
MEMORANDUM

TO: All Plan Holders

FROM: City of West Plains

PROJECT: US Highway 160 Roadway and Bridge Improvements

DATE: May 22, 2024

SUBJECT: Addendum No. 1

PROJECT NUMBER: RRP 000S (627)

This addendum forms a part of the Contract Documents for the RRP – 000S (627) – US Highway 160 Roadway and Bridge Improvements project. Contractors are required to acknowledge the receipt of addenda by signing and including all addenda with each bid form. FAILURE TO ACKNOWLEDGE RECEIPT OF ADDENDUM MAY SUBJECT BIDDER TO DISQUALIFICATION.

Sample Contract Attached.

Notice to Bidders:

The following are questions received from bidders. Answers are shown in **RED**.

1. Invitation to Bid states “located within the city limits from Concord Ave. to just east of Freemont Road”, is this correct?

Project limits should have stated “located within the city limits from Concord Ave. to just east of Freedom Dr.” Invitation to Bid page of Bidding Documents has been updated.

2. Special Provision I – Liquidated Damages for failure to open to traffic by 07/01/2025. This will be impossible with the Railroad involved and compliance with Special Provision T. It can take several months for all the paperwork to be reviewed/approved by the Railroad before they can allow anyone on their ROW. No training or submittals are allowed until the CROE is approved. It can also take several months to design the required submittals (Falsework, erection, phasing, pouring plans). Once these are submitted, the RR (or their I/C) is allowed to review for 45 days before they reject the submittal and request various changes. Then the process starts all over again.

Failure to open traffic date of 07/01/2025 in Special Provision I has been revised to 10/01/2025. Contract Completion Date of 10/01/2025 in Special Provision C has been revised to 12/01/2025.

3. Who is performing the Quality Control? There are conflicting sections in the proposal. Special Provision Section L conflicts with Article 14.02.

The contractor shall provide Quality Control in accordance with Special Provision L. Article 14.02 has been revised accordingly.

4. Is the project Tax Exempt? Also, conflicting wording.

Yes, the project is exempt from state sales tax. The certificate will be furnished to the General Contractor. Article 7.09 and 13 have been updated accordingly.

- I was not able to find the form liner required for this job. Is it an Ashlar Stone? I was not able to find the specific liner pattern required for this job in the drawings or in the specs.

Yes, Ashlar stone is the correct form liner pattern for the project. Plan sheet #'s 124 & 127 have been revised accordingly.

- The project title in Article 9 – Contract Documents is incorrect.

Article 9 has been updated accordingly.

- On Sheet 123 of the bid packet there are participation goals of 10% for minority participation and 10% for female participation. On Sheet 140 of the bid packet there are participation goals of 2.3% for minority participation for each trade and 2.3% for female participation for each trade. What are the actual goal requirements for the contractors bidding on the project?

These are different due to the different federal funding sources. The goals on Sheet 123 have been updated to match the current guidelines of 6.9% for female participation and 2.3% for minority participation.

- Sheet 141 and 169 of the bid packet states the contractor shall supply, erect, and maintain an “Economic Development Administration” project sign. Is there any payment for this item or is it no direct pay.

This is a no direct pay item. An additional JSP has been added covering this.

- Supplementary Conditions in bid packet, sheet 243, states Owner shall retain 5% from each progress payment. Is this correct?

This has been removed from the bid packet. No retainage will be required.

- Supplementary Conditions in bid packet, sheet 243, gives the contract time as 170 calendar days. This does not agree with the JSP documentation.

The JSP documents control the contract time. The supplementary condition has been updated accordingly.

Attachments: Invitation to Bid Sheet, Bid Document Sheets 31, 123, 206, 227, 229, 230, 243, 246 Roadway JSP's, & Plan Sheets 124 & 127

Name and Title of Signer (Print or type)
Contractor / Bidder Signature
_____ (Signature of person authorized to sign)
Date Signed:

Addendum No. 1 – Page 3

End of Addendum No. 1

INVITATION TO BID

EDA Award Number: 05-01-06114

CDBG Project Number: 2019-DP-05

DRA Award Number: MO-54404

MoDOT Project Number: RRP-000S (627)



Sealed bids for the construction of the *U.S. Highway 160 Roadway and Bridge Improvements* project, located within the city limits from Concord Ave. to just east of **Freedom Drive** on U.S. Highway 160 (Independence Dr.) in West Plains, Howell County, Missouri, will be received by the *City of West Plains, Missouri* until **11:00 AM CST, Monday, June 10, 2024** at the City Hall building located at 1910 Holiday Lane, West Plains, Missouri 65775. Bids received after 11:00 AM will be returned unopened. No bidder may withdraw his bid within 90 days after the actual date of the opening thereof.

Bids will be publicly opened and read aloud at 11:00 AM CST, Monday, June 10, 2024, in the Council Chambers Room at the City Hall. Interested parties are invited to attend.

Bidder shall furnish an affidavit and documentation affirming their company is enrolled in and participates in E-verify and an affidavit stating the business does not knowingly employ illegal aliens.

The successful Bidder shall comply with certain insurance requirements as specified in the bid documents.

The City reserves the right to reject any and all bids. The bid will be awarded to the lowest, responsive, responsible bidder.

Bid packages will be distributed electronically via an ftp link at no cost to the bidder. Hard copies will not be available for purchase. Bidders may make printed copies of the bid documents (plans, project manual, and a bid packet) at their own expense. When requesting the ftp link, you will be required to provide your company name, a contact person and phone number, a complete company address and an email address to be added to the Plan Holders List and for receiving official bidding communications and addenda. If you are not on the Plan Holders List, you will not receive any addenda issues. To request the electronic ftp link, email Ryan Stehn at rstehn@cmtengr.com.

This project will be partially funded with Federal funds from the US Department of Commerce, Economic Development Administration, Community Development Block Grant, MoDOT Multi-Modal Section 130, Delta Regional Authority and therefore is subject to Federal laws and regulations associated with that program.

Project Description:

This project will consist of a base bid. The Base Bid consists of the construction of roadway improvements including but not limited to: earthwork, roadway reconstruction, sidewalk, drainage, lighting, pavement marking, signing, mechanically stabilized earth retaining walls, bridge construction (2), and erosion control on the U.S. Highway 160 in West Plains, Missouri.

Questions regarding this information may be directed to:

Crawford, Murphy & Tilly Inc.
Ryan Stehn, P.E.
1631 West Elfindale Springfield,
Missouri 65807
rstehn@cmtengr.com

Project and bidding questions shall be conducted exclusively via email. Any questions regarding this project must be submitted to the above contact by 4:00 pm local time on May 31, 2024. No written questions after this date or any verbal questions will be recognized.

A MANDATORY PRE-BID CONFERENCE is scheduled for 11:00 AM CST, Wednesday, May 29, 2024 at the Council Chambers Room in the West Plains City Hall located at 1910 Holiday Lane, West Plains, Missouri 65775.

Contractors MUST attend the Pre-Bid Conference in order to be eligible to bid on the project.

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and Davis Bacon and/or State Prevailing wage rates to be paid under the contract, Segregated Facility, Section 109, and E.O. 11246. MBE, WBE, and Section 3-DBE bidders are encouraged to bid.

The Owner hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, businesses owned and controlled by socially and economically disadvantaged individuals will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, creed, sex, age, ancestry or national origin in consideration for an award.

A certified cashier's check or a bid bond in the amount of 5% shall be submitted with each bid.

others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

- A. **The Contractor shall be exempt from paying State Sales Tax as part of this project. The General Contractor will be provided with a certificate of exemption. All additional taxes shall be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.**



REVISED

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not

eligibility for Government contracts and Federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee), refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurances of future compliance have been received from such applicant, and refer the case to the Department of Justice for appropriate legal proceedings.

- ii. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246). (Applicable to contracts/subcontracts exceeding \$10,000.00.)
 - a. The Offerer's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
 - b. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:



Goals for minority participation:	Goals for Female participation:
2.3%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted) performed in the covered area. If the contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goals established for such geographic area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its Federally involved and non-Federally involved construction.

The Contractor's compliance with the Executive Order and the regulation in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

- J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
1. This Agreement (pages 1 to 6, inclusive).
 2. Performance bond (pages 1 to 3, inclusive).
 3. Payment bond (pages 1 to 3, inclusive).
 4. General Conditions (pages 1 to 74, inclusive).
 5. Supplementary Conditions (**pages SC1 to SC4 and incorporated into C-700 Standard General Conditions by strikethrough and bold**).
 6. Specifications as listed in the table of contents of the Project Manual.
 7. **Drawings (not attached but incorporated by reference) consisting of Base Bid Plan Set sheets with each sheet bearing the following general title: West Plains, Missouri US Hwy 160 (Independence Dr.).**
 8. Addenda (numbers to , inclusive).
 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid Schedule (pages 1 to 1, inclusive).
 10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice of Award.
 - b. Notice to Proceed.
 - c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.



ARTICLE 10 – MISCELLANEOUS

10.01 Terms

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

- c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. ~~Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.~~
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.



conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.


- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 Tests, Inspections, and Approvals

- A. **See Special Provision L for Contractor testing, inspection and approval requirements.**  **REVISED**
- ~~B. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.~~
- ~~C. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.~~
- ~~D. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.~~
- ~~E. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:~~
- ~~1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;~~
 - ~~2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;~~
 - ~~3. by manufacturers of equipment furnished under the Contract Documents;~~

- ~~4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and~~
- ~~5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.~~

~~Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.~~

- ~~E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.~~
- ~~F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.~~

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect.

SC-1. DEFINITIONS.

The terms used in these Supplementary Conditions, which are defined in the General Conditions and not amended by these Supplementary Conditions, have the meanings assigned to them in the General Conditions.

SC-2. RETAINAGE.



REMOVED

~~Owner shall retain from each progress payment an amount equal to five (5) percent of the estimated value of the Work completed until final completion and acceptance of all work covered by the Contract documents.~~

SC-3. CONTRACT TIME

Refer to the JSP's for project contract time.



REVISED

SC-4. SUBSTITUTES OR "OR-EQUAL" ITEMS.

Requests for review of substitute items of material and equipment will not be accepted by Engineer from anyone other than Contractor. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall make written application to Engineer following procedures outlined in General Conditions.

SC-5. CITIZEN CLAIMS

In the event that a citizen makes a claim against the Contractor, then the Contractor shall do the following:

- A. Investigate a claim when notified by a citizen or the Owner.
- B. Within five (5) days after completing the investigation, the Contractor shall notify the person making the claim in writing that the Contractor is approving or denying the claim or a part thereof. The Owner shall receive a copy of the claim and notification.
- C. Claim shall not be denied for frivolous reasons.
- D. In the event the Owner determines after notifications by a citizen that the Contractor has failed to comply with the above provisions, the Owner may, at its discretion, withhold payment to the Contractor until the provisions set forth above are complied with.

SC-6. REQUEST FOR INTERPRETATION

Contractor shall promptly report in writing to Engineer any perceived conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected hereby. Requests for interpretation (RFI) shall be

J. Testing

The specifications call for testing to be performed on various items of work, including but not limited to compaction and concrete testing. Unless otherwise indicated, all such testing shall be performed by an approved testing laboratory retained as outlined in the specifications, and provided by owner.

K. Clean Air Act

The parties to the contract must comply with the Clean Air Act (42 U.S.C. 7506).

L. Progress Updates and Schedules

Contractor is to provide Engineer updated schedules on a monthly basis, until substantial completion has been reached. Substantial completion is defined as that time wherein the facility is ready to safely impound water to the design normal pool level. Monthly schedule updates that indicate Contractor is behind schedule shall include a schedule recovery plan as a narrative submittal.

~~M. Temporary Diversion Plan~~



~~Contractor is responsible for temporary diversion structures. Contractor shall submit Temporary Diversion Plan for approval by the Engineer. All planned structures must be approved by Engineer.~~

~~N. Experience of Dams with Similar Soil Conditions~~

~~Contractor must provide proof that he/she has successfully constructed at least 3 dams of similar size/scope, with similar soil conditions, and provide the locations of those dams. Contractor shall provide at least one letter of reference from the project Owner or Resident Engineer for each dam.~~

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

A.	Scope of Work – US 160 Highway (Independence Drive) Roadway Improvements	3
B.	General – Federal JSP – 09-02J	3
C.	Contract Liquidated Damages JSP-13-01C	3
D.	Work Zone Traffic Management JSP-02-06N	4
E.	Emergency Provisions and Incident Management	7
F.	Project Contact for Contractor/Bidder Questions	7
G.	Supplemental Revisions JSP-18-01AB	8
H.	Liquidated Damages for Winter Months JSP-04-17A	18
I.	Liquidated Damages Specified for US Highway 160 JSP-93-28	18
J.	Liquidated Damages Specified for Concord Road Closure JSP-93-28	18
K.	Utilities JSP-93-26F	19
L.	Contractor Quality Control NJSP-15-42	23
M.	Contractor Furnished Surveying and Staking	25
N.	Buy America	26
O.	ADA Compliance and Final Acceptance of Constructed Facilities	27
P.	Restrictions for Migratory Birds NJSP-16-06A	28
Q.	Damage to Existing Pavement, Shoulders, Side Roads, and Entrances	30
R.	Class 3 Excavation	30
S.	Special Drainage Structures	30
T.	Special Provisions for Protection of BNSF Railway Company Interest	31
U.	Optional Pavements JSP 06-06H	47
V.	Contractor Required Activities for Staging & Borrow Areas	48
W.	Tree Clearing Restriction	48
X.	Field Verification of Existing Drainage Structures	48
Y.	Sanitary Sewer Encasement	49
Z.	Temporary Security Fencing	49
AA.	12” Moment Slab	49
BB.	Type D Barrier Transition (On Footing)	50
CC.	Type D Barrier Transition (Moment Slab)	50
DD.	Economic Development Administration Project Sign	51



U.S. Highway 160 (Independence Dr.)
Roadway & Bridge Improvements
City of West Plains, MO

	CITY OF WEST PLAINS, MISSOURI 1910 HOLIDAY LN. WEST PLAINS, MO 65775 Phone (417) 256-7170
	CRAWFORD, MURPHY & TILLY, INC. 1631 West Elfindale Springfield, MO 65807 Consultant Phone # (417) 799-6253
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	City of West Plains, MO Howell County, MO Date Prepared: 3/12/2024
	Addendum Date: 05/22/2024
Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All	

JOB SPECIAL PROVISIONS

A. Scope of Work – US 160 Highway (Independence Drive) Roadway Improvements

1.0 Description. The roadway and associated improvements from Concord Road to just east of Freedom Drive on US Highway 160 shall be constructed per the Latest Edition of the Missouri Standard Specifications for Highway Construction and this JSP (Roadway).

B. General – Federal JSP – 09-02J

1.0 Description. The Federal Government is participating in the cost of construction of this project. All applicable Federal laws, and the regulations made pursuant to such laws, shall be observed by the contractor, and the work will be subject to the inspection of the appropriate Federal Agency in the same manner as provided in Sec 105.10 of the Missouri Standard Specifications for Highway Construction with all revisions applicable to this bid and contract.

1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at www.modot.org under "Doing Business with MoDOT", "Contractor Resources". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

1.2 The following documents are available on the Missouri Department of Transportation web page at www.modot.org under "Doing Business with MoDOT"; "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to July 2023 Missouri Standard Plans
For Highway Construction

These supplemental bidding documents contain all current revisions to the published versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

C. Contract Liquidated Damages JSP-13-01C  **REVISED**

1.0 Description. Liquidated Damages for failure or delay in completing the work on time for this contract shall be in accordance with Sec 108.8. The liquidated damages include separate amounts for road user costs and contract administrative costs incurred by the City of West Plains.

2.0 Period of Performance. Prosecution of work is expected to begin on the date specified below in accordance with Sec 108.2. Regardless of when the work is begun on this contract, all work on all projects (job numbers) shall be completed on or before the Contract Completion date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed Date: July 22, 2024
Contract Completion Date: **December 1, 2025**

2.1 Calendar Days. The count of calendar days will begin on the date the contractor starts any construction operations on the project.

Job Number	Calendar Days	Daily Road User Cost
RRP – 000S (627)	N/A	\$2,300

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **\$2,000** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified contract completion date or calendar days.

4.0 Liquidated Damages for Road User Costs. Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged road user costs in accordance with Sec 108.8 in the amount specified in Section 2.1 for each calendar day, or partial day thereof, that the work is not fully completed. These damages are in addition to the contract administrative damages and any other damages as specified elsewhere in this contract.

D. Work Zone Traffic Management JSP-02-06N

1.0 Description. Work zone traffic management shall be in accordance with applicable portions of Division 100 and Division 600 of the Standard Specifications, and specifically as follows.

1.1 Maintaining Work Zones and Work Zone Reviews. The Work Zone Specialist (WZS) shall maintain work zones in accordance with Sec 616.3.3 and as further stated herein. The WZS shall coordinate and implement any changes approved by the engineer. The WZS shall ensure all traffic control devices are maintained in accordance with Sec 616, the work zone is operated within the hours specified by the engineer, and will not deviate from the specified hours without prior approval of the engineer. The WZS is responsible to manage work zone delay in accordance with these project provisions. When requested by the engineer, the WZS shall submit a weekly report that includes a review of work zone operations for the week. The report shall identify any problems encountered and corrective actions taken. Work zones are subject to unannounced inspections by the engineer and other departmental staff to corroborate the validity of the WZS's review and may require immediate corrective measures and/or additional work zone monitoring.

1.2 Work Zone Deficiencies. Failure to make corrections on time may result in the engineer suspending work. The suspension will be non-excusable and non-compensable regardless if road user costs are being charged for closures.

2.0 Traffic Management Schedule.

2.1 Traffic management schedules shall be submitted to the engineer for review prior to the start of work and prior to any revisions to the traffic management schedule. The traffic management schedule shall include the proposed traffic control measures, the hours traffic control will be in place, and work hours.

2.2 The traffic management schedule shall conform to the limitations specified in Sec 616 regarding lane closures, traffic shifts, road closures and other width, height and weight restrictions.

2.3 The engineer shall be notified as soon as practical of any postponement due to weather, material or other circumstances.

2.4 In order to ensure minimal traffic interference, the contractor shall schedule lane closures for the absolute minimum amount of time required to complete the work. Lanes shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of 10 minutes to prevent congestion from escalating to 15 minute or above threshold. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable.

2.5.1 Traffic Safety.

2.5.1.1 Recurring Congestion. Where traffic queues routinely extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway, the contractor shall extend the advance warning area, as approved by the engineer.

2.5.1.2 Non-Recurring Congestion. When traffic queues extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway infrequently, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The warning location shall be no less than 1000 feet and no more than 0.5 mile in advance of the end of the traffic queue on divided highways and no less than 500 feet and no more than 0.5 mile in advance of the end of the traffic queue on undivided highways.

3.0 Work Hour Restrictions.

3.1 Except for emergency work, as determined by the engineer, and long term lane closures required by project phasing, all lanes shall be scheduled to be open to traffic during the five major holiday periods shown below, from 12:00 noon on the last working day preceding the holiday until 6:00 a.m. on the first working day subsequent to the holiday unless otherwise approved by the engineer.

- Memorial Day
- Labor Day
- Thanksgiving
- Christmas
- New Year's Day

3.1.1 Independence Day. The lane restrictions specified in Section 3.1 shall also apply to Independence Day, except that the restricted periods shall be as follows:

When Independence Day falls on:	The Holiday is Observed on:	Halt Lane Closures beginning at:	Allow Lane Closures to resume at:
Sunday	Monday	Noon on Friday	6:00 a.m. on Tuesday
Monday	Monday	Noon on Friday	6:00 a.m. on Tuesday
Tuesday	Tuesday	Noon on Monday	6:00 a.m. on Wednesday
Wednesday	Wednesday	Noon on Tuesday	6:00 a.m. on Thursday
Thursday	Thursday	Noon on Wednesday	6:00 a.m. on Friday
Friday	Friday	Noon on Thursday	6:00 a.m. on Monday
Saturday	Friday	Noon on Thursday	6:00 a.m. on Monday

3.2 The contractor shall not perform any construction operation on the roadway, roadbed or active lanes, including the hauling of material within the project limits, during restricted periods, holiday periods or other special events specified in the contract documents.

4.0 Detours and Lane Closures.

4.1 When a changeable message sign (CMS) is provided, the contractor shall use the CMS to notify motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved or directed by the engineer. If a CMS with Communication Interface is required, then the CMS shall be capable of communication prior to installation on right of way. All messages planned for use in the work zone shall be approved and authorized by the engineer or its designee prior to deployment. When permanent dynamic message signs (DMS) owned and operated by MoDOT are located near the project, they may also be used to provide warning and information for the work zone. Permanent DMS shall be operated by the TMC, and any messages planned for use on DMS shall be approved and authorized by the TMC at least 72 hours in advance of the work.

5.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provisions, unless specified

elsewhere in the contract document. All authorized changes in the traffic control plan shall be provided for as specified in Sec 616.

E. Emergency Provisions and Incident Management

1.0 The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from law enforcement or other emergency agencies for incident management. In case of traffic accidents or the need for law enforcement to direct or restore traffic flow through the job site, the contractor shall notify law enforcement or other emergency agencies immediately as needed. The resident engineer on the project shall also be notified when the contractor requests emergency assistance.

2.0 In addition to the 911 emergency telephone number for ambulance, fire or law enforcement services, the following agencies may also be notified for accident or emergency situation within the project limits.

Missouri Highway Patrol: (417) 469-3121
Howell County Sheriff Department: (417) 256-2544
City of West Plains Police Department: (417) 256-2244
City of West Plains Fire Department: (417) 256-2364
MoDOT Customer Service (417) 895-7600
Emergency Only Numbers
911
(*55 cell phone – Missouri Highway Patrol)
(417-864-1160 cell – MoDOT Incident Management Coordinator)

2.1 This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate law enforcement agency.

2.2 The contractor shall notify law enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with law enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.

3.0 No direct pay will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

F. Project Contact for Contractor/Bidder Questions

All questions concerning this project during the bidding process shall be forwarded to the project contact listed below.

Ryan Stehn, P.E.
Project Manager

Crawford, Murphy & Tilly, Inc.
1631 West Elfindale
Springfield, MO 65807
Telephone Number: (417) 799-6260
Email: rstehn@cmtengr.com

All questions concerning the bid document preparation can be directed to the Central Office – Design at (573) 751-2876.

G. Supplemental Revisions JSP-18-01AB

Compliance with [2 CFR 200.216 – Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment](#).

The City of West Plains shall not enter into a contract (or extend or renew a contract) using federal funds to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as substantial or as critical technology as part of any system where the video surveillance and telecommunications equipment was produced by Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

Stormwater Compliance Requirements

1.0 Description. This provision requires the contractor to provide a Water Pollution Control Manager (WPCM) for any project that includes land disturbance on the project site and the total area of land disturbance, both on the project site, and all Off-site support areas, is one (1) acre or more. Regardless of the area of Off-site disturbance, if no land disturbance occurs on the project site, these provisions do not apply. When a WPCM is required, all sections within this provision shall be applicable, including assessment of specified Liquidated Damages for failure to correct Stormwater Deficiencies, as specified herein. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

1.1 Definitions. The project site is defined as all areas designated on the plans, including temporary and permanent easements. The project site is equivalent to the “permitted site”, as defined in MoDOT’s State Operating Permit. An Off-site area is defined as any location off the project site the contractor utilizes for a dedicated project support function, such as, but not limited to, staging area, plant site, borrow area, or waste area.

1.2 Reporting of Off-Site Land Disturbance. If the project includes any planned land disturbance on the project site, prior to the start of work, the contractor shall submit a written report to the engineer that discloses all Off-site support areas where land disturbance is planned, the total acreage of anticipated land disturbance on those sites, and the land disturbance permit number(s). Upon request by the engineer, the contractor shall submit a copy of its land disturbance permit(s) for Off-site locations. Based on the total acreage of land disturbance, both on and Off-site, the engineer shall determine if these Stormwater Compliance Requirements shall apply. The Contractor shall immediately report any changes to the planned area of Off-site land

disturbance. The Contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas.

2.0 Water Pollution Control Manager (WPCM). The Contractor shall designate a competent person to serve as the Water Pollution Control Manager (WPCM) for projects meeting the description in Section 1.0. The Contractor shall ensure the WPCM completes all duties listed in Section 2.1.

2.1 Duties of the WPCM:

- (a) Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT's statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable; the project specific SWPPP, the Project's Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;
- (b) Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;
- (c) Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;
- (d) Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the engineer;
- (e) Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;
- (f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected as soon as possible, but no later than stated in Section 5.0.

3.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point. A Pre-Activity meeting for grading/land disturbance shall be held prior to the start of any land disturbance operations. No land disturbance operations shall commence prior to the Pre-Activity meeting except work necessary to install perimeter controls and entrances. Discussion items at the pre-activity meeting shall include a review of the Project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.

3.1 Hold Point. Following the pre-activity meeting for grading/land disturbance and subsequent installation of the initial BMPs identified at the pre-activity meeting, a Hold Point shall occur prior to the start of any land disturbance operations to allow the engineer and WPCM the time needed

to perform an on-site review of the installation of the BMPs to ensure compliance with the SWPPP is met. Land disturbance operations shall not begin until authorization is given by the engineer.

4.0 Inspection Reports. Weekly and post run-off inspections will be performed by the engineer and each Inspection Report (Land Disturbance Inspection Record) will be entered into a web-based Stormwater Compliance database. The WPCM will be granted access to this database and shall promptly review all reports, including any noted deficiencies, and shall acknowledge receipt of the report as required in Section 2.1 (f.).

5.0 Stormwater Deficiency Corrections. All stormwater deficiencies identified in the Inspection Report shall be corrected by the contractor within 7 days of the inspection date or any extended period granted by the engineer when weather or field conditions prohibit the corrective work. If the contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

5.1 Liquidated Damages. If the Contractor fails to complete the correction of all Stormwater Deficiencies listed on the MoDOT Inspection Report within the specified time limit, the City of West Plains will be damaged in various ways, including but not limited to, potential liability, required mitigation, environmental clean-up, fines, and penalties. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$2,000 per day for failure to correct one or more of the Stormwater Deficiencies listed on the Inspection Report within the specified time limit. In addition to the stipulated damages, the stoppage of work shall remain in effect until all corrections are complete.

6.0 Basis of Payment. No direct payment will be made for compliance with this provision.

Anti-Discrimination Against Israel Certification

By signing this contract, the Company certifies it is not currently engaged in and shall not, for the duration of the contract, engage in a boycott of goods or services from the State of Israel, companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel, or persons or entities doing business in the State of Israel as defined by Section 34.600 RSMo. This certification shall not apply to contracts with a total potential value of less than One Hundred Thousand Dollars (\$100,000) or to contractors with fewer than ten (10) employees.

Ground Tire Rubber (GTR) Dry Process Modification of Bituminous Pavement Material

1.0 Description. This work shall consist of the dry process of adding ground tire rubber (GTR) to modify bituminous material to be used in highway construction. Existing GTR requirements in Section 1015 pertain to the wet process method of GTR modification that blends GTR with the asphalt binder (terminal blending or blending at HMA plant). The following requirements shall govern for dry process GTR modification. The dry process method adds GTR as a fine aggregate or mineral filler during mix production. All GTR modified asphalt mixtures shall be in accordance with Secs 401, 402, or 403 as specified in the contract; except as revised by this specification.

2.0 Materials. The contractor shall furnish a manufacturer’s certification to the engineer for each shipment of GTR furnished stating the name of the manufacturer, the chemical composition, workability additives, and certifying that the GTR supplied is in accordance with this specification.

2.1 Product Approval. The GTR product shall contain a Trans-Polyoctenamer (TOR) added at 4.5 % of the weight of the crumb rubber or an engineered crumb rubber (ECR) workability additive that has proven performance in Missouri. Other GTR additives shall be demonstrated and proven prior to use such as a five-year field performance history in other states or performance on a federal or state-sanctioned accelerated loading facility.

2.2 General. GTR shall be produced from processing automobile or truck tires by ambient or cryogenic grinding methods. Heavy equipment tires, uncured or de-vulcanized rubber will not be permitted. GTR shall also meet the following material requirements:

Table 1 – GTR Material Properties		
Property	Test Method	Criteria
Specific Gravity	ASTM D1817	1.02 to 1.20
Metal Contaminates	ASTM D5603	≤ 0.01%
Fiber Content	ASTM D5603	≤ 0.5%
Moisture Content	ASTM D1509	≤ 1.0%*
Mineral Filler	AASHTO M17	≤ 4.0%

*Moisture content of the GTR shall not cause foaming when combined with asphalt binder and aggregate during mix production

2.3 Gradation. The GTR material prior to TOR or ECR workability additives shall meet the following gradation and shall be tested in accordance with ASTM D5603 and ASTM D5644.

Table 2 – GTR Gradation	
Sieve	Percent Passing by Weight
No. 20	100
No. 30	98-100
No. 40	50-70
No. 100	5-15

3.0 Delivery, Storage, and Handling. The GTR shall be supplied in moisture-proof packaging or other appropriate bulk containers. GTR shall be stored in a dry location protected from rain before use. Each bag or container shall be properly labeled with the manufacturer’s designation for the GTR and specific type, mesh size, weight and manufacturer’s batch or Lot designation.

4.0 Feeder System. Dry Process GTR shall be controlled with a feeder system using a proportioning device that is accurate to within ± 3 percent of the amount required. The system shall automatically adjust the feed rate to always maintain the material within this tolerance and shall have a convenient and accurate means of calibration. The system shall provide in-process monitoring, consisting of either a digital display of output or a printout of feed rate, in pounds per

minute, to verify feed rate. The supply system shall report the feed in 1-pound increments using load cells that will enable the user to monitor the depletion of the GTR. Monitoring the system volumetrically will not be allowed. The feeder shall interlock with the aggregate weight system and asphalt binder pump to maintain correct mixture proportions at all production rates.

Flow indicators or sensing devices for the system shall be interlocked with the plant controls to interrupt mixture production if GTR introduction rate is not within ± 3 percent. This interlock will immediately notify the operator if GTR introduction rate exceeds introduction tolerances. All plant production will cease if the introduction rate is not brought back within tolerance after 30 seconds. When the interlock system interrupts production and the plant has to be restarted, upon restarting operations; the modifier system shall run until a uniform feed can be observed on the output display. All mix produced prior to obtaining a uniform feed shall be rejected.

4.1 Batch Plants. GTR shall be added to aggregate in the weigh hopper. Mixing times shall be increased per GTR manufacturer recommendations.

4.2 Drum Plants. The feeder system shall add GTR to aggregate and liquid binder during mixing and provide sufficient mixing time to produce a uniform mixture. The feeder system shall ensure GTR does not become entrained in the exhaust system of the drier or plant and is not exposed to the drier flame at any point after introduction.

5.0 Testing During Mixture Production. Testing of asphalt mixes containing GTR shall not begin until at least 30 minutes after production or per additive supplier's recommendation.

6.0 Construction Requirements. Mixes containing GTR shall have a target mixing temperature of 325 F or as directed by the GTR additive supplier. The additive supplier's recommendations shall be followed to allow for GTR binder absorption/reaction. This may include holding mix in the silo to allow time for binder to absorb into the GTR. Rolling operations may need to be modified.

7.0 Mix Design Test Method Modification. A formal mixing procedure from the additive supplier shall be provided to the contractor and engineer that details the proper sample preparation, including blending GTR with the binder or other additives. Samples shall be prepared and fabricated in accordance with this procedure by the engineer and contractor throughout the duration of the project.

8.0 Mix design Volumetrics. Mix design volumetric equations shall be modified as follows:

8.1 Additional virgin binder added to offset GTR absorption of binder shall be counted as part of the mix virgin binder

8.2 GTR shall be included as part of the aggregate when calculating VMA of the mix.

8.2.1 GTR SPG shall be 1.15

8.3 Mix G_{sb} used to determine VMA shall be calculated as follows:

$$G_{sb (JMF)} = \frac{(100 - P_{bmv})}{\left(\frac{P_s}{G_{sb}} + \frac{P_{GTR}}{G_{GTR}}\right)}$$

where:

$G_{sb (JMF)}$ = bulk specific gravity of the combined aggregate including GTR

P_{bmv} = percent virgin binder by total mixture weight

P_s = percent aggregate by total mixture weight (not including GTR)

P_{GTR} = percent GTR by total mixture weight

G_{sb} = bulk specific gravity of the combined aggregate (not including GTR)

G_{GTR} = GTR specific gravity

8.4 G_{se} shall be calculated as follows:

$$G_{se} = \frac{(100 - P_b - P_{GTR})}{\left(\frac{100}{G_{mm}} - \frac{P_b}{G_b} - \frac{P_{GTR}}{G_{GTR}}\right)}$$

8.5 P_{be} shall be calculated as follows:

$$P_{be} = P_b - \frac{P_{ba}}{100} * (P_s + P_{GTR})$$

9.0 Minimum GTR Amount. The minimum dosage rate for GTR shall be 5 % by weight of total binder for an acceptable one bump grade or 10 % by weight of total binder for an acceptable two bump grade as detailed in the following table. Varying percentage blends of GTR and approved additives may be used as approved by the engineer with proven performance and meeting the specified requirements of the contract grade.

Contract Binder Grade	Percent Effective Virgin Binder Replacement Limits	Required Virgin Binder Grade	Minimum GTR Dosage Rate
PG 76-22	0 - 20	PG 70-22	5 %
		PG 64-22	10 %
PG 70-22	0 - 30	PG 64-22	5 %
		PG 58-28	10 %
PG 64-22	0 - 40*	PG 58-28	5 %
		PG 52-34	10 %
PG 58-28	0 - 40*	PG 52-34	5 %
		PG 46-34	10 %

* Reclaimed Asphalt Shingles (RAS) may be used when the contract grade is PG 64-22 or PG 58-28. RAS replacement shall follow the 2 x RAS criteria when calculating percent effective binder replacement in accordance Sec 401.

Delete Sec 403.19.2 and substitute the following:

403.19.2 Lots. The lot size shall be designated in the contractor's QC Plan. Each lot shall contain no less than four sublots and the maximum sublot size shall be 1,000 tons. The maximum lot size shall be 4,000 tons for determination of pay factors. Sublots from incomplete lots shall be combined with the previous complete lot for determination of pay factors. When no previous lot exists, the mixture shall be treated in accordance with [Sec 403.23.7.4.1](#). A new lot shall begin when the asphalt content of a mixture is adjusted in accordance with [Sec 403.11](#).

Delete Sec 106.9 in its entirety and substitute the following:

106.9 Buy America Requirements.

Buy America Requirements are waived if the total amount of Federal financial assistance applied to the project, through awards or subawards, is below \$500,000.

106.9.1 Buy America Requirements for Iron and Steel.

On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 *Buy America Requirements*. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured, from the initial melting stage through the application of coatings, in the USA except for "minimal use" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. Under a general waiver from FHWA the use of pig iron and processed, pelletized, and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

106.9.1.1 Buy America Requirements for Iron and Steel for Manufactured items.

A manufactured item will be considered iron and steel if it is "predominantly" iron or steel. Predominantly iron or steel means that the cost of iron or steel content of a product is more than 50 percent of the total cost of all its components.

106.9.2 Any sources other than the USA as defined will be considered foreign. The required domestic manufacturing process shall include formation of ingots and any subsequent process. Coatings shall include any surface finish that protects or adds value to the product.

106.9.3 "Minimal use" of foreign steel, iron or coating processes will be permitted, provided the cost of such products does not exceed 1/10 of one percent (0.1 percent) of the total contract cost or \$2,500.00, whichever is greater. If foreign steel, iron, or coating processes are used, invoices to document the cost of the foreign portion, as delivered to the project, shall be provided and the engineer's written approval obtained prior to placing the material in any work.

106.9.4 Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000. The AASHTO Product Evaluation and Audit Solutions compliance program verifies that all steel and iron products fabrication processes conform to 23 CFR 635.410 Buy America Requirements and is an acceptable standard per 23 CFR 635.410(d). AASHTO Product Evaluation and Audit Solutions compliant suppliers will not be required to submit step certification documentation with the shipment for some selected steel and iron materials. The AASHTO Product Evaluation and Audit Solutions compliant supplier shall

maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

106.9.4.1 Items designated as Category 1 will consist of steel girders, piling, and reinforcing steel installed on site. Category 1 items require supporting documentation prior to incorporation into the project showing all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements. This includes the Mill Test Report from the original producing steel mill and certifications documenting the manufacturing process for all subsequent fabrication, including coatings. The certification shall include language that certifies the following. That all steel and iron materials permanently incorporated in this project was procured and processed domestically and all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410.

106.9.4.2 Items designated as Category 2 will include all other steel or iron products not in Category 1 and permanently incorporated in the project. Category 2 items shall consist of, but not be limited to items such as fencing, guardrail, signing, lighting and signal supports. The prime contractor is required to submit a material of origin form certification prior to incorporation into the project from the fabricator for each item that the product is domestic. The Certificate of Materials Origin form ([link to certificate form](#)) from the fabricator must show all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements and be signed by a fabricator representative. The engineer reserves the right to request additional information and documentation to verify that all Buy America requirements have been satisfied. These documents shall be submitted upon request by the engineer and retained for a period of 3 years after the last reimbursement of the material.

106.9.4.3 Any minor miscellaneous steel or iron items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. Examples of these items would be bolts for sign posts, anchorage inserts, etc. The certification shall read "I certify that all steel and iron materials permanently incorporated in this project during all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements procured and processed domestically in accordance with CFR Title 23 Section 635.410 Buy America Requirements. Any foreign steel used was submitted and accepted under minor usage". The certification shall be signed by an authorized representative of the prime contractor.

106.9.5 When permitted in the contract, alternate bids may be submitted for foreign steel and iron products. The award of the contract when alternate bids are permitted will be based on the lowest total bid of the contract based on furnishing domestic steel or iron products or 125 percent of the lowest total bid based on furnishing foreign steel or iron products. If foreign steel or iron products are awarded in the contract, domestic steel or iron products may be used; however, payment will be at the contract unit price for foreign steel or iron products.

106.9.6 Buy America Requirements for Construction Materials other than iron and steel materials. Construction materials means articles, materials, or supplies that consist of only one of the items listed. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material. Upon request by the engineer, the contractor shall submit a domestic certification for all construction materials listed that are incorporated into the project.

- (a) Non-ferrous metals
- (b) Plastic and Polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables)
- (c) Glass (including optic glass)
- (d) Fiber optic cable (including drop cable)
- (e) Optical fiber
- (f) Lumber
- (g) Engineered wood
- (h) Drywall

106.9.6.1 Minimal Use allowance for Construction Materials other than iron or steel.

“The total value of the non-compliant products is no more than the lesser of \$1,000,000 or 5% of total applicable costs for the project.” The contractor shall submit to the engineer any non-domestic materials and their total material cost to the engineer. The contractor and the engineer will both track these totals to assure that the minimal usage allowance is not exceeded.

106.9.7 Buy America Requirements for Manufactured Products.

Manufactured products means:

- (a) Articles, materials, or supplies that have been:
 - (i) Processed into a specific form and shape; or
 - (ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.
- (b) If an item is classified as an iron or steel product, a construction material, or a section 70917(c) material under § 184.4(e) and the definitions set forth in this section, then it is not a manufactured product. However, an article, material, or supply classified as a manufactured product under § 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials.

106.9.7.1 Manufactured products are exempt from Buy America requirements. To qualify as a manufactured product, items that consist of two or more of the listed construction materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process, should be treated as manufactured products, rather than as construction materials.

106.9.7.2 Manufactured items are covered under a general waiver to exclude them from Buy America Requirements. To qualify for the exemption the components must comprise of 55% of the value of materials in the item. The final assembly must also be performed domestically.

Delete Sec 109.14.1 thru Sec 109.14.8 and substitute the following:

109.14.1 Monthly Fuel Index. Each month, the Monthly Fuel Index will be established as the average retail price per gallon for Ultra Low Sulfur Diesel for the Midwest (PADD 2) area as posted on the first Monday of the month by the U.S. Energy Information Administration (EIA). Should the posted price not be available for any reason, the MoDOT State Construction and Materials

Engineer will use reasonable methods, at their sole discretion, to establish the Monthly Fuel Index on an interim basis until the EIA resumes its publication.

109.14.2 Fuel Adjustment Calculation.

B = Base Fuel Index = Monthly Fuel Index in the month in which the project was let
C = Current Index = Monthly Fuel Index in the month in which the work was performed
U = Units of work performed within the current pay estimate period (applicable pay units)
F = Total Fuel Usage Factor (gal./applicable pay units)

Fuel Adjustment (Dollars) = $(C - B) \times U \times F$

109.14.3 Each pay estimate period, a fuel adjustment payment or deduction will be applied for the quantity of work performed that period on each qualifying pay item. For calculation of the fuel adjustment, work performed on the first day of a month will generally be included with the second estimate in the previous month to keep fuel adjustments in sync with MoDOT's normal payment estimate period schedule. The City of West Plains reserves the right to include work performed on the first day of the month with the current month to accommodate financial accounting termini, such as the beginning of the state and federal fiscal years (July 1 and October 1).

109.14.4 If the bidder wishes to be bound by these specifications, the bidder shall execute the acceptance form in the proposal. Failure by the bidder to execute the acceptance form will be interpreted to mean election to not participate in the price adjustment for fuel.

Disposal of Blast Media and Paint Residue

1.0 Description. Whereas Sec 1081.10 requires delivery of Blast Media and Paint Residue (BMPR) produced from bridge coating activities to The Doe Run Company for recycling, and considering the amount of BMPR produced on all active MoDOT projects statewide at any given point in time may exceed the recycling capacity of Doe Run, this provision allows for an alternate method of disposal of BMPR. The contractor, at its discretion, can choose this disposal option or the Doe Run recycle option, when both are available. When Doe Run is not currently capable or agreeable to accept the BMPR, this alternate disposal option shall be considered mandatory, and at no additional cost to the City of West Plains.

2.0 Disposal in Landfill. In lieu of delivery to Doe Run for recycling, BMPR material shall be disposed in the appropriate type of approved landfill, as determined by Toxicity Characteristic Leaching Procedure (TCLP) testing. The material must be TCLP tested to determine if it contains a level of hazardous waste such that requires disposal in a hazardous waste landfill. A sampling plan for testing shall be submitted to MoDOT for review and concurrence. Sampling shall be performed by the contractor. MoDOT will witness the sampling to ensure it is conducted per the plan submitted.

2.1 The contractor shall submit the collected samples to a qualified third-party testing facility to perform TCLP testing. If the sample indicates that the BMPR material qualifies as hazardous waste, then the materials represented by that sample shall be delivered to a licensed hazardous waste landfill for disposal. The contractor shall be responsible for hiring a licensed hazardous waste transporter to transport the hazardous waste to the landfill. The contractor shall comply with all applicable laws and regulations for storage and shipping of the hazardous waste material. If the testing indicates that the BMPR material qualifies as a special waste, it shall be taken to a

certified landfill for disposal. The contractor shall be responsible for the transportation of the special waste material to the certified landfill. The requirement to ship the BMPR material by barrels will be waived. Any alternate containers utilized shall comply with all applicable laws and regulations for shipping this type of special waste material. Copies of all shipping manifests, landfill disposal agreements, and any other legally required documentation shall be provided to the engineer.

3.0 Basis of Payment. No payment will be made for any costs associated with this landfill disposal option, including, but not limited to, sampling, testing, delivery, temporary storage, or disposal fees.

H. Liquidated Damages for Winter Months JSP-04-17A

Delete Sec 108.8.1.3 (a)

Liquidated damages for failure to complete the work on time shall not be waived from December 15 to March 15, both dates inclusive.

I. Liquidated Damages Specified for US Highway 160 JSP-93-28



1.0 Description. If US Highway 160 is not complete and open to traffic including all safety devices, lighting, signing, and pavement marking, prior to **October 1, 2025**, the City of West Plains, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **\$2,300** per day for each full day that **US Highway 160** is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

1.1 The said liquidated damages specified will be assessed regardless of whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction, as amended elsewhere in this contract.

J. Liquidated Damages Specified for Concord Road Closure JSP-93-28

2.0 Description. If the intersection of Concord Road and US Highway 160 is not complete and open to traffic within 14 calendar days of its closure, the City of West Plains, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **\$2,300** per day for each full day that Concord Road is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

2.1 The said liquidated damages specified will be assessed regardless of whether it would

otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction, as amended elsewhere in this contract.

K. Utilities JSP-93-26F

1.0 For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known utility companies in the area of the construction work for this improvement:

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Type</u>
Brightspeed Mary Jacob 4608 County Road 4620 West Plains, MO 65775 Phone: 417-255-8280 Email: mary.jacob@brightspeed.com	Yes (See Sections 2.0 - 2.8)	Communications
Fidelity Communications Nathan Kitchen 501 N. Washington St. Salem, MO 65560 Phone: 573-426-4287 Email: nathan.kitchen@fidelitycommunications.com	Yes (See Section 3.0)	Communications
Summit Natural Gas James Trujillo 272 Keystone Industrial Park Dr. Camdenton, MO 65020 Phone: 660-473-1933 Email: jtrujillo@summitutilitiesinc.com	Yes (See Section 4.0 - 4.7)	Gas
City of West Plains Shayne Eades 1910 Holiday Lane West Plains, MO 65775 Phone: 417-256-7176 Email: shayne.eades@westplains.gov	Yes (See Section 5.0 & 5.1)	Power
City of West Plains Shayne Eades 1910 Holiday Lane West Plains, MO 65775 Phone: 417-256-7176 Email: shayne.eades@westplains.gov	Yes (See Section 6.0)	Sewer & Water

1.1 The existence and approximate location of utility facilities known to exist, as shown on the plans, are based upon the best information available to the City of West Plains at this time. This information is provided by the City of West Plains "as-is" and the City of West Plains expressly

disclaims any representation or warranty as to the completeness, accuracy, or suitability of the information for any use. Reliance upon this information is done at the risk and peril of the user, and the City of West Plains shall not be liable for any damages that may arise from any error in the information. It is, therefore, the responsibility of the contractor to verify the above listing information indicating existence, location and status of any facility. Such verification includes direct contact with the listed utilities.

1.2 Various utilities listed above have overhead lines within the project limits in the vicinity of the Contractor's work. The contractor shall comply with the Missouri Overhead Powerline Safety Act; this statute makes it illegal for an unauthorized person or entity to work or bring equipment within 10 feet of a high voltage line that has not been covered or de-energized. The purpose of the Missouri Overhead Powerline Safety Act is to ensure the safety of the public when working around overhead power lines. If the contractor needs line cover when working near a primary powerline, then the contractor shall notify that utility owner a minimum of 14 days in advance of needing line cover. Most power providers perform this service free of charge for municipally-driven projects. The contractor shall be responsible for any damage to the overhead lines caused by their operations. There will be no direct payment for compliance to this specification.

2.0 Brightspeed (Lumen/CenturyLink). The following are known project impacts along with tentative mitigation plan for those known impacts. It should be noted the station and offset provided are approximate based on scaled plans. Brightspeed indicated they intend to start their relocation work near the first of April. They are anticipating it will take 4 weeks to complete.

2.1 Sta 21+08, 31ft Rt. Brightspeed has a 600pr copper line running parallel to US160 along the south side of the roadway. The roadway plans included the installation of a new 24" outlet pipe that will cross the existing 600pr line. Brightspeed intends to perform a spot lowering to clear the outlet pipe.

2.2 Sta 22+16, 27ft Rt. Brightspeed has a 600pr copper line running parallel to US160 along the south side of the roadway. The roadway plans included the installation of a new 12" outlet pipe that will cross the existing 600pr line. Brightspeed intends to perform a spot lowering to clear the outlet pipe.

2.3 Howell Creek. The existing four cell box culvert is being replaced with a new three span bridge in order to meet the no rise requirements in the floodplain. Brightspeed has a 600pr copper line and a 96 count fiber line running parallel to US160 along the south and north sides, respectively. Based on locate soundings, the fiber ranges from 18ft to 25ft depth which is below the maximum channel cut. Sounding depths for the 600pr range from 15ft on the west side of the channel to 6ft at the centerline of the channel, again which is below the maximum cut. Brightspeed does have an existing pedestal on the 600pr on the right side near Sta 25+02. Brightspeed intends to convert this pedestal to a buried splice. This buried splice will be within the limits of the new rock blanket on the east side of Howell Creek. The roadway contractor shall exercise extreme caution when placing the rock blanket around end bent 4 to prevent damage to Brightspeed's facilities. Any damage caused by the roadway contractor's operations shall be repaired and/or replaced solely at the contractor's expense.

2.4 MSE Wall No. 1. On the north side of US160, there is a potential horizontal conflict with end bent bridge piling and the existing 96 count fiber. Also on the north side, there is a potential vertical conflict with the leveling pad for the proposed MSE wall. On the south side of US160, there is a potential vertical conflict with the existing 600pr copper line and the leveling pad for the

MSE wall. The roadway contractor shall pothole both communication lines at the centerline of the MSE wall and notify Brightspeed if there is a conflict. Brightspeed will be responsible for lowering the communication lines to mitigate the conflict.

2.5 30" Pipe, Sta 29+14. The proposed roadway improvements include the installation of a 30" cross road pipe under the DRS access road. This drainage pipe will cross over both the 96 count fiber and the 600pr copper on the north and south sides of US160, respectively. The culvert section for this pipe shows an approximate 24" cut at the fiber and an 18" cut at the 600pr. Even though a vertical conflict is not anticipated, the roadway contractor shall pothole both communication lines at the centerline of the drainage pipe and notify Brightspeed in the event a conflict exists. Brightspeed will be responsible for mitigating the conflict.

2.6 MSE Wall No. 2 (North Side). The proposed grading over the 96 count fiber indicates a cut beginning at approximate Sta 30+38. Brightspeed will intercept the existing fiber with a new handhole and perform a relocation going east that ties back into their existing fiber network in the northeast quadrant of US160 and Old Airport Road. The relocation will pull the fiber out from under the proposed MSE wall in the northwest quadrant. The tie will be near the north leg of the sight triangle in the northeast quadrant.

2.7 MSE Wall No. 2 (South Side). Brightspeed has an existing pedestal near Sta 30+00. They have a 600pr line running east and west from this pedestal along with an additional 25pr line going east (northern most communication line). The proposed grading at the handhole shows a fill of approximate 1ft. Brightspeed intends to abandoned the 25pr line and replace the existing pedestal with a buried splice.

2.8 Old Airport Road. Brightspeed will be relocating a 300pr copper line crossing under US160 on the east side of Old Airport Road. The line will start at an existing pedestal in the southwest quadrant, go east under the existing DRS entrance, go north under US160, and follow the new sight triangle going northwest, and will tie back into their existing copper facilities on the east side of Old Airport Road near the northern part of the new sight triangle.

3.0 Fidelity Communications. Fidelity has aerial fiber and coaxial cable attached to the City of West Plains' power poles. The relocation plan for the City's electrical impacts will accommodate Fidelity's existing lines. Fidelity will transfer their existing aerial facilities over to the new power poles. It is anticipated it will take Fidelity 3 weeks to complete their transfer after the City of West Plains finishes their electrical relocation work.

4.0 Summit Natural Gas. The following are known project impacts along with a tentative mitigation plan for those known impacts. It should be noted the station and offset provided are approximate based on scaled plans. Summit indicated they intend to start their relocation work near the first of April. They are anticipating it will take 3 weeks to complete.

4.1 Howell Creek. The existing four cell box culvert is being replaced with a new three span bridge in order to meet the no rise requirements in the floodplain. Summit has parallel gas main running along the north side of US. The gas main will be in conflict with the proposed grading under the new bridge. Summit intends to relocate the main along the existing general alignment at a lower depth to clear the proposed cut.

4.2 Sta 27+32, 23ft Lt. Summit has an existing in-line valve on their gas main falling within the limits of the new fill. Summit will be removing this valve from service so the roadway contractor can proceed to place the new fill over the active gas main.

4.3 MSE Wall No. 1. On the north side of US160, there is a potential vertical conflict between the existing gas main and the leveling pad for the proposed MSE wall. The roadway contractor shall pothole the existing gas main at the centerline of the MSE wall and notify Summit if there is a conflict. Summit will be responsible for lowering the gas main to mitigate the conflict.

4.4 30" Pipe, Sta 29+14. The proposed roadway improvements include the installation of a 30" cross road pipe under the DRS access road. This drainage pipe will cross over the existing gas main along the north side of US160. The culvert section for this pipe shows an approximate 24" cut over the gas main. Even though a vertical conflict is not anticipated, the roadway contractor shall pothole the gas main at the centerline of the proposed 30" pipe and notify Summit if there is a conflict. Summit will be responsible for lowering the gas main in the event a conflict exists.

4.5 MSE Wall No. 2. The proposed grading over the existing gas main along the north side of US160 indicates a cut beginning at approximate Sta 30+38. Summit will be relocating their gas main going east and tying back into their existing facilities in the northeast quadrant of US160 and Old Airport Road. The relocation will pull the gas main out from under the proposed MSE wall in the northwest quadrant. The tie will be near the north leg of the sight triangle in the northeast quadrant.

4.6 Inlet at Sta 34+63, 16.5ft Rt. The proposed roadway improvements include the installation of a new drop inlet on the south side of US160 at Sta 34+59 with a 12" cross road pipe taking the drainage back to the north. Summit has an existing gas main crossing US160 that falls under the inlet. Summit intends to relocate their gas main under US160 east of its current location. The relocation will follow the new sight triangle in the northwest quadrant of Old Airport Road and tie back into their existing system near the north limits of the sight triangle.

4.7 Inlet at Sta 38+01, 16.5ft Rt. The proposed roadway improvements include the installation of a new drop inlet on the south side of US160 at Sta 38+01 with a 15" cross road pipe taking the drainage back to the north. Summit has an existing gas main paralleling US160 on the south side of the roadway. The gas main crosses west of this inlet so a conflict cannot be determined at this time. The roadway contractor shall pothole the gas main at this inlet and notify Summit if there is a conflict. If a conflict exists, then Summit will perform a horizontal relocation to move the gas main south of the inlet.

5.0 City of West Plains - Power. The City of West Plains has three phase power and a lighting circuit running parallel to US160 along the south side of the roadway. They also have a transmission circuit and three phase power crossing US160 on the east side of the BNSF railroad tracks. All of these facilities will be impacted by the proposed roadway improvements. The City has approved electrical relocation plans and are currently in the process of moving their facilities located within City R/W. The relocation work on MoDOT R/W will follow once their contractor secures MoDOT bonding for the permit. The City has applied for a wireline permit from BNSF for the three phase crossing. It is anticipated the BNSF permit will be approved by the middle of April. Barring any delays due to the RR permit, the City is anticipating to have the work completed prior to the notice to proceed date.

5.1 Bridge Construction Over BNSF. The contractor is advised that the City is raising the transmission and three phase lines crossing US160 near the east end of the RR bridge. The final height of these power lines will provide sufficient vertical clearance above the new US160 profile grade. To ensure needed construction clearance, the contractor shall drive the supporting piles for end bent no. 2 prior to building the surrounding MSE wall.

6.0 City of West Plains – Sanitary Sewer & Water.

6.1 Howell Creek. The City of West Plains has an existing gravity sewer crossing under US160 near Sta 24+87 and a force main sewer crossing near Sta 24+99. Both of these lines fall within the grading limits of the proposed bridge. As part of the roadway improvements, the contractor will be required to encase the gravity sewer main according to the details shown on the plans. The contractor shall exercise caution while working near these facilities. Any damage to these lines caused by the contractor's operation shall be repaired and/or replaced solely at the contractor's expense.

6.2 Water Valve at Sta 33+78, 71ft Rt. The City of West Plains has an existing in-line water valve within the grading limits for the DRS approach. The City will raise the valve cover to the proposed grade during construction. The contractor shall notify the City a minimum of one week in advance of performing grading operations at this location.

6.3 15" Cross Road Pipe at Sta 38+01. The City of West Plains has an existing in-line water main crossing US160 near Freedom Drive. There is a new 15" cross road drainage pipe being installed at Sta 38+01. Even though a conflict is not anticipated, the contractor shall pothole the existing water main at the centerline of the new drainage pipe. The contractor shall notify the City in the event of a conflict so City crews can lower the water main.

L. Contractor Quality Control NJSP-15-42

1.0 The contractor shall perform Quality Control (QC) testing in accordance with the specifications and as specified herein. The contractor shall submit a Quality Control Plan (QC Plan) to the engineer for approval that includes all items listed in Section 2.0, prior to beginning work.

2.0 Quality Control Plan.

- (a) The name and contact information of the person in responsible charge of the QC testing.
- (b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.
- (c) A proposed independent third party testing firm for dispute resolution, including all contact information.
- (d) A list of Hold Points, when specified by the engineer.
- (e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website (www.modot.org/quality).

3.0 Quality Control Testing and Reporting. Testing shall be performed per the test method and frequency specified in the ITP. All personnel who perform sampling or testing shall be certified in the MoDOT Technician Certification Program for each test that they perform.

3.1 Reporting of Test Results. All QC test reports shall be submitted as soon as practical, but no later than the day following the test. Test data shall be immediately provided to the engineer upon request at any time, including prior to the submission of the test report. No payment will be made for the work performed until acceptable QC test results have been received by the engineer and confirmed by QA test results.

3.1.1 Test results shall be reported on electronic forms provided by MoDOT. Forms and Contractor Reporting Excel2Oracle Reports (CRE2O) can be found on the MoDOT website. All required forms, reports and material certifications shall be uploaded to a Microsoft SharePoint® site provided by MoDOT, and organized in the file structure established by MoDOT.

3.2 Non-Conformance Reporting. A Non-Conformance Report (NCR) shall be submitted by the contractor when the contractor proposes to incorporate material into the work that does not meet the testing requirements or for any work that does not comply with the contract terms or specifications.

3.2.1 Non-Conformance Reporting shall be submitted electronically on the Non-Conformance Report form provided on the MoDOT Website. The NCR shall be uploaded to the MoDOT SharePoint® site and an email notification sent to the engineer.

3.2.2 The contractor shall propose a resolution to the non-conforming material or work. Acceptance of a resolution by the engineer is required before closure of the non-conformance report.

4.0 Work Planning and Scheduling.

4.1 Two-week Schedule. Each week, the contractor shall submit to the engineer a schedule that outlines the planned project activities for the following two-week period. The two-week schedule shall detail all work and traffic control events planned for that period and any Hold Points specified by the engineer.

4.2 Weekly Meeting. When work is active, the contractor shall hold a weekly project meeting with the engineer to review the planned activities for the following week and to resolve any outstanding issues. Attendees shall include the engineer, the contractor superintendent or project manager and any foreman leading major activities. This meeting may be waived when, in the opinion of the engineer, a meeting is not necessary. Attendees may join the meeting in person, by phone or video conference.

4.3 Pre-Activity Meeting. A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review construction details of the new activity. At a minimum, the discussion topics shall include: safety precautions, QC testing, traffic impacts, and any required Hold Points. Attendees shall include the engineer, the contractor superintendent and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

4.4 Hold Points. Hold Points are events that require approval by the engineer prior to continuation of work. Hold Points occur at definable stages of work when, in the opinion of the engineer, a review of the preceding work is necessary before continuation to the next stage.

4.4.1 A list of typical Hold Point events is available on the MoDOT website. Use of the Hold Point process will only be required for the project-specific list of Hold Points, if any, that the engineer submits to the contractor in advance of the work. The engineer may make changes to the Hold Point list at any time.

4.4.2 Prior to all Hold Point inspections, the contractor shall verify the work has been completed in accordance with the contract and specifications. If the engineer identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The engineer may require a new Hold Point to be scheduled if the corrections require a follow-up inspection. Re-scheduling of Hold Points require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the engineer.

4.0 Quality Assurance Testing and Inspection. The Engineer will perform quality assurance testing and inspection of the work, except as specified herein. The contractor shall utilize the inspection checklists provided in the ITP as a guide to minimize findings by the Engineer's inspection staff. Submittal of completed checklists is not required, except as specified in 5.1.

5.1 Inspection and testing required in the production of concrete for the project shall be the responsibility of the contractor. Submittal of the 501 Concrete Plant Checklist is required.

6.0 Basis of Payment. No direct payment will be made for compliance with this provision.

M. Contractor Furnished Surveying and Staking

In addition to the requirements of Section 627 of the Missouri Standard Specifications for Highway Construction, the following shall apply:

1.0 Description. The contractor shall be responsible for all layout required on the project. This responsibility shall include, but not be limited to the following: Construction signing, transition milling, pavement marking, loop detectors, etc.

1.1 The above list is not all inclusive. The contractor shall have the primary responsibility for these operations. The contractor shall provide the Resident Engineer (RE) with a staking plan layout for approval prior to the installation of signs. The RE will also provide assistance during this layout provided a request is submitted to the RE or Construction Project Manager 48 hours in advance. This will ensure that all permanently mounted traffic control devices remain consistent with District policy and avoid re-staking. If the contractor installs any signs without engineer approval, all costs associated with re-staking and/or relocation will be at the contractor's expense.

1.2 The intent of this provision is to increase the quality of our work zones and minimize negative impacts to the contractor's schedule that can result from delays in staking.

1.3 Any adjustments to the plan quantities or line numbers established in the contract shall be approved by the Engineer.

2.0 Basis of Payment. No direct payment will be made to cover the costs associated with these additional requirements. All costs will be considered completely covered by the unit bid price submitted for Contractor Furnished Surveying and Staking.

N. Buy America

In addition to Section 106.9 of the Missouri Standard Specifications for Highway Construction, the following requirements will also be in effect for this project.

1.0 Description. The Bipartisan Infrastructure Law (BIL) was enacted on November 15, 2021. The BIL includes Build America, Buy America Act Publication L. No. 117-58. This provision expands the Buy America requirements beyond what is currently only required for steel and iron products. The steel and iron provisions have not changed with the new bill. Cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives are excluded from this requirement. All other materials and manufactured products permanently incorporated into the project will be subject to Buy America requirements. There are three categories requiring Buy America Certification:

- a) Iron and steel – no changes to the current specification requirements.
- b) Manufactured products – these are currently exempted under the 1983 waiver from FHWA.
- c) Construction materials consisting primarily of:
 - Non-ferrous metals;
 - Plastic and polymer-based products (including polyvinylchloride, composite build materials, and polymers used in fiber optic cables);
 - Glass (including optic glass);
 - Lumber; or
 - Drywall

1.1 All products and or materials will only be classified under one of these categories and not under multiple categories. It is the prime contractor's responsibility to assure all submittals required for Buy America are submitted to the Engineer prior to the products and or materials being incorporated in the job. The implementation of this policy will be in effect for all projects awarded after November 10, 2022.

1.2 New items designated as construction materials under this requirement will require the prime contractor to submit a material of origin form certification prior to incorporation into the project. The Certificate of Material origin form (link to certificate form) from the supplier and/or fabricator must show all steps of the manufacturing being completed in the United States. The Certificate of Material form shall be filed with the contract documents.

1.3 Any minor miscellaneous construction material items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. The certification shall read "I certify all materials permanently incorporated in this project covered under this provision have been to the best of my knowledge procured and all manufactured domestically." The certification shall be signed by an authorized representative of the prime contractor.

1.4 The National Transportation Product Evaluation Program (NTPEP) compliance program verifies that some non-iron and steel products fabrication processes conform to 23 CFR 635.410 Buy America Requirements and an acceptable standard per 23 CFR 635.410(d). NTPEP compliant suppliers will not be required to submit step certification documentation with the shipment for some selected non-iron and steel materials. The NTPEP compliant supplier shall

maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

2.0 Basis of Payment. Any costs incurred by the contractor by reason of compliance with the above requirements shall be considered as included in and completely covered by the unit price bid for the various items of work included in the contract.

O. ADA Compliance and Final Acceptance of Constructed Facilities

1.0 Description. The contractor shall comply with all laws pertaining to the Americans with Disabilities Act (ADA) during construction of pedestrian facilities on public rights of way for this project. An ADA Checklist is provided herein to be utilized by the contractor for verifying compliance with the ADA law. The contractor is expected to familiarize himself with the plans involving pedestrian facilities and the ADA Post Construction Checklist prior to performing the work.

2.0 ADA Checklist. The contractor can locate the ADA Checklist form on the Missouri Department of Transportation website:

www.modot.org/business/contractor_resources/forms.htm

2.1 The ADA Checklist is intended to be a helpful tool for the contractor to use during the construction of the pedestrian facilities and a basis for the City of West Plain's acceptance of work. Prior to work being performed, the contractor shall bring to the engineer's attention any planned work that is in conflict with the design or with the requirement shown in the checklist. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In those situations, the contractor shall propose a solution to the engineer that is compliant with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

2.2 It is encouraged that the contractor monitor the completed sections of the newly constructed pedestrian facilities in attempts to minimize negative impacts that his equipment, subcontractors or general public may have on the work. Completed facilities must comply with the requirements of ADA and the ADA Checklist or have documented reasons for the non-compliant items to remain.

3.0 Coordination of Construction.

3.1 Prior to construction and/or closure on an existing pedestrian path of travel, the contractor shall submit a schedule of work to be constructed, which includes location of work performed, the duration of time the contractor expects to impact the facility and an accessible signed pedestrian detour compliant with MUTCD Section 6D that will be used during each stage of construction.

This plan shall be submitted to the engineer for review and approval at or prior to the pre-construction conference. Accessible signed detours shall be in place prior to any work being performed that has the effect of closing an existing pedestrian travel way.

3.2 *When consultant survey is included in the contract, the contractor shall use their survey crews to verify that the intended design can be constructed to the full requirements as established in the 2010 ADA Standards. When 2010 ADA Standards do not give sufficient information to construct the contract work, the contractor shall refer to the PROWAG.*

3.3 When consultant survey is not included in the contract, the contractor shall coordinate with the engineer, prior to construction, to determine if additional survey will be required to confirm the designs constructability.

4.0 Final Acceptance of Work. The contractor shall provide the completed ADA Checklist to the engineer at the semi-final inspection. ADA improvements require final inspection and compliance with the ADA requirements and the ADA Checklist. Each item listed in the checklist must receive either a “YES” or an “N/A” score. Any item receiving a “NO” will be deemed non-compliant and shall be corrected at the contractor’s expense unless deemed otherwise by the engineer. Documentation must be provided about the location of any non-compliant items that are allowed to remain at the end of the construction project. Specific details of the non-compliant items, the ADA requirement that the work was not able to comply with, and the specific reasons that justify the exception are to be included with the completed ADA Checklist provided to the engineer.

4.1 Slope and grade measurements shall be made using a properly calibrated, 2 foot long, electronic digital level approved by the engineer.

5.0 Basis of Payment. The contractor will receive full pay of the contract unit cost for all sidewalk, ramp, curb ramp, median, island, approach work, cross walk striping, APS buttons, pedestrian heads, detectible warning systems and temporary traffic control measures that are completed during the current estimate period as approved by the engineer. Based upon completion of the ADA Checklist, the contractor shall complete any necessary adjustments to items deemed non-compliant as directed by the engineer.

5.1 No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provisions, unless specified elsewhere in the contract documents.

P. Restrictions for Migratory Birds NJSP-16-06A

1.0 Description. Swallows or other bird species protected by the Migratory Bird Treaty Act may be nesting under the bridge or bridges that will be repaired under this contract.

2.0 Restrictions. To comply with the Migratory Bird Treaty Act, nests of protected species cannot be disturbed when active (eggs or young are present). Generally, nests are active between April 1 and July 31, but active nests can be present outside of these dates.

3.0 Avoidance Measures. The contractor shall not disturb active nests or destroy adults, eggs or young birds. In an effort to comply with the Migratory Bird Treaty Act, the contractor operations will be limited to the options established in the following sections.

3.1 Inactive or Partially Constructed Nests. If nests are present and MoDOT determines that the nests are inactive or partially constructed, the contractor may remove the nests provided that

the colony's inactive or partially constructed nests are completely removed by March 15 and the contractor maintains a nest free condition until the bridge work is complete. Dry removal methods shall be used when practicable. If dry removal is not practicable, hydro cleaning may be used if approved by the Engineer and only if water is free of blasting grit, chemicals, or detergents, and applied using pressure less than 5,000 PSI. Clean water such as that from municipal water treatment plants or wells shall be used. Use of source water from Waters of the State (i.e., streams or lakes), is allowable, if the appropriate methods to prevent the possible spread of invasive aquatic species are implemented.

3.2 Water and Equipment Used for Hydro cleaning. Aquatic invasives such as zebra mussels and some algae species have infested several bodies of water in the United States and can be transported by vessels (barges, boats, tugs, tankers, etc.) and equipment (tanks, tubing, pumps, etc.) that have been used in areas that contain these invasive species. If equipment is not properly inspected and treated to prevent the spread of invasives, these species can be introduced into areas not currently known to have a population. These invasive species are detrimental to existing ecosystems and can outcompete native species. To assist in preventing the introduction and spread of aquatic invasive species through MoDOT projects in Missouri streams and lakes, the following precautions shall be followed.

3.2.1 Use of Water from Streams, Lakes or Ponds. Contractors shall not use water for nest removal from streams, lakes or ponds, unless they have implemented appropriate methods to prevent the possible spread of invasive aquatic species. Water sources from municipal water treatment plants or wells may be used without following these measures provided the equipment to be used has not previously contained waters from streams, lakes or ponds. If the equipment has previously contained waters from other streams or lakes, the following measures must be implemented prior to use.

3.2.1.1 Equipment Washing. Prior to the use or re-use of equipment following any use with water from streams, lakes or ponds, all equipment shall be washed and rinsed thoroughly with hard spray (power wash) and hot (minimum 120° F) water, for at least one minute.

3.2.1.2 Equipment Treating or Drying. Equipment shall be treated or dried in one of the following manners.

3.2.1.2.1 Equipment interior and/or other surfaces shall be treated with a 10% bleach solution to kill any aquatic nuisance species. This solution must also be run through all intake lines and hoses, to sterilize interior components. When chlorine treatment is used, all chlorine runoff from equipment washing must be collected and properly treated and/or disposed of in accordance with Sec 806.

3.2.1.2.2 Equipment interior and/or other surfaces shall be treated with 140° F water for a minimum of 10 seconds contact on all surfaces. 140 ° F water must also be run through all intake lines and hoses, to purge any standing water.

3.2.1.2.3 Equipment shall be flushed of all non-municipal water, and dried thoroughly, in the sun before using in or transporting between streams and lakes. Dry times will depend on the season the equipment is being used. Equipment must dry a minimum of 7 days for June-September, 18 days for March-May; 18 days for October-November, and 30 days for December-February. The drying method should be reserved as a last resort option.

3.2.2 Prior to use of equipment, contractors shall provide the MoDOT inspector written documentation of the equipment's geographic origin (including the water body it was last used in), as well as defining the specified treatment method used to adequately ensure protection against invasive species. The written documentation will include a statement indicating the contractor is aware of these provisions and will also treat the equipment appropriately after completion of the project.

3.3 Active Nests. The contractor may work on the bridge if active nests are present, as long as the work does not impact or disturb the birds and/or nests. At a minimum, work shall not be performed within 10 feet of an active nest; however, the contractor is responsible for ensuring their activities do not impact the nests, eggs, or young.

4.0 Additional Responsibilities. If active bird nests remain after all reasonable avoidance measures have been taken, or if bird nests are observed during project construction, the contractor shall notify the Resident Engineer and contact the MoDOT Environmental Section (573-526-4778) to determine if there are other allowable options.

Q. Damage to Existing Pavement, Shoulders, Side Roads, and Entrances

1.0 Description. This work shall consist of repairing any damage to existing pavement, shoulders, side roads and entrances caused by contractor operations. This shall include, but is not limited to, damage caused by the traffic during contractor operations within the project limits including the work zone signing.

2.0 Construction Requirements. Any cracking gouging, or other damage to the existing pavement, shoulders, side roads, or entrances from general construction shall be repaired within twenty-four (24) hours of the time of damage at the contractor's expense. Repair of the damaged pavement, shoulders, side roads, or entrances shall be as determined by the engineer.

3.0 Method of Measurement. No measurement of damaged pavement or shoulder areas or damaged side roads or entrances as described above shall be made.

4.0 Basis of Payment. No payment will be made for repairs to existing pavement, shoulders, side roads or entrances damaged by contractor expenses.

R. Class 3 Excavation

1.0 Description. This work shall consist of the excavation for drainage structures.

2.0 Construction Requirements. Construction shall be in accordance with the Missouri Department of Transportation Standard Specifications and Plans, latest edition.

3.0 Method of Measurement. No measurement of Class 3 Excavation shall be made.

4.0 Basis of Payment. Any Class 3 Excavation performed on the project shall be covered within the associated drainage structure unit price. No payment will be made for Class 3 Excavation.

S. Special Drainage Structures

1.0 Description. This work covers the furnishing and installation of special drainage structures as shown in the plans and details.

2.0 Construction Requirements. Construction shall be in accordance with the Missouri Department of Transportation Standard Specifications and Plans, latest edition.

3.0 Method of Measurement.

3.1 Measurement of Special Inlet No. 1 shall be the depth for payment, as per the Special Sheets and as shown in the Culvert Section Plan Sheets.

3.1.1 Specified Grate for Special Inlet No. 1 is included in the contract unit price for the inlet.

3.2 Excavation for Special Inlets is included in the contract unit price for the inlet.

4.0 Basis of Payment. The contract unit price shall be considered as full compensation for all labor, equipment, materials, or other construction involved to complete the work. The following is the Pay Item No. for each type of structure listed above:

Pay Item No. 731-99.13, Special Inlet No. 1, per foot.

T. Special Provisions for Protection of BNSF Railway Company Interest

To Report an Emergency on the railroad call: (800) 832-5452
US Highway 160 Grade-Separation Project along BNSF Thayer-North Sub at MP 313.09.

1.0 Authority of Railroad Engineer and City of West Plain's Representative.

1.1 The authorized representative of BNSF Railway Company, herein called "Railroad Engineer", shall have final authority in all matters affecting the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks.

1.2 The authorized representative of the City of West Plains, herein called "Engineer", shall have authority over all other matters as prescribed herein and in the project specifications.

1.3 The Contractor must adhere to all other BNSF Railway policies and procedures not specifically mentioned in these special provisions. These can be found at <http://www.bnsf.com/in-the-community/public-projects/index.page>.

2.0 Contractor's indemnity Obligations to the Railroad.

2.1 The term "contractor" as used in this special provision includes any and all subcontractors. The contractor shall indemnify, defend and hold harmless the Railroad from and against any and all loss, damage, claims, demands, causes of action, costs and expenses of whatsoever nature arising out of injury to or death of persons whomsoever, or out of damage to or destruction of property whatsoever, including, without limitation, damage to fiber optic, communication and other cable lines and systems, where such injury, death, damage or destruction results from any cause arising out of work performed by the contractor pursuant to the agreement between Railroad and the City for the project, and shall also release the Railroad from and shall waive any claims for injury or damage to equipment or other property, which may result from the construction, maintenance and operation of railroad tracks, wire lines, fiber optic cable, pipe lines and other

facilities on said right of way of the Railroad by the contractor. **THE LIABILITY ASSUMED BY THE CONTRACTOR WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY, DEATH, CAUSE OF ACTION OR CLAIM WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF THE RAILROAD, THE RAILROAD'S AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROVEN BY ANY CLAIMANT TO HAVE BEEN PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR SOLE OR GROSS NEGLIGENCE OF THE RAILROAD.** The contractor's indemnity shall include loss of profits or revenue arising from damage or destruction to fiber optic, communication and other cable lines and systems.

2.2 In addition to the indemnity obligations contained in the preceding paragraph, the contractor shall indemnify, defend and hold harmless the Railroad from any claims, expenses, costs, actions, demands, losses, fines, penalties, and fees, of whatsoever nature arising from, related to or connected, in whole or in part, with the following:

- (a) The removal of the contractor's agents, servants, employees or invitees from the Railroad's property for safety reasons.
- (b) Contractor's compliance or failure to comply with the provision of applicable law in connection with the performance of contractor's work.

3.0 Notice of Starting Work.

3.1 The contractor shall not commence any work on Railroad's right of way until the contractor has complied with the following conditions:

- (a) At least 30 days in advance of the date the contractor proposes to begin work on Railroad's right of way, the contractor shall give the Railroad written notice to the address below with copy to the Engineer who has been designated to be in charge of the work.

Ms. Kara Brockamp
Manager of Public Projects
BNSF Railway
4515 Kansas Ave. Building 4B, 3rd Floor
Kansas City, KS 66106
913-551-4484
Kara.brockamp@bnsf.com

- (b) Obtain written or electronic authorization from the Railroad to begin work on the Railroad's right of way, such authorization to include an outline of specific conditions with which contractor shall comply.
- (c) Obtain the insurance coverage required in Section 14.0 of this job special provision. Contractor shall submit written evidence of such coverage to Railroad prior to commencing any work.
- (d) Prior to performing any work on Railroad's property, right-of way or in an area that may impact Railroad's operations, the contractor's employees, representatives or agents who are regularly assigned to perform work on the project shall complete the safety

orientation training available on the internet at www.contractororientation.com, hereinafter called, "Internet Safety Orientation". If the contractor's employee, representative or agent is not regularly assigned to perform work on the project, hereinafter called "Flexible Worker(s)", the contractor shall ensure that any Flexible Worker receives appropriate safety training prior to performing any work on the Railroad's property, right-of-way or in an area that may impact the Railroad's operations. The content of safety training for Flexible Workers shall include the information covered in the Internet Safety Orientation. The approximate cost of the Internet Safety Orientation is \$11 per person, subject to annual escalation.

3.2 The Railroad's written authorization to proceed with the work, with a copy to the Engineer, will include the names, addresses and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

4.0 Submittals and Actions Required During Construction Phase:

4.1 The Engineer shall be the main contact for BNSF throughout the project. Engineer shall be included on all correspondence relating to BNSF. **BNSF will NOT accept submittals directly from the Agency's Contractor.**

4.2 BNSF will hire a consultant team to perform the duties of an Inspector/Coordinator, (I/C) on behalf of BNSF for the duration of the field construction of the project. The cost of the I/C will be reimbursable to BNSF by the Contractor.

BNSF requires the I/C team be involved in the project throughout the construction phase to represent BNSF.

The I/C has authority to remove a contractor's employee from BNSF property if that employee fails to comply with the BNSF safety policy, does not have proper PPE or otherwise ignores instructions regarding work on BNSF right-of-way. The I/C has authority to shut down work on BNSF right-of-way if the contractor works in a manner that is in violation of BNSF's safety policy or FRA regulations. Anytime instructions to the contractor by BNSF or the I/C are not complied with, the project may be shut down. All equipment and personnel will be removed from BNSF property until issues causing the shutdown are resolved to BNSF's satisfaction.

4.3 Engineer must hold a pre-construction meeting with contractor and BNSF prior to work beginning on BNSF property.

The Pre-Construction meeting shall not be held until 30 days after I/C has been selected – this allows time for the I/C to become familiar with the project.

Recommend scheduling two weeks prior to construction commencing to allow for adjustment to work plans, if needed.

4.4 Required Construction Submittals: (Allow for 4 weeks for BNSF to review submittals)

All submittals should flow from the Contractor to the Agency, to the I/C Consultant, to the BNSF Project Engineer, (PE), and to BNSF Structures with responses back through the same communication chain. **BNSF will not accept submittals directly from the Contractor.**

Any changes to the work governed by a submittal requires that the submittal be re-accepted by BNSF before the work commences.

Examples of construction submittals required include but are not limited to:
Contractors Safety Action Plan, Fire Prevention Plan, Proposed Project Schedule, Demolition, Shoring, Falsework and Lifting of Materials.

The following submittals will require a Professional Engineer, (PE) stamp: Critical Pick Plan (75% of capacity of crane, or multi-crane pick)
Lifted Material Plan (Placement or Removal) – When lift is within temporary construction clearances and when lift is within 25' of the centerline of the nearest track
Demolition Plan Temporary Shoring Plan
Bracing Design Plan (non-standard only per DOT)

For overpasses, Agency shall submit as-built plans of the structure, including final clearance dimensions to the I/C. Vertical clearance must be measured from the Top of Rail, horizontal clearance must be measured from the nearest track centerline.

OPERATIONALLY CRITICAL WORK AND SUBMITTALS: (4 to 6 weeks review timeline) All OC work requires a submittal and acceptance by BNSF.

Operationally Critical (OC) submittals are those that have the potential to affect the safe operation of trains and will need to be reviewed carefully. Work must be monitored to ensure it conforms to the submitted/accepted plan.

In-person safety review meetings will be required with BNSF representative, I/C, Contractor and Agency representative for all OC work and must be documented. The purpose of the meeting is to ensure all parties understand BNSF requirements and are following the applicable submittals. When a track work window is required the meeting shall occur at least 48 hours in advance of work starting.

Submittals must meet the requirements of the UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects. Submittals must also follow the requirements outlined in BNSF Review Comment Sheets, Use of Cranes & Lifting of Materials Submittal Schedule, BNSF Guidelines for Preparation of Bridge Demolition & Removal Plan and the BNSF-UPRR Guidelines for Temporary Shoring. Some submittals are required to be sealed by a licensed professional engineer.

- a. See Table 3-1 for Overhead Structures in UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects
- b. See Table 3-2 for Underpass Structures UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects
- c. Examples of OC submittals included in the above are:
 - i. Shoring (Follow BNSF-UPRR Guidelines for Temporary Shoring)
 - ii. Falsework
 - iii. Demolition (Need plans for substructure and superstructure. Follow BNSF Guidelines for Preparation of Bridge Demolition & Removal Plan)
 - iv. Erection (overhead and underpass structures)

- v. Construction Phasing Plans
- d. Additional OC submittals required, but not included in the Guidelines are:
 - i. All work plans that remove tracks from service (track outage windows require a detailed Gantt chart when greater than 2 hours)
 - ii. Contingency plans
 - iii. Additional OC submittals may be required on a project by project basis.

4.5 Prior to any work commencing on BNSF right of way:

Contractors C/C-1 or Right of Entry must be fully executed and their insurance must be approved before they can perform work on BNSF property. Proof of Contractors insurance approval must be produced to the BNSF PE and the I/C.

4.6 Contractor must adhere to all other BNSF policies and procedures not specifically mentioned in this agreement.

5.0 Interference with Railroad Operations.

5.1 The contractor shall arrange and conduct all work so that there shall be no interference with the Railroad's operations, including train, signal, telephone and telegraphic services; or damage to the Railroad's property; poles, wires and other facilities of tenants, licensees, easement grantees and invitees on the Railroad's right of way. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the contractor from liability. Any work to be performed by the contractor that requires flagging service or inspection service shall be deferred by the contractor until the flagging service required by the Railroad is available at the job site.

5.2 Whenever work within the Railroad's right of way is of such a nature that impediment to the Railroad's operations is unavoidable, such as use of runaround tracks or necessity for reduced speed, the contractor shall schedule and conduct these operations so that such impediment is reduced to the absolute minimum.

5.3 Should conditions arising from, or in connection with the work require that immediate and unusual provisions be made to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Engineer, or the Engineer if the Railroad Engineer is absent, such provision is insufficient, the Railroad Engineer or Engineer may require or provide such provisions as deem necessary. In any event, such provisions shall be at the contractor's expense and without cost to the Railroad or the City of West Plains.

5.4 The contractor shall be responsible for any damage to the Railroad as a result of work on the project, which shall include but not be limited to interference with the normal movement of trains caused exclusively by the work performed by the contractor. The contractor shall be responsible for damages for the Railroad's train delays that are caused exclusively by the contractor. The Railroad agrees not to perform any act to unnecessarily cause any train delay. The damages for train delays per freight hour will be billed at an average rate per hour as determined from the Railroad's records. These records shall be provided by the Railroad, upon request, to the City of West Plains or the City of West Plain's contractor.

6.0 Track Clearances.

6.1 The minimum track clearances to be maintained by the contractor during construction are shown on the project plans. However, before undertaking any work within Railroad's right of way, or before placing any obstruction over any track, the contractor shall:

- (a) Notify the Railroad Engineer at least 72 hours in advance of the work.
- (b) Receive assurance from the Railroad Engineer that arrangements have been made for flagging service as may be necessary.
- (c) Receive permission from the Railroad Engineer to proceed with the work.
- (d) Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response.

6.2 The contractor shall fully comply with any horizontal and vertical clearance requirements imposed by Missouri state statutes and regulations and Federal statutes and regulations regarding the placement of structures or equipment near or over railroad tracks.

7.0 Construction Procedures.

7.1 General. Construction work on the Railroad's property shall be:

- (a) Subject to the inspection and review of the Railroad.
- (b) In accordance with the Railroad's written outline of specific conditions.
- (c) In accordance with this special provision.

7.2 Excavation. The subgrade of an operated track shall be maintained with the berm edge at least 12 feet from centerline of track and not more than 26 inches below top of the rail. The contractor will not be required to make existing section meet this specification if substandard, in which case the existing section will be maintained. The contractor shall cease all work and notify the Railroad immediately before continuing excavation in the work area if obstructions are encountered which do not appear on the drawings. If the obstruction is a utility and the owner of the utility can be identified, then the contractor shall also notify the owner immediately. If there is any doubt about the location of underground cables or lines of any kind, no work shall be performed until the exact location has been determined. There will be no exceptions to these instructions. Additionally, all excavations shall be conducted in compliance with applicable Occupational Safety and Health Act regulations and, regardless of depth, shall be shored where there is any danger to tracks, structures or personnel. Any excavations, holes or trenches on the Railroad's property shall be covered, guarded and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas shall be secured and left in a condition that will ensure that Railroad's employees and other personnel who may be working or passing through the area are protected from all hazards. All excavations shall be back filled as soon as possible.

7.3 Excavation for Structure. The contractor shall be required to take special precaution and care in connection with excavating, shoring pits and in driving piles for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which the tracks carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working

equipment, tools or other material. The procedure for doing such work, including need of and plans for shoring, shall be approved by the Railroad Engineer before work is performed, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans in accordance with the Missouri Standard Specifications for Highway Construction, hereinafter called "Standard Specifications". The responsibility for the design and construction of the sheeting rests solely with the contractor. The temporary shoring along the railroad tracks shall be designed for the Cooper E80 loading. The design shall insure that the shoring is braced or substantially securely to prevent movement. The contractor shall submit plans for the temporary shoring that shall be signed, sealed, and stamped in accordance with the laws relating to Architects and Professional Engineers, Chapter 327, RSMo. and then submitted for review by the Engineer.

7.4 Demolition of Existing Structures. The contractor shall be required to take special precaution and care in connection with demolition of existing structures. The procedure for doing such work, including need of and plans for temporary falsework, shall first be approved by Railroad Engineer before work is performed, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans.

7.5 Falsework. The contractor shall be required to take special precaution and care to prevent any material from falling on the Railroad's right of way. The procedure for preventing material from falling, including need of and plans for temporary falsework, shall first be approved by the Railroad Engineer, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans.

7.6 Blasting.

7.6.1 The contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosives on or adjacent to the Railroad's property. If permission for use of explosives is granted, the contractor shall be required to comply with the following:

(a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the contractor.

(b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

(c) No blasting shall be done without the presence of the Railroad Engineer. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed as mentioned in Section 3.2 of this job special provision, the contractor shall be required to arrange for the presence of the Railroad Engineer and such flagging as the Railroad may require.

(d) The contractor shall have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting, at contractor's expense, any track misalignment or other damage to the Railroad's property resulting from the blasting as directed by the Railroad Engineer. If contractor's actions result in delay of trains, the contractor shall bear the entire cost thereof.

7.6.2 The Railroad Engineer will:

(a) Determine the approximate location of trains and advise the contractor the approximate amount of time available for the blasting operation and clean-up.

(b) Have the authority to order discontinuance of blasting if blasting is too hazardous or is not in accordance with this special provision.

7.7 Maintenance of Railroad Facilities. The contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from contractor's operations. The contractor shall promptly repair eroded areas within Railroad's right of way and repair any other damage to the Railroad's property, tenants, licensees, easement grantees and invitees. All such maintenance and repair of damages due to the contractor's operations shall be done at the contractor's expense.

7.8 Storage of Materials and Equipment.

7.8.1 The contractor shall not store or stockpile construction materials or equipment closer than 25 feet to the centerline of the nearest railroad track or on the Railroad's property not covered by construction easement, contractor's permit, lease or agreement. Additionally, the contractor shall not store or leave materials or equipment within 250 feet of the edge of any highway/rail at-grade crossings. Further, both sides of a main track shall remain unobstructed for a distance of 10 feet from the exterior edge of the track at all times to allow for stopped train inspection.

7.8.2 Machines or vehicles shall not be left unattended with the engine running. Parked machines or equipment shall be in gear with brakes set and with blade, pan or bucket lowered to the ground if so equipped. All grading or construction machinery that is left parked near the track unattended shall be effectively immobilized so that unauthorized persons cannot move such equipment.

7.9 Cleanup. Upon completion of the work, the contractor shall remove from within the limits of the Railroad's right of way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the contractor, and leave said right of way in a neat condition satisfactory to the Railroad Engineer.

7.10 Buried Cable and Other Buried Facilities.

7.10.1 The contractor is placed on notice that fiber optic, communication and other cable lines and systems, collectively the "Lines", owned by various telecommunications companies may be buried on Railroad's property or right of way. The locations of the buried Lines, pipelines or utility facilities have been included on the plans based on information from the telecommunications companies, pipeline operators, or utilities, as the case may be. The contractor shall be responsible for contacting the Railroad Engineer, the Railroad's 24-hour information number (1-800-533-2891), the telecommunications companies, pipeline operators and utilities and notifying them of any work that may damage the buried Lines, pipelines, utility facilities and/or interfere with their service. The contractor shall verify the location of all buried Lines, pipelines and utility facilities shown on the plans or marked in the field in order to establish their exact locations prior to or while doing work on the Railroad's property or right of way. The contractor shall also use all reasonable methods when working on the Railroad's property or right of way to determine if any other buried Lines, pipelines or utility facilities exist on the Railroad's property or right of way.

7.10.2 Failure to mark or identify the buried Lines, pipelines or utility facilities will be sufficient cause for the Railroad Engineer to stop construction at no cost to the City of West Plains or Railroad until these items are completed. The contractor shall be responsible for the rearrangement of any buried facilities, Lines, pipelines or utility facilities determined to interfere with the construction. The contractor shall cooperate fully with any telecommunications companies, pipeline operators and utility facility owners in performing such rearrangements.

8.0 Damages. The Railroad will not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by railroad traffic. Any cost incurred by the Railroad for repairing damages to Railroad's property or to property of the Railroad's tenants, licensees, easement grantees and invitees caused by or resulting from the contractor's operations shall be paid directly to the Railroad by contractor.

9.0 Flagging Services.

9.1 When Required. Under the terms of the agreement between the City of West Plains and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect the Railroad's operations. In general, the requirements of such services will be whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's right of way within 25 feet of the centerline of any track, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging, or reasonable probability of accidental hazard to Railroad's operations or personnel. Normally, the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary, such as yard limits where 3 flaggers may be required. However, if the contractor works within distances that violate instructions given by the Railroad Engineer or performs work that has not been scheduled with the Railroad Engineer, flaggers may be required full time until the project has been completed.

9.2 Scheduling and Notification.

9.2.1 Not later than the time that approval is initially requested to begin work on the Railroad's right of way (30 days), contractor shall furnish to the Railroad and the City of West Plains a schedule for all work required to complete the portion of the project within Railroad's right of way and arrange for a job site meeting between the contractor, the Engineer, and the Railroad Engineer. Flaggers may not be provided until the job site meeting has been conducted and the contractor's work scheduled.

9.2.2 The contractor shall be required to give the Railroad Engineer at least 30 days of advance written notice of intent to begin work within Railroad's right of way in accordance with this special provision. Once begun, if such work is then suspended at any time, or for any reason, the contractor shall be required to give the Railroad Engineer at least 5 working days of advance notice before resuming work on Railroad's right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad Engineer to determine if flagging will be required. If such notice is in writing, the contractor shall furnish the Engineer a copy; if notice is given verbally, the notice shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagger or flaggers are present at the job site. Obtaining a flagger or flaggers may take up to 30 days to obtain initially from the Railroad. When flagging begins, the flagger is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging

becomes unnecessary and is suspended, obtaining a flagger or flaggers may take up to 30 days to again obtain from the Railroad. Due to Railroad labor agreements, 10 working days notice may be necessary before flagging services may be discontinued and responsibility for payment stopped. Notification for flagging should be addressed to:

Johnathan Arnett, Jr.
BNSF Railway
Johnathan.arnettjr@bnsf.com

9.2.3 If, after the flagger is assigned to the project site, emergencies arise which require the flagger's presence elsewhere, then the contractor shall delay work on the Railroad's right of way until such time as the flagger is again available. Any additional costs resulting from such delay shall be borne by the contractor and not the Railroad.

9.2.4 The contractor shall provide a temporary structure to provide shelter from weather conditions for the person(s) providing flagging protection service on behalf of the Railroad as described herein. The structure shall be provided in an area immediately accessible to the Railroad's main track and the construction site, and be equipped with telephone service, lighting and desk.

9.3 Payment.

9.3.1 The Contractor will pay the Railroad directly for the cost of flagging services associated with the project.

9.3.2 The Railroad shall submit progress invoice to the Contractor during the time flagging services are required. A final invoice shall be submitted to the Contractor within 180 days of completion of the project.

9.3.3 Should a dispute between the Railroad, the City of West Plains and the contractor develop concerning the cost of flagging service or should the contractor fail to promptly pay the Railroad for flagging services, the full amount of the Railroad's invoice will be deducted from the contractor's payment request. The City of West Plains will make a corrected payment once a settlement is reached between the Railroad, the City of West Plains and the contractor.

9.3.4 The contractor shall be responsible for arranging needed flagging services as required by the Railroad to accomplish the highway improvement.

9.3.5 The cost of flagging service is approximately \$1500 per day based on an 8-hour work day and a 40-hour work week. This cost includes the base pay for the flagger, overhead, and per diem charge for travel expenses, meals and lodging. The charge to the contractor by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required. Work by a flagger in excess of 8 hours per day or 40 hours per week but not more than 12 hours a day will result in overtime pay at 1 ½ times the appropriate rate. Work by a flagger in excess of 12 hours per day will result in overtime pay at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 ½ times the normal rate. Railroad expenses incurred preparing and handling invoices will also be charged to the contractor. Charges to the contractor by the Railroad shall be in accordance with applicable provisions of Volume 1, Chapter 4, §3 and Volume 6, Chapter 6, §2, Subsection 1 of the Federal-Aid Highway Program Manual issued by the Federal Highway Administration,

including all current amendments. Flagging costs are subject to change. The above estimates of flagging cost are provided for information only and are not binding in any way. Each time a flagger is called, the minimum period for billing will be the 8 hour basic day unless the flagger can be assigned to other Railroad work during the work day.

9.3.6 A maximum of one hour travel time each way per day per flagger will be required for travel to and from the project.

9.4 Verification.

9.4.1 Any complaints concerning a flagger shall be resolved in a timely manner. If need for a flagger is questioned, please contact the Railroad Engineer and Ms. Kara Brockamp, Manager of Public Projects at (913) 551 4484. All verbal complaints shall be confirmed in writing by the contractor within 5 working days with copy to the Railroad Engineer and Engineer. All written correspondence shall be addressed to Ms. Brockamp as shown in Section 3.1 of this job special provision.

9.4.2 The Railroad flagger assigned to the project will be responsible for notifying the Engineer upon arrival at the job site on the first day, or as soon thereafter as possible, that flagging services begin and on the last day that flagger performs such services for each separate period that services are provided. The Engineer will document such notification in the project records.

10.0 Haul Across Railroads.

10.1 Where the plans show or imply that materials of any nature must be hauled across the Railroad's tracks, unless the plans clearly show that the City of West Plains has included arrangements for such haul in the agreement with the Railroad, the contractor shall be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad's tracks. The contractor shall be required to bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by Railroad's personnel.

10.2 No crossing may be established for use of the contractor for transporting materials or equipment across the tracks of the Railroad unless specific authority for the installation, maintenance, necessary watching and flagging thereof and removal, all at the expense of the contractor, is first obtained from the Railroad Engineer.

11.0 Work for the Benefit of the Contractor. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans and are included in the agreement between the City of West Plains and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the City of West Plains and/or the Railroad. Should the contractor desire any changes in addition to the above, then contractor shall make separate arrangements with the Railroad for same to be accomplished at the contractor's expense.

12.0 Cooperation and Delays. The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants, licensees, easement grantees and invitees of the Railroad. In arranging a schedule, the contractor shall ascertain, from the Railroad, the lead time required for assembling crews, materials and make due allowance. No charge of claims of the contractor against the Railroad will be allowed for hindrance

or delay on account of railway traffic for any work done by the Railroad, other delay incident to or necessary for safe maintenance of railway traffic, or for any delays due to compliance with this special provision.

13.0 Trainman's Walkways. Along the outer side of each exterior track of multiple operated track and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains shall be maintained extending to a line not less than 12 feet from centerline of track. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railroad's protective service is provided shall be removed before the close of each work day. Any excavation near the walkway, the contractor shall install a handrail with a 12 feet minimum clearance from centerline of track.

14.0 Insurance. The amount of work to be performed upon, over or under Railroad's right of way is estimated to be one percent of the contractor's total bid for the project.

14.1 In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, Contractor must, at its sole cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

Commercial General Liability insurance. This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000 but in no event less than the amount otherwise carried by the contractor. Coverage must be purchased on a post 2004 ISO occurrence form or equivalent and include coverage for, but not limit to the following:

- Bodily Injury and Property Damage
- Personal Injury and Advertising Injury
- Fire legal liability
- Products and completed operations

This policy must also contain the following endorsements, which must be indicated on the certificate of insurance:

The definition of insured contract must be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property. Waiver of subrogation in favor of and acceptable to Railroad.

Additional insured endorsement in favor of and acceptable to Railroad. Separation of insureds. The policy shall be primary and non-contributing with respect to any insurance carried by Railroad.

It is agreed that the workers' compensation and employers' liability related exclusions in the Commercial General Liability insurance policy(s) required herein are intended to apply to employees of the policy holder and shall not apply to Railroad employees.

No other endorsements limiting coverage as respects obligations under this Agreement may be included on the policy with regard to the work being performed under this agreement.

Business Automobile Insurance. This insurance must contain a combined single limit of at least \$1,000,000 per occurrence, and include coverage for, but not limited to the following:

- Bodily injury and property damage

Any and all vehicles owned, used or hired

The policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

Waiver of subrogation in favor of and acceptable to Railroad.

Additional insured endorsement in favor of and acceptable to Railroad.

Separation of insureds.

The policy shall be primary and non-contributing with respect to any insurance carried by Railroad.

Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

Contractor's statutory liability under the worker's compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance must cover all employees anyway.

Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

This policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

Waiver of subrogation in favor of and acceptable to Railroad.

Railroad Protective Liability insurance naming only the Railroad as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy Must be issued on a standard ISO form CG 00 35 10 93 and include the following:

Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93)

Endorsed to include the Limited Seepage and Pollution Endorsement.

Endorsed to include Evacuation Expense Coverage Endorsement.

Endorsed to remove any exclusion for punitive damages.

No other endorsements restricting coverage may be added.

The original policy must be provided to the Railroad prior to performing any work or services under this Agreement

In lieu of providing a Railroad Protective Liability Policy, Licensee may participate in Licensor's Blanket Railroad Protective Liability Insurance Policy available to contractor.

14.2 Other Requirements:

14.2.1 All policies (applying to coverage listed above) must not contain an exclusion for punitive damages and certificates of insurance must reflect that no exclusion exists.

14.2.2 Contractor agrees to waive its right of recovery against Railroad for all claims and suits against Railroad. In addition, its insurers, through the terms of the policy or policy endorsement, waive their right of subrogation against Railroad for all claims and suits. The certificate of insurance must reflect the waiver of subrogation endorsement. Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against Railroad for loss of its owned or leased property or property under contractor's care, custody or control.

14.2.3 Contractor is not allowed to self-insure without the prior written consent of Railroad. If granted by Railroad, any deductible, self-insured retention or other financial responsibility for claims must be covered directly by contractor in lieu of insurance. Any and all Railroad liabilities that would otherwise, in accordance with the provisions of this Agreement, be covered by contractor's insurance will be covered as if contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

14.2.4 Prior to commencing the Work, contractor must furnish to Railroad an acceptable certificate(s) of insurance including an original signature of the authorized representative evidencing the required coverage, endorsements, and amendments and referencing the contract audit/folder number if available. Contractor shall notify Railroad in writing at least 30 days prior to any cancellation, non-renewal, substitution or material alteration. Upon request from Railroad, a certified duplicate original of any required policy must be furnished. Contractor should send the certificate(s) to the following address:

Railroad:
BNSF Railway Company
P.O. Box 140528
Kansas City, MO 64114
Toll Free: 877-576-2378
Fax number: 817-840-7487
Email: BNSF@certfocus.com
www.certfocus.com

City of West Plains:
Mr. Michael D. McMahon
Project Coordinator
City of West Plains
1910 North Holiday Lane
West Plains, MO 65775

14.2.5 Any insurance policy must be written by a reputable insurance company acceptable to Railroad or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provide.

14.2.6 Contractor represents that this Agreement has been thoroughly reviewed by contractor's insurance agent(s)/broker(s), who have been instructed by contractor to procure the insurance coverage required by this Agreement. Allocated Loss Expense must be in addition to all policy limits for coverages referenced above. Not more frequently than once every five years, Railroad may reasonably modify the required insurance coverage to reflect then-current risk management practices in the railroad industry and underwriting practices in the insurance industry.

14.2.7 If any portion of the operation is to be subcontracted by contractor, contractor must require that the subcontractor provide and maintain the insurance coverages set forth herein, naming Railroad as an additional insured, and requiring that the subcontractor release, defend and indemnify Railroad to the same extent and under the same terms and conditions as contractor is required to release, defend and indemnify Railroad herein.

14.2.8 Failure to provide evidence as required by this section will entitle, but not require, Railroad to terminate this Agreement immediately. Acceptance of a certificate that does not comply with this section will not operate as a waiver of contractor's obligations hereunder.

14.2.9 The fact that insurance (including, without limitation, self-insurance) is obtained by contractor will not be deemed to release or diminish the liability of contractor including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad will not be limited by the amount of the required insurance coverage.

14.2.10 For purposes of this section, Railroad means "Burlington Northern Santa Fe LLC", "BNSF RAILWAY COMPANY" and the subsidiaries, successors, assigns and affiliates of each.

14.2.11 Railroad will not accept binders as evidence of insurance, the original policy shall be provided. The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

(a) Named Insured: BNSF Railway Company

(b) Description and Designation:

US Highway 160, MoDOT Bridge# A9252; Howell County

Job No. RRP - 000S (627)

Construction of Bridge over BNSF, US DOT# 674018W MP 313.09 Thayer-North Sub in West Plains, MO.

14.2.12 The contractor must notify BNSF Manager of Public Projects at Kara.Brockamp@bnsf.com, when applying for railroad insurance coverage.

14.3 If any part of the work is sublet, similar insurance and evidence thereof in the same amounts as required of the prime contractor, shall be provided by or in behalf of the subcontractor to cover the subcontractor's operations. Endorsements to the prime contractor's policies specifically naming subcontractors and describing their operations will be acceptable for this purpose.

14.4 All Insurance hereinbefore specified shall be carried until all work required to be performed under the terms of the contract has been satisfactorily completed within the limits of the Railroad's right of way as evidenced by the formal acceptance by the City of West Plains. Insurance Companies may cancel insurance by permission of the City of West Plains and Railroad or on 30 days written notice to the Railroad and City of West Plains.

15.0 Hazardous Materials Compliance and Reporting. Contractor shall be responsible for complying with all applicable federal, state and local governmental laws and regulations, including, but not limited to environmental laws and regulations (including but not limited to the Resource Conservation and Recovery Act, as amended; the Clean Water Act, as amended; the Oil Pollution Act, as amended; the Hazardous Materials Transportation Act, as amended; and the Comprehensive Environmental Response, Compensation and Liability Act, as amended), and health and safety laws and regulations. In addition to the liability provisions contained elsewhere in this job special provision, the contractor hereby indemnifies, defends and holds harmless the Railroad for, from and against all fines or penalties imposed or assessed by federal, state and local governmental agencies against the Railroad which arise out of contractor's work under this special provision. Notwithstanding the preceding sentence, the contractor will not be liable for pre-existing hazardous materials or hazardous substances discovered on Railroad's property or

right of way so long as such hazardous materials or hazardous substances were not caused by (in whole or in part) contractor's work, acts or omissions. If contractor discovers any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, on or adjacent to Railroad's property, in or near any surface water, swamp, wetlands or waterways, while performing any work under this special provision, the contractor shall immediately:

- (a) Notify the Railroad's Resource Operations Center at (800) 832-5452, of such discovery.
- (b) Take safeguards necessary to protect employees, subcontractors, agents and/or third parties.
- (c) Exercise due care with respect to the release, including the taking of any appropriate measure to minimize the impact of such release

16.0 Personal Injury Reporting. The Railroad is required to report certain injuries as a part of compliance with Federal Railroad Administration ("FRA") reporting requirements. Any personal injury sustained by any employee of the contractor, subcontractor or contractor's invitees while on the Railroad's property shall be reported immediately, by phone or mail if unable to contact in person, to the Railroad's representative in charge of the project. The Non-Employee Personal Injury Data Collection Form is to be completed and sent by Fax to the Railroad at (817) 352-7595 and to the Railroad's Project Representative no later than the close of shift on the date of the injury.

17.0 Failure to Comply. In the event the contractor violates or fails to comply with any of the requirements of this special provision, the below orders will be applied. Any such orders shall remain in effect until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

- (a) The Railroad Engineer may require that the contractor to vacate the Railroad's property.
- (b) The Engineer may withhold all monies due to the contractor until contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

18.0 Payment for Cost of Compliance. No separate payment will be made for any extra cost incurred on account of compliance with this special provision. All such cost shall be included in the contract unit price for other items included in the contract. Railroad will not be responsible for paying the contractor for any work performed under this special provision.

18.1 If applicable to the project, the contractor must submit a plan for demolition, falsework, lifting plans over the Railroad property, shoring plans and any other applicable plans the Railroad may require as well as means and methods to the Railroad for review and approval. All plans submitted to the Railroad must be signed and sealed by Professional Engineer licensed in the State of Missouri. These plans can be submitted along with the Right of Entry application; however, the Right of Entry will not be approved until all required plan submittals are approved by the Railroad. The Railroad may also require an onsite inspector to assure the work is carried out in accordance with the Railroad approved plans.

18.1.1 Payment for plan submittal, Railroad plan review and Railroad inspection fees.

The contractor shall be responsible for all costs associated with the generation and submittal of Railroad plans required for the right of entry agreement including Railroad review fees associated with these plan submittals and any onsite inspection and management fees. A line item (Railroad

Plan Submittal) is provided for all costs associated with the generation and submittal of plans required for the Railroad right of entry agreement.

Item No.	Unit	Description
618-10.15	LS	Railroad Plan Submittal

18.1.1 Payment for Railroad Flagging

The contractor shall be responsible for covering the costs of the Railroad Flagger as detailed in Section 9 above. A line item (Railroad Flagging) is provided for all costs associated with the Railroad Flagger.

Item No.	Unit	Description
618-10.15A	LS	Railroad Flagging

U. Optional Pavements JSP 06-06H

1.0 Description. This work shall consist of a pavement composed of either Portland cement concrete or asphaltic concrete constructed on a prepared subgrade. This work shall be performed in accordance with the standard specifications and as shown on the plans or established by the engineer.

2.0 The quantities shown reflect the total square yards of pavement surface designated for each pavement type as computed and shown on the plans.

2.1 No additional payment will be made for asphaltic concrete mix quantities to construct the required 1:1 slope along the edge of the pavement, or for tack applied between lifts of asphalt.

2.2 No additional payment will be made for aggregate base quantities outside the limits of the final surface area as computed and shown on the plans. When A2 shoulders are specified, payment for aggregate base will be as shown on the plans.

2.3 The grading shown on the plans was designed for the (*thinner*) pavement option. For projects with grading in the contract, there will be no adjustment of the earthwork quantities due to adjusting the roadway subgrade for optional pavements.

2.4 The contractor shall comply with Sections 401 through 403 for the asphalt option and Sections 501 and 502 for the concrete option.

2.5 Pavement options composed of Portland cement concrete shall have contrast pavement marking for intermittent markings (skips), dotted lines, and solid intersection lane lines. The pavement markings shall be in accordance with Section 620. No additional payment will be made for the contrast pavement markings.

3.0 Method of Measurement. The quantities of concrete pavement will be measured in accordance with Section 502.14. The quantities of asphaltic concrete pavement will be measured in accordance with Section 403.22.

4.0 Basis of Payment. The accepted quantity of the chosen option will be paid for at the contract unit bid price for Item 401-99.05, Optional Pavement, per square yard.

4.1 For projects with previously graded roadbeds, any additional quantities required to bring the roadway subgrade to the proper elevation will be considered completely covered by the pay item for Subgrading and Shouldering.

4.2 Price Adjustment for Fuel. If the contractor accepts the option for fuel adjustment in the bid proposal, a fuel adjustment will be applied in accordance with Sec 109.14 for the type of pavement constructed.

V. Contractor Required Activities for Staging & Borrow Areas

1.0 The Contractor will be required to obtain all approvals, permits, contracts, and responsible for all fee payments for the construction and use of a staging & borrow area as shown on the plans.

1.1 The Contractor shall provide documentation to the Engineer that all clearances and permits applicable under federal and state law have been obtained.

1.2 The Contractor shall obtain appropriate land disturbance permits from MDNR unless the staging area is already under permit with MDNR.

2.0 The Engineer will assist the Contractor with coordination activities with applicable federal and state agencies to obtain clearances and permits.

3.0 Basis of Payment. No direct payment will be made to cover the costs for obtaining, clearing, and permitting the staging/borrow area.

W. Tree Clearing Restriction

1.0 Description. The project is within the known range of the federally protected Indiana bat, tricolored, northern long-eared bat. These bats are known to roost in trees in summer months. MoDOT has determined that bat habitat exist within the project area. Therefore, to avoid potential negative impacts to roosting Indiana, tricolored, or northern long-eared bats, removal of all trees will only be allowed between November 1 and March 31.

2.0 Basis of Payment. No direct pay shall be provided for any labor, equipment, time, or materials necessary to complete this work.

X. Field Verification of Existing Drainage Structures

1.0 Description. Contractor is responsible for field verifying the location and elevations of existing structures and pipes prior to beginning construction on each proposed structure. There is no direct payment for field measurements of existing structures.

Y. Sanitary Sewer Encasement

1.0 Description. This work covers the construction of sanitary sewer encasement as shown in the plans and details.

2.0 Construction Requirements. Construction shall be in accordance with the Missouri Department of Transportation Standard Specifications and Plans, latest edition.

3.0 Method of Measurement.

3.1 Measurement of Sanitary Sewer Encasement shall be by the linear foot.

4.0 Basis of Payment. The contract unit price shall be considered as full compensation for all labor, equipment, materials, or other construction involved to complete the work. The following is the Pay Item No. for each type of structure listed above:

Pay Item No. 609-99.03, Sanitary Sewer Encasement, per linear foot.

Z. Temporary Security Fencing

1.0 Description. The contractor shall be responsible for maintaining security fencing on the DRS property, as shown in the plans, throughout construction.

1.1 The contractor shall utilize the existing fencing and/or temporary fencing to provide a security fence equal to or better than the existing fencing.

1.2 The location of the temporary security fence shall be coordinated with the resident engineer and DRS property manager:

James Ray
DRS Facilities Director/West Plains Capital Manager
Office: 417-257-6429
Mobile: 417-293-6260
jray@drs.com

2.0 Construction Requirements. This work shall conform to Section 607 of the Standard Specifications.

2.1 The contractor shall be required to submit a proposed plan and shop drawings, as necessary, a minimum of two weeks prior to removal/relocation of the existing fence. Existing fence shall not be removed without prior approval of the proposed plan.

4.0 Basis of Payment. The contract unit price shall be considered as full compensation for all labor, equipment, materials, or other construction involved to complete the work.

Pay Item No. 607-99.03, Existing Fence Relocation, per lump sum.

AA. 12" Moment Slab

1.0 Description. This work covers the construction of a 12" Moment Slab as shown in the plans and details.

2.0 Construction Requirements. Construction shall be in accordance with the Missouri Department of Transportation Standard Specifications and Plans, latest edition.

3.0 Method of Measurement.

3.1 Measurement of the 12" Moment Slab shall be to the Square Yard.

4.0 Basis of Payment. The contract unit price shall be considered as full compensation for all labor, equipment, materials, or other construction involved to complete the work.

Pay Item No. 608-99.05, 12" Moment Slab, per square yard.

BB. Type D Barrier Transition (On Footing)

1.0 Description. This work covers the construction of a Type D Barrier Transition (On Footing) as shown in the plans and details.

2.0 Construction Requirements. Construction shall be in accordance with the Missouri Department of Transportation Standard Specifications and Plans, latest edition.

3.0 Method of Measurement.

3.1 Measurement of the Type D Barrier Transition (On Footing) shall be to the Linear Foot.

4.0 Basis of Payment. The contract unit price shall be considered as full compensation for all labor, equipment, materials, or other construction involved to complete the work.

Pay Item No. 703-99.03, Type D Barrier Transition (On Footing), per linear foot.

CC. Type D Barrier Transition (Moment Slab)

1.0 Description. This work covers the construction of a Type D Barrier Transition (Moment Slab) as shown in the plans and details.

2.0 Construction Requirements. Construction shall be in accordance with the Missouri Department of Transportation Standard Specifications and Plans, latest edition.

3.0 Method of Measurement.

3.1 Measurement of the Type D Barrier Transition (Moment Slab) shall be to the Linear Foot.

3.1.1 Sidewalk acting as moment slab (as depicted in details) is included in the unit price for Type D Barrier Transition.

4.0 Basis of Payment. The contract unit price shall be considered as full compensation for all labor, equipment, materials, or other construction involved to complete the work.

Pay Item No. 703-99.03, Type D Barrier Transition (Moment Slab), per linear foot.

DD. Economic Development Administration Project Sign

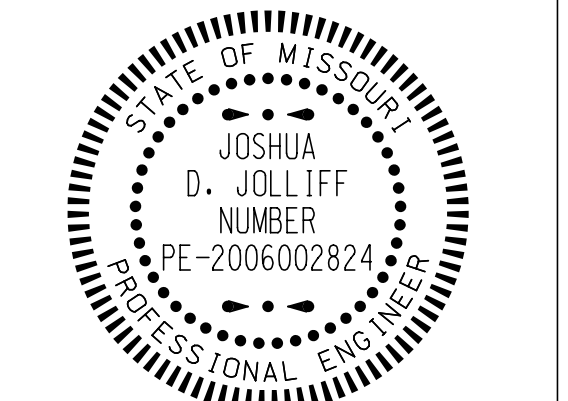
- 1.0 Description.** This work covers the furnishment, construction, and maintenance of the Economic Development Administration Project Sign as detailed in the project bidding document pages 141 – 145.
- 2.0 Construction Requirements.** Construction shall be in accordance with the Missouri Department of Transportation Standard Specifications and Plans, latest edition.
- 3.0 Basis of Payment.** This is a no direct pay bid item.



I:\WestPlains\1532501\Drawings\Sheet\A9411 - Details of MSE Wall.dgn

REVISIONS		
NUMBER	BY	DATE
1	CMT	5/22/2024

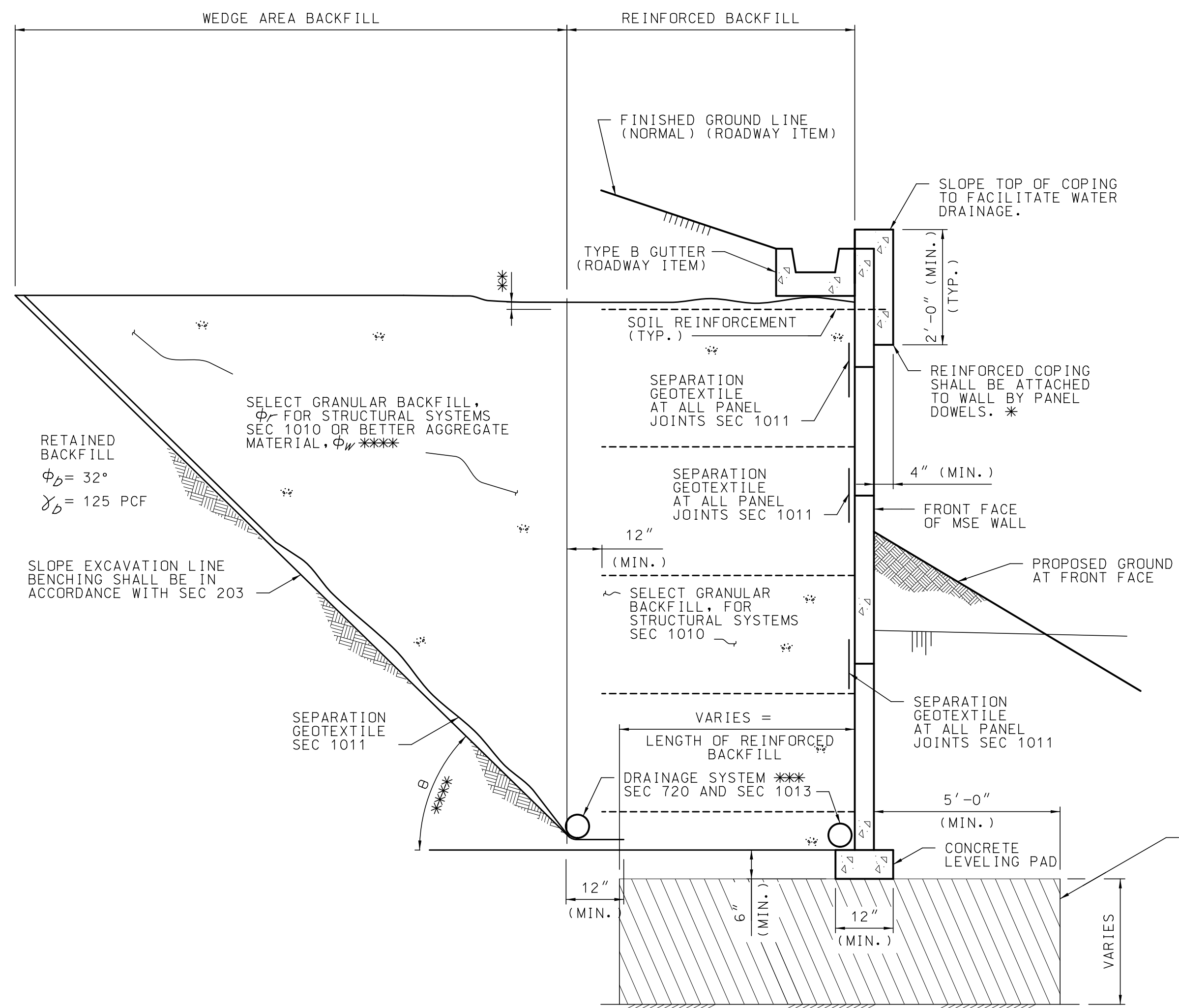
**WEST PLAINS, MISSOURI
US HWY 160 (INDEPENDENCE DRIVE)
A9411 - DETAILS OF MSE WALL**



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

CMT
© Copyright CMT, Inc.
Crawford, Murphy & Tilly
Engineers and Consultants
1631 W. Eldorado, Springfield, Missouri 65807
tel 417-869-6009
fax 417-869-8129

DESIGN BY:	JDJ/DWL
CHECKED BY:	JDJ
JOB No:	15325-01-00
SHEET	124 OF 165 SHEETS



**TYPICAL SECTION THRU
LARGE BLOCK WALL SHOWING FILTER CLOTH**

- * INVERTED U-SHAPE REINFORCED CAPSTONE MAY BE USED IN LIEU OF COPING. PANEL DOWELS FOR CAPSTONE SHALL BE REQUIRED AND PROVIDED BY MANUFACTURER. THE DOWELS SHALL BE FIELD TRIMMED TO CLEAR THE CAPSTONE BY A MINIMUM 1 1/2 INCHES AND A MAXIMUM OF 2 1/2 INCHES.
- ** TOPMOST LAYER OF REINFORCEMENT SHALL BE FULLY COVERED WITH SELECT GRANULAR BACKFILL FOR STRUCTURAL SYSTEMS, AS APPROVED BY THE WALL MANUFACTURER, BEFORE PLACEMENT OF THE SEPARATION GEOTEXTILE.
- *** MINIMUM 6" DIAMETER PERFORATED PVC OR PE PIPE.
- MANUFACTURER SHALL SHOW DRAIN DETAILS ON DESIGN PLANS TO BE SUBMITTED AS SHOWN ON MSE WALL PLANS AND/OR ROADWAY PLANS.
- CONTRACTOR SHALL MODIFY THE DRAIN DETAILS AS SHOWN IF IT WILL IMPROVE FLOW AS MAY BE THE CASE FOR STEPPED LEVELING PAD, AND FOR AN UNEVEN GROUND LINE (APPROVAL FROM THE ENGINEER REQUIRED).

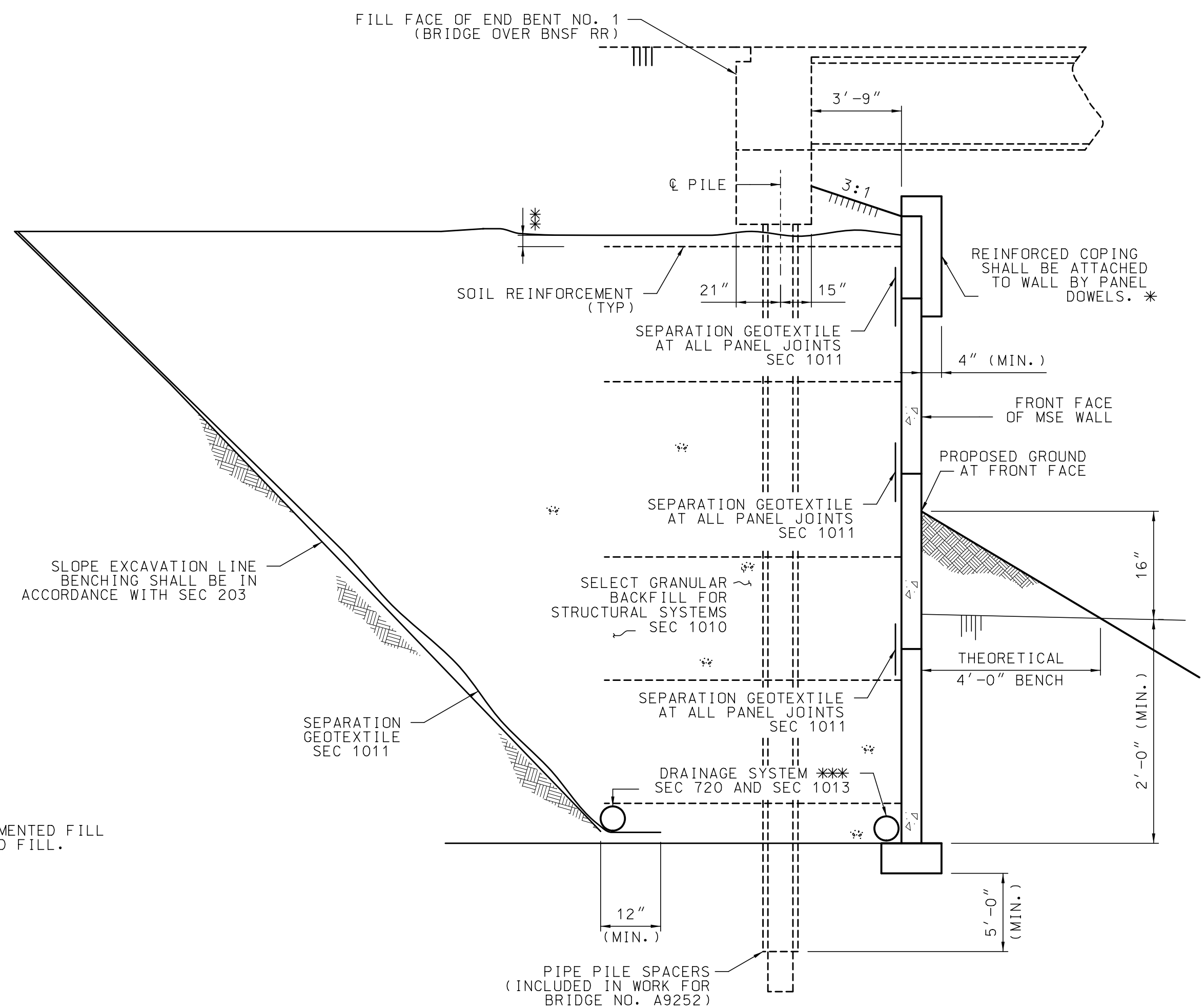
- *** SELECT GRANULAR BACKFILL SHALL EXTEND A MINIMUM OF 12" BEYOND THE END OF ALL SOIL REINFORCEMENT. WHERE THE ANGLE, θ , BETWEEN THE RETAINED BACKFILL EXCAVATION/FILL LINE AND THE HORIZONTAL IS LESS THAN 90° , THE WEDGE AREA BACKFILL BETWEEN θ AND 90° SHALL BE FILLED WITH SELECT GRANULAR BACKFILL FOR STRUCTURAL SYSTEMS MEETING THE REQUIREMENTS OF SECTION 1010.
- FOR $(45^\circ + \phi_D/3) < \theta \leq 90^\circ$, PROPERTIES FOR RETAINED BACKFILL SHALL BE USED FOR ACTIVE FORCE COMPUTATIONS.
- FOR $\theta \leq (45^\circ + \phi_D/3)$, CONTRACTOR SHALL HAVE THE OPTION TO USE PROPERTIES FOR SELECT GRANULAR BACKFILL, ϕ , OR BETTER AGGREGATE MATERIAL, ϕ_w , FOR ACTIVE FORCE COMPUTATIONS IN THE WEDGE AREA BACKFILL. FOR ACTIVE FORCE COMPUTATIONS, THE ANGLE OF INTERNAL FRICTION FOR WEDGE AREA BACKFILL MATERIAL, ϕ OR ϕ_w , SHALL BE LIMITED TO 34° UNLESS DETERMINED OTHERWISE IN ACCORDANCE WITH SECTION 1010. IF ϕ OR $\phi_w > 34^\circ$ IS DESIRED FOR WEDGE AREA BACKFILL THEN TEST REPORT SHALL BE SUBMITTED WITH SHOP DRAWINGS. ϕ OR ϕ_w SHALL NOT BE GREATER THAN 40° FOR COMPUTATIONS. FINAL CONFIGURATION OF THIS OPTION SHALL BE SENT TO GEOTECHNICAL ENGINEER FOR A NEW OVERALL GLOBAL STABILITY ANALYSIS. DESIGN ϕ_w SHALL BE SHOWN ON MANUFACTURER'S PLANS IF USED.
- THE SLOPE EXCAVATION LINE SHALL BE BENCHING AND SEPARATION GEOTEXTILE SHALL BE PLACED BETWEEN THE RETAINED BACKFILL AND EITHER SELECT GRANULAR BACKFILL OR BETTER AGGREGATE MATERIAL, AND BETWEEN THE SELECT GRANULAR BACKFILL AND BETTER AGGREGATE MATERIAL.
- SHOW RANGE OF ACCEPTABLE THETA (θ) ANGLE ON SHOP DRAWINGS WHICH MUST BE CONSISTENT WITH DESIGN COMPUTATIONS AND PROPOSED CONSTRUCTION OF WALL. SHOW ACTIVE FORCE COMPUTATION PROPERTIES ON SHOP DRAWINGS AND IN DESIGN COMPUTATIONS. COORDINATION BETWEEN WALL DESIGNER (MANUFACTURER) AND CONTRACTOR IS REQUIRED BEFORE SHOP DRAWING SUBMITTAL.

MATERIAL PROPERTIES USED IN DESIGN				
REINFORCED FILL/SELECT GRANULAR BACKFILL		ACTIVE FORCE COMPUTATIONS		FOUNDATION
ϕ°	γ (pcf)	ϕ°	γ (pcf)	ϕ°

NOTE: MSE WALL DESIGNER SHALL INCLUDE TABLE ON SHOP DRAWINGS AND PROVIDE VALUES USED IN THE DESIGN COMPUTATIONS. EFFECTS OF COHESION SHALL BE IGNORED UNLESS APPROVED BY THE ENGINEER.

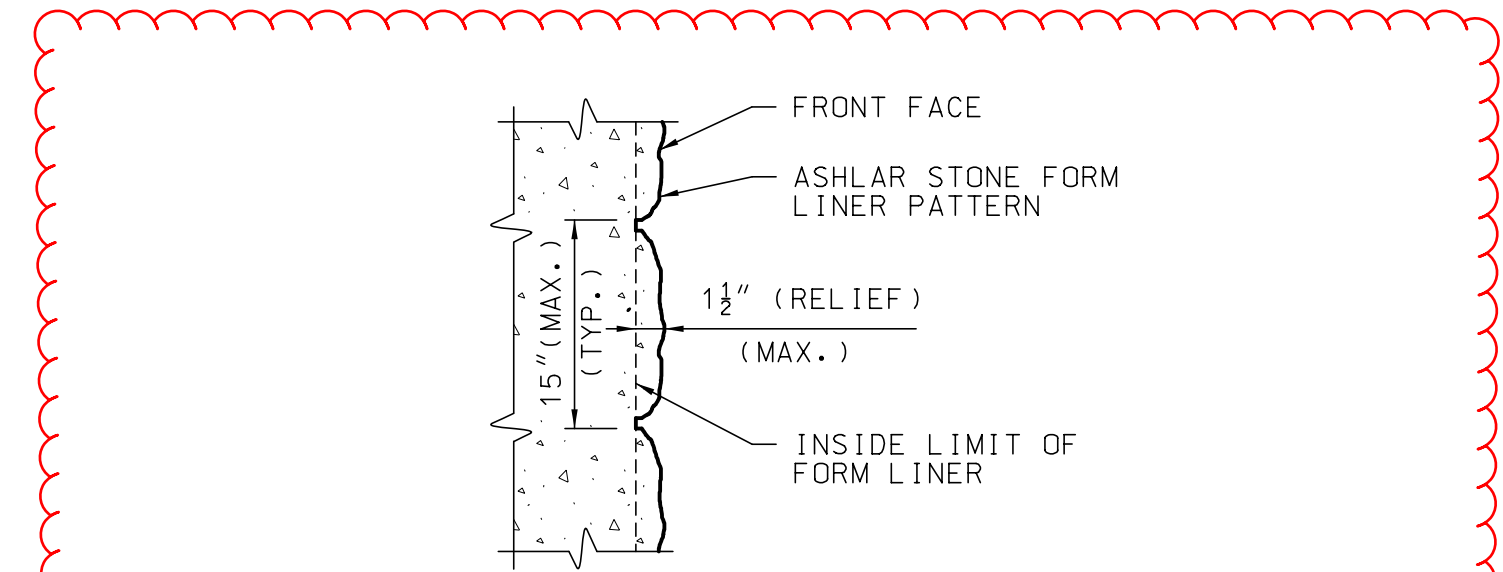
DETAILS OF MSE WALL A9411

NOTE: THIS DRAWING IS NOT TO SCALE, FOLLOW DIMENSIONS.



**TYPICAL SECTION THRU
LARGE BLOCK WALL UNDER BRIDGE**

- NOTE: FOR ADDITIONAL INFORMATION, SEE "TYPICAL SECTION THRU LARGE BLOCK WALL SHOWING FILTER CLOTH".
- REMOVAL OF UNDOCUMENTED FILL NOT SHOWN FOR CLARITY. SEE TYPICAL SECTION THRU LARGE BLOCK WALL SHOWING FILTER CLOTH FOR DETAILS.



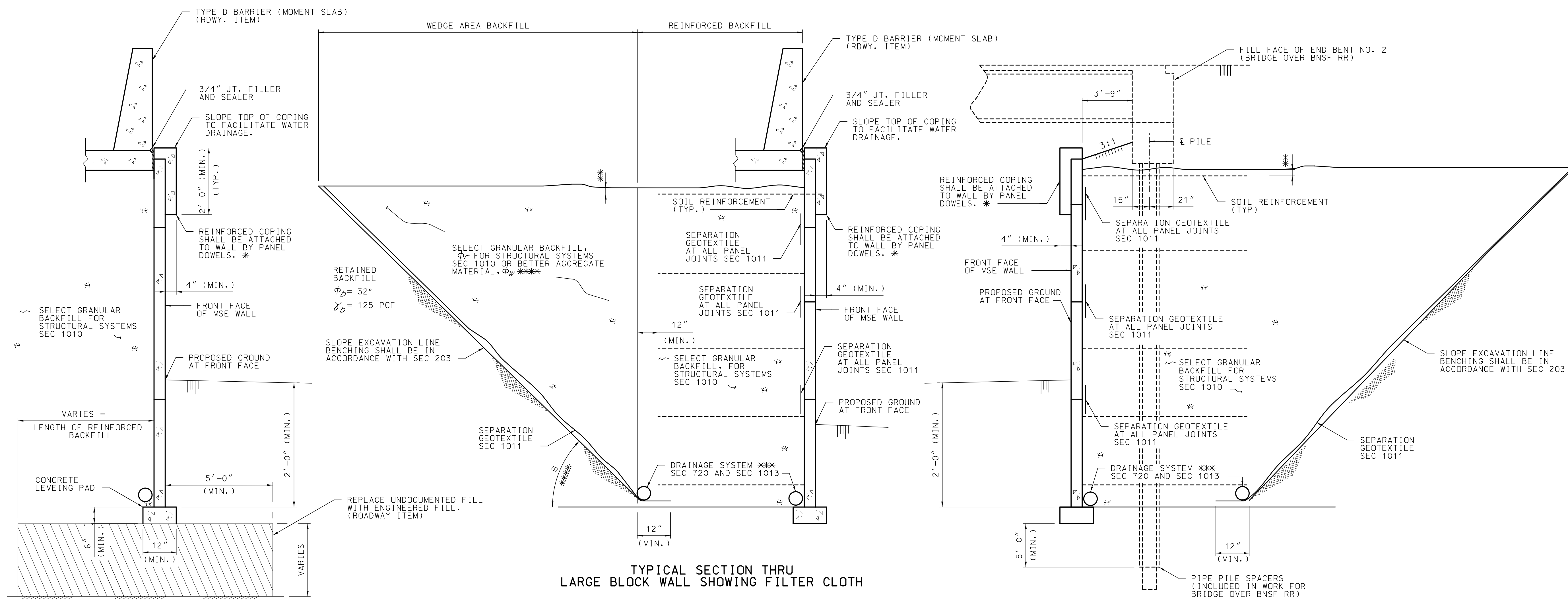
**FORM LINER DETAIL
(LARGE BLOCK WALL)**

- NOTES:
- THE COST OF FORM LINERS FOR MSE WALL SYSTEMS, COMPLETE IN PLACE, WILL BE CONSIDERED COMPLETELY COVERED BY THE CONTRACT UNIT PRICE FOR MECHANICALLY STABILIZED EARTH WALL SYSTEM.
 - FORM LINER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIAL PROVISIONS.
 - THE FOLLOWING IS A LIST OF FORM LINER MANUFACTURERS AND TYPES WHICH MAY BE USED. DEPTH OF RELIEF FOR ALL FORM LINER PATTERS SHALL VARY UP TO 1 1/2". THE HEIGHT OF ANY SINGLE "STONE" SHALL BE 15" MAXIMUM.
 - SCOTT SYSTEM, INC: FORM LINER PATTERN #167 "ASHLAR STONE"
 - FITZGERALD FORMLINERS: FORM LINER PATTERN #16986 "ASHLAR STONE"
 - GREENSTREAK: FORM LINER PATTERN #330 "ASHLAR STONE"
 - SPEC FORMLINERS: FORM LINER PATTERN #1515 "ASHLAR STONE"
 - CUSTOMROCK: FORM LINER PATTERN #12020 "TOLLWAY ASHLAR"
 - AN APPROVED EQUAL

REVISIONS

NUMBER	BY	DATE
1	CMT	5/22/2024

**WEST PLAINS, MISSOURI
US HWY 160 (INDEPENDENCE DRIVE)
A9412 - DETAILS OF MSE WALL**



TYPICAL SECTION THRU LARGE BLOCK WALL SHOWING FILTER CLOTH

TYPICAL SECTION THRU LARGE BLOCK WALL UNDER BRIDGE

NOTE: FOR ADDITIONAL INFORMATION, SEE "TYPICAL SECTION THRU LARGE BLOCK WALL SHOWING FILTER CLOTH".

REMOVAL OF UNDOCUMENTED FILL NOT SHOWN FOR CLARITY. SEE TYPICAL SECTION THRU LARGE BLOCK WALL FOR DETAILS.

* INVERTED U-SHAPE REINFORCED CAPSTONE MAY BE USED IN LIEU OF COPING. PANEL DOWELS FOR CAPSTONE SHALL BE REQUIRED AND PROVIDED BY MANUFACTURER. THE DOWELS SHALL BE FIELD TRIMMED TO CLEAR THE CAPSTONE BY A MINIMUM OF 1 1/2 INCHES AND A MAXIMUM OF 2 1/2 INCHES.

** TOPMOST LAYER OF REINFORCEMENT SHALL BE FULLY COVERED WITH SELECT GRANULAR BACKFILL FOR STRUCTURAL SYSTEMS, AS APPROVED BY THE WALL MANUFACTURER, BEFORE PLACEMENT OF THE SEPARATION GEOTEXTILE.

*** MINIMUM 6" DIAMETER PERFORATED PVC OR PE PIPE.

MANUFACTURER SHALL SHOW DRAIN DETAILS ON DESIGN PLANS TO BE SUBMITTED AS SHOWN ON MSE WALL PLANS AND/OR ROADWAY PLANS.

CONTRACTOR SHALL MODIFY DRAIN DETAILS AS SHOWN IF IT WILL IMPROVE FLOW AS MAY BE THE CASE FOR STEPPED LEVELING PADS, AND FOR AN UNEVEN GROUND LINE (APPROVAL OF THE ENGINEER REQUIRED).

**** SELECT GRANULAR BACKFILL SHALL EXTEND A MINIMUM OF 12" BEYOND THE END OF ALL SOIL REINFORCEMENT, WHERE THE ANGLE, θ , BETWEEN THE RETAINED BACKFILL EXCAVATION/FILL LINE AND THE HORIZONTAL IS LESS THAN 90°. THE WEDGE AREA BACKFILL BETWEEN θ AND 90° SHALL BE FILLED WITH SELECT GRANULAR BACKFILL FOR STRUCTURAL SYSTEMS MEETING THE REQUIREMENTS OF SECTION 1010.

- FOR $(45^\circ + \phi_b/3) < \theta \leq 90^\circ$, PROPERTIES FOR RETAINED BACKFILL SHALL BE USED FOR ACTIVE FORCE COMPUTATIONS.

- FOR $\theta \leq (45^\circ + \phi_b/3)$, CONTRACTOR SHALL HAVE THE OPTION TO USE PROPERTIES FOR SELECT GRANULAR BACKFILL, ϕ_s , OR BETTER AGGREGATE MATERIAL, ϕ_w FOR ACTIVE FORCE COMPUTATIONS IN THE WEDGE AREA BACKFILL. FOR ACTIVE FORCE COMPUTATIONS, THE ANGLE OF INTERNAL FRICTION FOR WEDGE AREA BACKFILL MATERIAL, ϕ , OR ϕ_w SHALL BE LIMITED TO 34° UNLESS DETERMINED OTHERWISE IN ACCORDANCE WITH SECTION 1010. IF ϕ OR $\phi_w > 34^\circ$ IS DESIRED FOR WEDGE AREA BACKFILL THEN TEST REPORT SHALL BE SUBMITTED WITH MANUFACTURER'S DESIGN PLANS. ϕ OR ϕ_w SHALL NOT BE GREATER THAN 40° FOR COMPUTATIONS. FINAL CONFIGURATION OF THIS OPTION SHALL BE SENT TO GEOTECHNICAL ENGINEER FOR A NEW OVERALL GLOBAL STABILITY ANALYSIS. DESIGN ϕ_w SHALL BE SHOWN ON MANUFACTURER'S PLANS IF USED.

THE SLOPE EXCAVATION LINE SHALL BE BENCHED AND SEPARATION GEOTEXTILE SHALL BE PLACED BETWEEN THE RETAINED BACKFILL AND EITHER SELECT GRANULAR BACKFILL OR BETTER AGGREGATE MATERIAL, AND BETWEEN THE SELECT GRANULAR BACKFILL AND BETTER AGGREGATE MATERIAL.

SHOW RANGE OF ACCEPTABLE THETA (θ) ANGLE ON SHOP DRAWINGS WHICH MUST BE CONSISTENT WITH DESIGN COMPUTATIONS AND PROPOSED CONSTRUCTION OF WALL. SHOW ACTIVE FORCE COMPUTATION PROPERTIES ON SHOP DRAWINGS AND IN DESIGN COMPUTATIONS. COORDINATION BETWEEN WALL DESIGNER (MANUFACTURER) AND CONTRACTOR IS REQUIRED BEFORE SHOP DRAWING SUBMITTAL.

MATERIAL PROPERTIES USED IN DESIGN

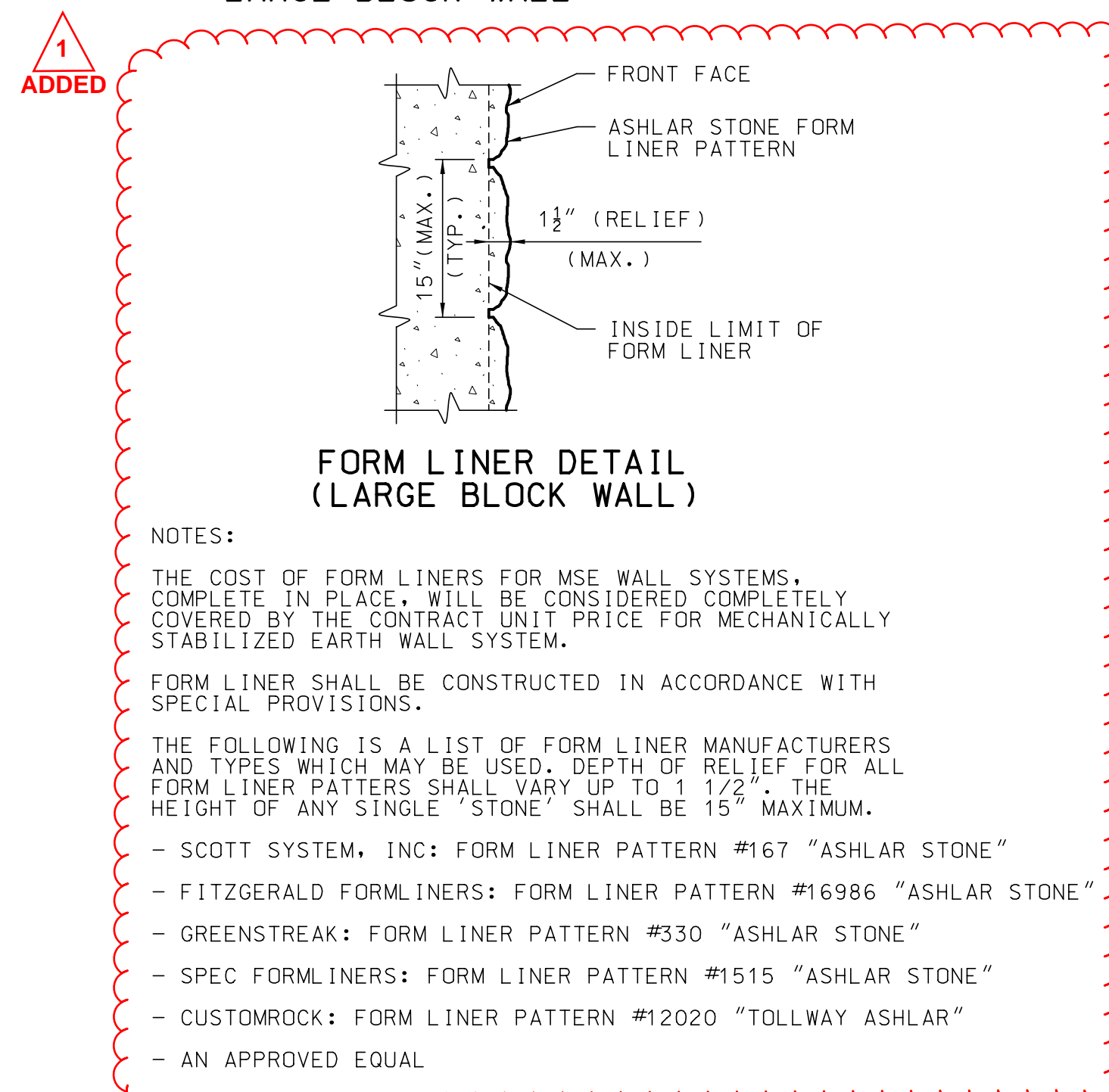
REINFORCED FILL/SELECT GRANULAR BACKFILL		ACTIVE FORCE COMPUTATIONS		FOUNDATION
ϕ°	γ (pcf)	ϕ°	γ (pcf)	ϕ°

NOTE: MSE WALL DESIGNER SHALL INCLUDE TABLE ON SHOP DRAWINGS AND PROVIDE VALUES USED IN THE DESIGN COMPUTATIONS. EFFECTS OF COHESION SHALL BE IGNORED UNLESS APPROVED BY THE ENGINEER.

DETAILS OF MSE WALL A9412

NOTE: THIS DRAWING IS NOT TO SCALE, FOLLOW DIMENSIONS.

TYPICAL SECTION THRU LARGE BLOCK WALL



FORM LINER DETAIL (LARGE BLOCK WALL)

NOTES:

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FORM LINER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIAL PROVISIONS.

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