for routine work. For more complex work, the number of copies and the scheduled time for review shall be increased proportionately to the complexity of the work. Contractor submittals that are to be considered as complex and requiring proportionately greater review time include, but are not limited to, the following:
 - a. Contractor submittals of alternative design features or modifications to the original design.
 - b. Contractor submittals of complex designs, unusual construction or equipment and methods requiring analysis of design calculations.

C. Material Safety Data Sheets Requirement

If any chemicals, or materials or products containing toxic substances are to be used at any time during this Contract, pursuant to completion of this Contract, the Contractor shall furnish a Material Safety Data Sheet to both the Lake County Department of Risk Management and the Engineer, prior to commencing such use.

D. Materials

1. Delivery Tickets: The Contractor shall submit a copy of all delivery tickets for materials used on the project, regardless of the basis of payment.
 - c. Job Mix Formula for Asphaltic Concrete: Attention is directed to the provisions of FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" January 2021, and all supplemental specifications thereto which require the submission of job mix formulas for asphaltic concrete, of the type specified, at least fourteen (14) days before plant operations begin. The submitted formula shall be approved by the County. The Contractor shall prepare the mix formula to be submitted to the County.
 - d. Job Mix Formula for Portland Cement Concrete: Attention is directed to the requirement that job mix design formulas for all Portland Cement Concrete, of the type specified, be submitted at least fourteen (14) days prior to use on the project. The submitted formulas shall be approved by the County and/or its agents prior to its use. All concrete mix designs shall meet FDOT Concrete Class mix guidelines or the requirements included in the Technical Specifications included in these Contract Documents.
 - e. All Job mix formulas shall be submitted to the Engineer.

24. RIGHT TO AUDIT

The County reserves the right to require the Contractor to submit to an audit by any auditor of the County's choosing. The Contractor shall provide access to all of its records, which relate directly or indirectly to this Agreement at its place of business during regular business hours. The Contractor shall retain all records pertaining to this Agreement and upon request make them available to the County for ten (10) years following expiration of the Agreement; provided, however, that records related to unresolved audit findings, appeals or litigation shall be retained until the action is completed or the dispute is resolved. The Contractor agrees to provide such assistance as may be necessary to facilitate the review or audit by the County to ensure compliance with applicable accounting and financial standards. Additionally, the Contractor agrees to include the requirements of this provision in all contracts with subcontractors and material suppliers in connection with the work performed hereunder. If an audit inspection or examination pursuant to this section discloses overpricing or overcharges of any nature by the Contractor to the County in excess of one percent (1%) of the total contract billings, in addition to making adjustments for the overcharges, the reasonable actual costs of the County's audit shall be reimbursed to the County by the Contractor. Any adjustments and/or payments which must be made as a result of any such audit or inspection of the Contractor's invoices and/or records shall be made within a reasonable amount of time, but in no

event shall the time exceed ninety (90) days, from presentation of the County's audit findings to the Contractor.

25. INTEREST ON JUDGMENTS

In the event of any disputes between the parties to this contract, including without limited thereto, their assignees and/or assigns, arising out of or relating in any way to this contract, which results in litigation and a subsequent judgment, award or decree against either party, it is agreed that any entitlement to post judgment interest, to either party and/or their attorneys, shall be fixed by the proper court at the rate of five (5%) percent, per annum, simple interest. Under no circumstances shall either party be entitled to pre-judgment interest. The parties expressly acknowledge and, to the extent allowed by law, hereby opt out of any provision of federal or state statute not in agreement with this paragraph.

26. DRAINAGE AND EROSION CONTROL

The Contractor shall so conduct his operations and maintain the work in such condition that adequate drainage and erosion control will be in effect at all times.

27. STANDARD SPECIFICATIONS

Unless otherwise specified, the standard specifications to be used for this work shall be the FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," January 2021, or 2021 FDOT DESIGN MANUAL (FDM), (or latest edition), and all supplemental specifications thereto, or otherwise depicted on the construction plans.

28. PRIORITY

In any instance where there is an apparent conflict between Special Provisions and the corresponding terms of the "Standard Specifications," the Special Provisions shall be controlling.

29. SURVEY AND LAYOUT

- A. The Contractor shall be responsible for providing all lines, grades, boundaries and required survey and/or layout necessary to construct and inspect the project. All centerline control points shall be established and maintained through the contract period by the Contractor.
- B. The Contractor shall employ or retain the services of a Florida registered Professional Land Surveyor to perform and supervise the establishment and setting of the project centerline control at intervals not to exceed 500 feet. All primary control points such as section corners, points of intersection, points of curvature and points of tangency shall be installed, referenced by acceptable standards, and maintained through the contract period. All stakes and points shall be clearly marked and identified.
- C. The Contractor shall employ or retain the services of a Florida registered Professional Land Surveyor to perform and supervise the establishment of all rights-of-way/boundary staking at all project sidelines. Such staking shall be established and maintained by the Contractor's registered Professional Land Surveyor along each sideline or perimeter at each station and all points of

intersection, points of curvature, and points of tangency. All stakes shall be clearly marked and identified.

- D. The Contractor's registered Professional Land Surveyor and all employees engaged in survey efforts shall keep proper documentation of survey notes in hard bound books. The use of digital data storage capabilities may be used in lieu of hardbound books. Standard ASCII files/format shall be used with software compatibility to that of the LCPWD. The Contractor shall submit for approval the selected format and software application(s).
- E. The Contractor may perform or select the option to employ a Florida registered Professional Engineer or registered Professional Land Surveyor to provide construction layout. All layout and measurements shall be performed from control and boundaries established and maintained by the Contractor's Florida registered Professional Land Surveyor.
- F. The Contractor shall be responsible to perform all layout in acceptable standard methods. All items shall be clearly staked and marked. Roadway items shall be staked for horizontal alignment relative to the edge of pavement with appropriate offset stakes. All vertical grades should be referenced to the nearest even foot cut or fill where practical. Tabulated cut/fill sheets are acceptable for utility work items, copies of which shall be furnished to the Engineer prior to the work.
- G. All calculations for intermediate grades and locations shall be performed by the Contractor. All calculations shall be transcribed in hardbound field books prior to layout and staking.
- H. The Contractor shall submit, for information only, a Survey and Layout Plan comprised of the following:
 - 1. Name, address and certificate number of the registered Professional Land Surveyor to be in responsible charge of performing all survey control and boundary work.
 - 2. Name, address and certificate registration number, if applicable, of the person in responsible charge of performing all layout, measurements and calculations for the project, if opted by the Contractor. This person must be a Contractor, Professional Land Surveyor or Professional Engineer.
- I. Stakes Set by County: The Engineer will provide all construction stakes establishing right-of-way limits.
- J. Preservation of Stakes and Marks: The Contractor will be held responsible for the preservation of all the stakes and marks. If any of the stakes or marks are carelessly or willfully destroyed or disturbed by the Contractor, the cost of replacing them shall be deducted from the payment for the work.

30. LABORATORY TESTING

Cost of all required laboratory testing shall be borne by the County with the exception of the cost of failing tests and subsequent re-tests which shall be borne by the Contractor. Testing shall be in accordance with the Standard Specifications.

31. CONFORMITY OF WORK WITH PLANS

- A. All work performed and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on the plans or indicated in the specifications.
- B. In the event the Engineer finds the materials or the finished product in which the materials are used not within reasonably close conformity with the plans and specifications, but that reasonably acceptable work has been produced, he shall then make a determination if the work shall be accepted and remain in place. In this event, the Engineer will document the basis of acceptance by contract modification which will provide for an appropriate adjustment in the contract price for such work or materials as he deems necessary to conform to his determination based on engineering judgment.
- C. For base and surface courses, the finished grade may vary as much as 0.1 foot from the grade shown in the plans, provided that all template and straight edge requirements are met and that suitable transitions are in place.

32. GUARANTEE

All work shall be guaranteed for eighteen (18) months after completion and acceptance of the work unless otherwise specified. The guarantees are to be construed as being supplemental in nature and in addition to any and all other remedies available to the County under the laws of the State of Florida.

33. WARRANTY

The Contractor shall obtain and assign to the County all express warranties given to the Contractor or any subcontractors by any material suppliers, equipment or fixtures to be incorporated into the Project. The Contractor warrants to the County that any materials and equipment furnished under the Contract Documents shall be new unless otherwise specified, and that all work shall be of good quality, free from all defects and in conformance with the Contract Documents. The Contractor further warrants to the County that all materials and equipment furnished under the Contract Documents shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturers, fabricators, suppliers or processors except as otherwise provided for in the Contract Documents. Unless otherwise specified, if within eighteen (18) months after final completion and acceptance, any work is found to be defective or not in conformance with the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the County. The Contractor shall also be responsible for and pay for replacement or repair of adjacent materials or work which may be damaged as a result of such

replacement or repair. These warranties are in addition to those implied warranties to which the County is entitled as a matter of law.

34. PUBLIC RECORDS

Pursuant to Section 119.0701, Florida Statutes, the Contractor shall comply with the Florida Public Records' laws, and shall:

- A. Keep and maintain public records required by the County to perform the services identified herein.
- B. Upon request from Lake County, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.
- C. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the County.
- D. Upon completion of the contract, transfer, at no cost, to the County all public records in possession of the contractor or keep and maintain public records required by the County to perform the service. If the contractor transfers all public records to the County upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the County, upon request from the County's custodian of public records, in a format that is compatible with the information technology systems of the County.
- E. **IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT 352-253-6007, DMARGHESE@LAKECOUNTYFL.GOV, OR DEB MARGHESE, LAKE COUNTY PUBLIC WORKS, PO BOX 7800, TAVARES, FL 32778.**

Failure to comply with this section shall be deemed a breach of the contract and enforceable as set forth in Section 119.0701, Florida Statutes.

DIVISION J
LABORATORY TESTING AND SAMPLING SCHEDULE

OPERATION	MATERIAL SPECIFICATION	TESTS	PROJECT REQUIREMENTS	TESTING FREQUENCY
Prime and Tack Coats	FDOT Standard Specifications (Latest Edition)		Certification	Every Transport
Type Superpave Asphaltic Concrete	FDOT Standard Specifications (Latest Edition)	Job Mix Formula	Certification	Each mix design or change of aggregates
		RICE (Gmm)	Section 334	One per subplot
		Extraction Gradation Analysis	Section 334	One per subplot
		Field Density (Gmb)	Section 334	5 six inch cores per subplot (Random Locations)
		Asphalt Binder	Section 334	1 sample for the first 1000 tons and 1 per 4000 tons after
		Thickness	Section 330	Daily
Pavement Smoothness	FDOT Standard Specifications (Latest Edition)	Rolling Straight Edge	Section 330 (FM 5-509) Max 3/16 inch	Final SP structural layer and friction course layer
Concrete	FDOT Standard Specifications (Latest Edition)	Compression Strength	FDOT Section 346 and 347	Section 347 acceptance based on Certification; Section 346 One (1) set of cylinders for 10 CY or more per day. Additional set(s) for each 50 CY/day. One (1) set for each class of concrete placed each day.
		Each class of concrete used	Certification	Each mix design or change
Embankment	FDOT Standard Specifications (Latest Edition)	Standard Proctor AASHTO T-99	Section 120	Per material type
		Field Density	Section 120 -100% AASHTO T-99180	Section 120-One test per 500 LF per 12" lift of embankment Section 125-One test per 300 LF of pipe trench (or between structures) per 6' lift until 1 ft above pipe; 12" lift of backfill 1 ft above pipe Section 125 (modified) One test per 12" lift of structure backfill alternating sides
Compacted Subgrade	FDOT Standard Specifications (Latest Edition)	Standard Proctor AASHTO T-99	Section 120	One per material type
		Field Density	100% AASHTO T-99	Section 120 (modified)-One per 300 LF of sidewalk One per driveway
Stabilized Subgrade	FDOT Standard Specifications (Latest Edition)	Limerock Bearing Ratio FM 5-515	Section 160	One per 1,000 LF per lane (One per 2 lots) One per 2,000 LF per shoulder (One per 4 lots)
		Field Density/Thickness	Section 160-98% AASHTO T-180	Density-One per 500 LF per lane (1 per lot) Thickness - 3 per lot Density/thickness (modified)-One per 500 LF per shoulder
Limerock Base Course	FDOT Standard Specifications (Latest Edition)	Modified Proctor AASHTO T-180	Section 200	One per 8 lots
		Field Density/Thickness	Section 200-98% AASHTO T-180	Density-One per 300 LF per lane Thickness- 3 per lot Density/Thickness-One per 500 LF per shoulder
Sodding	FDOT Standard Specifications (Latest Edition) Section 575, Sodding, and Section 981	Each type of sod used	Certification	All seed, sod and mulch shall be free of noxious weeds and exotic pest plants, plant parts or seed listed in the current Category I "List of Invasive Species" from the Florida Exotic Pest Plant Council

This page to be used if permits are required.

DIVISION P

PERMITS

BID NO. 21-0923

PERMIT INDEX

<u>AGENCY</u>	<u>PERMIT NO.</u>	<u>PAGE NO. (s)</u>
Florida Department of Transportation	2020-A-592-00043	P-2 thru P-4
Florida Department of Transportation	2021-D-592-00003	P-5 thru P-12

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
**DRIVEWAY CONNECTION PERMIT
FOR ALL CATEGORIES**

PART 1: PERMIT INFORMATION	
APPLICATION NUMBER: <u>2020-A-592-00043</u>	
Permit Category: <u>J - Government Entity</u>	Access Classification: <u>5</u>
Project: <u>SR19 DEAD RIVER ROAD SIGNAL</u>	
Permittee: <u>Charles Hiott</u>	
Section/Mile Post: <u>11090 / 31.177</u>	State Road: <u>19</u>
Section/Mile Post: <u>/</u>	State Road: _____

PART 2: PERMITTEE INFORMATION	
Permittee Name: <u>Charles Hiott</u>	
Permittee Mailing Address: <u>902 E. Sinclair Ave.</u>	
City, State, Zip: <u>Tavares, Florida 32778</u>	
Telephone: <u>(352) 343-8481 ext. _____</u>	
Engineer/Consultant/or Project Manager: <u>Charles Hiott</u>	
Engineer responsible for construction inspection:	
NAME	P.E. #
Mailing Address: _____	
City, State, Zip: _____	
Telephone: _____	FAX, Mobile Phone, etc. <u>Fax: / Mobile: _____</u>

PART 3: PERMIT APPROVAL	
The above application has been reviewed and is hereby approved subject to all Provisions as attached.	
Permit Number: <u>2020-A-592-00043</u>	
Department of Transportation	
Signature: <u>Todd Croft</u>	Title: <u>MAINTENANCE MANAGER/CONTRACTS & PERMITS</u>
Department Representative's Printed Name <u>Todd Croft</u>	
Temporary Permit <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If temporary, this permit is only valid for 6 months)	
Special provisions attached <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Date of issuance: <u>4/15/2021</u>	
If this is a normal (non-temporary) permit it authorizes construction for one year from the date of issuance. This can only be extended by the Department as specified in 14-96.007(6).	

See following pages for General and Special Provisions

PART 4: GENERAL PROVISIONS

1. Notify the Department of Transportation Maintenance Office at least 48 hours in advance of starting proposed work.
Phone: 3523267735 , Attention: Jorge Velez
2. A copy of the approved permit must be displayed in a prominent location in the immediate vicinity of the connection construction.
3. Comply with Rule 14-96.008(1), F.A.C., Disruption of Traffic.
4. Comply with Rule 14-96.008(7), F.A.C., on Utility Notification Requirements.
5. All work performed in the Department's right of way shall be done in accordance with the most current Department standards, specifications and the permit provisions.
6. The permittee shall not commence use of the connection prior to a final inspection and acceptance by the Department.
7. Comply with Rule 14-96.003(3)(a), F.A.C., Cost of Construction.
8. If a Significant Change of the permittee's land use, as defined in Section 335.182, Florida Statutes, occurs, the Permittee must contact the Department.
9. Medians may be added and median openings may be changed by the Department as part of a Construction Project or Safety Project. The provision for a median might change the operation of the connection to be for right turns only.
10. All conditions in NOTICE OF INTENT WILL APPLY unless specifically changed by the Department.
11. All approved connection(s) and turning movements are subject to the Department's continuing authority to modify such connection(s) or turning movements in order to protect safety and traffic operations on the state highway or State Highway System.
12. **Transportation Control Features and Devices in the State Right of Way.** Transportation control features and devices in the Department's right of way, including, but not limited to, traffic signals, medians, median openings, or any other transportation control features or devices in the state right of way, are operational and safety characteristics of the State Highway and are not means of access. The Department may install, remove or modify any present or future transportation control feature or device in the state right of way to make changes to promote safety in the right of way or efficient traffic operations on the highway.
13. The Permittee for him/herself, his/her heirs, his/her assigns and successors in interest, binds and is bound and obligated to save and hold the State of Florida, and the Department, its agents and employees harmless from any and all damages, claims, expense, or injuries arising out of any act, neglect, or omission by the applicant, his/her heirs, assigns and successors in interest that may occur by reason of this facility design, construction, maintenance, or continuing existence of the connection facility, except that the applicant shall not be liable under this provision for damages arising from the sole negligence of the Department.
14. The Permittee shall be responsible for determining and notify all other users of the right of way.
15. Starting work on the State Right of Way means that I am accepting all conditions on the Permit.

PART 5: SPECIAL PROVISIONS

NON-CONFORMING CONNECTIONS: YES NO

If this is a non-conforming connection permit, as defined in Rule Chapters 14-96 and 14-97, then the following shall be a part of this permit.

1. The non-conforming connection(s) described in this permit is (are) not permitted for traffic volumes exceeding the Permit Category on page 1 of this permit, or as specified in "Other Special Provisions" below.
2. All non-conforming connections will be subject to closure or relocation when reasonable access becomes available in the future.

OTHER SPECIAL PROVISIONS:

Any pedestrian facilities which are being installed within or outside of the ROW as part of this permit, including, but not limited to, sidewalks in and around the connection reflected in the approved Plans, are required to be maintained in perpetuity by Permittee/Owner, its successors and assigns. Performing work in conjunction with this Permit constitutes acceptance of this condition.

PART 6: APPEAL PROCEDURES

You may petition for an administrative hearing pursuant to sections 120.569 and 120.57, Florida Statutes. If you dispute the facts stated in the foregoing Notice of Intended Department Action (hereinafter Notice), you may petition for a formal administrative hearing pursuant to section 120.57 (1), Florida Statutes. If you agree with the facts stated in the Notice, you may petition for an informal administrative hearing pursuant to section 120.57(2), Florida Statutes. You must file the petition with:

Clerk of Agency Proceedings
 Department of Transportation
 Haydon Burns Building
 605 Suwannee Street, M.S. 58
 Tallahassee, Florida 32399-0458

The petition for an administrative hearing must conform to the requirements of Rule 28-106.201(2) or Rule 28-106.301(2), Florida Administrative Code, and be filed with the Clerk of Agency Proceedings by 5:00 p.m. no later than 21 days after you received the Notice. The petition must include a copy of the Notice, be legible, on 8 1/2 by 11 inch white paper, and contain:

1. Your name, address, telephone number, any Department of Transportation Identifying number on the Notice, if known, the name and identification number of each agency affected, if known, and the name, address, and telephone number of your representative, if any, which shall be the address for service purposes during the course of the proceeding;
2. An explanation of how your substantial interests will be affected by the action described in the Notice;
3. A statement of when and how you received the Notice;
4. A statement of all disputed issues of material fact. If there are none, you must so indicate;
5. A concise statement of the ultimate facts alleged, including the specific facts you contend warrant reversal or modification of the agency's proposed action, as well as an explanation of how the alleged facts relate to the specific rules and statutes you contend require reversal or modification of the agency's proposed action;
6. A statement of the relief sought, stating precisely the desired action you wish the agency to take in respect to the agency's proposed action.

If there are disputed issues of material fact a formal hearing will be held, where you may present evidence and argument on all issues involved and conduct cross-examination. If there are no disputed issues of material fact an informal hearing will be held, where you may present evidence or a written statement for consideration by the Department.

Mediation, pursuant to section 120.573, Florida Statutes, may be available if agreed to by all parties, and on such terms as may be agreed upon by all parties. The right to an administrative hearing is not affected when mediation does not result in a settlement.

Your petition for an administrative hearing shall be dismissed if it is not in substantial compliance with the above requirements of Rule 28-106.201(2) or Rule 28-106.301(2), Florida Administrative Code. If you fail to timely file your petition in accordance with the above requirements, you will have waived your right to have the intended action reviewed pursuant to chapter 120, Florida Statutes, and the action set forth in the Notice shall be conclusive and final.

Approved
 [Signature]
 [Title]

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
DRAINAGE CONNECTION PERMIT

To be completed by DOT	
Drainage Connection Permit No. <u>2021-D-592-00003</u>	Date <u>2/3/2021</u>
Received By <u>One-Stop Permitting System</u>	Maintenance Unit <u>Leesburg Maintenance</u>
State Road No. <u>19</u>	Work Program Project No. _____
Section No. <u>110</u>	Construction Project No. _____
Milepost <u>31.177</u>	Station _____

Instructions for Drainage Connection Permit

Pursuant to 14-86.004(6), F.A.C. "The Drainage Connection Permit form serves as the application. Once approved by the Department, the form and supporting documents become the Drainage Connection Permit."

The applicant shall submit four completed permit packages with original signatures. Each package shall include all required attachments. All required signed and sealed plans and supporting documentation shall be submitted on no larger than (11" X 17") multipurpose paper, unless larger plan sheets are requested by the reviewer. The package will include the following items. If an item does not apply to your project, indicate "Not Applicable" or "N/A."

Included	Part	Title	Completed by:	Special Instructions
	1	Permit Information Sheet	Applicant	
	2	Certification by a Licensed Professional	Licensed Professional	Signed and Sealed
	3	Certification	Applicant	Signature
	4	Owner's Authorization of a Representative	Owner	Signature
	5	Affidavit of Ownership or Control and Statement of Contiguous Interest	Owner	Signature
	6	Permit General Conditions	FDOT	
	7	Permit Special Conditions	FDOT	
	8	As-Built Certification	Licensed Professional	Signed and Sealed – Submit within 15 working days of completion of construction
	Attachment	Legal Description		
	Attachment	Photographs of Existing Conditions		
	Attachment	Location Map		
	Attachment	Grading Plan		
	Attachment	Soil Borings	Licensed Professional	Signed and Sealed
	Attachment	Water Table / Percolation		
	Attachment	Calculations		
	Attachment	CD with Electronic Files of all Submittal Items		
				Scanned Images in pdf format

Note: Different Licensed Professionals may complete parts of the permit package. For example the Licensed Professional signing and sealing the as-built certification may be different from the Licensed Professional who signed and sealed the calculations for the permit package.

EXCEPTIONS: Activities that qualify for an Exception are listed in Rule 14-86, F.A.C. A permit application to the Department is NOT required. However, if you desire verification whether the work qualifies for an exception, send a completed copy of this permit package with its requested information to the applicable FDOT District Office.

Approved
 2021-02-03
 [Signature]

PART 1 – Permit Information Sheet

Select one: Permit Exception

Pursuant to 14-86.002(2), F.A.C. "Applicant means the owner of the adjacent property or the owner's authorized representative."

Applicant

Select one: Property Owner Owner's Representative (Complete Part 4)

Name: BRETT TOBIAS

Title and Company: BESH

Address: 902 E. Sinclair Ave.

City: Tavares State: Florida Zip: 32778

Telephone: (352) 343-8481 ext. _____ FAX: _____ Email: btobias@besandh.com

Property Owner (If not applicant)

Name: Fred Schneider

Title and Company: Public Works Director, Lake County

Address: 350 N. Sinclair Ave.

City: Tavares State: Florida Zip: 32778

Telephone: (352) 253-9092 ext. _____ FAX: (352) 253-9065 ext. _____ Email: ggadiel@lakecountyfl.gov

Applicant's Licensed Professional

Name: Charles Hiott Florida License Number: 54813

Title and Company: Director of Land Development, BESH-Halff

Address: 902 N. Sinclair Ave.

City: Tavares State: Florida Zip: 32778

Telephone: (352) 343-8481 ext. _____ FAX: (352) 343-8495 ext. _____ Email: chiott@halff.com

Project Information:

Project Name: SR19 DEAD RIVER ROAD SIGNAL

Location: SR 19

STREET	SR. NO.	US HWY NO.	CITY
<u>Lake</u>	<u>090</u>		

COUNTY	SECTION(S)	TOWNSHIP(S)	RANGE(S)

*Geographic Coordinates: Latitude (DMS,SSS): 28.7985066660425 Longitude (DMS,SSS): -81.7396675426611

Horizontal Datum: (NAD 83 / _____ Adj.)

* State Plane Coordinates: Northing 0 Easting: 0

Projection Zone: Florida North Florida East Florida West

Coordinate shall be the center of the driveway intersection with FDOT RAW, or, if there is no driveway connection, near the center of the property line nearest the state highway.

*Check with the FDOT Office for requirement.

Approved
 9/15/08 10:02 AM
 Todd C. ...

Brief description of facility and proposed connection:

Project is to construct turn lane at intersection of SR19 and Dead River Road in Tavares, FL. Project will drain to outfall pipe which flows away from FDOT pond, and FDOT and to the dead River.

Briefly describe why this activity requires a Drainage Connection Permit (Include where the stormwater will discharge to FDOT right of way):

Seeking an exemption. Project does not drain to FDOT pond or right-of-way, but to outfall pipe which flows to Dead River. Project is exempt from SJRWMD permitting.

Approved
2011-05-22 09:00:03
[Signature]
[Signature]

PART 2 – Certification by a Licensed Professional

In accordance with Rule 14-86, Florida Administrative Code (F.A.C.), I hereby certify that the following requirements are and/or will be met.

This project has been designed in compliance with all applicable water quality design standards as required by state governmental agencies.

14-86.004(3)(f) (F.A.C.): Certification by a Licensed Professional that the complete set of plans and computations complies with one of the following Rules Sections:

14-86.003(2)(a) (F.A.C.), or 14-86.003(2)(b) (F.A.C). (check one)

I further certify that a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges associated with Industrial activity from construction sites

Is required Is not required. (check one)

I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

This certification shall remain valid for any subsequent revision or submittal of plans, computation or other project documents by me.

Name of Licensed Professional: Charles Hiott

Florida License Number: 54813

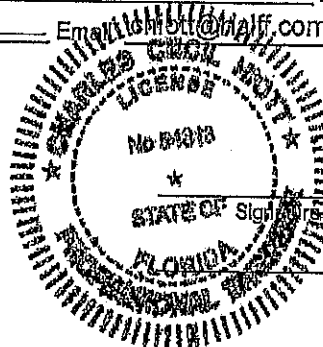
Company Name (If applicable): BESH-Half

Certificate of Authorization Number (If applicable): _____

Address: 902 N. Sinclair Ave.

City: Tavares State: Florida Zip: 32778

Telephone: (352) 343-8481 ext. _____ Fax: (352) 343-8495 ext. _____ Email: charles.hiott@half.com



Signature of Licensed Professional: CHA
Date: 1-29-21

(Affix Seal)

Approved
3021-0-592406
10/08

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
DRAINAGE CONNECTION PERMIT

PART 3 - Certification by Applicant

I hereby certify that the information in this submittal is complete and accurate to the best of my knowledge.

Applicant's Signature: [Signature] Date: 1-29-21

Name (Printed): Charles Hlott

Title and Company: BESH-Halff

Address: 902 N. Sinclair Ave., Tavares, Florida 32778

Phone Number: (352) 343-8481 ext. _____ E-mail address: chlott@halff.com

PART 4 - Owner's Authorization of a Representative

I (we), the owner, [Signature], do hereby authorize the following person, or entity, as my representative:

Name (Printed): Charles Hlott

Title and Company: BESH-Halff

Address: 902 N. Sinclair Ave., Tavares, Florida 32778

Phone Number: (352) 343-8481 ext. _____ E-mail address: chlott@halff.com

Part 5 - Affidavit of Property Ownership or Control and Statement of Contiguous Interest

I, [Signature], certify that I own or lawfully control the following described property:
Property is the intersection of Dead River Road and SR 19. Lake county desires to install a turn lane at this location.

Does the property owner own or have any interests in any adjacent property?
 No Yes If yes, please describe. _____

Owner's Signature required for Parts 4 and/or 5

We will not begin on the drainage connection until I receive the Permit and I understand all the conditions of the Permit. When work begins on the connection, I am accepting all conditions listed in the Permit.

Name (Printed): Fred Schneider

Address: 323 N. Sinclair Ave., Tavares, Florida 32778

Phone Number: (352) 253-6000 ext. _____

Signature: [Signature] Date: 1/29/2021

Approved
[Signature]
[Signature]
[Signature]

PART 6 – Permit General Conditions

1. This permit is a license for permissive use only and does not convey any property rights either in real estate or material, or any exclusive privilege and it does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, State or local laws, rules or regulations; nor does it obviate the necessity of obtaining any required state or local approvals.
2. The drainage connection as authorized herein shall be constructed and thereafter maintained in accordance with the documents attached hereto and incorporated by reference herein. All work performed in the Department's right of way shall be done in accordance with the most current Department standards, specifications and the permit provisions. Such construction shall be subject to the inspection and approval of the Department, and the Department may at any time make such inspections as it deems necessary to assure that the drainage connection is in compliance with this permit.
3. The entire expense of construction within the Department right of way, including replacement of existing pavement or other existing features, shall be borne by the permittee.
4. The permittee shall maintain that portion of the drainage connection authorized herein located on permittee's property in good condition. The Department shall maintain that portion of the drainage connection authorized herein located within its right of way.
5. If the drainage connection is not constructed, operated or maintained in accordance with this permit, the permit may be suspended or revoked. In this event modification or removal of any portion of the drainage connection from the Department's right of way shall be at the permittee's expense.
6. The Department reserves the right to modify or remove the drainage connection to prevent damage or in conjunction with road improvements.
7. It is understood and agreed that the rights and privileges herein set out are granted only to the extent of the Department's right, title, and interest in the land to be entered upon and used by the permittee, and the permittee will, at all times, assume all risk of and indemnify, defend and save harmless the Department from and against any and all loss, damage, cost or expense arising in any manner on account of the exercise or attempted exercises by said permittee of these rights and privileges, regardless of the respective degrees of fault of the parties.
8. Utilities, including gas lines, may exist within the right of way. Prior to beginning work the permittee shall contact Sunshine State One Call of Florida, Inc at 811 or 800-432-4770, who will notify all utility owners near the scheduled project. The utility owners have two (2) full business days to provide locations of their respective facilities. The permittee shall be solely responsible for any damage to or conflicts with gas lines, utilities and/or third persons.
9. The permittee shall notify the Department of Transportation Maintenance Office located at _____ Phone _____ 48 hours in advance of starting any work on the drainage connection authorized by this permit and also 24 hours prior to any work within the Department's right of way. Construction of any work on the right of way shall be completed within _____ days after such notification. If such construction is not completed within _____ days after such notification, the permittee shall notify the Department of the anticipated completion date.
10. This permit shall expire if construction on the drainage connection is not begun within one year from the date of approval and if construction on the drainage connection is not completed by (Date) 2/15/2022.
11. A permittee may request an extension of the Drainage Connection Permit expiration date by filing a written request for a permit time extension. All requests for time extensions must be received by the Department 15 working days prior to the expiration date.
12. All the provisions of this permit shall be binding on any assignee or successor in interest of the permittee.

Approved

PART 7 – Permit Special Conditions – To be completed by FDOT

The above request has been reviewed and has been found to meet the regulations as prescribed in Rule 14-86, F.A.C., and is hereby approved, subject to the following special conditions:

Department of Transportation:

Signature Todd Croft

Title MAINTENANCE MANAGER/CONTRACTS & PERMITS

Date 2/15/2021

PART 8 – As-Built Certification

Within 15 working days of completion of construction, you must send this certification to the Department office in which you filed your DOT Drainage Permit.

1. STORM WATER FACILITY INFORMATION

Permit No.: _____
Source (Project) Name: _____
Source Location: Street _____
City: _____ County: _____
Source Owner: _____
Owner Address: _____

2. AS-BUILT CERTIFICATION

I hereby certify that this storm water facility has been built substantially in accordance with the certified design plans, and that any substantial deviations (noted below) will not prevent the facility from functioning in compliance with the requirements of Chapter 14-86 F.A.C. when properly maintained and operated. These determinations have been based upon on-site observation of construction, scheduled and conducted by me or by a project representative under my direct supervision.

Name of Licensed Professional: _____
Florida License Number: _____
Company Name (if applicable): _____
Certificate of Authorization Number (if applicable): _____
Address: _____
City: _____ State: _____ Zip: _____
Telephone: _____ Fax: _____ Email: _____

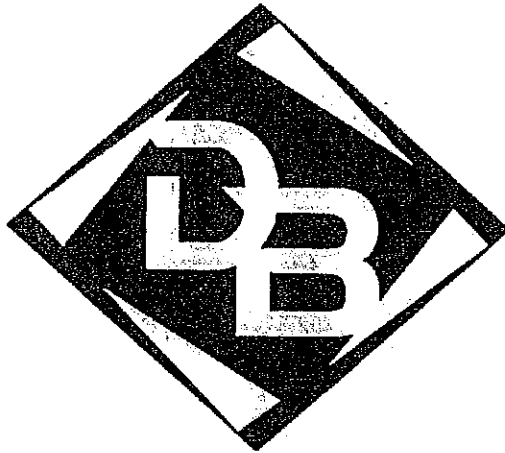
Signature of Licensed Professional

Date

(Affix Seal)

Substantial deviations from the approved plans and specifications (attach additional sheets if required).

10/21/08
14520



CIVIL CONSTRUCTION

4475 US-1 South, Suite 707
St Augustine 32086
Office: 904-328-7672 Fax: 386-672-0527

Cover Sheet

Municipality: Lake County

Project: Dead River Rd SR 19 Intersection Improv.

Bid: #ITB 21-0923

Submitted: 07.01.2021 3:00 PM

DIVISION W

BID FORM

DB Civil Construction, LLC

COMPANY NAME

NOTE: BIDDER SHALL SUBMIT BID IN DUPLICATE ON FORM PROVIDED HEREIN.

BID

OF

DB Civil Construction, LLC

(Name)

4475 South US 1, Suite 707, St Augustine, FL 32086

(Address)

(904) 329-7672

(Phone No.)

FOR

BID NO. 21-0923

DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
PROJECT NO. 2021-04

Lake County, Florida

Submitted July 1st 2021

TO THE COUNTY OF LAKE, FLORIDA:

We, the undersigned, hereby declare that no person or persons, firm or corporation, other than the undersigned, are interested in this proposal, as principals, and that this Bid is made without collusion with any person, firm or corporation, and we have carefully and to our full satisfaction examined the Special Provisions and form of Contract and Bond, together with the approved Plans and Specifications for the above described project, and that we have made a full examination of the location of the proposed work and the source of supply of materials, and we hereby agree to furnish all necessary labor, equipment, and materials, fully understanding that the quantities shown herewith are approximate only, and that we will fully complete all necessary work in accordance with the Plans and Specifications, and the requirements under them of the Engineer, within the time limit specified in this Bid for the following unit values, to-wit:

BID FORM – TABULATION OF ESTIMATED QUANTITIES
 DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
 PROJECT NO.2021-04, BID NO. 21-0923
ROADWAY CONSTRUCTION

Item No.	Description	Unit	Unit Price	Quantity	Amount
1	Mobilization	LS	68000.00	1	\$68,000.00
2	Maintenance of Traffic	LS	35000.00	1	\$35,000.00
3	Grading/Final Dressing	LS	44000.00	1	\$44,000.00
4	Clear and Grub	LS	35000.00	1	\$35,000.00
5	12" Stabilized Subgrade	SY	23.00	920	\$21,160.00
6	10" Limerock Base	SY	39.00	770	\$30,030.00
7	1.5" Minimum FC 12.5 TLC Asphalt	SY	17.00	2050	\$34,850.00
8	2.5" Minimum SP 12.5 TLC Asphalt	SY	30.00	770	\$23,100.00
9	1.5" Milling	SY	7.00	2050	\$14,350.00
10	Prime and Sand	SY	1.00	770	\$770.00
11	Tack Coat	SY	0.50	2820	\$1,410.00
12	Demo Existing Concrete	SY	19.00	420	\$7,980.00
13	Demo Existing Drainage Inlet	EA	1800.00	2	\$3,600.00
14	Demo Existing Drainage Pipe	LF	100.00	12	\$1,200.00
15	Demo Existing Sanitary Manhole	EA	2500.00	1	\$2,500.00
16	Demo Existing Sanitary Stub Out	EA	1000.00	1	\$1,000.00
17	6' Concrete Sidewalk 4" thick	SY	58.00	395	\$22,910.00
18	Type F Curb & Gutter	LF	34.00	500	\$17,000.00
19	Type D Curb	LF	30.00	94	\$2,820.00
20	ADA Sidewalk, Curb Ramp with Detectable Warning Mat	EA	700.00	4	\$2,800.00
Continued on next page					

BID FORM - TABULATION OF ESTIMATED QUANTITIES
 DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
 PROJECT NO.2021-04, BID NO. 21-0923

ROADWAY CONSTRUCTION

Item No.	Description	Unit	Unit Price	Quantity	Amount
21	Steel Pipe Guiderail	LF	160.00	24	\$3,840.00
22	FDOT Type 5 Inlet with Doghouse Bottom	EA	7000.00	2	\$14,000.00
23	FDOT Type 9 Inlet Top (Modify existing storm manhole)	EA	3500.00	1	\$3,500.00
24	Adjust Existing Sanitary Sewer Manholes	EA	1000.00	1	\$1,000.00
25	Open Cut Existing Roadway	LS	3000.00	1	\$3,000.00
26	10" PVC Gravity Sewer Pipe	LF	200.00	80	\$16,000.00
27	Adjust Existing Sanitary Sewer Clean Out	EA	2000.00	1	\$2,000.00
28	Connect to Existing Sanitary Sewer Flex-Seal ARC Fittings	EA	1400.00	2	\$2800.00
29	Erosion Control	LS	3000.00	1	\$3,000.00
30	Silt Fence	LF	1.00	1100	\$1,100.00
31	Sod	SY	4.00	1100	\$4,400.00
32	Single Post Sign Removal	EA	80.00	2	\$160.00
33	Single Sign Post, F&I, Ground Mount up to 12 SF	EA	450.00	3	\$1,350.00
34	Single Post Sign Relocate	EA	200.00	1	\$200.00
35	Sign Panel, F&I, Up to 12 SF	EA	250.00	4	\$1,000.00
36	6" Solid White Stripe	GM	5000.00	0.36	\$1,800.00
37	6" White, 6-10 Skip	GM	3000.00	0.060	\$180.00
38	12" White, Solid	LF	4.00	120	\$480.00
39	24" White, Solid	LF	6.00	200	\$1,200.00
40	White Arrow	EA	75.00	17	\$1,275.00
Continued on next page					

BID FORM -- TABULATION OF ESTIMATED QUANTITIES
DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
PROJECT NO. 2021-04, BID NO. 21-0923

ROADWAY CONSTRUCTION

Item No.	Description	Unit	Unit Price	Quantity	Amount
41	White Message	EA	280.00	12	\$3,360.00
42	6" Double Yellow Stripe	GM	10000.00	0.14	\$1,400.00
43	18" Yellow, Solid, Stripe	LF	5.00	36	\$180.00
44	Continuous Curb with Yellow Reflective Delineators	LF	60.00	160	\$9,600.00
45	Conduit, Underground	LF	10.00	250	\$2,500.00
46	Conduit, Under Pavement	LF	25.00	120	\$3,000.00
47	Conduit, Above Ground (Riser)	LF	38.00	100	\$3,800.00
48	Signal Cable	PI	9000.00	1	\$9,000.00
49	Fiber Optic Cable, 12 Single Mode	LF	4.00	100	\$400.00
50	Fiber Optic splice	EA	45.00	12	\$540.00
51	Fiber Optic Termination	EA	100.00	12	\$1,200.00
52	Splice Enclosure	EA	950.00	1	\$950.00
53	Splice Tray	EA	100.00	1	\$100.00
54	Patch Panel, Field Terminated	EA	900.00	1	\$900.00
55	Span Wire Assembly, Box	PI	6000.00	1	\$6,000.00
56	Pull Box	EA	850.00	6	\$5,100.00
57	Electrical Power Service, Underground	AS	2900.00	1	\$2,900.00
58	Electrical Service Wire	LF	6.00	150	\$900.00
59	Concrete Service Pole	EA	1700.00	1	\$1,700.00
60	Concrete Strain Pole, Type PVIII, 50'	EA	12000.00	1	\$12,000.00
Continued on next page					

BID FORM – TABULATION OF ESTIMATED QUANTITIES
DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
PROJECT NO.2021-04, BID NO. 21-0923
ROADWAY CONSTRUCTION

Item No.	Description	Unit	Unit Price	Quantity	Amount
61	Concrete Strain Pole, Type PVIII, 52'	EA	12300.00	2	\$24,600.00
62	Aluminum Pedestal	EA	2100.00	4	\$8,400.00
63	Traffic Signal Head, 3-Section with Backplate	AS	1300.00	7	\$9,100.00
64	Traffic Signal Head, 4-Section with Backplate	AS	1600.00	2	\$3,200.00
65	Traffic Signal Head, 5-Section with Backplate	AS	2000.00	2	\$4,000.00
66	Pedestrian Signal Head, 1-Way, Relocate	AS	400.00	5	\$2,000.00
67	Video Detection System, Cabinet Equipment	EA	19000.00	1	\$19,000.00
68	Video Detection System, Cameras	EA	3600.00	4	\$14,400.00
69	Preemption System, Cabinet Electronics	EA	6700.00	1	\$6,700.00
70	Preemption System, Detector	EA	1650.00	4	\$6,600.00
71	Pedestrian Detector	EA	200.00	8	\$1,600.00
72	Controller Assembly with Cabinet	AS	32000.00	1	\$32,000.00
73	Uninterruptible Power Supply	AS	7200.00	1	\$7,200.00
74	CCTV Camera	EA	10000.00	1	\$10,000.00
75	Internally Illuminated Street Name Sign, 2-sided, Cantilever	EA	6000.00	4	\$24,000.00
76	Adjust/Modify Conduit	LS	200.00	1	\$200.00
77	Signal Cable, Remove	PI	800.00	1	\$800.00
78	Fiber Optic Cable, Remove	LF	2.00	100	\$200.00
79	Span Wire Assembly, Remove	PI	800.00	1	\$800.00
80	Electrical Power Service, Remove	AS	1000.00	1	\$1,000.00
Continued on next page					

BID FORM - TABULATION OF ESTIMATED QUANTITIES
DEAD RIVER ROAD AT STATE ROAD 19 INTERSECTION IMPROVEMENTS
PROJECT NO.2021-04, BID NO. 21-0923

ROADWAY CONSTRUCTION

Item No.	Description	Unit	Unit Price	Quantity	Amount
81	Strain Pole, Remove (Shallow)	EA	2500.00	2	\$5,000.00
82	Traffic Signal Head, Remove	AS	50.00	8	\$400.00
83	Pedestrian Detector, Remove	EA	20.00	8	\$160.00
84	Signal Cabinet and Pad, Remove	AS	900.00	1	\$900.00
85	Sign Panel, Remove	EA	80.00	3	\$240.00
86	Survey/Layout/As Builts	LS	12000.00	1	\$12,000.00
87	Payment/Performance Bond	LS	8000.00	1	\$8,000.00
88	NPDES Permit	LS	500.00	1	\$500.00
89	Portable Toilet	LS	500.00	1	\$500.00
90	Mowing (within project limits)	LS	400.00	1	\$400.00
91	Litter Removal (within project limits)	LS	300.00	1	\$300.00
92	Concrete Strain Pole, Type PVIII, 54'	LS	12600.00	1	\$12,600.00
93	Reflective Pvmt Markers	LS	4.00	185	\$740.00
Total Lump Sum Bid (Figures):			\$714,835.00		
Total Lump Sum Bid (Words):			Seven Hundred Fourteen Thousand, Eight Hundred Thirty Five 00/100		
Number of Calendar Days to Complete:			210 Days		

The undersigned further agrees to execute the Contract within ten (10) calendar days after receipt of notice of award, and within the time frame of Division X.

The undersigned further agrees to bear the full cost of maintaining all work until the final acceptance.

The undersigned further declares that his Bid is based on specifications as modified by the following Addenda:

Addendum No. 01 Dated 5/26/2021 Addendum No. 02 Dated 6/09/2021
Addendum No. 03 Dated 6/15/2021 Addendum No. _____ Dated _____
Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

The undersigned Contractor's address and principal place of business is _____
DB Civil Construction, LLC, 4475 S US1, Ste 707, St Augustine, FL 32086

If Contractor is a corporation list the names, titles, and business addresses of its President, Secretary and Treasurer:

- 1. PRESIDENT _____ Address _____
(Name)
- 2. SECRETARY _____ Address _____
(Name)
- 3. TREASURER _____ Address _____
(Name)

Reciprocal Vendor Preference
(Not applicable on Federal/State Projects)

Vendors are advised the County has established, under Lake County Code, Chapter 2, Article VII, Sections 2-221 and 2-222 (see below); a process under which a local vendor preference program applied by another county may be applied in a reciprocal manner within Lake County. The following information is needed to support application of the Code:

1. Primary business location of the responding vendor (city/state): 4475 S US 1, Ste 707
St Augustine, FL 32086

2. Does the responding vendor maintain a significant physical location in Lake County at which employees are located and business is regularly transacted: Yes No If "yes" is checked, provide supporting detail:

Said corporation is qualified to do business in the State of Florida.

Corporate Name

By: _____, President
(Print Name)

CORPORATE SEAL

or Qualifying Agent

Contractor's Registration or Certification No.

If Contractor is not a corporation, list the name(s) and business address(es) of its owner(s), joint venturers or partners:

- 4475 South Us 1, Ste 707
St Augustine, FL 32086
1. Connie Baylor Address 4475 South US 1, Ste 707
(Name) St Augustine, FL 32086
 2. Dallon Baylor Address 4475 South US 1, Ste 707
(Name) St Augustine, FL 32086
 3. _____ Address _____
(Name)

The said company or business entity is a sole proprietorship, partnership, or joint venture and is trading and doing business as DB Civil Construction, LLC (Company Name).

By: Connie Baylor Connie Baylor
Name of Firm or Qualifying Agent

License CUC1224644

Contractor's Registration or Certification No.

FLORIDA TRENCH SAFETY ACT CERTIFICATION AND DISCLOSURE STATEMENT

The undersigned acknowledges the requirements of the Florida Trench Safety Act (Section 553.60 et. seq. Florida Statutes).

A. The Bidder further acknowledges that the Florida Trench Safety Act, (the Act) establishes the Federal excavation safety standards set forth at 29 C.F.R. Section 1926.650 Subpart P, as the Interim state standard until such time as the State of Florida, through its Department of Labor and Employment Security, or any successor agency, adopts, updates or revises said Interim standard. This State of Florida standard may be supplemented by special shoring requirements established by the State of Florida or any of its political subdivisions.

B. The Bidder, as Contractor, shall comply with all applicable excavation/trench safety standards.

C. The Contractor shall consider the geotechnical data available from the County, if any, the Contractor's own sources, and all other relevant information in its design of the trench safety system to be employed on the subject Project. The Contractor acknowledges sole responsibilities for the selection of the data on which it relies in designing the safety system, as well as for the system itself.

D. The amounts that the Bidder has set forth for pipe installation includes the following excavation/trench safety measures and the linear feet of trench excavated under each safety measure. These units, costs, and unit values shall be disclosed solely for the purpose of compliance with procedural requirements of the Act. No adjustment to the Contract time or price shall be made for any difference in the actual number of linear feet of trench excavation, except as may be otherwise provided in these Contract Documents.

Trench Safety Measure (Description)	Units of Measure (LF, SF)	Unit (Quantity)	Unit Cost	Extended Cost
A. Safe Slopes	LF	80'	\$1.00	\$80.00
B.				
C.				
D.				
E.				
F.				

For Information Only, Not for Payment Purposes \$ \$80.00

Bidder may use additional sheets as necessary to extend this form.

Failure to complete the above may result in the bid being declared non-responsive.

E. The amount disclosed as the cost of compliance with the applicable trench safety requirements does not constitute the extent of the Contractor's obligation to comply with said standards. The Contractor shall extend additional sums at no additional cost to the County, if necessary, to comply with the Act (except as may otherwise be provided).

F. Acceptance of the bid to which this certification and disclosure applies in no way represents that the County or its representative has evaluated and thereby determined that the above costs are adequate to comply with the applicable trench safety requirements nor does it in any way relieve the Contractor of its sole responsibility to comply with the applicable trench safety requirements.

DB Civil Construction, LLC

Company

Connie Baylor - Manager

Connie Baylor

Name and Title

Address:

4475 South US 1, Ste 707

St Augustine, FL 32086

Telephone: () 904-329-7672

DIVISION X

AGREEMENT

THIS AGREEMENT, made and entered into by and between the Board of County Commissioners of Lake County, a political subdivision of the State of Florida, hereinafter designated the COUNTY, and DB Civil Construction, LLC authorized to do business in the State of Florida, with principal place of business located at 4475 US-1 South, Suite 707, St. Augustine, FL 32086 hereinafter designated the CONTRACTOR,

WITNESSETH:

That for and in consideration of the sum of Seven Hundred Fourteen Thousand Eight Hundred Thirty Five and 00/100 Dollars (\$714,835.00) to be paid by the COUNTY to the CONTRACTOR, as herein provided, and in further consideration of the mutual covenants and promises to be kept and performed by and between the parties hereto, it is agreed as follows:

A. THE CONTRACTOR AGREES:

1. To furnish all services, labor, materials and equipment necessary for the complete performance, in a thorough and workmanlike manner, of the work contemplated under Dead River Road and State Road 19 Intersection Improvements, Project No. 2021-04, Bid No. 21-0923 in Lake County, Florida, to comply with the applicable standards, and to perform all work in strict accordance with the terms of the Contract Documents, defined in Section D of this Agreement.

2. To commence work under this contract with an adequate force and equipment within thirty (--30--) consecutive calendar days after receipt of written notice from the COUNTY to proceed hereunder, and to fully complete all necessary work under the same within not more than Two Hundred Ten (210) consecutive calendar days. It is understood and agreed that the date on which the consecutive calendar days will begin to be charged to the project shall be the thirtieth (30th) calendar day from the date of receipt of the Notice

to Proceed. Time of performance and completion of the work of this contract is of the essence.

3. That upon failure to complete all work within the time provided for above, the Contractor shall pay to the County such sums as shall be determined in accordance with the Liquidated Damages provision of this contract, and the payment of such sum shall be secured as provided for therein.

4. That the CONTRACTOR and each subcontractor shall furnish to the COUNTY, upon demand, a certified copy of the payroll covering work under this contract, together with such other information as may be required by the COUNTY to ensure compliance with the law and the provisions of this contract.

5. To procure and maintain all insurance as required by the Instructions to Bidders.

6. To procure and maintain all permits and licenses which may be required by law in connection with the prosecution of the work contemplated hereunder, except for those permits obtained by the County as expressly set forth in Division P of the Contract Documents.

7. To permit any representative(s) of the COUNTY, at all reasonable times, to inspect the work in progress or any of the materials used or to be used in connection therewith, whether such work is located on or off the project site, and to furnish promptly, without additional charge, all reasonable facilities, labor and materials deemed necessary by the County's Engineer, for the conducting of such inspections and tests as he may require.

8. Unless otherwise provided in the special provisions, conditions and specifications, to assume liability for all damage to work under construction or completed, whether from fire, water, winds, vandalism, or other causes, until final completion and acceptance by the County and notwithstanding the fact that partial payments may have been made during construction.

9. No subcontract or transfer of contract shall in any case release either the Contractor or his surety of any liability under the contract and bonds. The County reserves the right to reject any subcontractors or equipment.

10. The Contractor shall indemnify, pay the cost of defense, including attorneys' fees, and hold harmless the County from all suits, actions or claims of any character brought on account of any injuries or damages received or sustained by any person, persons or property by or from the said Contractor; or by, or in consequence of any neglect in safeguarding the work; or through the use of unacceptable materials in the construction of improvements; or by, or on account of any act or omission, neglect or misconduct of the said Contractor; or by, or on account of, any claim or amounts recovered for any infringement of patent, trademark or copyright; or from any claims or amounts arising or recovered under the "Workers' Compensation Law" or of any other laws, by-laws, ordinance, order or decree, including any joint negligence of the County, except only such injury or damage as shall negligence of the County, except only such injury or damage as shall have been occasioned by the sole negligence of the County; and so much of the money due the said Contractor under and by virtue of his Contract as shall be considered necessary, may be retained by the County or, in case no money is due, his surety shall be held until such suits, actions or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the County. The County and the Contractor agree the first \$100.00 of the Contract amount paid by the County to the Contractor shall be given as separate consideration for this indemnification, and any other indemnification of the County by the Contractor provided for within the Contract Documents, the sufficiency of such separate consideration being acknowledged by the Contractor by the Contractor's execution of the Agreement.

The Contractor shall guarantee the payment of all just claims for materials, supplies, tools, labor or other just claims against him or any subcontractor in connection with this

Contract; and his bonds will not be released by final acceptance and payment by the County unless all such claims are paid or released.

B. THE COUNTY AGREES:

To pay to the Contractor the contract price hereinabove specified, as follows:

If progress satisfactory to the County is being made by the Contractor, the Contractor will receive partial payments, not more frequently than once a month, on this contract as the work progresses, based upon estimates of the amount of work done less payments previously made. In each case 10% of each progress payment shall be withheld as retainage until 50% completion of the project. After 50% completion of the project, the County shall withhold 5% of each subsequent progress payment. Payment of retainage shall be as set forth in Section 218.735, Florida Statutes. Neither progress payment nor partial or entire use or occupancy of the project by the County shall constitute an acceptance of work not in accordance with the Contract Documents.

The County, prior to making of any payment, may require the Contractor to furnish a certificate or other evidence showing the amount of work done or completed at that time.

C. IT IS MUTUALLY AGREED:

1. That no change, alteration, amendment, payment for extra work or agreement to pay for same, shall be binding upon the County until its Engineer has approved the same, and until the same shall be properly approved in accordance with Board policy.

2. That the Engineer shall represent the County insofar as prosecution of the work, and interpretation of the plans and specifications are concerned, and that no payments shall be made by the County under this contract except upon the certificate of the Engineer.

3. This Contract shall be interpreted under and its performance governed by the laws of the State of Florida.

4. The failure of the County to enforce at any time or for any period of time any one or more of the provisions of the Contract Documents shall not be construed to be and shall not be a waiver of any such provision or provisions or of its rights thereafter to enforce each and every such provision.

5. Each of the parties hereto agrees and represents that this Contract comprises the full and entire agreement between the parties affecting the work contemplated, and that no other agreement or understanding of any nature concerning the same has been entered into or will be recognized, and that all negotiations, acts, work performed, or payments made prior to execution hereof shall be deemed merged into, integrated and superseded by this Contract.

6. Should any provision of this Contract be determined by a court to be unenforceable, such determination shall not affect the validity or enforceability of any section or part thereof.

D. The following named Documents, which shall be referred to as the "Contract Documents," are by reference hereby incorporated into this contract:

DIVISION	A	Instructions to Bidders
DIVISION	B	General Conditions
DIVISION	J	Laboratory Testing and Sampling Schedule
DIVISION	P	Permits
DIVISION	W	Proposal and Bid
DIVISION	Y	Performance Bond Payment Bond
DIVISION	Z	Affidavit by General Contractor
APPENDIX	A-1	"Sample Change Order"
APPENDIX	B-1	Geotechnical Report
ADDENDUM	#1 through #3	

Construction Plans prepared by the Engineer of record for this project.

E. Notices.

1. All notices, demands, or other writings required to be given or made or sent in this Contract, or which may be given or made or sent, by either party to the other, shall be deemed to have been fully given or made or sent when in writing and addressed as follows:

County

County Manager
P. O. Box 7800
315 West Main Street
Tavares, Florida 32778-7800

Contractor

Connie Baylor, Manager
DB Civil Construction, LLC
4475 US-1 South, Suite 707
St. Augustine, FL 32086

CC: Public Works Director
PO Box 7800
Tavares, FL 32778

2. All notices required, or which may be given hereunder, shall be considered properly given if (a) personally delivered, (b) sent by certified United States mail, return receipt requested, or (c) sent by Federal Express or other equivalent overnight letter delivery company.

3. The effective date of such notices shall be the date personally delivered, or if sent by mail, the date of the postmark, or if sent by overnight letter delivery company, the date the notice was picked up by the overnight letter delivery company.

4. Parties may designate other parties or addresses to which notice shall be sent by notifying, in writing, the other party in a manner designed for the filing of notice hereunder.

F. This contract shall be binding upon, and shall insure to the benefit of the executors, administrators, heirs, successors and assigns of the Contractor.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed on the day and year as written.

LAKE COUNTY acting by and through its Board of County Commissioners

DB CIVIL CONSTRUCTION, LLC

Sean M. Parks
Sean M. Parks, Chairman

Connie Baylor
Connie Baylor, Manager

This 9th day of September, 2021.

This 11th day of August, 2021.

ATTEST:

Gary J. Cooney
Gary J. Cooney, Clerk of the Board of County Commissioners of Lake County, Florida



ATTEST: _____

Print Name: _____

Title: _____

CORPORATE SEAL

OR

Approved as to form and legality by
County Attorney for Lake County, Florida
Lake County Administration Building
315 West Main Street
Tavares, Florida 32778
(352) 343-9787

WITNESSES:

Jessica Loos

Print Name: Jessica Loos

Melanie Marsh
Melanie Marsh
County Attorney

Melissa Garcia

Print Name: Melissa Garcia

Business Address:
4475 US 1 S, Ste 707
St. Augustine, FL 32086

Contractor's Reg. or Cert. No. CUC1224644

EXECUTED IN DUPLICATE

DIVISION Y

BONDS

BOND NO. 30124905

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that We,

Contractor DB Civil Construction, LLC
Contractor Address 4475 US-1 South, Suite 707
Contractor Address 2 St. Augustine, FL 32086
Contractor Phone 904-329-7672

(hereinafter called the "Principal"), whose principal business address and telephone number is as stated above; and

Surety Western Surety Company
Surety Address 151 North Franklin, 17th Floor
Surety Address 2 Chicago, IL 60606
Surety Phone 1-877-672-6115

(hereinafter called the "Surety"), whose principal address and telephone number is as stated above, a surety insurer chartered and existing under the laws of the State of South Dakota and authorized to do business in the State of Florida;

are held and firmly bound unto Lake County Board of County Commissioners, Lake County, Florida, a political subdivision of the State of Florida, whose principal address is P.O. Box 7800, Tavares, Florida 32778, and whose principal telephone number is (352) 253-6000 (hereinafter called the "Obligee"), in the sum of Seven Hundred Fourteen Thousand Eight Hundred Thirty Five and No/100 Dollars (\$ 714,835.00),

for payment of which we bind ourselves, our heirs, our legal representatives, our successors and our assignees, jointly and severally.

WHEREAS, Principal has entered into a contract with Obligee as the owner for Dead River Road and State Road 19 Intersection Improvements, Project No. 2021-04, Bid No. 21-0923 (hereinafter called the "Contract"), which conditions and provisions as are further described in the aforementioned Contract, which Contract is incorporated herein by reference and made a part hereof for the purpose of perfecting this bond.

NOW THEREFORE, THE CONDITION OF THIS BOND, are such that if Principal:

1. Fully, promptly, and faithfully performs the Contract at the times and in the manner prescribed in the Contract, including all obligations imposed by the Contract documents, specifications, and changes orders; and
2. Pays Obligee any and all losses, damages, costs and attorneys' fees, including appellate proceedings, that Obligee sustains because of any default by Principal under the Contract, including, but not limited to, all delay damages, whether liquidated or actual, incurred by Obligee; and

Y-1

INSTRUMENT #2021122578
OR BK 5787 PG 2267 - 2276 (10 PGS)
DATE: 9/3/2021 2:48:40 PM
GARY J. COONEY, CLERK OF THE CIRCUIT COURT
AND COMPTROLLER, LAKE COUNTY, FLORIDA
RECORDING FEES \$86.50

3. Performs the guarantee of all work and materials furnished under the Contract for the time specified in the Contract; and
4. Promptly make all payments to all persons defined in Section 713.01, Florida Statutes, as amended, whose claims derive directly or indirectly from the prosecution of the work provided for in the Contract;

then this bond shall be void; otherwise it remains in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the Contract or other work to be performed hereunder, or the specifications referred to therein shall in any way affect Surety's obligation under this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Contract or to work or to the specifications.

This instrument shall be construed in all respects as a statutory bond. It is expressly understood the time provisions and statute of limitations under Section 255.05, Florida Statutes, as amended, shall apply to this bond.

By execution of this bond, the Surety acknowledges that it has read the Surety qualifications and obligations imposed by the Contract and hereby satisfies those conditions.

The parties agree that this public performance bond and any claims instituted under this bond shall be governed by the laws, rules and regulations of the State of Florida and venue shall be in a court of competent jurisdiction in and for Lake County, Florida.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument on the day and year below mentioned, the name of each party being affixed and these presents duly signed by its/their undersigned representative(s), pursuant to authority of its governing body.

Signed, sealed and delivered
in the presence of:

Contractor, as **PRINCIPAL**:

Company: DB Civil Construction, LLC

By: Connie Baylor
(Authorized Signature)

Printed Name: Connie Baylor

Title: Manager

Date: 8-11-21

Melissa Garcia
#1 Witness as to Principal

[Signature]
#2 Witness as to Principal

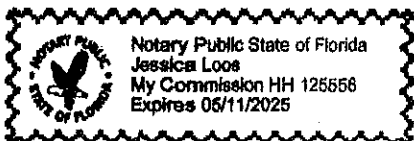
STATE OF FLORIDA
COUNTY OF St. Johns

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 11th day of August, 2021, by Connie Baylor as manager for DB Civil Construction LLC.

Personally Known OR Produced Identification
Type of Identification Produced _____

Jessica Loos
(Notary Signature)

(SEAL)



EXECUTED IN DUPLICATE

BOND NO. 30124905

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that We,

Contractor DB Civil Construction, LLC

Contractor Address 4475 US-1 South, Suite 707

Contractor Address 2 St. Augustine, FL 32086

Contractor Phone 904-329-7672

(hereinafter called the "Principal"), whose principal business address and telephone number is as stated above; and

Surety Western Surety Company

Surety Address 151 North Franklin, 17th Floor

Surety Address 2 Chicago, IL 60606

Surety Phone 1-877-672-6115

(hereinafter called the "Surety"), whose principal address and telephone number is as stated above, a surety insurer chartered and existing under the laws of the State of South Dakota and authorized to do business in the State of Florida;

are held and firmly bound unto Lake County Board of County Commissioners, Lake County, Florida, a political subdivision of the State of Florida, whose principal address is P.O. Box 7800, Tavares, Florida 32778, and whose principal telephone number is (352) 253-6000 (hereinafter called the "Obligee"), in the sum of Seven Hundred Fourteen Thousand Eight Hundred Thirty Five and No/100
Dollars (\$ 714,835.00)

for payment of which we bind ourselves, our heirs, our legal representatives, our successors and our assignees, jointly and severally.

WHEREAS, Principal and Obligee as Owner have reached a mutual agreement for Dead River Road and State Road 19 Intersection Improvements, Project No. 2021-04, Bid No. 21-0923 (hereinafter referred to as the "Contract") which conditions and provisions as are further described in the aforementioned Contract, which said Contract being made a part of this Bond by this reference for the purpose of perfecting this Bond.

NOW THEREFORE, THE CONDITIONS OF THIS BOND are such that if Principal:

1. Shall promptly make payments to all claimants as defined in Section 255.05(1), Florida Statutes, as amended, supplying the Principal with labor, materials or supplies, as used directly or indirectly by the Principal in the prosecution of the work provided for in the Contract; and
2. Shall pay the Obligee for all losses, damages, expenses, costs and attorneys' fees, including those resulting from appellate proceedings, that the Obligee sustains because of a default by the Principal in contravention to the Contract in regard to payment for such labor, materials, or supplies furnished to the Principal;

then this bond shall be void; otherwise this Bond remains in full force and effect.

BOND NO. 30124905

BE IT FURTHER KNOWN AND AGREED TO BY THE PARTIES THAT:

1. Any changes in or under the Contract and compliance or noncompliance with any formalities connected with the said Contract or alterations which may be made in the terms of the said Contract, or in the work to be done under it, or the giving by the Obligee of any extension of time for the performance of the said Contract, or any other forbearance on the part of the Obligee or Principal to the other, shall not in any way release the Principal and the Surety, or either of them, their heirs, personal representatives, successors or assigns from liability hereunder, notice to the Surety of any such changes, alterations, extensions or forbearance being hereby waived.
2. Certain claimants seeking the protection of this Bond must timely comply with the strict requirements set forth in Section 255.05, Florida Statutes, as amended, and as otherwise provided by law.
3. The Provisions of this bond are subject to the limitations of Section 255.05(2), Florida Statutes, as amended.

By execution of this bond, the Surety acknowledges that it has read the Surety qualifications and obligations imposed by the Contract and hereby satisfies those conditions.

The parties agree that this public bond and any claims instituted under this bond shall be governed by the laws, rules and regulations of the State of Florida and venue shall be in a court of competent jurisdiction in and for Lake County, Florida.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument on the day and year below mentioned, the name of each party being affixed and these presents duly signed by its/their undersigned representative(s), pursuant to authority of its governing body.

Signed, sealed and delivered
in the presence of:

Contractor, as PRINCIPAL:

Company: DB Civil Construction, LLC

By: Connie Baylor
(Authorized Signature)

Printed Name: Connie Baylor

Title: Manager

Date: 8-11-21

Melissa Garcia
#1 Witness as to Principal

[Signature]
#2 Witness as to Principal

STATE OF FLORIDA
COUNTY OF St. Johns

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 11th day of August, 2021 by Connie Baylor as manager for DB Civil Construction LLC

Personally Known OR Produced Identification
Type of Identification Produced _____

Jessica Loos
(Notary Signature)

(SEAL)



BOND NO. 30124905

SURETY:

Company: Western Surety Company

#1 Witness as to Surety

#2 Witness as to Surety

By: _____
(Authorized Signature)
Printed Name: _____
Title: _____
Date: _____

OR BY ATTORNEY IN FACT (POWER OF ATTORNEY MUST BE ATTACHED)

Claudia Nuñez
#1 Witness as Attorney In Fact
Claudia Nuñez, Witness
Sam Duckett
#1 Witness as Attorney In Fact
Sam Duckett, Witness

By: S. McCauley, Jr.
(As Attorney In Fact)
Printed Name: Sean McCauley, Jr. Attorney In Fact
Date: August 10, 2021
Address: 151 North Franklin, 17th floor
Chicago, IL 60606
Phone: 1-877-672-6115

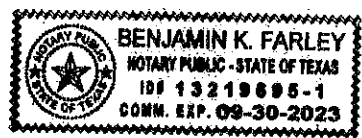
TEXAS
STATE OF ~~FLORIDA~~
COUNTY OF DALLAS

The foregoing instrument was acknowledged before me by means of physical presence or online
notarization, this 10th day of August, 2021, by Sean McCauley, Jr. as
Attorney-In-Fact for Western Surety Company.

Personally Known OR Produced Identification
Type of Identification Produced Drivers License #:
11896931

B. K. Farley
(Notary Signature)

(SEAL)



Western Surety Company

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Sean McCauley Jr, Individually

of Dallas, TX, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 7th day of April, 2020.



WESTERN SURETY COMPANY

Paul T. Bruflat, Vice President

State of South Dakota }
County of Minnehaha } ss

On this 7th day of April, 2020, before me personally came Paul T. Bruflat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires

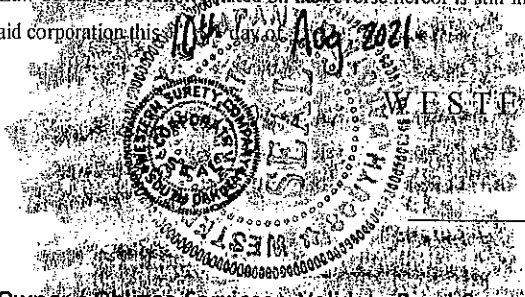
June 23, 2021



J. Mohr, Notary Public

CERTIFICATE

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 10th day of Aug, 2021.



WESTERN SURETY COMPANY

L. Nelson, Assistant Secretary

Authorizing By-Law

ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

State of Florida



Department of State

I certify from the records of this office that WESTERN SURETY COMPANY is a South Dakota corporation authorized to transact business in the State of Florida, qualified on March 15, 1965.

The document number of this corporation is 818570.

I further certify that said corporation has paid all fees and penalties due this office through December 31, 1994, that its most recent annual report was filed on May 1, 1994, and its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the
Great Seal of the State of Florida,
at Tallahassee, the Capital, this the
Twelfth day of May, 1994



CR2EO22 (2-91)

Jim Smith
Secretary of State

State of Texas

Claim Notice Endorsement

To be attached to and form a part of Bond No. 30124905.

In accordance with Section 2253.021(f) of the Texas Government Code and Section 53.202(6) of the Texas Property Code any notice of claim to the named surety under this bond(s) should be sent to:

**CNA Surety
151 North Franklin, 17th Floor
Chicago, IL 60606**

Telephone: 1-877-672-6115

DIVISION Z

AFFIDAVIT OF RELEASE AND GUARANTEE

Before me, the undersigned authority, personally appeared _____ after being duly sworn, deposes and says:

All charges for labor, materials, supplies, lands, licenses and other expenses arising from the Contract, Dead River Road and State Road 19 Intersection Improvements, Project No. 2021-04, Bid No. 21-0923, for which Lake County, Florida, hereinafter "County" might be sued or for which a lien or a demand against any payment bond might be filed, have been fully satisfied and paid or will be fully satisfied and paid promptly upon receipt of payment by the Contractor. The Contractor will fully indemnify, defend and save harmless the County from all demands, suits, actions, claims of lien or other charges filed or asserted against the County in connection with matters certified to herein.

On behalf of itself and its subcontractors, suppliers, materialmen, successors and assigns, the Contractor releases and waives all claims, demands, damages, costs and expenses, against the Board of County Commissioners of Lake County, relating in any way to the performance or payment of the above-numbered Contract, for the period from the date of execution of the Contract through and including the date of acceptance of Final Payment.

The Contractor is aware of contractual provisions for warranties and guarantees contained in the General Conditions of the above numbered contract, and acknowledges that those provisions shall have the same force and effect as if this Affidavit had not been executed, and understands that the County's remedies are not limited by same but are in addition to any other remedies provided by law.

This Affidavit is given in connection with the Contractors application for Final Payment.

FURTHER AFFIANT SAYETH NAUGHT.

(Affiant)

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this _____ day of _____, 20____, by _____ as _____ for _____

Personally Known OR Produced Identification
Type of Identification Produced _____

(Notary Signature)

(SEAL)

**APPENDIX A1
SAMPLE CHANGE ORDER**

Contract Change Order

**Lake County
Department of Public Works
323 North Sinclair Avenue
Tavares, FL 32778**

Date:
Project No.:
Location:
Contract No.:
Change Order No.:

To:

YOU ARE HEREBY REQUESTED TO COMPLY WITH THE FOLLOWING CHANGES FOR THE AGREEMENT, PLANS AND SPECIFICATIONS

ITEM NO.	DESCRIPTION IN CHANGES - QUANTITIES, UNITS, UNIT PRICES, CHANGE IN COMPLETION SCHEDULE, ETC.	DECREASE IN CONTRACT PRICE	INCREASE IN CONTRACT PRICE
1		\$ -	\$ -
2			
3			
	Per attached Exhibit "A"		
	Change in contract price due to change order:		
	Total Decrease	\$ -	
	Total Increase		\$ -
	Difference		\$ -
	Net-Increase/Decrease Contract Price		\$ -

The sum of \$ 0 is hereby **added to/subtracted from** the total agreement price, and the total adjusted agreement price to date thereby is \$ _____. This document shall become an amendment to the agreement and all other provisions of the agreement shall apply hereto.

Recommended by: _____ Date: _____
(type name)

Accepted by: _____ Date: _____
(type name)

Approved by: _____ Date: _____
(type name)

To be funded from Account #

STRUCTURAL CALCULATIONS FOR BOX SPAN CABLES, POLES, & FOUNDATIONS

US 19
&
DEAD RIVER ROAD

~~August 10, 2020~~

Revised November 25, 2020 per county's review comments

Revised February 23, 2021 per FDOT's review comments

Prepared for:

TRAFFIC PLANNING & DESIGN, INC.

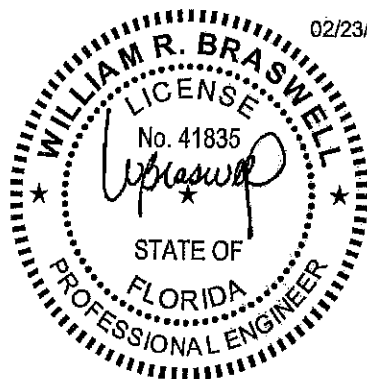
535 Versailles Drive
Maitland, FL 32751

Prepared by:

William R. Braswell, PE, SE

FL PE No. 41835

1849 Miles Court
Maitland, FL 32751



This item has been electronically signed and sealed by William R. Braswell, PE on the date adjacent to the seal using an SHA authorization code. Printed copies of this document are not considered signed and sealed and the SHA authorization code must be verified on any electronic copies.

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STRUCTURAL DESIGN BASIS

Design Specifications and Criteria:

FDOT Structures Manual (2020)

Analysis Program: Atlas V7.1 from U of F Bridge Software Institute

Design Wind Speed = 140 mph (Lake County)

All signals have 6" backplates

Soil Parameters per Geotechnical Report Prepared by:

Cavin Geotechnical & Environmental, LLC

P.O. Box 121052

Clermont, FL 34712

(352) 267-5560

www.cavingeo.com

CGE Project No. G19016

Dated April 12, 2019

Signed and sealed by T. Scott Cavin, PE (FL PE #48125)

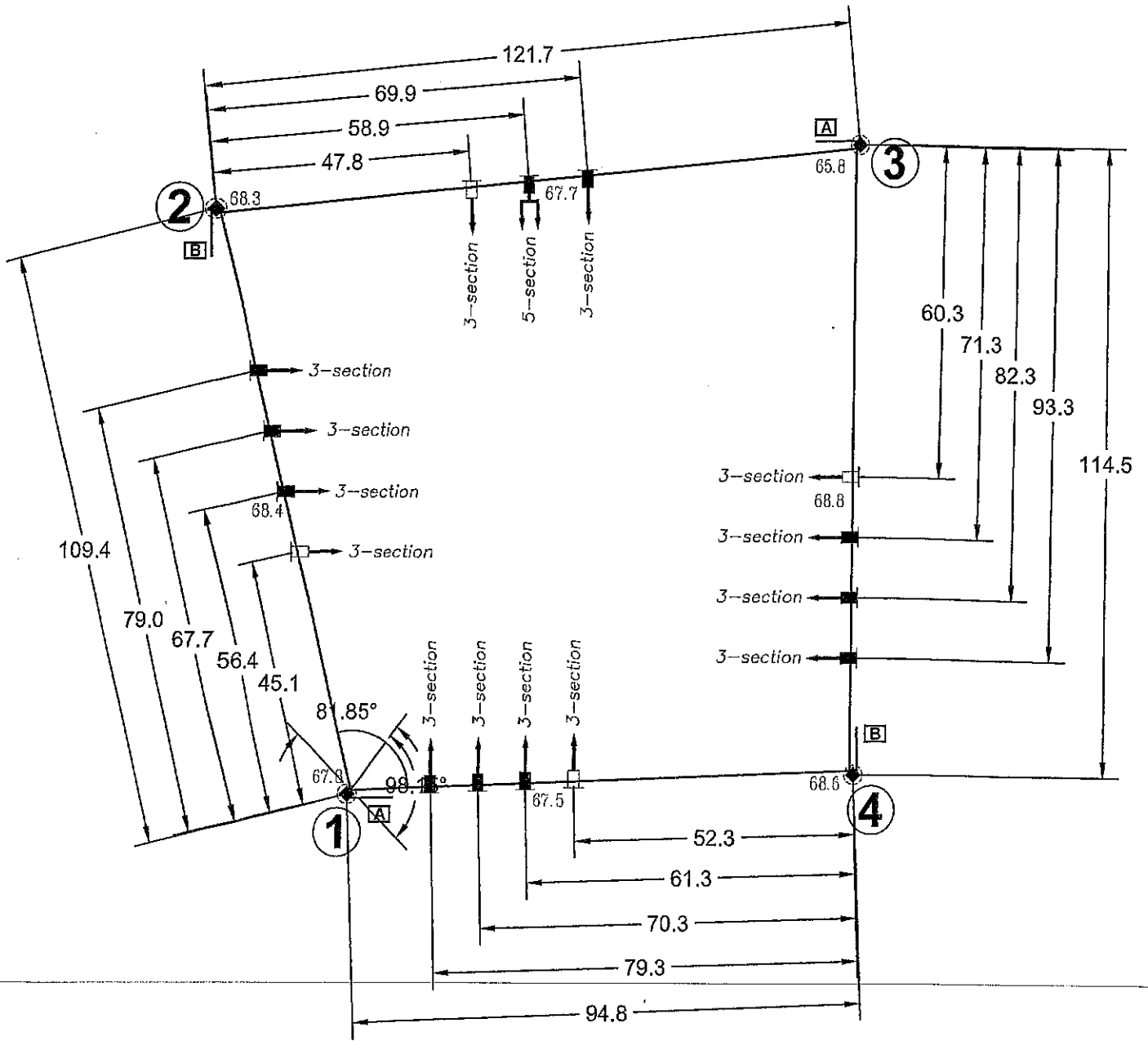
<u>Pole Number</u>	<u>Soil Effective Weight</u>	<u>Soil Friction Angle</u>
1	37.6 psf	26
2	37.6 psf	25
3	42.6 psf	28
4	42.6 psf	28

Wind Load on Poles

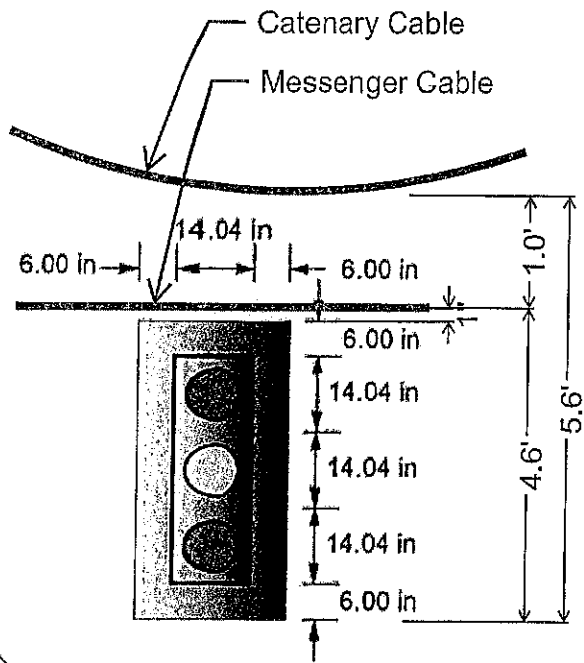
Height to centroid of Af (z)	17.5 ft	Kz =	0.877
Cross-Section	Square	Base pressure (qz) =	39.6 psf
Directionality (Kd)	0.90	h/D =	21.88
Height (h)	35.0 ft		
Width (D)	1.6 ft		
Type of Surface	N/A		
<u>Square (wind along diagonal)</u>		<u>Square (wind normal to face)</u>	
Cf =	1.43	Cf =	1.90
F = qz G Cf Af =	48.2 Af	F = qz G Cf Af =	63.8 Af
Af =	79.0 sf	Af =	56.0 sf
F =	3804 lbs	F =	3573 lbs

Moment to add to poles due to wind on poles = $3.804 \times 17.5 = 67$ ft-kip

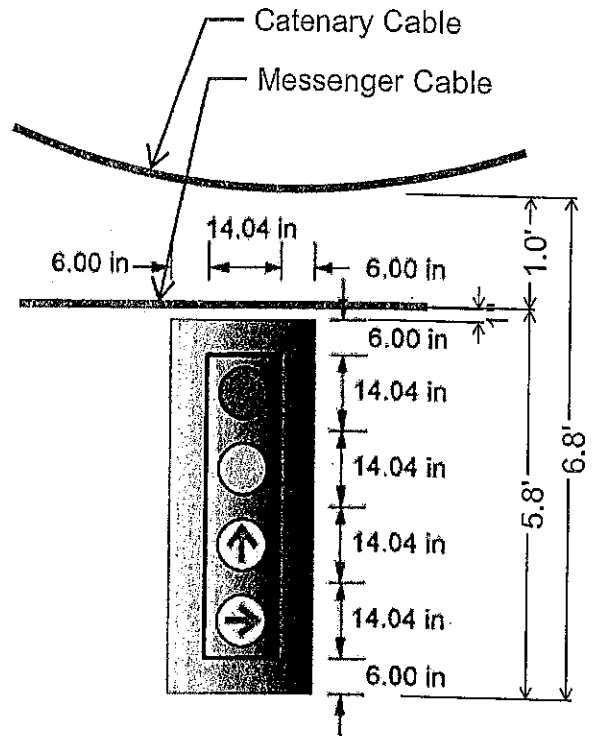
Shear to add to poles due to wind on poles = 3.8 kips



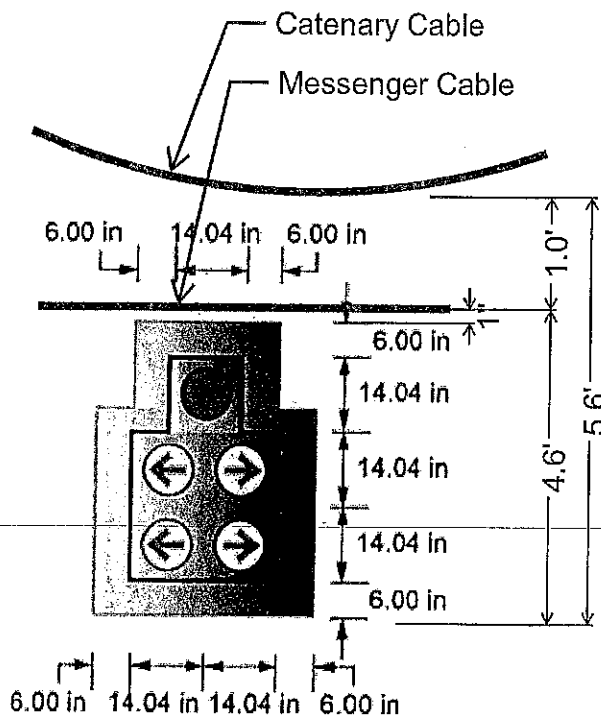
DESIGN LOADING



**3-SECTION SIGNAL
(TYPE 3)**



**4-SECTION SIGNAL
(TYPE 4)**



**5-SECTION SIGNAL
(TYPE 6)**

##	#####	#	##	####
# #	#	#	# #	#
# #	#	#	# #	####
#####	#	#	#####	#
# #	#	#	# #	# #
# #	#	#####	# #	####

Analysis of Traffic Lights And Signs

Version 7.1

Developed by :

Bridge Software Institute

No warranty, expressed or implied, is made by the Florida Department of Transportation or the University of Florida as to the accuracy and functioning of any programs or the results they produce, nor shall the fact of distribution constitute any such warranty, and no responsibility is assumed by the Florida Department of Transportation or the University of Florida in any connection therewith.

Department of Civil Engineering
University of Florida
Gainesville, Fl 32611

*** NOTE - Pole convergence increased to 2.0*default
for wind speeds > 85 mph:
Tolerance = 0.200000

Input Data File = C:\Users\BraswellHome\My Engineering\Will Braswell, PE,
SE\TPD\Dead River Road & US 19 - Box Span\Will's Work\New Updated Code Design\Dead
River Road & US 19_Span 1-2.in

ATLAS EXECUTION STATUS

- Check the Model for Adequacy

CONTROL DATA (More Information found in ATLAS HELP)

- Problem Title

DEAD RIVER ROAD & US 19_SPAN 1-2.IN

23.09' - 5.6' = 17.5' from crown
of road to bottom of signal
OKAY

- Structural Parameters :

Number of Nodes = 23
Number of Cables = 2
Lowest Point of Catenary = 23.09 ft

- Wind Data :

Wind Speed (Miles per Hour) = 140.00
Wind Direction (Angle from +ve X axis) = 90.0

- Nonlinear iteration Parameters :

Number of Iterations (Shape Finder) = 200
Number of Iterations (Gravity Solution) = 200
Number of Iterations (Wind Solution) = 200
Number of Loops for Shape Calculation = 5
Number of Cycles (Shape-Stiffness Iteration) = 1800
Force Tolerance for Gravity Solution (%) = 5.00
Force Tolerance for Wind Solution (%) = 5.00
Pole Displacement Tolerance = 0.200000



ECHO OF NODAL POINT INPUT DATA

Nodal Point Coordinates

Boundary Conditions

Node	X (in)	Y (in)	Z (in)	Tx	Ty	Tz	Rx	Ry	Rz
1	1200.000	1200.000	-7.200	F	F	F	F	F	F
2	1200.000	1200.000	265.120	R	R	R	R	R	R
3	1200.000	1200.000	343.120	R	R	R	R	R	R
4	1224.000	1200.000	-7.200	F	F	F	F	F	F
5	2520.000	1200.000	-1.200	F	F	F	F	F	F
6	2520.000	1200.000	265.120	R	R	R	R	R	R
7	2520.000	1200.000	343.120	R	R	R	R	R	R
8	2544.000	1200.000	-1.200	F	F	F	F	F	F
9	1741.200	1200.000	279.258	R	R	R	R	R	R
10	1741.200	1200.000	265.120	R	R	R	R	R	R
11	1741.200	1200.000	237.060	R	R	R	R	R	R
12	1876.800	1200.000	277.163	R	R	R	R	R	R
13	1876.800	1200.000	265.120	R	R	R	R	R	R
14	1876.800	1200.000	237.060	R	R	R	R	R	R
15	2012.400	1200.000	280.639	R	R	R	R	R	R
16	2012.400	1200.000	265.120	R	R	R	R	R	R
17	2012.400	1200.000	237.060	R	R	R	R	R	R

18	2148.000	1200.000	289.687	R	R	R	R	R	R
19	2148.000	1200.000	265.120	R	R	R	R	R	R
20	2148.000	1200.000	237.060	R	R	R	R	R	R
21	2446.800	1200.000	329.292	R	R	R	R	R	R
22	2446.800	1200.000	265.120	R	R	R	R	R	R
23	2446.800	1200.000	250.120	R	R	R	R	R	R

ECHO OF ELEMENT INPUT DATA

1. Pole/Beam Element Data

Number of Property Sets = 1

Property Set = 1
Pole type = PVIII
Concrete Strength, F`c (psi) = 6000.00

NOTE : The properties used in the analysis were obtained at the effective heights of the poles and are provided below. For more information refer to the report that accompanies the program.

Pole/Beam Connectivity and Properties Used

Mem	Nodes			Mat	Area in^2	Properties				
	I	J	K			E ksi	I33 in^4	I22 in^4	J in^4	G ksi
1	1	2	4	1	256.42	4415.20	11918.26	11918.26	23836.52	1698.15
2	2	3	4	1	212.04	4415.20	6480.52	6480.52	12961.03	1698.15
3	5	6	8	1	255.69	4415.20	11788.25	11788.25	23576.50	1698.15
4	6	7	8	1	212.04	4415.20	6480.52	6480.52	12961.03	1698.15

2. Primary Cable Element Data

Number of Property Sets = 1

Primary Cable Connectivity and Properties

Mem	Nodes			Mat	Cable	Properties	
	I	J	Area in^2			E ksi	
1	3	9	1	1	0.0790	24500.0	
2	9	12	1	1	0.0790	24500.0	
3	12	15	1	1	0.0790	24500.0	
4	15	18	1	1	0.0790	24500.0	
5	18	21	1	1	0.0790	24500.0	
6	21	7	1	1	0.0790	24500.0	

3. Secondary Cable Element Data

Number of Property Sets = 1

Secondary Cable Connectivity and Properties

Mem	Nodes		Mat	Cable	Properties	
	I	J			Area in ²	E ksi
1	2	10	1	2	0.1160	24500.0
2	10	13	1	2	0.1160	24500.0
3	13	16	1	2	0.1160	24500.0
4	16	19	1	2	0.1160	24500.0
5	19	22	1	2	0.1160	24500.0
6	22	6	1	2	0.1160	24500.0

4. Connector Element Data

Number of Property Sets = 2

Connector Connectivity and Properties

Mem	Nodes			Mat	Area in ²	Properties				
	I	J	K			E ksi	I33 in ⁴	I22 in ⁴	J in ⁴	G ksi
1	9	10	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
2	12	13	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
3	15	16	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
4	18	19	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
5	21	22	3	2	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4

5. Light Element Data

Number of Property Sets = 2

Property Line = 1
 Projected area on X-Z plane = 1553.28 in²
 Projected area on Y-Z plane = 1553.28 in²

Property Line = 2
 Projected area on X-Z plane = 2592.00 in²
 Projected area on Y-Z plane = 0.00 in²

Light Connectivity and Properties

Mem	Nodes			Mat	Area	Properties			
	I	J	K			E	I33	I22	J

					in^2	ksi	in^4	in^4	in^4	ksi
1	10	11	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
2	13	14	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
3	16	17	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
4	19	20	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
5	22	23	3	2	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4

6. Wind Load Factors

Directionality Factor = 0.85
 Drag Coefficient = 0.60 for signals with backplate
 = 0.70 for signals without backplate
 Uplift Coefficient = 0.00

CONCENTRATED APPLIED LOADS

- Sign/Cable/Light weights (Kips)

Node	X	Y	Z
3	0.00000	0.00000	-0.00610
7	0.00000	0.00000	-0.00083
9	0.00000	0.00000	-0.00928
10	0.00000	0.00000	-0.00165
11	0.00000	0.00000	-0.05454
12	0.00000	0.00000	-0.00465
13	0.00000	0.00000	-0.00160
14	0.00000	0.00000	-0.05454
15	0.00000	0.00000	-0.00474
16	0.00000	0.00000	-0.00169
17	0.00000	0.00000	-0.05454
18	0.00000	0.00000	-0.00681
19	0.00000	0.00000	-0.00191
20	0.00000	0.00000	-0.05454
21	0.00000	0.00000	-0.00711
22	0.00000	0.00000	-0.00290
23	0.00000	0.00000	-0.09000

- Wind loads on Cables

NOTE : The wind forces on the cables are applied as shown below. The wind forces on the lights and signs are calculated during the analysis. For more information, refer to Atlas Help Manual.

Node	X	Y	Z	XX	YY	ZZ
9	0.00000	0.04723	0.00000	0.00000	0.00000	0.00000

Cable Diameter (in) = 0.438
 Cable Area (sq. in) = 0.116
 Cable Weight (lb/in) = 0.033
 Factored Cable Resistance (k) = 9.000

Cable Size is Adequate for current Tensile Force

Load Combination 2: $1.10*(DL) + 1.00*(WL)$

controls

CALCULATE EMBEDMENT USING FACTORED "BOX" SPAN BI-AXIAL SHEAR AND MOMENT
 (0.6 RESISTANCE FACTOR AND 3'-6" DIA DRILLED SHAFT)

$-(D)(\text{Soil Buoyant Wt})L^3(Kp)/2 + 0L^2 + (V/0.6)L + M/0.6 = 0$

where $Kp = \tan^2(45\text{deg} + \text{Soil Internal Friction Angle}/2) = \tan^2(45 + 26/2) = 2.56$

- POLE DESIGN

$-(3.5)(0.0376)L^3(2.56)/2 + 0L^2 + (16.8/0.6)L + 381/0.6 = 0$

--*-*-*

$-0.17L^3 + 0L^2 + 28L + 635 = 0$

Via Cubic Solver...L = 19.0' for Pole #1 in Span 1-2 (Governs for Pole #1)

Load Combination 2 (LRFD Extreme Event I): $1.10*(DL) + 1.00*(WL)$
 is used for design of this pole

Pole Number = 1
 Pole Node Numbers = 1 2 3
 Input Pole Type = PVIII
 Input Wind Speed (mph) = 140.000
 Input Wind Angle (deg) = 90.000
 Applied Wind Angle (deg) = 90.000

Resultant Base Shear (kips) = $(9.980 \times 1.3) + 3.8 = 16.8$ kips

Resultant Base Moment (kip-ft) = $(241.562 \times 1.3) + 67 = 381$ kip-ft

Resultant Base Moment Angle (deg) = 0.000

Pole Strong Axis Angle (deg) = 0.000

Biaxial Moment Reduction Factor = 1.000

Required Pole Phi * Mn (kip-ft) = 241.562

Input Pole Capacity (kip-ft) = 397.460

Required Embedment Length (ft) = ~~16.060~~

Minimum Embedment Length (ft) = 9.000

(= 0.000 if custom pole, and requires separate check)

Pole Height Above Ground (ft) = 30.193

The Pole specified in the INPUT is adequate to support the base moment.

ATLAS specifies that to account for biaxial bending the pole base moment should be multiplied by 1.3 and wind load on pole added. 381 is less than 397 therefore Pole Type PVIII

OKAY

Load Combination 2 (LRFD Extreme Event I): $1.10*(DL) + 1.00*(WL)$
 is used for design of this pole

Pole Number = 2
 Pole Node Numbers = 5 6 7
 Input Pole Type = PVIII
 Input Wind Speed (mph) = 140.000
 Input Wind Angle (deg) = 90.000

18	2148.7332	1200.0000	287.9886
19	2148.7333	1200.0000	265.1204
20	2148.7335	1200.0000	237.0601
21	2447.4806	1200.0000	326.7736
22	2447.4819	1200.0000	265.1267
23	2447.4822	1200.0000	250.1265

Dead Load Applied to the Structure

Node	Fx	Fy	Fz	Mom-X	Mom-Y	Mom-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	-0.0061	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	-0.0008	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0000	0.0000	-0.0093	0.0000	0.0000	0.0000
10	0.0000	0.0000	-0.0017	0.0000	0.0000	0.0000
11	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
12	0.0000	0.0000	-0.0047	0.0000	0.0000	0.0000
13	0.0000	0.0000	-0.0016	0.0000	0.0000	0.0000
14	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
15	0.0000	0.0000	-0.0047	0.0000	0.0000	0.0000
16	0.0000	0.0000	-0.0017	0.0000	0.0000	0.0000
17	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
18	0.0000	0.0000	-0.0068	0.0000	0.0000	0.0000
19	0.0000	0.0000	-0.0019	0.0000	0.0000	0.0000
20	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
21	0.0000	0.0000	-0.0071	0.0000	0.0000	0.0000
22	0.0000	0.0000	-0.0029	0.0000	0.0000	0.0000
23	0.0000	0.0000	-0.0900	0.0000	0.0000	0.0000

Final Displacements

Node	Tx	Ty	Tz	Rot-X	Rot-Y	Rot-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.3189	0.0000	-0.0000	-0.0000	0.0019	0.0000
3	0.4699	0.0000	-0.0000	-0.0000	0.0020	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	-0.3022	0.0000	-0.0001	-0.0000	-0.0018	0.0000
7	-0.4488	0.0000	-0.0001	-0.0000	-0.0019	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0001	-0.0000	0.0031	0.0000	0.0000	0.0000

10	0.0000	-0.0000	0.0029	0.0000	0.0000	0.0000
11	-0.0001	-0.0000	0.0026	0.0000	0.0000	0.0000
12	-0.0000	-0.0000	0.0013	0.0000	-0.0000	0.0000
13	0.0000	-0.0000	0.0012	0.0000	-0.0000	-0.0000
14	0.0001	-0.0000	0.0010	0.0000	-0.0000	-0.0000
15	-0.0000	-0.0000	0.0004	0.0000	-0.0000	-0.0000
16	0.0001	-0.0000	0.0003	0.0000	-0.0000	-0.0000
17	0.0002	-0.0000	0.0000	0.0000	-0.0000	-0.0000
18	-0.0000	-0.0000	0.0006	0.0000	-0.0000	0.0000
19	0.0001	-0.0000	0.0004	0.0000	-0.0000	0.0000
20	0.0003	-0.0000	0.0001	0.0000	-0.0000	0.0000
21	-0.0013	0.0000	0.0077	-0.0000	-0.0000	0.0000
22	-0.0000	0.0000	0.0067	-0.0000	-0.0000	-0.0000
23	0.0003	0.0000	0.0065	-0.0000	-0.0000	-0.0000

- Frame Member Forces

Member # 1

	Node I	Node J
Axial Force	= 0.1210	-0.1210
Shear Xm - Ym	= -2.0444	2.0444
Shear Xm - Zm	= -0.0000	0.0000
Torsion	= 0.0000	0.0000
Moment About Ym	= 0.0000	-0.0000
Moment About Zm	= -638.1900	81.4465

Unit conversion:

Pole Absolute Resultant Moment = 53.6138 (ft-kips)

Member # 2

	Node I	Node J
Axial Force	= 0.1210	-0.1210
Shear Xm - Ym	= -1.0442	1.0442
Shear Xm - Zm	= -0.0000	0.0000
Torsion	= 0.0000	0.0000
Moment About Ym	= 0.0000	0.0000
Moment About Zm	= -81.4465	0.0000

Unit conversion:

Pole Absolute Resultant Moment = 6.7872 (ft-kips)

Member # 3

	Node I	Node J
Axial Force	= 0.2364	-0.2364

Shear Xm - Ym = 2.0417 -2.0417
 Shear Xm - Zm = -0.0000 0.0000
 Torsion = 0.0000 0.0000
 Moment About Ym = 0.0000 -0.0000
 Moment About Zm = 624.7973 -81.0603

Unit conversion:

Pole Absolute Resultant Moment = 52.5028 (ft-kips)

Member # 4

		Node I	Node J
Axial Force	=	0.2365	-0.2365
Shear Xm - Ym	=	1.0392	-1.0392
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	0.0000	0.0000
Moment About Ym	=	0.0000	-0.0000
Moment About Zm	=	81.0603	0.0000

Unit conversion:

Pole Absolute Resultant Moment = 6.7550 (ft-kips)

- Primary (Catenary) Cable Forces Primary Cable Reactions on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	1.0512	13.3058	3	1.0448	0.0000	-0.1150
2	1.0460	13.2406				
3	1.0449	13.2266				
4	1.0473	13.2575				
5	1.0536	13.3368				
6	1.0711	13.5580	7	-1.0446	0.0000	-0.2369

- Secondary (Messenger) Cable Forces Secondary Cable Reactions on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	1.0000	8.6207	2	1.0000	0.0000	0.0000
2	1.0000	8.6207				
3	1.0000	8.6207				
4	1.0000	8.6207				
5	1.0000	8.6207				
6	1.0000	8.6207	6	-1.0000	0.0000	0.0001

- Light Member Forces

Member #		Node I	Node J
1			
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	-0.0000	0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	0.0000

Member #		Node I	Node J
2			
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	-0.0000

Member #		Node I	Node J
3			
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	-0.0000

Member #		Node I	Node J
4			
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	-0.0000	0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	-0.0000

Member #		Node I	Node J
5			
Axial Force	=	-0.0900	0.0900
Shear Xm - Ym	=	0.0000	-0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	0.0000	-0.0000

- Hanger (Connector) Member Forces

Member #		Node I	Node J
1			
	Axial Force =	-0.0562	0.0562
	Shear Xm - Ym =	0.0000	-0.0000
	Shear Xm - Zm =	0.0000	-0.0000
	Torsion =	-0.0000	0.0000
	Moment About Ym =	-0.0000	-0.0000
	Moment About Zm =	0.0000	0.0000

Member #		Node I	Node J
2			
	Axial Force =	-0.0561	0.0561
	Shear Xm - Ym =	-0.0000	0.0000
	Shear Xm - Zm =	0.0000	-0.0000
	Torsion =	0.0000	-0.0000
	Moment About Ym =	-0.0000	-0.0000
	Moment About Zm =	-0.0000	-0.0000

Member #		Node I	Node J
3			
	Axial Force =	-0.0562	0.0562
	Shear Xm - Ym =	-0.0000	0.0000
	Shear Xm - Zm =	0.0000	-0.0000
	Torsion =	0.0000	-0.0000
	Moment About Ym =	-0.0000	-0.0000
	Moment About Zm =	-0.0000	-0.0000

Member #		Node I	Node J
4			
	Axial Force =	-0.0564	0.0564
	Shear Xm - Ym =	-0.0000	0.0000
	Shear Xm - Zm =	0.0000	-0.0000
	Torsion =	-0.0000	0.0000
	Moment About Ym =	-0.0000	-0.0000
	Moment About Zm =	-0.0000	-0.0000

Member #		Node I	Node J
5			
	Axial Force =	-0.0930	0.0930
	Shear Xm - Ym =	-0.0000	0.0000
	Shear Xm - Zm =	-0.0000	0.0000
	Torsion =	0.0000	-0.0000

2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	-0.0067	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	-0.0009	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0000	0.0472	-0.0102	0.0000	0.0000	0.0000
10	0.0000	0.0550	-0.0018	0.0000	0.0000	0.0000
11	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
12	0.0000	0.0189	-0.0051	0.0000	0.0000	0.0000
13	0.0000	0.0221	-0.0018	0.0000	0.0000	0.0000
14	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
15	0.0000	0.0189	-0.0052	0.0000	0.0000	0.0000
16	0.0000	0.0221	-0.0019	0.0000	0.0000	0.0000
17	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
18	0.0000	0.0303	-0.0075	0.0000	0.0000	0.0000
19	0.0000	0.0353	-0.0021	0.0000	0.0000	0.0000
20	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
21	0.0000	0.0260	-0.0078	0.0000	0.0000	0.0000
22	0.0000	0.0303	-0.0032	0.0000	0.0000	0.0000
23	0.0000	0.6126	-0.0990	0.0000	0.0000	0.0000

Final Displacements

Node	Tx	Ty	Tz	Rot-X	Rot-Y	Rot-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1.4010	0.0957	-0.0000	-0.0005	0.0080	0.0000
3	2.0346	0.1382	-0.0001	-0.0005	0.0082	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	-1.3155	0.1841	-0.0001	-0.0010	-0.0076	0.0000
7	-1.9222	0.2655	-0.0001	-0.0010	-0.0079	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.3519	24.7459	-3.7073	1.2588	0.0352	0.0000
10	0.1734	42.5087	9.8661	1.3972	0.0353	0.0014
11	-0.1625	71.2969	36.8584	1.6081	0.0353	0.0035
12	0.2703	32.9878	-1.8235	1.6357	-1.5053	0.0000
13	0.4652	44.9864	10.1017	1.4223	-1.5053	0.0034
14	0.7110	72.9732	24.6579	0.9232	-1.5053	0.0112
15	0.3494	30.8281	-2.8515	1.5847	-0.6391	0.0000
16	0.7808	44.2841	9.9811	1.3995	-0.6391	0.0057
17	1.3482	71.7957	26.0359	1.0141	-0.6391	0.0177
18	0.0483	18.8850	-5.1782	1.0436	-0.0994	-0.0000
19	1.0342	40.0755	9.1491	1.4751	-0.0995	-0.0188
20	2.9735	72.7996	43.4049	2.0046	-0.0996	-0.0419
21	-1.1033	1.6960	0.7958	-1.7594	-0.0163	-0.0000
22	0.4810	13.4830	1.9528	4.0922	-0.0167	-0.1504

23 1.2292 87.7854 16.1491 5.5160 -0.0168 -0.1871

- Frame (Pole) Member Forces

Member # 1

	Node I	Node J
Axial Force	= 0.1457	-0.1457
Shear Xm - Ym	= -9.9352	9.9352
Shear Xm - Zm	= -0.7016	0.7016
Torsion	= 0.0000	0.0000
Moment About Ym	= 199.4595	-8.4045
Moment About Zm	= -2890.0608	184.5007

Unit conversion :

Pole Absolute Resultant Moment = 241.4113 (ft-kips)

Member # 2

	Node I	Node J
Axial Force	= 0.2839	-0.2839
Shear Xm - Ym	= -2.3654	2.3654
Shear Xm - Zm	= -0.1078	0.1078
Torsion	= 0.0000	0.0000
Moment About Ym	= 8.4045	0.0000
Moment About Zm	= -184.5007	-0.0000

Unit conversion :

Pole Absolute Resultant Moment = 15.3910 (ft-kips)

Member # 3

	Node I	Node J
Axial Force	= 0.2557	-0.2557
Shear Xm - Ym	= 9.9246	-9.9246
Shear Xm - Zm	= -1.5028	1.5028
Torsion	= 0.0000	0.0000
Moment About Ym	= 403.5972	-3.3648
Moment About Zm	= 2811.7671	-168.6524

Unit conversion :

Pole Absolute Resultant Moment = 236.7154 (ft-kips)

Member # 4

	Node I	Node J
--	--------	--------

Axial Force = 0.4701 -0.4701
 Shear Xm - Ym = 2.1622 -2.1622
 Shear Xm - Zm = -0.0431 0.0431
 Torsion = 0.0000 0.0000
 Moment About Ym = 3.3648 -0.0000
 Moment About Zm = 168.6524 0.0000

Unit conversion :

Pole Absolute Resultant Moment = 14.0572 (ft-kips)

- Primary (Catenary) Cable Forces Primary Cable Forces on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	2.3853	30.1941	3	2.3667	0.1078	-0.2773
2	2.3892	30.2424				
3	2.3251	29.4319				
4	2.2316	28.2481				
5	2.1950	27.7850				
6	2.2107	27.9840	7	-2.1600	0.0431	-0.4687

- Secondary (Messenger) Cable Forces Secondary Cable Forces on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	7.5944	65.4693	2	7.5699	0.5938	0.1381
2	7.5545	65.1248				
3	7.6119	65.6202				
4	7.7207	66.5575				
5	7.8029	67.2661				
6	7.9155	68.2372	6	-7.7763	1.4623	0.2147

- Light Member Forces

Member # 1
 Rotation Angle in Y-Z Plane (Degrees) = 87.88
 Rotation Angle in X-Z Plane (Degrees) = 17.46

Member # 2
 Rotation Angle in Y-Z Plane (Degrees) = 64.24
 Rotation Angle in X-Z Plane (Degrees) = 1.04

Member # 3
 Rotation Angle in Y-Z Plane (Degrees) = 66.43
 Rotation Angle in X-Z Plane (Degrees) = 2.71

Member # 4
 Rotation Angle in Y-Z Plane (Degrees) = 79.28
 Rotation Angle in X-Z Plane (Degrees) = 17.38

Member # 5
 Rotation Angle in Y-Z Plane (Degrees) = 89.38
 Rotation Angle in X-Z Plane (Degrees) = 42.95

- Hanger (Connector) Member Forces

Member # 1

	Node I	Node J
Axial Force =	0.0097	-0.0097
Shear Xm - Ym =	0.0000	-0.0000
Shear Xm - Zm =	2.3203	-2.3203
Torsion =	0.0186	-0.0186
Moment About Ym =	0.0037	-42.7210
Moment About Zm =	0.0002	0.0001

Member # 2

	Node I	Node J
Axial Force =	-0.2116	0.2116
Shear Xm - Ym =	-0.0114	0.0114
Shear Xm - Zm =	-47.1913	47.1913
Torsion =	-10.9088	10.9088
Moment About Ym =	241.4394	324.8759
Moment About Zm =	-0.0733	-0.0637

Member # 3

	Node I	Node J
Axial Force =	-0.2352	0.2352
Shear Xm - Ym =	-0.0015	0.0015
Shear Xm - Zm =	-6.6721	6.6721
Torsion =	-1.4447	1.4447
Moment About Ym =	6.0908	83.8382
Moment About Zm =	-0.0126	-0.0078

Member # 4

	Node I	Node J
Axial Force =	-0.0452	0.0452
Shear Xm - Ym =	0.0004	-0.0004
Shear Xm - Zm =	4.6789	-4.6789
Torsion =	-0.2935	0.2935
Moment About Ym =	0.1742	-107.1721
Moment About Zm =	-0.0005	0.0086

Member #	5	Node I	Node J
Axial Force	=	-0.1069	0.1069
Shear Xm - Ym	=	-0.0268	0.0268
Shear Xm - Zm	=	8.6079	-8.6079
Torsion	=	3.7517	-3.7517
Moment About Ym	=	-0.5278	-530.1204
Moment About Zm	=	0.0003	-1.6533

##	####	#	##	####
# #	#	#	# #	#
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# #	#	#	# #	# #
# #	#	#####	# #	####

Analysis of Traffic Lights And Signs

Version 7.1

Developed by :

Bridge Software Institute

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Gainesville, Fl 32611

*** NOTE - Pole convergence increased to 2.0*default
for wind speeds > 85 mph:
Tolerance = 0.200000

Input Data File = C:\Users\BraswellHome\My Engineering\Will Braswell, PE,
SE\TPD\Dead River Road & US 19 - Box Span\Will's Work\New Updated Code Design\Dead
River Road & US 19 Span 2-3.in

ATLAS EXECUTION STATUS

- Check the Model for Adequacy

CONTROL DATA (More Information found in ATLAS HELP)

- Problem Title

DEAD RIVER ROAD & US 19_SPAN 2-3.IN

- Structural Parameters :

Number of Nodes = 20
 Number of Cables = 2
 Lowest Point of Catenary = 26.30 ft

26.30' - 5.6' = 20.7' from crown of road to bottom of signal is a little high but lowering will only make the analysis better so **OKAY**. Refer to drawings for actual elevations.

- Wind Data :

Wind Speed (Miles per Hour) = 140.00
 Wind Direction (Angle from +ve X axis) = 90.0

- Nonlinear iteration Parameters :

Number of Iterations (Shape Finder) = 200
 Number of Iterations (Gravity Solution) = 200
 Number of Iterations (Wind Solution) = 200
 Number of Loops for Shape Calculation = 5
 Number of Cycles (Shape-Stiffness Iteration) = 1800
 Force Tolerance for Gravity Solution (%) = 5.00
 Force Tolerance for Wind Solution (%) = 5.00
 Pole Displacement Tolerance = 0.200000



ECHO OF NODAL POINT INPUT DATA

Nodal Point Coordinates

Boundary Conditions

Node	X (in)	Y (in)	Z (in)	Tx	Ty	Tz	Rx	Ry	Rz
1	1200.000	1200.000	7.200	F	F	F	F	F	F
2	1200.000	1200.000	303.640	R	R	R	R	R	R
3	1200.000	1200.000	390.304	R	R	R	R	R	R
4	1224.000	1200.000	7.200	F	F	F	F	F	F
5	2664.000	1200.000	-22.800	F	F	F	F	F	F
6	2664.000	1200.000	303.640	R	R	R	R	R	R
7	2664.000	1200.000	390.304	R	R	R	R	R	R
8	2688.000	1200.000	-22.800	F	F	F	F	F	F
9	1774.800	1200.000	319.083	R	R	R	R	R	R
10	1774.800	1200.000	303.640	R	R	R	R	R	R
11	1774.800	1200.000	275.580	R	R	R	R	R	R
12	1908.000	1200.000	315.720	R	R	R	R	R	R
13	1908.000	1200.000	303.640	R	R	R	R	R	R
14	1908.000	1200.000	261.540	R	R	R	R	R	R
15	2041.200	1200.000	317.302	R	R	R	R	R	R
16	2041.200	1200.000	303.640	R	R	R	R	R	R
17	2041.200	1200.000	275.580	R	R	R	R	R	R

18	2594.400	1200.000	376.781	R	R	R	R	R	R
19	2594.400	1200.000	303.640	R	R	R	R	R	R
20	2594.400	1200.000	288.640	R	R	R	R	R	R

ECHO OF ELEMENT INPUT DATA

1. Pole/Beam Element Data

Number of Property Sets = 1

Property Set = 1
Pole type = PVIII
Concrete Strength, F_c (psi) = 6000.00

NOTE : The properties used in the analysis were obtained at the effective heights of the poles and are provided below. For more information refer to the report that accompanies the program.

Pole/Beam Connectivity and Properties Used

Mem	Nodes				Mat	Area in ²	Properties				
	I	J	K				E ksi	I33 in ⁴	I22 in ⁴	J in ⁴	G ksi
1	1	2	4		1	258.45	4415.20	12345.11	12345.11	24690.21	1698.15
2	2	3	4		1	210.04	4415.20	6370.79	6370.79	12741.57	1698.15
3	5	6	8		1	262.08	4415.20	13022.73	13022.73	26045.46	1698.15
4	6	7	8		1	210.04	4415.20	6370.79	6370.79	12741.57	1698.15

2. Primary Cable Element Data

Number of Property Sets = 1

Primary Cable Connectivity and Properties

Mem	Nodes			Mat	Cable	Properties	
	I	J				Area in ²	E ksi
1	3	9		1	1	0.0790	24500.0
2	9	12		1	1	0.0790	24500.0
3	12	15		1	1	0.0790	24500.0
4	15	18		1	1	0.0790	24500.0
5	18	7		1	1	0.0790	24500.0

3. Secondary Cable Element Data

Number of Property Sets = 1

Secondary Cable Connectivity and Properties

Mem	Nodes		Mat	Cable	Properties	
	I	J			Area in ²	E ksi
1	2	10	1	2	0.1160	24500.0
2	10	13	1	2	0.1160	24500.0
3	13	16	1	2	0.1160	24500.0
4	16	19	1	2	0.1160	24500.0
5	19	6	1	2	0.1160	24500.0

4. Connector Element Data

Number of Property Sets = 3

Connector Connectivity and Properties

Mem	Nodes			Mat	Area in ²	Properties				
	I	J	K			E ksi	I33 in ⁴	I22 in ⁴	J in ⁴	G ksi
1	9	10	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
2	12	13	3	2	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
3	15	16	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
4	18	19	3	3	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4

5. Light Element Data

Number of Property Sets = 3

Property Line = 1
 Projected area on X-Z plane = 1553.28 in²
 Projected area on Y-Z plane = 1553.28 in²

Property Line = 2
 Projected area on X-Z plane = 2284.49 in²
 Projected area on Y-Z plane = 2284.49 in²

Property Line = 3
 Projected area on X-Z plane = 2592.00 in²
 Projected area on Y-Z plane = 0.00 in²

Light Connectivity and Properties

Mem	Nodes			Mat	Area in ²	Properties				
	I	J	K			E ksi	I33 in ⁴	I22 in ⁴	J in ⁴	G ksi

1	10	11	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
2	13	14	3	2	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
3	16	17	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
4	19	20	3	3	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4

6. Wind Load Factors

Directionality Factor = 0.85
 Drag Coefficient = 0.60 for signals with backplate
 = 0.70 for signals without backplate
 Uplift Coefficient = 0.00

CONCENTRATED APPLIED LOADS

- Sign/Cable/Light weights (Kips)

Node	X	Y	Z
3	0.00000	0.00000	-0.00648
7	0.00000	0.00000	-0.00079
9	0.00000	0.00000	-0.00985
10	0.00000	0.00000	-0.00187
11	0.00000	0.00000	-0.05454
12	0.00000	0.00000	-0.00478
13	0.00000	0.00000	-0.00178
14	0.00000	0.00000	-0.07835
15	0.00000	0.00000	-0.00956
16	0.00000	0.00000	-0.00182
17	0.00000	0.00000	-0.05454
18	0.00000	0.00000	-0.01030
19	0.00000	0.00000	-0.00328
20	0.00000	0.00000	-0.09000

- Wind loads on Cables

NOTE : The wind forces on the cables are applied as shown below. The wind forces on the lights and signs are calculated during the analysis. For more information, refer to Atlas Help Manual.

Node	X	Y	Z	XX	YY	ZZ
9	0.00000	0.04941	0.00000	0.00000	0.00000	0.00000
10	0.00000	0.05759	0.00000	0.00000	0.00000	0.00000
12	0.00000	0.01855	0.00000	0.00000	0.00000	0.00000
13	0.00000	0.02167	0.00000	0.00000	0.00000	0.00000
15	0.00000	0.04788	0.00000	0.00000	0.00000	0.00000
16	0.00000	0.05583	0.00000	0.00000	0.00000	0.00000
18	0.00000	0.04348	0.00000	0.00000	0.00000	0.00000

1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	-0.0065	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	-0.0008	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0000	0.0000	-0.0098	0.0000	0.0000	0.0000
10	0.0000	0.0000	-0.0019	0.0000	0.0000	0.0000
11	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
12	0.0000	0.0000	-0.0048	0.0000	0.0000	0.0000
13	0.0000	0.0000	-0.0018	0.0000	0.0000	0.0000
14	0.0000	0.0000	-0.0783	0.0000	0.0000	0.0000
15	0.0000	0.0000	-0.0096	0.0000	0.0000	0.0000
16	0.0000	0.0000	-0.0018	0.0000	0.0000	0.0000
17	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
18	0.0000	0.0000	-0.0103	0.0000	0.0000	0.0000
19	0.0000	0.0000	-0.0033	0.0000	0.0000	0.0000
20	0.0000	0.0000	-0.0900	0.0000	0.0000	0.0000

Final Displacements

Node	Tx	Ty	Tz	Rot-X	Rot-Y	Rot-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.3864	0.0000	-0.0000	-0.0000	0.0021	0.0000
3	0.5737	0.0000	-0.0000	-0.0000	0.0022	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	-0.4797	0.0000	-0.0001	-0.0000	-0.0023	0.0000
7	-0.6888	0.0000	-0.0001	-0.0000	-0.0025	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0001	0.0000	0.0031	0.0000	0.0000	0.0000
10	0.0001	-0.0000	0.0029	0.0000	0.0000	0.0000
11	0.0000	-0.0000	0.0027	0.0000	0.0000	0.0000
12	-0.0000	0.0000	0.0008	-0.0000	-0.0000	0.0000
13	0.0001	-0.0000	0.0007	-0.0000	-0.0000	-0.0000
14	0.0005	-0.0000	0.0001	-0.0000	-0.0000	-0.0000
15	-0.0000	-0.0000	0.0003	0.0000	-0.0000	-0.0000
16	0.0001	0.0000	0.0002	0.0000	-0.0000	0.0000
17	0.0004	0.0000	-0.0001	0.0000	-0.0000	0.0000
18	-0.0019	0.0000	0.0130	0.0000	-0.0000	-0.0000
19	0.0000	-0.0000	0.0118	0.0000	-0.0000	-0.0000
20	0.0005	-0.0000	0.0116	0.0000	-0.0000	-0.0000

- Frame Member Forces

Member # 1

	Node I	Node J
Axial Force =	0.1235	-0.1235
Shear Xm - Ym =	-1.9912	1.9912
Shear Xm - Zm =	-0.0000	0.0000
Torsion =	0.0000	0.0000
Moment About Ym =	0.0000	-0.0000
Moment About Zm =	-676.1506	85.8716

Unit conversion:
Pole Absolute Resultant Moment = 56.7985 (ft-kips)

Member # 2

	Node I	Node J
Axial Force =	0.1235	-0.1235
Shear Xm - Ym =	-0.9909	0.9909
Shear Xm - Zm =	-0.0000	0.0000
Torsion =	0.0000	0.0000
Moment About Ym =	0.0000	-0.0000
Moment About Zm =	-85.8716	-0.0000

Unit conversion:
Pole Absolute Resultant Moment = 7.1560 (ft-kips)

Member # 3

	Node I	Node J
Axial Force =	0.2044	-0.2044
Shear Xm - Ym =	1.9872	-1.9872
Shear Xm - Zm =	-0.0000	0.0000
Torsion =	0.0000	0.0000
Moment About Ym =	0.0000	-0.0000
Moment About Zm =	733.9133	-85.2222

Unit conversion:
Pole Absolute Resultant Moment = 61.5704 (ft-kips)

Member # 4

	Node I	Node J
Axial Force =	0.2046	-0.2046
Shear Xm - Ym =	0.9834	-0.9834
Shear Xm - Zm =	-0.0000	0.0000
Torsion =	0.0000	0.0000

Moment About Ym = 0.0000 -0.0000
 Moment About Zm = 85.2222 0.0000

Unit conversion:

Pole Absolute Resultant Moment = 7.1018 (ft-kips)

- Primary (Catenary) Cable Forces Primary Cable Reactions on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	0.9985	12.6388	3	0.9916	0.0000	-0.1171
2	0.9929	12.5680				
3	0.9922	12.5590				
4	0.9966	12.6155				
5	1.0123	12.8135	7	-0.9912	0.0000	-0.2054

- Secondary (Messenger) Cable Forces Secondary Cable Reactions on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	1.0000	8.6207	2	1.0000	0.0000	0.0000
2	1.0000	8.6207				
3	1.0000	8.6207				
4	1.0000	8.6207				
5	1.0000	8.6207	6	-1.0000	0.0000	0.0002

- Light Member Forces

Member #	1	Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	-0.0000	0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	0.0000

Member #	2	Node I	Node J
Axial Force	=	-0.0783	0.0783
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	0.0000	0.0000

Moment About Zm = -0.0000 -0.0000

Member # 3

Node I Node J

Axial Force = -0.0545 0.0545
Shear Xm - Ym = -0.0000 0.0000
Shear Xm - Zm = 0.0000 -0.0000
Torsion = -0.0000 0.0000
Moment About Ym = -0.0000 -0.0000
Moment About Zm = -0.0000 -0.0000

Member # 4

Node I Node J

Axial Force = -0.0900 0.0900
Shear Xm - Ym = -0.0000 0.0000
Shear Xm - Zm = 0.0000 -0.0000
Torsion = 0.0000 -0.0000
Moment About Ym = -0.0000 -0.0000
Moment About Zm = 0.0000 -0.0000

- Hanger (Connector) Member Forces

Member # 1

Node I Node J

Axial Force = -0.0564 0.0564
Shear Xm - Ym = 0.0000 -0.0000
Shear Xm - Zm = 0.0000 -0.0000
Torsion = -0.0000 0.0000
Moment About Ym = -0.0000 -0.0000
Moment About Zm = 0.0000 0.0000

Member # 2

Node I Node J

Axial Force = -0.0801 0.0801
Shear Xm - Ym = -0.0000 0.0000
Shear Xm - Zm = -0.0000 0.0000
Torsion = 0.0000 -0.0000
Moment About Ym = 0.0000 0.0000
Moment About Zm = -0.0000 -0.0000

Member # 3

Node I Node J

Axial Force = -0.0563 0.0563
Shear Xm - Ym = -0.0000 0.0000
Shear Xm - Zm = 0.0000 -0.0000

20 2595.3343 1298.1824 301.7363

Factored Loads Applied to the Structure

Node	Fx	Fy	Fz	Mom-X	Mom-Y	Mom-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	-0.0071	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	-0.0009	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0000	0.0494	-0.0108	0.0000	0.0000	0.0000
10	0.0000	0.0576	-0.0021	0.0000	0.0000	0.0000
11	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
12	0.0000	0.0186	-0.0053	0.0000	0.0000	0.0000
13	0.0000	0.0217	-0.0020	0.0000	0.0000	0.0000
14	-0.0000	0.4628	-0.0862	0.0000	0.0000	0.0000
15	0.0000	0.0479	-0.0105	0.0000	0.0000	0.0000
16	0.0000	0.0558	-0.0020	0.0000	0.0000	0.0000
17	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
18	0.0000	0.0435	-0.0113	0.0000	0.0000	0.0000
19	0.0000	0.0507	-0.0036	0.0000	0.0000	0.0000
20	0.0000	0.6126	-0.0990	0.0000	0.0000	0.0000

Final Displacements

Node	Tx	Ty	Tz	Rot-X	Rot-Y	Rot-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1.5806	0.1243	-0.0000	-0.0006	0.0082	0.0000
3	2.3099	0.1809	-0.0001	-0.0007	0.0085	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	-1.9676	0.2750	-0.0001	-0.0013	-0.0093	0.0000
7	-2.7851	0.3855	-0.0001	-0.0013	-0.0095	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	-0.0467	32.3157	-4.7126	1.2862	0.0518	0.0000
10	-0.2952	50.5521	9.4797	1.3953	0.0518	0.0015
11	-0.7345	78.9984	35.5757	1.5580	0.0518	0.0038
12	-0.2118	41.6691	-2.5504	1.3927	-1.0447	0.0000
13	-0.0484	53.6750	9.5711	1.8965	-1.0447	-0.0066
14	-0.3077	96.5405	-11.6385	3.6638	-1.0447	-0.0297
15	-0.2514	35.3541	-4.1513	1.3784	-0.1494	-0.0000
16	0.2229	51.6328	9.2860	1.3822	-0.1494	-0.0002
17	1.0374	79.2081	32.2028	1.3885	-0.1495	-0.0007

18	-1.4857	2.4121	0.6744	-2.1992	-0.0138	-0.0000
19	-0.0109	12.3319	1.3702	4.8077	-0.0142	-0.1427
20	0.5348	98.1824	13.0963	6.2584	-0.0143	-0.1722

- Frame (Pole) Member Forces

Member # 1

	Node I	Node J
Axial Force =	0.1469	-0.1469
Shear X _m - Y _m =	-9.0363	9.0363
Shear X _m - Z _m =	-0.7308	0.7308
Torsion =	0.0000	0.0000
Moment About Y _m =	226.4612	-9.8184
Moment About Z _m =	-2853.6615	174.9470

Unit conversion :

Pole Absolute Resultant Moment = 238.5528 (ft-kips)

Member # 2

	Node I	Node J
Axial Force =	0.2630	-0.2630
Shear X _m - Y _m =	-2.0187	2.0187
Shear X _m - Z _m =	-0.1133	0.1133
Torsion =	0.0000	0.0000
Moment About Y _m =	9.8184	0.0000
Moment About Z _m =	-174.9470	-0.0000

Unit conversion :

Pole Absolute Resultant Moment = 14.6019 (ft-kips)

Member # 3

	Node I	Node J
Axial Force =	0.2228	-0.2228
Shear X _m - Y _m =	9.0215	-9.0215
Shear X _m - Z _m =	-1.3416	1.3416
Torsion =	0.0000	0.0000
Moment About Y _m =	442.7403	-4.7757
Moment About Z _m =	3104.9883	-160.0058

Unit conversion :

Pole Absolute Resultant Moment = 261.3662 (ft-kips)

Member # 4

	Node I	Node J
Axial Force =	0.3690	-0.3690
Shear Xm - Ym =	1.8463	-1.8463
Shear Xm - Zm =	-0.0551	0.0551
Torsion =	0.0000	0.0000
Moment About Ym =	4.7757	0.0000
Moment About Zm =	160.0058	0.0000

Unit conversion :

Pole Absolute Resultant Moment = 13.3398 (ft-kips)

- Primary (Catenary) Cable Forces Primary Cable Forces on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	2.0400	25.8224	3	2.0207	0.1134	-0.2561
2	2.0498	25.9470				
3	1.9289	24.4167				
4	1.8679	23.6447				
5	1.8851	23.8625	7	-1.8480	0.0552	-0.3685

- Secondary (Messenger) Cable Forces Secondary Cable Forces on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	7.0449	60.7319	2	7.0168	0.6175	0.1161
2	6.9959	60.3092				
3	7.1121	61.3110				
4	7.2029	62.0943				
5	7.3056	62.9793	6	-7.1895	1.2891	0.1465

- Light Member Forces

Member # 1

Rotation Angle in Y-Z Plane (Degrees) = 86.05

Rotation Angle in X-Z Plane (Degrees) = 12.61

Member # 2

Rotation Angle in Y-Z Plane (Degrees) = 34.10

Rotation Angle in X-Z Plane (Degrees) = 0.23

Member # 3

Rotation Angle in Y-Z Plane (Degrees) = 79.43

Rotation Angle in X-Z Plane (Degrees) = 9.00

Member # 4
 Rotation Angle in Y-Z Plane (Degrees) = 87.82
 Rotation Angle in X-Z Plane (Degrees) = 9.46

- Hanger (Connector) Member Forces

Member # 1

	Node I	Node J
Axial Force =	0.0137	-0.0137
Shear Xm - Ym =	0.0000	-0.0000
Shear Xm - Zm =	1.7517	-1.7517
Torsion =	0.0174	-0.0174
Moment About Ym =	0.0053	-32.9625
Moment About Zm =	0.0003	0.0003

Member # 2

	Node I	Node J
Axial Force =	-3.8035	3.8035
Shear Xm - Ym =	0.0035	-0.0035
Shear Xm - Zm =	25.3378	-25.3378
Torsion =	10.1340	-10.1340
Moment About Ym =	-35.7974	-268.4500
Moment About Zm =	0.0168	0.0247

Member # 3

	Node I	Node J
Axial Force =	-0.0703	0.0703
Shear Xm - Ym =	-0.0002	0.0002
Shear Xm - Zm =	0.0786	-0.0786
Torsion =	0.0000	-0.0000
Moment About Ym =	-0.0067	-1.2968
Moment About Zm =	-0.0012	-0.0020

Member # 4

	Node I	Node J
Axial Force =	-0.1327	0.1327
Shear Xm - Ym =	-0.0226	-0.0226
Shear Xm - Zm =	7.4645	-7.4645
Torsion =	2.6372	-2.6372
Moment About Ym =	-0.2917	-540.5310
Moment About Zm =	0.0003	-1.6393

##	####	#	##	####
# #	#	#	# #	#
# #	#	#	# #	####
#####	#	#	#####	#
# #	#	#	# #	# #
# #	#	#####	# #	####

Analysis of Traffic Lights And Signs

Version 7.1

Developed by :

Bridge Software Institute

No warranty, expressed or implied, is made by the Florida Department of Transportation or the University of Florida as to the accuracy and functioning of any programs or the results they produce, nor shall the fact of distribution constitute any such warranty, and no responsibility is assumed by the Florida Department of Transportation or the University of Florida in any connection therewith.

Department of Civil Engineering
University of Florida
Gainesville, Fl 32611

*** NOTE - Pole convergence increased to 2.0*default
for wind speeds > 85 mph:
Tolerance = 0.200000

Input Data File = C:\Users\BraswellHome\My Engineering\Will Braswell, PE,
SE\TPD\Dead River Road & US 19 - Box Span\Will's Work\New Updated Code Design\Dead
River Road & US 19_Span 3-4.in

ATLAS EXECUTION STATUS

- Check the Model for Adequacy

CONTROL DATA (More Information found in ATLAS HELP)

- Problem Title

DEAD RIVER ROAD & US 19_SPAN 3-4.IN

25.20' - 5.6' = 19.6' from crown of road to bottom of signal is a little high but lowering will only make analysis better so **OKAY**. Refer to drawings for actual elevations.

- Structural Parameters :

Number of Nodes = 23
 Number of Cables = 2
 Lowest Point of Catenary = 25.20 ft

- Wind Data :

Wind Speed (Miles per Hour) = 140.00
 Wind Direction (Angle from +ve X axis) = 90.0

- Nonlinear iteration Parameters :

Number of Iterations (Shape Finder) = 200
 Number of Iterations (Gravity Solution) = 200
 Number of Iterations (Wind Solution) = 200
 Number of Loops for Shape Calculation = 5
 Number of Cycles (Shape-Stiffness Iteration) = 1800
 Force Tolerance for Gravity Solution (%) = 5.00
 Force Tolerance for Wind Solution (%) = 5.00
 Pole Displacement Tolerance = 0.200000

ECHO OF NODAL POINT INPUT DATA

Nodal Point Coordinates

Boundary Conditions

Node	X (in)	Y (in)	Z (in)	Tx	Ty	Tz	Rx	Ry	Rz
1	1200.000	1200.000	-36.000	F	F	F	F	F	F
2	1200.000	1200.000	290.440	R	R	R	R	R	R
3	1200.000	1200.000	376.960	R	R	R	R	R	R
4	1224.000	1200.000	-36.000	F	F	F	F	F	F
5	2580.000	1200.000	-2.400	F	F	F	F	F	F
6	2580.000	1200.000	290.440	R	R	R	R	R	R
7	2580.000	1200.000	376.960	R	R	R	R	R	R
8	2604.000	1200.000	-2.400	F	F	F	F	F	F
9	1924.800	1200.000	302.630	R	R	R	R	R	R
10	1924.800	1200.000	290.440	R	R	R	R	R	R
11	1924.800	1200.000	262.380	R	R	R	R	R	R
12	2058.000	1200.000	306.858	R	R	R	R	R	R
13	2058.000	1200.000	290.440	R	R	R	R	R	R
14	2058.000	1200.000	262.380	R	R	R	R	R	R
15	2186.400	1200.000	316.191	R	R	R	R	R	R
16	2186.400	1200.000	290.440	R	R	R	R	R	R
17	2186.400	1200.000	262.380	R	R	R	R	R	R

18	2319.600	1200.000	331.327	R	R	R	R	R	R
19	2319.600	1200.000	290.440	R	R	R	R	R	R
20	2319.600	1200.000	262.380	R	R	R	R	R	R
21	2506.800	1200.000	361.987	R	R	R	R	R	R
22	2506.800	1200.000	290.440	R	R	R	R	R	R
23	2506.800	1200.000	275.440	R	R	R	R	R	R

ECHO OF ELEMENT INPUT DATA

1. Pole/Beam Element Data

Number of Property Sets = 1

Property Set = 1
Pole type = PVIII
Concrete Strength, F`c (psi) = 6000.00

NOTE : The properties used in the analysis were obtained at the effective heights of the poles and are provided below. For more information refer to the report that accompanies the program.

Pole/Beam Connectivity and Properties Used

Mem	Nodes			Mat	Area in^2	Properties				
	I	J	K			E ksi	I33 in^4	I22 in^4	J in^4	G ksi
1	1	2	4	1	262.04	4415.20	13018.04	13018.04	26036.08	1698.15
2	2	3	4	1	210.02	4415.20	6368.73	6368.73	12737.45	1698.15
3	5	6	8	1	257.98	4415.20	12260.82	12260.82	24521.65	1698.15
4	6	7	8	1	210.02	4415.20	6368.73	6368.73	12737.45	1698.15

2. Primary Cable Element Data

Number of Property Sets = 1

Primary Cable Connectivity and Properties

Mem	Nodes			Mat	Cable	Properties	
	I	J	Area in^2			E ksi	
1	3	9	1	1	0.0790	24500.0	
2	9	12	1	1	0.0790	24500.0	
3	12	15	1	1	0.0790	24500.0	
4	15	18	1	1	0.0790	24500.0	
5	18	21	1	1	0.0790	24500.0	
6	21	7	1	1	0.0790	24500.0	

3. Secondary Cable Element Data

Number of Property Sets = 1

Secondary Cable Connectivity and Properties

Mem	Nodes		Mat	Cable	Properties	
	I	J			Area in ²	E ksi
1	2	10	1	2	0.1160	24500.0
2	10	13	1	2	0.1160	24500.0
3	13	16	1	2	0.1160	24500.0
4	16	19	1	2	0.1160	24500.0
5	19	22	1	2	0.1160	24500.0
6	22	6	1	2	0.1160	24500.0

4. Connector Element Data

Number of Property Sets = 2

Connector Connectivity and Properties

Mem	Nodes			Mat	Area in ²	Properties				
	I	J	K			E ksi	I33 in ⁴	I22 in ⁴	J in ⁴	G ksi
1	9	10	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
2	12	13	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
3	15	16	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
4	18	19	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
5	21	22	3	2	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4

5. Light Element Data

Number of Property Sets = 2

Property Line = 1
 Projected area on X-Z plane = 1553.28 in²
 Projected area on Y-Z plane = 1553.28 in²

Property Line = 2
 Projected area on X-Z plane = 2592.00 in²
 Projected area on Y-Z plane = 0.00 in²

Light Connectivity and Properties

Mem	Nodes			Mat	Area	Properties			
	I	J	K			E	I33	I22	J

					in^2	ksi	in^4	in^4	in^4	ksi
1	10	11	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
2	13	14	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
3	16	17	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
4	19	20	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
5	22	23	3	2	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4

6. Wind Load Factors

Directionality Factor = 0.85
 Drag Coefficient = 0.60 for signals with backplate
 = 0.70 for signals without backplate
 Uplift Coefficient = 0.00

CONCENTRATED APPLIED LOADS

- Sign/Cable/Light weights (Kips)

Node	X	Y	Z
3	0.00000	0.00000	-0.00817
7	0.00000	0.00000	-0.00083
9	0.00000	0.00000	-0.01155
10	0.00000	0.00000	-0.00188
11	0.00000	0.00000	-0.05454
12	0.00000	0.00000	-0.00493
13	0.00000	0.00000	-0.00198
14	0.00000	0.00000	-0.05454
15	0.00000	0.00000	-0.00515
16	0.00000	0.00000	-0.00220
17	0.00000	0.00000	-0.05454
18	0.00000	0.00000	-0.00616
19	0.00000	0.00000	-0.00255
20	0.00000	0.00000	-0.05454
21	0.00000	0.00000	-0.00620
22	0.00000	0.00000	-0.00326
23	0.00000	0.00000	-0.09000

- Wind loads on Cables

NOTE : The wind forces on the cables are applied as shown below. The wind forces on the lights and signs are calculated during the analysis. For more information, refer to Atlas Help Manual.

Node	X	Y	Z	XX	YY	ZZ
9	0.00000	0.05983	0.00000	0.00000	0.00000	0.00000

Cable Diameter (in) = 0.438
 Cable Area (sq. in) = 0.116
 Cable Weight (lb/in) = 0.033
 Factored Cable Resistance (k) = 9.000

Cable Size is Adequate for current Tensile Force

Load Combination 2: 1.10*(DL) + 1.00*(WL)
 controls

CALCULATE EMBEDMENT USING FACTORED "BOX" SPAN BI-AXIAL SHEAR AND MOMENT
 (0.6 RESISTANCE FACTOR AND 3'-6" DIA DRILLED SHAFT)

$$-(D)(\text{Soil Buoyant Wt})L^3(Kp)/2 + 0L^2 + (V/0.6)L + M/0.6 = 0$$

$$\text{where } Kp = \tan^2(45\text{deg} + \text{Soil Internal Friction Angle}/2) = \tan^2(45 + 28/2) = 2.77$$

$$-(3.5)(0.0426)L^3(2.77)/2 + 0L^2 + (15.8/0.6)L + 411/0.6 = 0$$

$$-0.21L^3 + 0L^2 + 26.3L + 685 = 0$$

Via Cubic Solver...L = 17.6' for Pole #3 in Span 3-4 (Same as Pole #3 in Span 2-3)

- POLE DESIGN
 *-**-*-*-*

Load Combination 2 (LRFD Extreme Event I): 1.10*(DL) + 1.00*(WL)
 is used for design of this pole

Pole Number = 3
 Pole Node Numbers = 1 2 3
 Input Pole Type = PVIII
 Input Wind Speed (mph) = 140.000
 Input Wind Angle (deg) = 90.000
 Applied Wind Angle (deg) = 90.000

Resultant Base Shear (kips) = (9.204 x 1.3) + 3.8 = 15.8 kips

Resultant Base Moment (kip-ft) = (264.829 x 1.3) + 67 = 411 kip-ft

Resultant Base Moment Angle (deg) = 0.000

Pole Strong Axis Angle (deg) = 0.000

Biaxial Moment Reduction Factor = 1.000

Required Pole Phi * Mn (kip-ft) = 264.829

Input Pole Capacity (kip-ft) = 417.198

Required Embedment Length (ft) = 14.792

Minimum Embedment Length (ft) = 9.000

(= 0.000 if custom pole, and requires separate check)

Pole Height Above Ground (ft) = 34.413

The Pole specified in the INPUT is adequate to support the base moment.

ATLAS specifies that to account for biaxial bending the pole base moment should be multiplied by 1.3 and wind load on pole added. 411 is less than 417 therefore Pole Type PVIII OKAY

Load Combination 2 (LRFD Extreme Event I): 1.10*(DL) + 1.00*(WL)
 is used for design of this pole

Pole Number = 4
 Pole Node Numbers = 5 6 7
 Input Pole Type = PVIII
 Input Wind Speed (mph) = 140.000
 Input Wind Angle (deg) = 90.000

18	2321.6680	1200.0000	322.7381
19	2321.6682	1200.0000	290.4404
20	2321.6684	1200.0000	262.3802
21	2508.2854	1200.0000	356.2895
22	2508.2869	1200.0000	290.4460
23	2508.2873	1200.0000	275.4458

Dead Load Applied to the Structure

Node	Fx	Fy	Fz	Mom-X	Mom-Y	Mom-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	-0.0082	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	-0.0008	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0000	0.0000	-0.0116	0.0000	0.0000	0.0000
10	0.0000	0.0000	-0.0019	0.0000	0.0000	0.0000
11	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
12	0.0000	0.0000	-0.0049	0.0000	0.0000	0.0000
13	0.0000	0.0000	-0.0020	0.0000	0.0000	0.0000
14	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
15	0.0000	0.0000	-0.0051	0.0000	0.0000	0.0000
16	0.0000	0.0000	-0.0022	0.0000	0.0000	0.0000
17	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
18	0.0000	0.0000	-0.0062	0.0000	0.0000	0.0000
19	0.0000	0.0000	-0.0025	0.0000	0.0000	0.0000
20	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
21	0.0000	0.0000	-0.0062	0.0000	0.0000	0.0000
22	0.0000	0.0000	-0.0033	0.0000	0.0000	0.0000
23	0.0000	0.0000	-0.0900	0.0000	0.0000	0.0000

Final Displacements

Node	Tx	Ty	Tz	Rot-X	Rot-Y	Rot-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.4599	0.0000	-0.0000	-0.0000	0.0022	0.0000
3	0.6595	0.0000	-0.0000	-0.0000	0.0023	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	-0.3581	0.0000	-0.0001	-0.0000	-0.0019	0.0000
7	-0.5330	0.0000	-0.0001	-0.0000	-0.0021	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0001	-0.0000	0.0031	-0.0000	0.0000	-0.0000

10	0.0001	-0.0000	0.0029	-0.0000	0.0000	0.0000
11	0.0000	-0.0000	0.0027	-0.0000	0.0000	0.0000
12	-0.0000	-0.0000	0.0011	-0.0000	-0.0000	0.0000
13	0.0001	-0.0000	0.0010	-0.0000	-0.0000	-0.0000
14	0.0002	-0.0000	0.0007	-0.0000	-0.0000	-0.0000
15	0.0000	-0.0000	0.0004	-0.0000	-0.0000	-0.0000
16	0.0001	-0.0000	0.0002	-0.0000	-0.0000	-0.0000
17	0.0002	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
18	-0.0000	0.0000	0.0007	0.0000	-0.0000	-0.0000
19	0.0001	0.0000	0.0004	0.0000	-0.0000	0.0000
20	0.0003	0.0000	0.0002	0.0000	-0.0000	0.0000
21	-0.0015	0.0000	0.0070	0.0000	-0.0000	0.0000
22	-0.0000	0.0000	0.0060	0.0000	-0.0000	-0.0000
23	0.0003	0.0000	0.0058	0.0000	-0.0000	-0.0000

- Frame Member Forces

Member # 1

	Node I	Node J
Axial Force =	0.0981	-0.0981
Shear Xm - Ym =	-1.9157	1.9157
Shear Xm - Zm =	-0.0000	0.0000
Torsion =	0.0000	0.0000
Moment About Ym =	0.0000	-0.0000
Moment About Zm =	-704.5513	79.2041

Unit conversion:

Pole Absolute Resultant Moment = 59.0824 (ft-kips)

Member # 2

	Node I	Node J
Axial Force =	0.0981	-0.0981
Shear Xm - Ym =	-0.9154	0.9154
Shear Xm - Zm =	-0.0000	0.0000
Torsion =	0.0000	0.0000
Moment About Ym =	0.0000	0.0000
Moment About Zm =	-79.2041	-0.0000

Unit conversion:

Pole Absolute Resultant Moment = 6.6003 (ft-kips)

Member # 3

	Node I	Node J
Axial Force =	0.2649	-0.2649

Shear Xm - Ym = 1.9126 -1.9126
 Shear Xm - Zm = -0.0000 0.0000
 Torsion = 0.0000 0.0000
 Moment About Ym = 0.0000 -0.0000
 Moment About Zm = 638.8065 -78.7078

Unit conversion:

Pole Absolute Resultant Moment = 53.6364 (ft-kips)

Member # 4

	Node I	Node J
Axial Force =	0.2650	-0.2650
Shear Xm - Ym =	0.9097	-0.9097
Shear Xm - Zm =	-0.0000	0.0000
Torsion =	0.0000	0.0000
Moment About Ym =	0.0000	0.0000
Moment About Zm =	78.7078	-0.0000

Unit conversion:

Pole Absolute Resultant Moment = 6.5590 (ft-kips)

- Primary (Catenary) Cable Forces Primary Cable Reactions on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	0.9204	11.6506	3	0.9160	0.0000	-0.0900
2	0.9162	11.5978				
3	0.9168	11.6052				
4	0.9216	11.6653				
5	0.9306	11.7803				
6	0.9533	12.0668	7	-0.9155	0.0000	-0.2658

- Secondary (Messenger) Cable Forces Secondary Cable Reactions on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	1.0000	8.6207	2	1.0000	0.0000	0.0000
2	1.0000	8.6207				
3	1.0000	8.6207				
4	1.0000	8.6207				
5	1.0000	8.6207				
6	1.0000	8.6207	6	-1.0000	0.0000	0.0001

- Light Member Forces

Member #	1	Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	-0.0000	0.0000

Member #	2	Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	-0.0000	-0.0000

Member #	3	Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	-0.0000	0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	-0.0000	-0.0000

Member #	4	Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	-0.0000

Member #	5	Node I	Node J
Axial Force	=	-0.0900	0.0900
Shear Xm - Ym	=	0.0000	-0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	0.0000	-0.0000

- Hanger (Connector) Member Forces

Member #	1		
		Node I	Node J
Axial Force	=	-0.0564	0.0564
Shear Xm - Ym	=	0.0000	-0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	0.0000	0.0000
Member #	2		
		Node I	Node J
Axial Force	=	-0.0565	0.0565
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	-0.0000	-0.0000
Member #	3		
		Node I	Node J
Axial Force	=	-0.0567	0.0567
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	-0.0000	0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	-0.0000	-0.0000
Member #	4		
		Node I	Node J
Axial Force	=	-0.0571	0.0571
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	-0.0000
Member #	5		
		Node I	Node J
Axial Force	=	-0.0934	0.0934
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	-0.0000

Moment About Ym = -0.0000 -0.0000
 Moment About Zm = -0.0000 -0.0000

↑

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  *-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*
  |
  |           L O A D   C O M B I N A T I O N   2
  |   Dead Load Factor * [DL] + Wind Load Factor * [WL]
  |           1.10 * [DL] + 1.00 * [WL]
  |
  |           Units: Kips, Inches
  |
  *-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*
  
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Wind Velocity Input (mph) = 140.000
 Wind Angle Input (deg) = 90.000
 Wind Angle Applied (deg) = 90.000

Final Coordinates

Node	X	Y	Z
1	1200.0000	1200.0000	-36.0000
2	1202.0144	1200.1173	290.4400
3	1202.8524	1200.1655	376.9599
4	1224.0000	1200.0000	-36.0000
5	2580.0000	1200.0000	-2.4000
6	2578.4672	1200.2577	290.4399
7	2577.7577	1200.3724	376.9599
8	2604.0000	1200.0000	-2.4000
9	1927.2763	1231.6563	302.2030
10	1927.5114	1246.6200	299.5760
11	1927.9312	1274.0486	293.5407
12	2060.6019	1235.4335	299.7682
13	2061.0909	1247.4191	299.4182
14	2061.7746	1275.1153	286.9563
15	2189.1732	1227.6868	302.7310
16	2190.0082	1244.8319	299.0816
17	2191.4365	1272.6135	294.9645
18	2321.5560	1213.4916	318.8763
19	2323.3164	1237.1428	296.9523
20	2327.2002	1297.4841	320.7688
21	2507.0518	1201.6138	356.7220
22	2509.0335	1215.3507	292.3578
23	2509.9701	1293.0483	293.6015

Factored Loads Applied to the Structure

Node	Fx	Fy	Fz	Mom-X	Mom-Y	Mom-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	-0.0090	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	-0.0009	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0000	0.0598	-0.0127	0.0000	0.0000	0.0000
10	0.0000	0.0698	-0.0021	0.0000	0.0000	0.0000
11	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
12	0.0000	0.0182	-0.0054	0.0000	0.0000	0.0000
13	0.0000	0.0213	-0.0022	0.0000	0.0000	0.0000
14	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
15	0.0000	0.0182	-0.0057	0.0000	0.0000	0.0000
16	0.0000	0.0213	-0.0024	0.0000	0.0000	0.0000
17	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
18	0.0000	0.0224	-0.0068	0.0000	0.0000	0.0000
19	0.0000	0.0261	-0.0028	0.0000	0.0000	0.0000
20	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
21	0.0000	0.0182	-0.0068	0.0000	0.0000	0.0000
22	0.0000	0.0212	-0.0036	0.0000	0.0000	0.0000
23	0.0000	0.6126	-0.0990	0.0000	0.0000	0.0000

Final Displacements

Node	Tx	Ty	Tz	Rot-X	Rot-Y	Rot-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	2.0144	0.1173	-0.0000	-0.0005	0.0095	0.0000
3	2.8524	0.1655	-0.0001	-0.0006	0.0098	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	-1.5328	0.2577	-0.0001	-0.0013	-0.0080	0.0000
7	-2.2423	0.3724	-0.0001	-0.0013	-0.0083	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.7991	31.6563	-3.4313	1.4045	-0.0901	0.0000
10	1.0343	46.6200	9.1360	1.3820	-0.0901	0.0003
11	1.4540	74.0486	31.1607	1.3403	-0.0901	0.0008
12	0.8346	35.4335	-2.6718	1.6039	-1.0624	0.0000
13	1.3237	47.4191	8.9782	1.4174	-1.0624	0.0074
14	2.0074	75.1153	24.5763	0.9812	-1.0624	0.0246
15	0.7494	27.6868	-5.2573	1.3490	-0.2223	-0.0000
16	1.5844	44.8319	8.6416	1.3851	-0.2224	-0.0020
17	3.0128	72.6135	32.5845	1.4429	-0.2225	-0.0051
18	-0.1121	13.4916	-3.8610	0.2643	-0.0471	-0.0000
19	1.6483	37.1428	6.5123	1.9362	-0.0474	-0.0915
20	5.5321	97.4841	58.3888	3.3888	-0.0477	-0.1710
21	-1.2352	1.6138	0.4395	-1.8607	-0.0173	-0.0000
22	0.7466	15.3507	1.9178	4.3465	-0.0178	-0.1869

23 1.6832 93.0483 18.1615 5.7606 -0.0179 -0.2295

- Frame (Pole) Member Forces

Member # 1

	Node I	Node J
Axial Force =	0.1288	-0.1288
Shear Xm - Ym =	-9.1766	9.1766
Shear Xm - Zm =	-0.5463	0.5463
Torsion =	0.0000	0.0000
Moment About Ym =	185.9668	-7.6470
Moment About Zm =	-3171.5094	175.9150

Unit conversion :
Pole Absolute Resultant Moment = 264.7464 (ft-kips)

Member # 2

	Node I	Node J
Axial Force =	0.2188	-0.2188
Shear Xm - Ym =	-2.0332	2.0332
Shear Xm - Zm =	-0.0884	0.0884
Torsion =	0.0000	0.0000
Moment About Ym =	7.6470	-0.0000
Moment About Zm =	-175.9150	0.0000

Unit conversion :
Pole Absolute Resultant Moment = 14.6734 (ft-kips)

Member # 3

	Node I	Node J
Axial Force =	0.2793	-0.2793
Shear Xm - Ym =	9.1624	-9.1624
Shear Xm - Zm =	-1.6533	1.6533
Torsion =	0.0000	0.0000
Moment About Ym =	486.7292	-2.5721
Moment About Zm =	2829.6315	-146.5055

Unit conversion :
Pole Absolute Resultant Moment = 239.2657 (ft-kips)

Member # 4

	Node I	Node J
--	--------	--------

Axial Force = 0.4856 -0.4856
 Shear Xm - Ym = 1.6933 -1.6933
 Shear Xm - Zm = -0.0297 0.0297
 Torsion = 0.0000 0.0000
 Moment About Ym = 2.5721 0.0000
 Moment About Zm = 146.5055 -0.0000

Unit conversion :

Pole Absolute Resultant Moment = 12.2107 (ft-kips)

- Primary (Catenary) Cable Forces Primary Cable Forces on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	2.0513	25.9655	3	2.0385	0.0886	-0.2104
2	1.9996	25.3108				
3	1.8481	23.3934				
4	1.7535	22.1960				
5	1.7372	21.9899				
6	1.7588	22.2633	7	-1.6907	0.0297	-0.4839

- Secondary (Messenger) Cable Forces Secondary Cable Forces on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	7.1527	61.6608	2	7.1374	0.4575	0.0899
2	7.1777	61.8768				
3	7.3335	63.2195				
4	7.4590	64.3015				
5	7.5313	64.9254				
6	7.6630	66.0605	6	-7.4854	1.6271	0.2068

- Light Member Forces

Member # 1
 Rotation Angle in Y-Z Plane (Degrees) = 77.59
 Rotation Angle in X-Z Plane (Degrees) = 3.98

Member # 2
 Rotation Angle in Y-Z Plane (Degrees) = 65.77
 Rotation Angle in X-Z Plane (Degrees) = 3.14

Member # 3
 Rotation Angle in Y-Z Plane (Degrees) = 81.57
 Rotation Angle in X-Z Plane (Degrees) = 19.13

Member # 4
 Rotation Angle in Y-Z Plane (Degrees) = 68.46
 Rotation Angle in X-Z Plane (Degrees) = 9.26

Member # 5
 Rotation Angle in Y-Z Plane (Degrees) = 89.08
 Rotation Angle in X-Z Plane (Degrees) = 36.98

- Hanger (Connector) Member Forces

Member # 1

	Node I	Node J
Axial Force =	-0.0489	0.0489
Shear Xm - Ym =	-0.0002	0.0002
Shear Xm - Zm =	-0.5552	0.5552
Torsion =	-0.0024	0.0024
Moment About Ym =	-0.0024	8.4390
Moment About Zm =	-0.0010	-0.0014

Member # 2

	Node I	Node J
Axial Force =	-0.3105	0.3105
Shear Xm - Ym =	-0.0061	0.0061
Shear Xm - Zm =	-13.0725	13.0725
Torsion =	-3.7229	3.7229
Moment About Ym =	35.3183	121.5594
Moment About Zm =	-0.0407	-0.0319

Member # 3

	Node I	Node J
Axial Force =	-0.2210	0.2210
Shear Xm - Ym =	-0.0002	0.0002
Shear Xm - Zm =	0.6684	-0.6684
Torsion =	-0.0087	0.0087
Moment About Ym =	-0.0046	-11.7259
Moment About Zm =	-0.0016	-0.0026

Member # 4

	Node I	Node J
Axial Force =	-0.0575	0.0575
Shear Xm - Ym =	-0.0044	0.0044
Shear Xm - Zm =	9.1625	-9.1625
Torsion =	1.8197	-1.8197
Moment About Ym =	-0.7704	-295.1573
Moment About Zm =	0.0007	-0.1435

Member #	5	Node I	Node J
Axial Force	=	-0.1030	0.1030
Shear Xm - Ym	=	-0.0306	0.0306
Shear Xm - Zm	=	7.9350	-7.9350
Torsion	=	4.9807	-4.9807
Moment About Ym	=	-0.8306	-521.6391
Moment About Zm	=	0.0004	-2.0130

##	####	#	##	####
# #	#	#	# #	#
# #	#	#	# #	####
#####	#	#	#####	#
# #	#	#	# #	# #
# #	#	#####	# #	####

Analysis of Traffic Lights And Signs

Version 7.1

Developed by :

Bridge Software Institute

No warranty, expressed or implied, is made by the Florida Department of Transportation or the University of Florida as to the accuracy and functioning of any programs or the results they produce, nor shall the fact of distribution constitute any such warranty, and no responsibility is assumed by the Florida Department of Transportation or the University of Florida in any connection therewith.

Department of Civil Engineering
University of Florida
Gainesville, Fl 32611

*** NOTE - Pole convergence increased to 2.0*default
for wind speeds > 85 mph:
Tolerance = 0.200000

Input Data File = C:\Users\BraswellHome\My Engineering\Will Braswell, PE,
SE\TPD\Dead River Road & US 19 - Box Span\Will's Work\New Updated Code Design\Dead
River Road & US 19 Span 4-1.in

ATLAS EXECUTION STATUS

- Check the Model for Adequacy

CONTROL DATA (More Information found in ATLAS HELP)

- Problem Title

DEAD RIVER ROAD & US 19_SPAN 4-1.IN

- Structural Parameters :

Number of Nodes = 23
 Number of Cables = 2
 Lowest Point of Catenary = 26.50 ft

26.5' - 5.6' = 20.9' from crown of road to bottom of signal is a little high but lowering will only make analysis better so **OKAY**. Refer to drawings for actual elevations.

- Wind Data :

Wind Speed (Miles per Hour) = 140.00
 Wind Direction (Angle from +ve X axis) = 90.0

- Nonlinear iteration Parameters :

Number of Iterations (Shape Finder) = 200
 Number of Iterations (Gravity Solution) = 200
 Number of Iterations (Wind Solution) = 200
 Number of Loops for Shape Calculation = 5
 Number of Cycles (Shape-Stiffness Iteration) = 1800
 Force Tolerance for Gravity Solution (%) = 5.00
 Force Tolerance for Wind Solution (%) = 5.00
 Pole Displacement Tolerance = 0.200000



ECHO OF NODAL POINT INPUT DATA

Nodal Point Coordinates

Boundary Conditions

Node	X (in)	Y (in)	Z (in)	Tx	Ty	Tz	Rx	Ry	Rz
1	1200.000	1200.000	13.200	F	F	F	F	F	F
2	1200.000	1200.000	306.040	R	R	R	R	R	R
3	1200.000	1200.000	392.140	R	R	R	R	R	R
4	1224.000	1200.000	13.200	F	F	F	F	F	F
5	2340.000	1200.000	3.600	F	F	F	F	F	F
6	2340.000	1200.000	306.040	R	R	R	R	R	R
7	2340.000	1200.000	392.140	R	R	R	R	R	R
8	2364.000	1200.000	3.600	F	F	F	F	F	F
9	1828.800	1200.000	318.829	R	R	R	R	R	R
10	1828.800	1200.000	306.040	R	R	R	R	R	R
11	1828.800	1200.000	277.980	R	R	R	R	R	R
12	1936.800	1200.000	324.385	R	R	R	R	R	R
13	1936.800	1200.000	306.040	R	R	R	R	R	R
14	1936.800	1200.000	277.980	R	R	R	R	R	R
15	2044.800	1200.000	335.263	R	R	R	R	R	R
16	2044.800	1200.000	306.040	R	R	R	R	R	R
17	2044.800	1200.000	277.980	R	R	R	R	R	R

18	2152.800	1200.000	351.460	R	R	R	R	R	R
19	2152.800	1200.000	306.040	R	R	R	R	R	R
20	2152.800	1200.000	277.980	R	R	R	R	R	R
21	2269.200	1200.000	374.875	R	R	R	R	R	R
22	2269.200	1200.000	306.040	R	R	R	R	R	R
23	2269.200	1200.000	291.040	R	R	R	R	R	R

ECHO OF ELEMENT INPUT DATA

1. Pole/Beam Element Data

Number of Property Sets = 1

Property Set = 1
Pole type = PVIII
Concrete Strength, F`c (psi) = 6000.00

NOTE : The properties used in the analysis were obtained at the effective heights of the poles and are provided below. For more information refer to the report that accompanies the program.

Pole/Beam Connectivity and Properties Used

Mem	Nodes				Mat	Area in^2	Properties				
	I	J	K				E ksi	I33 in^4	I22 in^4	J in^4	G ksi
1	1	2	4	1	257.86	4415.20	12247.73	12247.73	24495.47	1698.15	
2	2	3	4	1	209.97	4415.20	6362.72	6362.72	12725.43	1698.15	
3	5	6	8	1	259.03	4415.20	12461.01	12461.01	24922.01	1698.15	
4	6	7	8	1	209.97	4415.20	6362.72	6362.72	12725.43	1698.15	

2. Primary Cable Element Data

Number of Property Sets = 1

Primary Cable Connectivity and Properties

Mem	Nodes			Mat	Cable	Properties	
	I	J				Area in^2	E ksi
1	3	9	1	1	0.0790	24500.0	
2	9	12	1	1	0.0790	24500.0	
3	12	15	1	1	0.0790	24500.0	
4	15	18	1	1	0.0790	24500.0	
5	18	21	1	1	0.0790	24500.0	
6	21	7	1	1	0.0790	24500.0	

3. Secondary Cable Element Data

Number of Property Sets = 1

Secondary Cable Connectivity and Properties

Mem	Nodes		Mat	Cable	Properties	
	I	J			Area in ²	E ksi
1	2	10	1	2	0.1160	24500.0
2	10	13	1	2	0.1160	24500.0
3	13	16	1	2	0.1160	24500.0
4	16	19	1	2	0.1160	24500.0
5	19	22	1	2	0.1160	24500.0
6	22	6	1	2	0.1160	24500.0

4. Connector Element Data

Number of Property Sets = 2

Connector Connectivity and Properties

Mem	Nodes			Mat	Properties					
	I	J	K		Area in ²	E ksi	I33 in ⁴	I22 in ⁴	J in ⁴	G ksi
1	9	10	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
2	12	13	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
3	15	16	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
4	18	19	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
5	21	22	3	2	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4

5. Light Element Data

Number of Property Sets = 2

Property Line = 1
 Projected area on X-Z plane = 1553.28 in²
 Projected area on Y-Z plane = 1553.28 in²

Property Line = 2
 Projected area on X-Z plane = 2592.00 in²
 Projected area on Y-Z plane = 0.00 in²

Light Connectivity and Properties

Mem	Nodes			Mat	Properties				
	I	J	K		Area	E	I33	I22	J

					in^2	ksi	in^4	in^4	in^4	ksi
1	10	11	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
2	13	14	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
3	16	17	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
4	19	20	3	1	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4
5	22	23	3	2	0.5966	10000.0	0.2842	0.0046	0.2888	3759.4

6. Wind Load Factors

Directionality Factor = 0.85
 Drag Coefficient = 0.60 for signals with backplate
 = 0.70 for signals without backplate
 Uplift Coefficient = 0.00

CONCENTRATED APPLIED LOADS

- Sign/Cable/Light weights (Kips)

Node	X	Y	Z
3	0.00000	0.00000	-0.00708
7	0.00000	0.00000	-0.00080
9	0.00000	0.00000	-0.01048
10	0.00000	0.00000	-0.00218
11	0.00000	0.00000	-0.05454
12	0.00000	0.00000	-0.00472
13	0.00000	0.00000	-0.00228
14	0.00000	0.00000	-0.05454
15	0.00000	0.00000	-0.00493
16	0.00000	0.00000	-0.00249
17	0.00000	0.00000	-0.05454
18	0.00000	0.00000	-0.00534
19	0.00000	0.00000	-0.00281
20	0.00000	0.00000	-0.05454
21	0.00000	0.00000	-0.00537
22	0.00000	0.00000	-0.00326
23	0.00000	0.00000	-0.09000

- Wind loads on Cables

NOTE : The wind forces on the cables are applied as shown below. The wind forces on the lights and signs are calculated during the analysis. For more information, refer to Atlas Help Manual.

Node	X	Y	Z	XX	YY	ZZ
9	0.00000	0.05138	0.00000	0.00000	0.00000	0.00000

Cable Diameter (in) = 0.438
 Cable Area (sq. in) = 0.116
 Cable Weight (lb/in) = 0.033
 Factored Cable Resistance (k) = 9.000

Cable Size is Adequate for current Tensile Force

Load Combination 2: $1.10*(DL) + 1.00*(WL)$

controls

CALCULATE EMBEDMENT USING FACTORED "BOX" SPAN BI-AXIAL SHEAR AND MOMENT
 (0.6 RESISTANCE FACTOR AND 3'-6" DIA DRILLED SHAFT)

$-(D)(\text{Soil Buoyant Wt})L^3(Kp)/2 + 0L^2 + (V/0.6)L + M/0.6 = 0$

where $Kp = \tan^2(45\text{deg} + \text{Soil Internal Friction Angle}/2) = \tan^2(45 + 28/2) = 2.77$

- POLE DESIGN

--*-*-*

$-(3.5)(0.0426)L^3(2.77)/2 + 0L^2 + (15.4/0.6)L + 367/0.6 = 0$

$-0.21L^3 + 0L^2 + 25.7L + 612 = 0$

Via Cubic Solver...L = 17.1' for Pole #4 in Span 4-1 (Does not govern. See Pole #4 in Span 3-4)

Load Combination 2 (LRFD Extreme Event I): $1.10*(DL) + 1.00*(WL)$
 is used for design of this pole

Pole Number = 4
 Pole Node Numbers = 1 2 3
 Input Pole Type = PVIII
 Input Wind Speed (mph) = 140.000
 Input Wind Angle (deg) = 90.000
 Applied Wind Angle (deg) = 90.000

Resultant Base Shear (kips) = $(8.930 \times 1.3) + 3.8 = 15.4$ kips

Resultant Base Moment (kip-ft) = $(230.631 \times 1.3) + 67 = 367$ kip-ft

Resultant Base Moment Angle (deg) = 0.000

Pole Strong Axis Angle (deg) = 0.000

Biaxial Moment Reduction Factor = 1.000

Required Pole Phi * Mn (kip-ft) = 230.631

Input Pole Capacity (kip-ft) = 403.938

Required Embedment Length (ft) = 15.382

Minimum Embedment Length (ft) = 9.000

(= 0.000 if custom pole, and requires separate check)

Pole Height Above Ground (ft) = 31.578

The Pole specified in the INPUT is adequate to support the base moment.

ATLAS specifies that to account for biaxial bending the pole base moment should be multiplied by 1.3 and wind load on pole added. 367 is less than 403 therefore Pole Type PVIII OKAY

Load Combination 2 (LRFD Extreme Event I): $1.10*(DL) + 1.00*(WL)$
 is used for design of this pole

Pole Number = 1
 Pole Node Numbers = 5 6 7
 Input Pole Type = PVIII
 Input Wind Speed (mph) = 140.000
 Input Wind Angle (deg) = 90.000

18	2155.7994	1200.0000	340.4395
19	2155.7996	1200.0000	306.0399
20	2155.7997	1200.0000	277.9796
21	2271.5254	1200.0000	367.1582
22	2271.5266	1200.0000	306.0433
23	2271.5269	1200.0000	291.0431

Dead Load Applied to the Structure

Node	Fx	Fy	Fz	Mom-X	Mom-Y	Mom-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	-0.0071	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	-0.0008	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0000	0.0000	-0.0105	0.0000	0.0000	0.0000
10	0.0000	0.0000	-0.0022	0.0000	0.0000	0.0000
11	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
12	0.0000	0.0000	-0.0047	0.0000	0.0000	0.0000
13	0.0000	0.0000	-0.0023	0.0000	0.0000	0.0000
14	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
15	0.0000	0.0000	-0.0049	0.0000	0.0000	0.0000
16	0.0000	0.0000	-0.0025	0.0000	0.0000	0.0000
17	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
18	0.0000	0.0000	-0.0053	0.0000	0.0000	0.0000
19	0.0000	0.0000	-0.0028	0.0000	0.0000	0.0000
20	0.0000	0.0000	-0.0545	0.0000	0.0000	0.0000
21	0.0000	0.0000	-0.0054	0.0000	0.0000	0.0000
22	0.0000	0.0000	-0.0033	0.0000	0.0000	0.0000
23	0.0000	0.0000	-0.0900	0.0000	0.0000	0.0000

Final Displacements

Node	Tx	Ty	Tz	Rot-X	Rot-Y	Rot-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.3188	-0.0000	-0.0000	0.0000	0.0017	0.0000
3	0.4724	-0.0000	-0.0000	0.0000	0.0018	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	-0.3427	-0.0000	-0.0001	0.0000	-0.0018	0.0000
7	-0.5020	-0.0000	-0.0001	0.0000	-0.0019	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0001	-0.0000	0.0016	-0.0000	0.0000	0.0000

10	0.0001	-0.0000	0.0014	-0.0000	0.0000	-0.0000
11	0.0000	-0.0000	0.0012	-0.0000	0.0000	-0.0000
12	-0.0000	0.0000	0.0003	0.0000	-0.0000	0.0000
13	0.0000	0.0000	0.0002	0.0000	-0.0000	0.0000
14	0.0001	0.0000	-0.0001	0.0000	-0.0000	0.0000
15	0.0000	0.0000	-0.0001	0.0000	-0.0000	-0.0000
16	0.0001	0.0000	-0.0002	0.0000	-0.0000	0.0000
17	0.0001	0.0000	-0.0005	0.0000	-0.0000	0.0000
18	-0.0000	-0.0000	0.0002	-0.0000	-0.0000	0.0000
19	0.0001	-0.0000	-0.0001	-0.0000	-0.0000	0.0000
20	0.0002	-0.0000	-0.0004	-0.0000	-0.0000	0.0000
21	-0.0013	-0.0000	0.0043	-0.0000	-0.0000	-0.0000
22	-0.0001	-0.0000	0.0033	-0.0000	-0.0000	0.0000
23	0.0002	-0.0000	0.0031	-0.0000	-0.0000	0.0000

- Frame Member Forces

Member # 1

	Node I	Node J
Axial Force =	0.0907	-0.0907
Shear Xm - Ym =	-1.7355	1.7355
Shear Xm - Zm =	0.0000	-0.0000
Torsion =	0.0000	0.0000
Moment About Ym =	-0.0000	0.0000
Moment About Zm =	-571.5291	63.3111

Unit conversion:

Pole Absolute Resultant Moment = 47.9188 (ft-kips)

Member # 2

	Node I	Node J
Axial Force =	0.0907	-0.0907
Shear Xm - Ym =	-0.7353	0.7353
Shear Xm - Zm =	0.0000	-0.0000
Torsion =	0.0000	0.0000
Moment About Ym =	-0.0000	0.0000
Moment About Zm =	-63.3111	0.0000

Unit conversion:

Pole Absolute Resultant Moment = 5.2759 (ft-kips)

Member # 3

	Node I	Node J
Axial Force =	0.2692	-0.2692

Shear Xm - Ym = 1.7327 -1.7327
 Shear Xm - Zm = 0.0000 -0.0000
 Torsion = 0.0000 0.0000
 Moment About Ym = -0.0000 0.0000
 Moment About Zm = 586.9273 -62.8983

Unit conversion:

Pole Absolute Resultant Moment = 49.1907 (ft-kips)

Member # 4

		Node I	Node J
Axial Force	=	0.2693	-0.2693
Shear Xm - Ym	=	0.7305	-0.7305
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	62.8983	-0.0000

Unit conversion:

Pole Absolute Resultant Moment = 5.2415 (ft-kips)

- Primary (Catenary) Cable Forces Primary Cable Reactions on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	0.7404	9.3728	3	0.7357	-0.0000	-0.0836
2	0.7359	9.3148				
3	0.7371	9.3300				
4	0.7434	9.4107				
5	0.7550	9.5574				
6	0.7831	9.9131	7	-0.7351	0.0000	-0.2702

- Secondary (Messenger) Cable Forces Secondary Cable Reactions on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	1.0000	8.6207	2	1.0000	-0.0000	0.0000
2	1.0000	8.6207				
3	1.0000	8.6207				
4	1.0000	8.6207				
5	1.0000	8.6207				
6	1.0000	8.6207	6	-1.0000	0.0000	0.0001

- Light Member Forces

Member # 1		Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	-0.0000	0.0000

Member # 2		Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	-0.0000

Member # 3		Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	0.0000	-0.0000
Torsion	=	0.0000	-0.0000
Moment About Ym	=	-0.0000	-0.0000
Moment About Zm	=	-0.0000	-0.0000

Member # 4		Node I	Node J
Axial Force	=	-0.0545	0.0545
Shear Xm - Ym	=	-0.0000	0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	-0.0000	0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	-0.0000	-0.0000

Member # 5		Node I	Node J
Axial Force	=	-0.0900	0.0900
Shear Xm - Ym	=	0.0000	-0.0000
Shear Xm - Zm	=	-0.0000	0.0000
Torsion	=	-0.0000	0.0000
Moment About Ym	=	0.0000	0.0000
Moment About Zm	=	0.0000	-0.0000

- Hanger (Connector) Member Forces

Member #	1		Node I	Node J
Axial Force	=	-0.0567		0.0567
Shear Xm - Ym	=	0.0000		-0.0000
Shear Xm - Zm	=	-0.0000		0.0000
Torsion	=	0.0000		-0.0000
Moment About Ym	=	0.0000		0.0000
Moment About Zm	=	0.0000		0.0000

Member #	2		Node I	Node J
Axial Force	=	-0.0568		0.0568
Shear Xm - Ym	=	-0.0000		0.0000
Shear Xm - Zm	=	0.0000		-0.0000
Torsion	=	0.0000		-0.0000
Moment About Ym	=	-0.0000		-0.0000
Moment About Zm	=	-0.0000		-0.0000

Member #	3		Node I	Node J
Axial Force	=	-0.0570		0.0570
Shear Xm - Ym	=	-0.0000		0.0000
Shear Xm - Zm	=	0.0000		-0.0000
Torsion	=	0.0000		-0.0000
Moment About Ym	=	-0.0000		-0.0000
Moment About Zm	=	-0.0000		-0.0000

Member #	4		Node I	Node J
Axial Force	=	-0.0573		0.0573
Shear Xm - Ym	=	-0.0000		0.0000
Shear Xm - Zm	=	-0.0000		0.0000
Torsion	=	-0.0000		0.0000
Moment About Ym	=	0.0000		0.0000
Moment About Zm	=	-0.0000		-0.0000

Member #	5		Node I	Node J
Axial Force	=	-0.0933		0.0933
Shear Xm - Ym	=	-0.0000		0.0000
Shear Xm - Zm	=	-0.0000		0.0000
Torsion	=	-0.0000		0.0000

Moment About Ym = 0.0000 0.0000
 Moment About Zm = -0.0000 -0.0000



```

  *-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*
  |
  |           L O A D   C O M B I N A T I O N   2
  |   Dead Load Factor * [DL] + Wind Load Factor * [WL]
  |           1.10 * [DL] + 1.00 * [WL]
  |
  |           Units: Kips, Inches
  |
  *-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*
  
```

Wind Velocity Input (mph) = 140.000
 Wind Angle Input (deg) = 90.000
 Wind Angle Applied (deg) = 90.000

Final Coordinates

Node	X	Y	Z
1	1200.0000	1200.0000	13.2000
2	1201.5013	1200.0813	306.0400
3	1202.1951	1200.1184	392.1399
4	1224.0000	1200.0000	13.2000
5	2340.0000	1200.0000	3.6000
6	2338.4038	1200.2758	306.0399
7	2337.6957	1200.3936	392.1399
8	2364.0000	1200.0000	3.6000
9	1831.7980	1223.8431	317.3147
10	1832.0666	1238.0383	314.8688
11	1832.5681	1265.4463	308.6984
12	1939.9915	1226.4285	315.1484
13	1940.4648	1238.4142	314.7818
14	1941.1297	1266.0978	302.3782
15	2048.2352	1218.0281	319.0946
16	2049.0649	1236.0429	314.3174
17	2050.5814	1264.6807	312.9440
18	2155.3108	1206.7240	337.8668
19	2157.1649	1229.1140	311.8171
20	2161.1919	1301.3200	336.8602
21	2270.1603	1200.3503	367.6496
22	2272.2416	1215.0042	308.3538
23	2273.3379	1287.3906	310.7896

Factored Loads Applied to the Structure

Node	Fx	Fy	Fz	Mom-X	Mom-Y	Mom-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000	0.0000	-0.0078	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	-0.0009	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.0000	0.0514	-0.0115	0.0000	0.0000	0.0000
10	0.0000	0.0599	-0.0024	0.0000	0.0000	0.0000
11	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
12	0.0000	0.0151	-0.0052	0.0000	0.0000	0.0000
13	0.0000	0.0176	-0.0025	0.0000	0.0000	0.0000
14	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
15	0.0000	0.0151	-0.0054	0.0000	0.0000	0.0000
16	0.0000	0.0176	-0.0027	0.0000	0.0000	0.0000
17	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
18	0.0000	0.0157	-0.0059	0.0000	0.0000	0.0000
19	0.0000	0.0183	-0.0031	0.0000	0.0000	0.0000
20	-0.0000	0.3147	-0.0600	0.0000	0.0000	0.0000
21	0.0000	0.0131	-0.0059	0.0000	0.0000	0.0000
22	0.0000	0.0152	-0.0036	0.0000	0.0000	0.0000
23	0.0000	0.6126	-0.0990	0.0000	0.0000	0.0000

Final Displacements

Node	Tx	Ty	Tz	Rot-X	Rot-Y	Rot-Z
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	1.5013	0.0813	-0.0000	-0.0004	0.0079	0.0000
3	2.1951	0.1184	-0.0001	-0.0004	0.0081	0.0000
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	-1.5962	0.2758	-0.0001	-0.0014	-0.0081	0.0000
7	-2.3043	0.3936	-0.0001	-0.0014	-0.0083	0.0000
8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.6566	23.8431	-3.1321	1.4088	-0.1105	0.0000
10	0.9252	38.0383	8.8288	1.3829	-0.1106	0.0004
11	1.4267	65.4463	30.7184	1.3325	-0.1106	0.0012
12	0.6867	26.4285	-2.8916	1.6020	-1.0149	0.0000
13	1.1599	38.4142	8.7418	1.4170	-1.0150	0.0071
14	1.8249	66.0978	24.3982	0.9845	-1.0150	0.0236
15	0.5436	18.0281	-5.6008	1.2687	-0.1648	-0.0000
16	1.3732	36.0429	8.2774	1.3971	-0.1648	-0.0059
17	2.8898	64.6807	34.9640	1.5901	-0.1649	-0.0148
18	-0.4887	6.7240	-2.5726	0.0110	-0.0385	0.0000
19	1.3655	29.1140	5.7771	2.1020	-0.0389	-0.1131
20	5.3924	101.3200	58.8802	3.8076	-0.0392	-0.2053
21	-1.3664	0.3503	0.4957	-1.6553	-0.0189	-0.0000
22	0.7149	15.0042	2.3138	4.0309	-0.0195	-0.1938

23 1.8111 87.3906 19.7496 5.4265 -0.0196 -0.2414

- Frame (Pole) Member Forces

Member # 1

	Node I	Node J
Axial Force =	0.1224	-0.1224
Shear Xm - Ym =	-8.9038	8.9038
Shear Xm - Zm =	-0.4954	0.4954
Torsion =	0.0000	0.0000
Moment About Ym =	150.9198	-5.8446
Moment About Zm =	-2762.4795	155.1036

Unit conversion :

Pole Absolute Resultant Moment = 230.5499 (ft-kips)

Member # 2

	Node I	Node J
Axial Force =	0.2219	-0.2219
Shear Xm - Ym =	-1.8014	1.8014
Shear Xm - Zm =	-0.0679	0.0679
Torsion =	0.0000	0.0000
Moment About Ym =	5.8446	-0.0000
Moment About Zm =	-155.1036	0.0000

Unit conversion :

Pole Absolute Resultant Moment = 12.9345 (ft-kips)

Member # 3

	Node I	Node J
Axial Force =	0.2821	-0.2821
Shear Xm - Ym =	8.8878	-8.8878
Shear Xm - Zm =	-1.6461	1.6461
Torsion =	0.0000	0.0000
Moment About Ym =	497.7573	0.0822
Moment About Zm =	2816.2188	-128.2065

Unit conversion :

Pole Absolute Resultant Moment = 238.3224 (ft-kips)

Member # 4

	Node I	Node J
--	--------	--------

Axial Force = 0.5409 -0.5409
 Shear Xm - Ym = 1.4890 -1.4890
 Shear Xm - Zm = 0.0010 -0.0010
 Torsion = 0.0000 0.0000
 Moment About Ym = -0.0822 0.0000
 Moment About Zm = 128.2065 0.0000

Unit conversion :

Pole Absolute Resultant Moment = 10.6839 (ft-kips)

- Primary (Catenary) Cable Forces Primary Cable Forces on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	1.8218	23.0608	3	1.8078	0.0681	-0.2148
2	1.7566	22.2358				
3	1.6159	20.4548				
4	1.5543	19.6753				
5	1.5477	19.5911				
6	1.5802	20.0029	7	-1.4856	-0.0010	-0.5387

- Secondary (Messenger) Cable Forces Secondary Cable Forces on Poles

Member	Force	Stress	Node	Fx	Fy	Fz
1	7.1084	61.2793	2	7.0949	0.4271	0.0993
2	7.1470	61.6119				
3	7.2947	62.8851				
4	7.3974	63.7704				
5	7.4659	64.3613				
6	7.6025	65.5389	6	-7.4165	1.6510	0.2594

- Light Member Forces

Member # 1
 Rotation Angle in Y-Z Plane (Degrees) = 77.31
 Rotation Angle in X-Z Plane (Degrees) = 4.65

Member # 2
 Rotation Angle in Y-Z Plane (Degrees) = 65.87
 Rotation Angle in X-Z Plane (Degrees) = 3.07

Member # 3
 Rotation Angle in Y-Z Plane (Degrees) = 87.25
 Rotation Angle in X-Z Plane (Degrees) = 47.84

Member # 4
 Rotation Angle in Y-Z Plane (Degrees) = 70.87
 Rotation Angle in X-Z Plane (Degrees) = 9.13

Member # 5
 Rotation Angle in Y-Z Plane (Degrees) = 88.07
 Rotation Angle in X-Z Plane (Degrees) = 24.23

- Hanger (Connector) Member Forces

Member # 1

	Node I	Node J
Axial Force =	-0.0613	0.0613
Shear Xm - Ym =	-0.0002	0.0002
Shear Xm - Zm =	-0.7083	0.7083
Torsion =	-0.0041	0.0041
Moment About Ym =	-0.0026	10.2066
Moment About Zm =	-0.0014	-0.0018

Member # 2

	Node I	Node J
Axial Force =	-0.2960	0.2960
Shear Xm - Ym =	-0.0053	0.0053
Shear Xm - Zm =	-12.0856	12.0856
Torsion =	-3.3799	3.3799
Moment About Ym =	29.5794	115.4544
Moment About Zm =	-0.0357	-0.0275

Member # 3

	Node I	Node J
Axial Force =	-0.1735	0.1735
Shear Xm - Ym =	-0.0001	0.0001
Shear Xm - Zm =	2.0921	-2.0921
Torsion =	-0.0748	0.0748
Moment About Ym =	0.0583	-39.0880
Moment About Zm =	-0.0011	-0.0005

Member # 4

	Node I	Node J
Axial Force =	-0.0573	0.0573
Shear Xm - Ym =	-0.0099	0.0099
Shear Xm - Zm =	10.1015	-10.1015
Torsion =	3.4683	-3.4683
Moment About Ym =	-1.3026	-346.1853
Moment About Zm =	0.0011	-0.3433

Member #	5	Node I	Node J
Axial Force	=	-0.1145	0.1145
Shear Xm - Ym	=	-0.0330	0.0330
Shear Xm - Zm	=	8.4363	-8.4363
Torsion	=	5.7758	-5.7758
Moment About Ym	=	-1.0980	-514.4851
Moment About Zm	=	0.0004	-2.0165

ADDENDUM #1

Dead River Road and SR 19 Intersection Improvements
Project No. 2021-04, Bid No. 21-0923

This addendum is being issued to make the following changes, corrections, clarifications and additions to the bidding document. The information in this addendum modifies and changes the original bidding documents and takes precedence over the original documents. **Receipt of this addendum shall be acknowledged by the bidder by signing and dating the appropriate line on page W-4 of the bid proposal.** Failure to acknowledge this addendum may preclude consideration of the bid proposal for award.

The bid opening date remains June 17, 2021. All requests for information must be submitted by June 7, 2021.

A non-mandatory pre-bid meeting for the referenced project was held at 9:00 a.m. on May 20, 2021, via a telephone conference. The following were in attendance:

Name	Company	Phone Number	Email Address
Tony Zirpoli	Control Specialists		
Jeff Earhart	Lake County Public Works	(352) 253-6009	jeearhart@lakecountyfl.gov
Dan Flannery	Lake County Public Works	(352) 253-6021	dflannery@lakecountyfl.gov
Joe Hinton	Lake County Public Works	(352) 253-9027	jhinton@lakecountyfl.gov
Terry Scott	Lake County Public Works	(352) 253-9024	jscott@lakecountyfl.gov
George Gadiel	Lake County Public Works	(352) 253-9092	ggadiel@lakecountyfl.gov
Deb Marchese	Lake County Public Works	(353) 253-6007	dmarchese@lakecountyfl.gov

The Dead River Road at State Road 19 Intersection Improvements project shall consist of rebuilding the traffic signal with a box span and adding an additional eastbound approach lane. The new eastbound lane configuration is a left turn lane, shared left/through lane, and a right lane turn. Other work associated with this project includes utility relocation, storm pipe and structure installation/relocation, milling, paving, striping, sodding, and other miscellaneous incidental construction. The engineer's estimate is \$612,000.00.

Work performed under this contract shall be based on a lump sum bid. Quantities, if shown in the construction plans, are estimated for bidding purposes only and shall be verified by the contractor.

Pay special attention to all notes shown in the construction plans.

Contractor shall video the project limits prior to beginning construction. The video shall be in flash drive format and provided to Lake County before construction begins. Detail should be given to all existing fence lines, driveways, hedge lines, etc., to document existing conditions prior to construction.

Bid to sod all disturbed areas matching all existing grass types. Contractor shall be responsible for watering all sod until there is established growth.

All utilities shown in the construction plans to be relocated shall be the responsibility of the utility provider to relocate. Contractor is responsible for the coordination of all utility relocation. As part of this project, Lake County has agreed to relocate a City of Tavares Sewer line and other miscellaneous utility work for the city as shown in the construction plans.

Contractor shall provide two complete sets of red-lined record drawings upon completion of the project. One submitted set is to be on a flash drive while the other in paper format. The record drawings must show all additions, omissions, and adjustments made throughout construction of the project. The record drawings are to be signed and sealed by a professional engineer or surveyor, licensed to do business in the State of Florida. The record drawings are to be a complete set of construction plans, but only sheets that display changes must be signed and sealed by the engineer or surveyor.

All asphalt millings shall remain the property of Lake County. The Contractor shall haul the millings to the SR 19 Pit located on Allegiance Court, Groveland, FL. If contractor opts to mill any areas outside those required by the construction plans, those millings will be the property of Lake County. Millings shall not be stockpiled on the project site. A 24-hour notice to the County prior to milling will be required.

Contractor shall add a line item to the bid tabulation sheet in Division W of the bidding document for any items that may be required but not shown on the tabulation sheet.

No oral interpretations will be made to any bidder as to the meaning of the Specifications, or any other Contract Documents. Every request for such an interpretation must be in writing, and shall be received by the Office of Procurement Services not less than ten (10) calendar days prior to the date set for opening of bids. Every interpretation made to a bidder will be made by an addendum to the Contract Documents, which, when issued, will be sent as promptly as is practicable to all persons to whom the Specifications have been issued by the County. All such addenda shall become part of the Contract Documents. No substitution of any kind or riders of any nature to the bids will be considered except by the above described method. For purposes of this Contract the term "Interpretations" shall include the approval of product substitution. All requests for interpretation shall be submitted to Amy Munday, Senior Contracting Officer, at amunday@lakecountyfl.gov and copied to Deb Marchese, Construction Program Specialist, at dmarchese@lakecountyfl.gov.

Each Contractor shall visit the site of the proposed work and fully acquaint himself or herself with conditions relating to construction and labor so that they may fully understand the facilities, difficulties and restrictions attending the execution of work under the contract.

Additional Comments:

1. Lane closure restrictions apply to this project and shall be adhered to. No lane closures between 6:00 a.m. and 8:00 p.m.

2. Maintenance of Traffic plans shall be submitted for approval prior to start of construction.
3. Florida Statutes recently changed the amount of retainage that may be withheld from progress payments. Paragraph B, Page X-4 of the contract has been amended as follows:

"THE COUNTY AGREES:

To Pay the Contractor the contract price hereinabove specified, as follows:

If progress satisfactory to the County is being made by the Contractor, the Contractor will receive partial payments, not more frequently than once a month, on this contract as the work progresses, based upon estimates of the amount of work done less payments previously made. In each case 5% of each progress payment shall be withheld as retainage. Payment of retainage shall be as set forth in Section 218.735, Florida Statutes. Neither progress payment or partial or entire use or occupancy of the project by the County shall constitute an acceptance of work not in accordance with the Contract Documents.

The County, prior to making of any payment, may require the Contractor to furnish a certificate or other evidence showing the amount of work done or completed at that time."



Deborah Marchese, Construction Program Specialist

5-26-21
Date

ADDENDUM #2

Dead River Road and SR 19 Intersection Improvements
Project No. 2021-04, Bid No. 21-0923

This addendum is being issued to make the following changes, corrections, clarifications and additions to the bidding document. The information in this addendum modifies and changes the original bidding documents and takes precedence over the original documents. **Receipt of this addendum shall be acknowledged by the bidder by signing and dating the appropriate line on page W-4 of the bid proposal.** Failure to acknowledge this addendum may preclude consideration of the bid proposal for award.

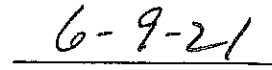
The bid opening date remains June 17, 2021. The timeframe for requests for information has expired.

If any contractor is unable to access the County's FTP site for the plans, the plans can be obtained from Design and Print Solutions, Inc., at <https://www.dps-fl.com> or at 553 Sheeler Avenue, Apopka, Florida 32703, (407) 703-2536.

Contractor can also stop by the Lake County Public Works Engineering Division at 350 North Sinclair Avenue, Tavares, FL with a flash drive and a copy of the construction plans will be loaded onto your flash drive.



Deborah Marchese, Construction Program Coordinator



Date

ADDENDUM #3

Dead River Road and SR 19 Intersection Improvements
Project No. 2021-04, Bid No. 21-0923

This addendum is being issued to make the following changes, corrections, clarifications and additions to the bidding document. The information in this addendum modifies and changes the original bidding documents and takes precedence over the original documents. **Receipt of this addendum shall be acknowledged by the bidder by signing and dating the appropriate line on page W-4 of the bid proposal.** Failure to acknowledge this addendum may preclude consideration of the bid proposal for award.

THE BID OPENING DATE HAS BEEN EXTENDED TO JULY 1, 2021. The timeframe for requests for information has expired.

Deborah C. Marchese
Deborah Marchese, Construction Program Coordinator

6-15-21
Date