

PROJECT DOCUMENTS
FY 2019-2020
BRIDGE REHABILITATION PROGRAM
GENERAL BRIDGE REHABILITATION
FOR THE
CUMBERLAND COUNTY RAILROAD AUTHORITY
Wendell Wilson, Chairman

Prepared By



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Project No. 19088

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SECTION 1 - GENERAL REQUIREMENTS

1.1 Name and Location of Project

Cumberland County Railroad Authority 2019-2020 Fiscal Year Miscellaneous Timber Bridge Rehabilitation Project.

Bridge Rehabilitation work will be performed at Bridges 143.62, 144.94, 147.40, 148.93 and 156.20 on the Lhoist Railroad.

1.2 Advertisement for Bids

The 'Advertisement for Bid' is on the following page, Project Documents Section 1.2.

The 'Information for Bidders' is provided in the Project Documents, Section 1.3.

A description of the project Scope of Work is provided in Section 1.4.

Contractors must be familiar with the laws of the state with respect to Contractor licensing prior to bidding.

**ADVERTISEMENT FOR BIDS
Cumberland County Railroad Authority
Bridge Rehabilitation Project
on the
Lhoist Railroad**

Separate sealed bids for the FY 2019-2020 Bridge Rehabilitation Project for the Cumberland County Railroad Authority will be received at the office of Crouch Engineering, 5115 Maryland Way, Suite 225, Brentwood, TN 37027 until **2:00 pm (central time zone) local time on Thursday the 11th day of June, 2020** and then at said office publicly opened and read aloud. Bidders are urged to have their bids in at least one day early since past experience with overnight delivery service does not guarantee next day delivery. The work by Contractor will consist of furnishing all materials, labor, supervision, transportation, tools, equipment and items incidental to construction necessary to complete the proposed project. The work by Contractor will consist of furnishing all supervision, transportation, material, tools, equipment and labor necessary to complete the proposed miscellaneous timber bridge repairs at MP 143.62, 144.94, 147.40, 148.93 and 156.20 as per the Project Documents, including, but not limited to the Plans and Specifications.

The Information for bidders and other Project Documents may be ordered from the office of Crouch Engineering, Inc., 5115 Maryland Way, Suite 225, Brentwood, TN, 37027, Phone (615) 791-0630.

The owner reserves the right to waive any informalities or to reject any or all of the bids. Award of the bid is contingent upon availability of funds.

Each bidder must deposit with his bid, security in the amount, form and subject to the conditions provided in the Information for Bidders.

No Bidder may withdraw his bid within 120 days from bid opening. Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract.

Time Limit – work will begin within 30 days of the date of a written notice to proceed and will be completed within 180 calendar days from the date of written notice to proceed.

Liquidated Damages: A penalty of \$500 per calendar day will be assessed to the Contractor for each day beyond the stated time limits until the project is 100% complete.

This project is funded under an agreement with the Department of Transportation. Bidders must be licensed general Contractors to perform the type construction herein described as required by the Tennessee Code Annotated, Title 62, Chapter 6, Section 62-6-119. A copy of the law is attached to the Project Documents.

A non-mandatory job showing will be held at the office of the Railroad at the Crab Orchard Plant Site, 10583 Hwy 70 East, at the Crab Orchard exit on I-40, at 10:00 a.m. local time (central standard time), on Thursday, the 28th day of May, 2020.

Wendell Wilson, Chairman
Cumberland County Railroad Authority

1.3 Instruction to Bidders

- 1.3.1 Separate sealed bids for the FY 2019-2020 Bridge Rehabilitation Project for the Cumberland County Railroad Authority will be received at the office of Crouch Engineering, 5115 Maryland Way, Suite 225, Brentwood, TN 37027 until **2:00 pm (central time zone) local time on Thursday the 11th day of June, 2020** and then at said office publicly opened and read aloud. Bidders are urged to have their bids in at least one day early since past experience with overnight delivery service does not guarantee next day delivery.
- 1.3.2 The work by Contractor will consist of furnishing all materials, labor, supervision, transportation, tools, equipment and items incidental to construction necessary to complete the proposed project. The work by Contractor will consist of furnishing all supervision, transportation, material, tools, equipment and labor necessary to complete the miscellaneous timber bridge repairs at MP 143.62, 144.94, 147.40, 148.93 and 156.20 as per the Project Documents, including, but not limited to the Plans and Specifications.
- 1.3.3 The Information for bidders and other Project Documents may be ordered from the office of Crouch Engineering, Inc., 5115 Maryland Way, Suite 225, Brentwood, TN, 37027, Phone (615) 791-0630.
- 1.3.4 The owner reserves the right to waive any informalities or to reject any or all of the bids.
- 1.3.5 No Bidder may withdraw his bid within 120 days from bid opening. Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract.
- 1.3.6 Time Limit – work will begin within 30 days of the date of a written notice to proceed and will be completed within 180 calendar days from the date of written notice to proceed.
- 1.3.7 Liquidated Damages: A penalty of \$500 per calendar day will be assessed to the Contractor for each day beyond the stated time limits until the project is 100% complete.
- 1.3.8 Bidders must be licensed general Contractors to perform the type construction herein described as required by the Tennessee Code Annotated, Title 62, Chapter 6, Section 62-6-119. A copy of the law is attached to the Project Documents.
- 1.3.9 Award of the Bid is contingent upon the availability of funds.
- 1.3.10 A non-mandatory job showing will be held at the office of the Railroad at the Crab Orchard Plant Site, 10583 Hwy 70 East, at the Crab Orchard exit on I-40, at 10:00 a.m. local time (central standard time), on Thursday, the 28th day of May, 2020.**
- 1.3.11 The Contractor is required to submit a sealed bid. The sealed envelopes containing the bids are required by Tennessee State Law to have the following information on the outside of the envelope:
- Contractor's Tennessee State License No.**
 - Contractor's License Expiration Date**
 - Contractor's License Classification**
- 1.3.12 The outside of the bid envelope should also have the following information:
- | | |
|-------------------------------|---------------------|
| Contractor's Name | Project Name |
| Contractor's Address | Date of Bid Opening |
| Contractor's Office Phone No. | |
- 1.3.13 Based on requirements of state law, sealed bids that do not have the required information on the outside of the bid envelope will be considered rejected and**

will not be opened. Bids that are not signed by an authorized agent of the Contractor will be rejected.

- 1.3.14 No responsibility will attach to the Authority, Engineer or Railroad for the premature opening of a bid not properly addressed, identified, and/or delivered to the proper destination.
- 1.3.15 Bids that are sent express or overnight must be placed in a sealed envelope with the required information on the outside of the sealed envelope, placed within the overnight or express packet. The overnight or express mail envelope is not to be used as the sealed bid envelope.
- 1.3.16 All bids must be received and in-hand at the time and place of the bid opening. Each Bidder assumes the responsibility for having his bid received at the designated time and place of the bid opening. No consideration will be given to bids that arrive after the designated opening time and date regardless of postmark. The Authority assumes no responsibility for bids sent via the U.S. Mail or any other carrier or service.
- 1.3.17 Each Contractor is encouraged to send it's bids well in advance of the bid opening since next day delivery is not guaranteed to arrive at the bid opening location prior to the bid opening.
- 1.3.18 The Contractor will submit any questions related to the project, in writing, within 5 days of the scheduled Bid Opening. Answers to the questions will be forwarded to all Contractors that have ordered Project Documents.
- 1.3.19 The Authority or its representative may make such investigations as it deems necessary to determine the qualifications and ability of the Bidder to perform the work, and the Bidder will furnish the Authority all information and data necessary for this purpose at the Authority's request. The Authority reserves the right to reject any bid if evidence submitted by, or investigation of, such Bidder fails to satisfy the Authority that such Bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated herein.
- 1.3.20 Conditional bids will not be accepted. The Bid Sheet will not be altered in any way. No time limits, units, descriptions, or unit quantities will be changed by the Bidder, or the Bid may be rejected.
- 1.3.21 Bid Bond: Cash, a bank certified cashier's check, money order, or a bid bond duly executed by the Bidder as principal and having surety thereon a surety company in the amount of 5% of the bid, must accompany each bid, or bid will be rejected.**
- 1.3.22 Each Bidder must inform himself/herself fully of the conditions relating to the construction of the project. Also, at the time of the opening of bids, each Bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Project Documents, including the Plans, Specifications, and other portions of the Project Documents, including the Job Showing Notes, and all addenda. Failure to do so will not relieve a successful Bidder from its obligation to furnish all materials, labor, supervision, tools, equipment, and items incidental to construction necessary to carry out the intent and provisions of the Project Documents.

1.3.23 By the act of submitting a bid, the Bidder represents the following:

The Bidder has found the Project Documents, including the Plans, Specifications, and other portions of the Project Documents, including all addenda, free from ambiguities and sufficient for the purpose intended.

The Bidder and all the workers, employees and subcontractors that the Bidder intends to use are skilled and experienced in the type of construction represented by the construction Plans and Project Documents bid upon.

Subcontractors to be used on this project will be listed by the Bidder, and submitted with the Bid, using the form provided.

The bid figure is based upon the Project Documents, Job Showing Notes, and properly issued written addenda and not upon any oral or other written representation.

The Contractor is responsible for insuring that it has received all addenda, and signed and returned all addenda prior to the Bid Opening.

Neither the Bidder nor any of the Bidder's employees, agents, intended suppliers or subcontractors have relied upon any oral representations from the Authority, or the Authority's employees or agents including architects, Engineers or consultants, in assembling the bid figures.

By submitting a bid, the Bidder represents and warrants that such bid is genuine and not sham or collusive or made in the interest or in behalf of any person not therein named, and that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a sham bid, or any other person, firm or corporation to refrain from bidding and that the Bidder has not in any manner sought by collusion to secure to that Bidder any advantage over any other Bidder.

1.3.24 A Bidder may withdraw his bid before the expiration of the time during which the bids may be submitted without prejudice to the proposed, by submitting a written request of withdrawal to the Authority.

1.3.25 No consideration will be given to bids, which arrive after the designated opening time and date.

1.3.26 No interpretation of the meaning of the Project Documents, including Plans, Specifications or other Bid Documents will be made orally to any Bidder. Requests for information must be timely, and made in writing, and submitted to the Engineer at least five (5) working days prior to the bid opening date. The response to such inquiries will be made in writing, and made available to all bidders.

1.3.27 No materials, equipment or machinery will be furnished by the Railroad or Authority.

1.4 Scope of Work

1.4.1. Intent of the Project Documents, Plans and Specifications

It is the intent of the Project Documents, Plans and Specifications to describe the complete work to be performed under the contract.

Except as otherwise provided, the Contractor will furnish all materials, labor, supervision, supplies, tools, equipment, and all items incidental to construction necessary for the proper execution and completion of the work.

Only the materials furnished by the Contractor will be reimbursed.

The Contractor will furnish all parts, materials, labor, fasteners, tools, equipment, services, and supervision related to items incidental to construction, whether shown on the Plans or not.

1.4.2. Punch List and Contract Close-out: The Engineer will conduct a final walk-through at the end of the project with the Contractor, and will develop a punch list of items to be completed or repaired. The Contractor will guarantee its workmanship and materials furnished for a period of one year from the date of final project acceptance (date of advertisement of the Notice of Completion).

1.4.3. The Contractor is responsible for the payment of all state and local sales taxes. The Contractor may either have vendors include the cost of sales taxes in their cost to purchase materials, or the Contractor may pay sales taxes on materials purchased and installed directly to the Tennessee Department of Revenue. The Contractor will be responsible for including the cost of sales taxes in the bid prices. The Authority will not make separate reimbursements for sales taxes unless there is a separate bid item for sales taxes.

1.4.4. Released Materials: The Contractor is responsible for handling all materials released from the project, as outlined below:

The defective timber materials and all spikes released from this project will become the property of the Contractor, and will be disposed of off of the railroad right-of-way in a proper and legal manner. The Contractor will furnish proof of reuse, resale or disposal to the Authority for all released timber materials.

The project will not be considered 100% complete until all Contractor owned released materials have been removed from the right-of-way, as per the Project Documents. All released timber materials and other materials not to be retained by the Authority will become the property of the Contractor, and will be removed from the right-of-way, and disposed of in a proper and legal manner, within the project time limits.

1.4.5 Final clean up

Upon completion of the project, and before acceptance and final payment is made, the Contractor will clean the right-of-way, and all ground occupied by the Contractor in connection with the work of all rubbish, debris, materials, and equipment. All work areas will be left in a neat and presentable condition. If areas of the right-of-way are disturbed by the Contractor, the Contractor will

restore said areas to proper grade, including ditch lines, and will seed and mulch the areas to provide a permanent stand of grass. The project will not be considered 100% complete until final cleanup is performed.

1.4.6 Scope of Work:

GENERAL SCOPE OF WORK

- Prior to the start of work, furnish the Engineer with a construction schedule in Gantt Chart format, CPM format, Microsoft Project, or other approved format;
- Prior to the start of work, furnish the Engineer with a list of equipment to be used on the project;
- Prior to the start of work, provide the Engineer with the contact information for the Contractor's Superintendent or Foreman who will be on site during the project. Also provide the Contractor's office contact information;
- The Scope of Work is defined herein, and by the final cost schedule which is a part of the Agreement. After the Agreement is fully executed, any changes in the Scope of Work, quantities, work locations, or other aspects of the project must be approved through the change order process, with the change order approved by the Engineer, and signed by the Contractor, Authority, and State before making changes;
- Furnish a working cell phone (or multiple phones if necessary), and have the foreman or superintendent on site keep the working cell phone on hand at all times for communication with the Railroad, satisfying the Railroad's requirements for communication between the Railroad and Contractor. If required by the Railroad to comply with its safety rules, provide a working radio on the proper frequency;
- Keep a copy of the Project Documents, including, but not limited to Plans and Specifications, on site during the entire course of the project;
- Maintain a daily log of weather conditions, equipment in use, working limits, material installed and other relevant data and submit daily log forms, stone tickets, seeding supply tickets, and other delivery forms to the Engineer on a weekly basis;
- Comply with all requirements of the safety section. Each employee that will be working on the railroad right-of-way must complete the annual safety training and/or safety orientation required by the Railroad; conform to the Railroad safety rules; and conform to FRA bridge and track roadway worker protection safety regulations;
- Provide access to the work site. Make arrangements, if necessary, with private landowners. Agreements with private landowners must be in writing, and a copy of any agreements must be provided to the Engineer prior to start of work;

- Furnish a performance and payment bonds, and evidence of the proper insurance to the Engineer at or prior to the Pre-Construction Conference, or earlier if required, meeting the requirements of the Project Documents;
- Perform all construction staking and layout work required for the project;
- Clean the project site of all project related debris, released materials and rubbish, and perform grading, dressing, and seeding with mulch to provide a permanent stand of grass on all disturbed areas, restoring all disturbed areas to pre-project conditions;
- Maintain close contact with the Engineer and Railroad as necessary regarding work to be performed each day, working limits, safety briefings, and permission for track time;
- The on-site Contractor Superintendent or Foreman is responsible for contacting the Engineer on a weekly basis regarding schedule and work in progress;
- The Contractor is responsible for furnishing and installing all materials required for completion of the project. The Contractor is responsible for purchasing, transporting, unloading, and distributing all material required for completion of the project, cutting the material to the proper length, protecting it from damage, and proper installation with all fasteners provided by the Contractor. The Contractor is responsible for any damage to furnished material, and will replace any material damaged in the process of sorting, cutting, loading or unloading, transporting, or installation;
- Where the bents are being rebuilt or posts replaced, track surface and line will be restored to uniform surface and line, and the bents will be realigned and plumbed as much as possible using the means and methods determined by the Contractor. It is recommended that this may be accomplished by disconnecting the existing bracing, jacking the bent into the best possible alignment and re-bracing the bent with new bolts. Reuse the existing bracing to the greatest extent possible;
- Use 3" x 10" treated timber bracing where existing material is in poor condition, or cannot otherwise be reused. Broken, cracked, or rotted timbers will not be reused. Use new fasteners if there are not sufficient existing fasteners to make the connections. Match the configuration of sash bracing on existing bents;
- All connections will be as per plan details or as per Chapter 7 of the AREMA Manual for Railway Engineering. All connections are subject to approval by the Engineer. Reuse existing connections for timber bracing if the existing connectors are in good condition. Otherwise, the Contractor will furnish and install new connectors for existing bracing;
- Work in such a manner to protect the existing tracks, roadbed, bridges, culverts, streets, driveways, right-of-way, and private property, and other structures and appurtenances from any type of damage during the construction or demolition

process, and immediately repair any damage resulting from the Contractor's actions or inactions at the Contractor's expense.

- Flag the right-of-way as necessary to insure that the Contractor does not encroach upon adjacent property owners;

Specific Tasks Include, but are not Limited to the following:

The Contractor is responsible for measuring, checking, and verifying all dimensions prior to ordering, cutting or installing any materials for this project. Notify the Engineer immediately of any discrepancies.

The Contractor will furnish and install all fasteners necessary for installation of the project materials.

Bridge 143.62

- Bent 6: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 8: Furnish and install 1 @ 50', minimum 12" diameter, treated timber post to replace post 2. Reuse the existing timber bracing.
- Bent 14: Furnish and install 1 @ 60', minimum 12" diameter, treated timber post to replace post 4. Reuse the existing timber bracing.
- Bent 15: Furnish and install 1 @ 55', minimum 12" diameter, treated timber post to replace upper post 5. Reuse the existing timber bracing.
- Bent 16: Furnish and install 1 @ 50', minimum 12" diameter, treated timber post to replace lower post 5. Reuse the existing timber bracing.
- Bent 19: Furnish and install 1 @ 40', minimum 12" diameter, treated timber post to replace post 1. Reuse the existing timber bracing.
- Bent 21: Furnish and install 3 @ 25', minimum 12" diameter, treated timber post to replace posts 1, 5 & 6. Reuse the existing timber bracing.
- Bent 22: Furnish and install 1 @ 15', minimum 12" diameter, treated timber post to replace post 6. Reuse the existing timber bracing
- Bent 23: Furnish and install 1 @ 10', minimum 12" diameter, treated timber post to replace post 1. Reuse the existing timber bracing

Bridge 144.94

- Bent 3: Furnish and install shims at top of posts 1 & 5. Contractor may use steel, treated timber or epoxy as shim material.

- Bent 4: Furnish and Install a 28' precast concrete sill (2 @ 14" X 15" X 14' bolted together) in place of the existing timber sill.
- Bent 6: Furnish and install 2 @ 14', minimum 12" diameter, treated timber post to replace lower posts 2 & 3, and furnish and install 2 @ 16', treated timber post to replace middle posts 2 & 5. Reuse the existing timber bracing.
- Bent 9: Furnish and install 3 @ 70', minimum 12" diameter, treated timber post to replace posts 3, 4 & 5. Reuse the existing timber bracing.
- Bent 10: Furnish and install 3 @ 76', minimum 12" diameter, treated timber post to replace posts 3, 4 & 5. Reuse the existing timber bracing.
- Bent 12: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 12: Furnish and install 4 @ 77', minimum 12" diameter, treated timber post to replace posts 1, 3, 4 & 6. Reuse the existing timber bracing.
- Bent 13: Furnish and install 3 @ 72', minimum 12" diameter, treated timber post to replace posts 2, 4 & 5. Reuse the existing timber bracing.
- Bent 13: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 14: Furnish and install 3 @ 70', minimum 12" diameter, treated timber post to replace posts 3, 4 & 5. Reuse the existing timber bracing.
- Bent 15: Furnish and install 2 @ 62', minimum 12" diameter, treated timber post to replace posts 3 & 7. Reuse the existing timber bracing.
- Bent 16: Furnish and install 1 @ 22', minimum 12" diameter, treated timber post to replace lower post 5, and furnish and install 1 @ 18', treated timber post to replace upper post 3. Reuse the existing timber bracing.
- Bent 17: Furnish and install 2 @ 15', minimum 12" diameter, treated timber post to replace lower posts 2 & 4, and furnish and install 2 @ 21', treated timber post to replace upper posts 5 & 6. Reuse the existing timber bracing.
- Bent 19: Furnish and install 1 @ 22', minimum 12" diameter, treated timber post to replace lower post 1. Reuse the existing timber bracing.

- Bent 22: Furnish and install 2 @ 30', minimum 12" diameter, treated timber post to replace posts 2 & 5. Reuse the existing timber bracing.
- Bent 25: Furnish and install 1 @ 28', minimum 12" diameter, treated timber post to replace post 4. Reuse the existing timber bracing.
- Bent 26: Furnish and install 2 @ 25', minimum 12" diameter, treated timber post to replace posts 1 & 4. Reuse the existing timber bracing.
- Bent 28: Furnish and install 2 @ 25', minimum 12" diameter, treated timber post to replace posts 1 & 2. Reuse the existing timber bracing.
- Bent 29: Furnish and install 1 @ 25', minimum 12" diameter, treated timber post to replace post 5. Reuse the existing timber bracing.
- Bent 32: Furnish and install 2 @ 25', minimum 12" diameter, treated timber post to replace posts 1 & 5. Reuse the existing timber bracing.
- Bent 34: Furnish and install 2 @ 22', minimum 12" diameter, treated timber post to replace posts 1 & 2. Reuse the existing timber bracing.
- Bent 35: Furnish and install 1 @ 20', minimum 12" diameter, treated timber post to replace post 4. Reuse the existing timber bracing.
- Bent 36: Furnish and install 2 @ 10', minimum 12" diameter, treated timber post to replace posts 2 & 3. Reuse the existing timber bracing.

Bridge 147.40

- Bent 2: Furnish and install 2 @ 8', minimum 12" diameter, treated timber post to replace posts 2 & 3. Reuse the existing timber bracing.
- Bent 2: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 3: Furnish and install 1 @ 12', minimum 12" diameter, treated timber post to replace post 1. Reuse the existing timber bracing.
- Bent 4: Furnish and install 1 @ 16', minimum 12" diameter, treated timber post to replace post 4. Reuse the existing timber bracing.
- Bent 5: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 6: Furnish and install 1 @ 18', minimum 12" diameter, treated timber post to replace post 5. Reuse the existing timber bracing.
- Bent 9: Furnish and install 1 @ 22', minimum 12" diameter, treated timber post to replace post 1. Reuse the existing timber bracing.
- Bent 9: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.

- Bent 10: Furnish and install 1 @ 24', minimum 12" diameter, treated timber post to replace post 1. Reuse the existing timber bracing.
- Bent 10: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 11: Furnish and install 1 @ 26', minimum 12" diameter, treated timber post to replace post 5. Reuse the existing timber bracing.
- Bent 12: Furnish and install 1 @ 28', minimum 12" diameter, treated timber post to replace post 4. Reuse the existing timber bracing.
- Bent 13: Furnish and install 1 @ 18', minimum 12" diameter, treated timber post to replace upper post 2. Reuse the existing timber bracing.
- Bent 13: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 14: Furnish and install 2 @ 12', minimum 12" diameter, treated timber post to replace lower posts 2 & 6, and furnish and install 4 @ 18', treated timber post to replace upper posts 1, 2, 3 & 4. Reuse the existing timber bracing.
- Bent 18: Furnish and install 2 @ 34', minimum 12" diameter, treated timber post to replace posts 1 & 5. Reuse the existing timber bracing.
- Bent 18: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 19: Furnish and Install one treated timber mid-cap 14" X 15" X 30' to replace existing timber mid-cap.
- Bent 19: Furnish and install 2 @ 18', minimum 12" diameter, treated timber post to replace upper posts 2 & 3. Reuse the existing timber bracing.
- Bent 19: Furnish and Install a 30' precast concrete sill (2 @ 14" X 15" X 15' bolted together) in place of the existing timber sill.
- Bent 22: Furnish and install 1 @ 38', minimum 12" diameter, treated timber post to replace post 1. Reuse the existing timber bracing.
- Bent 40: Furnish and install 2 @ 34', minimum 12" diameter, treated timber post to replace lower posts 5 & 6. Reuse the existing timber bracing.
- Bent 41: Furnish and install 1 @ 30', minimum 12" diameter, treated timber post to replace lower post 3. Reuse the existing timber bracing.
- Bent 42: Furnish and install 1 @ 26', minimum 12" diameter, treated timber post to replace lower post 3, and furnish and install 2 @ 18',

treated timber post to replace upper posts 1 & 4. Reuse the existing timber bracing.

- Bent 43: Furnish and install 1 @ 22', minimum 12" diameter, treated timber post to replace lower post 2, and furnish and install 2 @ 18', treated timber post to replace upper posts 1 & 5. Reuse the existing timber bracing.
- Bent 44: Furnish and install 2 @ 20', minimum 12" diameter, treated timber posts to replace lower posts 2 & 3, and furnish and install 1 @ 18', treated timber post to replace upper post 4. Reuse the existing timber bracing.
- Bent 44: Furnish and Install one treated timber mid-cap 14" X 15" X 30' to replace existing timber mid-cap.
- Bent 45: Furnish and install 2 @ 16', minimum 12" diameter, treated timber post to replace lower posts 2 & 3. Reuse the existing timber bracing.
- Bent 46: Furnish and Install one treated timber mid-cap 14" X 15" X 28' to replace existing timber mid-cap.
- Bent 46: Furnish and install 2 @ 14', minimum 12" diameter, treated timber posts to replace lower posts 1 & 2, and furnish and install 1 @ 18', treated timber post to replace upper post 1. Reuse the existing timber bracing.
- Bent 48: Furnish and install 2 @ 28', minimum 12" diameter, treated timber post to replace lower posts 1 & 5. Reuse the existing timber bracing.
- Bent 49: Furnish and install 2 @ 26', minimum 12" diameter, treated timber post to replace lower posts 1 & 5. Reuse the existing timber bracing.
- Bent 50: Furnish and install 1 @ 26', minimum 12" diameter, treated timber post to replace post 5. Reuse the existing timber bracing.
- Bent 51: Furnish and install 1 @ 26', minimum 12" diameter, treated timber post to replace post 3. Reuse the existing timber bracing.
- Bent 52: Furnish and install 1 @ 16', minimum 12" diameter, treated timber post to replace post 5. Reuse the existing timber bracing.
- Furnish and install 45 new, treated, dense graded southern pine, 8" x 10" x 10'-0" deck ties with hook bolts to replace existing poor deck ties as marked by the Engineer. Contractor will use all new fasteners for installing deck ties and timber guard.

Bridge 148.93

- Furnish and install 60 new, treated, dense graded southern pine, 8" x 10" x 10'-0" deck ties with hook bolts to replace existing poor deck ties as marked by the Engineer. Contractor will use all new fasteners for installing deck ties and timber guard.
- Bent 4: Furnish and install 1 @ 26', minimum 12" diameter, treated timber post to replace post 1. Reuse the existing timber bracing.
- Bent 5: Furnish and install 3 @ 26', minimum 12" diameter, treated timber post to replace posts 1, 2 & 3. Reuse the existing timber bracing.
- Bent 9: Furnish and install 1 @ 26', minimum 12" diameter, treated timber posts to replace lower post 2, and furnish and install 1 @ 20', treated timber post to replace upper post 4. Reuse the existing timber bracing.
- Bent 13: Furnish and install 2 @ 52', minimum 12" diameter, treated timber post to replace posts 1 & 5. Reuse the existing timber bracing.
- Bent 14: Furnish and install 2 @ 52', minimum 12" diameter, treated timber post to replace posts 2 & 3. Reuse the existing timber bracing.
- Bent 16: Furnish and install 1 @ 52', minimum 12" diameter, treated timber post to replace post 5. Reuse the existing timber bracing.
- Bent 18: Furnish and install 1 @ 56', minimum 12" diameter, treated timber post to replace post 6. Reuse the existing timber bracing.
- Bent 25: Furnish and install 2 @ 54', minimum 12" diameter, treated timber post to replace posts 1 & 6. Reuse the existing timber bracing.
- Bent 26: Furnish and install 1 @ 54', minimum 12" diameter, treated timber post to replace post 6. Reuse the existing timber bracing.
- Bent 27: Furnish and Install a 40' precast concrete sill (2 @ 14" X 15" X 20' bolted together) in place of the existing timber sill.
- Bent 28: Furnish and install 1 @ 52', minimum 12" diameter, treated timber post to replace post 6. Reuse the existing timber bracing.
- Bent 31: Furnish and install 1 @ 20', minimum 12" diameter, treated timber post to replace lower post 2. Reuse the existing timber bracing.
- Bent 31: Furnish and Install one treated timber mid-cap 14" X 15" X 30' to replace existing timber mid-cap.
- Bent 31: Furnish and Install a 32' precast concrete sill (2 @ 14" X 15" X 16' bolted together) in place of the existing timber sill.
- Bent 36: Furnish and install 3 @ 6', minimum 12" diameter, treated timber post to replace posts 1, 2 & 6. Reuse the existing timber bracing.

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- Furnish and install 50 new, treated, dense graded southern pine, 8" x 10" x 10'-0" deck ties with hook bolts to replace existing poor deck ties as marked by the Engineer. Contractor will use all new fasteners for installing deck ties and timber guard.
- Bent 3: Furnish and install 3 @ 14', minimum 12" diameter, treated timber post to replace posts 1, 2 & 3. Reuse the existing timber bracing.
- Bent 4: Furnish and install 2 @ 18', minimum 12" diameter, treated timber post to replace posts 4 & 5. Reuse the existing timber bracing.
- Bent 4: Furnish and Install a 20' precast concrete sill (1 @ 14" X 15" X 20') in place of the existing timber sill.
- Bent 4: Furnish and install new treated timber or precast concrete mud blocking to replace the existing poor mud blocking under existing sill.
- Bent 5: Furnish and install 1 @ 22', minimum 12" diameter, treated timber post to replace post 3. Reuse the existing timber bracing.
- Bent 15: Furnish and install 2 @ 24', minimum 12" diameter, treated timber post to replace posts 1 & 4. Reuse the existing timber bracing.
- Bent 17: Furnish and install 2 @ 18', minimum 12" diameter, treated timber post to replace posts 1 & 2. Reuse the existing timber bracing.
- Bent 18: Furnish and install 3 @ 14', minimum 12" diameter, treated timber post to replace posts 2, 3 & 6. Reuse the existing timber bracing.

Mobilization

- The Contractor will mobilize its forces and equipment as needed and may be reimbursed for this item on the first invoice. The Tennessee DOT limits the amount for mobilization to 5% of the total bid amount. Please refer to the instructions in Section 10 for calculating the maximum allowable for mobilization.

1.5 Control of Work

- 1.5.1. The work will be done in accordance with the Project Documents, including, but not limited to Plans, Specifications, special provisions, Job Showing Notes, the final cost schedule, and addenda.

The Engineer will decide all questions that may arise as to the quality or acceptability of materials furnished and work performed; the interpretation of the Project Documents, drawings, Plans, Specifications, special

provisions and addenda; and the acceptable fulfillment of the contract on the part of the Contractor.

1.5.2. Coordination of Project Drawings, Plans, Specifications, and Special Provisions - The Project drawings, Plans, Specifications, special provisions, Job Showing Notes, and addenda are essential parts of the Project Documents, and a requirement occurring in one is as binding as though occurring in all. They are intended to coordinate with each other and to describe and provide for the complete work. In cases of disagreement, Project Drawings and Plans will govern over Specifications, special provisions will govern over Project Drawings, Plans and Specifications, Job Showing Notes will govern over Plans, Specifications, and special provisions, and addenda will govern over Job Showing Notes, Project Drawings, Plans, Specifications and special provisions.

1.5.3 Cooperation of Contractor

The Contractor will give the work his constant attention to facilitate the progress thereof and will cooperate with the Engineer in every possible way. The Contractor will, at all times, have a competent superintendent on the project site who is authorized to receive orders and act for the Contractor, regardless of how much of the work is subcontracted.

The contract under which the Contractor is working is between the Contractor and the Authority. The Railroad, Authority and State have a separate agreement regarding funding for the work. If the Railroad gives instructions to the Contractor for items other than safety, those instructions need to be related to the Engineer for review and approval. The Railroad may not arbitrarily change the quantity of materials, type of work, or work location without proper change order.

1.5.4 Construction Staking

The Contractor is responsible for all construction staking and/or layout work required for the completion of the project, including flagging the existing right-of-way, and any other staking or layout work that may be necessary. No construction staking will be provided by the Engineer or the Authority.

1.5.5 Site Visits by the Engineer

The Engineer will make periodic site visits to ascertain the progress of work, and to review work completed in connection with the approval of Contractor invoices. The Contractor will furnish the Engineer with every reasonable facility for ascertaining whether or not the work as performed is in general accordance with the requirements and intent of the contract.

1.6 Control of Materials Furnished by Contractor

The Contractor is responsible for the safety, security, and protection of all materials to be furnished and used in the project. The Contractor will not be paid for any stolen or damaged materials, excess materials, or materials delivered to the project site but not installed as a part of the project. The Contractor is responsible for the safety, security and protection of all materials released to the Contractor as a part of this project.

1.7 Materials Furnished by Others

There will be no material or equipment furnished by any party other than the Contractor.

1.8 Contractor's Responsibilities

1.8.1 General Conditions

1.8.1.1 Specifications apply to all work performed by the Contractor for the Cumberland County Railroad Authority on the Franklin Industries Railroad.

1.8.1.2 Periodic site visits and final acceptance of the work will be made by the Engineer.

1.8.1.3 Pay requests will be made by using an invoice form approved by the Engineer, indicating previous quantities and amounts, current quantities and amounts, and totals. The invoice form must be signed by an Authorized representative of the Contractor for each individual pay request. The form is to be submitted to the Engineer for processing to the Authority. Pay requests may be submitted as needed by the Contractor. Mobilization can be paid as soon as the Contractor moves onto the project site.

1.8.1.4 Documentation for items to be paid by unit quantity, or if required in the Project Documents, must be submitted on a daily or weekly basis to the Engineer, prior to the submittal of invoices, with other supporting documents attached to the invoice for payment. If the Contractor makes a written request to the Engineer, the Engineer will forward an Excel Spreadsheet version of an invoice form to the Contractor via email.

1.8.1.5 Once the Contractor moves in to work, the Contractor must maintain sufficient supervision, labor, tools, materials and equipment on site to complete the project and will fully complete the project.

1.8.2 Special Requirements

1.8.2.1 A Pre-construction Meeting will be scheduled and held by the Engineer with representatives from the Railroad, Contractor, and, if available, the Department of Transportation. At the time of the Preconstruction Meeting, the Contractor will submit its work schedule, Performance and Payment Bonds, and certificate(s) of Insurance. The Engineer will investigate the limits of the Bonds and Insurance provided. If the Engineer determines that a Pre-construction Meeting should be held by phone conference call, then the Contractor will furnish its work schedule, Performance and Payment Bonds, and certificate(s) of Insurance prior to entering the railroad right-of-way, after the Project Documents have been fully executed by both the Authority and the Contractor.

1.8.2.2 The operations performed under this contract will be conducted in such a manner and sequence as to cause the least practical interference with the traveling public, fire protection, or other private or public services. It is the Contractor's responsibility to maintain traffic on public and private roads and grade crossings.

1.8.2.3 The Contractor is responsible for checking plan quantities prior to bidding and will notify the Engineer of any discrepancies immediately.

The Contractor is responsible for regulating the amount of materials placed, and will immediately notify the Engineer of any discrepancies in Plan quantities.

No quantities will be changed by the Contractor without written approval in the form of a change order, approved by the Engineer and Authority.

1.8.2.4 The Contractor will maintain a daily log of the work performed, the working limits, the materials installed, the labor and equipment on site and whether the equipment is in use or not, the type of work being performed, and the weather conditions. The log form must be signed by the Contractor's representative that day. The daily log form to be used is attached, in Section 10. The daily logs will be completed by the Contractor on a daily basis and must be submitted to the Engineer on a weekly basis.

1.8.2.5 The Contractor's on site superintendent is required to telephone the Engineer on a weekly basis during the course of the contract to report the week's Planned activities, whether work is scheduled or not.

1.8.2.6 The Contractor will conform to all insurance requirements including Railroad Protective Insurance for bodily injury and property damage, as per the Project Documents herein. If the Contractor has general liability insurance that does not exclude work on or near railroads or railroad property, then the Railroad Protective Insurance requirement may be waived, if approved by the Railroad and Authority.

1.8.2.7 The Contractor is responsible for train delays caused by the Contractor's work. If the Contractor does not clear trains at the time set by the Railroad in its permission to the Contractor for track time, then the Contractor is subject to penalty equal to the resulting cost of train crew labor, additives and overtime, locomotive operating expenses, per diem and car hire expenses, and other reasonable cost incurred by the Railroad as a result of the Contractor's delay whether caused by any action or inaction by the Contractor.

1.8.2.8 The value of any released materials, and any cost relating to the removal of or disposal of released materials off of the right-of-way, and any site clean-up activities are to be included in the cost of other items.

1.8.3 Nondiscrimination Clause

During the term of this contract, Contractor agrees as follows:

1.8.3.1 The Contractor hereby agrees, warrants, and assures that no person shall be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination in the performance of this Contract or in the employment practices of the Contractor on the grounds of handicap or disability, age, race, color, religion, sex, national origin, or any other classification protected by federal, Tennessee state constitutional, or statutory law. The Contractor shall, upon request, show proof of nondiscrimination and shall post in conspicuous places, available to all employees and applicants, notices of nondiscrimination.

1.8.3.2 Contractor will, in advertisements or requests for employment placed by it or on its behalf, state that all qualified applicants will receive consideration for employment without regard to race, color, religious creed, ancestry, national origin, age, or sex.

1.8.3.3 Contractor will send each labor union or workers' representative with which it has a collective bargaining Agreement or other contract or understanding, a notice advising said labor union or workers' representative of its commitment to this nondiscrimination clause. Similar notice will be sent to every other source of recruitment regularly utilized by Contractor.

1.8.3.4 It will be no defense to a finding of noncompliance with this nondiscrimination clause that Contractor had delegated some of its employment practices to any union, training program, or other source of recruitment which prevents it from meeting its obligations. However, if the evidence indicates that the Contractor was not on notice of the third-party discrimination or made a good faith effort to correct it, such factor will be considered in mitigation in determining appropriate sanctions.

1.8.3.5 Where the practices of a union or any training program or other source of recruitment will result in the exclusion of minority group persons, so that Contractor will be unable to meet its obligations under this nondiscrimination clause, Contractor will then employ and fill vacancies through other nondiscriminatory employment procedures.

1.8.3.6 Contractor will comply with all state and federal laws prohibiting discrimination in hiring or employment opportunities. In the event of Contractor's noncompliance with the nondiscrimination clause of this contract or with any such laws, this contract may be terminated or suspended, in whole or in part, and Contractor may be declared temporarily ineligible for further Department contracts, and other sanctions may be imposed and remedies invoked.

1.8.3.7 Contractor will furnish all necessary employment documents and records to, and permit access to its books, records, and accounts by, the contracting agency and the Office of Administration, Bureau of Affirmative Action, for purposes of investigation to ascertain compliance with the provisions of this clause. If Contractor does not possess documents or records reflecting the necessary information requested, it will furnish information on reporting forms supplied by the contracting agency of the Bureau of Affirmative Action.

1.8.3.8 Contractor will actively recruit minority subcontractors or subcontractors with substantial minority representation among their employees.

1.8.3.9 Contractor will include the provisions of this nondiscrimination clause in every subcontract, so that such provisions will be binding upon each Subcontractor.

1.8.3.10 Contractor obligations under this clause are limited to the Contractor's facilities within Tennessee or, where the contract is for purchase of goods manufactured outside Tennessee, the facilities at which such goods are actually produced.

1.8.4 The Americans with Disabilities Act

During the term of this contract, the Contractor agrees as follows:

1.8.4.1 Pursuant to the Federal regulations promulgated under the authority of The American With Disabilities Act, 28 C.F.R. 535.101 et seq., the Contractor understands and agrees that no individual with a disability will, on the basis of the disability, be excluded from participation in this contract or from activities provided for under this contract. As a condition of accepting and executing this contract, the Contractor agrees to comply with the "General Prohibitions Against Discrimination," 28 C.F.R. 535.130, and all other regulations promulgated under Title II of The American With Disabilities Act which are applicable to the benefits, services, programs, and activities provided by the State of Tennessee through contracts with outside Contractors.

1.8.4.2 The Contractor will be responsible for and agrees to Indemnify and hold harmless the Authority and the State of Tennessee from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against the Authority or the State of Tennessee as a result of the Contractor's failure to comply with the provisions of paragraph 1 above.

1.8.5 Contractor Integrity Provisions

1.8.5.1 Definitions

Confidential information means information that is not public knowledge, or available to the public on request, disclosure of which would give an unfair, unethical, or illegal advantage to another desiring to contract with the Authority or the State.

Consent means written permission signed by a duly authorized officer or employee of the Authority, provided that where the material facts have been disclosed, in writing, by pre-qualification, bid, proposal, or contractual terms, the Authority

will be deemed to have consented by virtue of execution of this Agreement.

Contractor means the individual or entity that has entered into this Agreement with the Authority, including directors, officers, partners, managers, key employees, and owners of more than a 5% interest.

Financial Interest means: (1) Ownership of more than a 5% interest in any business; or (2) Holding a position as an officer, director, trustee, partner, employee, or the like, or holding any position of management.

Gratuity means any payment of more than nominal monetary value in the form of cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind.

1.8.5.2 The Contractor will maintain the highest standards of integrity in the performance of this Agreement and will take no action in violation of local, state or federal laws, regulations, or other requirements that govern contracting with the Authority.

1.8.5.3 The Contractor will not disclose to others any confidential information gained by virtue of this Agreement.

1.8.5.4 The Contractor will not, in connection with this or any other Agreement with the Authority, directly or indirectly, offer, confer, or agree to confer any pecuniary benefit on anyone as consideration for the decision, opinion, recommendation vote, other exercise of discretion, or violation of a known legal duty by any officer or employee of the Authority.

1.8.5.5 The Contractor will not, in connection with this or any other Agreement with the Authority, directly or indirectly, offer, give, or agree or promise to give to anyone any gratuity for the benefit of or at the direction or request of any officer or employee of the Authority.

1.8.5.6 Except with the consent of the Authority, neither the Contractor nor anyone in privity with him or her will accept or agree to accept from, or give or agree to give to, any person, any gratuity from any person in connection with the performance of work under this Agreement except as provided therein.

1.8.5.7 Except with the consent of the Authority, which will not be unreasonably withheld, the Contractor will not have a financial interest

in the Authority, or any other Contractor, subcontractor, or supplier providing services, labor, or material on this project. The Contractor must make a request in writing to the Authority to request permission to bid if it has the financial interests lists above. The Contractor must also make a request in writing to the Authority if it intends to supply any materials required for the project that may be furnished to other Contractors bidding on the project, along with the prices for said items to be offered for sale or subcontract at least 5 days prior to the date of the job showing.

1.8.5.8 The Contractor, upon being informed that any violation of these provisions has occurred or may occur, will immediately notify the Authority in writing.

1.8.5.9 The Contractor, by execution of this Agreement and by the submission of any bills or invoices for payment pursuant thereto, certifies and represents that he or she has not violated any of these provisions.

1.8.5.10 The Contractor will, upon the inquiry or request of the Inspector General of the State or any of that official's agents or representatives, will provide, or if appropriate, make promptly available for inspection or copying, any information of any type or form deemed relevant by the Inspector General to the Contractor's integrity or responsibility, as those terms are defined by the State's statutes, regulations, or management directives. Such information may include, but will not be limited to, the Contractor's business or financial records, documents or files of any type or form, which refer to or concern this Agreement. The Contractor will retain such information for a period of three years beyond the termination of the contract unless otherwise provided by law.

1.8.5.11 For violation of any of the above provisions, the Authority may terminate this and any other Agreement with the Contractor, claim liquidated damages in an amount equal to the value of anything received in breach of these provisions, claim damages for all expenses incurred in obtaining another Contractor to complete performance hereunder, and debar and suspend the Contractor from doing business with the Authority. These rights and remedies are cumulative, and the use or nonuse of any one will not preclude the use of all or any other. These rights and remedies are in addition to those the Authority may have under law, statute, regulation, or otherwise.

1.8.6 Special Provision Regarding Debarred and Properly Licensed Contractors

1.8.6.1 The Contractor certifies that it is not currently under suspension or debarment by the Authority, any state or federal authority.

1.8.6.2 If the Contractor enters into any subcontracts under this contract with subcontractors who are currently suspended or debarred by the state or federal authority, or who become suspended or debarred by the state or federal authority during the term of this contract, or any extensions or renewals thereof, the Authority will have the right to require the Contractor to terminate such subcontracts.

1.8.6.3 The Contractor agrees that it will be responsible for reimbursing the Authority for all necessary and reasonable costs and expenses incurred by the Office of the Inspector General relating to an investigation of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the Authority which results in the suspension or debarment of the Contractor.

1.8.6.4 All Bidders are hereby advised that no award of this contract will be made to any firm or individual that is currently debarred by the State of Tennessee. All Bidders must be properly licensed with the State of Tennessee Board for Licensing Contractors for the designated type of construction services, and in conformance with the amount of the bid.

1.8.7 Environmental Compliance and Responsibilities

1.8.7.1 The Contractor will comply with all permit requirements, regulations and guidelines of the U.S. Environmental Protection Agency, Tennessee Valley Authority, U.S. Corps of Engineers, and the Tennessee Department of Environment and Conservation.

1.8.7.2 The Plans **do not** call for or require any alterations to aquatic resources or waters of the State. It is not intended that the Contractor occupy the channel of any stream with any equipment.

1.8.7.3 If the Contractor intends to make any alterations to a blueline stream (waters of the State) or have any equipment in any stream, it will be the responsibility of the Contractor to comply with all State and Federal rules and regulations, and to attain any necessary permits for the Contractor's work.

1.8.7.4 There will be no excavation within the limits of stream channels on this project.

1.8.7.5 Erosion control measures are required for this project, to conform to the Plans and Specifications, and Storm Water Pollution Prevention Plan (SWPPP) if one is provided. If a permit is required for the Contractor's work, it will be the responsibility of the Contractor to apply for and obtain the permit, and the Contractor will be responsible for complying with all permit requirements.

1.8.7.6 The Contractor will not change the oil on any piece of machinery, or perform other similar maintenance work on its machinery on railroad right-of-way.

1.8.7.7 No trash, litter, rubbish, waste oil, filters, or machine parts will be disposed of on railroad right-of-way.

1.8.7.8 All released materials and debris will be removed from the site and legally and properly disposed of off of the railroad right-of-way.

1.8.7.9 The Contractor will not burn any material without proper permit from the local Authority.

1.8.7.10 All demolition materials must be removed from the project site and disposed of off of the railroad right-of-way.

1.8.7.11 All treated timber materials that are released from this project will be reused for some other purpose, sold for material to be reused, or disposed of in a proper and legal manner. If materials are sold, the Contractor will immediately furnish a copy of the bill of sale to the Engineer and Authority, and will furnish a copy of the Consumer Information Sheets for treated timber materials to the buyer.

1.8.7.12 The Contractor will not allow any released materials to float or drift downstream, and shall immediately retrieve any materials moving downstream.

1.9 Contract Closeout

- a. The following items must be completed in order to close the contract:
 1. The Contractor must complete all work outlined in the Scope of Work, Plans, and Specifications, and as provided for in the contract and final cost schedule, including approved change orders.
 2. The Contractor must remove all released materials, excess materials, project related trash and debris from the project site.
 3. The Contractor must dispose of all released materials in a proper and legal manner, according to the Project Documents.
 4. The Contractor must submit a notarized release of liens to the Engineer.
 5. The Engineer will advertise the Notice of Completion for the project on behalf of the Authority, and will allow the notice to be in the public domain for 10 days prior to approval of the Contractor's project invoice.

1.10 DEFINITION OF TERMS

When the following terms are used in these Specifications, it is understood that they have the meaning herewith given:

1.10.1 PROJECT DOCUMENTS

The Plans, drawings, maps, typical sections, standard drawings, cross-sections and/or profiles, Specifications, Bid Sheet, Agreement, Addenda, and all other attachments herein showing or describing the character of the work prepared as a guide for construction of the proposed project.

1.10.2 “SHOULD”

Where the term “should” appears in these guidelines, it is to mean that the information following is a recommendation for the proposed project.

1.10.3 “MUST;” ”WILL;”

Where the terms “must,” and/or “will” appear in these Specifications, it is to mean that the information following is a requirement for the proposed work.

1.10.4 AUTHORITY

The Cumberland County Railroad Authority, Wendell Wilson Chairman, Two North Main, Suite 203, Crossville, TN 38555.

1.10.5 ENGINEER

Crouch Engineering, Inc., 5115 Maryland Way, Suite 225, Brentwood, TN 37027; Phone (615) 791-0630, FAX (615) 791-8451, web site at www.crouchengineering.com

The project manager for this project is Kevin Lindsey, PE, and can be contacted at the office phone listed, or by cell phone at (615) 289-6096, and may be contacted by email at klindsey@crouchengineering.com

1.10.6 RAILROAD

Lhoist Railroad, Lhoist North America, 10583 Hwy 70 East, Crab Orchard, TN 37723; Mr. Gary Hankins, Sr. Project Manager, (931) 484-5897.

1.10.7 CONTRACTOR

The company and/or individual contracted to perform the proposed work.

1.10.8 ATTACHMENT “A”

The final Scope of Work and unit prices as per the tri-party agreement between the State, Authority and Railroad.

1.10.8 TDOT - the Tennessee Department of Transportation

The state agency responsible for controlling and monitoring the railroad track and bridge rehabilitation projects on Tennessee short line railroads.

1.10.8 FRA - the Federal Railroad Administration

The Federal agency responsible for establishing general safety requirements, and enforcing those requirements.

1.11 Project Forms

The Contractor will be responsible for using and completing the 'Daily Log' form. The form will be completed each day, and copies will be sent to the Engineer on a weekly basis.

These forms are provided in Section 10, Attachments.

1.12 Safety Requirements

The Contractor will be solely responsible for the safety of its workers and the general public on the project site, and in mobilization and demobilization, storage areas, and other locations used in the execution of this project.

- 1.12.1 Refer to Section 10, herein, for any rules, forms, or other safety related documents. If Railroad Rules are not included in this document, then the Contractor is responsible for getting the training for its employees required by the FRA and the Railroad.
- 1.12.2 Maintain close contact with the Engineer, and Railroad as necessary, regarding work to be performed each day, working limits, safety briefings, and permission for track time;
- 1.12.3 Complete safety training and/or safety orientation required by the Railroad; conform to the Railroad safety rules; and conform to FRA bridge and track worker safety regulations;
- 1.12.4 Trains will not be cleared by the Contractor to cross tracks unless the Contractor's foreman has deemed the track is safe;
- 1.12.5 Where track has been disturbed by surfacing or tie renewal, trains should not exceed 10 mph until sufficient tonnage has crossed the area to stabilize the track;
- 1.12.6 The Contractor will maintain close contact with the Railroad, and on a daily basis, will report to the Railroad as to the activities planned for that day;

- 1.12.7 Permission for all track time must be obtained from the Railroad. Daily contact with the Railroad will be maintained whether the Contractor is working or not;
- 1.12.8 The Contractor will be solely responsible for daily supervision and worker and site safety, and will obey all safety and operating rules, and regulations of the Railroad;
- 1.12.9 The Contractor will hold harmless the Engineer, Railroad, Authority and State for any liability and/or damages resulting from the Contractor's action or inaction or negligence;
- 1.12.10 The Contractor will conform to all OSHA, Federal Railroad Administration (FRA), and Railroad Rules where applicable. When performing work on bridges, the Contractor must conform to the most recent FRA regulations for bridge worker safety. At a minimum, hard hats will be worn when danger of falling materials is possible, and safety glasses will be used in all repair work where metal to metal contact can occur. It is the responsibility of the Contractor to check the condition of all equipment, and be familiar with and enforce all FRA safety regulations;
- 1.12.11 Faulty equipment must not be placed in service. Any fall protection gear in use during a fall must be disposed of and may not be reused;
- 1.12.12 The Contractor will be responsible for reimbursing the Railroad or Engineer for any fines levied against the Railroad and/or Engineer due to violation of regulations committed by the Contractor or through negligence of the Contractor;
- 1.12.13 The existing bridge structures may not be used in any way to brace, shore, or support any new construction;
- 1.12.14 The cost of providing safety equipment and conforming to all rules and regulations herein will be included in the cost of other items;
- 1.12.15 The track will not be occupied or fouled without permission from the Railroad. Permission for track time will be recorded as required by the Railroad's Safety Rules and procedures; and,
- 1.12.16 If not included in Section 10, Attachments, herein, the Contractor will obtain a copy of the Railroad's Safety Manual or whatever means they use for posting and enforcing preferred safety rules and must abide by these rules while performing work under this contract. The Contractor must be aware that these rules may change from Railroad to Railroad and may be additional to FRA or other governing agency rules.

SECTION 2 - RAILROAD TRACK SPECIFICATIONS

2.1 Introduction

This section includes specifications for the track work required for the proposed miscellaneous bridge rehabilitation project.

The Contractor is required to conform to the Project Documents for this project, including, but not limited to the Plans and Specifications, Construction Details, Attachments, including job showing notes and addenda, and the final cost schedule.

The Contractor will supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Project Documents.

The Contractor will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor will be responsible to see that the finished work complies accurately with the Project Documents and Plans and Specifications herein.

2.1.1 References

The publications listed below form a part of the Specifications to the extent referenced. The publications are referred to in the text by basic designation only.

AREMA MRE - Manual for Railway Engineering, most recent edition

AREMA PTWP - Portfolio of Trackwork Plans - most recent edition

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) - Most recent guidelines for testing materials.

2.1.2 Submittals

The Engineer's approval is required for submittals for all materials to be provided by the Contractor. Submittals must be sent to the Engineer, and confirmation/approval received by the Contractor prior to installation.

Certifications for all materials used must come from the individual suppliers.

The certifications must state that the materials meet or exceed the guidelines and specifications in the Project Documents. The project Specifications may be more stringent or restrictive than AREMA Guidelines.

All materials and equipment furnished by the Contractor for the project will be new and of good quality, except as may be otherwise provided in the Project Documents in the materials portion of each section. All material and equipment will be applied, installed, connected, cleaned, and conditioned in accordance with the instructions of the applicable supplier or manufacturer, except as may be otherwise provided in the Project Documents.

Shipping documents for materials are also required to be sent to the Engineer. This is a requirement if the Contractor desires to be paid for 90% of material cost for materials delivered to the project site, but not installed.

Items incidental to construction will be furnished and installed or applied by the Contractor at no additional cost to the Owner. Examples include but are not limited to bolts, nuts, washers, cotter pins, plug wood or plugging compound, and in some instances spikes or rail anchors, etc.

2.1.2.1 Ballast (N/A)

Name of Supplier, type of material, gradation analysis, and Certificate(s) of Compliance for the materials to be installed on this project, meeting AREMA guidelines.

2.1.2.2 Sub-Ballast (N/A)

Name of Supplier, type of material, gradation analysis, and Certificate(s) of Compliance for the materials to be installed on this project, meeting AREMA guidelines.

2.1.2.3 Walkway Stone (N/A)

Name of Supplier, type of material, gradation analysis, and Certificate(s) of Compliance for the materials to be installed on this project, meeting AREMA guidelines.

2.1.2.4 Timber Crossties

Name of the tie manufacturer, the wood species proposed, and product data for the ties to be furnished, including the type of seasoning to be utilized, prior to ordering the ties, and the type of treatment and retention of treating compound in lb/cf.

Provide Certificates of Compliance for materials. Provide certified test and inspection reports for crossties and switch ties subsequent to treatment a minimum of seven calendar days prior to any ties being installed in track.

2.1.2.5 Rail (N/A)

Manufacturer's data on new rail, including: rail weight, rail section, drilling, rail length, date rolled, ultrasonic testing results and the name of the mill where the rail was rolled.

For relay rail the required information will include weight, section, lengths, and the name of the supplier.

Ultrasonic rail testing results must be submitted to the Engineer prior to final acceptance.

The total maximum allowable vertical wear on the rail head and the maximum allowable horizontal wear on the side of the rail is noted in the Specifications. Provide information regarding the wear data for relay rail.

Rail delivered with curve wear or observable defects will be rejected, regardless of test results.

2.1.2.6 Tie Plates

For new material, submit the manufacturer's information and Certificate of Compliance for materials, including size, cant and punch.

For relay material, submit a Certificate of Compliance for materials including condition, size, cant, and punch.

2.1.2.7 Rail Anchors (N/A)

Submit the manufacturer's information and Certificate of Compliance for materials.

2.1.2.8 Steel Cut Track Spikes

Submit the manufacturer's information and Certificate of Compliance for materials.

2.1.2.9 Track Bolts

Submit the manufacturer's information and Certificate of Compliance for materials.

2.1.2.10 Joint Bars (N/A)

The design of the joint bars to be furnished with each rail section will be provided. Include the type of joint bar and method of manufacture, along with the number of bolt holes, rail section, and whether new or relay material.

2.1.2.11 Compromise Joint Bars (N/A)

The design of the compromise joint bars to be furnished with each rail section will be provided. Include the type of joint bar and method of manufacture, along with the number of bolt holes, rail sections, and whether new or relay material.

2.1.2.12 Field Weld Rail (Thermite Welding Procedures) (N/A)

Submit the name of the person or persons certified to make field welds. A detailed statement covering the step-by-step procedures to be employed in making the welds, including a complete description of each of the following items, as applicable, and any other essential characteristics included in the welding procedure:

- The manufacturer's trade name for the welding process.
- The method to be used for cutting and cleaning the rail ends. Flame, or torch, cutting of rail ends will not be allowed.
- The minimum and maximum spacing between rail ends.
- The method used for maintaining the rails in alignment during the welding operation.
- The method used for preheating, including time and temperature.
- The tapping procedure, including the minimum time required to cool the weld under the mold insulation.
- The method used (including a description of special tools and equipment) for removing the upset metal and finishing the weld to the final contour.
- Quality control procedures to be utilized.
- The contractual agreements with any subcontractor employed by the Contractor for performance of the work.

2.1.2.13 Tie Plugs

Provide the manufacturer's name and a description of the product(s) to be used.

2.1.2.14 Geotextiles (N/A)

Manufacturer's certification that the materials meet the project specifications.

2.1.2.15 Turnouts (N/A)

The Contractor will furnish the Engineer with a certification of compliance for all materials used as components of the specified turnout(s), including all components, not limited to type, manufacturer, condition (new, relay, refurbished, or other) for all:

- Frogs
- Guard Rails (unless Self-Guarded)
- Switch Points
- Solid Switch Point Heel Blocks
- Switch Stands and Ergonomic Handles
- Adjustable Wedge Plates for switch point sections
- Frog and Switch Point Base Plates
- Frog and switch point section plates
- Tie Bar Rods (Number, insulated or non-insulated)

- Switch point connecting rods
- Switch Ties
- Rail and OTM

2.1.2.16 Derails (N/A)

The Contractor will furnish the Engineer with a certification of compliance for the derail(s) proposed for the project. The Contractor will provide the Manufacturer's name, size, type, and condition, and list materials to be included.

2.1.2.17 Gage Rods (N/A)

The design of the gage rods to be furnished will be provided. Include the type of gage rod, whether insulated or non-insulated, and whether new or relay material.

2.1.2.18 Railroad/Highway Grade Crossing Materials or Surface (N/A)

Within 10 days of the Notice to Proceed, the brand name of the pre-manufactured crossing material or crossing surface material proposed for use, detailed installation procedure for the pre-manufactured crossing material or crossing surface material, along with manufacturer's literature concerning the product, and a statement of compliance with the Specifications.

For built-in-place crossings, list the type of materials to be used, together with manufacturer's literature.

2.1.2.19 Components or Products

Performance data for components or products proposed as an equivalent to those herein specified. The Engineer's written approval is required for any such equivalent type component or product that the Contractor proposes to use. Submit prior to ordering materials.

2.1.2.20 Schedule of Materials and Equipment

A complete schedule of the materials proposed for installation within 10 days of receipt of Notice to Proceed, and before installation of the materials. The schedule will include a list of equipment proposed for the work.

All certifications of compliance are due no later than 30 days from the date of Notice to Proceed unless stated otherwise herein.

2.1.2.21 Electric Arc Welding (N/A)

A detailed specification covering the step-by-step procedures to be employed in making the electric arc welds. A complete description of each of the following items, as

applicable, and any other essential characteristics, will be included in the procedure Specifications.

- Type, size, and capacity of electric welding machine (250 amp minimum), grinder, and other equipment. Also, size and type of material (welding rod or wire)
- The method to be used for removal of defective /excess metal prior to welding (arc, air, or grinding).
- The method to be used to prevent warping.
- The method used for preheating, including time and temperature.
- The method of applying metal buildup and slag removal.
- The method of securing original contour of items welded.
- Quality control procedures to be followed.
- Welding Materials; GA Welding materials (rod or wire), name and manufacturer of materials (low carbon steel) for welding rail and materials (manganese alloy) for welding manganese railroad crossing inserts or castings.

2.1.2.22 Ultrasonic Testing (N/A)

Provide the type of testing equipment to be used, and name of the testing company - the Engineer may require a statement of qualifications from the testing company.

Results of ultrasonic rail or field weld testing will include a list of defects and rail stationing, and/or weld number. Defects will be marked by paint on the rail. All scrap rail to be scrapped will be painted with a red mark.

2.1.2.23 Manufacturer's Certificate of Conformance

Manufacturer's certificate of conformance is required for the following materials:

- Ballast
- Sub-Ballast
- Walkway Stone
- Crossties
- Rail
- Tie plates
- Track bolts, nuts, and spring washers
- Joint bars
- Compromise joint bars
- Rail anchors
- Track spikes
- Turnouts
- Derails
- Bumping Posts N/A
- Tie plugs/Plugging compound
- Pre-manufactured road crossings and/or crossing surfaces
- Rail welding process
- Gage Rods
- Insulated joints and insulated switch rods
- A welding record of each field weld on the form attached at the end of this section. The original copies of the form bearing the signatures and initials of personnel involved will be submitted as part of the Project Record Documents.

2.1.3 Delivery, Storage, and Handling of Materials

2.1.3.1 Materials and Samples

The Contractor is responsible for notifying the Engineer when materials are delivered to the project site, or to a fabricating facility, if applicable. If any fabrication of materials occurs offsite, the Contractor will notify the Engineer prior to fabrication, and will furnish shop drawings for approval prior to fabrication of materials.

The Engineer will notify the Contractor as to the status of materials approved or disapproved. Disapproved materials that have already been delivered to the project site will be promptly segregated from the approved materials and removed from the premises. If materials are disapproved, acceptable replacement materials will be provided at no additional cost to the Authority.

Initial approval by the Engineer will not prevent the removal and replacement of materials that are materially defective or materials not meeting this specification that are

discovered during construction and/or routine quality control/quality assurance operations.

The Contractor is solely responsible for the security and protection of all materials delivered to the project site. The Contractor is responsible for replacing lost, stolen or damaged materials at no additional cost to the Authority.

All track materials will be handled in such a manner as to protect such materials from being damaged, and will be stored in such a manner as to be protected from vandalism. Materials damaged during unloading, handling, or installation will be replaced by the Contractor at the Contractor's cost.

Geotextiles will be shipped and stored in their original ultraviolet resistant cover until the day of installation. Geotextiles will be stored in such a manner as to be protected from vandalism, temperatures greater than 60 degrees C (140 degrees F), dirt, dust, mud, debris, moisture, sunlight, and ultraviolet rays.

Geotextiles delivered to the project site will be clearly labeled on the material cover to show the manufacturer's name, brand name, fabric type, location and date of manufacture, lot identification, width, and length.

2.1.4 Qualifications

Track Construction, Rehabilitation, and Maintenance

Track construction tasks will be performed under the direction of qualified and competent supervisory personnel experienced in railroad track construction and maintenance.

All track crew members will be knowledgeable of the applicable Safety Rules.

2.1.5 Welding

Welding will be performed under the direct supervision of an experienced welding supervisor or foreman.

2.1.6 Site Conditions

Temporary Work:

During construction, the Contractor will restore the track to a condition both safe and suitable for service as needed by the Railroad for its regular train operations.

Track time must be scheduled with the Railroad, and the track restored and/or cleared for service by the designated time. The Contractor is responsible for train delays. Any

penalty for delays will be outlined in the liquidated damages section of the project Documents, and/or in the general conditions.

Drainage will be maintained through the project site during the full term of the project. Accumulation of water that might be detrimental to, or affect the stability of the roadbed will not be permitted. Ditches will be maintained in good working condition, and no debris will be allowed to block ditches or culverts.

Empty spike kegs and similar containers will not be left in or near ditches, but will be disposed of off the Railroad right-of-way as soon as they are emptied.

Grade crossings that are taken out of service will be restored to automobile traffic as soon as practical. Refer to the scope of work, special provisions, and Section 2.21 for additional requirements for grade crossings.

The Contractor will stabilize slopes, and seed with mulch any areas disturbed by construction activities to restore and maintain a permanent stand of grass.

End of Section

2.2 Ballast (N/A)

2.3 Sub-Ballast (N/A)

2.4 Walkway Stone (N/A)

2.5 Crossties

2.5.1 Description

The Contractor will be responsible for purchasing, loading, transporting, distributing, and installing ties in the type and quantity required to complete the track work indicated on the Plans or as so designated within the Scope of Work.

2.5.2 Materials

Timber Deck ties:

Deck ties will be Grade ties that will conform to size specified in the scope of work. All ties will be new, treated hardwood, and will conform to the most recent AREMA Guidelines, Recommendations and Specifications.

Treatment

All crossties will be thoroughly air seasoned or properly conditioned for preservative treatment, and pressure treated to a net retention of a minimum eight pounds (or Refusal) preservative per cubic foot of wood, with an appropriate creosote-coal tar preserving process.

All crossties will be treated per AREMA Manual Chapter 3, Part 9.

Conditioning and seasoning will conform to the requirements of AWPA C6 for the individual wood species. Ties will be well seasoned.

Prior to preservative treatment, wood ties will be dried to the oven dry moisture content, or less, as specified in paragraph 3.14 of AWPA C6. The wood may be air dried, vapor dried, or boultonized. Ties to be dried by artificial means will be conditioned and treated as soon as possible after sawing but in no case more than 30 days later. The temperature used for boultonizing will be as high as possible but in no case less than 94 degrees C. 200 degrees F. Vapor dried ties will be transferred from drying cylinders to treatment cylinders as quickly as possible to avoid loss of heat from the seasoned ties. Ties will be pressure treated in accordance with Chapter 3, Part 6 of AREMA MRE by the empty cell process with a 60/40 creosote/coal tar solution (Grade C) in accordance with AWPA P2 to a minimum retention of 8 lbs./cu ft of wood or Refusal.

All ties will be incised on all four sides I the pattern specified in AREMA MRE, Chapter 3, Part 6, prior to treatment. Splits will not be longer than 4 in. and not wider than 1/4 in at either end. Splits longer than 4 in. but not longer than the width of the face in which the split appears will be acceptable if specified anti-splitting devices are installed with the splits compressed. The Contractor will notify the Engineer at least 15 days prior to the shipment of any treated ties or timbers, from the manufacturer's plant, to provide the Engineer the opportunity to inspect the materials before shipment. When inspections of on site materials result in product rejection, the Contractor will promptly segregate and remove rejected material from the premises. The Authority may also charge the Contractor for any additional cost of inspection or testing when prior rejection makes reinspection or retesting necessary.

Species of wood accepted

(75% oak, 25% mixed hardwoods from the following list:

Ash	Mulberry	Beech	Walnut
Hackberry	Oak	Birch	Gum
Sassafras	Cherry	Locust	
Elm	Maple	Hickory	

Tie Plugs

Treated hardwood tie plugs will be furnished and installed by the Contractor at every location where existing ties remain and spikes are drawn. Tie plugs will fit holes from which spikes are drawn. The plugs will comply with Chapter 3, Part I of AREMA MRE and will be treated in accordance with Chapter 3, Part 6 of AREMA MRE.

Sure Spike treating compound, or approved similar chemical tie plug products may also be used to treat holes where spikes have been drawn.

Anti-Splitting Devices

New crossties and switch ties will be equipped with anti-splitting devices of the type specified if splits exceed the guidelines established by AREMA. Products used will conform to Chapter 3, Part I of AREMA MRE. Anti-splitting devices will be applied on new crossties in accordance with Chapter 3, Part 1, Section 10 of AREMA MRE.

2.5.3 Equipment

All equipment necessary for the satisfactory performance of this work will be on the site and approved, before the work will be permitted to begin.

2.5.4 Construction Requirements

All new crossties will be furnished and installed by the Contractor as per the scope of work.

If rail is removed in order to complete bridge construction, new ties will not be installed in the track or on the bridge approaches until track has been rebuilt. This is to prevent spikes being drawn from new ties.

Timber crossties that do not have a sufficient bearing surface for both tie plates will be rejected. Any crossties with splits that extend under the tie plate area will be rejected. Crossties will be fitted with an anti-splitting device such as an S-iron or gang nail plate based on AREMA requirements.

Crossties will be placed with heartwood down wherever possible. Allowances for wane across the face of the crosstie must conform to AREMA guidelines.

Crossties will be placed at right angles (perpendicular) to the centerline of the track. The first ties adjacent to the tie installed will be straightened if they are not perpendicular to the centerline.

Remove, save, and reapply existing rail anchors where ties are replaced in existing track.

The end of each crosstie will line up with the ends of adjacent crossties on a designated 'line side' prior to and after spiking, which will be used consistently throughout the project. Line side in curves will be the outside ("high") rail of the track.

All ties installed in existing track will be mechanically tamped after insertion to insure that the base of the rail fits tightly against each tie plate. This tamping will be done immediately behind the tie installation, and will not be considered a part of the surfacing operation.

Ties in existing track are to be removed and installed so as to avoid disturbance of existing line and surface. If either line and/or surface are disturbed, they will be restored immediately, at the Contractor's expense.

Removed crossties are considered to be defective and will become the property of the Contractor, and are to be properly and legally disposed of off the Railroad right-of-way.

Ties will be installed at locations as marked in the field and/or as shown on the scope of work.

No ballast or debris will be left between the crosstie and tie plate, or between the tie plate and rail.

Ties will be spiked as per the spiking pattern provided on the Plans or as per the Specifications.

If released crossties are sold to a third party, the Contractor will furnish said party a copy of the Consumer Information Sheets, attached, and will furnish the Authority and Engineer a copy of the bill of sale.

Crossties will be handled so as to avoid breaking or bruising. The use of picks in the handling of ties will not be permitted. Ties will not be thrown from railroad cars or trucks onto rails, other track material or rocks. Moving and placing ties with picks, spike mauls, sledges, or shovels is prohibited. Surfaces damaged, cut, or drilled in the field will be coated with a preservative subject to the approval of the Engineer.

2.5.5 Measurement and Payment

Payment for furnishing and installing timber crossties in existing track will include purchasing, transporting, and installing ties, including track spikes, removing and reapplying rail anchors, all materials, tamping ties, labor, supervision, equipment, and tools, payment included in the unit bid price for furnishing and installing crossties.

The Contractor will not exceed contract quantities without proper change order, approved by the Engineer.

Payment will not be made for ties in excess of the specified quantity without proper approved change order.

The accepted quantity of crossties will be paid for at the contract unit price bid as listed in the final cost schedule. Such payment will be full compensation for furnishing and installing crossties under the Contract.

End of Section

2.6 Railroad Track Construction

2.6.1 Description

The Contractor will be responsible for removing and rebuilding track as necessary to perform the bridge rehabilitation tasks required. The Contractor will remove the existing track as necessary, and purchase, load, transport, distribute any required materials and construct track, including the required specified tie plates; spikes or other fasteners specified; track bolt sets; and all labor, supervision, tools, equipment, installation to complete the track work indicated on the Plans or as so designated within the Scope of Work.

Track construction not specifically covered herein will be in accordance with AREMA recommendations and recommended practices.

2.6.2 Materials

Materials include ballast, rail, jointed or continuous welded rail, tie plates, rail anchors, cut track spikes, track bolts and joint bars.

2.6.3 Equipment

All equipment necessary for the satisfactory performance of this work will be on the site and approved, before the work will be permitted to begin. Equipment will include grinding tools for final contouring of the weld area to specified tolerances.

2.6.4 Construction Requirements

Carefully pull spikes; plug spike holes; unbolt rail, handle and stockpile released rail, tie plates, and joint bars for reuse.

After the proposed bridge work has been completed, rebuild track with rail spiked to standard gage (4' 8-1/2") across the bridge and on the approaches to restore the main line track, using all new spikes, track bolt sets, and rail anchors.

2.6.5 Measurement and Payment

Payment for all track construction under this section will be based on the Contractor's unit price bid to remove and rebuild track, with quantity as per the final cost schedule. Said payment will be payment in full for all materials, surfacing and lining track, regulating ballast, labor, supervision, tools, equipment, testing, and items incidental to construction necessary to construct the track with all its various components as defined on the Plans or outlined in the Scope of work.

The Contractor will not exceed contract quantities without proper change order, approved by the Engineer.

End of Section

2.7 Rail (N/A)

2.8 Rail Testing (N/A)

2.9 Tie Plates

2.9.1 Description

The Contractor will furnish and install new or good quality relay tie plates as needed to insure that all crossties within the project limits and bridge ties have 2 tie plates per tie.

Where ties are replaced in the approaches, the Contractor will reuse existing tie plates.

2.9.2 Materials

Replacement Tie Plates will be double shoulder tie plates, minimum 7" x 13".

2.9.3 Equipment

The Contractor will furnish all necessary equipment to move or install the materials listed above.

2.9.4 Construction Requirements

The bottom of tie plates will be cleaned before the plate is laid.

Tie plates will be applied at the time the rail is laid to avoid unnecessary spiking. The field side tie plate shoulder will bear against the outside base of the rail, centered on the tie with a flat, uniform bearing on the tie, and so the rail cant is inward.

Tie plate shoulders will not be left under the base of rail.

Down ties must be nipped and spiked to gage, with no ballast or other debris between the tie and bottom of tie plate, or between the tie plate bearing area and the base of rail.

2.9.5 Measurement and Payment

Payment for work related to tie plates will be included in the cost of other items.

2.10 Rail Anchors (N/A)

2.11 Cut Track Spikes

2.11.1 Description

The Contractor will furnish and install new steel cut track spikes for use in installing new crossties and/or bridge deck ties, and for rebuilding track. Relay spikes will not be reused in this project.

2.11.2 Materials

New, high carbon steel, cut track spikes, conforming to Chapter 5, Part 2 of AREMA MRE, will be utilized. Track spikes will be 5/8" square by 6" long. Spiking will conform to the appropriate pattern detail as shown in these Specifications.

2.11.3 Equipment

The Contractor will furnish all necessary equipment to move or install the materials listed above. All equipment cost will be included in the contract price (see measure and payment section below).

2.11.4 Construction Requirements

Spiking Procedures - Rail will be spiked promptly as track is being relaid, and as replacement ties are being installed. Spikes will be started and driven vertically and square with the rail. In no case will spikes be overdriven, or straightened while being driven. Spikes will not be installed through the slots in skirted-type, slotted joint bars (angle bars). No spikes will be driven against the ends of joint bars. Spikes started crooked will be pulled, the holes plugged, and spikes re-driven. Spikes will be driven with the under side of the head of the spike contacting the top of the base of the rail with a minimum of pressure.

Number of Spikes – in general, the Contractor will conform to the spiking pattern detail. Four rail-holding spikes will be used on each tie on tangents and curves less than 2 degrees (Spiking Pattern "A"). On curves 2 degrees or greater but not more than 6 degrees, eight spikes will be used on each tie with the spikes located as follows: High rail, one rail-holding spike and one plate holding spike on the field side and two on the gage side; Low rail, two rail-holding spikes on the gage side, one rail-holding spike and one plate-holding spike on the field side (Spiking Pattern "C"). Curves 6 degrees and greater will be spiked with ten spikes per tie located as follows: High rail, one rail--holding spike and one plate-holding spike on the field side, two rail-holding spikes and one plate-holding spike on the gage side; Low rail, two rail-holding and one plate-holding spike on the gage side; one rail-holding and one plate-holding spike on the field side (Spiking Pattern "D"). Eight rail-holding spikes will be used on each tie through road crossings, double spiking each rail, each side of track (no anchor spikes).

When placing spikes in existing track which may contain tie plates with fewer than the required number of spike holes, Contractor will place spikes to the extent possible in order to attain the desired spiking pattern.

2.11.5 Measurement and Payment

The cost of furnishing and installing new cut track spikes will be included in the payment for furnishing and installing crossties, and/or removing and rebuilding track.

End of Section

2.12 Track Bolts

2.12.1 Description

The Contractor will furnish and install all new track bolt sets where track is removed and rebuilt.

2.12.2 Materials

Bolts, Nuts, and Spring Washers

New track bolts, nuts, and spring washers will be utilized throughout the project for rebuilding track if track is removed in the process of replacing the bridge.

The Contractor will furnish bolts, 1" in diameter. The Contractor will determine the number of bolt assemblies of each size required 6 bolts for 6 hole bars and 4 bolts for 4 hole bars. All bolt diameters will be the largest possible for a given rail drilling and joint bar punching. Bolts will be of sufficient length for the joint bar as to allow at least one full bolt thread to extend past the outside of the nut, before tightening. Track bolts and nuts will conform to Chapter 4, Part 2 of AREMA MRE. Track bolts will be long enough to leave at least two threads exposed after the nut is tightened.

Spring washers and nuts will be so sized as to ensure that the spring washer develops its full reactive force and does not jam into the joint bar hole. Spring washers will be of such size as to fit the bolt and nut used, and will conform to Chapter 4, Part 2 of AREMA MRE, and Section M 12 of AREMA PTWP.

2.12.3 Equipment

The Contractor will furnish all necessary equipment to move or install the materials listed above. All equipment cost will be included in the contract price (see measure and payment section below).

2.12.4 Construction Requirements

Bolts and Nuts

Joint bars will be installed with their full number of bolt assemblies (usually 6 bolt sets per joint) unless otherwise noted. Bars will be properly seated on the rail and the bolts tightened beginning at the center of the point and working toward the ends of the bars. The use of extra washers to shim out track bolt nuts is prohibited. Bolts will be installed such that nuts are placed alternately on the inside and outside of the rail (gage side/field side).

Spring Washers

See material section above

2.12.5 Measurement and Payment

The cost of furnishing and installing new cut track spikes will be included in the payment for removing and rebuilding track.

End of Section

2.13 Joint Bars (N/A)

2.14 Compromise Joint (N/A)

2.15 Field Weld Rail (N/A)

2.16 Tie Plugs

2.16.1 Description

The Contractor will furnish and install treated hardwood plugs for plugging holes in ties where spikes are pulled.

2.16.2 Materials

Material will be treated hardwood plugs manufactured for the purpose of plugging holes in crossties.

2.16.3 Equipment

2.16.4 Construction Requirements

If spikes are withdrawn, the holes will be swabbed with creosote and plugged with creosoted tie plugs of proper size to fit the hole. If spikes are withdrawn and spikes are to be reinserted in the existing spike holes, the holes will be swabbed with creosote and plugged with creosoted tie plugs prior to re-driving the spike. Tie plugs will not be installed in pre-bored holes unless spikes have been driven and withdrawn.

2.16.5 Measurement and Payment

The cost of furnishing and installing new treated hardwood plugs will be included in the payment for other items.

End of Section

SECTION 5 – Bridge Specifications

5.1 Introduction

This section includes Specifications for bridge rehabilitation and construction.

The Contractor is required to conform to the Project Documents for this project, including Plans and Specifications. The Contractor will supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Project Documents.

The Contractor will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor will be responsible to see that the finished work complies accurately with the Project Documents and Plans and Specifications herein.

5.1.1. References

The publications listed below form a part of the Specifications to the extent referenced. The publications are referred to in the text by basic designation only.

NOTE: The American Railway Engineering And Maintenance Of Way Association (AREMA) was formerly The American Railway Engineering Association (AREA). AREMA And AREA when used as references will be considered to reference The American Railway Engineering And Maintenance Of Way Association.

AREMA MRE - Manual for Railway Engineering, most recent revision

AMERICAN INSTITUTE FOR STEEL CONSTRUCTION (AISC)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

AMERICAN WELDING SOCIETY (AWS)

AWS131.1 (1994) Structural Welding code - Steel

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWS)

AWPA M2 (1995) Standard for Inspection of Treated Timber Products

AWPA M6 (1995) Brands Used on Forest Products

AWPA P2 (1995) Standard for Creosote Solutions

ACI STANDARD 318-95 AND 318R-95 or most recent revision for concrete design and construction

Tennessee Department of Transportation (TDOT) Standard Specifications for Road and Bridge Construction (most recent edition).

5.1.2. Submittals

Submittals having a "GA" designation must have the Engineer's approval.

Submittals having an "FIO" designation are for information only, but must be submitted to the Engineer for record and to assure proper payment.

All materials and equipment furnished by the Contractor for the project will be new and of good quality, except as may be otherwise provided in the Project Documents. All material and equipment will be applied, installed, connected, cleaned, and conditioned in accordance with the instructions of the applicable supplier, except as may be otherwise provided in the Project Documents.

A. Steel Components; GA

Certification must include the name of the steel supplier, strength, grade, size and type and other data provided by the mill certificates.

B. Precast, Prestressed Concrete Girders; GA

Certification must include the name of the supplier, ACI and PCI membership status, shop drawings, the mix design, and references of similar work with respect to the size and type of girders proposed for this particular project.

C. Portland Cement Concrete; GA

Certification must include the name of the supplier, ACI membership status, and the mix designs.

D. Grout; GA

Certification must include the name of supplier, curing strengths with respect to time and temperature, and other data provided by the manufacturer's technical data sheets.

E. Timber; GA

Certification must include the name of the timber supplier, type and method of treatment, size, type of timber, grade, and other data provided by the mill certificates.

F. Elastomeric Bearing Pads; GA

Certification must include the name of supplier, type of material, compressive and tensile strength, durometer number, and other data provided by the mill certificates.

G. Pile Driving; FIO (N/A)

Pile driving logs must be submitted to the Engineer for any piling driven on this project. Logs shall include as a minimum the date, time, weather, operator, type and Specifications of the hammer, pile size, pile type, location in structure, depth of penetration, total length, # of splices, location of splices, type of splice, length of cut-off, # of blows per inch at termination, resulting load capacity, and sample calculations specific to the hammer for determining load capacity.

H. Miscellaneous Bridge Materials; FIO

Manufacturer's data for all bridge materials to be furnished.

5.1.3. Delivery, Storage, and Handling of Materials

Materials and Samples

The Contractor is responsible for notifying the Engineer when materials are delivered to the project site, or to a fabricating facility, if applicable. If any fabrication of materials occurs offsite, the Contractor will notify the Engineer prior to fabrication, and will furnish shop drawings for approval prior to fabrication of materials.

The Engineer will notify the Contractor as to the status of materials approved or disapproved. Disapproved materials that have already been delivered to the project site will be promptly segregated from the approved materials and removed from the premises. If materials are disapproved, acceptable replacement materials will be provided at no additional cost to the Authority.

Initial approval by the Engineer will not prevent the removal and replacement of materials that are materially defective or materials not meeting this specification that are discovered during construction and/or routine quality control/quality assurance operations.

The Contractor is solely responsible for the security and protection of all materials delivered to the project site. The Contractor is responsible for replacing lost, stolen or damaged materials at no additional cost to the Authority.

All structural materials will be handled in such a manner as to protect such materials from being damaged, and will be stored in such a manner as to be protected from vandalism. Materials damaged during unloading, handling, or installation will be replaced by the Contractor at the Contractor's cost.

5.1.4. Qualifications

A. Bridge Construction

Bridge construction will be performed under the direction of qualified and competent supervisory personnel experienced in railroad bridge construction.

B. Welding

Welding will be performed under the direct supervision of a certified welding supervisor or foreman.

C. Jacking/ Rigging

Jacking and moving of heavy structures will be performed under the direction of qualified and competent supervisory personnel experienced in rigging operations. The Contractor will be responsible for any damages occurring as a result of negligence or improper handling.

5.1.5. Site Conditions

During construction, the Contractor will restore the bridge and track to a condition both safe and suitable for service as needed by the Railroad for its regular train operations.

Track time must be scheduled with the Railroad, and the track restored and/or cleared for service by the designated time. The Contractor is responsible for train delays. Any penalty for delays will be outlined in the liquidated damages section of the Project Documents, and/or in the general conditions.

Drainage will be maintained through the project site during the full term of the project. Accumulation of water that might be detrimental to, or affect the stability of the roadbed will not be permitted. Ditches will be maintained in good working condition, and no debris will be allowed to block ditches or culverts.

END OF SECTION

5.2 Timber Structures

5.2.1. Description

This work will consist of constructing structures or parts of structures composed of treated timber. Timber structures will be constructed on prepared foundations at the locations indicated or directed with the dimensions, lines and grades shown on the Plans or as directed by the Engineer, and in accordance with these Specifications.

Parts of timber structures to be constructed with materials other than timber, such as concrete, steel, etc., will be constructed in accordance with the requirements of the Sections pertaining to the respective types of structure.

The Contractor will be responsible for purchasing, cutting, loading, transporting, distributing, and installing all timber required to complete the work indicated on the Plans and Specifications or as so designated within the Scope of Work.

5.2.2. Materials

Lumber, including structural lumber, is the product of the saw and planing mill not further than by sawing, resawing, passing lengthwise through a standard planing machine, cross cutting to length and working. After the lumber is produced, it is necessary to inspect each piece individually to determine its grade. Lumber that is so graded that working stresses can be assigned is called stress-graded or structural lumber. Existing grading rules for structural lumber issued by the industry's regional agencies are in conformity generally with the recommendations of ASTM D 2555 and ASTM D 245 and the range of grades available is adequate for railway purposes.

Timber material will be new, dense graded southern pine, or approved equal, in accordance with paragraph 423 of the Southern Pine Inspection Bureau's Grading Rules, 1987 Edition, effective 3-15-77, except to be free of wane, and will meet all other AREMA guidelines and Specifications for material and treatment.

All timber material will be thoroughly air seasoned or properly conditioned for preservative treatment, and pressure treated as per AREMA MRE Chapter 3, with an appropriate creosote-coal tar preserving process.

It is recommended that structural lumber be purchased in accordance with the grading rules of the industry's agency publishing rules for the species.

When ordering structural lumber an inquiry or purchase order should clearly stipulate: quantity in board feet or number of pieces; thickness, width and length; whether rough or surfaced and extent of surfacing; stress-grade; species of wood; the name and date of the rule book and the name of the organization issuing it; any exceptions to or modifications of the grading rules such as:

- Lumber to be free of wane;
- Seasoned, stating the method and acceptable moisture content (Note that mills do not ordinarily season beam and stringer or post and timber sizes.);
- Special heartwood requirements;
- Special shear grades;
- Special provisions to make joist and plank or beam and stringer grades suitable for continuous spans;
- Special provisions to make joist and plank or beam and stringer grades suitable as columns or tension members;
- Special inspection provisions; and, provisions for treatment.

All exposed untreated timber such as where timber is cut, will be coated using an approved timber preservative, at time of cutting.

All timber construction will conform to Chapter 7 of the AREMA Manual of Railway Engineering. All connections and workmanship are subject to approval by the Engineer.

Steel hardware for timber connections will be A307 or better.

All bolts must be accompanied by a matching nut and washer. Bolts for connecting structural timber will have washers conforming to AREMA standards.

Holes for timber connections will be bored at the same diameter as the bolt, and 1/8" less than the nominal diameter of lag screws in timber.

5.2.3. Equipment

All equipment necessary for the satisfactory performance of this construction will be on the project and approved by the Engineer before work will be permitted to begin.

5.2.4. Mud Blocking

Mud blocks will be firmly and evenly bedded to a solid bearing, and tamped in place. Blocking will conform to size as noted on the Bid Sheet and Scope of Work.

5.2.5. Sills – N/A

5.2.6. Caps

Nominal size of caps will be 14 1/2" x 15" x (12', 14', 16', 18' or 20'), as noted on the Bid Sheet and Scope of Work.

Caps are to be installed at various locations as noted on the Plans or as directed by the Engineer. Top of cap elevations will be such that a level or constant top of rail grade is achieved across the entire bridge. If necessary, the Contractor will cut the tops of

existing piling or posts to provide a uniform bearing across the tops of all piling or posts in each bent.

Caps will be placed while the piles are held in correct position. Where drift bolts (pins) are used for making the connection, the ends of piles will be bored the same diameter as the drift bolt to a depth of 9 inches into the piling. Drift pins for connecting caps to piling will be 24-inch button head drift pins.

Osmoweld, or approved equal epoxy filler and sealant, will be used at the interface of all timber posts and caps.

5.2.7. Posts for Bents

Posts will be fastened to sills and pedestals with dowels of not less than $\frac{3}{4}$ " diameter extending into posts and sills as shown on the Plans.

Osmoweld, or approved equal epoxy filler and sealant, will be used at the interface of all timber posts and caps and/or sills.

Where bents are being rebuilt or posts replaced, track surface and line will be restored to uniform surface and line, and the bents will be realigned and plumbed as much as possible using the means and methods determined by the Contractor.

5.2.8. Framed Bents

Bent timbers will be cut and framed to a close fit in such a manner that they will have an even bearing over the entire contact surface of the joint. No blocking or shimming will be allowed in making joint, nor will open joints be permitted.

Osmoweld, or approved equal epoxy filler and sealant, will be used at the interface of all timber posts and caps and/or sills.

Where bents are being rebuilt or posts replaced, track surface and line will be restored to uniform surface and line, and the bents will be realigned and plumbed as much as possible using the means and methods determined by the Contractor.

Contractor will use all new 3" x 10" treated timber bracing, with all new fasteners to make the connections as per the Plan details or as per Chapter 7 of the AREMA Manual for Railway Engineering.

5.2.9. Stringers – N/A

5.2.10. Bracing

Contractor will use all new 3" x 10" treated timber bracing, with all new fasteners to make the connections as per the Plan details or as per Chapter 7 of the AREMA Manual for Railway Engineering.

All exposed untreated timber such as where timber is cut, will be coated using an approved timber preservative, at time of cutting.

5.2.11. Deck Boards – N/A

5.2.12. Ballast Guard - N/A

5.2.13. Measurement and Payment

For all treated timber products used, including hardware, and for all labor, equipment and tools, payment will be included in the unit bid prices.

The Contractor will not exceed contract quantities without proper change order, approved by the Engineer.

Payment will not be made for any treated timber in excess of the specified quantity without proper approved change order.

The accepted quantity of treated timber will be paid for at the contract unit price bid as listed in the Bid Sheet, and as per the final cost schedule. Such payment will be full compensation for furnishing and installing treated timber under the Contract.

END OF SECTION

5.3. Steel Structures – N/A

5.4. Painting – N/A

5.5. Concrete Structures – N/A

5.5. Waterproofing – N/A

5.6. Piling – N/A

5.7. Precast-Prestressed Concrete Bridge Members

5.7.1. Description

This work will consist of the manufacture of precast-prestressed structural concrete members and the hauling, storage and placing of the precast-prestressed members on a prepared substructure, to the established lines and grades, all in accordance with the design, dimensions and details shown on the Plans and in accordance with the provisions of these Specifications.

5.7.2. Materials

The concrete supplier and the Contractor will conform to AREMA guidelines and ACI standard Specifications, and will provide a letter of certification indicating compliance with material and manufacture requirements.

The prestressed concrete fabricator will submit references indicating experience with the proposed size and type of prestressed concrete members for this project and have the facilities to safely and satisfactorily construct such prestressed concrete members.

5.7.3. Equipment

All equipment necessary for the satisfactory performance of this construction will be on the project and approved by the Engineer before work will be permitted to begin.

5.7.4. Stressing Requirements – General

In all methods of tensioning, the stress induced in the reinforcing members will be measured both by jacking gauges and by elongation of the reinforcement, and the results should check within the limits specified.

Elongation will be the primary control of the stressing operation. Elongations and pressures of jacking will make appropriate allowance for friction and all possible slippage or relaxation of the anchorage.

Stressing of strands for pre-tensioned members or tendons for post-tensioned members may be from one end, unless otherwise indicated. A difference of more than 5 per cent between stresses in the strand or tendon, computed from elongation measurement and those indicated by gauge readings, will be cause for jacking from both ends.

The amount of stress to be given each cable will be as shown on the Plans. Pre-tensioning will be by either the single or multi-strand jacking method.

With the cables stressed in accordance with the Plan requirements and the Specifications, and with all other reinforcing in place, the members will be cast to the lengths specified. Cable stress will be maintained between anchorages until the concrete has reached a compressive strength as specified in the Plans.

Precast / prestressed concrete will conform to Part 5 Chapters 16 & 18 of the ACI Building Code Requirements for Structural Concrete (ACI 318-95) and Commentary (ACI 318R-95) or the latest edition whichever is more restrictive and according to Chapter 8, Section 17 of the AREMA Manual for Railway Engineering.

5.7.5. Transfer of Stress

The stress transfer will not be made to the bridge members until the test cylinders indicate that the concrete has reached a compressive strength of at least 4,000 psi, unless otherwise indicated on the Plans and according to Chapter 8, Section 17.24 of the AREMA Manual for Railway Engineering.

Forms which tend to restrict the horizontal or vertical movement of the member will be stripped or loosened prior to stress transfer. Transfer of stress will be either the multiple strand release method or the single strand release method.

5.7.6. Handling and Installation

All members may be handled immediately after completion of stressing. If stressing is not done in a continuous operation, members will not be handled before they are sufficiently stressed, as determined by the Engineer, to sustain all forces and bending moments due to handling. In the handling of members, they will be maintained in an upright position at all times and will be picked up from points designated on the Plans.

The members may be incorporated into the bridge structure at any time after completion of stressing and grouting, provided representative test cylinders indicate that the concrete in the members has attained the design strength specified in the Plans.

5.7.7. Prestressed Beams – N/A

5.7.8. Prestressed Caps

Nominal size of caps will be 14 1/2" x 15" x (12', 14', 16', 18' or 20'), as noted on the Bid Sheet and Scope of Work.

Caps are to be installed at various locations as noted on the Plans or as directed by the Engineer. Top of cap elevations will be such that a level or constant top of rail grade is achieved across the entire bridge. If necessary, the Contractor will

cut the tops of existing piling or posts to provide a uniform bearing across the tops of all piling or posts in each bent.

Caps will be placed while the piles are held in correct position. Where drift bolts (pins) are used for making the connection, the ends of piles will be bored the same diameter as the drift bolt to a depth of 9 inches into the piling. Drift pins for connecting caps to piling will be 24-inch button head drift pins.

Osmoweld, or approved equal epoxy filler and sealant, will be used at the interface of all timber posts and concrete caps.

Precast / prestressed concrete will conform to Part 5 Chapters 16 & 18 of the ACI Building Code Requirements for Structural Concrete (ACI 318-95) and Commentary (ACI 318R-95) or the latest edition whichever is more restrictive and according to Chapter 8, Section 17 of the AREMA Manual for Railway Engineering.

5.7.9. Prestressed Sills

Nominal size of sills will be 14 1/2" x 15" x (12', 14', 16', 18', 20' or 22'), as noted on the Bid Sheet and Scope of Work.

Sills are to be installed at various locations as noted on the Plans or as directed by the Engineer. Top of sill elevations will be such that a level or constant top of rail grade is achieved across the entire bridge. If necessary, the Contractor will cut the tops of existing piling or posts to provide a uniform bearing across the tops of all piling or posts in each bent.

Sills will be placed while the piles are held in correct position. Where drift bolts (pins) are used for making the connection, the ends of piles will be bored the same diameter as the drift bolt to a depth of 9 inches into the piling. Drift pins for connecting sills to piling will be 24-inch button head drift pins.

Osmoweld, or approved equal epoxy filler and sealant, will be used at the interface of all timber posts and concrete sills.

Precast / prestressed concrete will conform to Part 5 Chapters 16 & 18 of the ACI Building Code Requirements for Structural Concrete (ACI 318-95) and Commentary (ACI 318R-95) or the latest edition whichever is more restrictive and according to Chapter 8, Section 17 of the AREMA Manual for Railway Engineering.

5.7.10. Measurement and Payment

For all precast-prestressed concrete used, including hardware, and for all labor, equipment and tools, payment will be included in the unit bid price.

The Contractor will not exceed contract quantities without proper change order, approved by the Engineer.

Payment will not be made for any precast-prestressed concrete in excess of the specified quantity without proper approved change order.

The accepted quantity of precast-prestressed concrete will be paid for at the contract unit price bid as listed in the Bid Sheet, and as per the final cost schedule. Such payment will be full compensation for furnishing and installing precast-prestressed concrete under the Contract.

END OF SECTION

SECTION 10 – AGREEMENT

- 10.1 Insurance Requirements
- 10.2 Bid Sheet (Blank Form)
- 10.3 List of Third Party Contractors
- 10.4 Bid Bond
- 10.5 Performance Bond
- 10.6 Payment Bond
- 10.7 Mobilization
- 10.8 Agreement
- 10.9 Certificate of Authority's Attorney
- 10.10 Attachments:
 - Daily Log
 - Location Maps
 - Railroad Track Charts
 - Consumer Information Sheets for Treated Timber
 - Drug-Free Workplace Requirements
 - Law Regarding Conflict of Interest
 - Plan Details/Construction Details
 - Tennessee Code Annotated – Applicable Sections Regarding Contractors
 - Addenda
 - Contractor's Bid Sheet
 - Final Cost Schedule

SECTION 10 – AGREEMENT

10.1 INSURANCE REQUIREMENTS

Bidder hereby agrees that his/her own cost and expense, he/she will have or procured prior to commencement of any work under this Agreement, and will maintain in full force and effect until all work has been completed and accepted, and will require all subcontractors likewise to procure and maintain, unless they are covered by the Contractor's policies, insurance of the following kinds and minimum amounts. Insurance companies used to satisfy the insurance requirements of this Agreement will maintain an "A", financial size V classification as published by A.M. Best Rating Guide.

10.1.1 Workmen's Compensation Insurance, which fully meets the requirements of any Workmen's Compensation Law in force where the work is to be performed. Employer's Liability insurance will be an amount no less than \$500,000 each accident for bodily injury, \$500,000 policy limit for bodily injury by disease, and \$500,000 each employee for bodily injury by disease.

10.1.2 Commercial General Liability - Contractor will carry commercial general liability insurance on an "occurrence" form covering all operations by or on behalf of the Contractor providing insurance for bodily injury liability, property damage liability and personal injury liability for the limits of liability indicated below and including coverage for:

- A. Premises and Operations
- B. Products and Completed Operations
- C. Owners and Contractors Protective
- D. Blanket Contractual Liability insuring the obligations assumed by the Contractor under this agreement.
- E. Broad Form Property Damage (including completed operations)
- F. The Explosion Collapse and Underground Hazards
- G. Cross Suits Liability
- H. Independent Contractors
- I. Delete any reference or restriction: to work performed within fifty (50) feet of a railroad or railroad property, and affecting any railroad bridge or trestle, tracks, roadbeds, tunnel underpass, or crossing; or that refers to any agreement which indemnifies a railroad.

The limits of liability will not be less than:

\$ 1,000,000. Each occurrence (combined single limit for Bodily Injury and Property Damage)

\$ 1,000,000. for Personal injury Liability

\$ 1,000,000. Aggregate for Products - Completed Operations

\$ 2,000,000. General Aggregate

Except with respect to bodily injury and property damage included within the products and completed operations hazards, the aggregate limit will apply separately to each project.

The above insurance must be maintained during the term of the project.

Additional Insured/Waivers of Subrogation - The Contractor will have the following endorsement added to their General Liability policy:

It is hereby agreed and understood that:

The Railroad, Engineer and Authority, including directors, officers and employees thereof, are hereby added as Additional Insureds with respect to accidents, occurrences, claims and damages arising out of or resulting from the Work or Project.

The coverage afforded the additional insureds under the policy will be primary insurance. If the additional insured has other insurance, which is applicable to the loss, such other insurance will be on an excess, contingent and non-contributory basis. The amount of the Contractor's liability under this policy will not be reduced by the existence of such other insurance.

10.1.3 Automobile Liability Insurance (Bodily Injury and Property Damage Liability) including coverage for owned, hired and non-owned automobiles. The limits of liability will not be less than \$1,000,000 Combined Single Limit each accident for Bodily Injury and Property Damage combined.

10.1.4 Excess Liability (Umbrella) - Excess Liability or Umbrella in excess of the Employer Liability, General Liability, and Auto Liability Coverage with a limit of not less than \$1,000,000 for each occurrence and in the per annum aggregate.

10.1.5 Railroad Protective Liability - The Contractor will obtain a policy of Railroad Protective Liability insurance naming the Railroad and the Authority as named insured. The policy will provide limits of liability of \$2,000,000 each occurrence, and \$6,000,000 in the aggregate.

The Contractor will include the cost of railroad protective liability insurance for this project in the cost of other items on the bid sheet.

Prior to the start of work the Contractor will furnish the Engineer and Railroad proof of all insurance, including railroad protective liability insurance in the amount of two million dollars (\$2,000,000) per occurrence, six million dollars

(\$6,000,000) aggregate, showing the Railroad and Authority as insured. A copy of the insurance certificate will be furnished to the Engineer and the Railroad.

In lieu of Railroad Protective Liability Insurance, CONTRACTOR may utilize their Commercial Liability coverage. To utilize their Commercial Liability coverage, both railroad perils within fifty feet of the right of way and items under the Federal Employer Liability Act must be covered. Coverage of at least \$2,000,000 per occurrence and an aggregate limit of \$6,000,000 over the life of the policy must be maintained. Insurance shall be primary and without right of contribution from other insurance that may be in effect and without subordination.

10.2 BID SHEET

**FY 2019-2020 Bridge Rehabilitation Project
For The
Cumberland County Railroad Authority**

Date _____ Place _____

Proposal of _____
(hereinafter called Bidder)

(a corporation) (a partnership) (an individual doing business as _____)

[Strike out inapplicable terms]

Dear Sir or Madam:

The Bidder, in compliance with your invitation for bids for the FY 2019-2020 Bridge Rehabilitation Project for the Cumberland County Railroad Authority, having examined the Project Documents, including, but not limited to the Plans and Specifications with the related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all supervision, labor, tools, equipment, materials, and supplies; and to construct the project in accordance with the Project Documents, within the time set forth therein, and at the prices stated on the final cost schedule. These prices are to cover all expenses incurred in performing the work required under the Project Documents, of which this Agreement is a part.

The Bidder hereby agrees to commence work under this Agreement within thirty (30) days of the date of written "Notice to Proceed" of the Authority and to fully complete the project within 180 calendar days as stipulated in the Specifications. The Bidder further agrees to pay as liquidated damages, the sum of \$500.00 for each consecutive calendar day thereafter until the project is 100% complete.

The Bidder acknowledges receipt of the following addenda:

Date: _____

Date: _____

Date: _____

Date: _____

Date: _____

The Bidder understands that the Authority reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that the bid will be good and may not be withdrawn for a period of 120 calendar days after the scheduled closing time for receiving bids.

Upon receipt of written Notice of Award of this bid, Bidder will execute the formal agreement attached within ten days and deliver the required Performance and Payment Bonds by the date of the Preconstruction Meeting, or before entering the property to begin work if a Preconstruction Meeting is not held.

The Bid Sheet must be filled out by the Bidder completely, listing a unit price in numerals, unit price in words, and extended amount for each bid item. Unit prices in words will govern in cases where the unit price and extended price do not agree. Incomplete forms will not be considered. The extended amount is calculated by multiplying the quantity times the unit price for each item.

The total contract amount may be increased or decreased by 25% by the Authority, based on the total bid amount and availability of funds. The Authority reserves the right to increase or decrease unit quantities, to be determined upon the availability of funds.

The Authority reserves the right to reject any or all bids.

The project will not be considered complete until each task has been completed and the work site cleaned and restored to pre-existing conditions or better. Upon completion of the project, the Engineer will determine final acceptance of the project.

Refer to the 'Instructions to Bidders' (Section 1) of the Project Documents for detailed requirements.

The price for mobilization will not exceed 5% of the total bid price, or the bid will be rejected.

The Bid Sheet must be signed or the bid will be rejected.

The Contractor is required to submit its Bid in a sealed envelope. The sealed bid envelope must have the required Contractor license information on the outside of the envelope or the bid will be rejected.

Construction contractors must submit an affidavit stating compliance with drug-free workplace program at time of bid submission. Refer to the Attachment Section, Section 10 of these Project Documents.

CONSULTING ENGINEERS: CROUCH ENGINEERING, INC.						
CUMBERLAND COUNTY RAILROAD AUTHORITY						
MISCELLANEOUS BRIDGE REHABILITATION FY 2019-2020						
PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST						
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT	
BRIDGE 143.62						
1	BENT 6 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$ -	\$	-
Unit Price (in words)						
2	BENT 8 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 50'-0" TO REPLACE POST 2	50	LF	\$ -	\$	-
Unit Price (in words)						
3	BENT 14 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 60'-0" TO REPLACE POST 4	60	LF	\$ -	\$	-
Unit Price (in words)						
4	BENT 15 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 55'-0" TO REPLACE UPPER POST 5	55	LF	\$ -	\$	-
Unit Price (in words)						
5	BENT 16 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 50'-0" TO REPLACE LOWER POST 5	50	LF	\$ -	\$	-
Unit Price (in words)						
6	BENT 19 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 40'-0" TO REPLACE POST 1	40	LF	\$ -	\$	-
Unit Price (in words)						
7	BENT 21 - FURNISH & INSTALL 12" TREATED TIMBER POST, 3 @ 25'-0" TO REPLACE POSTS 1, 5 & 6	75	LF	\$ -	\$	-
Unit Price (in words)						
8	BENT 22 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 15'-0" TO REPLACE POST 6	15	LF	\$ -	\$	-
Unit Price (in words)						
9	BENT 23 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 10'-0" TO REPLACE POST 1	10	LF	\$ -	\$	-
Unit Price (in words)						
BRIDGE 144.94						
10	BENT 3 - FURNISH AND INSTALL SHIMS AT POSTS 1 & 5	1	LS	\$ -	\$	-
Unit Price (in words)						
11	BENT 4 - FURNISH & INSTALL PRECAST CONCRETE SILL, 2 @ 14" X 15" X 14'-0", TO REPLACE EXISTING TIMBER SILL	2	EA	\$ -	\$	-
Unit Price (in words)						
12	BENT 6 - FURNISH & INSTALL 12" TREATED TIMBER POST, 2 @ 14'-0" TO REPLACE LOWER POSTS 2 & 3, AND 2 @ 16'-0" TO REPLACE MIDDLE POSTS 2 & 5	60	LF	\$ -	\$	-
Unit Price (in words)						
13	BENT 9 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 3 @ 70'-0" TO REPLACE POSTS 3, 4 & 5	210	LF	\$ -	\$	-
Unit Price (in words)						
14	BENT 10 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 3 @ 76'-0" TO REPLACE POSTS 3, 4 & 5	228	LF	\$ -	\$	-
Unit Price (in words)						
15	BENT 12 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$ -	\$	-
Unit Price (in words)						

16	BENT 12 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 4 @ 77'-0" TO REPLACE POSTS 1, 3, 4 & 6	308	LF	\$	-	\$	-
Unit Price (in words)							
17	BENT 13 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 3 @ 72'-0" TO REPLACE POSTS 2, 4 & 5	216	LF	\$	-	\$	-
Unit Price (in words)							
18	BENT 13 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$	-	\$	-
Unit Price (in words)							
19	BENT 14 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 3 @ 70'-0" TO REPLACE POSTS 3, 4 & 5	210	LF	\$	-	\$	-
Unit Price (in words)							
20	BENT 15 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 62'-0" TO REPLACE POSTS 3 & 7	124	LF	\$	-	\$	-
Unit Price (in words)							
21	BENT 16 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 22'-0" TO REPLACE LOWER POST 5, AND 1 @ 18'-0" TO REPLACE UPPER POST 3	40	LF	\$	-	\$	-
Unit Price (in words)							
22	BENT 17 - FURNISH & INSTALL 12" TREATED TIMBER POST, 2 @ 15'-0" TO REPLACE LOWER POSTS 2 & 4, AND 2 @ 21'-0" TO REPLACE UPPER POSTS 5 & 6	72	LF	\$	-	\$	-
Unit Price (in words)							
23	BENT 19 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 22'-0" TO REPLACE LOWER POST 1	22	LF	\$	-	\$	-
Unit Price (in words)							
24	BENT 22 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 30'-0" TO REPLACE POSTS 2 & 5	60	LF	\$	-	\$	-
Unit Price (in words)							
25	BENT 25 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 28'-0" TO REPLACE POST 4	28	LF	\$	-	\$	-
Unit Price (in words)							
26	BENT 26 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 25'-0" TO REPLACE POSTS 1 & 4	50	LF	\$	-	\$	-
Unit Price (in words)							
27	BENT 28 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 25'-0" TO REPLACE POSTS 1 & 2	50	LF	\$	-	\$	-
Unit Price (in words)							
28	BENT 29 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 25'-0" TO REPLACE POST 5	25	LF	\$	-	\$	-
Unit Price (in words)							
29	BENT 32 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 25'-0" TO REPLACE POSTS 1 & 5	50	LF	\$	-	\$	-
Unit Price (in words)							
30	BENT 34 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 22'-0" TO REPLACE POSTS 1 & 2	44	LF	\$	-	\$	-
Unit Price (in words)							
31	BENT 35 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 20'-0" TO REPLACE POST 4	20	LF	\$	-	\$	-
Unit Price (in words)							
32	BENT 36 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 10'-0" TO REPLACE POSTS 2 & 3	20	LF	\$	-	\$	-
Unit Price (in words)							

BRIDGE 147.40						
33	BENT 2 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 8'-0" TO REPLACE POSTS 2 & 3	16	LF	\$	-	\$ -
Unit Price (in words)						
34	BENT 2 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$	-	\$ -
Unit Price (in words)						
35	BENT 3 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 12'-0" TO REPLACE POST 1	12	LF	\$	-	\$ -
Unit Price (in words)						
36	BENT 4 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 16'-0" TO REPLACE POST 4	16	LF	\$	-	\$ -
Unit Price (in words)						
37	BENT 5 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$	-	\$ -
Unit Price (in words)						
38	BENT 6 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 18'-0" TO REPLACE POST 5	18	LF	\$	-	\$ -
Unit Price (in words)						
39	BENT 9 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 22'-0" TO REPLACE POST 1	22	LF	\$	-	\$ -
Unit Price (in words)						
40	BENT 9 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$	-	\$ -
Unit Price (in words)						
41	BENT 10 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 24'-0" TO REPLACE POST 5	24	LF	\$	-	\$ -
Unit Price (in words)						
42	BENT 10 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$	-	\$ -
Unit Price (in words)						
43	BENT 11 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 26'-0" TO REPLACE POST 5	26	LF	\$	-	\$ -
Unit Price (in words)						
44	BENT 12 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 28'-0" TO REPLACE POST 4	28	LF	\$	-	\$ -
Unit Price (in words)						
45	BENT 13 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 18'-0" TO REPLACE UPPER POST 2	18	LF	\$	-	\$ -
Unit Price (in words)						
46	BENT 13 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$	-	\$ -
Unit Price (in words)						
47	BENT 14 - FURNISH & INSTALL 12" TREATED TIMBER POST, 2 @ 12'-0" TO REPLACE LOWER POSTS 2 & 6, AND 4 @ 18'-0" TO REPLACE UPPER POSTS 1, 2, 3 & 4	96	LF	\$	-	\$ -
Unit Price (in words)						
48	BENT 18 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 34'-0" TO REPLACE POSTS 1 & 5	68	LF	\$	-	\$ -
Unit Price (in words)						
49	BENT 18 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$	-	\$ -
Unit Price (in words)						
50	BENT 19 - FURNISH & INSTALL TREATED TIMBER MID-CAP, 14" X 15" X 30'-0", TO REPLACE EXISTING MID-CAP	1	EA	\$	-	\$ -
Unit Price (in words)						

51	BENT 19 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 18'-0" TO REPLACE UPPER POSTS 2 & 3	36	LF	\$	-	\$	-
Unit Price (in words)							
52	BENT 19 - FURNISH & INSTALL PRECAST CONCRETE SILL, 2 @ 14" X 15" X 15'-0", TO REPLACE EXISTING TIMBER SILL	2	EA	\$	-	\$	-
Unit Price (in words)							
53	BENT 22 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 38'-0" TO REPLACE POST 1	38	LF	\$	-	\$	-
Unit Price (in words)							
54	BENT 40 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 34'-0" TO REPLACE LOWER POSTS 5 & 6	68	LF	\$	-	\$	-
Unit Price (in words)							
55	BENT 41 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 30'-0" TO REPLACE LOWER POST 3	30	LF	\$	-	\$	-
Unit Price (in words)							
56	BENT 42 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 26'-0" TO REPLACE LOWER POST 3, AND 2 @ 18'-0" TO REPLACE UPPER POSTS 1 & 4	62	LF	\$	-	\$	-
Unit Price (in words)							
57	BENT 43 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 22'-0" TO REPLACE LOWER POST 2, AND 2 @ 18'-0" TO REPLACE UPPER POSTS 1 & 5	58	LF	\$	-	\$	-
Unit Price (in words)							
58	BENT 44 - FURNISH & INSTALL 12" TREATED TIMBER POST, 2 @ 20'-0" TO REPLACE LOWER POST 2 & 3, AND 1 @ 18'-0" TO REPLACE UPPER POST 4	58	LF	\$	-	\$	-
Unit Price (in words)							
59	BENT 44 - FURNISH & INSTALL TREATED TIMBER MID-CAP, 14" X 15" X 30'-0", TO REPLACE EXISTING MID-CAP	1	EA	\$	-	\$	-
Unit Price (in words)							
60	BENT 45 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 16'-0" TO REPLACE LOWER POSTS 2 & 3	32	LF	\$	-	\$	-
Unit Price (in words)							
61	BENT 46 - FURNISH & INSTALL TREATED TIMBER MID-CAP, 14" X 15" X 28'-0", TO REPLACE EXISTING MID-CAP	1	EA	\$	-	\$	-
Unit Price (in words)							
62	BENT 46 - FURNISH & INSTALL 12" TREATED TIMBER POST, 2 @ 14'-0" TO REPLACE LOWER POST 1 & 2, AND 1 @ 18'-0" TO REPLACE UPPER POST 1	46	LF	\$	-	\$	-
Unit Price (in words)							
63	BENT 48 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 28'-0" TO REPLACE POSTS 1 & 5	56	LF	\$	-	\$	-
Unit Price (in words)							
64	BENT 49 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 26'-0" TO REPLACE POSTS 1 & 5	52	LF	\$	-	\$	-
Unit Price (in words)							
65	BENT 50 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 26'-0" TO REPLACE POST 5	26	LF	\$	-	\$	-
Unit Price (in words)							
66	BENT 51 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 26'-0" TO REPLACE POST 3	26	LF	\$	-	\$	-
Unit Price (in words)							
67	BENT 52 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 16'-0" TO REPLACE POST 5	16	LF	\$	-	\$	-
Unit Price (in words)							
68	FURNISH AND INSTALL 8"x10"x10'-0" DECK TIES WITH HOOK BOLTS	45	EA	\$	-	\$	-
Unit Price (in words)							

BRIDGE 148.93						
69	FURNISH AND INSTALL 8"x10"x10'-0" DECK TIES WITH HOOK BOLTS	60	EA	\$	-	\$ -
Unit Price (in words)						
70	BENT 4 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 26'-0" TO REPLACE POST 1	22	LF	\$	-	\$ -
Unit Price (in words)						
71	BENT 5 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 3 @ 26'-0" TO REPLACE POSTS 1, 2 & 3	78	LF	\$	-	\$ -
Unit Price (in words)						
72	BENT 9 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 26'-0" TO REPLACE LOWER POST 2, AND 1 @ 20'-0" TO REPLACE UPPER POST 4	46	LF	\$	-	\$ -
Unit Price (in words)						
73	BENT 13 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 52'-0" TO REPLACE POSTS 1 & 5	104	LF	\$	-	\$ -
Unit Price (in words)						
74	BENT 14 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 52'-0" TO REPLACE POSTS 2 & 3	104	LF	\$	-	\$ -
Unit Price (in words)						
75	BENT 16 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 52'-0" TO REPLACE POST 5	52	LF	\$	-	\$ -
Unit Price (in words)						
76	BENT 18 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 56'-0" TO REPLACE POST 6	56	LF	\$	-	\$ -
Unit Price (in words)						
77	BENT 25 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 54'-0" TO REPLACE POSTS 1 & 6	108	LF	\$	-	\$ -
Unit Price (in words)						
78	BENT 26 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 54'-0" TO REPLACE POST 6	54	LF	\$	-	\$ -
Unit Price (in words)						
79	BENT 27 - FURNISH & INSTALL PRECAST CONCRETE SILL, 2 @ 14" X 15" X 20'-0", TO REPLACE EXISTING TIMBER SILL	2	EA	\$	-	\$ -
Unit Price (in words)						
80	BENT 28 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 52'-0" TO REPLACE POST 6	52	LF	\$	-	\$ -
Unit Price (in words)						
81	BENT 31 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 20'-0" TO REPLACE LOWER POST 2	20	LF	\$	-	\$ -
Unit Price (in words)						
82	BENT 31 - FURNISH & INSTALL TREATED TIMBER MID-CAP, 14" X 15" X 30'-0", TO REPLACE EXISTING MID-CAP	1	EA	\$	-	\$ -
Unit Price (in words)						
83	BENT 31 - FURNISH & INSTALL PRECAST CONCRETE SILL, 2 @ 14" X 15" X 16'-0", TO REPLACE EXISTING TIMBER SILL	2	EA	\$	-	\$ -
Unit Price (in words)						
84	BENT 36 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 3 @ 6'-0" TO REPLACE POSTS 1, 2 & 6	18	LF	\$	-	\$ -
Unit Price (in words)						

BRIDGE 156.20						
85	FURNISH AND INSTALL 8"x10"x10'-0" DECK TIES WITH HOOK BOLTS	50	EA	\$	-	\$ -
Unit Price (in words)						
86	BENT 3 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 3 @ 14'-0" TO REPLACE POSTS 1, 2 & 3	42	LF	\$	-	\$ -
Unit Price (in words)						
87	BENT 4 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 18'-0" TO REPLACE POSTS 4 & 5	36	LF	\$	-	\$ -
Unit Price (in words)						
88	BENT 4 - FURNISH & INSTALL PRECAST CONCRETE SILL, 1 @ 14" X 15" X 20'-0", TO REPLACE EXISTING TIMBER SILL	1	EA	\$	-	\$ -
Unit Price (in words)						
89	BENT 4 - FURNISH & INSTALL TREATED TIMBER MUD BLOCKING, TO REPLACE EXISTING BLOCKING	1	LS	\$	-	\$ -
Unit Price (in words)						
90	BENT 5 - FURNISH & INSTALL 12" TREATED TIMBER POST, 1 @ 22'-0" TO REPLACE POST 3	22	LF	\$	-	\$ -
Unit Price (in words)						
91	BENT 15 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 24'-0" TO REPLACE POSTS 1 & 4	48	LF	\$	-	\$ -
Unit Price (in words)						
92	BENT 17 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 2 @ 18'-0" TO REPLACE POSTS 1 & 2	36	LF	\$	-	\$ -
Unit Price (in words)						
93	BENT 18 - FURNISH & INSTALL 12" TREATED TIMBER POSTS, 3 @ 14'-0" TO REPLACE POSTS 2, 3 & 6	42	LF	\$	-	\$ -
Unit Price (in words)						
94	PERFORMANCE & PAYMENT BONDS	1	LS	\$	-	\$ -
Unit Price (in words)						
95	MOBILIZATION (NOT TO EXCEED 5%)	1	LS	\$	-	\$ -
Unit Price (in words)						
TOTAL BID AMOUNT						\$
TOTAL BID AMOUNT IN WORDS:						

Authorized by:

Print Name

Signature

Title

Date

Company Name

Phone

Address

TN State License No.

City, State, Zip Code

**10.3 CONTRACTOR'S LIST OF SUBCONTRACTORS
OR THIRD PARTY CONTRACTORS**

The Contractor, as attested below, hereby acknowledges that the firm(s) listed below will be engaged to work on all or part of the Scope of Work as noted in the Specifications herein. The Contractor stipulates that no other companies will be engaged to perform work under this Agreement without notification and the expressed written permission of the Engineer. **This form is to be submitted with the Bid:**

Subcontractor Company Name

Address

City/State/Zip Code

Contact Name

Phone Number

Subcontractor Company Name

Address

City/State/Zip Code

Contact Name

Phone Number

I attest that the above listed subcontractors will be used on this project.

Signed/Title

Date

10.4 BID BOND

The Contractor will provide a bid bond as per the form attached.

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

_____ and
as Principle

_____ as Surety

are hereby held and firmly bound unto the Cumberland County Railroad Authority (Obligee)

_____ Address of Authority

in the penal sum of _____ Dollars. (\$_____)

for the payment of which, well and truly to be made the said principal and said surety hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION is such that whereas, the Principle has submitted to the Authority a certain BID attached hereto and hereby made a part hereof to enter into an Agreement in writing, for the FY 2019-2020 Bridge Rehabilitation Project for the Cumberland County Railroad Authority.

NOW, THEREFORE,

- a. If said BID will be rejected or
- b. If said BID will be accepted and the Principal will execute and enter into an Agreement with obligee in the Form of Agreement attached hereto (properly completed in accordance with said BID) and will furnish a 100%

Bond for the faithful performance of said Agreement, and for the prompt payment of all persons performing labor and furnishing materials in connection therewith, and will in all other respects perform the Agreement created by the acceptance of said BID, or in the event of the failure of the principal to enter such Agreement and give such bond or bonds, if the principal will pay the obligee the difference not to exceed the penalty here of between the amount specified in said BID and such larger amount for which the obligee in good faith contract with another party to perform the work covered by said BID, then this obligation will be void, otherwise the same will remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder will, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND will be in no way impaired or affected by any extension of the time within which the Authority may accept such BOND; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principle and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year as set forth.

Signed and sealed this _____ day of _____ 20__

Principle (L.S.) _____
Witness

By: _____
Title

Surety _____
Witness

By: _____
Title

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Tennessee.

10.5 PERFORMANCE BOND

The Contractor will provide a performance and payment bond as per the form attached. The Contractor will include the cost of bonds in the unit price for each bid item.

KNOW ALL MEN BY THESE PRESENTS,

that _____
(Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called Contractor, and, _____
_____, a corporation duly organized under the laws of
the State of _____ as Surety, hereinafter called Surety, are held and
firmly bound unto the Cumberland County Railroad Authority

as Obligee, hereinafter, hereinafter called Authority, in the amount of
_____ Dollars
(\$ _____), for the payment whereof Contractor and Surety bind
themselves, their heirs, executors, administrators, successors and assigns, jointly and
severally, firmly by these presents.

WHEREAS, Contractor has by written Agreement dated _____, 20____,
entered into an Agreement with the Authority for the FY 2019-2020 Bridge
Rehabilitation Project for the Cumberland County Railroad Authority, in accordance with
the Project Documents, Plans, Specifications, and other attachments, prepared by

Crouch Engineering, Inc.
5115 Maryland Way, Suite 225, Brentwood, TN 37027

which Project Documents are by reference made a part hereof, and is hereinafter
referred to as the Agreement.

NOW, THEREFORE,

The conditions of this obligation is such that, if Contractor will promptly and faithfully
perform said Agreement, then this obligation will be null and void; otherwise it will
remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the
Authority.

Whenever the Contractor will be, and declared by the Authority to be in default under
the Agreement, the Authority having performed Authority's obligations thereunder, the
Surety may promptly remedy the default, or will promptly

- 1) Complete the Project in accordance with the terms and conditions, or
- 2) Obtain a bid or bids for completing the Project in accordance with its terms and conditions, and upon termination by Surety of the lowest responsible bidder, or, if the Authority elects, upon determination by the Authority and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Authority, and make available as Work progresses (even though there should be a default or a succession of defaults under the Agreement or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Agreement price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Agreement price", as used in this paragraph, will mean the total amount payable by Authority to Contractor under the Agreement and any amendments thereto, less the amount properly paid by the Authority to the Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which the final payment under the Agreement falls due.

No right of action will accrue on this bond to or for the use of any person or corporation other than the Cumberland County Railroad Authority herein or the heirs, executors, administrators or successors of the Authority.

Signed and sealed this _____ day of _____, 20____, year first set forth above.

	(Principle) (Seal)

(Witness)	

(Witness)	
	By _____
	(Attorney-in-Fact)

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Tennessee.

10.6 PAYMENT BOND

LABOR AND MATERIAL *This Bond is Issued Simultaneously with Performance Bond in Favor of the Authority Conditioned on the Full and Faithful Performance of the Agreement*

KNOW ALL MEN BY THESE PRESENTS,

that _____
(Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called Contractor, and, _____
_____, a corporation duly organized under the laws of
the State of _____ as Surety, hereinafter called Surety, are held and
firmly bound unto the Cumberland County Railroad Authority

as Obligee, hereinafter, hereinafter called Authority, in the amount of
_____ Dollars
(\$ _____), for the payment whereof Contractor and Surety bind
themselves, their heirs, executors, administrators, successors and assigns, jointly and
severally, firmly by these presents.

WHEREAS, Contractor has by written Agreement dated _____, 20____,
entered into an Agreement with the Authority for the FY 2019-2020 Bridge
Rehabilitation Project for the Cumberland County Railroad Authority, in accordance with
the Project Documents, Plans, Specifications, and other attachments, prepared by

Crouch Engineering, Inc.
5115 Maryland Way, Suite 225, Brentwood, TN 37027

which Agreement is by reference made a part hereof, and is hereinafter referred to as
the Project.

NOW, THEREFORE,

The conditions of this obligation is such that, if Principal will promptly make payment to
all claimants as hereinafter defined, for all labor and material used or reasonably
required for use in the performance of the Agreement, then this obligation will be void;
otherwise it will remain in full force and effect, subject, however, to the following
conditions.

1. A claimant is defined as one having a direct contract with the Principal or with a
subcontractor of the Principal for labor, material, or both, used or reasonably required

for use in the performance of the Agreement, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline telephone service or rental equipment directly applicable to the Agreement.

2. The above named Principal and Surety hereby jointly and severally agree with the Authority that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Authority will not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action will be commenced hereunder by any claimant:

a) Unless Claimant, other than one having a direct contract with the Principal, will have given written notice to any two of the following: the Principal, the Authority, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice will be served by mailing the same by registered mail, or certified mail, postage prepaid, in an envelope addressed to the Principal, Authority or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which the legal process may be served in the State in which the aforesaid project is located, saved that such service may not be made by a public officer.

b) After the expiration of one year following the date on which Principal ceased work on said Agreement, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation will be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a State court of competent jurisdiction in and for the County or other political subdivision of the State in which the project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond will be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by surety of mechanics' liens which may be filed of record against said improvement, where or not claimed for the amount of such lien be presented under and against this bond.

Signed and sealed this _____ day of _____, 20____.

(Principle) (Seal)

(Witness)

(Witness)

By _____
(Attorney-in-Fact)

IMPORTANT - Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Tennessee.

10.7 MOBILIZATION

The Contractor will be reimbursed for mobilization as per the lump sum bid price for mobilization on the bid sheet. The Contractor may invoice for all mobilization expenses on the first invoice.

It is a State requirement that the price for mobilization may not exceed 5% of the total bid amount, or the bid will be rejected. To check this condition, divide the amount for mobilization by the total bid amount. The result must be less than 0.0500, or the bid will be rejected.

10.8 AGREEMENT

(Contract)

This Agreement, made this _____ day of _____, 20__, by and between the Cumberland County Railroad Authority, herein called "Authority", acting herein through its chairman, and _____

_____ (a corporation) (a partnership) (an individual doing business as _____)

[Strike out inapplicable terms]

of _____, County of _____ and state of _____, hereinafter called "Contractor".

Witnesseth: That for and in consideration of the payments and agreements herein mentioned, to be made and performed by the Authority, the Contractor hereby agrees with the Authority to commence and complete the construction described as follows:

To complete the FY 2019-2020 Bridge Rehabilitation Project, for the Authority, as per the Project Documents herein, and at the unit prices quoted,

hereinafter called the "project", for the sum of _____ Dollars (\$_____)

and all extra work in connection therewith, under the terms as stated in the Project Documents; and as this (its or their) own property cost and expense to furnish all the materials, supplies, machinery, equipment, tools, supervision, labor, insurance, bonds, access, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated on the Bid Sheet, the final cost schedule, the Project Documents, Plans and Specifications as prepared by Crouch Engineering, Inc., herein entitled the "Engineer", all of which are made a part hereof and collectively evidence and constitute the Agreement.

The Contractor hereby agrees to commence the work under this Agreement within thirty (30) days after the date of written "Notice to Proceed", and will complete the project within 180 calendar days from the date of written "Notice to Proceed".

The undersigned bidder hereby certifies that he has received, read, and executed the following numbered addenda: _____.

Liquidated Damages: \$500.00 per calendar day beyond 180 calendar days after date of written "Notice to Proceed".

The Authority agrees to pay the Contractor in current funds for the performance of the Agreement, subject to additions and deductions, as provided in the Agreement, signed change orders, or contract amendments, and to make payments on account thereof as provided in the Specifications.

IN WITNESS WHEREOF, the parties to these presents have executed this Agreement in five (5) counterparts, each of which will be deemed an original, in the year and day first above mentioned.

(Seal)
ATTEST:

_____ Date: _____
Chairman, Cumberland County Railroad Authority

_____ Date: _____
Witness

(Seal)
ATTEST:

_____ Date: _____
Contractor (Signature)

Print Name and Title
_____ Date: _____

Witness

(Address and Zip Code)

(City, State, Zip Code)

Note: Secretary of Authority should attest. If Contractor is a corporation, Secretary or Designee should attest.

10.9 CERTIFICATE OF AUTHORITY'S ATTORNEY

I, the undersigned, _____, the duly authorized and acting legal representative of the Cumberland County Railroad Authority, do hereby certify as follows:

I have examined the attached Agreement(s) and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper representative of the Cumberland County Railroad Authority; that said representatives have full power and authority to execute said agreements on behalf of the Authority.

Attorney

Date: _____

ATTACHMENTS

- **Daily Log**
- **Location Maps**
- **Track Charts**
- **Consumer Information Sheets for Treated Timber**
- **Drug-Free Workplace Requirements**
- **Law Regarding Conflict of Interest**
- **Plans/Construction Details**
- **Tennessee Code Annotated - Applicable Section Regarding Contractors**
- **Addenda**
- **Contractor's Bid Sheet**
- **Final Cost Schedule**

Daily Log Form

DAILY LOG

Cumberland County Railroad Authority; FY 2019-2020 Bridge Rehabilitation Project

Date: _____ Weather Conditions: _____

Air Temp. °F: Hi _____ Low _____ Date: _____ mm/dd/yyyy

Working Limits:

Description of Work:

Items Installed:

<u>Item No.</u>	<u>Description</u>	<u>Units</u>	<u>Quantity</u>	<u>From MP</u>	<u>To MP</u>
-----------------	--------------------	--------------	-----------------	----------------	--------------

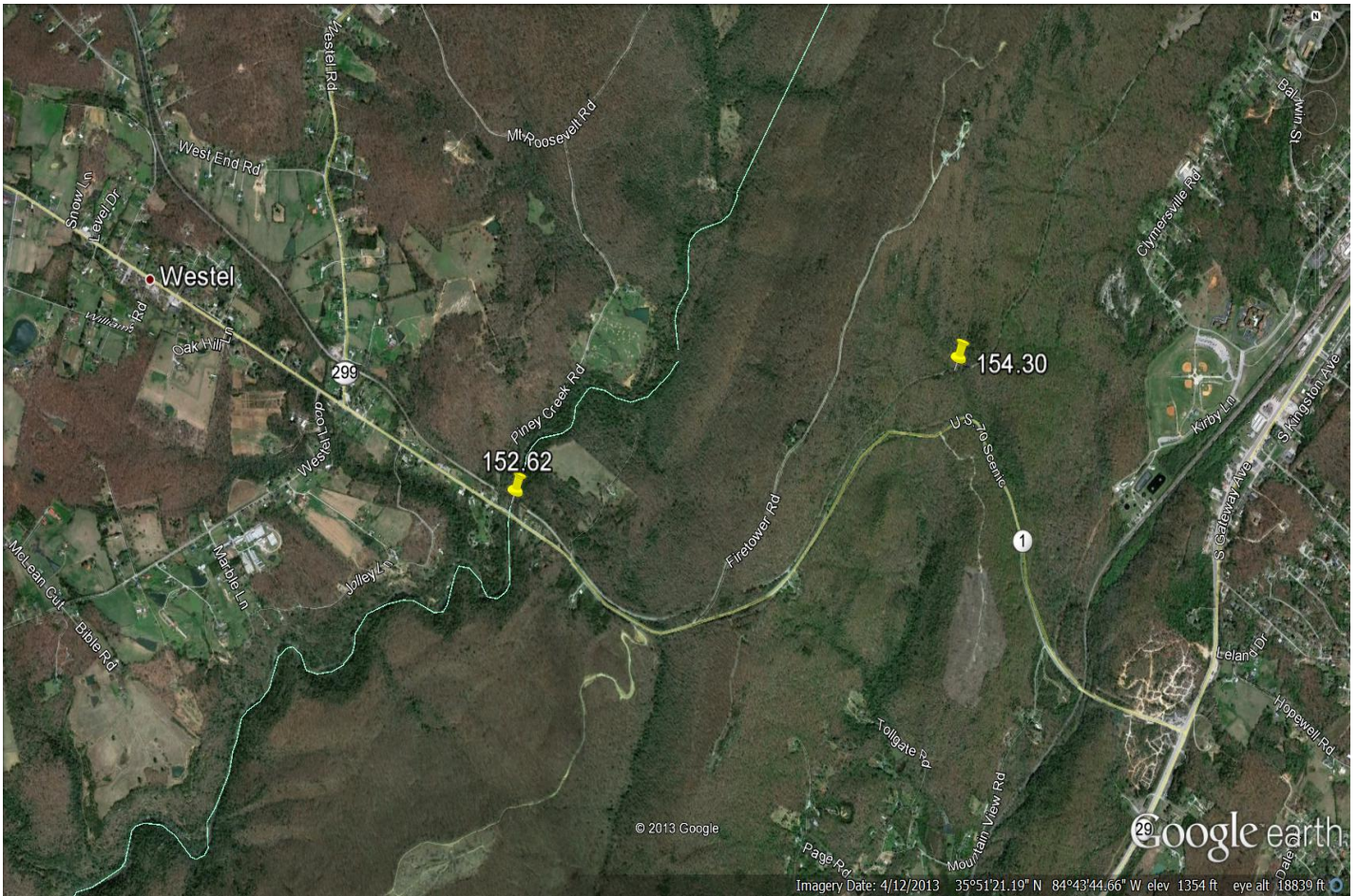
Contractor: _____

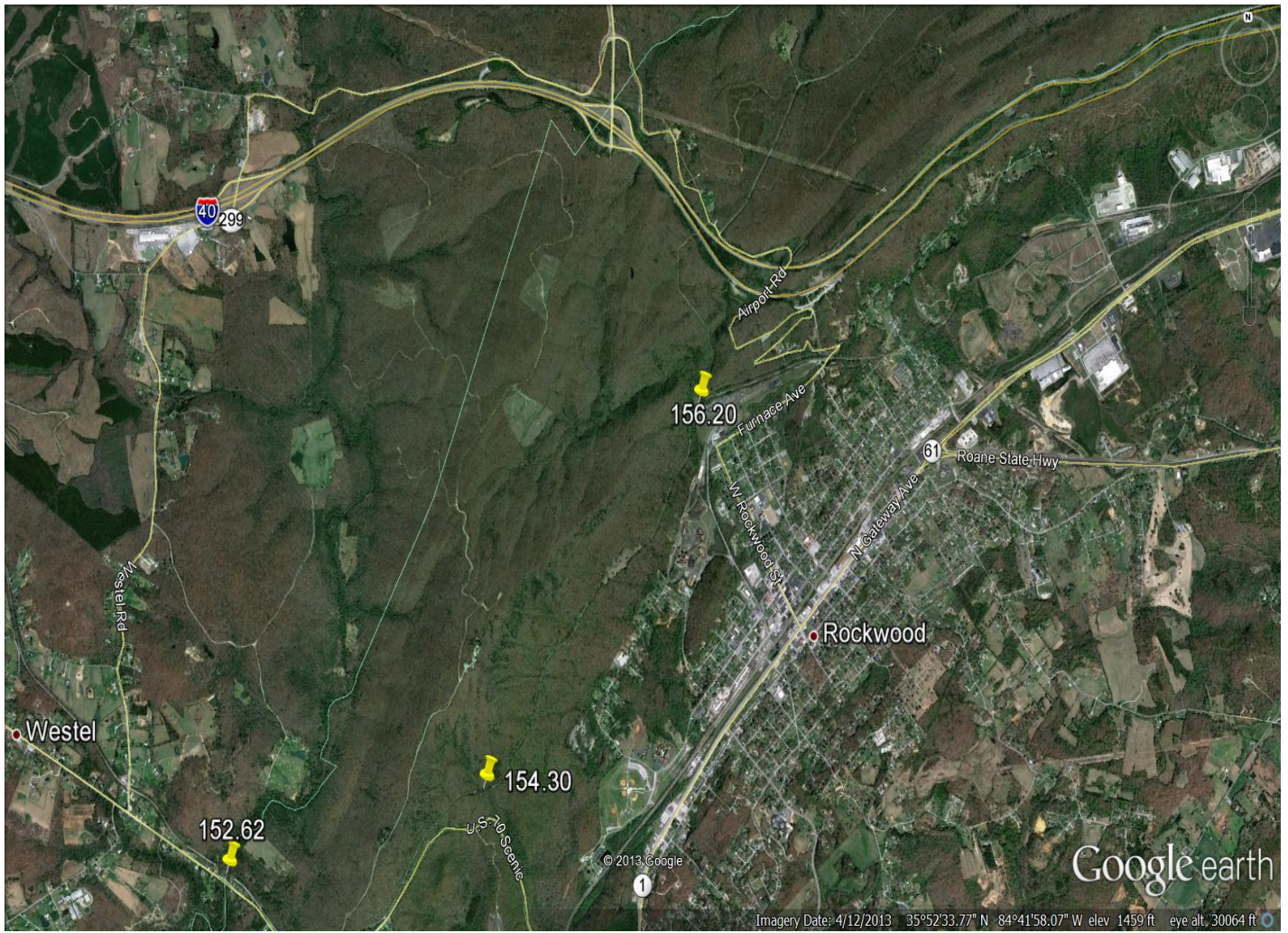
Name of Person Submitting Report: _____

Location Maps



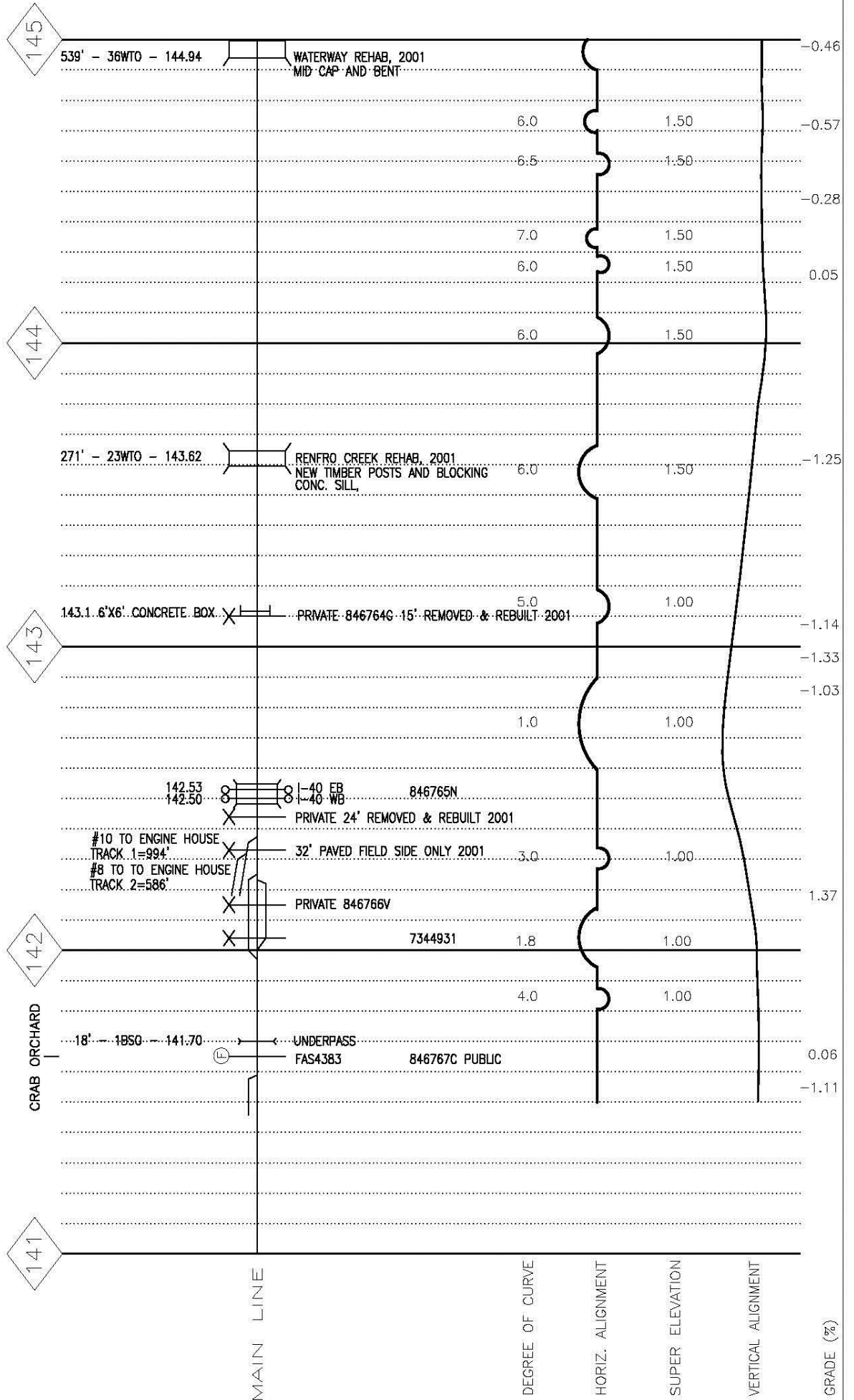






Track Charts

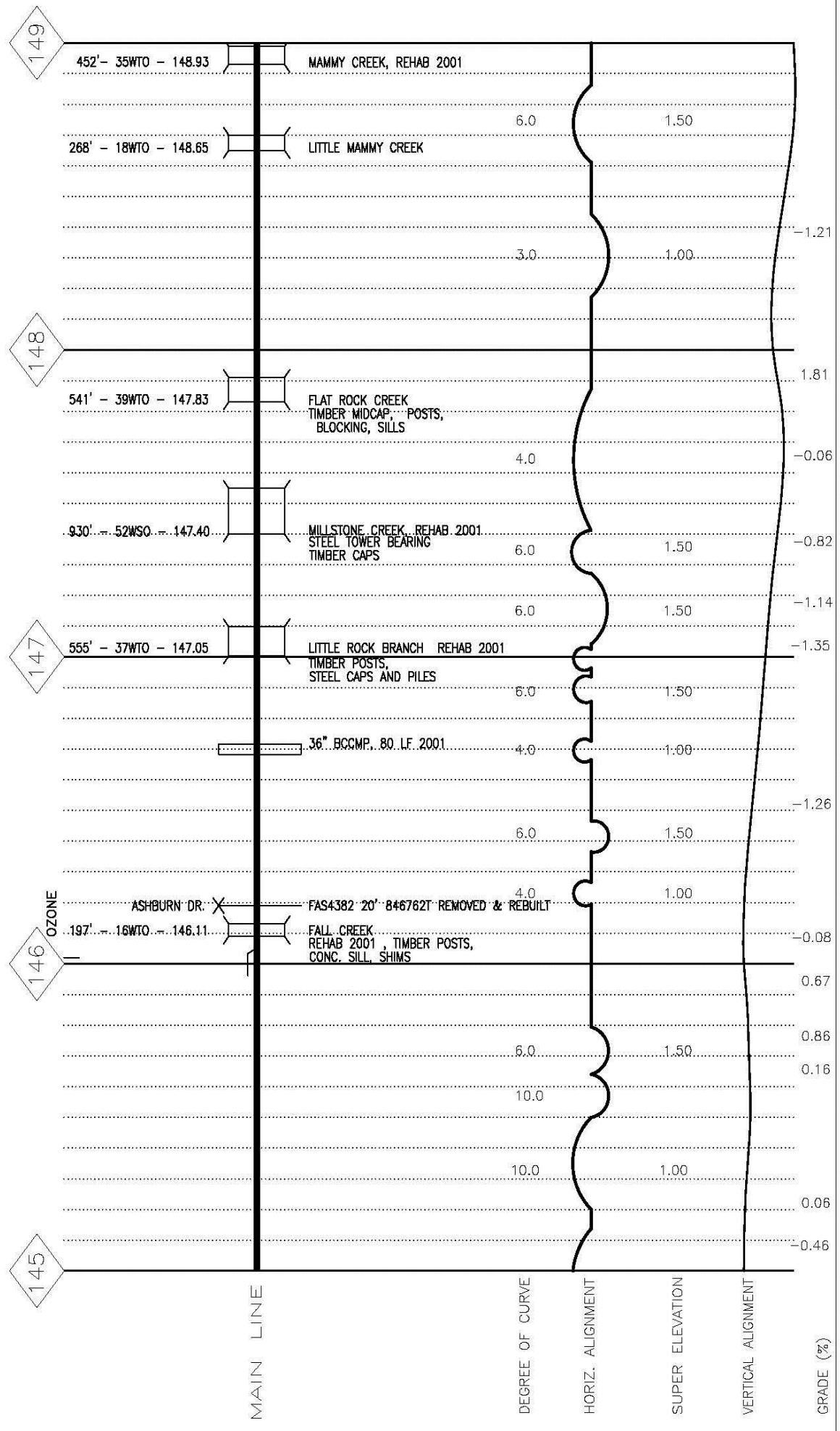
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RAIL						
TIES						
SURFACING						
BALLAST						
WEED CONTROL						
SPEED		10 MPH				
TRAIN CONTROL		DT				
TONNAGE						
UNDERCUTTING		0.4 MGT				



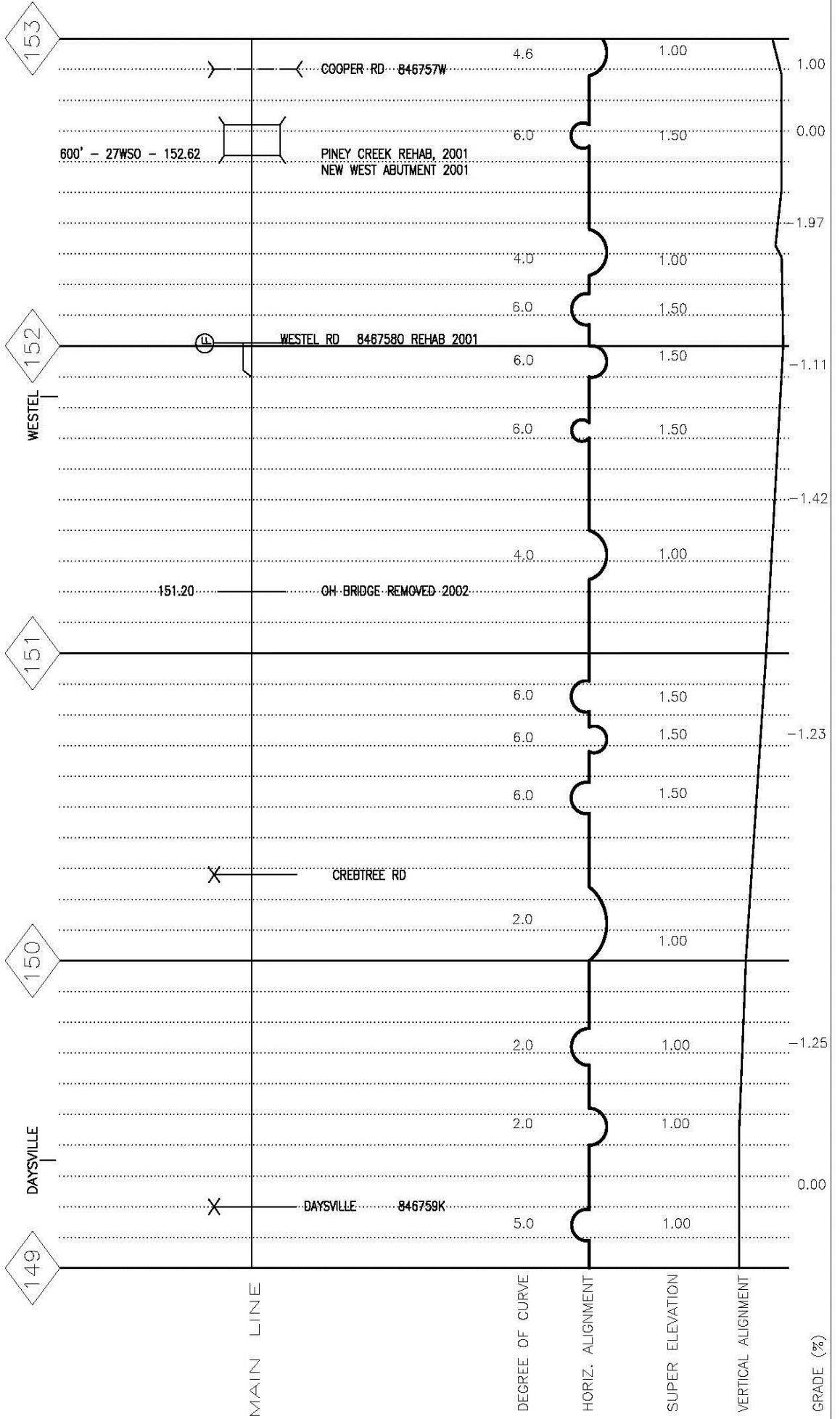
MAIN LINE	131RE	100RB	131RE	100RB	132RE	90RA
RAIL	2001 - 514		2001 - 382		2001 - 343	2001 - 349
TIES						
SURFACING						
BALLAST						
WEED CONTROL						
SPEED						
TRAIN CONTROL						
TONNAGE						
UNDERCUTTING						

10 MPH

0.4 MGT

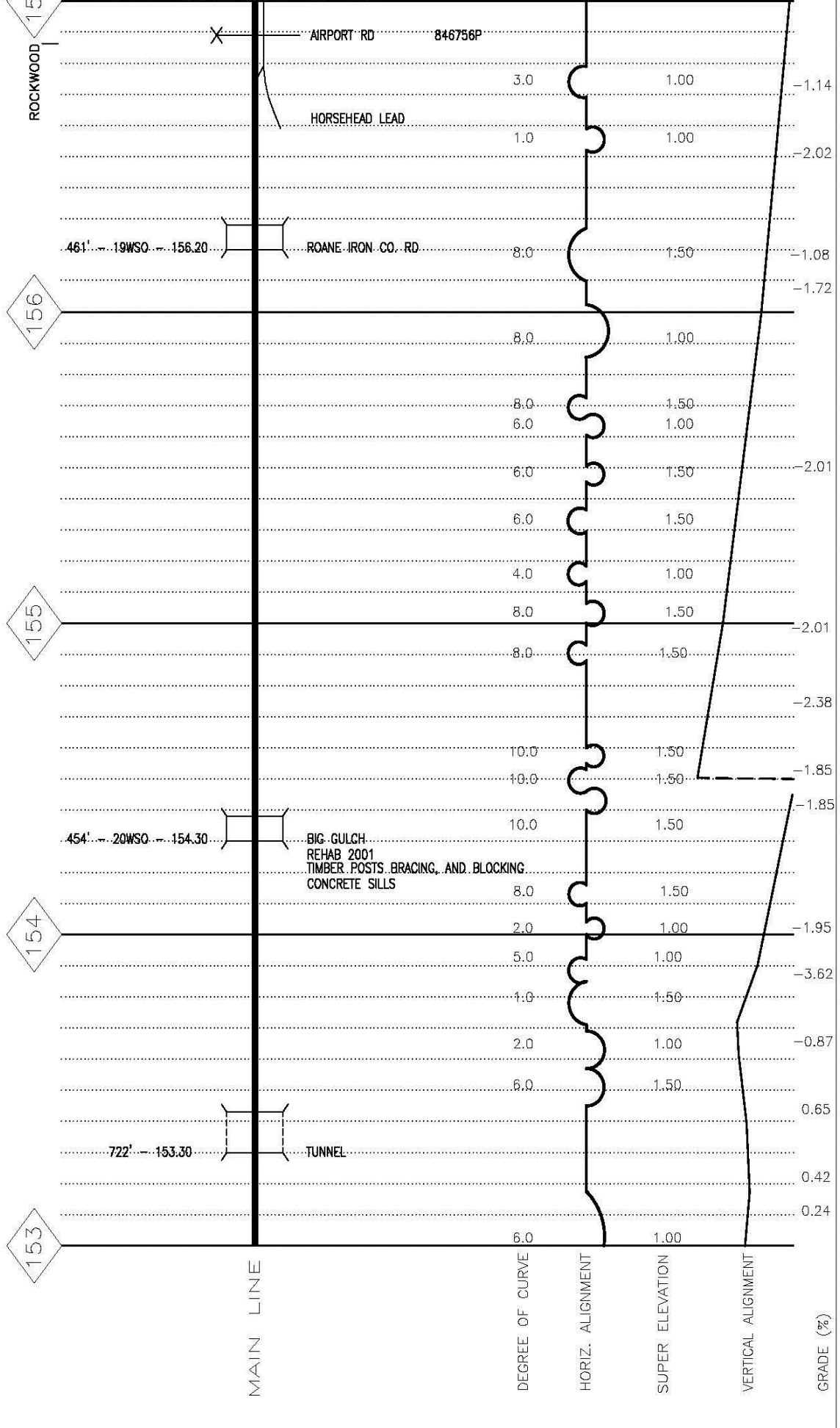


MAIN LINE	90RA	132	90RA	112	90RA	131	90RA
RAIL	2001 - 348	2001 - 636	2001 - 723	2001 - 724	2001 - 724	2001 - 724	2001 - 724
TIES							
SURFACING							
BALLAST							
WEED CONTROL							
SPEED	10 MPH						
TRAIN CONTROL							
TONNAGE							
UNDERCUTTING	0.4MGT						



MAIN LINE	90RA	100 RE CWR	130	110	132	110	132	110RE	2001	911	112	110	132RE	2001	572	90RA
RAIL																
TIES																
SURFACING																
BALLAST																
WEED CONTROL																
SPEED																
TRAIN CONTROL																
TONNAGE																
UNDERCUTTING																

0.4 MGT



**Consumer Information Sheets
for Treated Timber**

Consumer Information Sheet

INORGANIC ARSENICAL PRESSURE-TREATED WOOD

Including: CCA, ACA, and ACZA)

CONSUMER INFORMATION

This wood has been preserved by pressure treatment with an EPA-registered pesticide containing inorganic arsenic to protect it from insect attack and decay; Wood treated with inorganic arsenic should be used only where such protection is important.

Inorganic arsenic penetrates deeply into and remains in the pressure-treated wood for a long time. Exposure to inorganic arsenic may present certain hazards. Therefore, the following precautions should be taken both when handling the treated wood and in determining where to use or dispose of the treated wood.

USE SITE PRECAUTIONS

Wood pressure-treated with waterborne arsenical preservatives may be used inside residences as long as all sawdust and construction debris are cleaned up and disposed of after construction.

Do not use treated wood under circumstances where the preservative may become a component of food or animal feed. Examples of such sites would be structures or containers for storing silage or food.

Do not use treated wood for cutting-boards or countertops.

Only treated wood that is visibly clean and free of surface residue should be used for patios, decks and walkways.

Do not use treated wood for construction of those portions of beehives, which may come into contact with the honey.

Treated wood should not be used where it may come into direct or indirect contact with public drinking water, except for uses involving incidental contact such as docks and bridges.

HANDLING PRECAUTIONS

Dispose of treated wood by ordinary trash collection or burial. Treated wood should not be burned in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g., construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with state and Federal regulations.

Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood.

When power-sawing and machining, wear goggles to protect eyes from flying particles.

After working with the wood, and before eating, drinking, and use of tobacco products, wash exposed areas thoroughly.

If preservatives or sawdust accumulate on clothes, launder before reuse. Wash work clothes separately from other household clothing.

Approved by the U.S. Environmental Protection Agency 9/85.

Consumer Information Sheet

PENTACHLOROPHENOL PRESSURE-TREATED WOOD

CONSUMER INFORMATION

This wood has been preserved by pressure-treatment with an EPA-registered pesticide containing pentachlorophenol to protect it from insect attack and decay. Wood treated with pentachlorophenol should be used only where such protection is important.

Pentachlorophenol penetrates deeply into and remains in the pressure-treated wood for a long time. Exposure to pentachlorophenol may present certain hazards. Therefore, the following precautions should be taken both when handling the treated wood and in determining where to use and dispose of the treated wood.

USE SITE PRECAUTIONS

Logs treated with pentachlorophenol should not be used for log homes.

Wood treated with pentachlorophenol should not be used where it will be in frequent or prolonged contact with bare skin (for example, chairs and other outdoor furniture), unless an effective sealer has been applied.

Pentachlorophenol-treated wood should not be used in residential, industrial, or commercial interiors except for laminated beams or for building components which are in ground contact and are subject to decay or insect infestation and where two coats of an appropriate sealer are applied. Sealers may be applied at the installation site.

Wood treated with pentachlorophenol should not be used in the interiors of farm buildings where there may be direct contact with domestic animals or livestock, which may crib (bite) or lick the wood.

In interiors of farm buildings where domestic animals or livestock are unlikely to crib (bite) or lick the wood, pentachlorophenol-treated wood may be used for building components that are in ground contact and are subject to decay or insect infestation and where two coats of an appropriate sealer are applied. Sealers may be applied at the installation site.

Do not use pentachlorophenol-treated wood for furrowing or brooding facilities.

Do not use treated wood under circumstances where the preservative may become a component of food or animal feed. Examples of such sites would be structures or containers for storing silage or food.

Do not use treated wood for cutting-boards or countertops.

Approved by the U.S. Environmental Protection Agency

Only treated wood that is visibly clean and free of surface residue should be used for patios, decks and walkways.

Do not use treated wood for construction of those portions of beehives which may come into contact with the honey.

Pentachlorophenol-treated wood should not be used where it may come into direct or indirect contact with public drinking water, except for uses involving incidental contact such as docks and bridges.

Do not use pentachlorophenol-treated wood where it may come into direct or indirect contact with drinking water for domestic animals or livestock, except for uses involving incidental contact such as docks and bridges.

HANDLING PRECAUTIONS

Dispose of treated wood by ordinary trash collection or burial. Treated wood should not be burned in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g., construction sites) may be burned only in commercial or industrial incinerators or boilers rated at 20 million BTU/hour or greater heat input or its equivalent in accordance with state and Federal regulations.

Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood.

Avoid frequent or prolonged skin contact with pentachlorophenol-treated wood; when handling the treated wood, wear long sleeved shirts and long pants and use gloves impervious to the chemicals (for example, gloves that are vinyl-coated).

When power sawing and machining, wear goggles to protect eyes from flying particles.

After working with the wood, and before eating, drinking, and use of tobacco products, wash exposed areas thoroughly.

If oily preservatives or sawdust accumulate on clothes, launder before reuse. Wash work clothes separately from other household clothing.

Urethane, shellac, latex epoxy enamel and varnish are acceptable sealers for pentachlorophenol-treated wood.

Consumer Information Sheet

CREOSOTE PRESSURE-TREATED WOOD

CONSUMER INFORMATION

This wood has been preserved by pressure-treatment with an EPA-registered pesticide containing creosote to protect it from insect attack and decay. Wood treated with creosote should be used only where such protection is important.

Creosote may present certain hazards. Therefore, the following precautions should be taken both when handling the treated wood and in determining where to use the treated wood.

USE SITE PRECAUTIONS

Wood treated with creosote should not be used where it will be in frequent or prolonged contact with bare skin (for example, chairs and other outdoor furniture) unless an effective sealer has been applied.

Creosote-treated wood should not be used in residential interiors. Creosote-treated wood in interiors of industrial buildings should be used only for industrial building components, which are in ground contact and are subject to decay or insect infestation and wood block flooring. For such uses, two coats of an appropriate sealer must be applied. Sealers may be applied at the installation site.

Wood treated with creosote should not be used in the interiors of farm buildings where there may be direct contact with domestic animals or livestock, which may crib (bite) or lick the wood.

In interiors of farm buildings where domestic animals or livestock are unlikely to crib (bite) or lick the wood, creosote-treated wood may be used for building components which are in ground contact and are subject to decay or insect infestation if two coats of an effective sealer are applied. Sealers may be applied at the installation site.

Do not use creosote-treated wood for furrowing or brooding facilities.

Do not use treated wood under circumstances where the preservative may become a component of food or animal feed. Examples of such use would be structures or containers for storing silage or food.

Do not use treated wood for putting boards or countertops.

Only treated wood that is visibly clean and free of surface residues should be used for patios, decks and walkways.

Do not use treated wood for construction of those portions of beehives, which may come into contact with the honey.

Creosote-treated wood should not be used where it may come into direct or indirect contact with public drinking water, except for uses involving incidental contact such as docks and bridges.

Do not use creosote-treated wood where it may come into direct or indirect contact with drinking water for domestic animals or livestock, except for uses involving incidental contact such as docks and bridges.

HANDLING PRECAUTIONS

Dispose of treated wood by ordinary trash collection or burial. Treated wood should not be burned in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g., construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with state and Federal regulations.

Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. Whenever possible, these operations should be performed outdoors to avoid indoor accumulations of airborne sawdust from treated wood.

Avoid frequent or prolonged skin contact with creosote-treated wood; when handling the treated wood, wear long sleeved shirts and long pants and use gloves impervious to the chemicals (for example, gloves that are vinyl-coated).

When power-sawing and machining, wear goggles to protect eyes from flying particles.

After working with the wood, and before eating, drinking, and use of tobacco products, wash exposed areas thoroughly.

If oily preservatives or sawdust accumulate on clothes, launder before reuse. Wash work clothes separately from other household clothing.

Coal tar pitch and coal tar pitch emulsion are effective sealers for creosote-treated wood-block flooring.

Urethane, epoxy, and shellac are acceptable sealers for all creosote treated wood.

Drug-Free Workplace Requirements

Drug-Free Workplace Requirements

CONSTRUCTION CONTRACTORS MUST SUBMIT AFFIDAVIT STATING COMPLIANCE WITH DRUG-FREE WORKPLACE PROGRAM AT TIME OF BID SUBMISSION

Under the provisions of Tennessee Code Annotated § 50-9-113 enacted by the General Assembly last year, employers with five (5) or more employees who contract with either the state or a local government to provide **construction services** are required to submit an affidavit stating that they have a drug free workplace program that complies with Title 50, Chapter 9, in effect at the time of submission of a bid at least to the extent required of governmental entities. The statute imposes other requirements on the contractor, but the county's responsibility is specifically limited in section (b) of the statute as follows:

(b) A written affidavit by the principal officer of a covered employer provided to a local government at the time such bid or contract is submitted stating that the employer is in compliance with this section shall absolve the local government of all further responsibility under this section and any liability arising from the employer's compliance or failure of compliance with the provisions of this section.

This statute went into effect on January 1, 2001. As stated in the statute, the Authority is only required to obtain an affidavit stating that the contractor is in compliance with T.C.A. § 50-9-113. The affidavit must be submitted with the bid or contract for construction services.

Local governments are not to enter into a contract for construction services with any employer who is not in compliance with the provisions of T.C.A. § 50-9-113.

The affidavit attached must be completed by the Contractor and submitted with the BID. The affidavit complies with the minimum requirements of T.C.A. § 50-9-113(b), quoted above.

DRUG-FREE WORKPLACE AFFIDAVIT

The undersigned, principal officer of _____, (hereinafter referred to as the "Contractor"), an employer of five (5) or more employees contracting with the Cumberland County Railroad Authority to provide construction services, hereby states under oath as follows:

The undersigned is a principal officer of the Contractor, and is duly authorized to execute this Affidavit on behalf of the Contractor.

The Contractor submits this Affidavit pursuant to T.C.A. § 50-9-113, which requires each employer with no less than five (5) employees receiving pay who contracts with the state or any local government to provide construction services to submit an affidavit stating that such employer has a drug-free workplace program that complies with Title 50, Chapter 9, of the *Tennessee Code Annotated*.

The Contractor is in compliance with T .C.A. § 50-9-113
Further affiant saith not.

Before me personally appeared _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this _____ day of _____, 20_____.

Notary Public

My commission expires: _____

STATE OF _____

COUNTY OF _____

Principal Officer

LAW REGARDING CONFLICT OF INTEREST

LAW REGARDING CONFLICT OF INTEREST

Conflict of Interest

Tennessee Code Annotated 5-21-121 states the following:

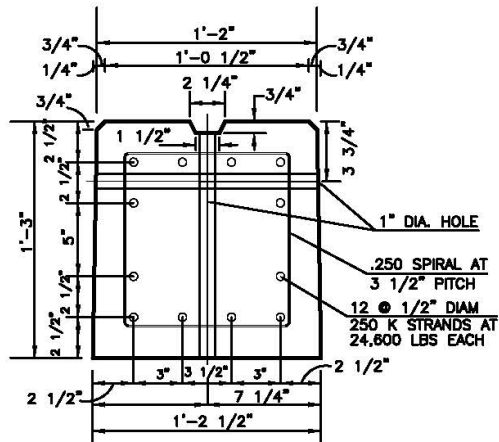
5-21-121. Conflicts of interest. -(a) The director, purchasing agent, members of the committee, members of the county legislative body, or other officials, employees, or members of the board of education or highway commission shall not be financially interested or have any personal beneficial interest, either directly or indirectly, in the purchase of any supplies, materials or equipment for the county.

(b) No firm, corporation, partnership, association or individual furnishing any such supplies, materials or equipment, shall give or offer nor shall the director or purchasing agent or any assistant or employee accept or receive directly or indirectly from any person, firm, corporation, partnership or association to whom any contract may be awarded, by rebate, gift or otherwise, any money or other things of value whatsoever, or any promise, obligation or contract for future reward or compensation. [Acts 1981, ch. 325, § 21.]

The Attorney General of the State of Tennessee has opined that a conflict of interest extends to spouses of the referenced persons.

Since the Cumberland County Railroad Authority is a quasi-governmental body created by legislation in the State of Tennessee, the law as stated above applies to the Authority.

Plan Details/Construction Details

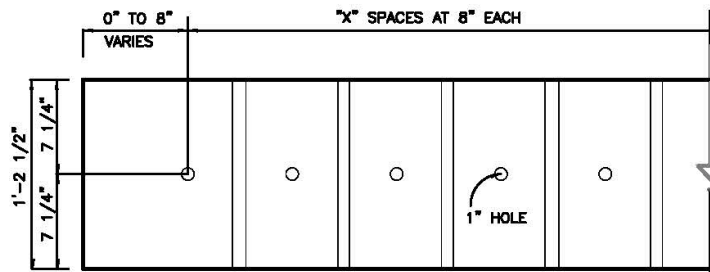


TYPICAL SECTION

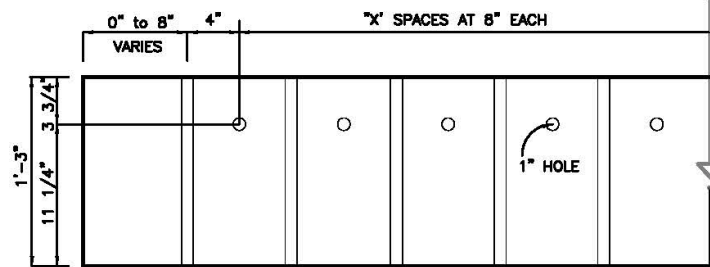
GENERAL NOTES

1. CAP TO BE MANUFACTURED IN ACCORDANCE WITH A.R.E.A. CH. 8, PART 17.
2. CONCRETE = 6,000 PSI AT 28 DAYS
3. CEMENT = A.S.T.M. C1150 UNLESS NOTED OTHERWISE
4. AGGREGATES = 3/4" MAX.
5. STRAND = A.S.T.M. A416
6. REINFORCING = A.S.T.M. A82
7. FINISH = AS FORMED, FREE FROM HONEYCOMBS OR VOIDS
8. ALL HOLES TO BE OPEN, FULL SIZE AND TRUE. CLOSED OR MISALIGNED HOLES MUST BE REAMED OUT TO FULL SIZE BEFORE LEAVING PLANT.
9. TAPERED CAP WEIGHT 222 LBS. PER LIN. FT. RECTANGULAR CAP 14 1/2" X 15", WEIGHS 226 LBS. PER LIN. FT.
10. IT IS INTENDED THAT THE UNIT WILL BE CAST IN THE U-SIDE DOWN MANNER SO THAT THE BEARING SURFACE FOR THE STRINGERS WILL BE SMOOTH AND FLAT. THE TAPER SHOWN IS FOR EASE OF REMOVAL FROM FORMS. THE UNIT MAY BE CAST IN THE RECTANGULAR SHAPE WITHOUT TAPER AT THE OPTION OF THE MANUFACTURER.

CAP & SILL LENGTH SHALL BE AS SHOWN IN THE SCOPE OF WORK



PLAN VIEW



ELEVATION

TOLERANCES

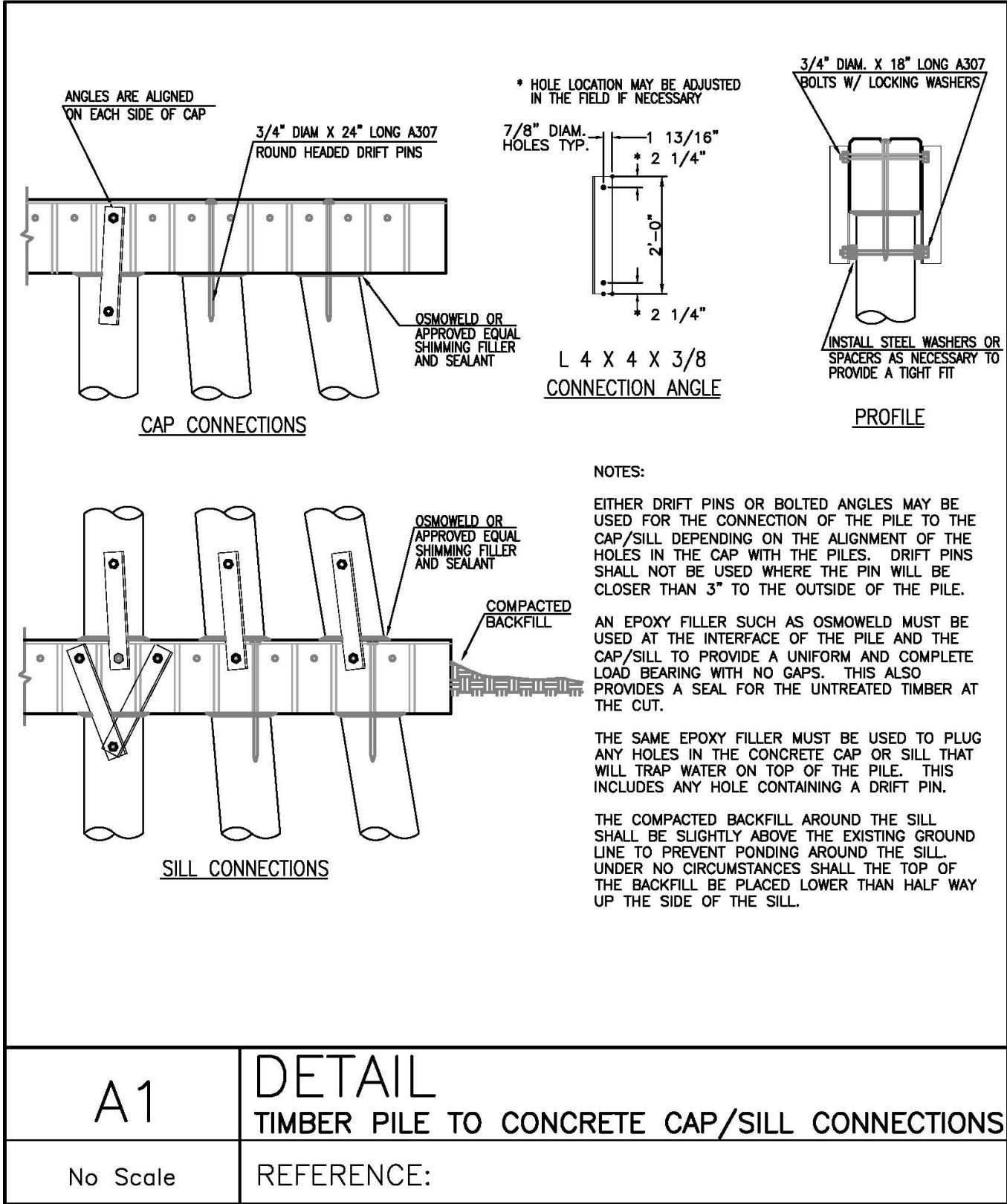
OVERALL DIMENSIONS:
 LENGTH.....+/- 2 IN.
 WIDTH.....+/- 1/4 IN.
 DEPTH.....+/- 1/8 IN.
 ALIGNMENT:
 VARIATION FROM STRAIGHT LINE
 HORIZONTALLY...+/- 1/4 IN.
 VERTICALLY.....+/- 1/8 IN.
 HOLE SPACING: 8 IN. +/- 1/4"
 THE 3/4" CHAMFER AT THE TOP CORNERS SHALL BE SPECIFIED AS A MAXIMUM.

A1

DETAIL- A.R.E.M.A. STANDARD PRESTRESSED CONCRETE CAP/SILL FOR TIMBER PILE TRESTLE

No Scale

REFERENCE:



Tennessee Code Annotated

Tennessee Code Annotated, Title 62, Chapter 6, Section 62-6-119

Bid documents - Required disclosures by bidders.

(a) Any person or entity preparing Plans, Specifications or any other documentation for inclusion or consideration in an invitation to bid or comparable bid document shall include a copy of this chapter, at least by reference and a specific statement informing the invited bidder that it is necessary for such bidder to provide evidence of a license in the appropriate classification before such bid may be considered.

(b) Any person or entity involved in the preparation of the invitation to bid or comparable bid documents shall direct that the name, license number, expiration date thereof, and license classification of the contractors applying to bid for the prime contract and for the electrical, plumbing, heating, ventilation, and air conditioning contracts, appear on the outside of the envelope containing the bid except when the bid is in an amount less than twenty-five thousand dollars (\$25,000). When the bid is less than twenty-five thousand dollars (\$25,000), the name of the contractor only may appear on the outside of the envelope containing the bid, and upon opening the envelope, if such bid is in excess of twenty-five thousand dollars (\$25,000), the same shall automatically be disqualified. Only one (1) contractor in each classification may be listed. Prime contractor bidders who are to perform the electrical, plumbing, heating, ventilation and air conditioning must be so designated upon the outside of the envelope. Failure of any bidder to comply therewith shall void such bid and the envelope containing such bid shall not be opened or considered. It is the duty and responsibility of the awarding person or entity who received the envelope containing the bid to verify only the completeness of the required licensure information prior to the opening of the envelope. Prior to the opening of the envelope, the names of all contractors listed thereon shall be read aloud at the official bid opening and incorporated into the bid. Prior to awarding a contract, the awarding person or entity and its authorized representatives shall verify the accuracy, correctness and completeness of the information required hereby. The failure of any bidder to comply with all of the provisions hereof shall automatically disqualify such bid. However, bids administered by the Tennessee Department of General Services shall require that the information be furnished within the bid or bid document and need not appear on the envelope.

(c) Any person or entity, public and private, failing to observe this section shall be penalized in the same manner as any person under § 62-6-120 who accepts a bid from a person who is not licensed in accordance with the provisions of this chapter.

A violation of this section is a Class A misdemeanor.

Addenda

Contractor's Bid Sheet

Final Cost Schedule