COPY

Dallas County
CSJ 2964-01-040
Project C 2964-1-40
SH 161 Mainlanes: DOT No. 924 430N
Frontage Roads:
SBFR DOT No. 924 108M (New)
NBFR DOT No. 924 109U (New)
Jefferson Street: DOT No. 794950L
In Grand Prairie
TxDOT Contract Number _____

STATE OF TEXAS §

COUNTY OF TRAVIS §

STATE HIGHWAY 161

HIGHWAY UNDERPASS and NEW AT-GRADE CROSSING

RAILROAD LICENSE and FORCE ACCOUNT AGREEMENT

THIS AGREEMENT, made and entered into on the date hereinafter shown as being fully executed, by and between the State of Texas, acting by and through the Texas Department of Transportation, hereinafter called the "State," the North Texas Tollway Authority, a Texas political subdivision, hereinafter called the "NTTA", acting by and through its Board of Directors, the Union Pacific Railroad Company, a Delaware corporation, hereinafter called the "Railroad," acting by and through its official contracting executives, and the City of Grand Prairie, hereinafter called the "City," acting by and through its duly authorized City official.

W I T N E S S E T H

WHEREAS, the State and the NTTA propose to extend and construct State Highway 161 from SH 183 south to IH 20 along the western boundary of Dallas County ("SH 161") across the Railroad's rail line at DOT No. 924 430N (Railroad Milepost 227.51) in Grand Prairie, Dallas County, Texas by constructing a new highway-underpass structure, two (2) dedicated one-way frontage-road at-grade crossings with active warning devices to accommodate local traffic at Railroad Milepost 227.54, new DOT No. 924 108M ("SH 161 Southbound Frontage Road"), and Railroad Milepost 227.48, new DOT No. 924 109U ("SH 161 Northbound Frontage Road"), and tolled main lanes underneath the highway-underpass structure, to be hereinafter collectively identified as the "Project", at the specific locations shown in the "Final Plans and Specifications" attached hereto as Exhibit A and made a part hereof, and

WHEREAS, in conjunction with the Project, it will be necessary to install highway grade crossing safety devices and surface improvements at Jefferson Street, Railroad Milepost 227.38, DOT No. 795462L, in Grand Prairie, Dallas County, Texas, as detailed in Exhibit A, and

WHEREAS, in order to facilitate, and in consideration for, the construction of the grade crossings, the City has adopted a Railroad Grade Crossing Consolidation Resolution ("Resolution No. 3990"), which is attached hereto and identified as Attachment 1, mandating the permanent closure of the crossings DOT No. 794 953G (Southeast 5th Street), DOT No. 794 956C (Southwest 5th Street), and DOT No. 794 958R (Southwest 14th Street) and removal of the crossing surfaces, the approaches, and related crossing signal equipment, and

WHEREAS, the NTTA proposes to install highway-traffic-control signals at the intersections of SH 161 Southbound Frontage Road and State Highway 180 (Main Street) and SH 161 Southbound Frontage Road and Jefferson Street and at the intersections of SH 161 Northbound Frontage Road and State Highway 180 (Main Street) and SH 161 Northbound Frontage Road and Jefferson Street in Grand Prairie, Dallas County, Texas. The NTTA, the State, the City, and the Railroad, severally and collectively, agree to interface the highway-traffic-control signals on SH 161 Southbound Frontage Road and Jefferson Street with the grade-crossing warning device at DOT No. 924 108M (Railroad Milepost 227.54) and to interface the highway traffic control signals on SH 161 Northbound Frontage Road and State Highway 180 (Main Street) with the grade-crossing warning device at DOT No. 924 109U (Railroad Milepost 227.48) to provide advance preemption, and to coordinate the operation of said warning system as shown in Exhibit A, and

WHEREAS, the Railroad agrees to install the necessary materials required to interface the highway-traffic-control signals with the grade-crossing warning devices as shown in Exhibit A, and

WHEREAS, on May 9, 2008 the Railroad and the State entered into a Highway-Railroad Preliminary Engineering Agreement, attached hereto and identified as Attachment 2, authorizing the Railroad to assist the State in the development of the Project's preliminary engineering services and authorizing reimbursement to the Railroad for actual costs that are incurred for collaborating in the development of the Project's preliminary engineering and other preliminary activities prior to execution of this Agreement, and

WHEREAS, as between the Railroad and the NTTA, all work to be performed and all materials to be provided under this Agreement by the State, the NTTA and the City shall be at the NTTA's expense (except as otherwise provided in Section 17.d.), unless otherwise specifically identified herein (but nothing contained herein shall affect the respective obligations and liabilities among the NTTA, the City and the State under any other agreement(s) between such parties relating to SH 161 and the Project, except as provided in Section 8).

AGREEMENT

NOW THEREFORE, in consideration of the premises and of mutual covenants and agreements of the parties hereto, to be by them respectively kept and performed as hereinafter set forth, it is agreed as follows:

1. GRANT OF LICENSE AND PERMISSION.

a. The Railroad hereby grants to the State and the NTTA license and permission for the construction, installation, reconstruction, repair, maintenance, operation and use by the State, the NTTA, and its or their Contractors and employees of the aforesaid, underpass structure(s) and SH 161 across the Railroad's property and under its track at the intersection of the Railroad's rail line and SH 161 at the specific locations shown in Exhibit A on the terms and conditions set forth herein. The license given hereby, shall not prevent the Railroad from operating its trains or multiplying or changing (at no cost to the State, the NTTA, or the City, unless mutually agreed otherwise in writing) its track or constructing, installing, repairing and reconstructing rail facilities and structures across the land over which the license has been given or over the underpass contemplated hereby, provided that such use does not unreasonably interfere with the rights granted to the State and the NTTA herein.

b. The Railroad hereby gives to the State, the NTTA, the City license and permission for the construction, installation, reconstruction, repair, maintenance, operation, and use by the State, the NTTA, the City, and its or their Contractors and employees of two (2) dedicated one-way frontage road at-grade crossings across the Railroad's rail line, one at new DOT No. 924 108M (SH 161 Southbound Frontage Road) and one at new DOT No. 924 109U (SH 161 Northbound Frontage Road), at the specific locations shown in Exhibit A with said highway facilities to be constructed across Railroad right of way at the specific locations shown in Exhibit A on the terms and conditions set forth herein. The license hereby given, shall not prevent the Railroad from operating its trains or multiplying or changing (at no cost to the State, the NTTA, or the City, unless mutually agreed otherwise in writing) its tracks over which the license has been given

or constructing, installing, repairing and reconstructing rail facilities and structures, provided that such use does not unreasonably interfere with the rights granted to the State, the NTTA and the City herein.

c. The license is subject to the existing rights of utility companies and signboard companies to maintain and operate facilities and signboards thereon and thereover, and the State and/or the NTTA and/or the City will make their own arrangements with the utility companies for any necessary relocation or alteration of said facilities and signboards.

(i) Advertising signboard(s) and appurtenances ("Sign Improvements") are located on the Railroad's right of way pursuant to the Master Signboard Site License Agreement between the Railroad and Eller Media Company (now known as Clear Channel Outdoor, Inc., herein "Clear Channel") dated September 30, 1997 (the "Eller Agreement"). If the NTTA determines that the location of Sign Improvements (the "Sign Sites") conflict with the Project and want the Sign Improvements removed from the Railroad's right of way, the NTTA shall follow the procedures set forth below in Subsections 1.c(ii) through (v), below.

(ii) If the Sign Improvements are to be permanently removed from Railroad's right of way, the Railroad will, (A) proceed to withdraw the Sign Site(s) from the Eller Agreement pursuant to the terms and procedures of the Eller Agreement; (B) send to Clear Channel notices of (1) withdrawal of the Signs Sites from the Eller Agreement, and (2) the Railroad's election for Clear Channel to cause termination of all Sign Site sublicenses (if any) and remove the Sign Improvements from the Sign Sites; and (C) set the effective date of withdrawal in the notices to not less than thirty-five (35) days after the withdrawal notice is deposited by the Railroad in United States certified mail, and (D) direct Clear Channel in the notices to complete removal of the Sign Improvements on or before forty-five (45) days after the effective date of withdrawal. The Railroad will provide the State, the NTTA and the City with a copy of said notices after they are sent by the Railroad to Clear Channel. The withdrawal notice will state the effective date of the withdrawal, the actual withdrawal fee and show its calculation. The NTTA shall be solely responsible for all costs associated with said Sign Site withdrawal and Sign Improvement removal process, including timely payment of the aforesaid withdrawal fee.

(iii) If the Sign Improvements are to be temporarily removed and reinstalled at their previous location on Railroad's right of way, notwithstanding anything contained in this Section 1.c. to the contrary, the NTTA may contact Clear Channel to negotiate the temporary removal and subsequent reinstallation of Sign Improvements to the extent such temporary removal is required for the prosecution of the work hereunder but not for the subsequent operation of the permanent improvements being constructed hereunder provided and on the condition that both the Railroad and Clear Channel approve the terms and conditions of such temporary approval in writing, which approval shall not be unreasonably withheld or unduly delayed and which shall in no event result in costs or charges to the Railroad. No temporary removal or subsequent reinstallation may occur at a new location on Railroad's right of way without the Railroad's prior consent; the Railroad shall, in addition, have the right to review and approve or disapprove in advance the plans and specifications for any Sign Improvement reinstallation on the Railroad's right of way.

(iv) The Railroad will have no duty to enforce the obligations of Clear Channel and/or its sublicensee(s) with respect to withdrawal of the Sign Sites, including, without limitation, any obligations of Clear Channel and/or its sublicensee(s) to remove the Sign Improvements after withdrawal. Except for the express obligations of the Railroad as set forth in this Section 1.c., the NTTA, at its sole expense, shall assume full responsibility for investigating, settling, and satisfying all claims arising out of any Sign Site withdrawals and Sign Improvement removals, whether permanent or temporary, including without limitation claims for compensation by sign owners, Site Sign sublicensees, and customers of Clear Channel. The Railroad will assign to the NTTA, upon request, the Railroad's rights to enforce Clear Channel's Sign Site withdrawal and Sign Improvement removal obligations as set forth in the Eller Agreement; provided that the Railroad shall cooperate reasonably with the NTTA in the enforcement of such rights, but shall not be obligated to incur any unreimbursed expense or liability in connection therewith.

(v) Within sixty (60) days after the effective date of any Sign Site withdrawal, the NTTA will pay the Railroad an amount equal to the withdrawal fee due Clear Channel for withdrawing the Sign Sites from and pursuant to the terms of the Eller Agreement. After the Railroad receives said sum, Railroad will promptly pay Clear Channel said withdrawal fee pursuant to the terms of the Eller Agreement and shall promptly provide evidence of such payment to the NTTA.

d. No legal right which the Railroad now has to reconstruct, maintain, and operate its existing track and appurtenances or to construct, maintain, and operate additional track and appurtenances upon and across said property (in each case at no cost to the State, the NTTA, or the City, unless mutually agreed otherwise in writing) shall in any way be affected by the giving of this license, provided that such use does not unreasonably interfere with the rights granted to the State, the NTTA and the City herein.

e. It is agreed that should any portion of the roadway utilizing the license provided under this Agreement cease to be used for road or highway purposes (other than temporary closures for construction, reconstruction, repairs and renovation of the highways, roadways and related structures or otherwise for reasons of public safety), this license as to the portion so abandoned, shall immediately cease and terminate.

f. The license and permission granted in this Agreement is given:

(i) "AS IS" without warranty of title, and subject to all matters of record. The Railroad does not make any representations as to the title to its property and gives the aforesaid license and permission without warranty of title, either express or implied, and specifically excluding the warranties of title arising by virtue of §5.023 of the Texas Property Code (or its successor) and all other warranties of title that might arise by common law or statute;

(ii) "AS IS" with all faults, including but not limited to any and all pollutants, asbestos, underground storage tanks and/or any other hazardous materials. The Railroad has not made any representations or warranties as to the condition of its property. The State, the NTTA, the City and their Contractors waive any and all causes of action, claims, demands, and damages based on any warranty, express or implied, including but not limited to any implied warranty of suitability for a particular purpose, any and all warranties of habitability, and any other implied warranties not expressly set forth in this Agreement. The State, the NTTA, the City and their Contractors have fully exercised the right to inspect the Railroad's property for any defects as to the suitability of such property for its intended purposes. Except as expressly provided in this Agreement, the Railroad will not have to make any expenditure, incur any obligations, or incur any liability of any and whatever in connection with this Agreement or the maintenance, operation or repair of its property. The provisions of this Section shall survive the expiration or termination of this Agreement; and

(iii) Solely for the purposes set forth in Sections 1.a. and 1.b. and not for the purpose of apportioning this license and permission for the benefit of third parties, including without limitation public utilities, fiber optic and cable companies, and units of government.

g. For the purposes of this Agreement, the terms "Contractor" or "Contractors" shall mean the agent or independent contractor of the State or the NTTA or the City, as applicable, and their subcontractors and those additional persons or parties acting by or through them.

h. Following completion of the construction depicted on the Final Plans and Specifications that is the subject of this Agreement, no subsequent reconstruction shall occur pursuant to the license and permission granted in Sections 1.a. and 1.b. until the Railroad has reviewed and approved the plans and specifications, the timetable (and related construction sequencing), and any agreed-upon reimbursements and payments to the Railroad for the same, and until the other requirements of this Agreement pertaining to entry upon and construction on Railroad property have been complied with by the State, the NTTA, the City and their respective Contractors. In the event said reconstruction involves Railroad property other than the specific locations for the work contemplated by this Agreement on Exhibit A, it will be necessary

for the State, the NTTA and the City to negotiate and enter into a new license and permission agreement with the Railroad for the same.

i. In order to clarify and stipulate the shared intention of the parties to this Agreement, the State, the NTTA, the Railroad and the City acknowledge and agree that (i) the license and permission given by the Railroad is irrevocable and not terminable except pursuant to the termination provisions set forth in this Agreement, including (without limitation) Sections 1.e.,6, 12, 13 and 17.d, (ii) the State, the NTTA and/or the City will expend money to construct improvements pursuant to, and on the Railroad's property covered by, the license, and will do so in reliance on the license being irrevocable except as provided in clause (i) above, and (iii) to the extent necessary to effectuate the provisions of this Section 1.i., the license and permission given by the Railroad will constitute and be construed as a license coupled with an interest which is given to permit the State, the NTTA and/or the City to exercise their statutory and other rights to construct and operate their equipment and improvements on the licensed property. Nothing contained in this Section 1.i. will abrogate, modify or otherwise affect any termination provision or other provision in this Agreement setting forth any limitation, requirement, condition or other term applicable to the license and permission or its exercise by any party.

2. **SCOPE OF WORK.**

a. The State, the NTTA, the City, and the Railroad agree to perform the work as outlined in Exhibit A, and as detailed in the approved Final Plans and Specifications attached hereto as Exhibit A, subject to Sections 6 and 17.d. Each of the State, the NTTA, and the City agree that it shall perform all work required to be performed by it hereunder, and shall cause its Contractors to perform all work required to be performed by it hereunder, in compliance with the "Railroad Coordination Requirements" attached hereto as Exhibit B and made part hereof, and that all work relating to the temporary and permanent track alignment of the Industrial Lead (as so identified in the Final Plans and Specifications) will be performed in such a way as to provide continuous rail service notwithstanding anything contained in modifications to the Project Timeline (as described below in Section 2.e) except as follows: (i) any interruption associated with the track tie-ins to be performed by the Railroad pursuant to Section 2.e. and (ii) the State, the NTTA, and the City agree to limit Railroad service interruptions on the industry track to no more than forty-eight (48) hours at times and dates approved by the Railroad in advance; additionally, the State, the NTTA and the City will be accorded no more than six (6) such interruptions, with a minimum of five (5) calendar days between interruptions. In the event of a conflict between Exhibit A and the other terms and conditions of this Agreement respecting prior notice to the Railroad regarding either initial Railroad mobilization or flagging, the terms and conditions of this Agreement shall govern. The State, the NTTA, the City and the Railroad agree to collaborate to coordinate their respective activities in advance, and to exchange and share construction and delivery scheduling and other pertinent information, to best effectuate the industry track interruptions as provided in clause (ii).

b. The Railroad, at the NTTA's expense, agrees to remove the crossing surfaces and active warning devices at DOT No. 794 953G (Southeast 5th Street), DOT No. 794 956C (Southwest 5th Street), and DOT No. 794 958R (Southwest 14th Street) and to make other operational or safety improvements to facilitate the closure of said existing highway-railroad at-grade crossings. The Railroad, at the NTTA's expense, agrees to provide the ballast for and raise the Main Line Track 2 elevation to conform to the Main Line Track 1 elevation at such grade-crossing locations.

c. The NTTA will order the necessary materials for use by the Railroad from Railroad-approved vendors, and the Railroad, at the NTTA's expense, agrees to install thereafter two (2) full-depth concrete crossing pavements for three (3) tracks at new DOT No. 924 108M (SH 161 Southbound Frontage Road), and at new DOT No. 924 109U (SH 161 Northbound Frontage Road). It shall be the NTTA's responsibility to order and assemble the required crossing materials and all related items from approved Railroad vendors, and perform additional track work as shown in Exhibit A. When installed, the concrete crossing pavement shall provide a smooth and even crossing surface flush with the top of rails. All materials required for the Railroad portion of the Project shall be manufactured and delivered by Railroad approved vendors in accordance with the Union Pacific Common Standards regarding track and ballast specifications (which have been previously provided to the NTTA's representative and are hereby included within this Agreement and

made a part hereof by means of this cross-reference) and with the Final Plans and Specifications attached hereto as Exhibit A, and free from defects, provided that to the extent the Final Plans and Specifications are inconsistent with the Union Pacific Common Standards for "Compromise Transition Rail" adopted July 27, 2006, revised February 8, 2010, or "No. 11 All Rail Spring Frog 136/141 lb. Rail" adopted July 6, 2004, revised May 17, 2007 (each of the foregoing, the "Specified Standard"), which have previously been provided to the NTTA's representative, the NTTA shall adhere to the Specified Standard. When assembled materials are on hand, prior to installation, the NTTA shall notify the Railroad Inspector, the NTTA Inspector, and the State Inspector, so that materials may be inspected and approved by the aforesaid for installation. For the purpose of this Agreement, the "Railroad Inspector" shall mean the Railroad's Assistant Vice-President Engineering - Design or his or her designee; the "NTTA Inspector" shall mean the NTTA's Director of Project Delivery for the Project or his or her designee; and the "State Inspector" shall mean the State's Dallas District Area Engineer or his or her designee. Any materials rejected by the NTTA, the State, and/or the Railroad as not being in compliance with the Union Pacific Common Standards and/or the Final Plans and Specifications shall be removed from the site immediately and suitable materials shall again be promptly assembled by the NTTA and inspected by the NTTA Inspector, the State Inspector and/or the Railroad Inspector for conformance. Any handling and material costs incurred for material rejected pursuant to the preceding sentence shall be at no expense of the Railroad. All joints within the limits of the crossing area shall be welded by the NTTA with the exception of welds on the shifts, which shall be performed by the Railroad at the NTTA's expense

d. The Railroad, at the NTTA's expense, agrees to design, furnish and install flashing-light signals with gates and all necessary signal appurtenances at new DOT No. 924 108M (SH 161 Southbound Frontage Road), at new DOT No. 924 109U (SH 161 Northbound Frontage Road) and at DOT No. 795462L (Jefferson St.) as shown in Exhibit A.

e. The NTTA will provide the necessary materials and be responsible for the construction of the temporary shoofly track(s) in a timely manner consistent with a Project Timeline to be agreed to by all parties to this Agreement pursuant to Section 2.k. prior to the entry of any of the State, the NTTA or the City upon the Railroad's property (the "Project Timeline." All references to the Project Timeline shall be deemed to refer to the Project Timeline as agreed upon by all parties to this Agreement pursuant to Section 2.k prior to the entry of the State, the NTTA, or the City upon the Railroad's property, as the case may be, modified by the State, the NTTA and City from time to time subject to prior notice to, review by and in consultation with the Railroad.) Said track work shall be constructed according to Railroad standards and specifications as shown in Exhibit A. All track and material required for the Project shall meet Railroad specifications previously provided the NTTA. All mainline and shoofly tracks shall be constructed with new 136# Continuous Welded Rail (CWR) and the NTTA and/or its Contractor shall afford the Railroad the opportunity to inspect the track prior to installation. The Railroad, at the NTTA's expense, will perform the track tie-ins required at the connections of the main track and the temporary shoofly track(s) in a timely manner consistent with the Project Timeline. The NTTA will provide the materials and be responsible for the construction of the new main tracks and new industry track lead. The Railroad, at the NTTA's expense, will perform the track tie-ins required to the existing main tracks in a timely manner consistent with the Project Timeline. The Railroad, at the NTTA's expense, will perform tie-in between the shoofly and existing industry lead track in a timely manner consistent with the Project Timeline. The Railroad, at the NTTA's expense, will perform tie-in between temporary industry track alignment and track constructed by NTTA. The Railroad reserves the right to inspect all aspects of the Project construction on Railroad property at any time during the course of the Project, provided that all such inspections shall be conducted so as not to unreasonably interfere with the NTTA's or the Contractor's construction activities (provided that the foregoing shall not limit the right of the Railroad's Representatives to direct the Contractor to stop work or take other action to ensure safety or to protect the Railroad's property and operations, as elsewhere provided in this Agreement).

f. In order to provide for the safety of rail traffic, the Railroad, at the NTTA's expense, will provide flaggers during the period of performance of work in or incident to the proposed construction and for subsequent maintenance. The State, the NTTA, the City and their respective Contractors, shall notify the Railroad a minimum of fifteen (15) days in advance whenever they are about to perform either construction or maintenance work on Railroad property to enable the Railroad to furnish flagging and such other protective services as might be necessary to ensure safety

of railroad operations. The estimated construction period flagging cost is included in the estimate of Railroad work set forth in Attachment 3, with the parties hereto acknowledging that approximately 300 days of flagging and protective services are required during the construction of the Project. The Railroad shall have the right to furnish all such flagging or protective services as in its judgment are necessary, and the NTTA will reimburse the Railroad for the actual cost thereof.

g. The NTTA shall construct the highway-underpass structure(s) as detailed in the approved Final Plans and Specifications attached hereto as Exhibit A in a timely manner consistent with the Project Timeline as modified from time to time pursuant to the terms of this Agreement. In conjunction with the construction of the highway-underpass structure, the NTTA's responsibility for the construction of the temporary shoofly track(s) shall be shown in Exhibit A. The NTTA will provide the Railroad a minimum of thirty (30) days notice of completion of the highway underpass structure(s) and the reconstruction of the mainline tracks across the structures, at which time the Railroad will cutover the shoofly tracks back to the mainline tracks in a timely manner consistent with a Project Timeline and allow for the NTTA to remove the temporary shoofly track(s) as detailed in Exhibit A.

h. For the purposes of this Agreement, "Completion" shall mean completion to the point where the work in question can be safely and lawfully utilized for its intended purpose as confirmed by the Railroad Inspector, the NTTA Inspector, and the State Inspector, provided that in the case of track work and the removal of the temporary shoofly tracks, temporary industrial lead and spur tracks performed by the NTTA, "Completion" shall also mean that the work has been fully completed free of any remaining punch list items, lien-free (except for liens under dispute that have been fully and properly bonded), with all payments then due the Railroad paid in full, all as confirmed by the Railroad Inspector. The NTTA's responsibility for the construction of the temporary industrial lead and spur track across Jefferson Street, including the road crossing surface, is detailed in Exhibit A. The temporary industrial lead and spur track will be removed by the NTTA once the shoofly is taken out of operation and rail traffic is returned to the mainline, and prior to completing the highway underpass structure.

i. The NTTA and/or its Contractor shall construct the tolled main lanes underneath the highway-underpass structure(s) as shown in Exhibit A in a timely manner consistent with the Project Timeline as modified from time to time pursuant to the terms of this Agreement.

j. The State, the NTTA and the City, for themselves and on behalf of their Contractors, recognize the Railroad's obligations to utilize its forces to maintain the safety and integrity of an interstate rail system. The Railroad hereby agrees that it will use good faith efforts to perform its obligations under this Agreement in a timely manner consistent with the Project Timeline. Notwithstanding anything contained herein to the contrary, in no event shall the Railroad be liable in damages of any kind (whether actual, punitive or consequential) arising out of the Railroad's failure to perform in a manner consistent with the Project Timeline, and the State, the NTTA and the City, for themselves and on behalf of their Contractors, hereby waive and release any and all claims that the State, NTTA, the City and their respective Contractors may have against the Railroad, its affiliates, officers, directors and employees arising out of the Railroad's failure to perform its obligations under the Project Timeline in a timely manner. Without limiting the foregoing, in no event will the Railroad's failure to comply with the Project Timeline due to (i) force majeure events such as acts of God, materially unseasonable weather, fire, explosion, flooding, acts of terrorism, embargoes, derailments, labor strikes, organized labor "slowdowns," labor interruptions and labor or materials shortages beyond the Railroad's control or (ii) the Railroad's response to operational and maintenance demands on the Railroad's interstate rail system constitute bad faith or willful and intentional action under this Section 2.j. or otherwise result in liability hereunder.

k. The Project Timeline defined in Section 2.e. shall contain a Critical Path Schedule detailing work to be performed by the State, the NTTA, the City and the Railroad in connection with the Project which, notwithstanding any modifications to the Project Timeline, shall provide Railroad with a minimum of sixty (60) days to mobilize its initial performance of its obligations under this Agreement and shall be made available for approval by the State, the NTTA, the City and the Railroad before any work is commenced. The Project Timeline, in addition, shall include major construction items, including but not limited to, the tolled main lanes, the frontage roads, the highway underpass structure, the I-30

interchange, the I-20 interchange, tie-ins of the shoofly, the main lines and the industrial track and major drainage structures. Either the NTTA or the State, as the case may be, shall deliver an updated Project Timeline to the other parties at least every sixty (60) days after construction commences for prior review by and consultation with said parties (including without limitation the Railroad), which shall include the projected opening dates for the tolled main lanes of SH 161. The NTTA acknowledges and agrees that, notwithstanding any modifications to the Project Timeline, the work windows for tie-in and completion of shoofly track and industry track lead must be coordinated with work to be performed by the Railroad.

3. **PLANS, ESTIMATES, CONSTRUCTION, and MAINTENANCE.**

a. The State has prepared Final Plans and Specifications for the proposed Project. Said Final Plans and Specifications, having been reviewed and approved by the Railroad, and after having been reviewed and approved by the NTTA and the City (provided that such approval by the Railroad, the NTTA and the City is made without assumption of responsibility or liability for such Final Plans and Specifications or a waiver of any claims by reasons of any errors or omissions therein), are hereby adopted as the Final Plans and Specifications. No changes to said Final Plans and Specifications attached hereto as Exhibit A (including without limitation those pertaining to frontage roads or the tolled main lanes) shall be made without the written approval and/or acceptance of such changes by the State, the NTTA, the City and the Railroad.

b. Each of the State, the NTTA and the City shall furnish material for and perform the work required to be done by it hereunder in accordance with the Final Plans and Specifications in a timely manner consistent with the Project Timeline, and modified from time to time pursuant to the terms of this Agreement in a good and workmanlike lien-free manner in compliance with applicable laws, including without limitation the tolled main lanes, the underpass structure(s), temporary trackage, frontage roads, drainage facilities, sidewalks (when applicable) and pavement across the Railroad's right of way, all as shown on the Final Plans and Specifications.

c. The Railroad, at the NTTA's expense (or the NTTA, if specifically provided in Exhibit A), shall make such changes or alterations in Railroad-owned tracks, communication and signal pole and wire lines, pipe sewer and drainage or other Railroad-owned facilities or buildings located upon the Railroad's right of way, that may be displaced or required by the construction of the Project as may be necessary to maintain continuous service and conform them to said construction and restore them to former condition for service either prior to, during, or following construction of said work. The Railroad has prepared a written cost estimate for the adjustment of such facilities, and for engineering, tie-in work, flagging and protective measures, and other work performed by the Railroad under this Agreement which is attached hereto and identified as Attachment 3.

d. The Railroad has submitted a signal circuit layout which has been approved by the State, the City and the NTTA and has included its written cost estimate(s) attached hereto as Attachment 3 and made part hereof for all Railroad force-account work, including Railroad flagging.

e. The Project may require the Railroad to order and assemble materials. The Railroad shall not order any materials until the NTTA has issued to the Railroad written notification to do so. Materials used on the Project should be assembled sufficiently in advance to assure prompt delivery, but reimbursement for any materials or handling charges will be contingent upon such issuance of the NTTA's written notification to the Railroad.

f. The Railroad shall perform the flagging (to be billed to the NTTA) only after receipt of a written notification from the NTTA pursuant to Section 2.f. to proceed with same. Payment will not be made for flagging done by the Railroad that is performed at the Project site prior to the issuance of said written notification by the NTTA, unless the NTTA or its Contractor entered Railroad property prior to written notification. The provision of this service shall not relieve the NTTA and/or its Contractor of any responsibility or liability for the NTTA's and/or the Contractor's performance in accordance with this Agreement. Neither the State, the NTTA, the City nor their respective Contractors

shall enter Railroad property until notice of the need for flagging is issued in a timely manner pursuant to Section 2.f., thus providing the Railroad sufficient time to provide such services.

g. The Railroad shall commence all other force account work to be done by it herein within thirty (30) days after receipt of a written Notice to Proceed from the NTTA that the work may proceed (which Notice to Proceed, in order to be valid, shall refer to the commencement of all work to be performed under this Agreement), or within a time-frame mutually acceptable to the NTTA and the Railroad, and shall proceed without delay to the conclusion of its obligations herein in a timely manner consistent with the Project Timeline. The Project Timeline, as modified from time to time pursuant to the terms of this Agreement, shall also require the State, the NTTA and the City to provide adequate prior written notice to Railroad respecting the commencement of key Railroad construction obligations.

h. Following the issuance of the NTTA's Notice to Proceed to the Railroad, it will be necessary for the Railroad to contact the State and the NTTA a minimum of seven (7) days prior to the actual commencement of work in order that State and NTTA forces may provide inspection during the installation of the at-grade crossing surfaces and active warning devices.

i. The Railroad agrees that upon Completion of the at-grade crossings construction, it will assume future responsibility for maintaining a smooth crossing from end of tie to end of tie in accordance with the provisions of the Texas Administrative Code, Title 43, Part 1, Chapter 25, Subchapter E.

j. The Railroad shall maintain and operate the highway-railroad grade-crossing warning system (including the flashing-light signals with gates described in Section 2.d.) as installed and in accordance with the design of operation as shown in Exhibit A. All such warning systems shall be designed, constructed, operated, and maintained in accordance with the manufacturer's specifications. No changes are to be made in the design, operation, and location of the warning systems without the written approval of the State and the City.

k. The State and the City agree to operate and maintain, at their expense, the highway traffic control signals up to and including connection to the terminals in the interface box.

l. The State, the NTTA and the City shall maintain pavement markings and advanced warning signs placed along the roadway under their jurisdiction.

m. The State, the NTTA and the City shall trim and maintain trees and vegetation for visibility of crossing signals and signs as well as to maintain pavement markings and advanced warning signs placed along the roadway under their jurisdiction.

n. Upon Completion of the construction of the Project: (i) the NTTA, at its expense, shall maintain, repair and renew the entire structure including the waterproofing material placed beneath the track ballast and also including, but not limited to, the superstructure, substructure, piers, abutments, walls, approaches and all backfill, grading and drainage required by reason of the structure, frontage roads, walks, and drainage across the Railroad's right of way, as well as all graffiti removal or overpainting involving the structure; and (ii) the Railroad, at its expense, shall maintain, repair and renew its ballasts, ties and rail above the waterproofing as well as any Railroad-owned communication and signal facilities.

o. Nothing contained herein shall ever be construed to place upon the Railroad any manner of liability for injury to or death of persons, or for damage to or loss of property arising from or in any manner connected with, the construction, maintenance, or use of either the highway or the portion of said highway located upon the Railroad's said property.

p. For future inspection and maintenance work, the Railroad, under terms of this Agreement, gives the State and/or its Contractor, the NTTA and/or its Contractor and/or the City and its Contractor permission to enter the

Railroad right of way to perform repair, maintenance, and/or emergency work as required, provided that the party making such entry first complies with the terms of Section 4, below.

4. **INSURANCE and RIGHT of ENTRY REQUIREMENTS.**

a. Prior to the time that the NTTA and/or the NTTA's Contractor, the State and/or the State's Contractor, or the City and/or the City's Contractor, as the case may be, enter the Railroad's property for any purpose, including without limitation, the purpose of either constructing the Project pursuant to the terms of this Agreement or performing their respective maintenance responsibilities on the terms set forth in this Agreement, as a condition precedent to their right of entry upon the Railroad's property, the NTTA's Contractor, the State's Contractor, or the City's Contractor, as the case may be, shall first execute and deliver to the Railroad the "Contractor's Right of Entry Agreement" in the form attached hereto as Exhibit C, and provide the Railroad insurance coverage as provided therein, with the result that the Railroad has been provided a signed Contractor's Right of Entry Agreement and evidence of insurance from each entity entering the Railroad's property. In those instances in which the State, the NTTA or the City are entering the Railroad's property for any purpose with their own employees, rather than by means of a Contractor, neither the State, the NTTA nor the City shall be required to enter the Contractor's Right of Entry Agreement in connection with said entry; provided, however, that the State, the NTTA and/or the City, as the case may be, and their respective employees shall, in connection with the conduct of said entry, comply with the terms of this Agreement, including, without limitation, the Railroad Coordination Requirements attached hereto as Exhibit B and the "Employee Entry Protocol" attached to this Agreement as Exhibit D and made part hereof, but expressly excluding Exhibit C; and provided, further, that the State, the NTTA and the City each acknowledge and agree that it will need to obtain separate written agreements from the Railroad in order to enter any property owned by the Railroad other than the specific locations shown in Exhibit A for the work contemplated by the Agreement.

b. Notwithstanding anything contained in Section 4.a. above to the contrary, the Railroad acknowledges and agrees that the State and the NTTA – as opposed to their respective Contractors – are self-insured for any work performed by the State and the NTTA with its own employees. To the extent allowed under state law, the State, the NTTA, and the City are responsible to the Railroad to cover bodily injury and property damage claims which may occur in the course of operations, except to the extent said claims are caused by the gross negligence or willful act of the Railroad or parties operating under its control as determined by a court of competent jurisdiction.

5. **PAYMENT.**

a. No payment, except (i) for any preliminary engineering costs authorized under Section 5.c., (ii) for flagging provided by the Railroad pursuant to Section 3.f., (iii) when incurred by the Railroad pursuant to any written notification to order material that may have been issued to the Railroad prior to the Notice to Proceed resulting in some material and material handling costs, and (iv) as authorized in Attachment 5, will be due the Railroad unless the Notice to Proceed is issued by the NTTA.

b. Reimbursement to the Railroad will be made by the NTTA for work performed and materials furnished, including but not limited to, insurance premiums and coverage set forth in the approved cost estimate attached hereto as Attachment 3, in accordance with the provisions of Title 23, Code of Federal Regulations (CFR), Subchapter B, Part 140, Subpart I, issued by the Federal Highway Administration, and amendments thereto except as modified by the provisions herein. Notwithstanding the cost estimate figures set forth in Attachment 3, work performed and materials furnished by the Railroad will be reimbursed by the NTTA based on actual costs (including direct costs and overhead/indirect costs) incurred by the Railroad as they relate to the development shown in Exhibit A, the parties hereby acknowledging that the figures contained in Attachment 3 are estimates only.

c. The cost of preliminary engineering shall be eligible for reimbursement if incurred after final execution of the Highway-Railroad Preliminary Engineering Agreement as detailed in Attachment 2.

d. The Railroad may submit monthly bills to the NTTA, for work performed and materials installed in connection with this Agreement, prepared in the form and with the supporting documentation being provided by the Railroad to the NTTA in connection with the Davidson Yard crossing project for State Highway 121 but for the "Disbursement Request" form, which shall not be required of the Railroad under this Agreement. Payment will be made within forty-five (45) days of the NTTA's receipt of the bill for 100% of the costs detailed on and payable under the bills.

e. The Railroad will submit a complete and final bill, compliant with the standards described in Section 5.d., including all eligible costs, within 180 days after notification by the NTTA that all work on Railroad property is completed, and the NTTA will pay to the Railroad 100% of the costs detailed on and payable under the bill. The NTTA shall make payment within forty-five (45) days of the NTTA's receipt of the bill.

f. In the event the NTTA fails to make payment to the Railroad in a timely manner, which failure continues for ten (10) days after written notice to the NTTA, the Railroad may stop the Railroad's work under this Agreement without liability to the State, the NTTA or the City.

6. **TERMINATION**. The State and/or the NTTA have executed a project agreement for SH161 that required, as a condition to the NTTA undertaking SH161, that the NTTA commit to make a $458 million upfront payment no later than March 1, 2010 (or June 1, 2010 if the NTTA elects to delay the funding associated with the Project for up to ninety (90) days pursuant to the terms of the project agreement). Accordingly, the State and/or the NTTA reserves the right to cancel this Agreement for any reason and at any time prior to the issuance of the Notice to Proceed by the NTTA to the Railroad, but in any event no later than March 1, 2010 (or June 1, 2010 if NTTA elects to delay the funding associated with the Project for up to ninety (90) days pursuant to the project agreement and the NTTA provides the Railroad notice of such election to delay funding prior to March 1, 2010) in order to be effective. The State and/or the NTTA will not be responsible for any expense incident to any cost incurred by the Railroad in the event of the cancellation of this Agreement prior to the aforesaid March 1, 2010 or June 1, 2010 deadlines, as applicable, unless the Notice to Proceed was previously issued by the NTTA and the Railroad incurred expenses pursuant to that notification, except (i) for any preliminary engineering costs authorized under Section 5.c., (ii) for flagging provided by the Railroad pursuant to Section 3.f., or (iii) when incurred by the Railroad pursuant to any written notification to order material that may have been issued by the NTTA to the Railroad prior to issuance of the Notice to Proceed resulting in some material and material handling costs, provided that in the event of such cancellation, the State, the City, and their respective Contractors shall remain liable for acts and omissions related to their occupancy of the Railroad's property and for their obligations under this Agreement occurring prior thereto. The State and the NTTA are currently negotiating an amendment to the project agreement between the NTTA and the State that may include an extension of the date by which the NTTA must secure the funding associated with the Project for up to one hundred eighty (180) days, rather than ninety (90) days as currently provided; in the event that the NTTA or the State delivers a copy of such an amendment to the Railroad, prior to June 1, 2010 the foregoing references to "June 1, 2010" and the corresponding references to "June 1, 2010" in this Section 6 and Section 17.d. shall be deemed amended to "September 1, 2010".

7. **RECORDS and AUDITS.**

a. The State, the NTTA, the City, and the Railroad shall maintain books, documents, papers, accounting records, and other evidence pertaining to costs incurred and work performed hereunder and shall make such materials available on at least ten (10) days prior written notice at their headquarters offices during the contract period and for three (3) years from the date of final billing. The records shall be made available to representatives from the Railroad, the State, the NTTA and U. S. Department of Transportation, including the Office of Inspector General, for the purpose of making audits, inspections, transcriptions, or excerpts.

b. The State Auditor may conduct an audit or investigation of any entity receiving funds from the State directly under this Agreement or indirectly through a subcontract under this Agreement, provided the Railroad is given ten (10) days prior written notice and said audit occurs during normal weekday business hours at the Railroad's

headquarters in Omaha, Nebraska. Acceptance of funds directly under this Agreement or indirectly through a subcontract under this Agreement acts as acceptance of the authority of the State Auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds respecting performance under this Agreement, subject to matters protected by attorney client privilege and subject to existing confidentiality agreements. An entity that is the subject of an audit or investigation must provide the State Auditor with access to any related information the State Auditor considers relevant to the investigation or audit of the performance of this Agreement, subject to matters protected by attorney client privilege and subject to the existing confidentiality agreements.

8. **EXISTING AGREEMENTS.** It is agreed that all existing agreements between the Railroad on the one hand and the State, the NTTA and/or the City on the other hand concerning licenses, permits, leases, or easements at the Project's location shall remain in full force and effect. If there are any terms and conditions of this Agreement that conflict with any terms and conditions in any other existing agreements between the Railroad on the one hand and the NTTA, the City and/or the State on the other hand concerning licenses, permits, leases or easements at the Project's location, the terms and conditions of this Agreement shall govern.

9. **RESPONSIBLE FOR ITS OWN ACTIONS.** The parties hereto acknowledge that no party is an agent, servant, or employee of any of the other parties, and each party agrees it is responsible for its own individual acts and deeds as well as the acts and deeds of its contractors, agents, representatives, and employees during performance of contract work.

10. **PROTECTION OF FIBER OPTIC CABLE SYSTEMS.** Fiber optic cable systems may be buried on the Railroad's property. Protection of the fiber optic cable systems is of extreme importance, since any break could disrupt service to users, resulting in business interruption and loss of revenue and profits. The State, the NTTA, and the City and/or its or their Contractors shall telephone the Railroad during normal business hours (7:00 a.m. to 9:00 p.m., Central Standard Time, Monday through Friday, except holidays) at (800) 336-9193 (also a 24-hour, seven-day number for emergency calls) to determine if fiber optic cable is buried anywhere on the Railroad's premises to be used by the State, and/or the NTTA, and/or the City and/or its or their Contractors. If it is, the State, the NTTA, the City and/or its or their Contractor will telephone the telecommunications company(ies) involved, arrange for a cable locator, and make arrangements for relocation or other protection of the fiber optic cable prior to beginning any work on the Railroad's premises.

11. **LIMITED ACCESS.** The State, the NTTA and the City hereby agree that during the performance of the proposed improvements it will keep its Contractors, employees, material, and machinery within the defined area of the premises unless otherwise specified in the Final Plans and Specifications attached as Exhibit A. There shall be no crossings of the Railroad's track except at existing, open, and public crossings, or at locations mutually agreed upon by the State, the NTTA, the City and the Railroad.

12. **RAILROAD RETAINS TITLE.** Upon execution by all parties, this Agreement will be in effect and continue thereafter for so long as the State and/or the NTTA and/or the City shall use the Railroad premises for road and highway purposes and the other purposes set forth herein; provided, however, if the State and/or the NTTA and/or the City shall abandon the use of the Railroad premises, or any part thereof, for road or highway purposes (other than temporary closures for construction, reconstruction, repairs and renovation of the highways, roadways and related structures or otherwise for reasons of public safety), this license and permission and the rights and privileges granted hereby as to the portion or portions so abandoned shall expire and terminate at the time each such portion shall be so abandoned; whereupon the Railroad shall have the same complete title to the Railroad premises so abandoned as though these presents had never been executed and the right to enter thereon and exclude from the Railroad premises so abandoned the State, the NTTA, its successors, and assigns; provided, however, that in the event of an expiration or termination pursuant to Section 1.e. or Section 13, the State, the NTTA, the City, and their respective Contractors shall remain liable for acts and omissions related to their use and occupancy of the Railroad's property and for their obligations under this Agreement occurring prior thereto.

13. **TRANSFER.** Except as otherwise provided in Section 17.d., the parties hereto shall not assign the Agreement, in whole or in part, or any rights herein granted, without the written consent of the other party(ies), and it is agreed that any transfer or assignment of this Agreement or any of the rights herein granted, whether voluntary, by operation of law, or otherwise, without such consent in writing, shall be absolutely void and, at the option of the non-transferring party(ies), shall terminate this Agreement except for those obligations which under the terms of this Agreement survive in termination.

14. **AGREEMENT NOT A WAIVER.** This license and permission is granted solely to the State, the NTTA and the City, at its and their sole cost and expense (except as otherwise expressly provided herein), solely for the purposes of developing, constructing, operating and maintaining the proposed improvements as shown in Exhibit A and is expressly subject and subordinate to the present and future rights of the Railroad, its successors, assignees, lessees, grantees and licensees to maintain, use, operate, and renew on, beneath, or above the surface of the Railroad premises any telephone, telegraph, power, communication, or signal lines, poles and/or appurtenances, fiber optic communications, track, roadways, pipelines, structures, improvements or facilities of similar or different character, as now located, and to construct, install, establish, and thereafter maintain, use, operate, and to renew on, beneath, or above the surface of the Railroad premises, any or all said things, provided the same do not unreasonably interfere with the NTTA's and/or the State's and/or the City's use of the Railroad premises as provided in this Agreement.

15. **NOTIFICATION.** The State, the NTTA and the City agree to notify the Railroad in writing when it is their belief that all Project work on the Railroad has reached Completion and is ready for inspection by the Railroad Inspector, the NTTA Inspector and the State Inspector pursuant to Section 2.h., above.

16. **INTERCONNECTION OF TEMPORARY and PERMANENT SIGNALS.**

a. Except as set forth in Section 16.b. below, the State, the NTTA and/or the City shall not be liable to the Railroad on account of any failure of the Railroad's flasher lights to operate properly nor shall the Railroad have or be entitled to maintain any action against the State, the NTTA and/or the City arising from any failure from the Railroad's flasher lights to operate properly. Similarly, except as set forth in Section 16.b. below, the Railroad shall not be liable to the State, the NTTA and/or the City on account of any failure of the State and/or the City's temporary and/or permanent traffic signals to operate properly nor shall the State, the NTTA and/or the City have or be entitled to maintain any action against the Railroad arising from any failure of the State's, the NTTA's and/or the City's temporary and/or permanent traffic signals to operate properly.

b. Each party shall take all suitable precautions to prevent any interference (by induction, leakage of electricity or otherwise) with the operation of the other party's temporary and/or permanent signals or communications lines, or those of its tenants; and if, at any time, the operation or maintenance of its signals results in any electrostatic effects, the party whose temporary and/or permanent signals are causing the interference shall, at its expense, immediately take such action as may be necessary to eliminate such interference.

17. **CONDITIONS.**

a. In accordance with the provisions of Title 23, Code of Federal Regulations (CFR), Subchapter G, Part 646, Subpart B, issued by the Federal Highway Administration, and amendments thereto, the Railroad will not be required to participate five percent (5%) in the cost of the highway underpass portion of the Project.

b. If either the State, the NTTA or the City will be receiving any federal funding for the Project, the current rules, regulations and provisions of the Federal Aid Policy Guide as contained in 23 CFR 140, Subpart I and 23 CFR 646, Subparts A and B are, to the extent applicable, incorporated into this Agreement by reference. If either the State, the NTTA or the City will be receiving American Recovery and Reinvestment Act of 2009 ("ARRA") funding for this Project, the State, the NTTA and the City agree that the State, the NTTA and the City, as the case may be, shall be

solely responsible in performing and completing all ARRA reporting documents for this Project. The State, the NTTA and the City further confirm and acknowledge that Section 1512 of the ARRA provisions applies only to a "recipient" receiving ARRA funds directly from the federal government and, therefore, (i) the ARRA reporting requirements are the responsibility of the State, the NTTA and the City and not of the Railroad and (ii) the State, the NTTA and the City shall not delegate any ARRA reporting responsibilities to the Railroad. The State, the NTTA and the City confirm that (A) the Railroad shall provide the Railroad's standard and customary billing for expenses incurred by the Railroad for this Project including the Railroad's standard and customary documentation to support such billing and in compliance with Sections 5.d. and 5.e. and (B) such standard and customary billing and documentation from the Railroad provides the information needed by the State, the NTTA and the City, as the case may be, to perform and complete the ARRA reporting documents. The Railroad confirms that the State, the NTTA and the City, as the case may be, and the Federal Highway Administration shall have the right to audit the Railroad's billing and documentation for this Project as provided in Section 7 of this Agreement. Notwithstanding anything to the contrary contained in this Section 17.b., the Railroad will reasonably cooperate with the State, the NTTA and the City in the satisfaction of their reporting and other obligations to the extent those obligations cannot otherwise reasonably be satisfied without the Railroad's involvement, but the Railroad shall not be obligated to incur any unreimbursed cost or liability in connection therewith and in no event shall the Railroad by required to do anything other than provide its standard customary billing documentation.

c. All provisions concerning the State and/or the NTTA that are for facilities located on streets under the jurisdiction of the City or that are related to highway facilities not located on the state highway system or not otherwise to be maintained by the State or the NTTA, shall become the responsibility of the City upon Completion of the Project. The City shall assume the rights of the State and/or the NTTA after the State and/or the NTTA has brought the Project to Completion and have paid the Railroad for all eligible costs incurred hereunder, for those facilities located on city streets under the jurisdiction of the City and that are not located on the state highway system or not otherwise to be maintained by the State or the NTTA. The City shall assume certain maintenance obligations under a separate existing Municipal Maintenance Agreement between the State (or the NTTA) and the City, provided nothing contained in either said assumption or said Municipal Maintenance Agreement shall modify or relieve the obligations of either the State, the NTTA, or the City to the Railroad under the terms of this Agreement.

d. In the event the NTTA is unable to secure the necessary funding associated with construction of SH 161 on or before March 1, 2010 (or June 1, 2010, if the NTTA has elected to delay the funding associated with SH 161 for up to ninety (90) days and has provided the Railroad the prior written notice of such election to delay funding required under Section 6) or otherwise does not provide the necessary written notices and commitments to continue to advance SH 161 on or before March 1, 2010 (or June 1, 2010, if the NTTA has elected to delay the funding associated with SH 161 for up to ninety (90) days and has provided the Railroad the prior written notice of such election to delay funding required under Section 6), and the NTTA issues a notice of the NTTA's right to cancel this Agreement in a timely manner pursuant to Section 6, above, then all rights, duties and responsibilities of the NTTA under this Agreement may be assumed by the State upon the State's delivery of written notice and assumption thereof to the Railroad, the NTTA and the City, provided that said assignment and assumption is executed and delivered between the NTTA and the State on or before June 1, 2013, and the aforesaid notice of assignment and assumption is given by the State to the Railroad on or before June 1, 2013, whereupon the NTTA shall have no further rights, duties or responsibilities under this Agreement, and each party hereby consents to any such assignment and assumption. Until such time, if any, that this Agreement is assumed by the State in a timely manner pursuant to the preceding sentence, neither the State, the NTTA or the City may enter the Railroad's property for any reason without the Railroad's prior written consent If the State is assigned and assumes all rights, duties and responsibilities of the NTTA under this Agreement pursuant to the foregoing, the State and the Railroad will negotiate in good faith such modifications to this Agreement as each desires (which can include changes due to Railroad operational/customer service needs which have arisen in the interim), provided that in all events this Agreement will be amended to provide that the maintenance, repair and removal of the highway underpass structure will be undertaken in accordance with the provisions of the Texas Administrative Code, title 43, Part 1, Chapter 25, Subchapter E. If the aforesaid assignment and assumption and notice are not given to the Railroad on or before June 1, 2013, as provided above, any of the Railroad, the NTTA or the State may elect, in its sole discretion, by written notice to the other parties, at any

time thereafter prior to the State's assumption of this Agreement, to terminate this Agreement, without liability to any of the parties, other than the parties' respective payment obligations, each to the others, hereunder that are incurred prior to the date of termination.

e. Notwithstanding any modifications of the Project Timeline pursuant to the terms of this Agreement, the State, the NTTA and the City agree that the crossings of the SH 161 Northbound Frontage Road and the SH 161 Southbound Frontage Road over the Railroad's rail lines shall not be placed in service more than two hundred sixty (260) days prior to the scheduled date of completion and opening to traffic of the tolled main lanes throughout the entire length of SH 161, as established by the then current Project Timeline, provided further, that said crossings shall not be placed in service until such time that (i) the NTTA represents and demonstrates in writing to the reasonable satisfaction of the Railroad that the tolled main lanes can be completed and placed in service within such 260-day period, and (ii) the NTTA or the State, as the case may be, shall represent and demonstrate in writing to the reasonable satisfaction of the Railroad that such party has sufficient funding and/or financing in place to complete and open the tolled main lanes with such 260-day period.

18. **RECITAL, EXHIBITS, ATTACHMENTS.** The Recitals, Exhibits and Attachments hereto are hereby incorporated into this Agreement and made part hereof. To the extent of any conflict between such Exhibits and Attachments and the text of this Agreement, the text of this Agreement shall control.

19. **INSPECTORS.** In providing their determinations under this Agreement, the Railroad Inspector, the NTTA Inspector and the State Inspector will act with reasonable promptness under the applicable circumstances and will not withhold approvals or confirmations arbitrarily, capriciously or in bad faith.

20. **NO PRECEDENTIAL EFFECT.** The parties to this Agreement acknowledge that the circumstances under which this Agreement arose and the issues it addresses are unique. Consequently, the terms of this Agreement are of no precedential effect with respect to either prior or subsequent agreements between any or all of the parties hereto nor are those terms intended to modify any standard forms, customary terms or course of dealing existing between any of the parties.

21. **CONDITIONS TO BE MET BEFORE ISSUANCE OF THE NOTICE TO PROCEED DESCRIBED IN SECTION 3.g. OR COMMENCEMENT OF CONSTRUCTION.** Neither the State nor the NTTA nor those acting by or through them may issue either a Notice to Proceed or commence any work on the Railroad's property until:

a. All parties have executed and delivered this Agreement;

b. The right of the State and/or the NTTA to terminate under Section 6 has either expired or has been waived by the State and the NTTA in writing;

c. All of the State's, the NTTA's and the City's Contractors intending to commence work on the Railroad's property have executed the Railroad's Contractor's Right of Entry Agreement and have obtained and/or provided to the Railroad the insurance policies, certificates, binders, and/or endorsements required under the Contractor's Right of Entry Agreement;

d. Each applicable Contractor has given the advance notice(s) required under the Contractor's Right of Entry Agreement to the Railroad Representative named in the Contractor's Right of Entry Agreement; and

e. All parties shall have approved the initial Project Timeline.

22. **ADDITIONAL CONDITION TO BE MET BEFORE COMMENCEMENT OF CONSTRUCTION OF ACTUAL CROSSINGS.** In addition to, and without limiting, the conditions set forth in Section 21 regarding the

commencement of construction and other activities generally, neither the NTTA nor the State may commence construction of the SH 161 Northbound Frontage Road and the SH 161 Southbound Frontage Road between Jefferson Street and Main Street (SH 180) or of the two (2) dedicated one-way at-grade crossings described in Section 1.b. for the SH 161 Northbound Frontage Road and the SH 161 Southbound Frontage Road (including any grade-crossing warning devices or other signalization) until the NTTA or the State, as applicable, represents and demonstrates to the Railroad and other parties to this Agreement in writing that the NTTA or the State has sufficient financing in place to perform the obligations it has undertaken under this Agreement, expressly including the construction of the Project's frontage roads and the tolled main lanes; provided that the foregoing shall not be a condition precedent to the right of the NTTA or the State to enter upon the Railroad's property in such areas to relocate utilities, construct the shoo-fly and construct the highway underpass structure for the tolled main lanes.

23. **COUNTERPARTS.** This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument. This Agreement may also be executed by telecopied or electronically transmitted signatures with the same effect as original signatures.

[Signature Page Follows]

IN WITNESS WHEREOF, the State, the City, the NTTA and the Railroad have executed multiple counterparts of this Agreement on the dates indicated below.

THE STATE OF TEXAS

Executed and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies, or work programs heretofore approved and authorized by the Texas Transportation Commission.

By _____ Date 2/26/10
Amadeo Saenz, Jr., Executive Director

NORTH TEXAS TOLLWAY AUTHORITY

By _____ Date _____

Name and Title _____

Attest _____ Date _____
Ruby Franklin, Secretary

Approved as to Form:
Locke Lord Bissell & Liddell LLP
Outside General Counsel to the NTTA

By _____ Date _____
Frank E. Stevenson, II

UNION PACIFIC RAILROAD COMPANY

By _____ Date _____

Name and Title _____

CITY OF GRAND PRAIRIE

By _____ Date _____

Name and Title _____

IN WITNESS WHEREOF, the State, the City, the NTTA and the Railroad have executed multiple counterparts of this Agreement on the dates indicated below.

THE STATE OF TEXAS

Executed for the Executive Director and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies, or work programs heretofore approved and authorized by the Texas Transportation Commission.

By _____ Date _____
William E. Glavin, P.E., Director, Rail Division

NORTH TEXAS TOLLWAY AUTHORITY

By _____ Date as of February 26, 2010

Name and Title Allen Clemson, Executive Director

Attest _____ Date as of February 26, 2010
Ruby Franklin, Secretary

Approved as to Form:
Locke Lord Bissell & Liddell LLP
Outside General Counsel to the NTTA

By _____ Date February 26, 2010
Frank E. Stevenson, II

UNION PACIFIC RAILROAD COMPANY

By _____ Date _____

Name and Title _____

CITY OF GRAND PRAIRIE

By _____ Date _____

Name and Title _____

IN WITNESS WHEREOF, the State, the City, the NTTA and the Railroad have executed multiple counterparts of this Agreement on the dates indicated below.

THE STATE OF TEXAS

Executed for the Executive Director and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies, or work programs heretofore approved and authorized by the Texas Transportation Commission.

By _____ Date _____
William E. Glavin, P.E., Director, Rail Division

NORTH TEXAS TOLLWAY AUTHORITY

By _____ Date _____

Name and Title _____

Attest _____ Date _____
Ruby Franklin, Secretary

Approved as to Form:
Locke Lord Bissell & Liddell LLP
Outside General Counsel to the NTTA

By _____ Date _____
Frank E. Stevenson, II

UNION PACIFIC RAILROAD COMPANY

By John J. Hovanec Date 2/26/2010

Name and Title John J. Hovanec AVP Engineering - Design + Construction

CITY OF GRAND PRAIRIE

By _____ Date _____

Name and Title _____

IN WITNESS WHEREOF, the State, the City, the NTTA and the Railroad have executed multiple counterparts of this Agreement on the dates indicated below.

THE STATE OF TEXAS

Executed for the Executive Director and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies, or work programs heretofore approved and authorized by the Texas Transportation Commission.

By _____ Date _____
William E. Glavin, P.E., Director, Rail Division

NORTH TEXAS TOLLWAY AUTHORITY

By _____ Date _____

Name and Title _____

Attest _____ Date _____
Ruby Franklin, Secretary

Approved as to Form:
Locke Lord Bissell & Liddell LLP
Outside General Counsel to the NTTA

By _____ Date _____
Frank E. Stevenson, II

UNION PACIFIC RAILROAD COMPANY

By _____ Date _____

Name and Title _____

CITY OF GRAND PRAIRIE

By _____ Date 02-26-2010

Name and Title Tom Cole Dem

APPROVED AS TO FORM
CITY ATTORNEY

Notices:

For the purposes of this Agreement, all notices, correspondence, billings, and other documentation shall be mailed to the following addresses:

For the State of Texas:

Rail Division Director
Texas Department of Transportation
Rail Division
125 E. 11th Street
Austin, TX 78701-2483

For the Union Pacific Railroad Company:

Regional Manager
Industry & Public Projects
Union Pacific Railroad Company
24125 Aldine-Westfield Road
Spring, TX 77373-9015

and to:

Union Pacific Railroad Company
Manager of Special Projects – IPP
Steven W. Martchenke
101 W. Watson Road
Arlington, TX 76010

For the North Texas Tollway Authority:

Executive Director
North Texas Tollway Authority
5900 W. Plano Pkwy., #100
Plano, TX 75093

For the City of Grand Prairie:

City Manager
City of Grand Prairie
317 College Street
Grand Prairie, TX 75050-5636

Exhibits to Grand Prairie Highway Underpass and New At-Grade

Exhibit A	Final Plans and Specifications:
Exhibit B	Railroad Coordination Requirements
Exhibit C	Contractor's Right of Entry Agreement
Exhibit D	Employee Entry Protocol
Attachment 1	City of Grand Prairie Railroad Grade Crossing Consolidation Resolution
Attachment 2	Highway-Railroad Preliminary Engineering Agreement
Attachment 3	Railroad's Cost Estimates
Attachment 4	Railroad's Signal Circuit Layouts

EXHIBIT A

FINAL PLANS AND SPECIFICATIONS

Part 1 of 3

Bridgefarmer & Associates, Inc.

"Plans of Proposed State Highway Improvement
State Highway 161/Union Pacific Railroad
Underpass Adjacent to SH180 and Jefferson St.
Dallas County"
Sheets 1 Through 48
as approved by Muhammad Mansoor Ahsan, P.E.,
Firoze Shams, P.E.,
Doyle L. Smith, P.E., and
Tzu-Jui Tang, P.E.
on June 5, 2009 or July 21, 2009,
as attached.

Part 2 of 3

Bridgefarmer & Associates, Inc.
"Exhibit B – Plans of Proposed State Highway Improvement
Sheets 1 through 326 State Highway 161/UPRR Underpass Dallas County"
as approved by Muhammad Mansoor Ahsan, P.E., et al. on June 5, 2009
hereby incorporated into and made part of this Exhibit A by cross-reference, but the aforesaid "Exhibit B" component of this Exhibit A shall apply only to additional Railroad Standards and specifications or other work items affecting Railroad work or structures or operations as set forth in said Exhibit B component.

Part 3 of 3

As each of the aforesaid may be modified from time to time by modifications co-signed by: William E. Glavin, P.E., Director of the State's Rail Division, or his authorized representative or successor; the NTTA's SH161 Technical Oversight Assistant, Wallace Heimer, P.E., or his authorized representative or successor; the City's Transportation Director, Jim Sparks, P.E., or his authorized representative or successor; and the Railroad's Assistant Vice-President Engineering Design or his authorized representative or successor.

DESIGN	FED. RD. DIST. NO.	FEDERAL AID PROJECT NO.		SHEET NO.
DAN	6	XXX-XXX-XXX		SH 161
CONTROL	STATE	DISTRICT	COUNTY	SHEET NO.
DAN	TEXAS	DALLAS	DALLAS	1
FS	CONTROL	SECTION	JOB	
CHECK	2964	01	040	REV 0
WZ				

DESIGN SPEED
- 70 MPH (MAIN LANES)
- 45 MPH (FRONTAGE ROADS)
- 45 MPH (CROSS STREETS)
- 20 MPH (U-TURNS)
- 60 MPH (UP MAIN LINE)
- 10 MPH (INDUSTRIAL LEAD)

2015 ADT - 149,000 (SH 161)

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE AID PROJECT
2964-01-040
CSJ: 2964-01-040

STATE HIGHWAY 161 / UNION PACIFIC RAILROAD UNDERPASS ADJACENT TO SH 180 AND JEFFERSON ST.

DALLAS COUNTY

UPRR BRIDGE AND RAILROAD WORK
FROM 1300 FEET EAST OF PROPOSED SH 161 ALIGNMENT
TO 1800 FEET WEST OF PROPOSED SH 161 ALIGNMENT

		UPRR
BRIDGE	154 FT =	0.03 MI
PERMANENT TRACKS	3,698 FT =	0.70 MI
TEMP. INDUSTRIAL TRACKS	1,019 FT =	0.19 MI
SHOOFLY TRACKS	6,436 FT =	1.22 MI
TOTAL	154 FT =	2.14 MI
TOTAL LENGTH OF PROJECT		0.62 MI

TYPE: FOR THE CONSTRUCTION OF A NEW UPRR BRIDGE OVER PROPOSED SH 161.

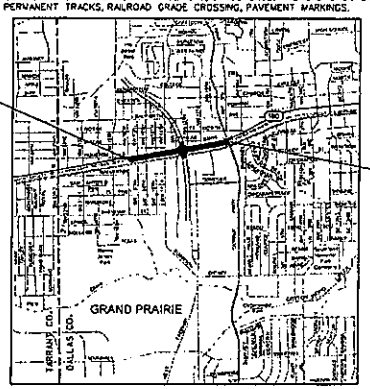
CONSISTING OF: GRADING, STORM SEWERS, STRUCTURES, RAILROAD SHOOFLY AND PERMANENT TRACKS, RAILROAD GRADE CROSSING, PAVEMENT MARKINGS.

NOTE:
SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, JUNE 1, 2004, AND THE CONTRACT PROVISIONS LISTED AND DATED AS FOLLOWS SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, DECEMBER, 1990)

TDLR INSPECTION REQUIRED.

BEGIN PROJECT
CSJ 2964-01-040
STA 600+00.00
TBA XXX+X.XXX

END PROJECT
CSJ 2964-01-040
STA 832+34.25
TBA XXX+X.XXX



LOCATION MAP

EXCEPTIONS: NONE
EQUATIONS: NONE
RR XINGS: TWO MAINLINES

N

DALLAS COUNTY
SCALE 0 ½ MILE

DALLAS DISTRICT

WORK WAS COMPLETED ACCORDING TO THE PLANS AND CONTRACT.

P.E.
Signature of Registrant & Date

ATTACHMENT NO. X-XX TO SPECIAL AGREEMENT FOR CONSTRUCTION, MAINTENANCE, AND OPERATION OF CONTINUOUS SYSTEMS WITHIN MUNICIPALITIES, DATED_____, THE CITY-STATE CONSTRUCTION, MAINTENANCE AND OPERATION RESPONSIBILITIES SHALL BE AS HERETOFORE AGREED TO, ACCEPTED, AND SPECIFIED IN THE AGREEMENT TO WHICH THESE PLANS ARE MADE A PART.

SIGNATURE TITLE DATE
CITY OF GRAND PRAIRIE

ATTACHMENT NO. X-XX TO SPECIAL AGREEMENT FOR CONSTRUCTION, MAINTENANCE, AND OPERATION OF CONTINUOUS SYSTEMS WITHIN MUNICIPALITIES, DATED_____, THE CITY-STATE CONSTRUCTION, MAINTENANCE AND OPERATION RESPONSIBILITIES SHALL BE AS HERETOFORE AGREED TO, ACCEPTED, AND SPECIFIED IN THE AGREEMENT TO WHICH THESE PLANS ARE MADE A PART.

SIGNATURE TITLE DATE
CITY OF GRAND PRAIRIE

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

Texas Department of Transportation
© 2006

UNION PACIFIC

06/06/07

EXHIBIT "A"
UPRR MP 227.84 TO MP 227.23

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EXHIBIT "A" INDEX OF SHEETS

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2 EXHIBIT "A" INDEX OF SHEETS
3 EXHIBIT "A" SH 161 AND UPRR UNDERPASS RAILROAD LAYOUT
4 - 6 EXHIBIT "A" SH 161 AND UPRR UNDERPASS RAILROAD REQUIREMENTS FOR BRIDGE CONSTRUCTION
7 EXHIBIT "A" SH 161 AND UPRR UNDERPASS GENERAL NOTES TRACK
8 EXHIBIT "A" SH 161 AND UPRR UNDERPASS CONSTRUCTION SEQUENCING NARRATIVE
9 EXHIBIT "A" SH 161 AND UPRR UNDERPASS TYPICAL SECTIONS (UPRR TRACKS)
10 - 11 EXHIBIT "A" SH 161 AND UPRR UNDERPASS TYPICAL SECTION (SHOOFLY TRACKS) SHEETS
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13 EXHIBIT "A" SH 161 AND UPRR UNDERPASS TYPICAL SECTION (SH 161 AND FRONTAGE ROADS)
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18 - 19 EXHIBIT "A" SH 161 AND UPRR UNDERPASS TRACK PROFILE ADJUSTMENT MAINLINE NO. 2 SHEETS
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7/21/09

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

Texas Department of Transportation
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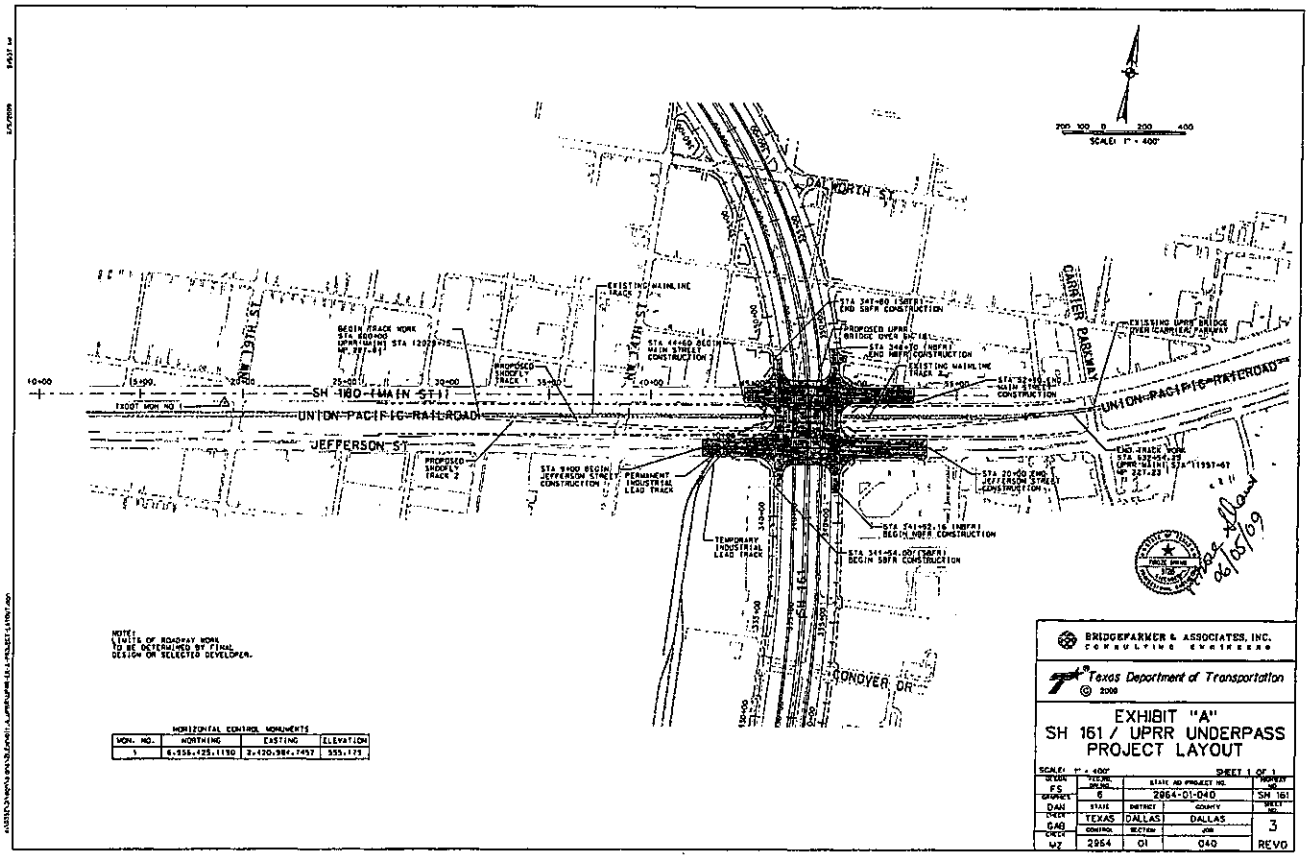
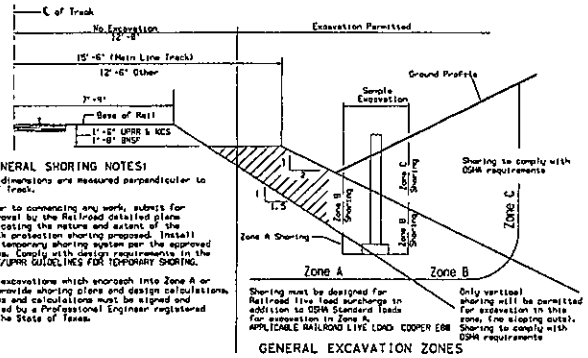
EXHIBIT "A"
SH 161/UPRR UNDERPASS
INDEX OF SHEETS

SCALE: SHEET 1 OF 1

DAN	8	2964-01-040		SH 161
DAN	STATE	DISTRICT	COUNTY	SHEET NO.
FS	TEXAS	DALLAS	DALLAS	2
MZ	CONTROL	SECTION	JOB	
	2964	01	040	REV 0



SCALE: 1" = 400'
DALWORTH ST
CARRIER PARKWAY
UNION PACIFIC RAILROAD
SH 180 (MAIN ST)
JEFFERSON ST
SH 161
CONOVER DR
NOTE:
LIMITS OF ROADWAY WORK
TO BE DETERMINED BY FINAL
DESIGN OR SELECTED DEVELOPER.
HORIZONTAL CONTROL MONUMENTS
MON. NO. | NORTHING | EASTING | ELEVATION
1 | 6,556,425.1190 | 2,420,984.7457 | 555.175
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Texas Department of Transportation
© 2009
EXHIBIT "A"
SH 161 / UPRR UNDERPASS
PROJECT LAYOUT
SCALE: 1" = 400'
SHEET 1 OF 1
FS
6
2964-01-040
SH 161
DAN
TEXAS
DALLAS
DALLAS
3
GAB
2964
01
040
REV0



GENERAL EXCAVATION ZONES

GENERAL SHORING NOTES:

1. All dimensions are measured perpendicular to ℄ of track.
2. Prior to commencing any work, submit for approval by the Railroad detailed plans indicating the nature and extent of the track protection shoring proposed. Install the temporary shoring system per the approved plans. Comply with design requirements in the BNSF/UPRR GUIDELINES FOR TEMPORARY SHORING.
3. For excavations which encroach into Zone A or B, provide shoring plans and design calculations. Plans and calculations must be signed and sealed by a Professional Engineer registered in the State of Texas.

GENERAL SHORING REQUIREMENTS*

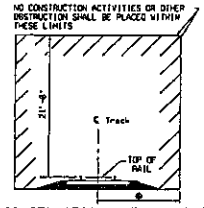
RAILROAD GENERAL NOTES:

1. Railroad review and approval of shoring, erection, demolition, and falsework is required. Allow a minimum of four weeks for the review and approval of each submittal. See *
2. Drainage will be designed for and shown on the Exhibit "B" according to UPRR Railroad Design Guidelines.
3. Verify the elevation of the existing top-of-rail profile before beginning construction. Bring all discrepancies to the attention of the Railroad prior to construction.
4. Submit a proposed method of erosion and sediment control for approval by the Railroad.
5. Design and construct all shoring systems that impact the Railroad's operations and/or support the Railroad's embankment per current Railroad Guidelines for Temporary Shoring. See *
6. Comply with Railroad Demolition Guidelines for all demolitions within the Railroad's right-of-way and/or demolition that may impact the Railroad's tracks or operations.
7. Design erection methods over the Railroad's right-of-way to cause no interruption to the Railroad's operation, enabling the trackful to remain open to traffic per the Railroad's requirements. Coordinate construction work windows with the Railroad's Designated Representative.
8. Design all construction phasing that may impact the Railroad operations to cause no interruption to the Railroad's operations, enabling the trackful to remain open to traffic per the Railroad's requirements. Coordinate construction work windows with the Railroad's Designated Representative.
9. Comply with minimum construction clearances for falsework outlined in the Railroad's Guidelines.
10. Verify all permanent clearances before project closing.
11. For Railroad coordination please refer to Sheets 2 and 3 and the TxDOT Standard Specifications.

* For shoring/excavations in Zone A or B, TxDOT requires a prediesigned and approved shoring design in the PS&E. If this is the case no Contractor submittal is required.

FOR THE FOLLOWING INFORMATION PLEASE REFER TO THE PLAN AND ELEVATION DRAWINGS OF THE BRIDGE PLANS. THE PLAN AND ELEVATION DRAWINGS SHALL SHOW ALL REQUIRED INFORMATION PER BNSF/UPRR GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECT PLAN NO. 711188 SHEET 2.

1. Centerline of bridge and/or centerline of project.
2. Track layout and limits of Railroad right-of-way with respect to centerline of main lines.
3. Future tracks, access roadways and existing tracks as main line, siding, spur, etc.
4. Point of minimum vertical clearance and distance, measured perpendicular, from the centerline of nearest track.
5. Horizontal clearance at right angle from centerline of nearest existing or future track to the face of obstruction such as substructure above grade.
6. Horizontal clearance at right angle from centerline of nearest existing or future track to the face of nearest foundation below grade.
7. Horizontal spacing at right angle between centerlines of existing and/or future tracks.
8. Limits of shoring and minimum distance at right angle from centerline of nearest track.
9. All existing facilities and utilities and their proposed relocation, if required.
10. Toe of riprap or earth slope and/or limits of retaining wall.
11. Existing and proposed contours. (not required if the existing groundlines or drainage characteristics in Railroad ROW will not be altered).
12. Railroad Milepost and direction of increasing Mileposts.
13. Direction of flow for all drainage systems within project limits.
14. Limits of barrier rail and fence with respect to centerline of track.
15. Depth of foundation below bottom of tie. (for footings only)
16. Top and bottom of pier protection wall elevation relative to top of rail elevation.
17. Controlling dimensions of drainage ditches and/or drainage structures.
18. Top of rail elevations for all tracks.
19. Minimum permanent vertical clearance above top of high rail to the lowest point under the bridge.
20. Existing and proposed groundline & roadway profile.
21. Type of riprap slope paving.
22. Location of deck drains.
23. Total width of superstructure.
24. Width of shoulder and/or sidewalk.



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

(NORMAL TO RAILROAD)

@ (5'-8" for BNSF and 12'-8" for UPRR & KCS

GENERAL NOTES:

Design and Construction for Railroad Projects shall be in accordance with the AREMA Manual for Railway Engineering and BNSF/UPRR Guidelines for Railroad Grade Separation Projects (as amended by TxDOT) for the Design and Construction of Underpasses and the TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges.

See BNSF/UPRR Guidelines for Grade Separation Projects Plan No. 711188 and TxDOT Railroad Fence Details Sheet for additional information. A curved top fence extending 8'-0" above top of sidewalk is acceptable only where there is a traffic rail between roadway and sidewalk.

SHEET 1 OF 3

Texas Department of Transportation
Bridge Division

RAILROAD REQUIREMENTS FOR BRIDGE CONSTRUCTION

EXHIBIT "A"

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT FEBRUARY 2008	CONT	SECT	JOB	HIGHWAY
	DAL	XXX+XXX+XXX		4
11/13/08	DISTRICT	COUNTY		SHEET NO.
	DALLAS	ALL		

PART 1 - GENERAL

1.01 DESCRIPTION

This project includes construction work within the Right-of-Way and/or properties of the Railroad Company and adjacent to its tracks, wire lines and other facilities. These sheets describe the minimum special requirements for coordination with the Railroad when working upon, over or under Railroad Right-of-Way or when impacting current or future Railroad operations. Coordinate with the Railroad while performing the work outlined in this Contract, and afford the same cooperation with the Railroad as with TxDOT. Complete all submittals and work in accordance with TxDOT Standard Specifications, Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the Railroad Designated Representative.

For purposes of this project, the Railroad Designated Representative is the person or persons designated by the Railroad Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 RAILROAD CONTACTS

The primary Railroad point of contact for this project and the contact for Railroad flagging services and track work, can be obtained by contacting the TxDOT Area Engineer responsible for the project.

1.03 REQUEST FOR INFORMATION / CLARIFICATION

Submit Requests for Information ("RFI") involving work within any Railroad Right-Of-Way to the TxDOT Engineer. The TxDOT Engineer will submit the RFI to the Railroad Designated Representative for review and approval for RFI's corresponding to work within Railroad Right-Of-Way. Allow six (6) weeks total time for review and approval, which includes four (4) weeks for review and approval by the Railroad.

1.04 PLANS / SPECIFICATIONS

TxDOT has received written Railroad approval of the plans and specifications for this project. Any revisions or changes in the plans after award of the Contract must have the approval of TxDOT and the Railroad.

PART 2 - UTILITIES AND FIBER OPTIC

Construct all utility installations in accordance with current AREMA recommendations, Railroad, TxDOT and owning utility specifications and requirements. Railroad general guidelines and the required application forms for utility installations can be found on the Railroad website or by contacting the Railroad Designated Representative.

PART 3 - CONSTRUCTION

3.01 GENERAL

A. Perform all work in compliance with all applicable Railroad, FRA and TxDOT rules and regulations. Arrange and conduct work in a manner that does not endanger or interfere with the safe operation of the tracks and property of the Railroad and the traffic moving on such tracks, or the wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the Work. The Contractor is responsible for train delay cost and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction or other activities.

B. Construction activities within 12 feet of the operational tracks will only be allowed if absolutely necessary and the Railroad's Designated Representative grants approval. Construction activities within 12 feet of the operational track(s) preferably allow the tracks to stay operational. In such cases, coordination and approval by the Railroad Track Manager is required with regard to schedule, flagging, and slow orders. See Sections 3.07 and 3.08 for additional information.

C. Provide track protection for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail.

D. The Contractor is also advised that new railroad facilities within the project may be built by the Railroad. If applicable, these facilities are delineated in the plans. Be aware of the limits of responsibilities and coordinate efforts with the Railroad and TxDOT.

3.02 RAILROAD OPERATIONS

A. Trains and/or equipment are expected on any track, at any time, in either direction. Become familiar with the train schedules in this location and structure bid assuming intermittent track windows in this period, as defined in Paragraph B that follows.

B. All railroad tracks within and adjacent to the Contract Site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. Coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Coordinate work windows with TxDOT and the Railroad's Designated Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and/or adjacent to the railroad tracks within 25 feet of the nearest track, a Railroad flag person will be required. At the direction of the Railroad flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the Railroad Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window the railroad tracks and/or signals must be completely operational for train operations and all Railroad, Public Utilities Commission (PUC) and Federal Railroad Administration (FRA) requirements, codes and regulations for operational tracks must be satisfied. In the situation where the operating tracks and/or signals have been affected, the Railroad will perform inspections of the work prior to placing that track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Prior to beginning any work on or over the property of, or affecting the facilities of the Railroad, enter into a "Contractor's Right of Entry Agreement" with Railroad. The fee for processing the agreement is the responsibility of the Contractor. Submit a copy of the executed agreement and the insurance policies, binders, certificates and endorsements set forth therein to TxDOT prior to commencing work on Railroad property. Within the right of entry agreement, specify working time frames, flagging and inspection requirements, and any other items specified by the Railroad.

B. Give advance notice to the Railroad as required in the "Contractor's Right of Entry Agreement" before commencing work in connection with construction upon or over Railroad Right-of-Way and observe the Railroad's rules and regulations with respect thereto.

C. Perform all work upon Railroad Right-of-Way in a manner to avoid interference with or endanger the operations of the Railroad. Whenever work may affect the operations or safety of trains, submit the work method to the Railroad Designated Representative for approval. Approval does not relieve the Contractor from liability. Do not commence any work which requires flagging service or inspection service until the flagging protection required by the Railroad is available at the job site. See Section 3.16 for railroad flagging requirements.

D. Make requests in writing for both Absolute and Conditional Work Windows, at least two weeks in advance of any work. Include in the written request:

1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

Provide a written confirmation notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work is within 25 feet of any track center line. Perform all work in accordance with previously approved work plans.

E. Make provisions to protect operations and property of the Railroad should a condition arising from, or in connection with the work, require immediate and unusual action. If in the judgment of the Railroad Designated Representative such provisions are insufficient, the Railroad Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the Railroad or TxDOT. The Railroad or TxDOT shall have the right to order the Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad Designated Representative, the Contractor's operations could endanger railroad operations. In the event of such an order, immediately notify TxDOT of the order.

3.04 INSURANCE

Do not begin work upon or over Railroad Right-of-Way until furnishing the Railroad with the insurance policies, binders, certificates and endorsements required by the "Contractor's Right-of-Entry Agreement", and until the Railroad Designated Representative has advised TxDOT that such insurance is in accordance with the Agreement. Further information on insurance requirements appear in the Special Provisions to Item 7 of the TxDOT Standard Specifications and/or the project General Notes.

3.05 RAILROAD SAFETY ORIENTATION

Complete the Railroad course "Orientation for Contractor's Safety", and maintain current registration prior to working on Railroad property. This orientation is available at www.contractororientation.com. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

3.06 COOPERATION

The Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad Right-of-Way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

Abide by the following minimum temporary clearances during the course of construction:

A. 15' - 0" (BNSF) and 12' -0" (UPRR & KCS) horizontal from centerline of track
B. 21' - 0" vertically above top of rail.

For construction clearance less than listed above, obtain local Railroad Operating Unit review and approval.

3.08 APPROVAL OF REDUCED CLEARANCES

A. Maintain minimum track clearances during construction as specified in Section 3.07.

B. Submit any proposed infringement on the specified minimum clearances to the Railroad Designated Representative through TxDOT at least 30 days in advance of the work. Do not proceed with such infringement until written approval by the Railroad Designated Representative.

C. Do not commence work involving an approved infringement until receiving written assurance from the Railroad Designated Representative that arrangements have been made for any necessary flagging service.

SHEET 2 OF 3

Texas Department of Transportation
Bridge Division

RAILROAD REQUIREMENTS FOR BRIDGE CONSTRUCTION

EXHIBIT "A"

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT	
©TxDOT NOVEMBER 2007	CONT	SECT	JOB		HIGHWAY
REVISIONS	DAL	XXX-XXX-XXX			5
11/7/2008	DIST	COUNTY			SHEET NO.
	DALLAS	7911	01	049	SH161

RAILROAD REQUIREMENTS FOR BRIDGE CONSTRUCTION.dgn

3.09 CONSTRUCTION AND AS-BUILT SUBMITTALS

A. Provide TxDOT submittals for construction materials and procedures as outlined below and indicated in TxDOT Standard Specifications. A summary of most TxDOT submittal requirements can be found at: www.dot.state.tx.us/publications/bridge/items reviewed.pdf

B. The tables below provide the Railroad's minimum submittal requirements for the construction items noted. Submittal requirements are in addition to those specified elsewhere in these bid documents. The review times indicated below represent the total time, including the Railroad's required four (4) weeks.

C. TxDOT will forward relevant submittals to the Railroad Manager of Industry and Public Projects unless otherwise directed by the Railroad. TxDOT and the Engineer of Record will review and include comments prior to forwarding to the Railroad. Submit items in Table 1 for both railroad overpass and underpass projects, as applicable. Submit items in Table 2 for railroad underpass projects only.

TABLE 1 - RAILROAD SUBMITTAL REQUIREMENTS FOR OVERPASS & UNDERPASS PROJECTS

ITEM	DESCRIPTION	SETS	REVIEW TIME
1	Shoring design and details	6	6 weeks
2	Falsework design and details	6	6 weeks
3	Drainage design provisions	6	6 weeks
4	Erection diagrams and sequence	6	6 weeks
5	Demolition diagram and sequence	6	6 weeks

TABLE 2 - RAILROAD SUBMITTAL REQUIREMENTS FOR UNDERPASS PROJECTS

ITEM	DESCRIPTION	SETS	NOTES	REVIEW TIME
1	Shop drawings	6	Steel and Concrete members	6 weeks
2	Bearings	6	For all structures	6 weeks
3	Concrete Mix Designs	6	For all structures	6 weeks
4	Rebar & Strand certifications	6	For superstructure only	6 weeks
5	28 day concrete strength	6	For superstructure only	6 weeks
6	Waterproofing material certifications and installation procedure	6	Waterproofing & protective boards	6 weeks
7	Structural steel certifications	6	All fracture critical members & other members requiring improved notch toughness	6 weeks
8	Fabrication and Test reports	6	All fracture critical members & other members requiring improved notch toughness	6 weeks
9	Welding Procedures and Welder Certification	6	AWS requirements	6 weeks
10	Foundation Construction Reports or Notes	6	Pile driving, drilled shaft construction, bearing pressure test reports for spread footings	6 weeks
11	Compaction testing reports for backfill at abutments	6	Must meet 95% maximum dry density, Modified Proctor ASTM D1557	6 weeks

D. TxDOT shall submit As-Built Records to the Railroad when TxDOT has processed the final project plans. These records shall consist of the following items:

Overpass Projects

1. Electronic files of all structure design drawings with as-constructed modifications shown, in Microstation J or Acrobat .PDF format.
2. Hard copies of all structure design drawings with as-constructed modifications shown.

Underpass Projects

1. Electronic files of all structure design drawings with as-constructed modifications shown, in Microstation J or Acrobat .PDF format.
2. Hard copies of all structure design drawings with as-constructed modifications shown.
3. Final approved copies of shop drawings for concrete and steel members.
4. Foundation Construction Reports
5. Compaction testing reports for backfill of abutments

3.10 APPROVAL OF DETAILS

Submit details of the construction affecting Railroad tracks and property not already included in the Contract Plans to the Railroad Designated Representative through TxDOT for the Railroad's review and written approval before such work is undertaken. Allow a total six (6) weeks for review and approval of these submittals, which includes the Railroad's four (4) week review time.

3.11 MAINTENANCE OF RAILROAD FACILITIES

A. Maintain all ditches and drainage structures free of silt or other obstructions resulting from Contractor's operations. Repair eroded areas and any other damage within Railroad Right-of-Way and repair any other damage to the property of the Railroad, or its tenants.

B. Perform all such maintenance and repair of damages due to the Contractor's operations at Contractor's expense.

C. Submit a proposed method of erosion control for review by the Railroad prior to beginning any grading on the Project Site. Comply with all applicable local, state and federal regulations when developing and implementing such erosion control.

3.12 SITE INSPECTIONS BY RAILROAD's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by the Railroad Designated Representative at significant points during construction, including the following if applicable:
1. Pre-construction meetings.
2. Pile driving/drilling of caissons or drilled shafts.
3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
4. Erection of precast concrete or steel bridge superstructure.
5. Placement of waterproofing (prior to placing ballast on bridge deck).
6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

C. Provide a detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to TxDOT for submittal to the Railroad Designated Representative for review prior to commencement of work. Include the anticipated dates when the above listed events will occur. Update this schedule for the above listed events as necessary and each month at a minimum to allow the Railroad to schedule site inspections.

3.13 RAILROAD REPRESENTATIVES

Railroad representatives, conductors, flag person or watch person will be provided by the Railroad at expense of TxDOT to protect Railroad facilities, property and movements of its trains or engines. In general, the Railroad will furnish such personnel or other protective services as follows:

A. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from centerline of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad Designated Representative, track or other Railroad facilities may be subject to settlement or movement.

C. During any clearing, grubbing, excavation or grading in proximity to Railroad facilities, which, in the opinion of the Railroad Designated Representative, may endanger Railroad facilities or operations.

D. During any contractor's operations when, in the opinion of the Railroad Designated Representative, Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

E. Arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.14 WALKWAYS REQUIRED

Maintain 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, extending to a line not less than twelve feet (12') from centerline of track. Remove any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours before the close of each work day. Construct walkways with railings over open excavation areas when in close proximity of track. Do not violate allowable clearances of these railings to centerline of tracks: 8' - 6" horizontally for tangent track or 9' - 6" horizontally for curved track.

3.15 COMMUNICATIONS AND SIGNAL LINES

If required, the Railroad will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by the Railroad's forces in connection with its operation at expense of TxDOT. This work by the Railroad will be done by its own forces and it is not a part of the Work under this Contract.

3.16 TRAFFIC CONTROL

Coordinate any operations that control traffic across or around Railroad facilities with the Railroad Designated Representative.

3.17 CONSTRUCTION EXCAVATIONS

A. Take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of TxDOT, OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. The project plans indicate whether there are fiber optic lines or other such telecommunications systems that require consideration. Regardless, contact the necessary call center to determine if such cable systems are present:

UPRR 1-800-336-9193
7:00 AM to 9:00 PM EST Monday-Friday except holidays,
staffed 24 hrs/day for emergencies
48 hrs notice required

BNSF 1-800-533-2891
24 hour number
5 working days notice required

KCS 1-800-344-8377
Texas One Call, a 24 hour number
48 hrs notice required, excluding weekends and holidays

If a telecommunications system is buried anywhere on or near Railroad property, coordinate with TxDOT, the Railroad and the Telecommunication Company(ies) to arrange for relocation or protective measures prior to beginning work on or near Railroad property. Refer to the project General Notes for additional information.

3.18 RAILROAD FLAGGING

Railroad flagging will be required for any work within 25 ft horizontally of the track. Provisions for flagging are also described in Item 7.16 "Work Near Railroads" in the TxDOT Standard Specifications.

3.19 CLEANING OF RIGHT-OF-WAY

When work is complete, remove all tools, implements, and other materials brought into Railroad Right-of-Way and leave the Right-of-Way in a clean and presentable condition to satisfaction of TxDOT and the Railroad.

06/05/09

SHEET 3 OF 3

Texas Department of Transportation
Bridge Division

RAILROAD REQUIREMENTS
FOR BRIDGE CONSTRUCTION

EXHIBIT "A"

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RAILROAD GENERAL NOTES

RAILROAD GENERAL NOTES

RAILROAD

THE UNION PACIFIC RAILROAD COMPANY IS HEREINAFTER REFERRED TO AS THE "RAILROAD".

NOTIFICATION OF WORK

THE CONTRACTOR IS REQUIRED TO GIVE THE RAILROAD AT LEAST 30 WORKING DAYS ADVANCE NOTICE, IN WRITING, BEFORE ANY WORK IS STARTED ON THE SITE. TO AVOID HAZARDS, THE RAILROAD MAY HAVE A REPRESENTATIVE PRESENT, IF DEEMED NECESSARY, FOR THE PURPOSE OF INSPECTION AND THE ISSUANCE OF ANY APPROPRIATE INSTRUCTIONS FOR RAILWAY OPERATIONS DURING THE CONSTRUCTION OF THE THIS WORK PACKAGE, AS IT RELATES TO THE RAILROAD.

THE CONTRACTOR SHALL NOTIFY THE RESPONSIBLE PERSONNEL AT:

UNION PACIFIC RAILROAD

MR. GERALD UEMER
MANAGER TRACK MAINTENANCE
101 SOUTH WATSON ROAD
ARLINGTON, TEXAS 76010
PHONE 817-353-7628

MR. STEVE MARTCHENKO
MANAGER INDUSTRY AND PUBLIC PROJECTS
101 SOUTH WATSON ROAD
ARLINGTON, TEXAS 76010
PHONE 817-353-7625

PROTECTION OF RAILROAD TRACK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE RAILROAD TRACK BED DURING ALL CONSTRUCTION OPERATIONS.

FLAGGING AND INSURANCE

FLAGGING AND INSURANCE SHALL BE PROVIDED AS REQUIRED BY THE STATE OF TEXAS FOR WORK NEAR A RAILROAD TRACK AND AS STATED IN THE RAILROAD CONTRACTOR'S RIGHT OF ENTRY AGREEMENT. THE RAILROAD, AT ITS DISCRETION, SHALL PROVIDE FLAGGING FOR THE RAILROAD DURING CONSTRUCTION OPERATIONS.

THE CONTRACTOR IS REQUIRED TO REIMBURSE THE RAILROAD FOR FLAGGING SERVICES PROVIDED.

THE CONTRACTOR SHALL ALSO FURNISH SATISFACTORY EVIDENCE TO TXDOT THAT HE HAS PROVIDED INSURANCE OF THE KINDS AND AMOUNTS AS REQUIRED BY THE STATE OF TEXAS FOR RAILROAD INSURANCE AND IN THE RAILROAD CONTRACTOR'S RIGHT OF ENTRY AGREEMENT.

THE CONTRACTOR WILL BE REQUIRED TO ENTER INTO A CONTRACTOR'S RIGHT OF ENTRY AGREEMENT WITH THE RAILROAD BEFORE THEY WILL BE ALLOWED ON THE RAILROAD' RIGHT-OF-WAY.

PRE-WORK MEETING

PRIOR TO WORKING ON THE RAILROAD, RIGHT-OF-WAY OR IN THE VICINITY OF RAILROAD'S TRACKS, CONTACT MUST BE MADE WITH THE LOCAL MANAGER OF TRACK MAINTENANCE FOR THE RAILROAD TO COORDINATE HIS WORK. IT IS VITAL THAT THE RAILROAD MANAGER OF TRACK MAINTENANCE BE CONTACTED PRIOR TO GETTING ON THE RAILROAD PROPERTY.

SHEETING AND SHORING

CONTRACTOR SHALL INSTALL SHORING AS SHOWN ON SHEETS 1 TO 9 SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION AND TEMPORARY SHORING DETAILS. ALL COST OF SHEETING AND SHORING TO BE INCLUDED IN THE PRICE BID FOR STRUCTURAL EXCAVATION.

CONSTRUCTION OF NEW TRACKS

ALL MAIN LINE AND SHOOFLY TRACK CONSTRUCTION SHALL BE MADE WITH NEW 136# RAIL. THE RAILROAD SHALL INSTALL BALLAST, TIES, RAIL AND FASTENINGS ON MAIN LINE/SHOOFLY CONNECTIONS. CONTRACTOR SHALL FURNISH AND STOCKPILE BALLAST FOR MAIN LINE /SHOOFLY CONNECTIONS BY UPRR. CONTRACTOR WILL CONSTRUCT SUBGRADE AND INSTALL SUBBALLAST ON ALL TRACKS. CONTRACTOR WILL INSTALL BALLAST, TIES, RAIL AND FASTENINGS ON ALL TRACKS EXCEPT THE CONNECTIONS MADE BY THE RAILROAD. ALL TRACKS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE RAILROADS' COMMON STANDARDS WHERE SUCH STANDARDS ARE APPLICABLE. INDUSTRIAL TRACK SPECIFICATIONS CAN BE FOUND ON UPRR WEB SITE.

SELECT MATERIAL FOR SUBBALLAST WILL MEET THE FOLLOWING REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING (BY WEIGHT)
2"	100
1"	90-100
½"	50-84
No. 10	26-50
No. 40	12-30
No. 200	0-4

(SUBBALLAST SHALL BE 100% CRUSHED STONE WITH PERCENTAGE OF WEAR OF NOT MORE THAN 50 BY THE LOS ANGELES ABRASION TEST, FOR WAX LOSS FREEZE THAW TEST.)

INTERFERENCES WITH STRUCTURES IN THE VICINITY

SOME IMPACTS WITH EXISTING STRUCTURES IN UPRR ROW IS EXPECTED WITH THIS WORK. CONTRACTOR SHALL REMOVE OR RELOCATE ALL STRUCTURES WHICH MIGHT CONFLICT WITH SHOOFLY AND/OR INDUSTRIAL LEAD TRACK CONSTRUCTION. ANY RELOCATIONS OR REMOVALS WOULD HAVE TO BE APPROVED BY UPRR. THE RAILROAD WILL REMOVE OR RELOCATE ALL RAILROAD SIGNAL EQUIPMENT WHICH MIGHT CONFLICT WITH SHOOFLY AND/OR INDUSTRIAL LEAD TRACK CONSTRUCTION.

UTILITIES

THE INFORMATION SHOWN ON THESE PLANS CONCERNING TYPES AND LOCATIONS OF UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE TO MAKE THE DETERMINATIONS AS TO TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL VERIFY LOCATION OF UTILITIES BY CONTACTING OWNERS OF UTILITIES IN ADVANCE OF CONSTRUCTION OPERATIONS.

COORDINATION WITH RAILROAD COMPANY

THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN A MANNER WHICH WILL NOT DELAY OR INTERFERE WITH TRAIN OPERATIONS. CONSTRUCTION ACTIVITY WITHIN 25' OF ACTIVE TRACKS WILL REQUIRE A FLAGMAN TO BE PROVIDED BY THE RAILROAD AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL GIVE A MINIMUM OF 30 CALENDAR DAYS WRITTEN NOTICE TO RAILROAD MANAGER OF TRACK MAINTENANCE IN ADVANCE OF WHEN FLAGGING SERVICES WILL BE REQUIRED.

RAILROAD FLAGGER AND PROTECTIVE SERVICES AND DEVICES WILL BE REQUIRED AND FURNISHED WHEN CONTRACTOR'S WORK ACTIVITIES ARE CARRIED OVER, UNDER OR WITHIN TWENTY-FIVE (25) FEET MEASURED HORIZONTALLY FROM THE CENTER LINE OF THE NEAREST TRACK, AND WHEN CRANES OR SIMILAR EQUIPMENT POSITIONED OUTSIDE OF 25-FOOT HORIZONTALLY FROM TRACK CENTER LINE THAT COULD FOUL THE TRACK IN THE EVENT OF TIP OVER OR OTHER CATASTROPHIC OCCURRENCE, BUT NOT LIMITED THERETO FOR THE FOLLOWING CONDITIONS:

1. WHEN IN THE OPINION OF RAILROAD REPRESENTATIVE, IT IS NECESSARY TO SAFEGUARD RAILROAD PROPERTY, EMPLOYEES, TRAINS, ENGINES AND FACILITIES.
2. WHEN ANY EXCAVATION IS PERFORMED BELOW THE BOTTOM OF TIE ELEVATION, IF, IN THE OPINION OF RAILROAD REPRESENTATIVE, TRACK OR OTHER RAILROAD FACILITIES MAY BE SUBJECT TO MOVEMENT OR SETTLEMENT.
3. WHEN WORK IN ANY WAY INTERFERES WITH THE SAFE OPERATION OF TRAINS AT TIMETABLE SPEEDS.
4. WHEN ANY HAZARD IS PRESENTED TO RAILROAD TRACK, COMMUNICATIONS, SIGNAL, ELECTRICAL, OR OTHER FACILITIES EITHER DUE TO PERSONS, MATERIAL, EQUIPMENT OR BLASTING IN THE VICINITY.
5. SPECIAL PERMISSION MUST BE OBTAINED FROM RAILROAD BEFORE MOVING HEAVY OR CUMBERSOME OBJECTS OR EQUIPMENT WHICH MIGHT RESULT IN MAKING THE TRACK IMPASSABLE.

CONSTRUCTION COORDINATION

A CONSTRUCTION COORDINATOR WHO IS FAMILIAR WITH TRAIN OPERATIONS SHALL BE UTILIZED THROUGHOUT THE CONSTRUCTION OF BRIDGES OVER RAILROAD PROPERTY TO INSURE PROPER COORDINATION BETWEEN THE RAILROAD OPERATIONS AND CONTRACTORS WORK AROUND RAILROAD TRACKS.

DRAINAGE

THE DRAINAGE IMPACTS OF THIS PROJECT WILL MOSTLY BE LIMITED TO THE BRIDGE STRUCTURE. THE RAILROAD BRIDGE IS SLOPED TOWARDS EAST AND STORM WATER FLOWING ALONG THE BRIDGE DECK WILL BE CAPTURED AT THE EAST END OF THE BRIDGE AND TRANSFERRED TO THE DRAIN SYSTEM ALONG SH 161 DIRECTLY UNDERNEATH THE UPRR BRIDGE (REFER TO BRIDGE DETAILS).

CONFLICT IN SPECIFICATIONS

WHEN SPECIFICATIONS ARE IN CONFLICT, RAILROAD SPECIFICATIONS SUPERCEDE TXDOT SPECIFICATIONS.

MODIFICATIONS / CHANGES

ALL PROPOSALS TO MODIFY OR CHANGE RAILROAD WORK WILL BE SUBMITTED TO THE TXDOT RESIDENT ENGINEER FOR APPROVAL AND COORDINATATION WITH THE RAILROAD.

RAIL TRAFFIC

RAILROAD HAS 26 TRAINS PER DAY AT 60 MPH AND 2 SWITCH TRAINS PER DAY AT 10 MPH.

INDUSTRIAL TRACK SPECIFICATIONS

CONTRACTOR SHOULD REFER TO UPRR WEB SITE UPRR.COM/BUSINESS/OPERATIONS/SPECSTRACK/INDEX.SHTML FOR "TECHNICAL SPECIFICATIONS FOR CONSTRUCTION OF INDUSTRIAL TRACKS".

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

Texas Department of Transportation
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EXHIBIT "A"
SH 161/UPRR UNDERPASS
GENERAL NOTES TRACK

SCALE: SHEET 1 OF 1

DESIGN W.JR	FED.RD. DIV.NO. 6	STATE RD PROJECT NO. 2964-01-040		HIGHWAY NO. SH 161
DRAWN DAN	STATE TEXAS	DISTRICT DALLAS	COUNTY DALLAS	SHEET NO. 7
CHECK FS	CONTROL 2964	SECTION 01	JOB 040	REVO
CHECK WZ				

SEQUENCE OF CONSTRUCTION NARRATIVE

SUGGESTED SEQUENCE OF CONSTRUCTION

GENERAL

A. CONTRACTOR SHALL IMPLEMENT THE ADVANCE WARNING SIGNS AS INDICATED IN THE PLANS.

B. CONTRACTOR SHALL PERMANENTLY CLOSE NW 14TH STREET TO TRAFFIC CROSSING THE RAILROAD TRACKS. CONTRACTOR SHALL PLACE LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCTB) ALONG WITH TYPE III BARRICADE TO CLOSE NW 14TH STREET AT-GRADE CROSSING PERMANENTLY TO TRAFFIC AND SHALL DETOUR TRAFFIC VIA NW 13TH STREET. UPRR SHALL REMOVE RAILROAD CROSSING PANELS, CROSSING GATES AND ALL ASSOCIATED RAILROAD SIGNAL CABINS AND EQUIPMENT. CONTRACTOR WILL REMOVE PAVEMENT INSIDE UPRR RIGHT OF WAY.

C. ALL STRUCTURAL WORK UNDER THIS CONTRACT IS REFERRED TO AS STAGE I. FUTURE CONSTRUCTION IS REFERRED TO AS STAGE II.

D. CONTRACTOR SHALL ADJUST THE TEMPORARY SIGNAL HEADS AT THE INTERSECTIONS OF JEFFERSON STREET WITH SH 161 NBFR AND MAIN STREET WITH SH 161 SBFR IN ACCORDANCE WITH THE TEMPORARY LANE MARKINGS AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF GRAND PRAIRIE PRIOR TO ADJUSTING SIGNAL HEADS. CITY OF GRAND PRAIRIE CONTACT IS DREW SHIPMAN AT (972) 237-8053.

E. ALL TEMPORARY SIGNAL EQUIPMENT SHALL BE PROTECTED AND MAINTAINED DURING THE ENTIRE CONSTRUCTION OR UNTIL A POINT OF TIME WHERE THESE ARE NOT NEEDED. CONTRACTOR SHALL TEST AND TURN ON THE PERMANENT SIGNAL EQUIPMENT PRIOR TO REMOVAL OF THE TEMPORARY SIGNALS.

PHASE I

A. UPRR TO PERFORM BALLAST RAISE (TRACK BALANCING) FOR MAIN LINE 2 FROM STA 33+70.92 TO STA 40+65 TO BRING THE TRACK TO THE SAME ELEVATIONS AND GRADES AS MAIN LINE TRACK 1. UPRR WILL FURNISH BALLAST FOR MAIN LINE 2 TRACK RAISE.

B. THE CONTRACTOR SHALL CLOSE WB JEFFERSON STREET TO TRAFFIC (NORTHERN SEGMENT), MAKE APPROPRIATE SIGNAL AND STRIPING CHANGES AND SHIFT TRAFFIC TO THE EXISTING EB JEFFERSON STREET LANES (SOUTHERN SEGMENT). PLACE PERMANENT DRAIN BENEATH WEST END OF THE PROPOSED SHOOFLY.

C. CONTRACTOR SHALL INSTALL SHORING AND ITS ANCHOR SYSTEM AS SHOWN ON THE SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS SHEET 1 OF 8.

D. CONTRACTOR SHALL BEGIN CONSTRUCTION OF THE TWO SHOOFLY TRACKS TO THE SOUTH OF THE EXISTING MAIN LINE TRACKS WITHOUT INTERRUPTING THE EXISTING MAIN LINE TRAIN TRAFFIC. UPRR WILL CONSTRUCT THE CONNECTIONS OF SHOOFLY 1 AND 2 TO MAIN LINE TRACKS 1 AND 2. CONTRACTOR SHALL FURNISH AND STOCKPILE BALLAST FOR TRACK CONNECTIONS BY UPRR. TRAIN OPERATIONS ON MAIN LINE TRACKS WILL BE INTERRUPTED FOR A SHORT TIME WHILE THIS WORK IS BEING DONE. THE DURATION OF UPRR MAIN LINE SERVICE INTERRUPTION SHALL BE DETERMINED BY UPRR. CONTRACTOR SHALL BEGIN REMOVAL OF EXISTING INDUSTRIAL LEAD TRACK TURNOUT, CROSSING AND CONCRETE HEADERS. CONTRACTOR SHALL CONSTRUCT TEMPORARY INDUSTRIAL LEAD TRACK CROSSING ACROSS WB JEFFERSON STREET ALONG WITH ASSOCIATED TEMPORARY PAVEMENT AND TEMPORARY NO. 11 TURNOUT. INDUSTRIAL LEAD TRAIN TRAFFIC WILL BE INTERRUPTED UNTIL THE INDUSTRIAL LEAD TRACK CONNECTION TO SHOOFLY 2 IS COMPLETED. DELAYS TO INDUSTRIAL LEAD TRACK TRAIN TRAFFIC IN EXCESS OF 48 HOURS SHALL BECOME THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR.

PHASE II

A. CONTRACTOR SHALL CLOSE THE EB JEFFERSON STREET TO TRAFFIC (SOUTHERN SEGMENT) AND SHIFT TRAFFIC TO THE EXISTING WB JEFFERSON STREET LANES (NORTHERN SEGMENT). CONTRACTOR SHALL BEGIN REMOVAL OF EXISTING INDUSTRIAL LEAD TRACK CROSSING AND CONSTRUCT TEMPORARY INDUSTRIAL LEAD TRACK CROSSING ACROSS EB JEFFERSON STREET AND SOUTH OF JEFFERSON STREET. CONTRACTOR SHALL COMPLETE CONSTRUCTION OF THE TEMPORARY INDUSTRIAL LEAD TRACK CONNECTION ACROSS JEFFERSON STREET. UPRR SHALL SHIFT TRAIN TRAFFIC TO THE SHOOFLY TRACKS AND THE TEMPORARY INDUSTRIAL LEAD TRACKS. CONTRACTOR SHALL MAINTAIN TEMPORARY ASPHALT JEFFERSON STREET CROSSING WHILE IT IS IN PLACE.

B. CONTRACTOR SHALL REMOVE MAIN 1 AND MAIN 2 AS SHOWN ON THE PLAN SHEETS 188 AND 189.

BRIDGE CONSTRUCTION

1. CONTRACTOR SHALL PERFORM THE EXCAVATION AS SHOWN ON THE SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS SHEET 2 OF 8 AND 3 OF 8.

2. CONTRACTOR SHALL INSTALL DRILLED SHAFTS FOR BENT AND WALL "RW1" D.S. +8 TO +13 AND WALL "RW2" D.S. +1 TO +10.

3. CONTRACTOR SHALL PERFORM THE WORK AS SHOWN ON THE SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS SHEET 4 OF 8.

4. CONTRACTOR SHALL CONSTRUCT BRIDGE SUB STRUCTURES & SPANS, FLUME, AND COPING NORTH OF SHOOFLY.

5. CONTRACTOR SHALL INSTALL WATER PROOFING & DECK DRAINS.

6. CONTRACTOR SHALL FURNISH AND INSTALL NEW 136# CONTINUOUS FLASH WELDED RAIL, 107 TIES, BALLAST, OTHER AND ALL RELATED MATERIALS REQUIRED TO RESTORE BOTH MAIN LINE TRACKS TO THEIR ORIGINAL LOCATIONS ACROSS THE NEW BRIDGE. BOTH MAIN LINE TRACKS SHALL BE FULLY ANCHORED WITH CLIPS BY CONTRACTOR. CONTRACTOR SHALL FIELD WELD MAIN LINE CONNECTIONS ONLY.

C. CONTRACTOR SHALL INSTALL PERMANENT NO. 11 TURNOUT AND CONSTRUCT PORTIONS OF THE PERMANENT INDUSTRIAL LEAD TRACK WITHOUT INTERRUPTING INDUSTRIAL LEAD TRACK TRAFFIC. CONSTRUCT SH 161 FRONTAGE ROAD SEGMENTS INSIDE UPRR RIGHT-OF-WAY AS INDICATED IN THE PLANS. DELAYS TO INDUSTRIAL LEAD TRAIN TRAFFIC IN EXCESS OF 48 HOURS SHALL BECOME THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR. UPRR TO INSTALL RAILROAD CROSSING GATES, CABIN AND RAILROAD SIGNAL EQUIPMENT. UPRR WILL INSTALL CONCRETE CROSSING PANELS FURNISHED BY CONTRACTOR.

D. CONTRACTOR SHALL COMPLETE CONSTRUCTION OF JEFFERSON ST PORTION TO THE SOUTH EXCEPT AT THE LOCATION OF THE TEMPORARY INDUSTRIAL LEAD CROSSING. CONTRACTOR SHALL CONSTRUCT ALL ASSOCIATED DRAINAGE AND SIGNAL INFRASTRUCTURE. COMPLETE CONSTRUCTION OF THE SH 161 FRONTAGE ROAD SEGMENTS TO THE SOUTH AND THE FRONTAGE ROAD TIES TO JEFFERSON ST.

E. CONTRACTOR SHALL BEGIN REMOVAL OF TEMPORARY INDUSTRIAL LEAD TRACK CROSSING ACROSS EB JEFFERSON ST AND CONSTRUCT PERMANENT INDUSTRIAL LEAD TRACK CROSSING ACROSS EB JEFFERSON STREET AND SOUTH OF JEFFERSON STREET. CONTRACTOR SHALL COMPLETE JEFFERSON STREET CONSTRUCTION AT THE SAME LOCATION. UPRR WILL INSTALL JEFFERSON STREET RAILROAD CROSSING GATES, CABIN AND RAILROAD SIGNAL EQUIPMENT.

PHASE III

A. UPRR SHALL SHIFT SHOOFLY TO MAIN LINE BY TAKING THE TRACKS TEMPORARILY OUT OF SERVICE. CONTRACTOR SHALL FURNISH AND STOCKPILE BALLAST FOR TRACK SHIFT BY UPRR. TRAIN OPERATIONS WILL BE INTERRUPTED FOR A SHORT TIME WHILE THIS WORK IS BEING DONE. THE DURATION OF UPRR SERVICE INTERRUPTION SHALL BE DETERMINED BY UPRR. SHIFT TRAIN TRAFFIC BACK TO THE NEW PERMANENT MAIN LINE TRACKS ON THE NEWLY CONSTRUCTED UPRR BRIDGE OVER PROPOSED SH 161.

2. CONTRACTOR SHALL REMOVE TEMPORARY SHORING SYSTEM AND KEEP THE PORTION OF THE SHEET PILE AS SHOWN ON THE SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS SHEET 5 OF 8 AND REMOVE REMAINDER OF SHOOFLY AND TEMPORARY NO. 11 INDUSTRIAL LEAD TURNOUT.

3. CONTRACTOR SHALL INSTALL DRILLED SHAFTS FOR RETAINING WALL "RW1" D.S. +1 TO +7 AND RETAINING WALL "RW2" D.S. +11 TO +17. CONTRACTOR SHALL PERFORM THE EXCAVATION TO ALLOW FOR EXCAVATOR TO DIG TRENCHES NEXT TO DRILLED SHAFTS.

4. CONTRACTOR SHALL PERFORM THE WORK AS SHOWN ON THE SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS SHEET 6 OF 8.

5. CONTRACTOR SHALL FINISH COPING FOR WALLS SOUTH OF NEW BRIDGE AND FLUME.

B. CONTRACTOR SHALL CLOSE THE WB JEFFERSON STREET TO TRAFFIC (NORTHERN SEGMENT) AND SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED EB JEFFERSON STREET LANES (SOUTHERN SEGMENT). BEGIN REMOVAL OF TEMPORARY INDUSTRIAL LEAD TRACK CROSSING AND CONSTRUCT PERMANENT INDUSTRIAL LEAD TRACK CROSSING ACROSS WB JEFFERSON STREET AND NORTH OF JEFFERSON STREET. COMPLETE CONSTRUCTION OF THE PERMANENT INDUSTRIAL LEAD TRACK ACROSS JEFFERSON STREET. COMPLETE JEFFERSON STREET CONSTRUCTION AT THE SAME LOCATION. UPRR WILL OPEN PERMANENT INDUSTRIAL LEAD TRACK TO TRAIN TRAFFIC.

C. CONTRACTOR SHALL CONSTRUCT THE REMAINING PORTIONS OF SH 161 FRONTAGE ROAD SEGMENTS INSIDE UPRR RIGHT-OF-WAY TO THE SOUTH. UPRR SHALL COMPLETE ALL RAILROAD PERMANENT CROSSING GATE AND SIGNAL EQUIPMENT INSTALLATIONS IN THIS PHASE. CONTRACTOR SHALL CONSTRUCT THE PORTION OF JEFFERSON ST TO THE NORTH AND ASSOCIATED DRAINAGE SYSTEM AND TRAFFIC SIGNAL INFRASTRUCTURE AS INDICATED IN THE PLANS.

PHASE IV

A. CONTRACTOR SHALL CLOSE EB MAIN STREET TO TRAFFIC (SOUTHERN SEGMENT) AND SHIFT TRAFFIC TO THE EXISTING WB MAIN STREET LANES (NORTHERN SEGMENT). ACCESS TO MAIN STREET FROM SH 161 SB FRONTAGE ROAD WILL BE CLOSED IN THIS PHASE. CONSTRUCT THE PORTION OF MAIN STREET TO THE SOUTH, ASSOCIATED DRAINAGE SYSTEM AND TRAFFIC SIGNAL INFRASTRUCTURE AS INDICATED IN THE PLANS.

B. CONTRUCTOR SHALL COMPLETE ALL MODIFICATIONS AT THE INTERSECTIONS OF JEFFERSON ST AND MAIN ST WITH 14TH ST ASSOCIATED WITH THE CLOSURE OF THE 14TH ST AT-GRADE RAIL CROSSING.

PHASE V

A. CONTRACTOR SHALL CLOSE WB MAIN STREET TO TRAFFIC (NORTHERN SEGMENT) AND SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED EB MAIN STREET LANES (SOUTHERN SEGMENT). ACCESS TO MAIN STREET FROM SH 161 SB FRONTAGE ROAD WILL BE CLOSED IN THIS PHASE. CONSTRUCT THE PORTION OF MAIN STREET TO THE SOUTH, ASSOCIATED DRAINAGE SYSTEM AND TRAFFIC SIGNAL INFRASTRUCTURE AS INDICATED IN THE PLANS. CONSTRUCT THE SH 161 FRONTAGE ROAD SEGMENTS NORTH OF MAIN STREET AS WELL AS THE FRONTAGE ROAD TIES TO MAIN STREET. SH 161 NB FRONTAGE ROAD TIE-IN WILL BE CONSTRUCTED IN TWO STEPS KEEPING AT LEAST ONE LANE OPEN TO TRAFFIC AT ALL TIMES.

B. CONTRACTOR SHALL COMPLETE THE MEDIAN AND ANY REMAINING CONSTRUCTION ACTIVITIES FOR JEFFERSON AND MAIN STREET. CONTRACTOR SHALL RESTORE ANY PAVEMENT MARKINGS ON ADJACENT EXISTING JEFFERSON AND MAIN STREET SEGMENT THAT WERE REMOVED DUE TO CONFLICTS WITH CONSTRUCTION TRAFFIC CONTROL STRIPING.

C. OPEN NEWLY CONSTRUCTED FRONTAGE ROAD AT-GRADE RAIL CROSSING TO TRAFFIC.

TO BE EXECUTED UNDER FUTURE CONTRACT FOR THE RETAINING WALLS

A. DIG OUT FEW FEET OF DEPRESSED ROWY & INSTALL DRAINAGE SYSTEM FOR THE RETAINING WALLS.

B. INSTALL PREFABRICATED DRAINAGE MATS PLUMBED INTO UNDER DRAIN SYSTEM.

C. CAST RETAINING WALL FASCIA.

7/21/09

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

Texas Department of Transportation
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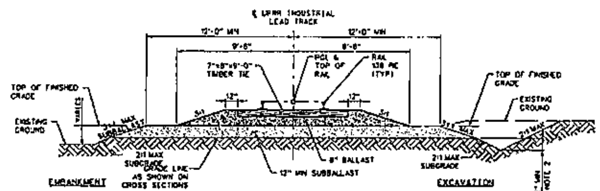
EXHIBIT "A"

SH 161/UPRR UNDERPASS
SEQUENCE OF CONSTRUCTION
NARRATIVE

SCALE: SHEET 1 OF 1

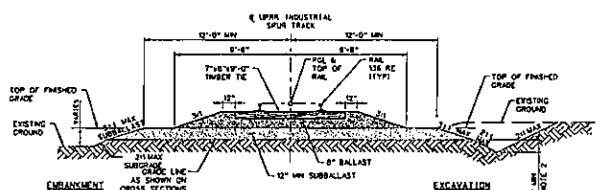
DESIGN FS	FED. RD. DIV. NO. 6	STATE AID PROJECT NO. 2964-01-040		PROJECT NO. SH 161
CONTRACT DAN	STATE TEXAS	DISTRICT DALLAS	COUNTY DALLAS	SHEET NO. 8
BRIDGE DAB	CONTROL 2964	SECTION 01	JOB 040	
DRCD MMA				REV. 0



UPRR INDUSTRIAL LEAD TRACK

TYPICAL SECTION

SCALE: NOT TO SCALE



UPRR INDUSTRIAL SPUR TRACK

TYPICAL SECTION

SCALE: NOT TO SCALE

NOTES:

1. THE CONTRACTOR WILL FURNISH AND INSTALL BALLAST, TIES, RAIL, FASTENINGS. CONTRACTOR WILL CONSTRUCT SUBGRADE AND INSTALL SUBBALLAST.
2. BOTTOM OF DITCH IS 12" BELOW BOTTOM OF SUBBALLAST.

FOR ALL OTHER DESIGN ASPECTS

06/05/09

FOR DITCH SIDE SLOPE DESIGN

6/5/09

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

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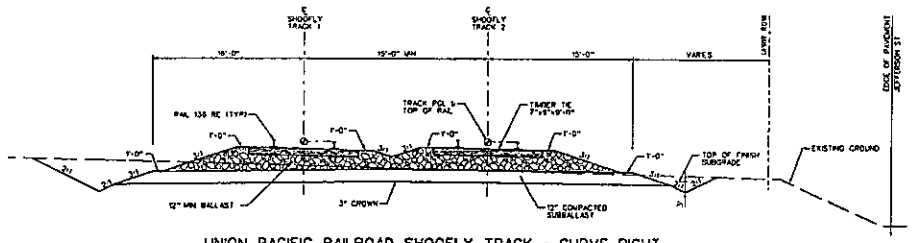
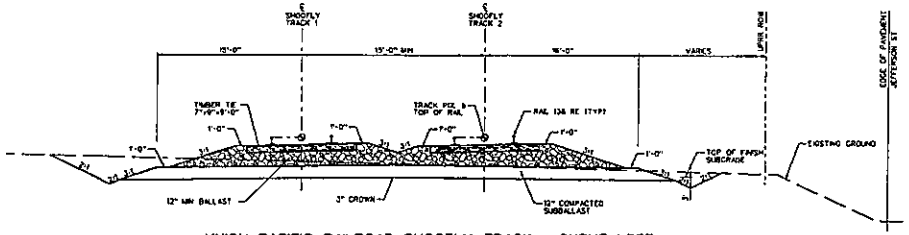
EXHIBIT "A"
SH 161/UPRR UNDERPASS
TYPICAL SECTIONS
INDUSTRIAL LEAD &
SPUR TRACKS

SCALE: SHEET 1 OF 1

DESIGN	FED. RD. DIV. NO.	STATE AID PROJECT NO.		HIGHWAY NO.
FS	6	2964-01-040		SH 161
ENGINEER	STATE	DISTRICT	COUNTY	SHEET NO.
DAN	TEXAS	DALLAS	DALLAS	9
CHECK	CONTROL	SECTION	JOB	
CAB	2964	01	040	REV 0
CHECK				
MZ				



UNION PACIFIC RAILROAD SHOOFLY TRACK - CURVE RIGHT
NOT TO SCALE



UNION PACIFIC RAILROAD SHOOFLY TRACK - CURVE LEFT
NOT TO SCALE

NOTE:

1. CONTRACTOR WILL CONSTRUCT SUBGRADE AND INSTALL SUBBALLAST.
2. CONTRACTOR WILL FURNISH AND INSTALL BALLAST, TIES, RAIL AND FASTENINGS BETWEEN MAIN LINE TIE-INS.
3. UPRR WILL INSTALL TIE-IN BALLAST, TIES, RAIL AND FASTENINGS.
4. CONTRACTOR WILL FURNISH AND STOCKPILE BALLAST FOR TIE-INS BY RAILROAD.

FOR ALL OTHER DESIGN ASPECTS

06/05/09

FOR DITCH SIDE SLOPE DESIGN

06/15/09

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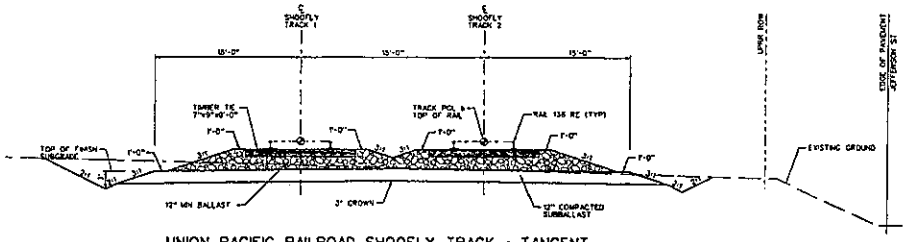
EXHIBIT "A"
SH 161/UPRR UNDERPASS
TYPICAL SECTION
SHOOFLY TRACKS

SCALE: SHEET 1 OF 2

DESIGN MZ	FEDERAL STATE	STATE AID PROJECT NO.		HIGHWAY NO. SH 161
CHECKED GAN	6	2964-01-040		
DRAWN GAB	STATE TEXAS	DISTRICT DALLAS	COUNTY DALLAS	SHEET NO. 10
CHECK MAZA	CONTROL 2964	SECTION 01	JOB 040	REV 0



UNION PACIFIC RAILROAD SHOOFLY TRACK - TANGENT
NOT TO SCALE

NOTE:

1. CONTRACTOR WILL CONSTRUCT SUBGRADE AND INSTALL SUBBALLAST.
2. CONTRACTOR WILL FURNISH AND INSTALL BALLAST, TIES, RAIL AND FASTENINGS BETWEEN MAIN LINE TIE-INS.
3. UPRR WILL INSTALL TIE-IN BALLAST, TIES, RAIL AND FASTENINGS.
4. CONTRACTOR WILL FURNISH AND STOCKPILE BALLAST FOR TIE-INS BY RAILROAD.

FOR ALL OTHER DESIGN ASPECTS

06/05/09

FOR DITCH SIDE SLOPE DESIGN

6/5/09

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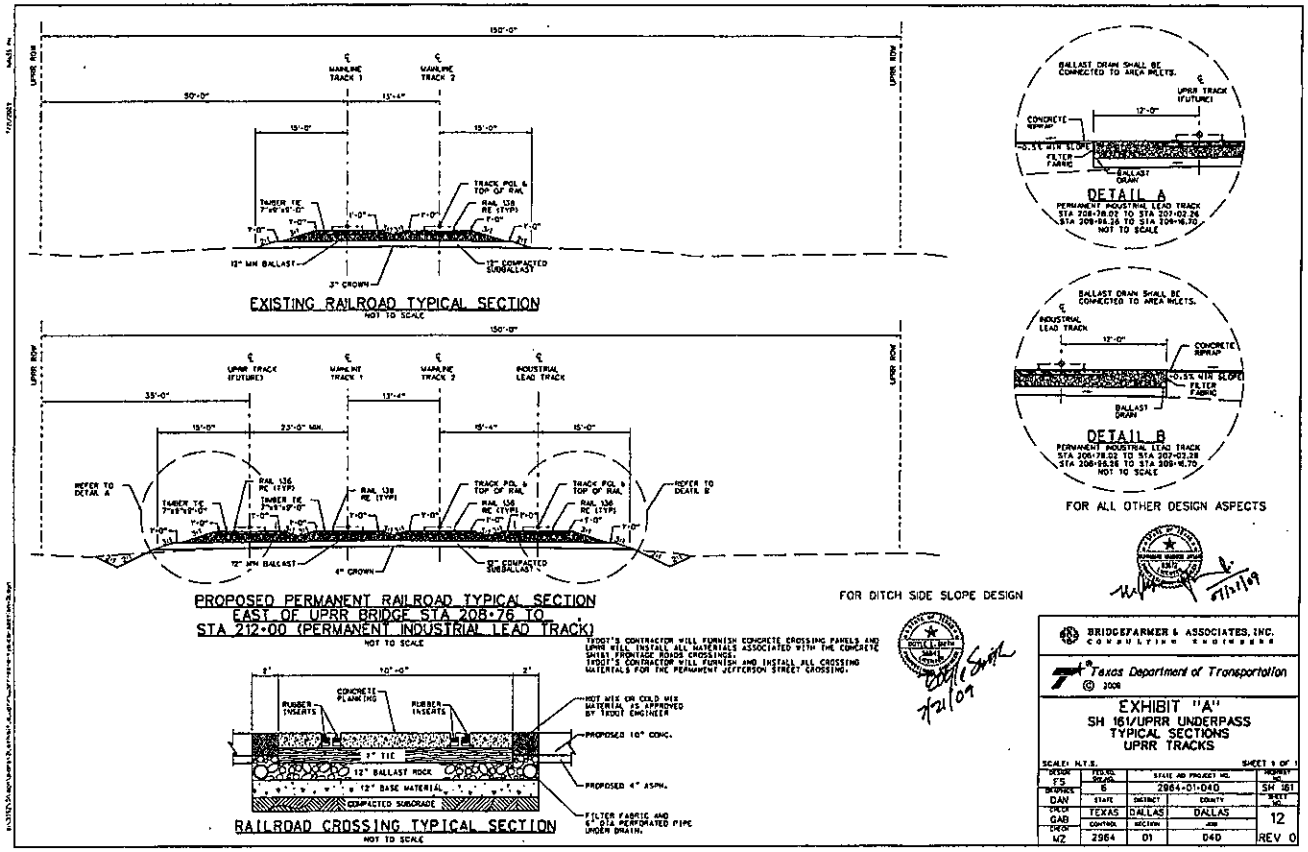
EXHIBIT "A"
SH 161/UPRR UNDERPASS
TYPICAL SECTION
SHOOFLY TRACKS

SCALE: SHEET 2 OF 2

DESIGN MZ	FED. RD. DIV. NO. 6	STATE AND PROJECT NO. 2984-01-040		HIGHWAY NO. SH 161
DRAWN DAN	STATE TEXAS	DISTRICT DALLAS	COUNTY DALLAS	SHEET NO. 11
CHECK CAB	CONTROL 2984	SECTION 01	JOB 040	
CHECK MMA				REV D


EXISTING RAILROAD TYPICAL SECTION
NOT TO SCALE
PROPOSED PERMANENT RAILROAD TYPICAL SECTION
EAST OF UPRR BRIDGE STA 208+76 TO
STA 212+00 (PERMANENT INDUSTRIAL LEAD TRACK)
NOT TO SCALE
RAILROAD CROSSING TYPICAL SECTION
NOT TO SCALE
DETAIL A
DETAIL B
FOR ALL OTHER DESIGN ASPECTS
FOR DITCH SIDE SLOPE DESIGN
BRIDGEFARMER & ASSOCIATES, INC.
Texas Department of Transportation
EXHIBIT "A"
SH 161/UPRR UNDERPASS
TYPICAL SECTIONS
UPRR TRACKS
SHEET 9 OF 1
REV 0

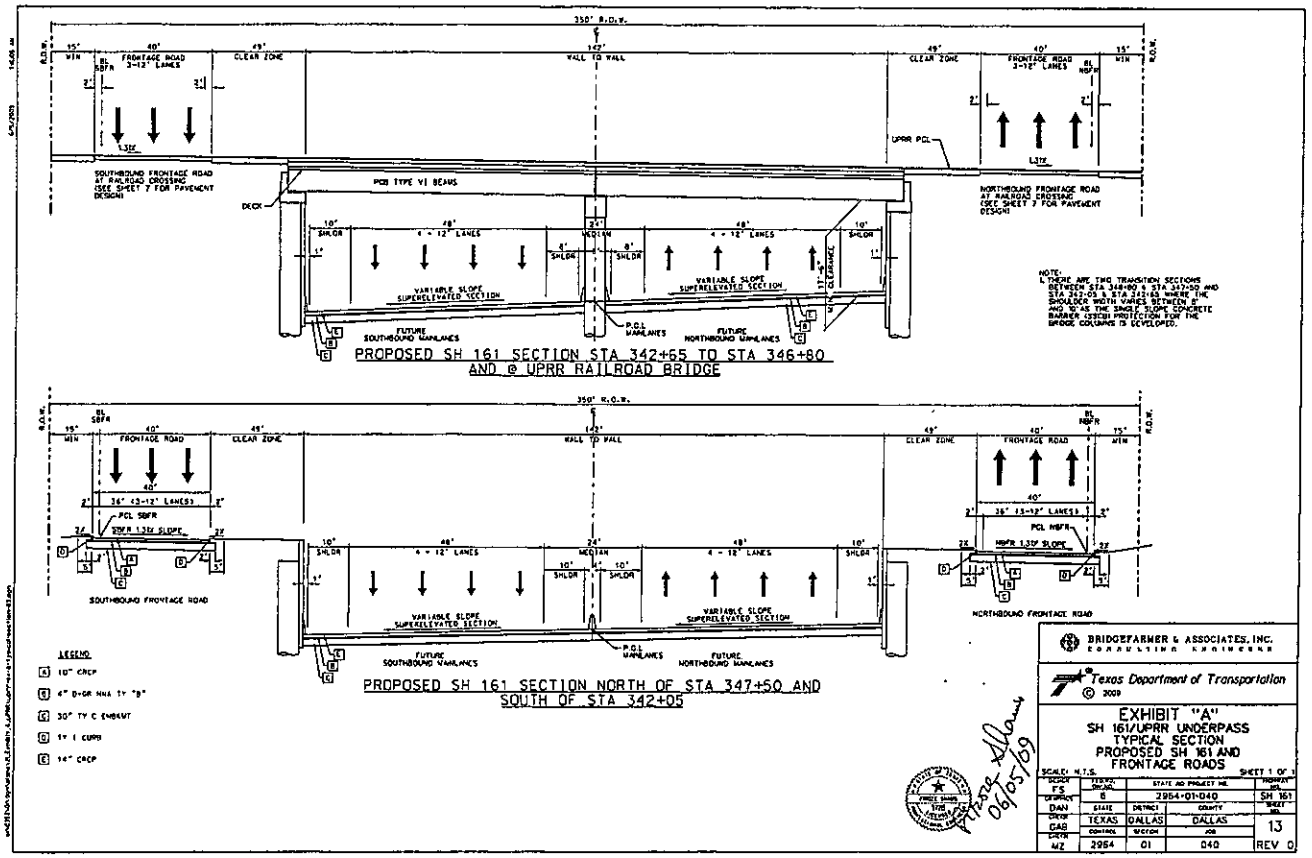

350' R.O.W.
FRONTAGE ROAD 3-12' LANES
CLEAR ZONE
WALL TO WALL
SOUTHBOUND FRONTAGE ROAD AT RAILROAD CROSSING (SEE SHEET 7 FOR PAVEMENT DESIGN)
NORTHBOUND FRONTAGE ROAD AT RAILROAD CROSSING (SEE SHEET 7 FOR PAVEMENT DESIGN)
PCB TYPE VI BEAMS
DECK
4 - 12' LANES
VARIABLE SLOPE SUPERELEVATED SECTION
FUTURE SOUTHBOUND MAINLANES
FUTURE NORTHBOUND MAINLANES
P.O.L MAINLANES
PROPOSED SH 161 SECTION STA 342+65 TO STA 346+80 AND @ UPRR RAILROAD BRIDGE
PROPOSED SH 161 SECTION NORTH OF STA 347+50 AND SOUTH OF STA 342+05
LEGEND
10" CRCP
30" TY C EMBMT
14" CRCP
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
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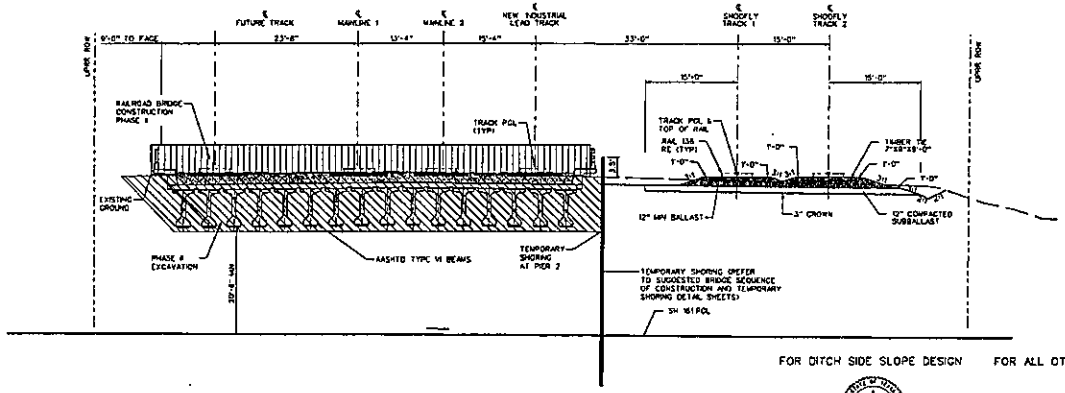
EXHIBIT "A"
SH 161/UPRR UNDERPASS
TYPICAL SECTION
PROPOSED SH 161 AND
FRONTAGE ROADS
SCALE: N.T.S.
SHEET 1 OF 1
FS
DAN
GAB
MZ
6
2954-01-040
SH 161
TEXAS
DALLAS
DALLAS
13
2954
01
040
REV 0
06/05/09



TYPICAL SECTION OVER SH 161 DURING CONSTRUCTION

FOR DITCH SIDE SLOPE DESIGN

FOR ALL OTHER DESIGN ASPECTS

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

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EXHIBIT "A"
SH 161/UPRR UNDERPASS
TYPICAL SECTION
SHOOFLY TRACKS
ADJACENT TO UPRR BRIDGE

SCALE: NTS.
SHEET 1 OF 1

DESIGN MZ	CONTROL DRAWING 6	STATE NO PROJECT NO. 2964-01-040		HIGHWAY NO. SH 161
CHECKED DAN	STATE TEXAS	DISTRICT DALLAS	COUNTY DALLAS	SHEET NO. 14
CHECK GAB	CONTROL 2964	SECTION 01	JOB 040	
SHEET MMA				REV 0

HORIZONTAL ALIGNMENT DATA

SHOOFLY TRACK 1

	STATION	NORTHING	EASTING
Element: Clothoid - Spiral No. UPSH1-1			
TS ( )	600+00.00	6956570.7019	2421883.3070
SPI ( )	600+13.33	6956571.4387	2421884.8508
SC ( )	601+10.00	6956558.3413	2421893.7604
Entrance Radius	0.00		
Exit Radius	7639.43		
Length	110.00		
Angle	0°24'44.89" Right		
Constant	916.70		
Long Tangent	73.33		
Short Tangent	36.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.26		
Psc	0.07		
Ksc	55.00		
Tangent Direction	N 81°35'00.95" E		
Radial Direction	S 8°24'59.05" E		
Chord Direction	N 81°42'15.23" E		
Radial Direction	S 8°09'14.40" E		
Tangent Direction	N 81°59'45.20" E		
Element: Circular - Curve No. UPSH1-2			
SC ( )	601+10.00	6956558.3413	2421893.7604
PI ( )	602+15.42	6956551.3704	2422903.5948
CC ( )		6949971.4745	2423061.5147
CS ( )	603+20.83	6956543.0137	2422201.3144
Radius	7639.43		
Delta	1°34'52.35" Right		
Degree of Curvature(Chord)	0°45'00.00"		
Length	210.83		
Tangent	105.42		
Chord	210.82		
Middle Ordinate	0.73		DESIGN SPEED = 60 MPH
External	0.73		ELEVATION = 1'
Tangent Direction	N 81°59'45.20" E		
Radial Direction	S 8°00'14.80" E		
Chord Direction	N 82°41'15.62" E		
Radial Direction	S 6°59'29.45" E		
Tangent Direction	N 83°34'37.55" E		
Element: Clothoid - Spiral No. UPSH1-3			
SC ( )	603+20.83	6956543.0137	2422207.3144
PI ( )	603+57.50	6956547.1135	2422347.3511
ST ( )	604+30.83	6956574.3242	2422318.6815
Entrance Radius	7639.43		
Exit Radius	0.00		
Length	110.00		
Angle	0°24'44.89" Right		
Constant	916.70		
Long Tangent	73.33		
Short Tangent	36.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.26		
Psc	0.07		
Ksc	55.00		
Tangent Direction	N 83°34'37.55" E		
Radial Direction	S 6°25'22.45" E		
Chord Direction	N 83°51'07.55" E		
Radial Direction	S 6°00'37.45" E		
Tangent Direction	N 83°59'22.54" E		
Element: Linear			
ST ( )	604+30.83	6956574.3242	2422318.6815
TS ( )	610+64.63	6956641.1593	2423947.0023
Tangent Direction	N 83°59'22.54" E		
Tangent Length	633.80		
Element: Clothoid - Spiral No.UPSH1-4			
TS ( )	610+64.63	6956641.1593	2423947.0023
SPI ( )	611+37.93	6956649.8380	2423019.9328
SC ( )	611+74.63	6956653.0272	2423056.3597
Entrance Radius	0.00		
Exit Radius	5729.65		
Length	110.00		
Angle	0°32'55.91" Left		
Constant	153.88		
Long Tangent	73.33		
Short Tangent	36.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.35		
Psc	0.08		
Ksc	55.00		
Tangent Direction	N 83°59'22.54" E		
Radial Direction	S 6°00'37.46" E		
Chord Direction	N 83°48'22.55" E		
Radial Direction	S 6°33'37.47" E		
Tangent Direction	N 83°26'22.57" E		
Element: Circular - Curve No. UPSH1-5			
SC ( )	611+74.63	6956653.0272	2423056.3597
PI ( )	612+82.45	6956663.3363	2423163.4835
CC ( )		6962375.1600	2423401.7442
CS ( )	613+90.26	6956671.6892	2423270.0408
Radius	5729.65		
Delta	2°08'27.64" Left		
Degree of Curvature(Chord)	1°00'00.00"		
Length	215.61		
Tangent	107.82		
Chord	215.59		DESIGN SPEED = 60 MPH
Middle Ordinate	1.01		ELEVATION = 1'
External	1.01		

	STATION	NORTHING	EASTING
Tangent Direction	N 83°26'22.57" E		
Radial Direction	S 6°33'37.43" E		
Chord Direction	N 82°41'41.70" E		
Radial Direction	S 5°42'52.18" E		
Tangent Direction	N 81°17'02.82" E		
Element: Clothoid - Spiral No. UPSH1-6			
TS ( )	613+90.26	6956671.6892	2423270.0408
SPI ( )	614+26.93	6956673.2429	2423306.2843
ST ( )	615+00.26	6956669.0495	2423378.8810
Entrance Radius	5729.65		
Exit Radius	0.00		
Length	110.00		
Angle	0°32'55.91" Left		
Constant	153.88		
Long Tangent	73.33		
Short Tangent	36.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.35		
Psc	0.08		
Ksc	55.00		
Tangent Direction	N 81°17'02.82" E		
Radial Direction	S 8°42'53.18" E		
Chord Direction	N 80°55'00.64" E		
Radial Direction	S 9°15'53.33" E		
Tangent Direction	N 80°44'00.85" E		
Element: Linear			
ST ( )	615+00.26	6956669.0495	2423378.8810
TS ( )	620+06.45	6956779.5962	2423872.3444
Tangent Direction	N 80°44'00.85" E		
Tangent Length	506.21		
Element: Clothoid - Spiral No. UPSH1-7			
TS ( )	620+06.45	6956779.5962	2423872.3444
SPI ( )	620+73.19	6956781.4066	2423944.7209
SC ( )	621+45.45	6956781.5659	2423960.6852
Entrance Radius	0.00		
Exit Radius	7639.43		
Length	110.00		
Angle	0°24'44.89" Left		
Constant	916.70		
Long Tangent	73.33		
Short Tangent	36.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.26		
Psc	0.07		
Ksc	55.00		
Tangent Direction	N 80°44'00.85" E		
Radial Direction	S 9°15'59.15" E		
Chord Direction	N 80°35'45.85" E		
Radial Direction	S 9°40'43.14" E		
Tangent Direction	N 80°19'15.54" E		
Element: Circular - Curve No. UPSH1-8			
SC ( )	621+10.45	6956757.5935	2423953.8558
PI ( )	624+95.13	6956862.4123	2424351.0535
CC ( )		6964928.3147	2423896.5694
CS ( )	628+41.15	6956965.2151	2424732.7776
Radius	7639.43		
Delta	3°16'28.74" Left		
Degree of Curvature(Chord)	0°45'00.00"		
Length	770.70		
Tangent	385.68		
Chord	770.37		
Middle Ordinate	9.72		DESIGN SPEED = 60 MPH
External	9.73		ELEVATION = 1'
Tangent Direction	N 80°19'15.54" E		
Radial Direction	S 9°40'44.16" E		
Chord Direction	N 77°25'51.41" E		
Radial Direction	S 12°33'33.31" E		
Tangent Direction	N 74°32'27.07" E		
Element: Clothoid - Spiral No. UPSH1-9			
SC ( )	628+41.15	6956965.2151	2424732.7776
SPI ( )	630+05.41	6956988.3831	2424852.6516
ST ( )	632+54.25	6957070.5033	2425090.7031
Entrance Radius	7639.43		
Exit Radius	0.00		
Length	313.10		
Angle	11°23'56.82" Left		
Constant	156.28		
Long Tangent	248.74		
Short Tangent	124.37		
Long Chord	373.09		
Xsc	373.08		
Ysc	3.04		
Psc	0.76		
Ksc	186.92		
Tangent Direction	N 74°32'27.07" E		
Radial Direction	S 15°27'32.93" E		
Chord Direction	N 68°34'28.53" E		
Radial Direction	S 16°47'39.94" E		
Tangent Direction	N 62°36'30.26" E		

SHOOFLY TRACK 2

	STATION	NORTHING	EASTING
Element: Clothoid - Spiral No. UPSH2-1			
TS ( )	700+00.00	6956517.5409	2421563.0324
SPI ( )	700+33.33	6956527.4195	2421617.5586
SC ( )	701+10.00	6956532.0451	2421677.0664
Entrance Radius	0.00		
Exit Radius	7639.43		
Length	110.00		
Angle	0°24'44.89" Right		
Constant	916.70		
Long Tangent	73.33		
Short Tangent	36.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.26		
Psc	0.07		
Ksc	55.00		
Tangent Direction	N 82°15'59.55" E		
Radial Direction	S 7°44'01.41" E		
Chord Direction	N 82°34'07.58" E		
Radial Direction	S 7°15'22.42" E		
Tangent Direction	N 82°40'37.98" E		
Element: Circular - Curve No. UPSH2-2			
SC ( )	701+10.00	6956532.0451	2422074.0664
PI ( )	701+10.00	6956539.3329	2422133.5783
CC ( )		6948954.9081	2423047.8033
CS ( )	702+30.00	6956546.4450	2422193.2029
Radius	7639.43		
Delta	0°53'55.86" Right		
Degree of Curvature(Chord)	0°45'00.00"		
Length	120.00		
Tangent	60.00		
Chord	120.00		
Middle Ordinate	0.24		DESIGN SPEED = 60 MPH
External	0.24		ELEVATION = 1'
Tangent Direction	N 82°40'37.98" E		
Radial Direction	S 7°19'22.02" E		
Chord Direction	N 83°07'33.93" E		
Radial Direction	S 6°52'26.15" E		
Tangent Direction	N 83°34'37.55" E		

04/05/09

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EXHIBIT "A"
SH 161/UPRR UNDERPASS
HORIZONTAL CONTROL DATA

SCALE: SHEET 1 OF 5

DESIGN MZ	FEDERAL ROAD	STATE AID PROJECT NO.		HIGHWAY NO.
CHECKED 6		2964-01-040		SH 161
DRAWN DAN	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK CAS	TEXAS	DALLAS	DALLAS	15
QUANT. MMA	CONTROL 2964	SECTION 01	JOB 040	REVO

HORIZONTAL ALIGNMENT DATA

	STATION	NORTHING	EASTING
Element: Clothoid - Spiral No. UPSH2-1			
SP ( )	702+30.00	6956546.4490	2423183.2021
SI ( )	702+46.67	6956550.9868	2423229.6315
ST ( )	703+00.00	6956558.7295	2423302.5700
Entrance Radius	1635.48		
Exit Radius	0.00		
Length	110.00		
Angle	0°24'24.93" Right		
Constant	516.70		
Long Tangent	55.33		
Short Tangent	55.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.56		
Pc	0.07		
Ks	55.00		
Tangent Direction	N 83°34'37.33" E		
Radial Direction	S 6°25'22.67" E		
Chord Direction	N 83°51'01.55" E		
Radial Direction	S 6°09'31.46" E		
Tangent Direction	N 83°59'22.54" E		
Element: Linear			
ST ( )	703+00.00	6956558.7295	2423302.5700
TS ( )	709+80.00	6956576.3264	2423948.9969
Tangent Direction	N 83°59'22.54" E		
Tangent Length	680.00		
Element: Clothoid - Spiral No. UPSH2-2			
SP ( )	709+30.00	6956576.3864	2423948.9969
SI ( )	710+88.33	6956576.9851	2423951.9271
SC ( )	711+00.00	6956576.1543	2423958.3843
Entrance Radius	0.00		
Exit Radius	5730.65		
Length	110.00		
Angle	0°32'31.59" Left		
Constant	793.85		
Long Tangent	55.33		
Short Tangent	52.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.56		
Pc	0.07		
Ks	55.00		
Tangent Direction	N 83°59'22.54" E		
Radial Direction	S 6°00'37.46" E		
Chord Direction	N 83°43'07.45" E		
Radial Direction	S 6°16'52.13" E		
Tangent Direction	N 83°26'52.37" E		
Element: Circular - Curve No. UPSH2-3			
SC ( )	711+00.00	6956576.1543	2423958.3843
PI ( )	712+07.87	6956550.4323	2423985.6844
CS ( )		6956530.2431	2423983.7598
	713+15.61	6956488.8113	2423972.0354
Radius	5729.65		
Delta	1°07'31.55" Left		
Degree of Curvature(Chord)	0°59'53.06"		
Length	215.41		
Tangent	107.87		
Chord	215.38		
Middle Ordinate	1.01		
External	1.01		
Tangent Direction	N 83°26'52.37" E		
Radial Direction	S 6°33'07.63" E		
Chord Direction	N 83°21'16.70" E		
Radial Direction	S 6°38'43.29" E		
Tangent Direction	N 81°15'00.19" E		
Element: Clothoid - Spiral No. UPSH2-4			
SC ( )	713+15.61	6956488.8113	2423972.0354
SI ( )	713+52.37	6956479.5280	2423936.2788
ST ( )	714+25.61	6956484.1768	2423900.6556
Entrance Radius	5729.65		
Exit Radius	0.00		
Length	110.00		
Angle	0°32'31.59" Left		
Constant	793.85		
Long Tangent	55.33		
Short Tangent	52.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.56		
Pc	0.07		
Ks	55.00		
Tangent Direction	N 81°15'00.19" E		
Radial Direction	S 8°45'59.81" E		
Chord Direction	N 80°52'06.84" E		
Radial Direction	S 9°15'53.15" E		
Tangent Direction	N 80°44'00.85" E		
Element: Linear			
ST ( )	714+25.61	6956484.1768	2423900.6556
TS ( )	719+25.61	6956564.6694	2423874.1307
Tangent Direction	N 80°44'00.85" E		
Tangent Length	500.00		

	STATION	NORTHING	EASTING
Element: Clothoid - Spiral No. UPSH2-7			
SP ( )	719+25.61	6956564.6694	2423874.1307
SI ( )	719+98.94	6956576.4575	2423948.0072
SC ( )	720+35.61	6956582.6826	2423982.6521
Entrance Radius	0.00		
Exit Radius	7635.49		
Length	110.00		
Angle	0°24'44.93" Left		
Constant	516.70		
Long Tangent	55.33		
Short Tangent	54.67		
Long Chord	110.00		
Xsc	110.00		
Ysc	0.56		
Pc	0.07		
Ks	55.00		
Tangent Direction	N 80°44'00.85" E		
Radial Direction	S 9°15'59.15" E		
Chord Direction	N 80°18'43.88" E		
Radial Direction	S 9°40'16.12" E		
Tangent Direction	N 79°51'26.86" E		
Element: Circular - Curve No. UPSH2-8			
SC ( )	720+35.61	6956582.6826	2423982.6521
PI ( )	724+35.54	6956543.4651	2424377.0849
CS ( )		6956513.4073	2424693.7281
	728+35.54	6956558.1534	2424762.7215
Radius	7639.49		
Delta	3°33'11.93" Left		
Degree of Curvature(Chord)	0°45'00.00"		
Length	799.93		
Tangent	399.93		
Chord	799.87		
Middle Ordinate	10.48		
External	10.48		
Tangent Direction	N 42°19'15.86" E		
Radial Direction	S 9°40'44.14" E		
Chord Direction	N 37°19'19.86" E		
Radial Direction	S 15°40'40.13" E		
Tangent Direction	N 32°19'13.87" E		
Element: Clothoid - Spiral No. UPSH2-9			
SC ( )	728+35.54	6956558.1534	2424762.7215
SI ( )	729+30.96	6956589.1533	2424815.7818
ST ( )	731+51.18	6957056.7448	2425039.6249
Entrance Radius	7639.49		
Exit Radius	0.00		
Length	316.64		
Angle	1°13'24.28" Left		
Constant	1624.38		
Long Tangent	158.44		
Short Tangent	158.42		
Long Chord	316.42		
Xsc	316.64		
Ysc	2.48		
Pc	0.00		
Ks	158.32		
Tangent Direction	N 32°19'13.87" E		
Radial Direction	S 57°40'46.13" E		
Chord Direction	N 32°42'51.98" E		
Radial Direction	S 57°17'08.02" E		
Tangent Direction	N 33°06'30.09" E		

TEMPORARY INDUSTRIAL LEAD TRACK

	STATION	NORTHING	EASTING
Project Name: UPRR			
Description: Temp Tracks			
Horizontal Alignment Name: Lead Track - Temp			
Description: Lead Track - Temp			
Style: Default			
Element: Linear			
POB ( )	399+86.57	6956283.1165	2423343.7110
PC ( )	400+00.00	6956298.3428	2423343.3375
Tangent Direction:	N 1°35'34.31" W		
Tangent Length:	13.43		
Element: Circular			
PC ( )	400+00.00	6956298.3428	2423343.3375
PI ( )	403+39.11	6956635.5971	2423335.9019
CS ( )		6956308.3715	2423766.9685
PT ( )	405+72.50	6956720.2712	2423662.2642
Radius	425.00		
Delta	77°07'18.1" Right		
Degree of Curvature(Chord)	13°30'00.0"		
Length	572.49		
Tangent	335.12		
Chord	529.51		
Middle Ordinate	92.76		
External	118.43		
Tangent Direction:	N 1°35'34.31" W		
Radial Direction:	N 88°24'25.69" E		
Chord Direction:	N 38°58'05.31" E		
Radial Direction:	S 14°34'13.22" E		
Tangent Direction:	N 75°31'42.81" E		
Element: Linear			
PT ( )	405+72.50	6956720.2712	2423662.2642
PI ( )	406+78.78	6956747.0550	2423766.0430
Tangent Direction:	N 75°31'42.81" E		
Tangent Length:	107.18		
Element: Linear - Turnout			
PI ( )	406+79.78	6956747.0550	2423766.0430
PS ( )	407+11.03	6956752.0477	2423798.8952
Tangent Direction:	N 80°44'00.85" E		
Tangent Length:	31.25		

TEMPORARY INDUSTRIAL SPUR TRACK

	STATION	NORTHING	EASTING
Project Name: UPRR			
Description: Temp Tracks			
Horizontal Alignment Name: Lead Track - Conn			
Description: Lead Track - Conn			
Style: Default			
Element: Linear			
POB ( )	99+61.81	6956315.8861	2423302.8254
PC ( )	100+00.00	6956235.0039	2423302.3114
Tangent Direction:	N 1°37'45.37" W		
Tangent Length:	18.19		
Element: Circular			
PC ( )	100+00.00	6956235.0039	2423302.3114
PI ( )	101+09.38	6956344.3402	2423299.2015
CS ( )		6956246.0188	2423431.6748
PT ( )	102+13.37	6956436.3127	2423353.4631
Radius	341.32		
Delta	31°23'13.3" Right		
Degree of Curvature(Chord)	16°45'00.0"		
Length	213.37		
Tangent	109.38		
Chord	210.61		
Middle Ordinate	14.31		
External	15.07		
Tangent Direction:	N 1°37'45.37" W		
Radial Direction:	N 88°22'14.63" E		
Chord Direction:	N 14°05'21.34" E		
Radial Direction:	S 60°16'32.11" E		
Tangent Direction:	N 29°44'27.57" E		
Element: Linear			
PT ( )	102+13.37	6956436.3127	2423353.4631
POE ( )	103+06.71	6956522.1873	2423400.8099
Tangent Direction:	N 29°44'27.57" E		
Tangent Length:	93.44		

06/05/09

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EXHIBIT "A"
SH 161/UPRR UNDERPASS
HORIZONTAL CONTROL DATA

SCALE: SHEET 2 OF 3

DESIGN	FUNCT. CLASS.	STATE JOB PROJECT NO.		HIGHWAY NO.
MZ		6	2964-01-040	SH 161
DRAWN	STATE	DISTRICT	COUNTY	SHEET NO.
DAN	TEXAS	DALLAS	DALLAS	16
CHECK	CONTROL	SECTION	JOB	
GAB	2964	01	040	REVO
MUA				

HORIZONTAL ALIGNMENT DATA

PERMANENT INDUSTRIAL LEAD TRACK

	STATION	NORTHING	EASTING
Elements: Linear			
POB ( )	196+21.77	6955906.4509	2423354.1633
PI ( )	200+00.00	6956261.5399	2423343.4425
Tangent Direction:	N 1°33'36.28" W		
Tangent Length:	378.23		
Elements: Linear			
PI ( )	200+00.00	6956261.5399	2423343.4425
PC ( )	200+38.95	6956299.5219	2423342.6432
Tangent Direction:	N 1°33'36.28" W		
Tangent Length:	38.95		
Elements: Circular Curve No. PWLD-1			
PC ( )	200+38.95	6956299.4674	2423342.5632
PI ( )	204+40.10	6956704.8517	2423331.3925
SC ( )		6956706.2364	2423331.4421
PT ( )	206+98.88	6956969.3214	2423329.7068
Radius:	459.28		
Design Speed(mph):	60.00		
Superelevation:	0.000		
Delta:	82°18'37.12" Right		
Degree of Curvature(Chord):	12°30'00.00"		
Length:	639.93		
Tangent:	401.55		DESIGN SPEED = 10 MPH
Chord:	586.20		ELEVATION = 0'
Middle Ordinate:	113.57		
External:	180.19		
Tangent Direction:	N 1°33'36.28" W		
Radial Direction:	N 83°52'23.72" E		
Chord Direction:	N 39°34'12.32" E		
Radial Direction:	S 42°15'50.19" E		
Tangent Direction:	N 80°44'00.85" E		
Elements: Linear			
PI ( )	206+98.88	6956969.3214	2423329.7068
PC ( )	210+02.67	6956938.4406	2424027.5395
Tangent Direction:	N 80°44'00.85" E		
Tangent Length:	303.80		
Elements: Circular Curve No. PWLD-2			
PC ( )	210+02.67	6956938.4406	2424027.5395
PI ( )	210+51.13	6956946.2431	2424073.3626
SC ( )		6956949.2686	2424120.4053
PT ( )	210+99.54	6956957.4582	2424122.5024
Radius:	1146.45		
Design Speed(mph):	60.00		
Superelevation:	0.000		
Delta:	4°06'57.61" Left		
Degree of Curvature(Chord):	4°19'00.00"		DESIGN SPEED = 10 MPH
Length:	96.87		ELEVATION = 0'
Tangent:	48.46		
Chord:	96.83		
Middle Ordinate:	0.87		
External:	0.87		
Tangent Direction:	N 80°44'00.85" E		
Radial Direction:	N 9°15'59.15" W		
Chord Direction:	N 78°36'02.04" E		
Radial Direction:	N 13°22'56.77" W		
Tangent Direction:	N 76°37'03.23" E		
Elements: Linear			
PT ( )	210+99.54	6956957.4582	2424122.5024
PI ( )	213+46.05	6956995.5969	2424294.4915
Tangent Direction:	N 76°37'03.23" E		
Tangent Length:	166.51		
Elements: Linear			
PI (Turnout)	213+46.05	6956995.5969	2424294.4915
PS ( )	213+47.30	6956996.0260	2424315.5337
Tangent Direction:	N 80°44'00.85" E		
Tangent Length:	31.25		

PERMANENT INDUSTRIAL SPUR

	STATION	NORTHING	EASTING
Elements: Linear			
POB ( )	300+00.00	6956234.5064	2423302.3253
PC ( )	300+00.05	6956234.5606	2423302.3240
Tangent Direction:	N 1°33'45.23" W		
Tangent Length:	0.05		
Elements: Circular - Curve No. PWSP-1			
PC ( )	300+00.05	6956234.5606	2423302.3240
PT ( )	301+08.32	6956340.7814	2423289.1021
SC ( )		6956343.4398	2423341.3316
PT ( )	302+08.30	6956437.5543	2423343.2435
Radius:	459.28		
Delta:	26°01'17.18" Right		
Degree of Curvature(Chord):	12°30'00.00"		
Length:	208.25		
Tangent:	106.26		
Chord:	207.08		
Middle Ordinate:	13.42		
External:	12.13		DESIGN SPEED = 10 MPH
Tangent Direction:	N 1°33'45.23" W		ELEVATION = 0'
Radial Direction:	N 88°22'13.71" E		
Chord Direction:	N 11°33'53.34" E		
Radial Direction:	S 65°12'28.06" E		
Tangent Direction:	N 24°25'31.93" E		
Elements: Linear			
PT ( )	302+08.30	6956437.5543	2423343.2435
PS ( )	302+08.34	6956438.1539	2423363.4917
Tangent Direction:	N 24°25'31.93" E		
Tangent Length:	91.33		

Tibor Varga 06/05/09

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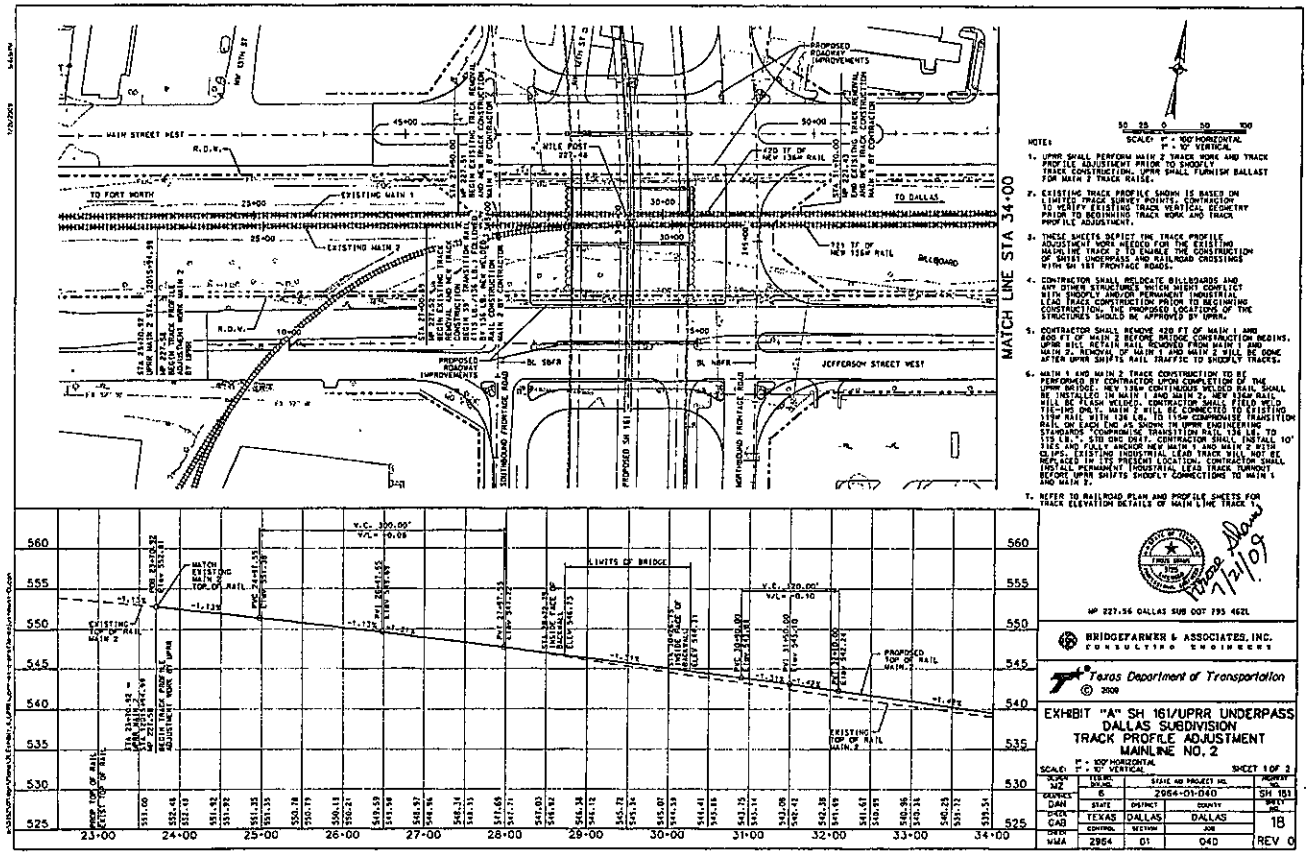
EXHIBIT "A"
SH 161/UPRR UNDERPASS
HORIZONTAL CONTROL DATA

SCALE: NONE	FED.RD. DIV.NO. 6	STATE HIGHWAY NO. 2964-01-040		PROJECT NO. SH 161
DRAWN DAN	STATE TEXAS	DISTRICT DALLAS	COUNTY DALLAS	SHEET NO. 17
CHECK GAB	CONTROL	SECTION	JOB	
BRIDGE MMA	2964	01	040	REV0

SHEET 3 OF 3


MATCH LINE STA 34+00
MAIN STREET WEST
TO FORT WORTH
EXISTING MAIN 1
EXISTING MAIN 2
TO DALLAS
JEFFERSON STREET WEST
PROPOSED ROADWAY IMPROVEMENTS
SOUTHBOUND FRONTAGE ROAD
NORTHBOUND FRONTAGE ROAD
PROPOSED SH 161
LIMITS OF BRIDGE
V.C. 300.00'
V/L = -0.08
V.C. 320.00'
V/L = -0.10
MATCH EXISTING MAIN 2 TOP OF RAIL
EXISTING TOP OF RAIL MAIN 2
PROPOSED TOP OF RAIL MAIN 2
NOTES:
1. UPRR SHALL PERFORM MAIN 2 TRACK WORK AND TRACK PROFILE ADJUSTMENT PRIOR TO SHOOFLY TRACK CONSTRUCTION. UPRR SHALL FURNISH BALLAST FOR MAIN 2 TRACK RAISE.
2. EXISTING TRACK PROFILE SHOWN IS BASED ON LIMITED TRACK SURVEY POINTS. CONTRACTOR TO VERIFY EXISTING TRACK VERTICAL GEOMETRY PRIOR TO BEGINNING TRACK WORK AND TRACK PROFILE ADJUSTMENT.
3. THESE SHEETS DEPICT THE TRACK PROFILE ADJUSTMENT WORK NEEDED FOR THE EXISTING MAINLINE TRACK 2 TO ENABLE THE CONSTRUCTION OF SHIFT UNDERPASS AND RAILROAD CROSSINGS WITH SH 161 FRONTAGE ROADS.
4. CONTRACTOR SHALL RELOCATE BILLBOARDS AND ANY OTHER STRUCTURES WHICH MIGHT CONFLICT WITH SHOOFLY AND/OR PERMANENT INDUSTRIAL LEAD TRACK CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION. THE PROPOSED LOCATIONS OF THE STRUCTURES SHOULD BE APPROVED BY UPRR.
5. CONTRACTOR SHALL REMOVE 420 FT OF MAIN 1 AND 600 FT OF MAIN 2 BEFORE BRIDGE CONSTRUCTION BEGINS. UPRR WILL RETAIN RAIL REMOVED FROM MAIN 1 AND MAIN 2. REMOVAL OF MAIN 1 AND MAIN 2 WILL BE DONE AFTER UPRR SHIFTS RAIL TRAFFIC TO SHOOFLY TRACKS.
6. MAIN 1 AND MAIN 2 TRACK CONSTRUCTION TO BE PERFORMED BY CONTRACTOR UPON COMPLETION OF THE UPRR BRIDGE. NEW 136# CONTINUOUS WELDED RAIL SHALL BE INSTALLED IN MAIN 1 AND MAIN 2. NEW 136# RAIL WILL BE FLASH WELDED. CONTRACTOR SHALL FIELD WELD TIE-INS ONLY. MAIN 2 WILL BE CONNECTED TO EXISTING 119# RAIL WITH 136 LB. TO 115# COMPROMISE TRANSITION RAIL ON EACH END AS SHOWN IN UPRR ENGINEERING STANDARDS "COMPROMISE TRANSITION RAIL 136 LB. TO 115 LB." - STD DWG 0947. CONTRACTOR SHALL INSTALL 10' TIES AND FULLY ANCHOR NEW MAIN 1 AND MAIN 2 WITH CLIPS. EXISTING INDUSTRIAL LEAD TRACK WILL NOT BE REPLACED IN ITS PRESENT LOCATION. CONTRACTOR SHALL INSTALL PERMANENT INDUSTRIAL LEAD TRACK TURNOUT BEFORE UPRR SHIFTS SHOOFLY CONNECTIONS TO MAIN 1 AND MAIN 2.
7. REFER TO RAILROAD PLAN AND PROFILE SHEETS FOR TRACK ELEVATION DETAILS OF MAIN LINE TRACK 1.
MP 227.56 DALLAS SUB DOT 795 462L
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CONSULTING ENGINEERS
Texas Department of Transportation
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EXHIBIT "A" SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
TRACK PROFILE ADJUSTMENT
MAINLINE NO. 2
SHEET 1 OF 2
STATE AID PROJECT NO.
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
18
2964
01
040
REV 0

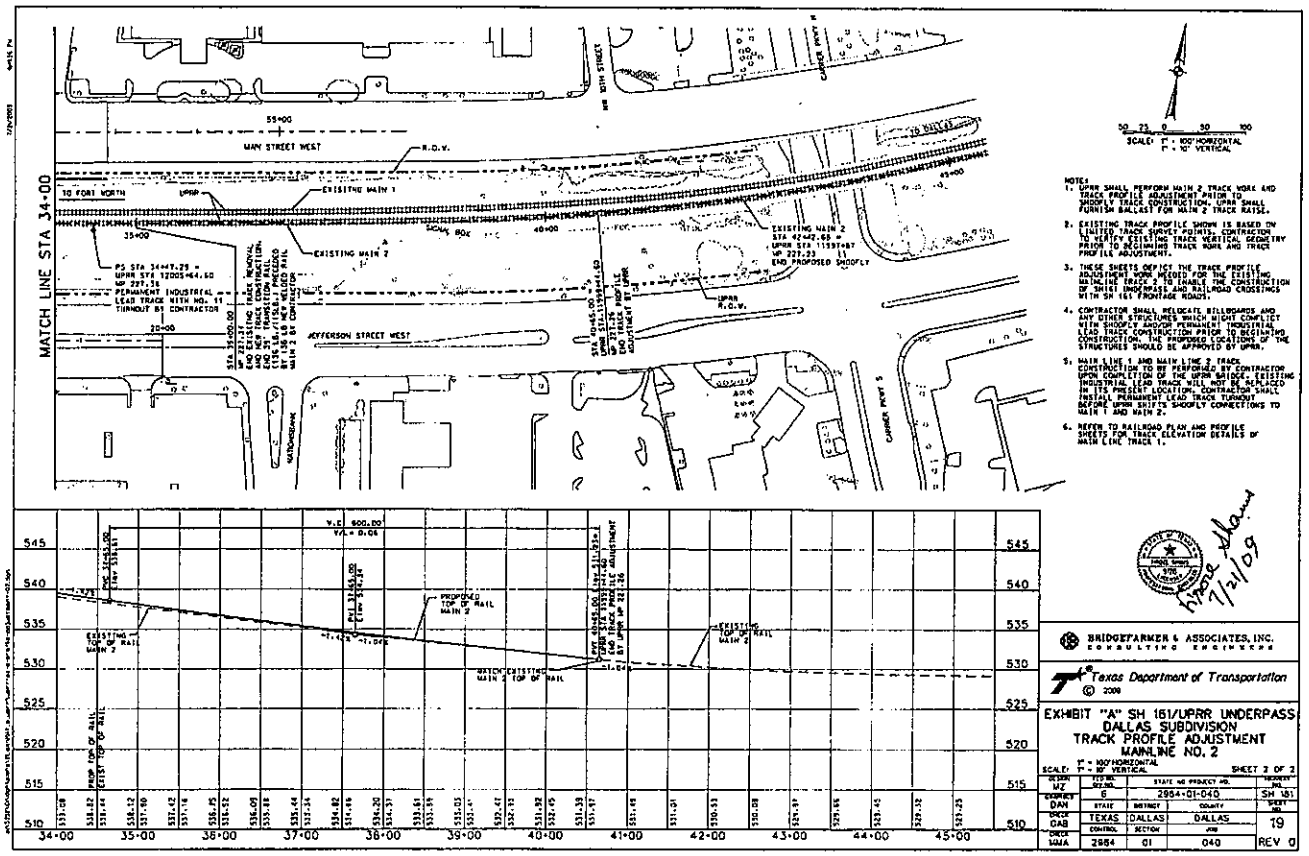
MATCH LINE STA 34+00
MAIN STREET WEST
R.O.W.
TO FORT WORTH
UPRR
EXISTING MAIN 1
EXISTING MAIN 2
JEFFERSON STREET WEST
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
NOTES:
1. UPRR SHALL PERFORM MAIN 2 TRACK WORK AND TRACK PROFILE ADJUSTMENT PRIOR TO SHOOFLY TRACK CONSTRUCTION. UPRR SHALL FURNISH BALLAST FOR MAIN 2 TRACK RAISE.
2. EXISTING TRACK PROFILE SHOWN IS BASED ON LIMITED TRACK SURVEY POINTS. CONTRACTOR TO VERIFY EXISTING TRACK VERTICAL GEOMETRY PRIOR TO BEGINNING TRACK WORK AND TRACK PROFILE ADJUSTMENT.
3. THESE SHEETS DEPICT THE TRACK PROFILE ADJUSTMENT WORK NEEDED FOR THE EXISTING MAINLINE TRACK 2 TO ENABLE THE CONSTRUCTION OF SH161 UNDERPASS AND RAILROAD CROSSINGS WITH SH 161 FRONTAGE ROADS.
4. CONTRACTOR SHALL RELOCATE BILLBOARDS AND ANY OTHER STRUCTURES WHICH MIGHT CONFLICT WITH SHOOFLY AND/OR PERMANENT INDUSTRIAL LEAD TRACK CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION. THE PROPOSED LOCATIONS OF THE STRUCTURES SHOULD BE APPROVED BY UPRR.
5. MAIN LINE 1 AND MAIN LINE 2 TRACK CONSTRUCTION TO BE PERFORMED BY CONTRACTOR UPON COMPLETION OF THE UPRR BRIDGE. EXISTING INDUSTRIAL LEAD TRACK WILL NOT BE REPLACED IN ITS PRESENT LOCATION. CONTRACTOR SHALL INSTALL PERMANENT LEAD TRACK TURNOUT BEFORE UPRR SHIFTS SHOOFLY CONNECTIONS TO MAIN 1 AND MAIN 2.
6. REFER TO RAILROAD PLAN AND PROFILE SHEETS FOR TRACK ELEVATION DETAILS OF MAIN LINE TRACK 1.
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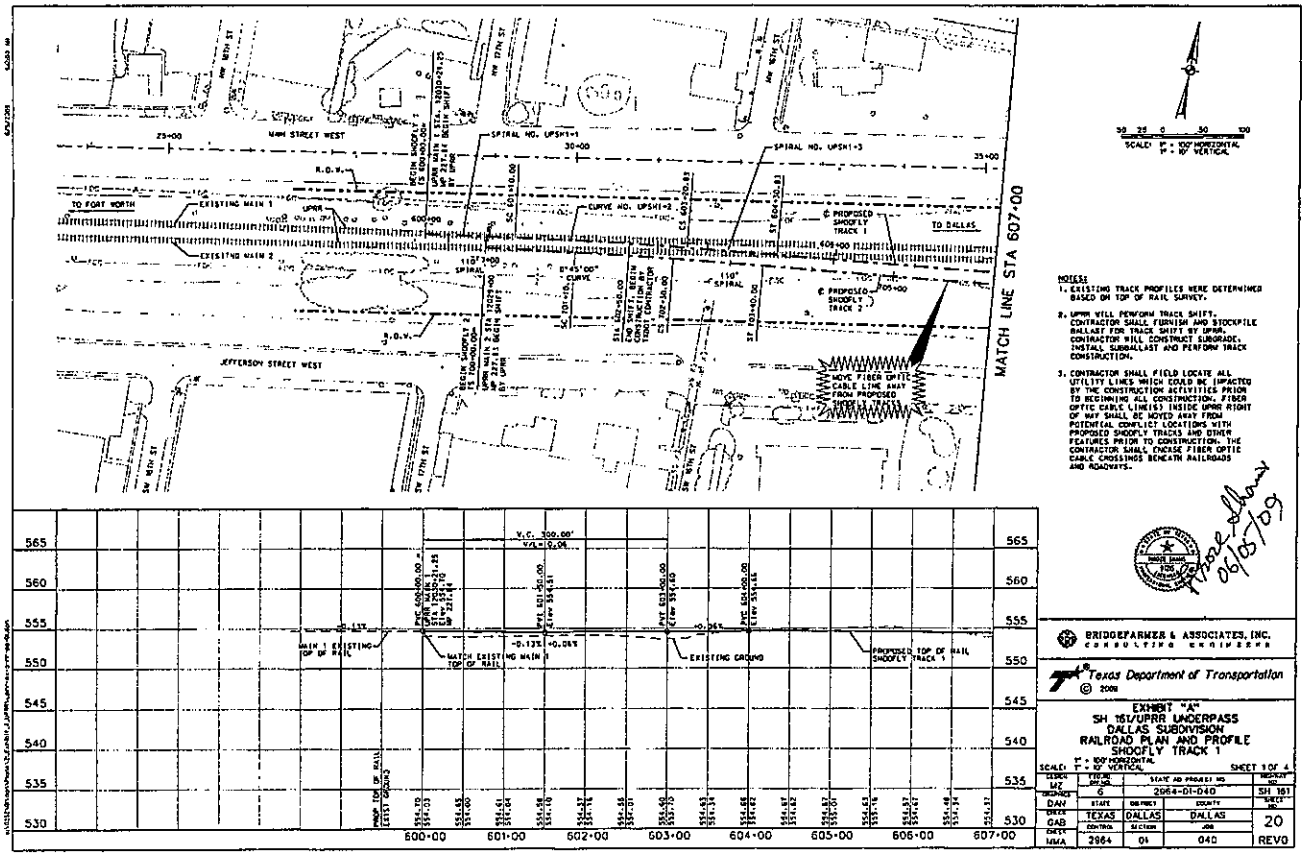
EXHIBIT "A" SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
TRACK PROFILE ADJUSTMENT
MAINLINE NO. 2
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
SHEET 2 OF 2
DESIGN MZ
FED. RD. DIV. NO. 6
STATE HQ PROJECT NO. 2964-01-040
HIGHWAY NO. SH 161
CHECK DAN
STATE TEXAS
DISTRICT DALLAS
COUNTY DALLAS
SHEET NO. 19
CHECK DAB
CONTROL 2964
SECTION 01
JOB 040
REV 0
CHECK MMA
7/21/09



NOTES:

1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. UPRR WILL PERFORM TRACK SHIFT. CONTRACTOR SHALL FURNISH AND STOCKPILE BALLAST FOR TRACK SHIFT BY UPRR. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINE(S) INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOOFLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENCASE FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.

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EXHIBIT "A"
SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
SHOOFLY TRACK 1

SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL

SHEET 1 OF 4

DAY	STATE	DISTRICT	COUNTY	
GAB	TEXAS	DALLAS	DALLAS	20
MMA	2964	01	040	REVO

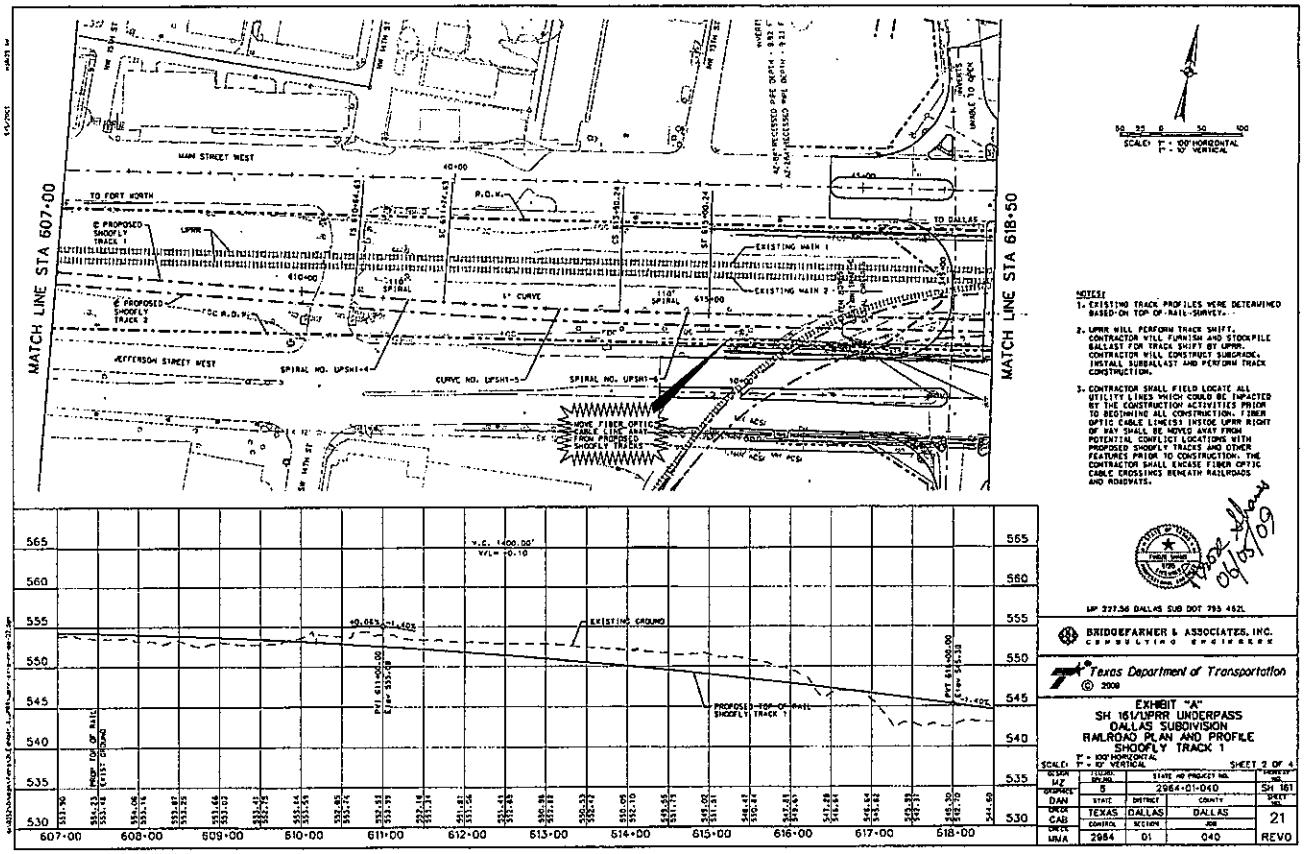
MATCH LINE STA 607+00
MATCH LINE STA 618+50
MAIN STREET WEST
JEFFERSON STREET WEST
TO FORT WORTH
TO DALLAS
EXISTING MAIN 1
EXISTING MAIN 2
SPIRAL NO. UPSH1-4
CURVE NO. UPSH1-5
SPIRAL NO. UPSH1-6
MOVE FIBER OPTIC CABLE LINE AWAY FROM PROPOSED SHOOFLY TRACKS
EXISTING GROUND
PROPOSED TOP OF RAIL SHOOFLY TRACK 1
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. UPRR WILL PERFORM TRACK SHIFT. CONTRACTOR WILL FURNISH AND STOCKPILE BALLAST FOR TRACK SHIFT BY UPRR. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINE(S) INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOOFLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENCASE FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.
MP 227.56 DALLAS SUB DOT 795 462L
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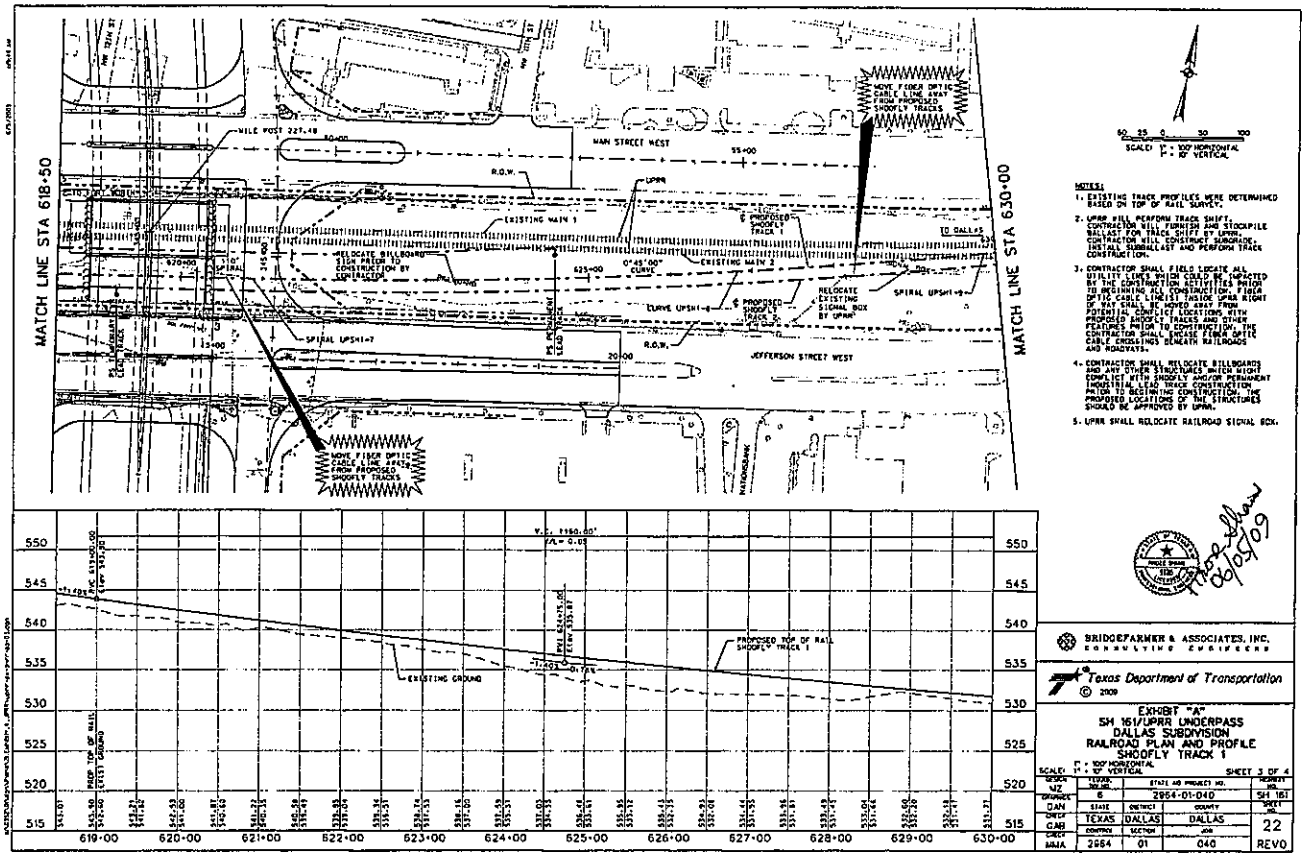
EXHIBIT "A"
SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
SHOOFLY TRACK 1
SCALE: 1" = 100' HORIZONTAL 1" = 10' VERTICAL
SHEET 2 OF 4
MZ
DAN
CAB
MNA
5
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
21
2964
01
040
REV0


MATCH LINE STA 618+50
MATCH LINE STA 630+00
MAIN STREET WEST
JEFFERSON STREET WEST
EXISTING MAIN 1
EXISTING MAIN 2
SPIRAL UPSH1-7
SPIRAL UPSH1-9
MOVE FIBER OPTIC CABLE LINE AWAY FROM PROPOSED SHOOFLY TRACKS
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. UPRR WILL PERFORM TRACK SHIFT. CONTRACTOR WILL FURNISH AND STOCKPILE BALLAST FOR TRACK SHIFT BY UPRR. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINE(S) INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOOFLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENCASE FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.
4. CONTRACTOR SHALL RELOCATE BILLBOARDS AND ANY OTHER STRUCTURES WHICH MIGHT CONFLICT WITH SHOOFLY AND/OR PERMANENT INDUSTRIAL LEAD TRACK CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION. THE PROPOSED LOCATIONS OF THE STRUCTURES SHOULD BE APPROVED BY UPRR.
5. UPRR SHALL RELOCATE RAILROAD SIGNAL BOX.
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CONSULTING ENGINEERS
Texas Department of Transportation
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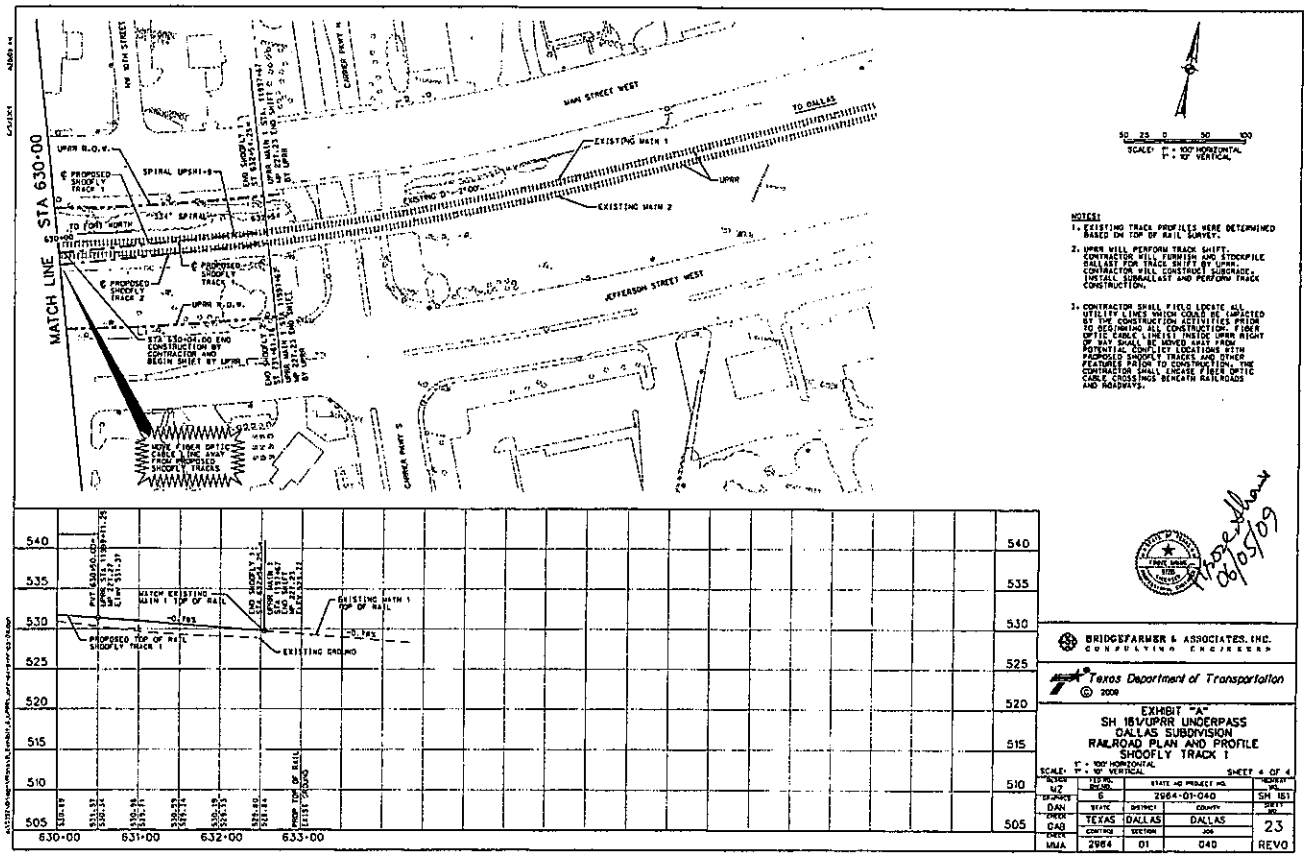
EXHIBIT "A"
SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
SHOOFLY TRACK 1
SHEET 3 OF 4
2964-01-040
SH 161
DALLAS
2964
01
040
22
REV0


MATCH LINE STA 630+00
MAIN STREET WEST
JEFFERSON STREET WEST
TO DALLAS
EXISTING MAIN 1
EXISTING MAIN 2
UPRR
UPRR R.O.W.
SPIRAL UPSHI-8
PROPOSED SHOOFLY TRACK 1
PROPOSED SHOOFLY TRACK 2
MOVE FIBER OPTIC CABLE LINE AWAY FROM PROPOSED SHOOFLY TRACKS
CARRIER PKWY N
CARRIER PKWY S
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. UPRR WILL PERFORM TRACK SHIFT. CONTRACTOR WILL FURNISH AND STOCKPILE BALLAST FOR TRACK SHIFT BY UPRR. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINE(S) INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOOFLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENGAGE FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.
540
535
530
525
520
515
510
505
630+00
631+00
632+00
633+00
MATCH EXISTING MAIN 1 TOP OF RAIL
EXISTING MAIN 1 TOP OF RAIL
PROPOSED TOP OF RAIL SHOOFLY TRACK 1
EXISTING GROUND
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CONSULTING ENGINEERS
Texas Department of Transportation
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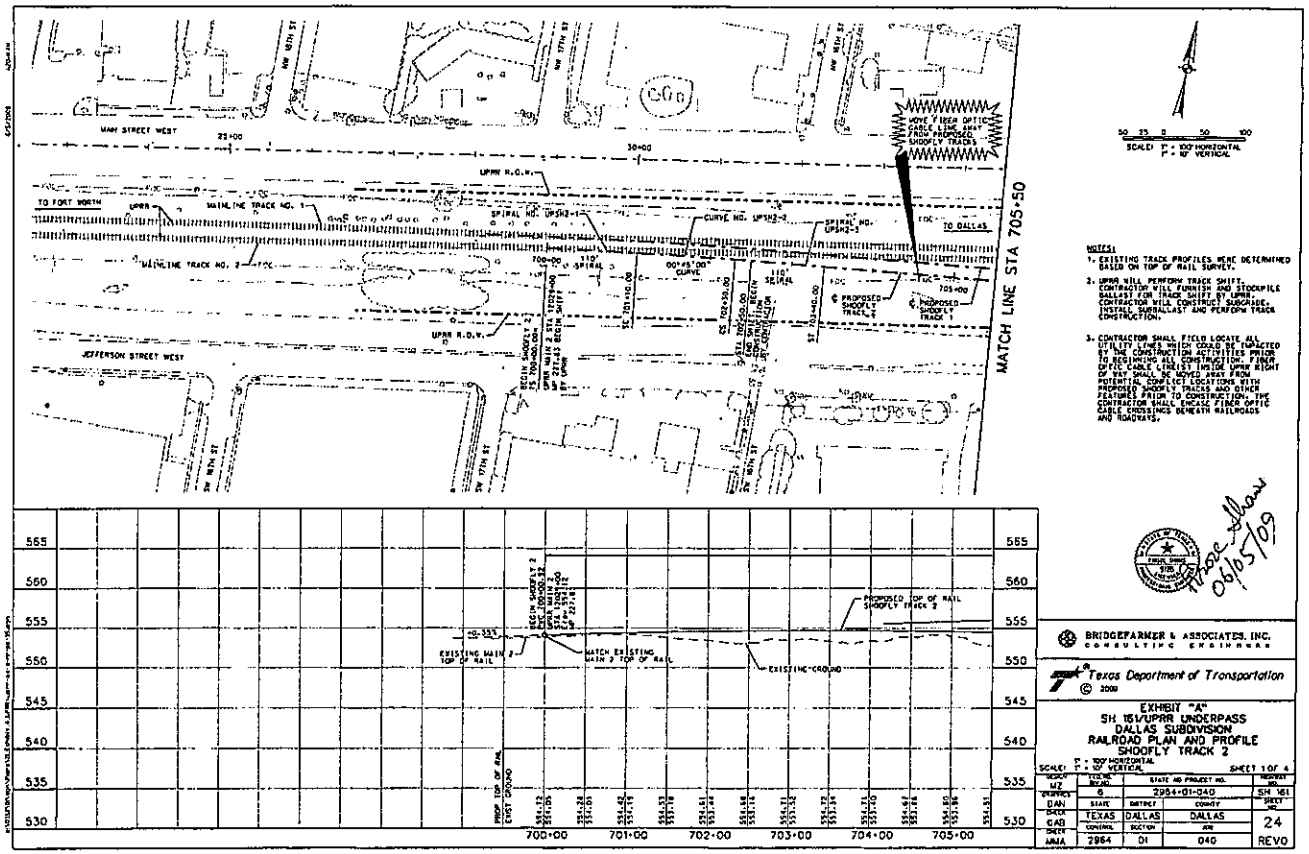
EXHIBIT "A"
SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
SHOOFLY TRACK 1
SCALE: 1" = 100' HORIZONTAL 1" = 10' VERTICAL
SHEET 4 OF 4
M2
6
2964-01-040
SH 161
DAN
CAB
MMA
TEXAS
DALLAS
DALLAS
2964
01
040
23
REV0


MAIN STREET WEST
JEFFERSON STREET WEST
TO FORT WORTH
TO DALLAS
MATCH LINE STA 705+50
MOVE FIBER OPTIC CABLE LINE AWAY FROM PROPOSED SHOOFLY TRACKS
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. UPRR WILL PERFORM TRACK SHIFT. CONTRACTOR WILL FURNISH AND STOCKPILE BALLAST FOR TRACK SHIFT BY UPRR. CONTRACTOR WILL CONSTRUCT SUBGRADE. INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINE(S) INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOOFLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENCASE FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.
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CONSULTING ENGINEERS
Texas Department of Transportation
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EXHIBIT "A"
SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
SHOOFLY TRACK 2
SHEET 1 OF 4
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
24
2964
01
040
REV0
700+00
701+00
702+00
703+00
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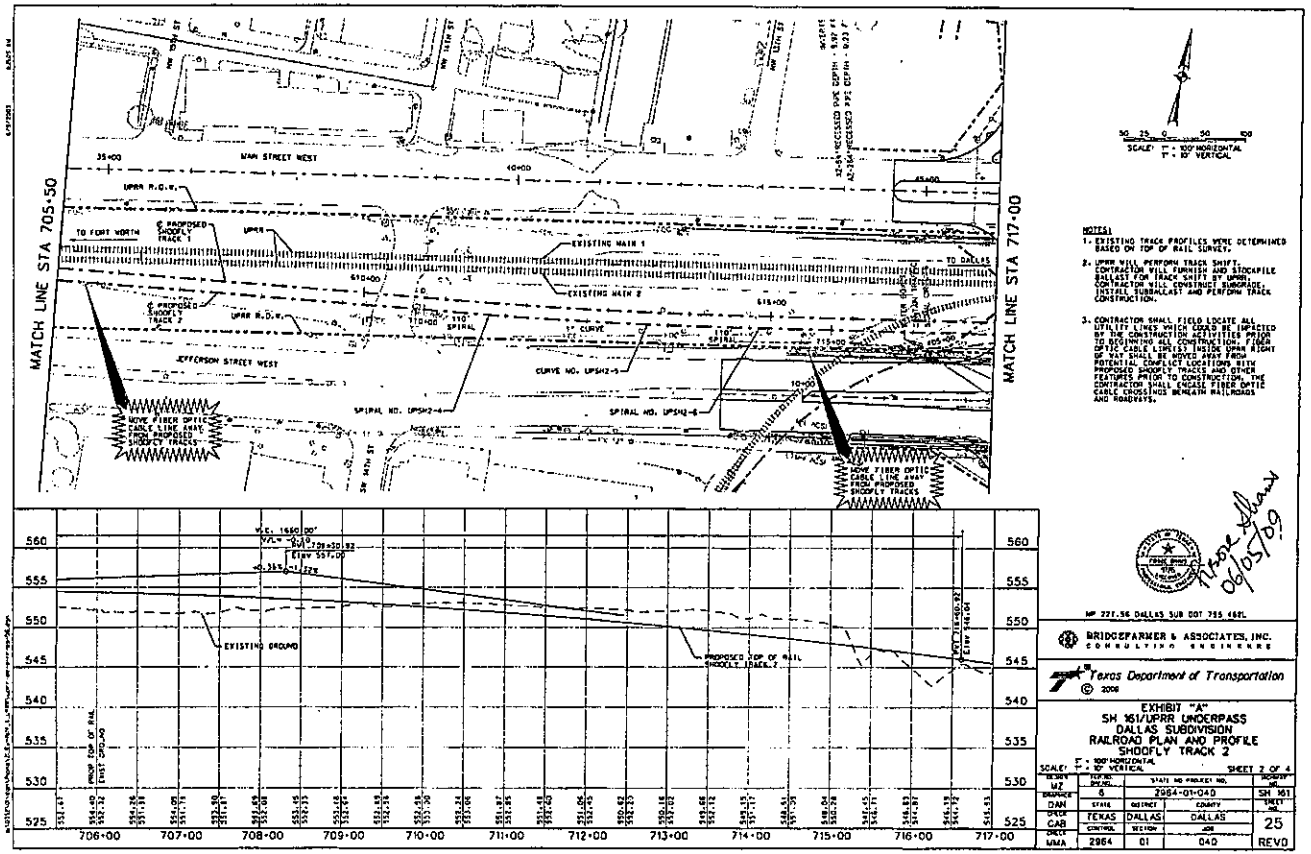
565
560
555
550
545
540
535
530


MATCH LINE STA 705+50
MATCH LINE STA 717+00
MAIN STREET WEST
JEFFERSON STREET WEST
UPRR R.O.W.
TO FORT WORTH
TO DALLAS
EXISTING MAIN 1
EXISTING MAIN 2
CURVE NO. UPSH2-5
SPIRAL NO. UPSH2-4
SPIRAL NO. UPSH2-6
MOVE FIBER OPTIC CABLE LINE AWAY FROM PROPOSED SHOOFLY TRACKS
EXISTING GROUND
PROPOSED TOP OF RAIL SHOOFLY TRACK 2
706+00
707+00
708+00
709+00
710+00
711+00
712+00
713+00
714+00
715+00
716+00
717+00
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. UPRR WILL PERFORM TRACK SHIFT. CONTRACTOR WILL FURNISH AND STOCKPILE BALLAST FOR TRACK SHIFT BY UPRR. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINE(S) INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOOFLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENCASE FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.
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CONSULTING ENGINEERS
Texas Department of Transportation
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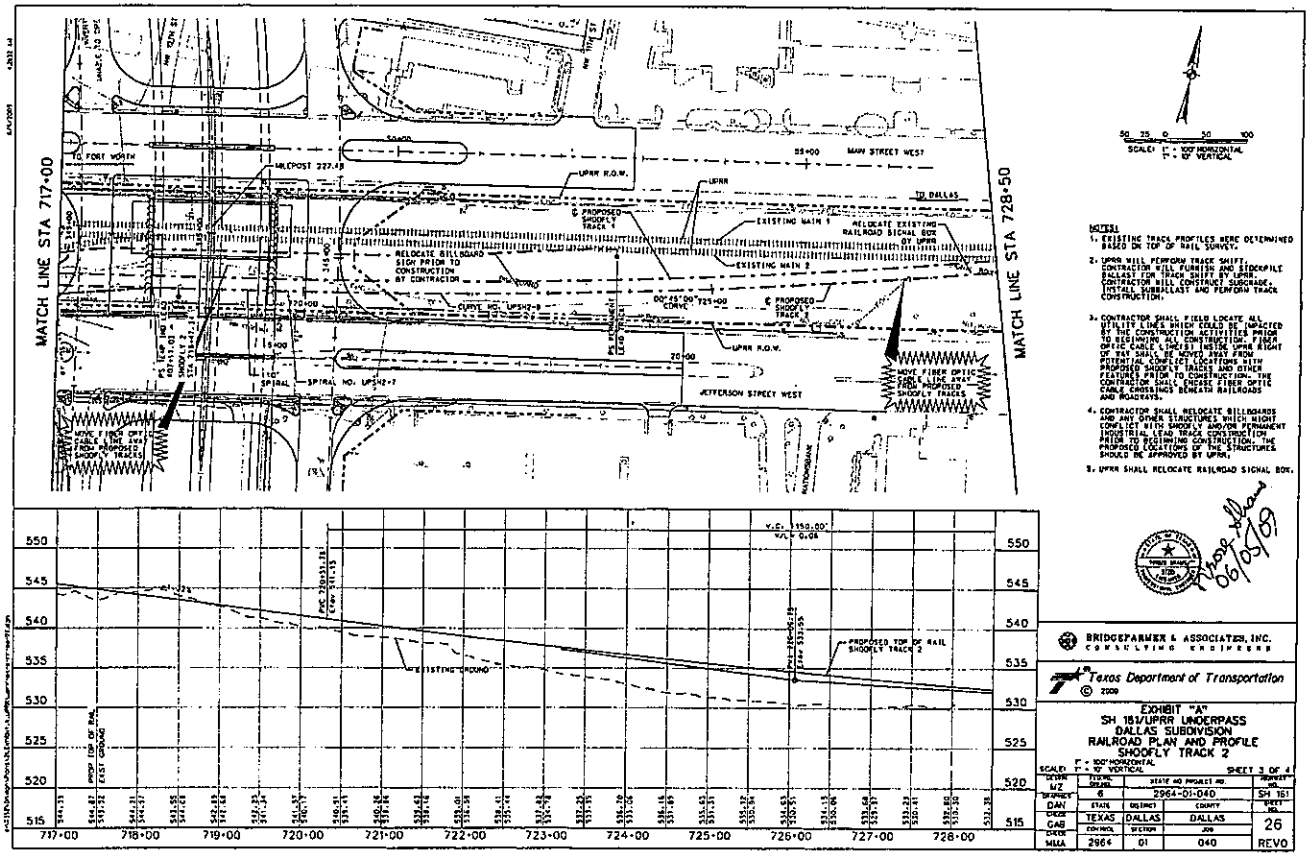
EXHIBIT "A"
SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
SHOOFLY TRACK 2
SHEET 2 OF 4
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
25
REV0
2964
01
040


MATCH LINE STA 717+00
MATCH LINE STA 728+50
TO FORT WORTH
MILEPOST 227.48
UPRR R.O.W.
UPRR
MAIN STREET WEST
TO DALLAS
EXISTING MAIN 1
EXISTING MAIN 2
RELOCATE EXISTING RAILROAD SIGNAL BOX BY UPRR
RELOCATE BILLBOARD SIGN PRIOR TO CONSTRUCTION BY CONTRACTOR
CURVE NO. UPSH2-9
SPIRAL NO. UPSH2-7
JEFFERSON STREET WEST
MOVE FIBER OPTIC CABLE LINE AWAY FROM PROPOSED SHOOFLY TRACKS
EXISTING GROUND
PROPOSED TOP OF RAIL SHOOFLY TRACK 2
PROP TOP OF RAIL EXIST GROUND
V.C. 1150.00'
V/L = 0.06
717+00
718+00
719+00
720+00
721+00
722+00
723+00
724+00
725+00
726+00
727+00
728+00
550
545
540
535
530
525
520
515
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. UPRR WILL PERFORM TRACK SHIFT. CONTRACTOR WILL FURNISH AND STOCKPILE BALLAST FOR TRACK SHIFT BY UPRR. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
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4. CONTRACTOR SHALL RELOCATE BILLBOARDS AND ANY OTHER STRUCTURES WHICH MIGHT CONFLICT WITH SHOOFLY AND/OR PERMANENT INDUSTRIAL LEAD TRACK CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION. THE PROPOSED LOCATIONS OF THE STRUCTURES SHOULD BE APPROVED BY UPRR.
5. UPRR SHALL RELOCATE RAILROAD SIGNAL BOX.
06/05/09
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CONSULTING ENGINEERS
Texas Department of Transportation
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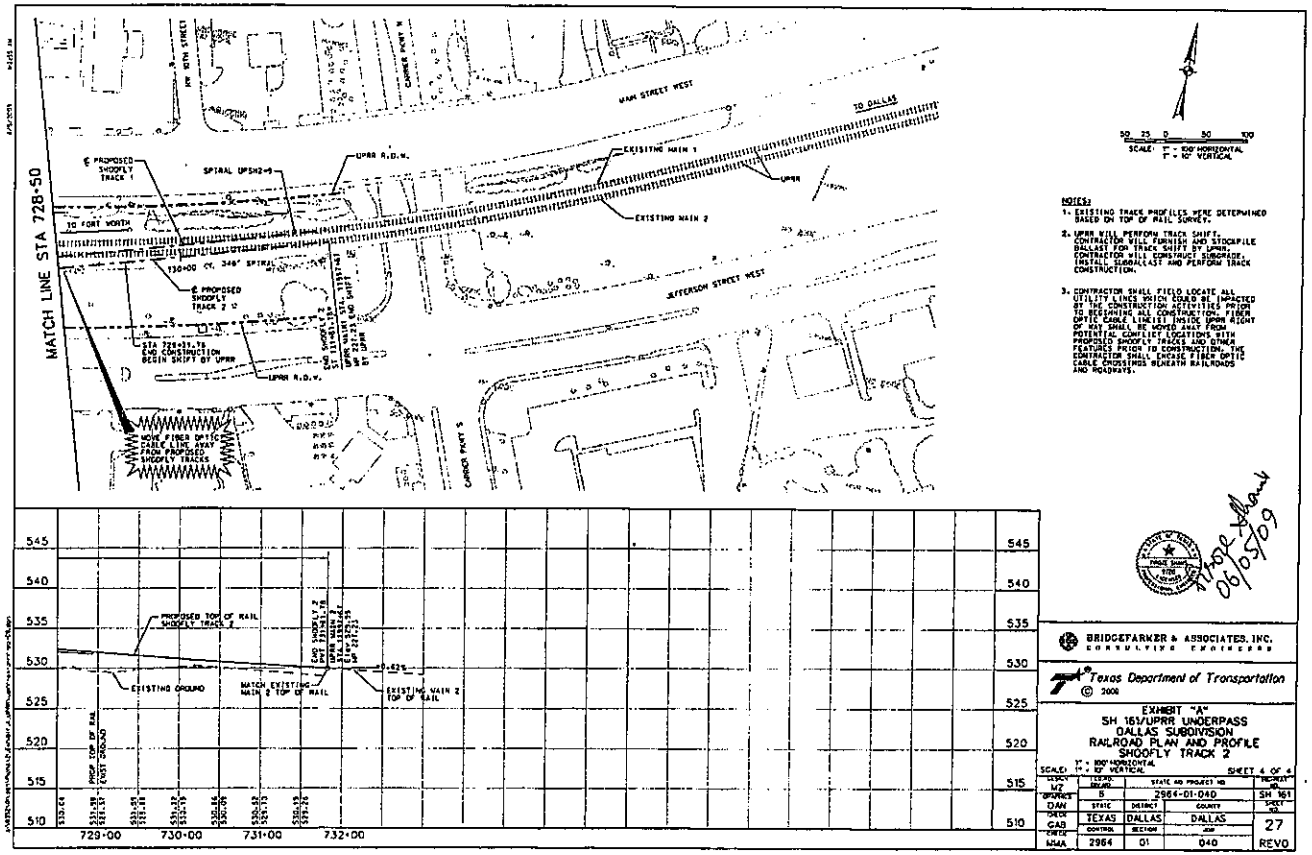
EXHIBIT "A"
SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
SHOOFLY TRACK 2
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
SHEET 3 OF 4
DESIGN MZ
FIGURE GRAND 6
STATE AD PROJECT NO. 2964-01-040
HIGHWAY NO. SH 161
DRAWN DAN
CHECK GAB
STATE TEXAS
DISTRICT DALLAS
COUNTY DALLAS
SHEET NO. 26
CONTROL 2964
SECTION 01
JOB 040
REV0
MMA



NOTES:

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STATE OF TEXAS
TROY E. SHAW
97191
LICENSED
PROFESSIONAL ENGINEER

Troy E. Shaw
06/05/09

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CONSULTING ENGINEERS

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EXHIBIT "A"
SH 161/UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
SHOOFLY TRACK 2

SCALE: 1" = 100' HORIZONTAL, 1" = 10' VERTICAL — SHEET 4 OF 4

DESIGNED MZ	FED. RD. DIV. 6	STATE AND PROJECT NO. 2964-01-040		PROJECT NO. SH 161
DRAWN DAN	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK GAB	TEXAS	DALLAS	DALLAS	27
CHECK MMA	CONTROL 2964	SECTION 01	JOB 040	REVO

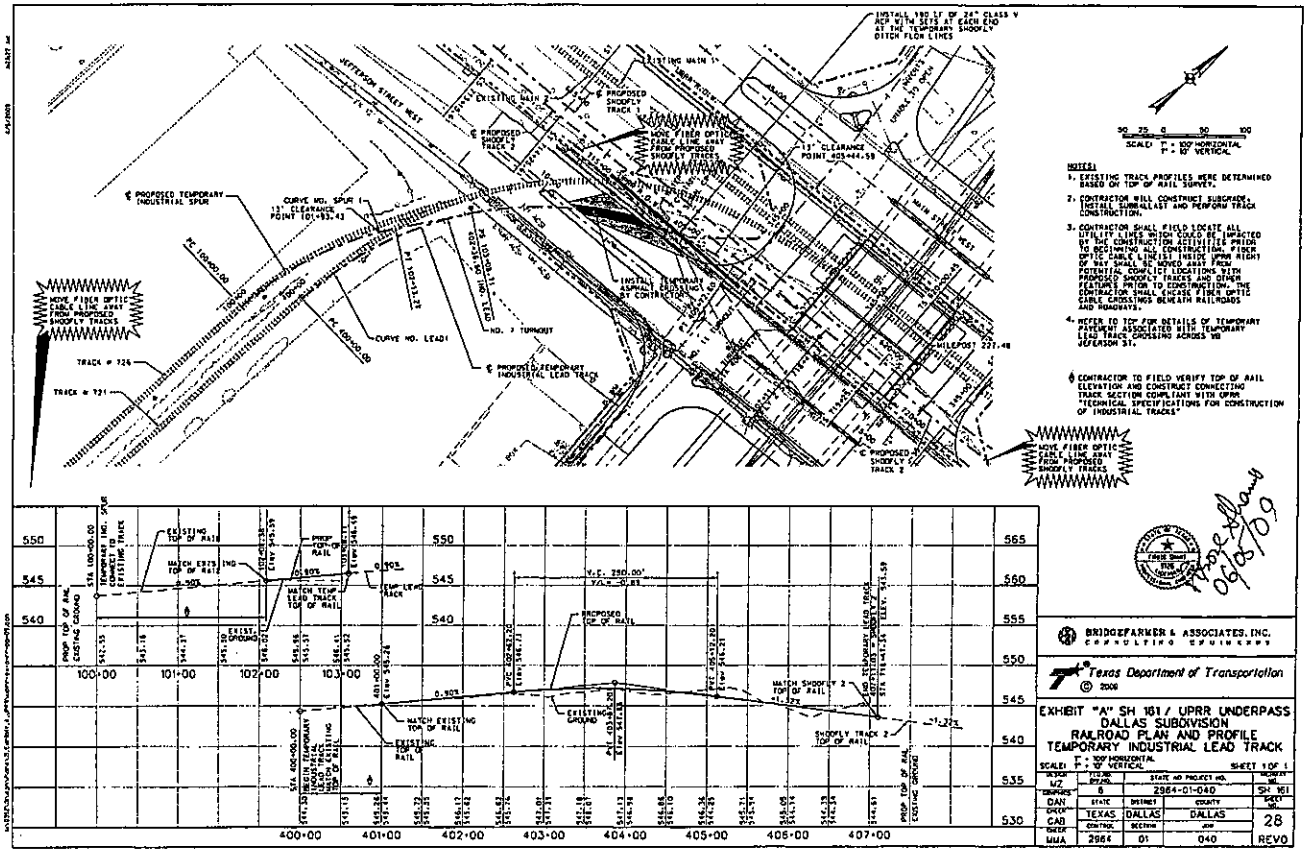
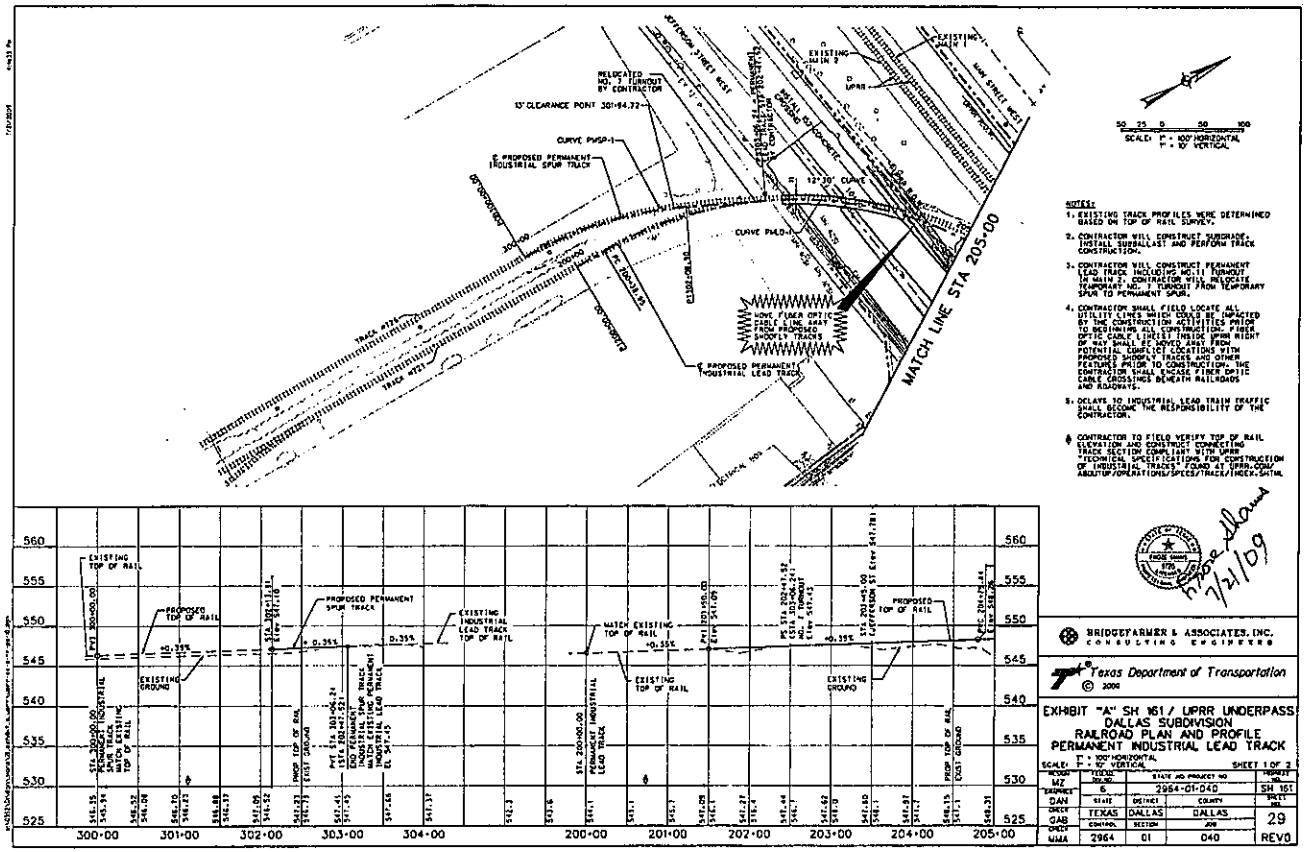


EXHIBIT "A" SH 161 / UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
TEMPORARY INDUSTRIAL LEAD TRACK
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Texas Department of Transportation
© 2006
SCALE: H = 100' HORIZONTAL
V = 10' VERTICAL
SHEET 1 OF 1
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINES INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOOFLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENCASE FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.
4. REFER TO TOP FOR DETAILS OF TEMPORARY PAVEMENT ASSOCIATED WITH TEMPORARY LEAD TRACK CROSSING ACROSS WB JEFFERSON ST.
CONTRACTOR TO FIELD VERIFY TOP OF RAIL ELEVATION AND CONSTRUCT CONNECTING TRACK SECTION COMPLIANT WITH UPRR "TECHNICAL SPECIFICATIONS FOR CONSTRUCTION OF INDUSTRIAL TRACKS"
JEFFERSON STREET WEST
EXISTING MAIN 1
EXISTING MAIN
PROPOSED SHOOFLY TRACK 1
PROPOSED SHOOFLY TRACK 2
MOVE FIBER OPTIC CABLE LINE AWAY FROM PROPOSED SHOOFLY TRACKS
13' CLEARANCE POINT 405+44.59
PROPOSED TEMPORARY INDUSTRIAL SPUR
CURVE NO. SPUR 1
13' CLEARANCE POINT 101+83.43
CURVE NO. LEAD1
NO. 7 TURNOUT
PROPOSED TEMPORARY INDUSTRIAL LEAD TRACK
TRACK # 726
TRACK # 721
MILEPOST 227.48
PROPOSED SHOOFLY TRACK 2
MATCH STEM WEST
UNDERPASS DITCH
INSTALL 180 LF OF 24" CLASS V RCP WITH SETS AT EACH END AT THE TEMPORARY SHOOFLY DITCH FLOW LINES
SCALE: H = 100' HORIZONTAL
V = 10' VERTICAL
EXISTING TOP OF RAIL
PROP TOP OF RAIL
MATCH EXISTING TOP OF RAIL
MATCH TEMP LEAD TRACK TOP OF RAIL
TEMP LEAD TRACK
PROPOSED TOP OF RAIL
EXISTING GROUND
MATCH SHOOFLY 2 TOP OF RAIL
SHOOFLY TRACK 2 TOP OF RAIL
PROP TOP OF RAIL EXISTING GROUND
V.C. 250.00'
V.O.= 0.88
0.90%
-1.27%
550
545
540
535
530
565
560
555
100+00
101+00
102+00
103+00
400+00
401+00
402+00
403+00
404+00
405+00
406+00
407+00
DAN
CAB
MUA
TEXAS
DALLAS
2964
01
040
28
REV0


MATCH LINE STA 205+00
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR WILL CONSTRUCT PERMANENT LEAD TRACK INCLUDING NO.11 TURNOUT IN MAIN 2. CONTRACTOR WILL RELOCATE TEMPORARY NO. 1 TURNOUT FROM TEMPORARY SPUR TO PERMANENT SPUR.
4. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINE(S) INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOWLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL ENCASE FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.
5. DELAYS TO INDUSTRIAL LEAD TRAIN TRAFFIC SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR.
6. CONTRACTOR TO FIELD VERIFY TOP OF RAIL ELEVATION AND CONSTRUCT CONNECTING TRACK SECTION COMPLIANT WITH UPRR "TECHNICAL SPECIFICATIONS FOR CONSTRUCTION OF INDUSTRIAL TRACKS" FOUND AT UPRR.COM/ABOUTUP/OPERATIONS/SPECS/TRACK/INDEX.SHTML
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CONSULTING ENGINEERS
Texas Department of Transportation
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EXHIBIT "A" SH 161 / UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
PERMANENT INDUSTRIAL LEAD TRACK
SCALE: 1" = 100' HORIZONTAL, 1" = 10' VERTICAL
SHEET 1 OF 2
MZ
6
2964-01-040
SH 161
DAN
TEXAS
DALLAS
DALLAS
29
GAB
MMA
2964
01
040
REV0
7/21/09
300+00
301+00
302+00
303+00
304+00
200+00
201+00
202+00
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205+00
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550
545
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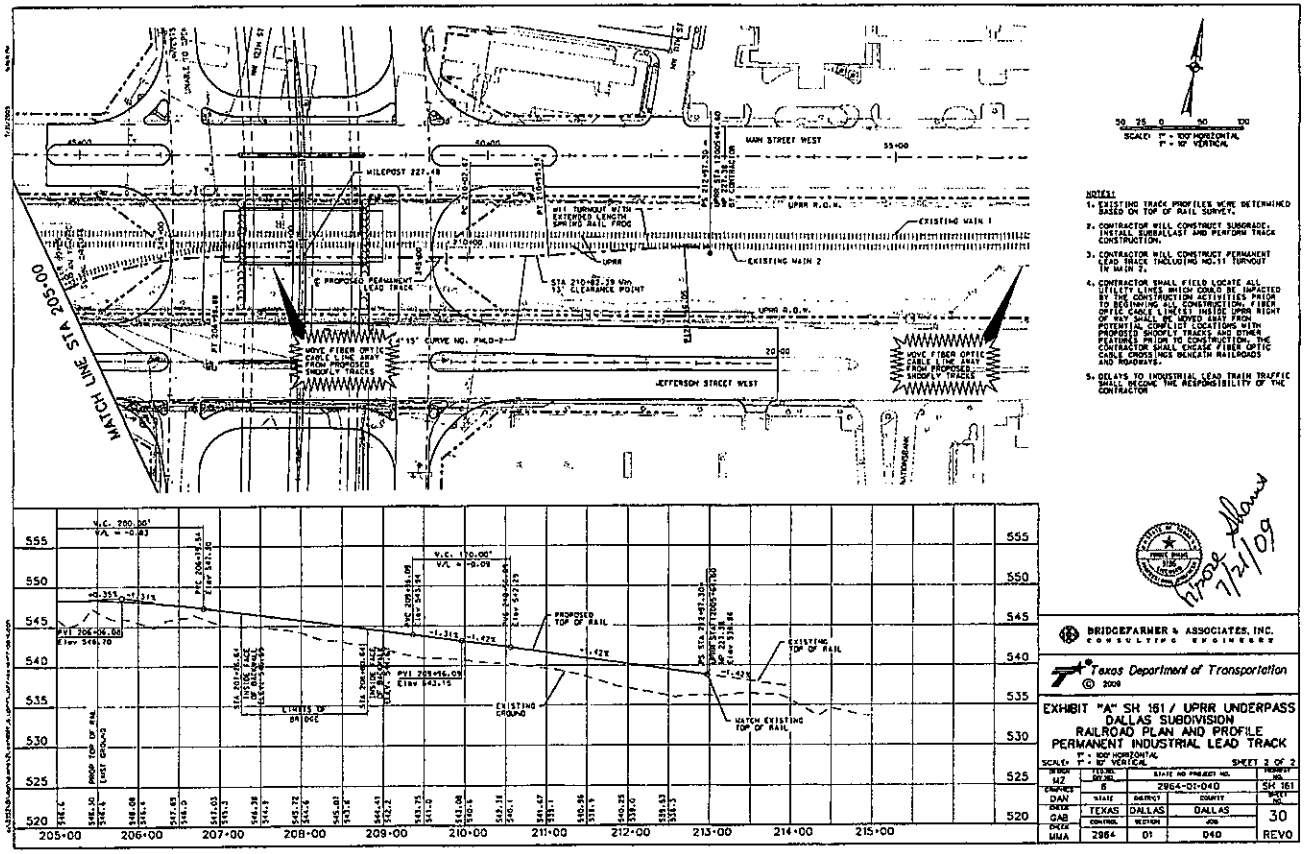
535
530
525


MAIN STREET WEST
JEFFERSON STREET WEST
MILEPOST 227.48
UPRR R.O.W.
EXISTING MAIN 1
EXISTING MAIN 2
PROPOSED PERMANENT LEAD TRACK
MOVE FIBER OPTIC CABLE LINE AWAY FROM PROPOSED SHOOFLY TRACKS
MATCH LINE STA 205+00
PROPOSED TOP OF RAIL
EXISTING TOP OF RAIL
EXISTING GROUND
MATCH EXISTING TOP OF RAIL
LIMITS OF BRIDGE
SCALE: 1" = 100' HORIZONTAL
1" = 10' VERTICAL
NOTES:
1. EXISTING TRACK PROFILES WERE DETERMINED BASED ON TOP OF RAIL SURVEY.
2. CONTRACTOR WILL CONSTRUCT SUBGRADE, INSTALL SUBBALLAST AND PERFORM TRACK CONSTRUCTION.
3. CONTRACTOR WILL CONSTRUCT PERMANENT LEAD TRACK INCLUDING NO.11 TURNOUT IN MAIN 2.
4. CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WHICH COULD BE IMPACTED BY THE CONSTRUCTION ACTIVITIES PRIOR TO BEGINNING ALL CONSTRUCTION. FIBER OPTIC CABLE LINES INSIDE UPRR RIGHT OF WAY SHALL BE MOVED AWAY FROM POTENTIAL CONFLICT LOCATIONS WITH PROPOSED SHOOFLY TRACKS AND OTHER FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CHECK FIBER OPTIC CABLE CROSSINGS BENEATH RAILROADS AND ROADWAYS.
5. DELAYS TO INDUSTRIAL LEAD TRAIN TRAFFIC SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR
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CONSULTING ENGINEERS
Texas Department of Transportation
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EXHIBIT "A" SH 161 / UPRR UNDERPASS
DALLAS SUBDIVISION
RAILROAD PLAN AND PROFILE
PERMANENT INDUSTRIAL LEAD TRACK
SHEET 2 OF 2
DAN
GAB
MMA
TEXAS
DALLAS
DALLAS
2964
01
D40
SH 161
30
REV0

GENERAL NOTES

1. SIGNAL CIRCUITS ARE DESIGNED TO GIVE 20 SECONDS MINIMUM WARNING TIME (WMT)
   0 SECONDS CLEARANCE TIME (CT)
   5 SECONDS BUFFER TIME (BT)
   5 SECONDS EQUIPMENT RESPONSE TIME (ERT)
   25 SECONDS ADVANCE TRAFFIC SIGNAL PRECEMPTION TIME (APT)
   65 SECONDS TOTAL APPROACH TIME PRIOR TO THE ARRIVAL OF THE FASTEST TRAIN AT THIS CROSSING.

2. CONSTANT WARNING CONTROL CIRCUITS ARE TO BE USED AT THIS LOCATION.

3. 8,492 ADT AT 45 MPH WITH 24 TRAINS AT 70 MPH AND 2 SWITCH MOVES AT 10 MPH PER DAY.

4. 60' PVC CONDUIT TO BE FURNISHED IN PLACE BY THE RAILROAD COMPANY OR IT'S CONTRACTOR.

5. APPROXIMATELY 10 CY OF FILL AND 6 CY OF CRUSHED COVER ROCK FOR THE BUNGALOW AND SIGNAL FOUNDATIONS TO BE FURNISHED IN PLACE BY THE RAILROAD COMPANY OR IT'S CONTRACTOR.

6. THE STATE'S CONTRACTOR WILL FURNISH AND INSTALL OR REPLACE THE APPROPRIATE PAVEMENT MARKINGS AS OUTLINED ON THE ATTACHED LAYOUT AND STANDARD SHEET AND IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

7. THE STATE'S CONTRACTOR WILL FURNISH AND INSTALL THE FOLLOWING SIGNS IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES:
   2 - W10-1, 1 - W10-2, 2 - R10-6, 2-R-13-3 (3-TRACKS)
   ADDITIONAL SIGNS TO BE ADDED: 2 - DO NOT STOP ON TRACK SIGNS (R8-8)

8. THE ROAD AUTHORITY AGREES TO MAINTAIN THE PAVEMENT MARKINGS AND ADVANCE WARNING SIGNS PLACED ALONG THE ROADWAYS UNDER THEIR JURISDICTION IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

9. THE RAILROAD COMPANY OR IT'S CONTRACTOR SHALL FURNISH AND INSTALL SIGN MOUNTING BRACKETS FOR THE MALFUNCTION SIGN (R15-4) AT THE STATES EXPENSE.

10. THE RAILROAD COMPANY OR IT'S CONTRACTOR SHALL STENCIL THE DOT-MRR NUMBERS ON THE SIGNAL MASTS FACING THE ADJACENT ROADWAY IN 2" BLACK LETTERING.

11. THE ROAD AUTHORITY AGREES TO TRIM AND MAINTAIN TREES AND VEGETATION FOR ADEQUATE VISIBILITY OF THE CROSSING SIGNALS AND ADVANCE WARNING SIGNS.

12. THE RAILROAD COMPANY OR IT'S CONTRACTOR WILL FURNISH AND INSTALL A RELAY TO PROVIDE ADVANCE PREEMPTION TO THE PROPOSED TRAFFIC SIGNALS. NORMALLY A CLOSED CIRCUIT IS REQUIRED BETWEEN THE CONTROL RELAY OF THE GRADE CROSSING WARNING SYSTEM AND THE TRAFFIC SIGNAL CONTROLLER AS STATED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

13. THE STATE'S CONTRACTOR WILL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

14. THE RAILROAD COMPANY WILL FURNISH AND INSTALL 2 - 3" x 60' PVC CONDUITS AND PULL BOXES FOR STATE'S TRAFFIC SIGNAL PREEMPTION CABLE AS SHOWN ON THE PLAN LAYOUT SHEET.

15 THE RAILROAD WILL INSTALL A METER LOOP AT THE STATE'S EXPENSE.

DESCRIPTION OF PROJECT

1. PROPOSED FLASHING LIGHT SIGNALS WITH 2 - 28 FOOT LENGTH GATE ARMS.

2. PROPOSED 2 - BELLS AS SHOWN ON THE LAYOUT.

3. PROPOSED 12" LAMP HOUSING SHALL BE USED AND EQUIPPED WITH LED'S (LIGHT EMITTING DIODES) OPERATED AT NOT LESS THAN 8.5 VOLTS UNDER NORMAL OPERATING CONDITIONS.

RAILROAD FORCE ACCOUNT WORK
WORK TO BE DONE BY THE RAILROAD COMPANY

1. INSTALL RAILROAD CROSSING SIGNALS AND GATES.

2. INSTALL CONCRETE CROSSING PANELS FURNISHED BY CONTRACTOR AT NB FRONTAGE ROAD.

3. RAISE EXISTING MAIN 2 TO SAME ELEVATION AS EXISTING MAIN 1.

WORK TO BE DONE BY TXDOT'S CONTRACTOR

1. FURNISH AND INSTALL BARRICADES AND WARNING SIGNS DURING CONSTRUCTION.

2. FURNISH TRAFFIC CONTROL OPERATIONS DURING CONSTRUCTION HOURS.

3. FURNISH AND INSTALL RAIL AND TURNOUTS FOR TEMPORARY AND PERMANENT TRACKS.

4. FURNISH CONCRETE CROSSING PANELS TO BE INSTALLED AT SH 161 NB FRONTAGE ROAD BY UPRR.

5. REMOVE EXISTING INDUSTRIAL LEAD TRACK TURNOUT AT UPRR MAIN 2 STA 12010+84.00. INSTALL NEW TEMPORARY NO.11 INDUSTRIAL LEAD TRACK TURNOUT AT SHOCKLY Z STA 710+47.34.

TRAFFIC DATA :

ADT = 8,492 AT 45 MPH.
24 TRAINS PER DAY AT 60 MPH.
2 SWITCHING MOVES PER DAY AT 10 MPH.

RAILROAD SIGNAL CIRCUITS FOR THIS PROJECT WERE NOT DESIGNED BY THE UNDERSIGNED ENGINEER.

7/21/09

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CONSULTING ENGINEERS

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EXHIBIT "A"
SH 161 NORTHBOUND FRONTAGE ROAD AT UPRR GENERAL NOTES GRADE CROSSING WARNING DEVICES DALLAS SUBDIVISION

SCALE: NONE — SHEET 1 OF 3

DESIGN	FEDERAL PROJ. NO.	STATE HIGHWAY PROJECT NO.		HIGHWAY NO.
DAN	6	2964-01-040		SH 161
GRAPHICS				SHEET NO.
DAN	STATE	DISTRICT	COUNTY	
CHECK	TEXAS	DALLAS	DALLAS	31
LEL	CONTROL	SECTION	JOB	
CHECK	2964	01	040	REV. 0
MZ				

DOT 824 10SU
UEC POST 227.48

GENERAL NOTES

1. SIGNAL CIRCUITS ARE DESIGNED TO GIVE 20 SECONDS MINIMUM WARNING TIME (MWT)
0 SECONDS CLEARANCE TIME (CT)
5 SECONDS BUFFER TIME (BT)
3 SECONDS EQUIPMENT RESPONSE TIME (ERT)
25 SECONDS ADVANCE TRAFFIC SIGNAL PREEMPTION TIME (APT)
55 SECONDS TOTAL APPROACH TIME PRIOR TO THE ARRIVAL OF THE FASTEST TRAIN AT THIS CROSSING.

2. CONSTANT WARNING CONTROL CIRCUITS ARE TO BE USED AT THIS LOCATION.

3. 4,201 ADT AT 45 MPH WITH 24 TRAINS AT 60 MPH AND 2 SWITCH MOVES AT 10 MPH PER DAY.

4. 60' PVC CONDUIT TO BE FURNISHED IN PLACE BY THE RAILROAD COMPANY OR IT'S CONTRACTOR.

5. APPROXIMATELY 10 CY OF FILL AND 8 CY OF CRUSHED COVER ROCK FOR THE BUNGALOW AND SIGNAL FOUNDATIONS TO BE FURNISHED IN PLACE BY THE RAILROAD COMPANY OR IT'S CONTRACTOR.

6. THE STATE'S CONTRACTOR WILL FURNISH AND INSTALL THE APPROPRIATE PAVEMENT MARKINGS AS OUTLINED ON THE ATTACHED LAYOUT AND STANDARD SHEET AND IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

7. THE STATE'S CONTRACTOR WILL FURNISH AND INSTALL OR REPLACE THE FOLLOWING SIGNS IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES:
2 - W10-1L, W10-2L, 2 - W8-9, 2-W15-2 (3-TRACKS).
ADDITIONAL SIGNS TO BE ADDED:2 - DO NOT STOP ON TRACK SIGNS (R8-8)

8. THE ROAD AUTHORITY AGREES TO MAINTAIN THE PAVEMENT MARKINGS AND ADVANCE WARNING SIGNS PLACED ALONG THE ROADWAYS UNDER THEIR JURISDICTION IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

9. THE RAILROAD COMPANY OR IT'S CONTRACTOR SHALL FURNISH AND INSTALL SIGN MOUNTING BRACKETS FOR THE MALFUNCTION SIGN (R15-4) AT THE STATE'S EXPENSE.

10. THE RAILROAD COMPANY OR IT'S CONTRACTOR SHALL STENCIL THE DOT-AAR NUMBERS ON THE SIGNAL MASTS FACING THE ADJACENT ROADWAY IN 2" BLACK LETTERING.

11. THE ROAD AUTHORITY AGREES TO TRIM AND MAINTAIN TREES AND VEGETATION FOR ADEQUATE VISIBILITY OF THE CROSSING SIGNALS AND ADVANCE WARNING SIGNS.

12. THE RAILROAD COMPANY OR IT'S CONTRACTOR WILL FURNISH AND INSTALL A RELAY TO PROVIDE ADVANCE PREEMPTION TO THE PROPOSED TRAFFIC SIGNALS. NORMALLY A CLOSED CIRCUIT IS REQUIRED BETWEEN THE CONTROL RELAY OF THE GRADE CROSSING WARNING SYSTEM AND THE TRAFFIC SIGNAL CONTROLLER AS STATED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

13. THE STATE'S CONTRACTOR WILL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

14. THE RAILROAD COMPANY WILL FURNISH AND INSTALL PULL BOX FOR STATE'S TRAFFIC SIGNAL PREEMPTION CABLE AS SHOWN ON THE PLAN LAYOUT SHEET.

15. THE RAILROAD WILL INSTALL A METER LOOP AT THE STATE'S EXPENSE.

DESCRIPTION OF PROJECT

1. PROPOSED FLASHING LIGHT SIGNALS WITH 2 - 28 FOOT LENGTH GATE ARMS.

2. PROPOSED 2 - BELLS AS SHOWN ON THE LAYOUT.

3. PROPOSED 12" LAMP HOUSING SHALL BE USED AND EQUIPPED WITH LED'S (LIGHT EMITTING DIODES) OPERATED AT NOT LESS THAN 8.5 VOLTS UNDER NORMAL OPERATING CONDITIONS.

RAILROAD FORCE ACCOUNT WORK
WORK TO BE DONE BY THE RAILROAD COMPANY

1. INSTALL RAILROAD CROSSING SIGNALS AND GATES.

2. INSTALL CONCRETE CROSSING PANELS FURNISHED BY CONTRACTOR AT SB FRONTAGE ROADS.

3. RAISE EXISTING MAM 2 TO SAME ELEVATION AS EXISTING MAM 1.

WORK TO BE DONE BY TXDOT'S CONTRACTOR

1. FURNISH AND INSTALL BARRICADES AND WARNING SIGNS DURING CONSTRUCTION.

2. FURNISH TRAFFIC CONTROL OPERATIONS DURING CONSTRUCTION HOURS.

3. FURNISH AND INSTALL RAIL AND TURNOUTS FOR TEMPORARY AND PERMANENT TRACKS.

4. FURNISH CONCRETE CROSSING PANELS TO BE INSTALLED BY UPRR AT SH 161SB FRONTAGE ROAD BY UPRR.

5. REMOVE EXISTING INDUSTRIAL LEAD TRACK TURNOUT AT UPRR MAM 2 STA 1000+54.00. INSTALL NEW TEMPORARY NO.11 INDUSTRIAL LEAD TRACK TURNOUT AT SHOOFLY 2 STA 710+17.34.

DOT 824 108U
MILE POST 227.54

TRAFFIC DATA:

ADT = 4,201 AT 45 MPH.
24 TRAINS PER DAY AT 60 MPH.
2 SWITCHING MOVES PER DAY AT 10 MPH.

RAILROAD SIGNAL CIRCUITS FOR THIS PROJECT WERE NOT DESIGNED BY THE UNDERSIGNED ENGINEER.

STATE OF TEXAS
MARK LEWIS
LEE
LICENSED
PROFESSIONAL ENGINEER

Mark Lee 7/21/09

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CONSULTING ENGINEERS

Texas Department of Transportation
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EXHIBIT "A"
SH 151 SOUTHBOUND FRONTAGE ROAD AT UPRR GENERAL NOTES GRADE CROSSING WARNING DEVICES
DALLAS SUBDIVISION

SCALE: NONE SHEET 2 OF 3

DESIGN	FILENAME	STATE AND PROJECT NO.			HIGHWAY NO.
DAN	0	2964-01-040			SH 151
DRAWN	STATE	DISTRICT	COUNTY		SHEET NO.
DAN	TEXAS	DALLAS	DALLAS		32
CHECK	CONTROL	SECTION	JOB		
LEL	2964	01	040		REV 0
CHECK					
WZ					

GENERAL NOTES

1. SIGNAL CIRCUITS ARE DESIGNED TO GIVE 20 SECONDS MINIMUM WARNING TIME (MWT)
   0 SECONDS CLEARANCE TIME (CT)
   5 SECONDS BUFFER TIME (BT)
   5 SECONDS EQUIPMENT RESPONSE TIME (ERT)
   5 SECONDS ADVANCE TRAFFIC SIGNAL PREMPTION TIME (APT)
   30 SECONDS TOTAL APPROACH TIME PRIOR TO THE ARRIVAL OF THE FASTEST TRAIN AT THIS CROSSING.

2. CONSTANT WARNING CONTROL CIRCUITS ARE TO BE USED AT THIS LOCATION.

3. 89,XXX ADT AT 40 MPH WITH 2 SWITCH MOVES AT 10 MPH PER DAY.

4. 1614' PVC CONDUIT TO BE FURNISHED IN PLACE BY THE RAILROAD COMPANY OR IT'S CONTRACTOR.

5. APPROXIMATELY 10 CY OF FILL AND 6 CY OF CRUSHED COVER ROCK FOR THE BUNGALOW AND SIGNAL FOUNDATIONS TO BE FURNISHED IN PLACE BY THE RAILROAD COMPANY OR IT'S CONTRACTOR.

6. THE RAILROAD COMPANY OR ITS CONTRACTOR WILL REMOVE THE EXISTING CROSSBUCKS AND DISPOSE OF THE FOUNDATIONS.

7. THE STATE'S CONTRACTOR WILL FURNISH AND INSTALL THE APPROPRIATE PAVEMENT MARKINGS AS OUTLINED ON THE ATTACHED LAYOUT AND STANDARD SHEET AND IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

8. THE STATE'S CONTRACTOR WILL FURNISH AND INSTALL THE FOLLOWING SIGNS IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES:
   2 - W10-1, 1 - W20-3, 1 - R15-4
   ADDITIONAL SIGNS TO BE ADDED: 2 - DO NOT STOP ON TRACK SIGNS (R8-8)

9. THE ROAD AUTHORITY AGREES TO MAINTAIN THE PAVEMENT MARKINGS AND ADVANCE WARNING SIGNS PLACED ALONG THE ROADWAYS UNDER THEIR JURISDICTION IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

10. THE RAILROAD COMPANY OR IT'S CONTRACTOR SHALL FURNISH AND INSTALL SIGN MOUNTING BRACKETS FOR THE MALFUNCTION SIGN (R15-4) AT THE STATES EXPENSE.

11. THE RAILROAD COMPANY OR ITS CONTRACTOR SHALL STENCIL THE DOT-ARM NUMBERS ON THE SIGNAL MASTS FACING THE ADJACENT ROADWAY IN 2" BLACK LETTERING.

12. THE ROAD AUTHORITY AGREES TO TRIM AND MAINTAIN TREES AND VEGETATION FOR ADEQUATE VISIBILITY OF THE CROSSING SIGNALS AND ADVANCE WARNING SIGNS.

13. THE STATE'S CONTRACTOR WILL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE GUIDELINES IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

14. THE RAILROAD WILL INSTALL A METER LOOP AT THE STATE'S EXPENSE.

DESCRIPTION OF PROJECT

1. PROPOSED FLASHING LIGHT SIGNALS WITH 2 - 22.2-23 FOOT LENGTH GATE ARMS.

2. PROPOSED 1 - 24 FOOT FLASHING LIGHT CANTILEVER SIGNAL FOR WESTBOUND TRAFFIC AND 1 - 28 FOOT FLASHING LIGHT CANTILEVER SIGNAL FOR EASTBOUND TRAFFIC.

3. PROPOSED 2 - BELLS AS SHOWN ON THE LAYOUT.

3. PROPOSED 12" LAMP HOUSING SHALL BE USED AND EQUIPPED WITH LED'S (LIGHT EMITTING DIODES) OPERATED AT NOT LESS THAN 8.5 VOLTS UNDER NORMAL OPERATING CONDITIONS.

RAILROAD FORCE ACCOUNT WORK
WORK TO BE DONE BY THE RAILROAD COMPANY

1. INSTALL RAILROAD CROSSING SIGNALS AND GATES.

WORK TO BE DONE BY TXDOT'S CONTRACTOR

1. FURNISH AND INSTALL BARRICADES AND WARNING SIGNS DURING CONSTRUCTION.

2. FURNISH TRAFFIC CONTROL OPERATIONS DURING CONSTRUCTION HOURS.

3. FURNISH AND INSTALL RAIL AND TURNOUTS FOR TEMPORARY AND PERMANENT TRACKS.

4. FURNISH AND INSTALL CONCRETE CROSSING PANELS AT JEFFERSON STREET.

5. REMOVE EXISTING INDUSTRIAL LEAD TRACK SUBWOOT AT UPRR MAIN 2 STA 12030+84.00; INSTALL NEW PERMANENT NEW INDUSTRIAL LEAD TRACK TURNOUT AT STA 12003+84.80

TRAFFIC DATA:

ADT =+/-89XX AT 40 MPH.
2 SWITCHING MOVES PER DAY AT 10 MPH.

RAILROAD SIGNAL CIRCUITS FOR THIS PROJECT WERE NOT DESIGNED BY THE UNDERSIGNED ENGINEER.

7/21/09

DOT 785 462L
MILE POST 227.58

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EXHIBIT "A"
JEFFERSON STREET
AT UPRR GENERAL NOTES
GRADE CROSSING WARNING DEVICES
DALLAS SUBDIVISION
SHEET 3 OF 3

SCALE: NONE

DESIGN	FEDERAL ROAD	STATE AID PROJECT NO.			PROJECT NO.
DAN	6	2964-01-040			SH 161
DRAWN	STATE	DISTRICT	COUNTY		SHEET NO.
DAN	TEXAS	DALLAS	DALLAS		33
CHECK	CONTROL	SECTION	JOB		
LEL					
CHECK	42	2964	01	040	REV. 0

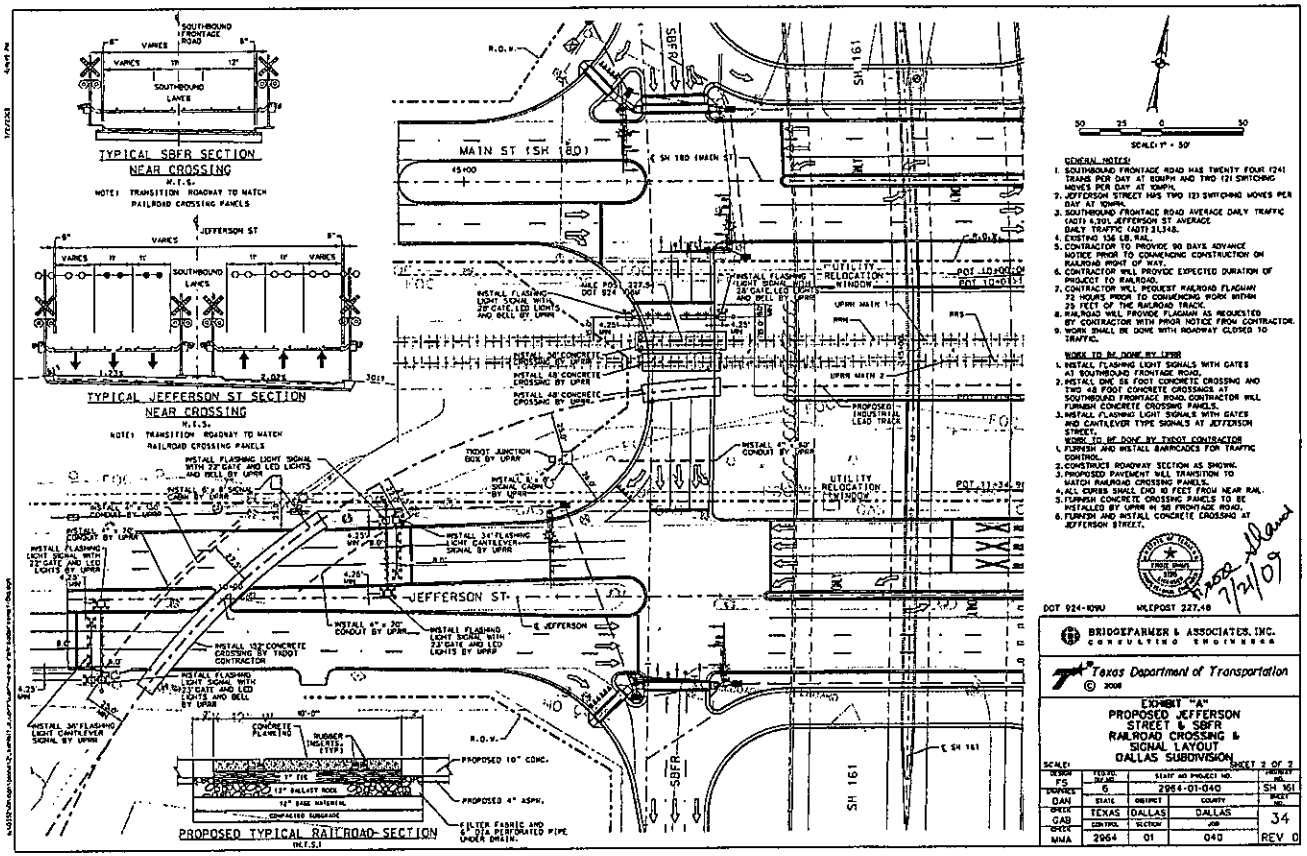
TYPICAL SBFR SECTION
NEAR CROSSING
N.T.S.
NOTE: TRANSITION ROADWAY TO MATCH RAILROAD CROSSING PANELS
TYPICAL JEFFERSON ST SECTION
NEAR CROSSING
N.T.S.
NOTE: TRANSITION ROADWAY TO MATCH RAILROAD CROSSING PANELS
PROPOSED TYPICAL RAILROAD SECTION
(N.T.S.)
MAIN ST (SH 180)
JEFFERSON ST
SH 161
SBFR
SCALE: 1" = 50'
GENERAL NOTES:
1. SOUTHBOUND FRONTAGE ROAD HAS TWENTY FOUR (24) TRAINS PER DAY AT 10MPH AND TWO (2) SWITCHING MOVES PER DAY AT 10MPH.
2. JEFFERSON STREET HAS TWO (2) SWITCHING MOVES PER DAY AT 10MPH.
3. SOUTHBOUND FRONTAGE ROAD AVERAGE DAILY TRAFFIC (ADT) 4,201. JEFFERSON ST AVERAGE DAILY TRAFFIC (ADT) 31,348.
4. EXISTING 136 LB. RAIL.
5. CONTRACTOR TO PROVIDE 90 DAYS ADVANCE NOTICE PRIOR TO COMMENCING CONSTRUCTION ON RAILROAD RIGHT OF WAY.
6. CONTRACTOR WILL PROVIDE EXPECTED DURATION OF PROJECT TO RAILROAD.
7. CONTRACTOR WILL REQUEST RAILROAD FLAGMAN 72 HOURS PRIOR TO COMMENCING WORK WITHIN 25 FEET OF THE RAILROAD TRACK.
8. RAILROAD WILL PROVIDE FLAGMAN AS REQUESTED BY CONTRACTOR WITH PRIOR NOTICE FROM CONTRACTOR.
9. WORK SHALL BE DONE WITH ROADWAY CLOSED TO TRAFFIC.
WORK TO BE DONE BY UPRR
1. INSTALL FLASHING LIGHT SIGNALS WITH GATES AT SOUTHBOUND FRONTAGE ROAD.
2. INSTALL ONE 54 FOOT CONCRETE CROSSING AND TWO 48 FOOT CONCRETE CROSSINGS AT SOUTHBOUND FRONTAGE ROAD. CONTRACTOR WILL FURNISH CONCRETE CROSSING PANELS.
3. INSTALL FLASHING LIGHT SIGNALS WITH GATES AND CANTILEVER TYPE SIGNALS AT JEFFERSON STREET.
WORK TO BE DONE BY TXDOT CONTRACTOR
1. FURNISH AND INSTALL BARRICADES FOR TRAFFIC CONTROL.
2. CONSTRUCT ROADWAY SECTION AS SHOWN.
3. PROPOSED PAVEMENT WILL TRANSITION TO MATCH RAILROAD CROSSING PANELS.
4. ALL CURBS SHALL END 10 FEET FROM NEAR RAIL.
5. FURNISH CONCRETE CROSSING PANELS TO BE INSTALLED BY UPRR IN SB FRONTAGE ROAD.
6. FURNISH AND INSTALL CONCRETE CROSSING AT JEFFERSON STREET.
DOT 924-109U
MILEPOST 227.48
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EXHIBIT "A"
PROPOSED JEFFERSON STREET & SBFR RAILROAD CROSSING & SIGNAL LAYOUT
DALLAS SUBDIVISION
SHEET 2 OF 2
FS
6
2964-01-040
SH 161
DAN
TEXAS
DALLAS
DALLAS
34
GAB
MMA
2964
01
040
REV 0

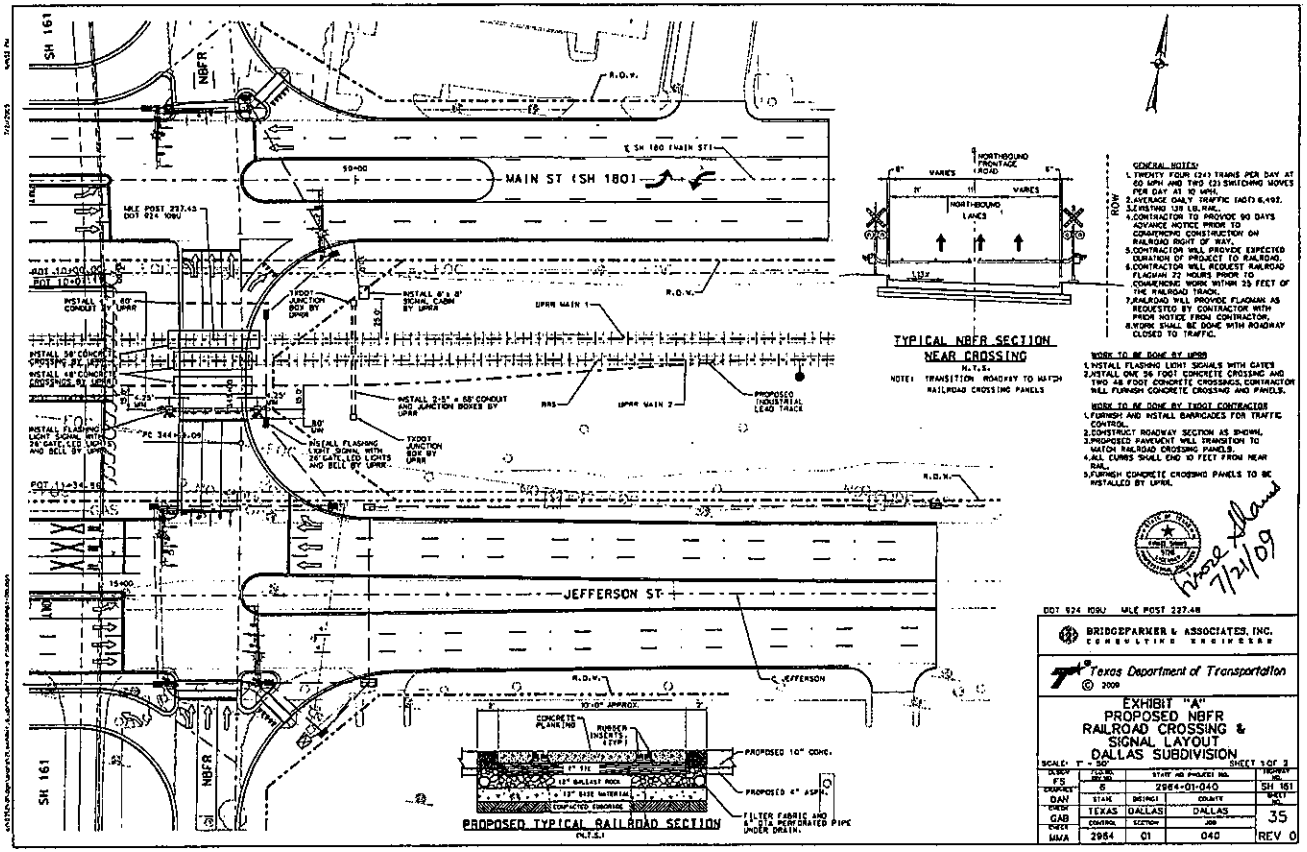
SH 161
NBFR
MAIN ST (SH 180)
JEFFERSON ST
R.O.W.
TYPICAL NBFR SECTION
NEAR CROSSING
PROPOSED TYPICAL RAILROAD SECTION
GENERAL NOTES:
WORK TO BE DONE BY UPRR
WORK TO BE DONE BY TXDOT CONTRACTOR
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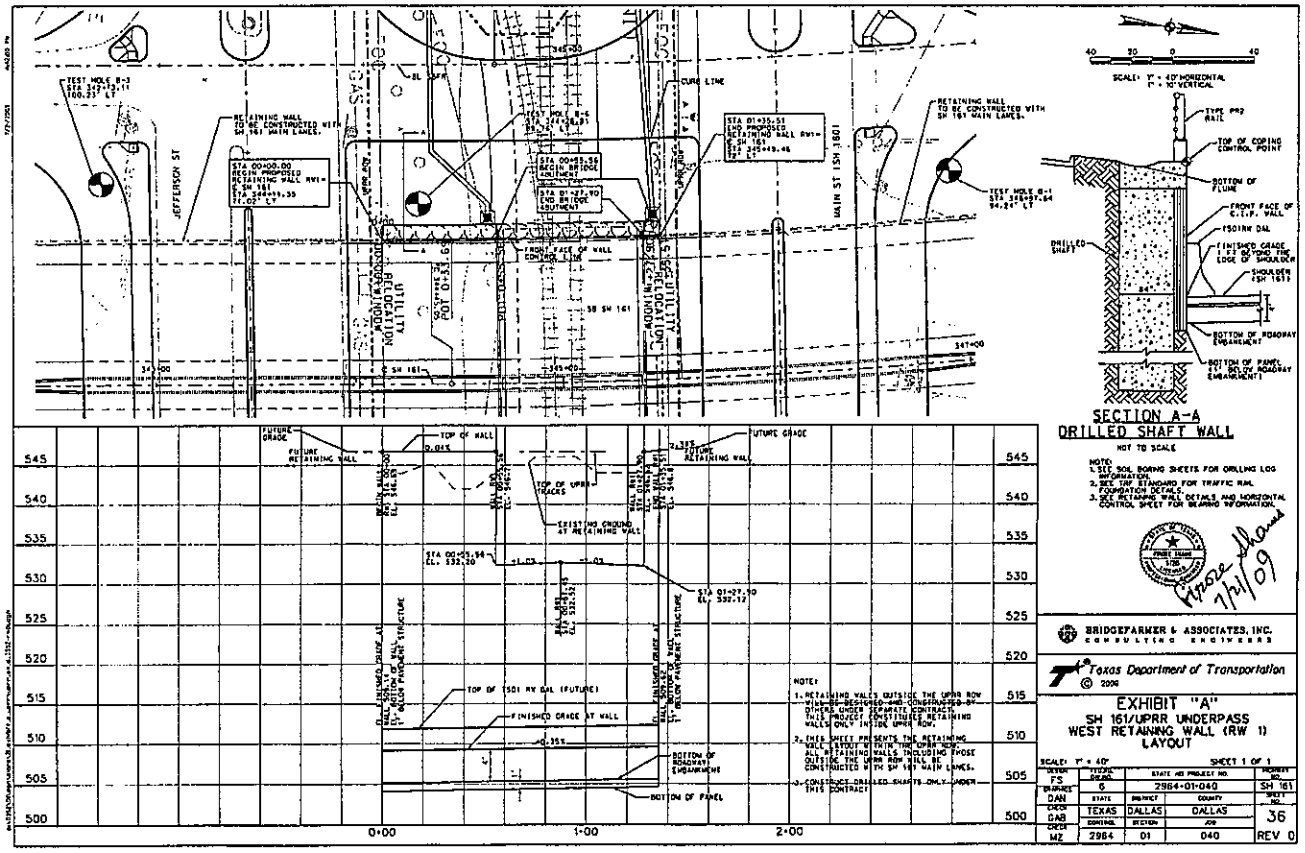
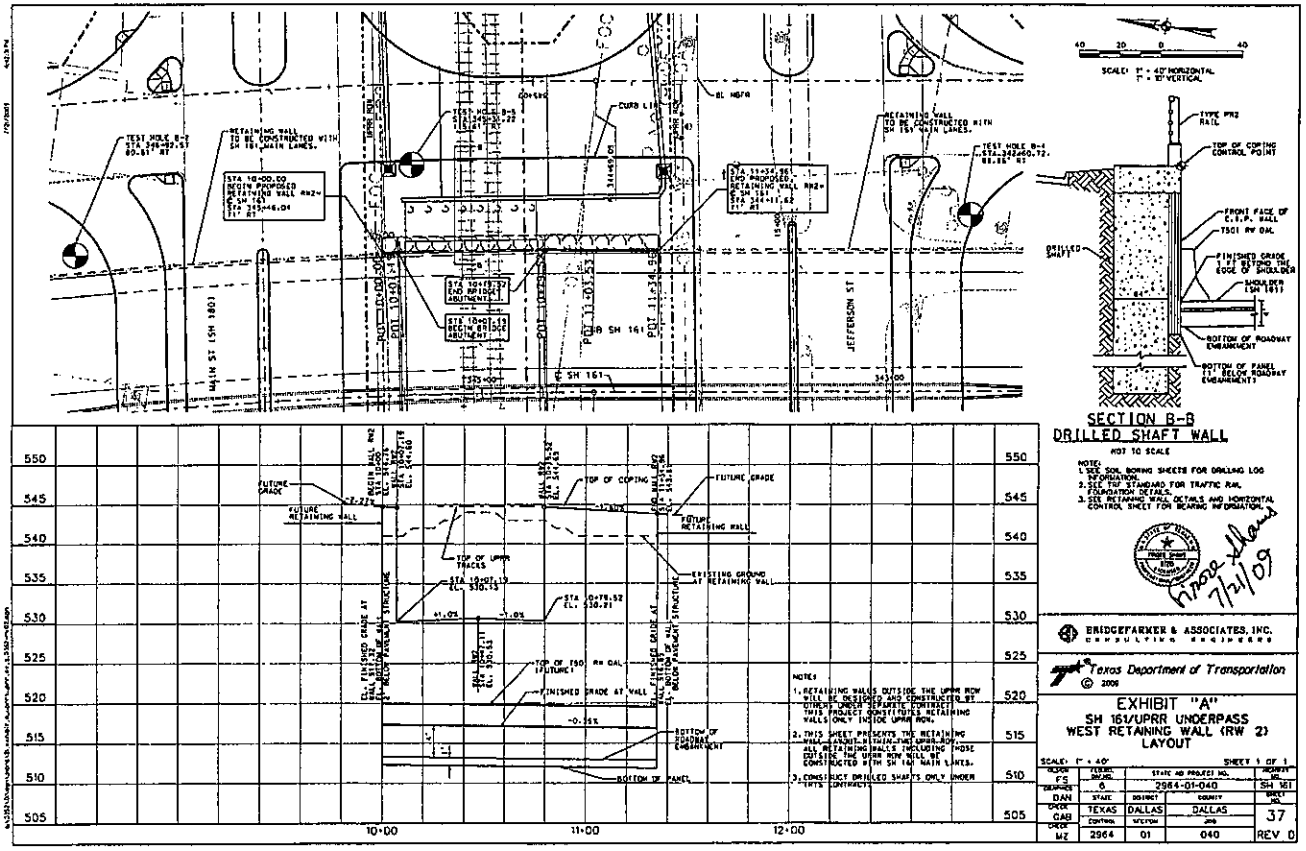
EXHIBIT "A"
PROPOSED NBFR
RAILROAD CROSSING &
SIGNAL LAYOUT
DALLAS SUBDIVISION
SHEET 1 OF 3
2964-01-040
TEXAS
DALLAS
DALLAS
35
REV 0


JEFFERSON ST
MAIN ST (SH 180)
SECTION A-A
DRILLED SHAFT WALL
NOT TO SCALE
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Texas Department of Transportation
EXHIBIT "A"
SH 161/UPRR UNDERPASS
WEST RETAINING WALL (RW 1)
LAYOUT
SHEET 1 OF 1
TEXAS
DALLAS
DALLAS
2964
01
040
36
REV 0


SECTION B-B
DRILLED SHAFT WALL
NOT TO SCALE
NOTE:
1. SEE SOIL BORING SHEETS FOR DRILLING LOG INFORMATION.
2. SEE TRF STANDARD FOR TRAFFIC RAIL FOUNDATION DETAILS.
3. SEE RETAINING WALL DETAILS AND HORIZONTAL CONTROL SHEET FOR BEARING INFORMATION.
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CONSULTING ENGINEERS
Texas Department of Transportation
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EXHIBIT "A"
SH 161/UPRR UNDERPASS
WEST RETAINING WALL (RW 2)
LAYOUT
SCALE: 1" = 40'
SHEET 1 OF 1
FS
6
2964-01-040
SH 161
DAN
TEXAS
DALLAS
DALLAS
37
GAB
MZ
2964
01
040
REV 0
NOTES
1. RETAINING WALLS OUTSIDE THE UPRR ROW WILL BE DESIGNED AND CONSTRUCTED BY OTHERS UNDER SEPARATE CONTRACT. THIS PROJECT CONSTITUTES RETAINING WALLS ONLY INSIDE UPRR ROW.
2. THIS SHEET PRESENTS THE RETAINING WALL LAYOUT WITHIN THE UPRR ROW. ALL RETAINING WALLS INCLUDING THOSE OUTSIDE THE UPRR ROW WILL BE CONSTRUCTED WITH SH 161 MAIN LANES.
3. CONSTRUCT DRILLED SHAFTS ONLY UNDER THIS CONTRACT.
MAIN ST (SH 180)
JEFFERSON ST
SH 161
10+00
11+00
12+00
550
545
540
535
530
525
520
515
510
505

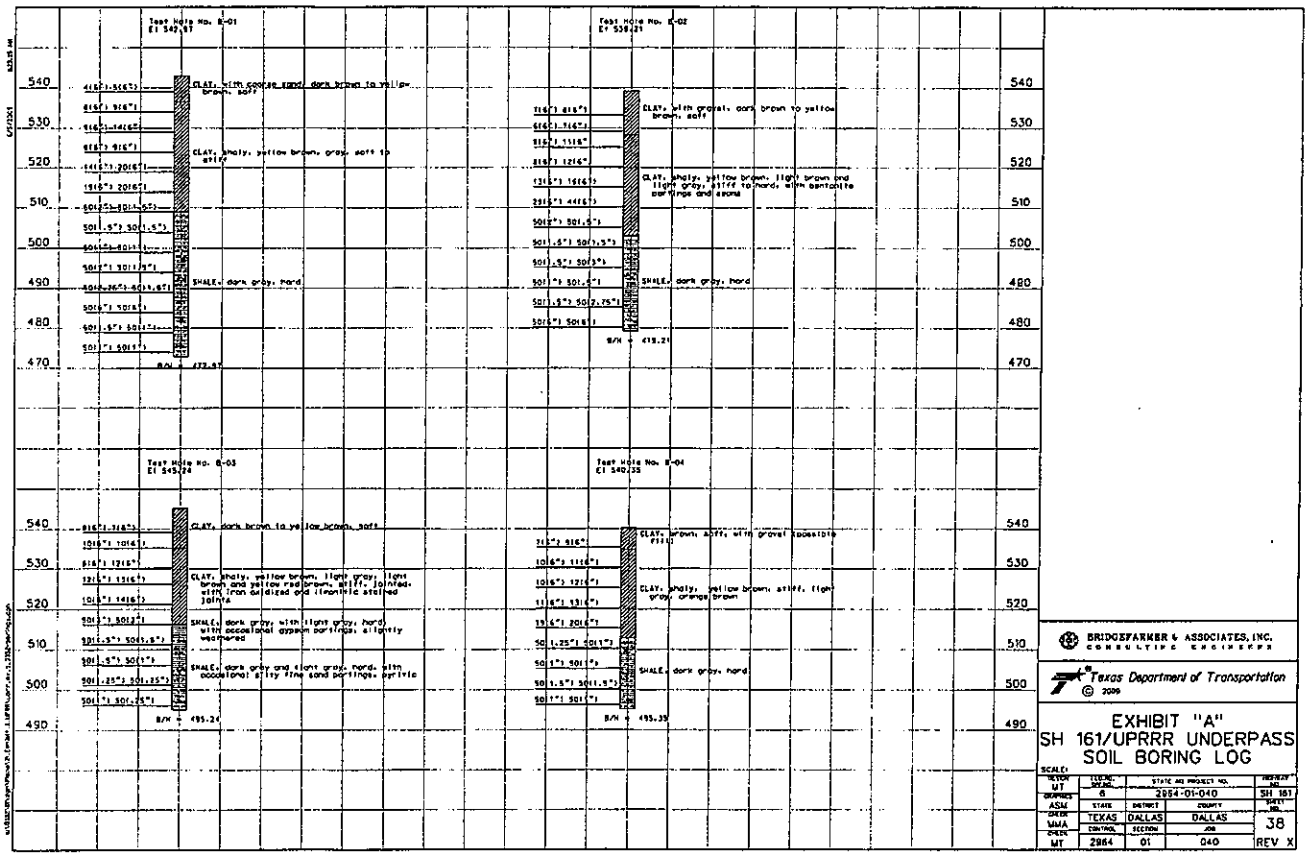
Test Hole No. B-01
Test Hole No. B-02
Test Hole No. B-03
Test Hole No. B-04
CLAY, with coarse sand, dark brown to yellow brown, soft
CLAY, shaly, yellow brown, gray, soft to stiff
SHALE, dark gray, hard
CLAY, with gravel, dark brown to yellow brown, soft
CLAY, shaly, yellow brown, light brown and light gray, stiff to hard, with bentonite partings and seams
CLAY, dark brown to yellow brown, soft
CLAY, shaly, yellow brown, light gray, light brown and yellow red brown, stiff, jointed, with iron oxidized and limonitic stained joints
SHALE, dark gray, with light gray, hard, with occasional gypsum partings, slightly weathered
SHALE, dark gray and light gray, hard, with occasional silty fine sand partings, pyritic
CLAY, brown, soft, with gravel (possible fill)
CLAY, shaly, yellow brown, stiff, light gray, orange brown
SHALE, dark gray, hard
540
530
520
510
500
490
480
470
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EXHIBIT "A"
SH 161/UPRRR UNDERPASS
SOIL BORING LOG
SCALE:
REVISION MT
CLIENT NO. 6
STATE AID PROJECT NO. 2964-01-040
HIGHWAY NO. SH 161
GRAPHICS ASM
STATE TEXAS
DISTRICT DALLAS
COUNTY DALLAS
SHEET NO. 38
CHECK MMA
CONTROL 2964
SECTION 01
JOB 040
REV X
CHECK MT

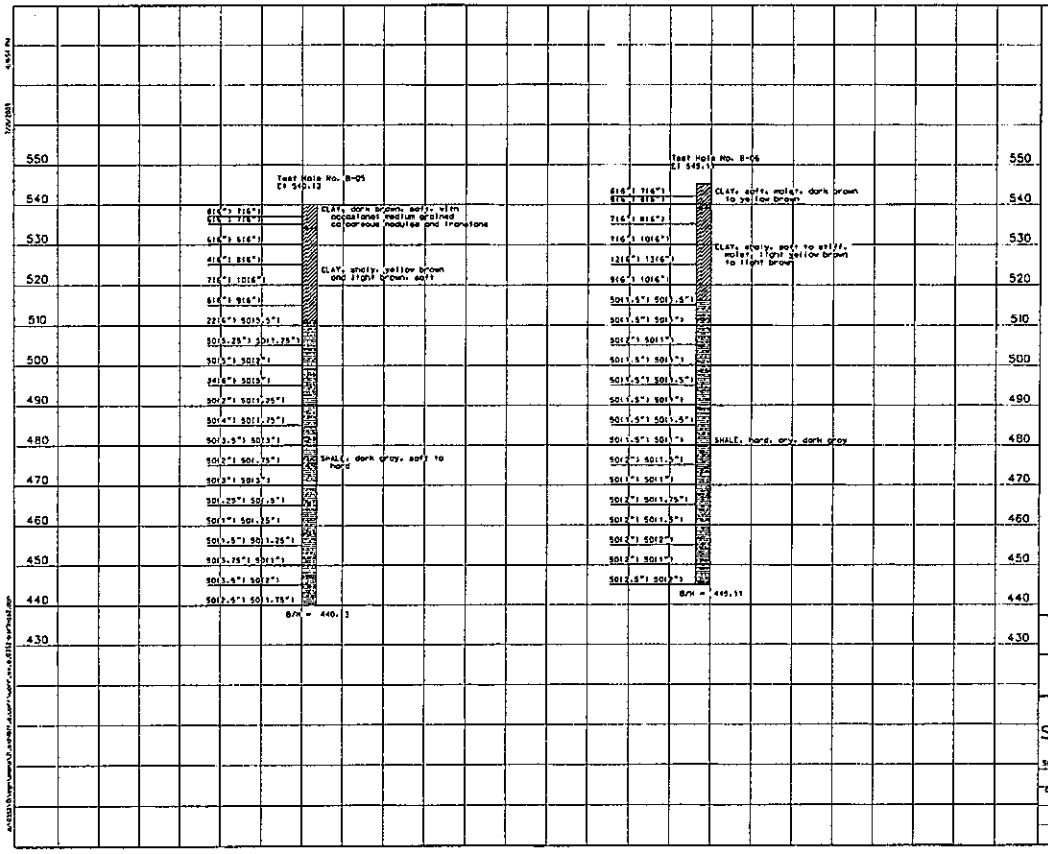

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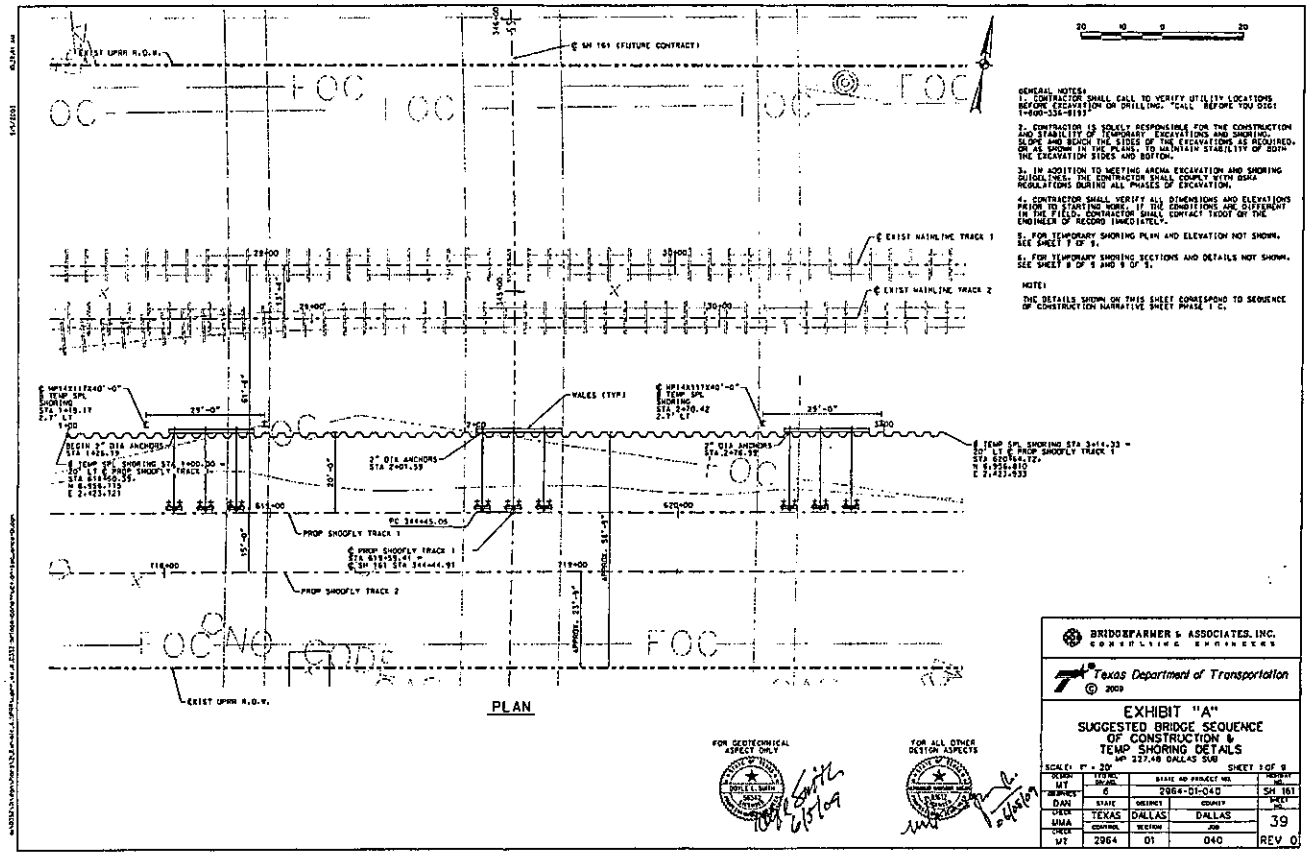
EXHIBIT "A"
SH 161/UPRRR UNDERPASS
SOIL BORING LOG

SCALE: SHEET 2 OF 3

DESIGN MT	FED. RD. DIV.	STATE RD PROJECT NO.		HIGHWAY NO.
DRAWN ASM	6	2964-01-040		SH 161
	STATE	DISTRICT	COUNTY	SHEET NO.
CHECK MMA	TEXAS	DALLAS	DALLAS	38A
	CONTROL	SECTION	JOB	
CHECK MT	2964	01	040	REV X



EXIST UPRR R.O.W.
℄ SH 161 (FUTURE CONTRACT)
℄ EXIST MAINLINE TRACK 1
℄ EXIST MAINLINE TRACK 2
WALES (TYP)
PROP SHOOFLY TRACK 1
PROP SHOOFLY TRACK 2
EXIST UPRR R.O.W.
PLAN
GENERAL NOTES:
1. CONTRACTOR SHALL CALL TO VERIFY UTILITY LOCATIONS BEFORE EXCAVATION OR DRILLING. "CALL BEFORE YOU DIG! 1-800-336-8193"
2. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CONSTRUCTION AND STABILITY OF TEMPORARY EXCAVATIONS AND SHORING. SLOPE AND BENCH THE SIDES OF THE EXCAVATIONS AS REQUIRED, OR AS SHOWN IN THE PLANS, TO MAINTAIN STABILITY OF BOTH THE EXCAVATION SIDES AND BOTTOM.
3. IN ADDITION TO MEETING ARCHA EXCAVATION AND SHORING GUIDELINES, THE CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS DURING ALL PHASES OF EXCAVATION.
4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO STARTING WORK. IF THE CONDITIONS ARE DIFFERENT IN THE FIELD, CONTRACTOR SHALL CONTACT TXDOT OR THE ENGINEER OF RECORD IMMEDIATELY.
5. FOR TEMPORARY SHORING PLAN AND ELEVATION NOT SHOWN, SEE SHEET 7 OF 9.
6. FOR TEMPORARY SHORING SECTIONS AND DETAILS NOT SHOWN, SEE SHEET 8 OF 9 AND 9 OF 9.
NOTE:
THE DETAILS SHOWN ON THIS SHEET CORRESPOND TO SEQUENCE OF CONSTRUCTION NARRATIVE SHEET PHASE 1 C.
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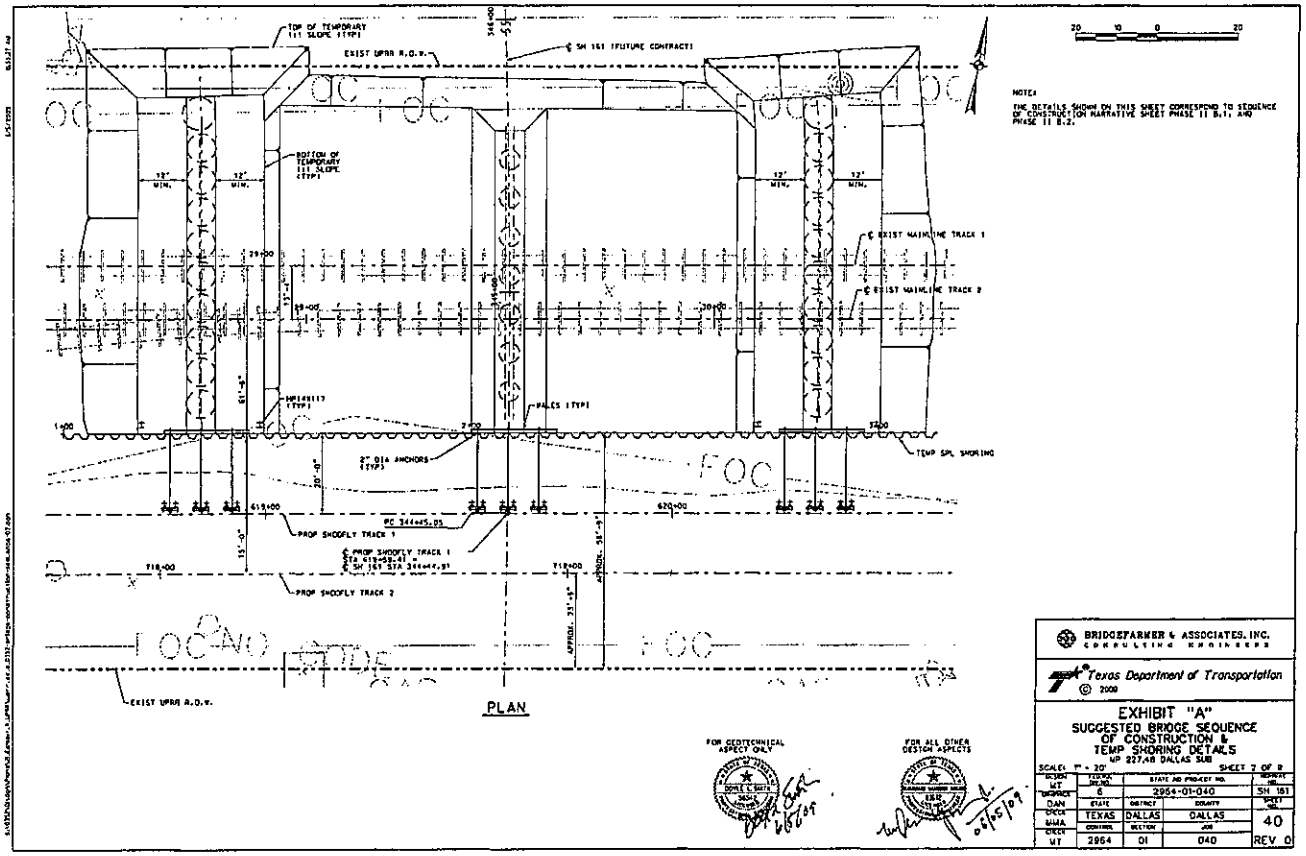
EXHIBIT "A"
SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS
MP 227.48 DALLAS SUB
SCALE: 1" = 20'
SHEET 1 OF 9
FOR GEOTECHNICAL ASPECT ONLY
FOR ALL OTHER DESIGN ASPECTS
DESIGN MT
DRAWN DAN
CHECK MMA
CHECK MT
6
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
39
2964
01
040
REV 0



TOP OF TEMPORARY 111 SLOPE (TYP)
EXIST UPRR R.O.W.
℄ SH 161 (FUTURE CONTRACT)
BOTTOM OF TEMPORARY 111 SLOPE (TYP)
12' MIN.
℄ EXIST MAINLINE TRACK 1
℄ EXIST MAINLINE TRACK 2
HP14X117 (TYP)
PALES (TYP)
2" DIA ANCHORS (TYP)
TEMP SPL SHORING
PROP SHOOFLY TRACK 1
PC 344+45.05
℄ PROP SHOOFLY TRACK 1
℄ SH 161 STA 344+44.91
PROP SHOOFLY TRACK 2
EXIST UPRR R.O.W.
PLAN
NOTE:
THE DETAILS SHOWN ON THIS SHEET CORRESPOND TO SEQUENCE OF CONSTRUCTION NARRATIVE SHEET PHASE II B.1, AND PHASE II B.2.
FOR GEOTECHNICAL ASPECT ONLY
FOR ALL OTHER DESIGN ASPECTS
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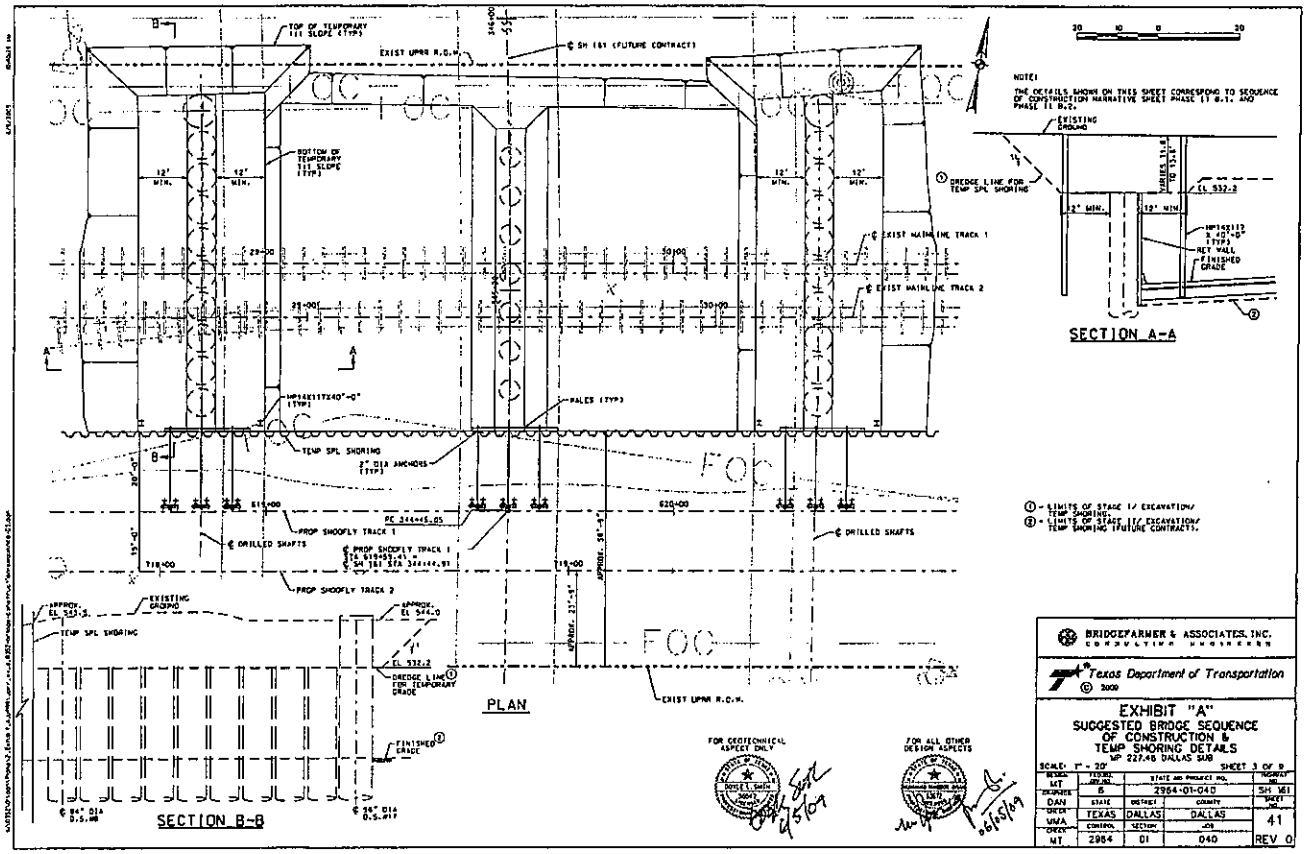
EXHIBIT "A"
SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS
MP 227.48 DALLAS SUB
SCALE: 1" = 20'
SHEET 2 OF 8
6
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
40
2964
01
040
REV 0


PLAN
SECTION A-A
SECTION B-B
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CONSULTING ENGINEERS
Texas Department of Transportation
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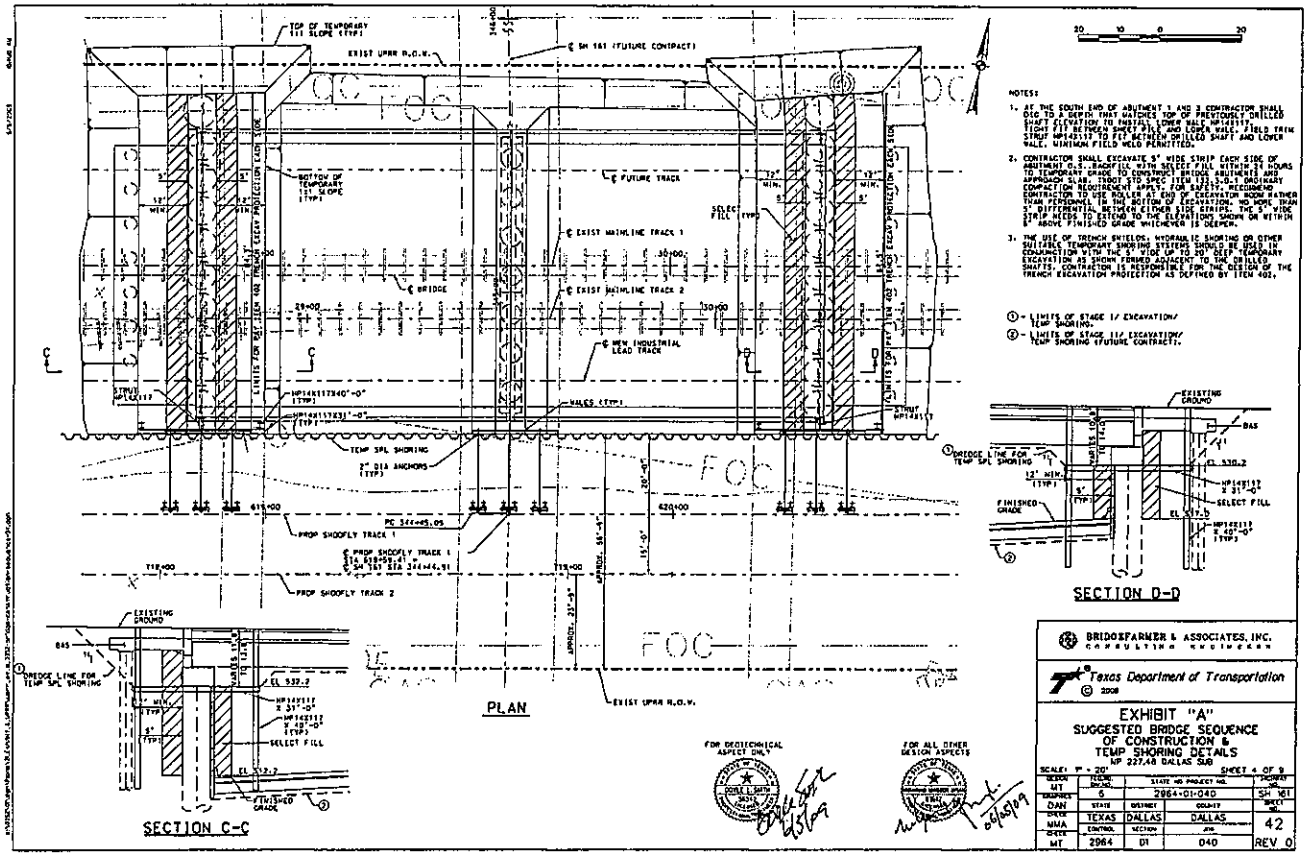
EXHIBIT "A"
SUGGESTED BRIDGE SEQUENCE
OF CONSTRUCTION &
TEMP SHORING DETAILS
MP 227.46 DALLAS SUB
SCALE: 1" = 20'
SHEET 3 OF 9
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
41
2964
01
040
REV 0
FOR GEOTECHNICAL ASPECT ONLY
FOR ALL OTHER DESIGN ASPECTS


PLAN
SECTION C-C
SECTION D-D
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CONSULTING ENGINEERS
Texas Department of Transportation
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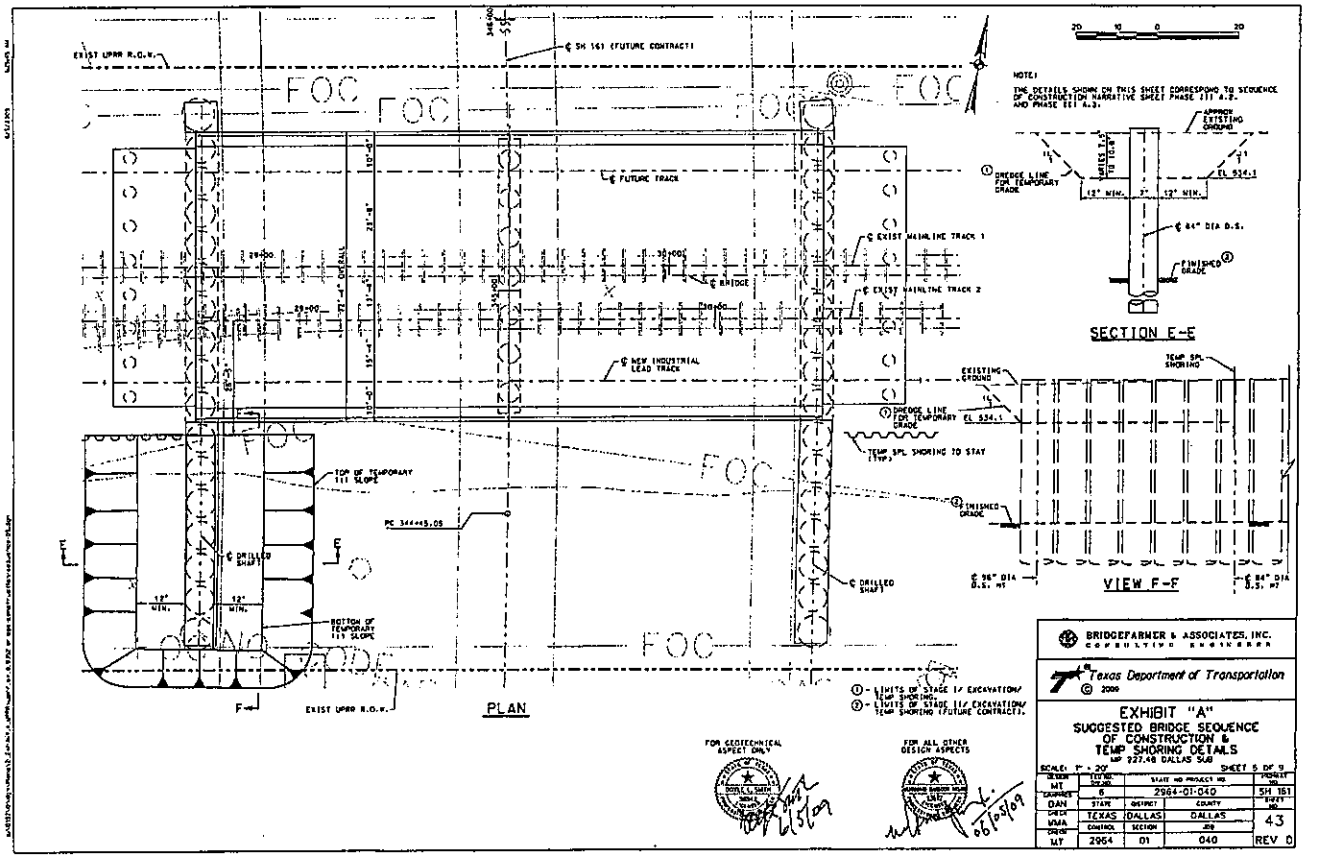
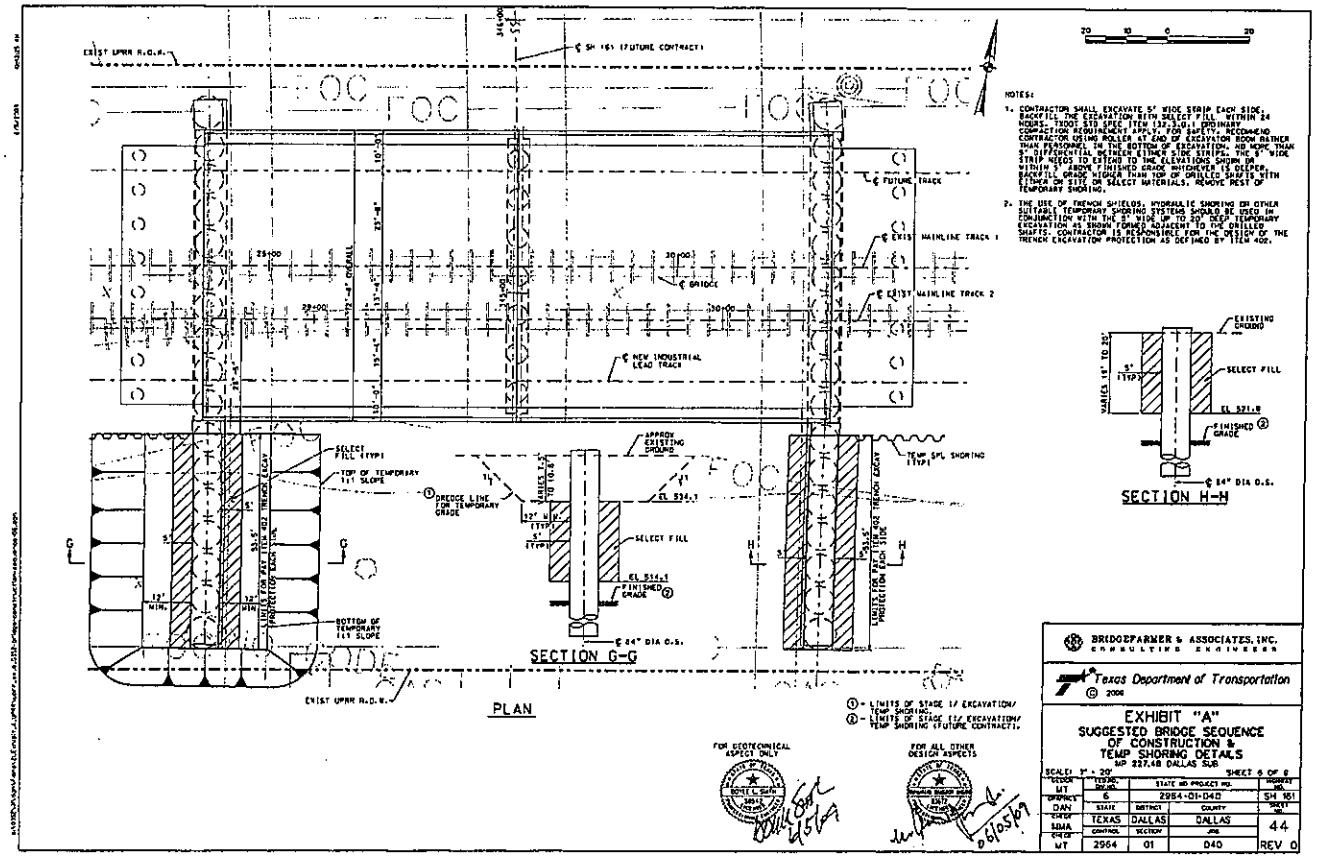
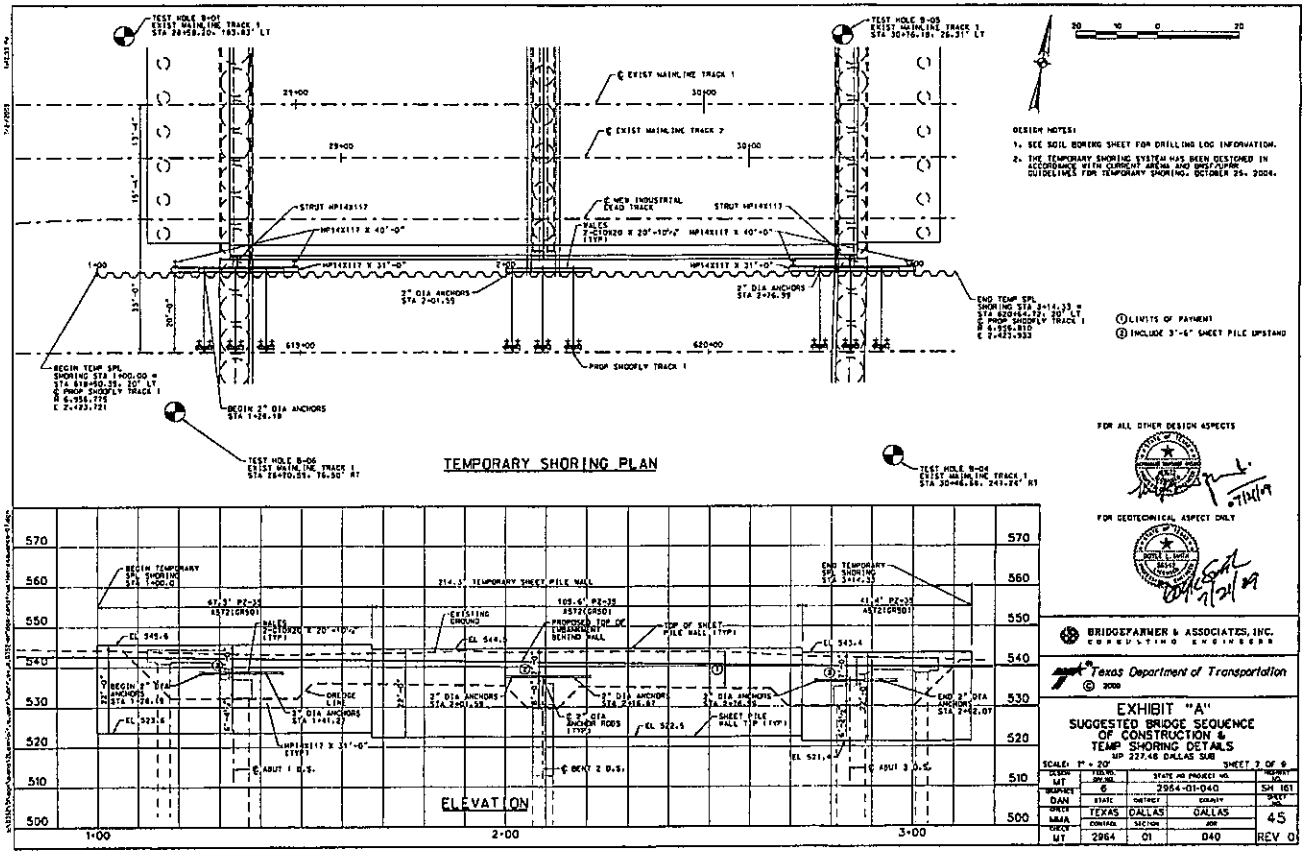
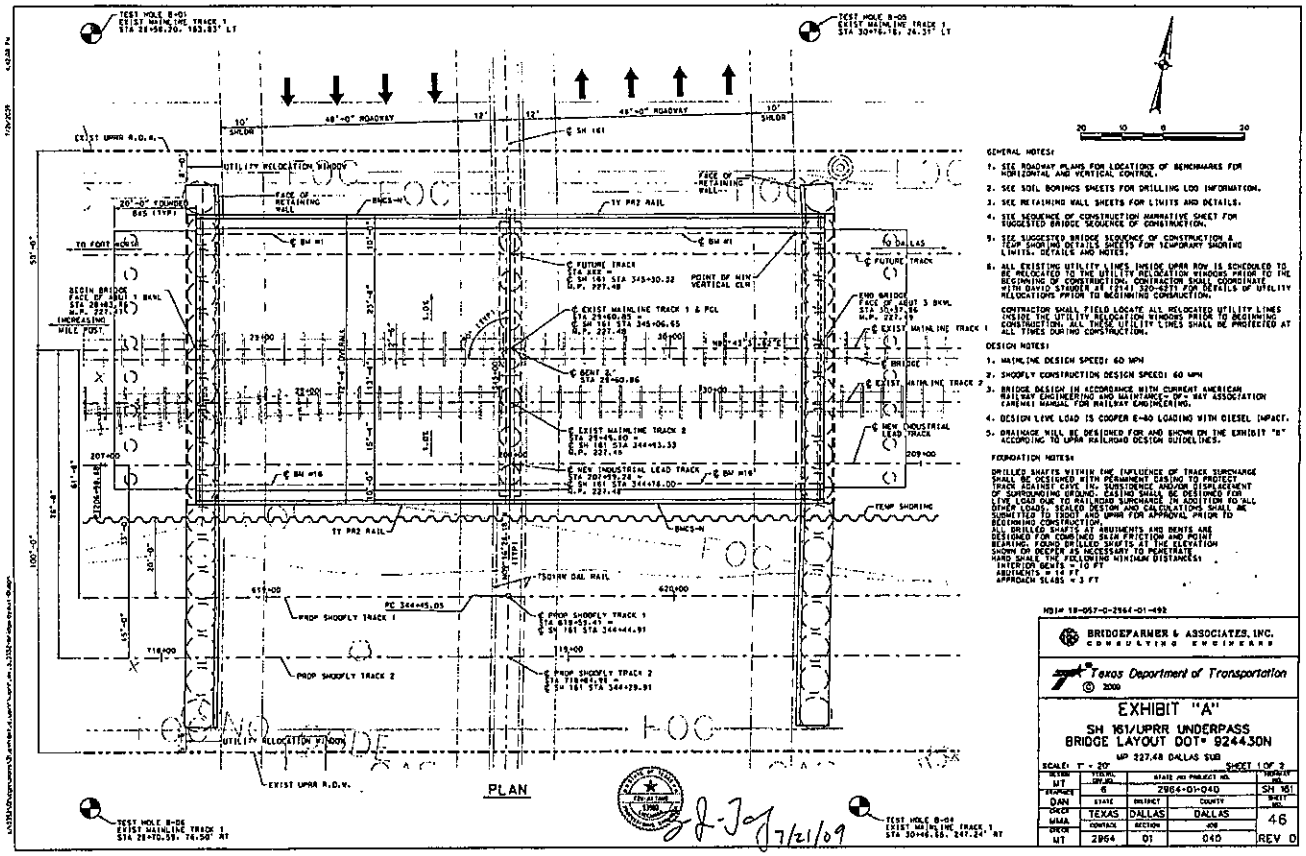
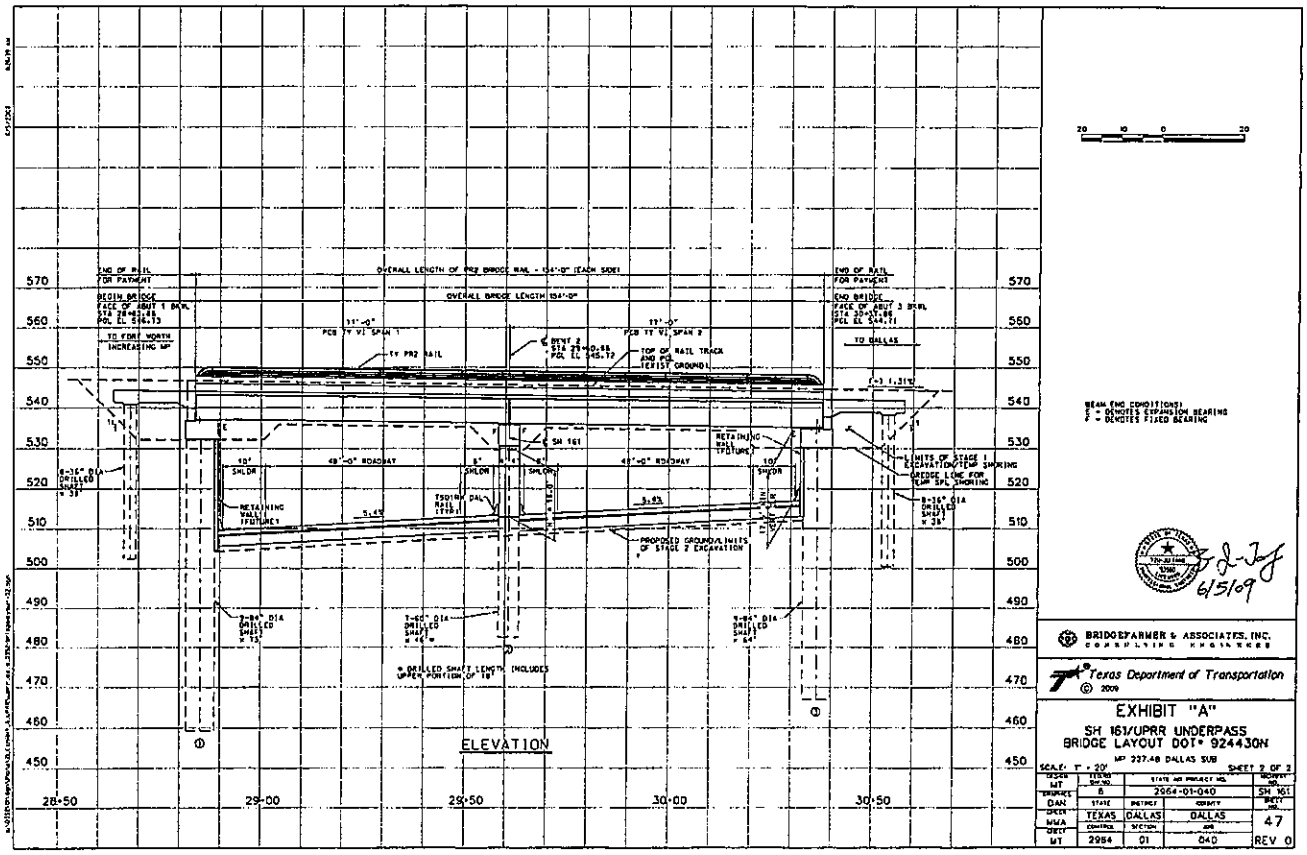
EXHIBIT "A"
SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS
MP 227.48 DALLAS SUB
SCALE: 1" = 20'
SHEET 4 OF 9
FOR GEOTECHNICAL ASPECT ONLY
FOR ALL OTHER DESIGN ASPECTS
2964-01-040
TEXAS
DALLAS
DALLAS
2964
01
040
SH 161
42
REV 0


PLAN
SECTION E-E
VIEW F-F
BRIDGEFARMER & ASSOCIATES, INC.
Texas Department of Transportation
EXHIBIT "A"
SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS
2964-01-040
DALLAS
43
REV 0


PLAN
SECTION G-G
SECTION H-H
NOTES:
1. CONTRACTOR SHALL EXCAVATE 5' WIDE STRIP EACH SIDE, BACKFILL THE EXCAVATION WITH SELECT FILL WITHIN 24 HOURS. (TXDOT STD SPEC ITEM 132.3.6.1 ORDINARY COMPACTION REQUIREMENT APPLY). FOR SAFETY, RECOMMEND CONTRACTOR USING ROLLER AT END OF EXCAVATION ROOM RATHER THAN PERSONNEL IN THE BOTTOM OF EXCAVATION. NO MORE THAN 5" DIFFERENTIAL BETWEEN EITHER SIDE STRIPS. THE 5' WIDE STRIP NEEDS TO EXTEND TO THE ELEVATIONS SHOWN OR WITHIN 1' ABOVE FINISHED GRADE WHICHEVER IS DEEPER. BACKFILL GRADE HIGHER THAN TOP OF DRILLED SHAFTS WITH EITHER ON SITE OR SELECT MATERIALS. REMOVE REST OF TEMPORARY SHORING.
2. THE USE OF TRENCH SHIELDS, HYDRAULIC SHORING OR OTHER SUITABLE TEMPORARY SHORING SYSTEMS SHOULD BE USED IN CONJUNCTION WITH THE 5' WIDE UP TO 20' DEEP TEMPORARY EXCAVATION AS SHOWN FORMED ADJACENT TO THE DRILLED SHAFTS. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE TRENCH EXCAVATION PROTECTION AS DEFINED BY ITEM 402.
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Texas Department of Transportation
© 2006
EXHIBIT "A"
SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS
MP 227.48 DALLAS SUB
SCALE: 1" = 20'
SHEET 6 OF 6
FOR GEOTECHNICAL ASPECT ONLY
FOR ALL OTHER DESIGN ASPECTS
STATE HD PROJECT NO.
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
44
2964
01
040
REV 0


TEMPORARY SHORING PLAN
ELEVATION
DESIGN NOTES:
1. SEE SOIL BORING SHEET FOR DRILLING LOG INFORMATION.
2. THE TEMPORARY SHORING SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT ARENA AND BRSF/UPRR GUIDELINES FOR TEMPORARY SHORING. OCTOBER 25, 2004.
① LIMITS OF PAYMENT
② INCLUDE 3'-6" SHEET PILE UPSTAND
FOR ALL OTHER DESIGN ASPECTS
FOR GEOTECHNICAL ASPECT ONLY
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Texas Department of Transportation
© 2009
EXHIBIT "A"
SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS
MP 227.46 DALLAS SUB
SCALE: 1" = 20'
SHEET 2 OF 9
DESIGN MT
FED. RD. DIV. NO. 6
STATE HQ PROJECT NO. 2964-01-040
HIGHWAY NO. SH 161
DRAWN DAN
STATE TEXAS
DISTRICT DALLAS
COUNTY DALLAS
SHEET NO. 45
CHECK MMA
CONTROL 2964
SECTION 01
JOB 040
REV 0
CHECK MT


PLAN
GENERAL NOTES:
1. SEE ROADWAY PLANS FOR LOCATIONS OF BENCHMARKS FOR HORIZONTAL AND VERTICAL CONTROL.
2. SEE SOIL BORINGS SHEETS FOR DRILLING LOG INFORMATION.
3. SEE RETAINING WALL SHEETS FOR LIMITS AND DETAILS.
4. SEE SEQUENCE OF CONSTRUCTION NARRATIVE SHEET FOR SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION.
5. SEE SUGGESTED BRIDGE SEQUENCE OF CONSTRUCTION & TEMP SHORING DETAILS SHEETS FOR TEMPORARY SHORING LIMITS, DETAILS AND NOTES.
6. ALL EXISTING UTILITY LINES INSIDE UPRR ROW IS SCHEDULED TO BE RELOCATED TO THE UTILITY RELOCATION WINDOWS PRIOR TO THE BEGINNING OF CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH DAVID STANDER AT (214) 320-6271 FOR DETAILS OF UTILITY RELOCATIONS PRIOR TO BEGINNING CONSTRUCTION.
CONTRACTOR SHALL FIELD LOCATE ALL RELOCATED UTILITY LINES INSIDE THE UTILITY RELOCATION WINDOWS PRIOR TO BEGINNING CONSTRUCTION. ALL THESE UTILITY LINES SHALL BE PROTECTED AT ALL TIMES DURING CONSTRUCTION.
DESIGN NOTES:
1. MAINLINE DESIGN SPEED: 60 MPH
2. SHOOFLY CONSTRUCTION DESIGN SPEED: 60 MPH
3. BRIDGE DESIGN IN ACCORDANCE WITH CURRENT AMERICAN RAILWAY ENGINEERING AND MAINTANCE-OF-WAY ASSOCIATION (AREMA) MANUAL FOR RAILWAY ENGINEERING.
4. DESIGN LIVE LOAD IS COOPER E-80 LOADING WITH DIESEL IMPACT.
5. DRAINAGE WILL BE DESIGNED FOR AND SHOWN ON THE EXHIBIT "B" ACCORDING TO UPRR RAILROAD DESIGN GUIDELINES.
FOUNDATION NOTES:
DRILLED SHAFTS WITHIN THE INFLUENCE OF TRACK SURCHARGE SHALL BE DESIGNED WITH PERMANENT CASING TO PROTECT TRACK AGAINST CAVE IN, SUBSIDENCE AND/OR DISPLACEMENT OF SURROUNDING GROUND. CASING SHALL BE DESIGNED FOR LIVE LOAD DUE TO RAILROAD SURCHARGE IN ADDITION TO ALL OTHER LOADS. SEALED DESIGN AND CALCULATIONS SHALL BE SUBMITTED TO TRDOT AND UPRR FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
ALL DRILLED SHAFTS AT ABUTMENTS AND BENTS ARE DESIGNED FOR COMBINED SIDE FRICTION AND POINT BEARING. FOUND DRILLED SHAFTS AT THE ELEVATION SHOWN OR DEEPER AS NECESSARY TO PENETRATE HARD SHALE THE FOLLOWING MINIMUM DISTANCES:
INTERIOR BENTS = 10 FT
ABUTMENTS = 16 FT
APPROACH SLABS = 3 FT
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Texas Department of Transportation
© 2000
EXHIBIT "A"
SH 161/UPRR UNDERPASS
BRIDGE LAYOUT DOT# 924430N
UP 227.48 DALLAS SUB
SCALE: 1" = 20'
SHEET 1 OF 2
MT
6
2964-01-040
SH 161
DAN
TEXAS
DALLAS
DALLAS
46
MT
2964
01
040
REV 0
7/21/09


ELEVATION
BRIDGEFARMER & ASSOCIATES, INC.
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Texas Department of Transportation
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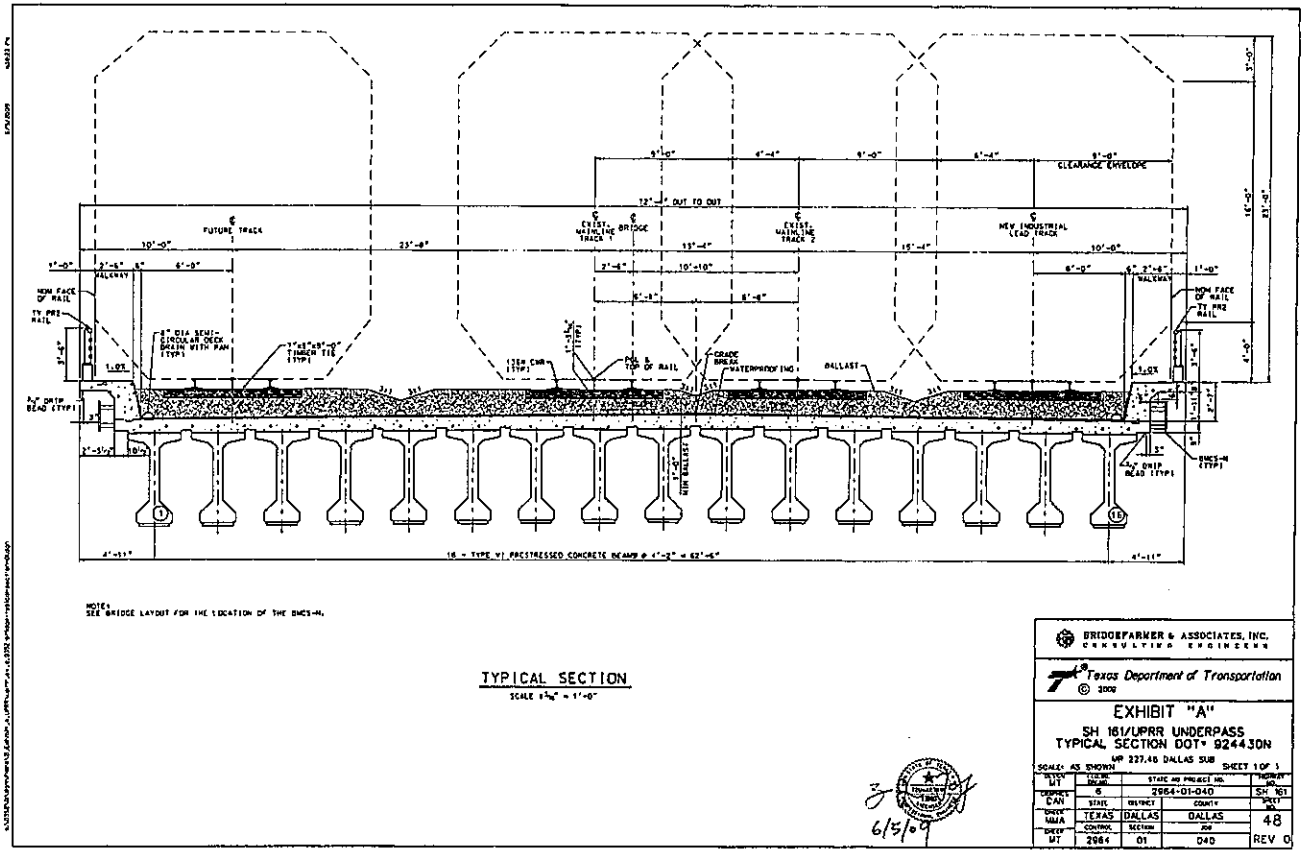
EXHIBIT "A"
SH 161/UPRR UNDERPASS
BRIDGE LAYOUT DOT# 924430N
MP 237.48 DALLAS SUB
SCALE: 1" = 20'
SHEET 2 OF 2
2064-01-040
SH 161
TEXAS
DALLAS
DALLAS
47
2964
01
040
REV 0
6/5/09



FUTURE TRACK
EXIST. MAINLINE TRACK 1
BRIDGE
EXIST. MAINLINE TRACK 2
NEW INDUSTRIAL LEAD TRACK
CLEARANCE ENVELOPE
12'-0" OUT TO OUT
WALKWAY
NOM FACE OF RAIL
TY PR2 RAIL
GRADE BREAK
WATERPROOFING
BALLAST
16 - TYPE VI PRESTRESSED CONCRETE BEAMS @ 4'-2" = 62'-6"
NOTE:
SEE BRIDGE LAYOUT FOR THE LOCATION OF THE BMCS-N.
TYPICAL SECTION
BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Texas Department of Transportation
© 2009
EXHIBIT "A"
SH 161/UPRR UNDERPASS
TYPICAL SECTION DOT# 92443DN
MP 227.46 DALLAS SUB
SCALE: AS SHOWN
SHEET 1 OF 1
STATE AND PROJECT NO.
2964-01-040
SH 161
TEXAS
DALLAS
DALLAS
48
2964
01
040
REV 0
6/5/09

EXHIBIT B

RAILROAD COORDINATION REQUIREMENTS

1.01 DEFINITIONS

Agreement:	The Highway Underpass and New At-Grade Crossing Railroad License and Force Account Agreement that has been signed, or will be signed, between Railroad, State, NTTA and City.
AREMA:	American Railway Engineering and Maintenance-of-way Association.
City:	City of Grand Prairie.
Contractor:	The contractor or contractors hired by the NTTA, State or City to perform any project work on any portion of Railroad's property and shall also include the Contractor's subcontractors and the Contractor's and subcontractor's respective employees, officers and agents, and others acting under its or their authority.
MUTCD:	Manual on Uniform Traffic Control Devices.
NTTA:	North Texas Tollway Authority.
Project:	Extension and construction of State Highway 161 (SH 161) across the Railroad's rail line at DOT No. 924 430N (Railroad Milepost 227.51) in Grand Prairie Dallas County, Texas by constructing (i) a new highway-underpass structure, (ii) two (2) dedicated one-way frontage-road at-grade crossings with active warning devices to accommodate local traffic at Railroad Milepost 227.54, new DOT No. 924 108M (SH 161 Southbound Frontage Road), and Railroad Milepost 227.48, new DOT No. 924 109U (SH 161 Northbound Frontage Road), and (iii) tolled main lanes underneath the highway-underpass structure.
Project Partners:	The City, the NTTA, and the State
Railroad:	Union Pacific Railroad Company.
Railroad Project Representative:	Railroad's Manager of Industry and Public Projects for this Project (see Section 1.03) .
Railroad MTM Representative:	Railroad's Manager of Track Maintenance for this Project (see Section 1.03) .
Requirements:	The Railroad Coordination Requirements set forth in this Exhibit.
State:	State of Texas, acting by and through the Texas Department of Transportation.

1.02 DESCRIPTION

This Project includes construction work within Railroad's right-of-way. These Requirements describe coordination with the Railroad when work by a Project Partner or a Contractor will be performed upon, over or under the Railroad right-of-way or may impact current or future Railroad operations. Each Contractor will coordinate with the Railroad while performing the work outlined in this Agreement and shall afford the same cooperation with the Railroad as it does with the NTTA, State or City, as applicable. All submittals and work shall be completed in compliance with these Requirements, the Railroad guidelines and requirements previously submitted to the NTTA, the AREMA recommendations and/or as directed by the Railroad Local Representative and/or the Railroad MTM Representative consistent with the terms of the Agreement, the Exhibits thereto and the Final Plans and Specifications, and the BNSF and UPRR Guidelines for Railroad Grade Separation Projects.

1.03 UPRR CONTACTS

The Railroad Project Representative for this project is:

Steve Martchenke
Manager of Industry & Public Projects
Union Pacific Railroad Company
101 South Watson Road
Arlington, Texas 76010
817-353-7625
swmartch@up.com

For Railroad flagging services and track work, contact the following Railroad MTM Representative:

Gerald Usher
Manager of Track Maintenance
Union Pacific Railroad Company
9211 Forney Road
Dallas, Texas 75227
214-413-3412
gausher@up.com

1.04 PLANS / SPECIFICATIONS

The State has prepared Final Plans and Specifications for the proposed Project. Said Final Plans and Specifications, having been reviewed and approved by the Railroad and reviewed and approved by the NTTA and the City (provided that such approval by the Railroad, the NTTA, and the City is made without assumption of responsibility or liability for such Final Plans and Specifications or a waiver of any claims by reasons of any errors or omissions therein), are hereby adopted as the Final Plans and Specifications. No changes to said Final Plans and Specifications attached to the Agreement as Exhibit A (including, without limitation, those pertaining to the frontage roads or the tolled main lanes) shall be made without the written approval of such changes by the State, the NTTA, the City and the Railroad. The Railroad's review and approval of the Final Plans and Specifications in no way relieves the NTTA, State, City or Contractor from their responsibilities, obligations and/or liabilities under the Agreement, NTTA's agreement with the Contractor for the Project and/or in the separate Contractor's Right of Entry Agreement referenced in Section 1.08. Railroad's approval has been given with the understanding that the Railroad makes no representations or warranty as to the validity, accuracy, legal compliance or completeness of the Final Plans and Specifications and that any reliance by the NTTA, State, City or the Contractor with respect to such plans is at the risk of the NTTA, State, City and the Contractor.

1.05 UTILITIES AND FIBER OPTICS

A. All installations shall be constructed in accordance with current AREMA recommendations and Railroad specifications and requirements. Railroad general guidelines and the required application forms for utility installations can be found on the Railroad website at http://www.uprr.com/reus/pipeline/install.shtml.

B. It shall be the responsibility of a Project Partner or its Contractor, at its expense, to make arrangements directly with utility companies involving the protection, encasement, reinforcement, relocation, replacement, removing or abandonment in place of non- railroad facilities affected by the Project. Railroad has no obligation to supply additional Railroad property for non-railroad facilities affected by this Project, nor does the Railroad have any obligation to permit non-railroad facilities to be abandoned in place or relocated on Railroad's property. Any facility and/or utility that crosses Railroad right of way must be covered under an agreement with the Railroad including, without limitation, any relocations of an existing facility and/or utility.

C. Any fiber optic relocations or protections that are required due to this Project will be at the NTTA's expense.

1.06 GENERAL

A. It is essential that the proposed construction shall be performed in compliance with all applicable Railroad and Federal Railroad Administration rules and regulations without interference to Railroad operations, except as provided in Section 2.a., 2.c and 2.g of the Agreement, which state as follows:

a. The State, the NTTA, the City, and the Railroad agree to perform the work as outlined in Exhibit A, and as detailed in the approved Final Plans and Specifications attached hereto as Exhibit A, subject to Sections 6 and 17.d. Each of the State, the NTTA, and the City agree that it shall perform all work required to be performed by it hereunder, and shall cause its Contractors to perform all work required to be performed by it hereunder, in compliance with the "Railroad

Coordination Requirements" attached hereto as Exhibit B and made part hereof, and that all work relating to the temporary and permanent track alignment of the Industrial Lead (as so identified in the Final Plans and Specifications) will be performed in such a way as to provide continuous rail service notwithstanding anything contained in modifications to the Project Timeline (as described in Section 2.3) except as follows: (i) any interruption associated with the track tie-ins to be performed by the Railroad pursuant to Section 2.e. and (ii) the State, the NTTA, and the City agree to limit Railroad service interruptions on the industry track to no more than forty-eight (48) hours at times and dates approved by the Railroad in advance; additionally, the State, the NTTA and the City will be accorded no more than six (6) such interruptions, with a minimum of five (5) calendar days between interruptions. In the event of a conflict between Exhibit A and the other terms and conditions of this Agreement respecting prior notice to the Railroad regarding either initial Railroad mobilization or flagging, the terms and conditions of this Agreement shall govern. The State, the NTTA, the City and Railroad agree to collaborate to coordinate their respective activities in advance and to exchange and share construction and delivery scheduling and other pertinent information, to best effectuate the industry track interruptions as provided in clause (ii).

* * *

e. The NTTA will provide the necessary materials and be responsible for the construction of the temporary shoofly track(s) in a timely manner consistent with a Project Timeline to be agreed to by all parties to this Agreement pursuant to Section 2.k. prior to the entry of any of the State, the NTTA or the City upon the Railroad's property (the "Project Timeline." All references to the Project Timeline shall be deemed to refer to the Project Timeline agreed upon by all parties to this Agreement pursuant to Section 2.k prior to the entry of the State, the NTTA, or the City upon the Railroad's property, as the same may be modified by the State, the NTTA or the City from time to time subject to prior notice to, review by, and consultation with the Railroad.) Said track work shall be constructed according to Railroad standards and specifications as shown in Exhibit A. All track and material required for the Project shall meet Railroad specifications previously provided the NTTA. All mainline and shoofly tracks shall be constructed with new 136# Continuous Welded Rail (CWR) and the NTTA and/or its Contractor shall afford the Railroad the opportunity to inspect the track prior to installation. The Railroad, at the NTTA's expense, will perform the track tie-ins required at the connections of the main track and the temporary shoofly track(s) in a timely manner consistent with the Project Timeline. The NTTA will provide the materials and be responsible for the construction of the new main tracks and new industry track lead across the bridge structure. The Railroad, at the NTTA's expense, will perform the track tie-ins required to the existing main tracks in a timely manner consistent with the Project Timeline. The Railroad, at the NTTA's expense, will perform tie-in between the shoofly and existing industry lead track in a timely manner consistent with the Project Timeline. The Railroad, at the NTTA's expense, will perform tie-in between temporary industry track alignment and track constructed by NTTA across bridge structure. The Railroad reserves the right to inspect all aspects of the Project construction on Railroad property at any time during the course

of the Project, provided that all such inspections shall be conducted so as not to unreasonably interfere with the NTTA's or the Contractor's construction activities (provided that the foregoing shall not limit the right of the Railroad's Representatives to direct the Contractor to stop work or take other action to ensure safety or to protect the Railroad's property and operations, as elsewhere provided in this Agreement).

* * *

g. The NTTA shall construct the highway-underpass structure(s) as detailed in the approved Final Plans and Specifications attached hereto as Exhibit A in a timely manner consistent with the Project Timeline as modified from time to time pursuant to the terms of this Agreement. In conjunction with the construction of the highway-underpass structure, the NTTA's responsibility for the construction of the temporary shoofly track(s) shall be shown in Exhibit A. The NTTA will provide the Railroad a minimum of thirty (30) days notice of completion of the highway underpass structure(s) and the reconstruction of the mainline tracks across the structures, at which time the Railroad will cutover the shoofly tracks back to the mainline tracks in a timely manner consistent with a Project Timeline and allow for the NTTA to remove the temporary shoofly track(s) as detailed in Exhibit A.

Except for delays and interruptions as provided in Sections 2.a, 2.e and 2.g of the Agreement, the Railroad shall be reimbursed by the Contractor or NTTA for train delay costs and lost revenue claims due to any delays or interruption of train operations resulting from the Contractor's construction or other activities.

B. Track protection is required for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail.

1.07 RAILROAD OPERATIONS

A. The Contractor shall be advised that, except in Absolute Work Windows, trains and/or equipment should be expected on any track, at any time, and in either direction. The Contractor shall communicate with the Railroad MTM Representative to improve the Contractor's understanding of Railroad traffic volume and operation at the Project site. The Contractor's bid shall be structured accordingly.

B. Except as provided in Section 2.a. of the Agreement, and except during Absolute Work Windows, all Railroad tracks within and adjacent to the Project site are to be assumed as active and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations can occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. The Contractor shall coordinate and schedule the work so that construction activities do not interfere with Railroad's operations, except as provided in Section 2.a. of the Agreement and except during Absolute Work Windows. Contractor acknowledges and agrees that the Work Windows for tie-in and completion of shoofly track and industry track lead must be coordinated with work to be performed by the Railroad

C. Work windows for this Project shall be coordinated with the NTTA or Contractor and the Railroad Project Representative and the Railroad MTM Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A period of time in which Railroad's operations have priority over construction activities. When construction activities may occur on and adjacent to the railroad tracks within 25 feet of the nearest track, a Railroad flag person will be required. At the direction of the flag person, upon approach of a train and when trains are present on the live tracks, the live tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet from the nearest live track or as

directed by the Railroad MTM Representative). Conditional Work Windows are available for the Project subject to Railroad's local operating unit review and approval.

2. Absolute Work Window: A period of time in which construction activities are given priority over Railroad's operations. During this time the designated Railroad track(s) will be inactive for train movements and may be fouled by the Contractor. Before the end of an Absolute Work Window, all Railroad tracks and signals must be completely operational for normal train operations. Also, all Railroad, Public Utilities Commission and Federal Railroad Administration requirements, codes and regulations for operational tracks must be complied with. Should the operating tracks and/or signals be affected, the Railroad will perform inspections of the work prior to placing the affected track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. Any request for Absolute Work Windows will not generally be granted. Any request will require a detailed written explanation for Railroad review and approval.

1.08 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Prior to beginning any work within the Railroad right-of-way, each Contractor (which, for purposes of this provision means only direct contractors of a Project Partner) shall enter into an agreement with the Railroad in the form of the Contractor's Right of Entry Agreement, attached to the Agreement as Exhibit C. There shall be no fee for processing the Right of Entry Agreement. The Right of Entry Agreement shall specify working time frames, flagging, inspection and insurance requirements and any other items specified by the Railroad.

B. The Contractor shall give advance notice to the Railroad as required in the Contractor's Right of Entry Agreement before commencing work in connection with construction upon or over Railroad's right-of-way and shall observe the Railroad rules and regulations with respect thereto.

C. All work upon the Railroad right-of-way shall be done at such times and in such a manner which does not interfere with or endanger the operations of the Railroad as contemplated by the Project Timeline and in accordance with the Final Plans and Specifications. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad MTM Representative for approval consistent with the Final Plans and Specifications, but such approval shall not relieve the applicable Project Partner or Contractor from liability. Any work to be performed by a Project Partner or Contractor, which requires flagging service or inspection service, shall be deferred until the flagging protection required by the Railroad is available at the job site. See Section 1.21 for railroad flagging requirements.

D. The Contractor shall make requests in writing to both the Railroad Project Representative and the Railroad MTM Representative for both Absolute and Conditional Work Windows, at least two weeks in advance of any work. The written request must include:

1. Description of work to be done.
2. The days and hours that work will be performed.
3. The exact location of the work and proximity to the tracks.
4. The type of window and amount of time requested.
5. The designated contact person for the Contractor.

The Contractor shall provide a written confirmation notice to the Railroad MTM Representative at least fifteen (15) days prior to commencing work in connection with the approved work windows when work will be performed within **25 feet of any track center line.** All work shall be performed in accordance with the Final Plans and Specifications.

E. Should a condition arise from, or in connection with, the work which requires immediate and unusual actions to be made to protect operations and property of the Railroad, the Contractor shall undertake such actions. If, in the judgment of the Railroad MTM Representative, such actions are insufficient, the Railroad MTM Representative may require or provide such actions as deemed necessary. Such actions shall be at the Contractor's expense and without cost to the Railroad. The Railroad or NTTA have the right to order the Contractor to temporarily cease operations in the event of an emergency or if, in the opinion of the Railroad MTM Representative, the Contractor's operations may inhibit the Railroads operations. In the event such an order is given, the Contractor shall immediately notify the NTTA of the order.

1.09 INSURANCE

Subject to Section 4.b. of the Agreement, the Contractor shall not begin work within the Railroad's right-of-way until the Railroad has been furnished the insurance policies, binders, certificates and endorsements required by the Contractor's Right-of-Entry Agreement, and the Railroad Project Representative has advised the relevant Project Partner that such insurance is in accordance with such Agreement. The required insurance shall be kept in full force and effect during the performance of work and thereafter until the Contractor removes all tools, equipment, and material from Railroad property and cleans the premises in a manner reasonably satisfactory to the Railroad.

1.10 RAILROAD SAFETY ORIENTATION

All personnel employed by a Project Partner, Contractor and all subcontractors that enter railroad property must complete the Railroad's course "Orientation for Contractor's Safety" and be registered prior to working on Railroad property. This orientation is available at www.contractororientation.com. This course is required to be completed annually. The preceding training does not apply for longitudinal fiber optic installations.

1.11 COOPERATION

The Railroad shall cooperate with the Project Partners and Contractors in the scheduling of Project work consistent with the Project Timeline, Final Plans and Specifications and the Agreement

1.12 CONSTRUCTION CLEARANCES

The Contractor shall abide by the twenty-one (21) foot temporary vertical construction clearance defined in section 4.4.1.1 and twelve (12) foot temporary horizontal construction clearance defined in section 4.4.1.2 of BNSF and UPRR Guidelines for Railroad Grade Separation Projects. It shall be the Contractor's responsibility to obtain such guidelines from the relevant Project Partner or Railroad.

Reduced temporary construction clearances, which are less than construction clearances defined above, will require special review and approval by the Railroad.

Any proposed variance on the specified minimum clearances due to the Contractor's operations shall be submitted to the Railroad Project Representative through the relevant Project Partner at least thirty (30) days in advance of the work. No work shall be undertaken until the variance is approved in writing by the Railroad Project Representative.

1.13 SUBMITTALS

A. Construction submittals and Requests for Information (RFI) shall be submitted per Section 3.5 of BNSF and UPRR Guidelines for Railroad Grade Separation Projects.

B. The review times, as indicated in tables 3-1 and 3-2 of Section 3.5 of the BNSF and UPRR Guidelines for Railroad Grade Separation Projects, should be anticipated for review of all submittals. Guidelines for Railroad Grade Separation Projects, should be anticipated for review of all submittals. The details of the construction affecting the Railroad tracks and property, not already included in the Final Plans and Specifications, shall be submitted by the relevant Project Partner to the Railroad Project Representative for the Railroad's review and written approval before such construction is undertaken. The Railroad shall not be liable to either the Project Partners, their Contractors, or any other person or entity if the Railroad's review exceeds the review time indicated in the tables, given the Railroad's obligation to utilize its forces to maintain the safety and integrity of an interstate rail system.

C. As Built Submittals shall be submitted per Section 3.6 of BNSF and UPRR Guidelines for Railroad Grade Separation Projects.

1.14 MAINTENANCE OF PROPER DRAINAGE AND DAMAGE TO RAILROAD FACILITIES

A. The Contractor, at its expense, shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from the Contractor's operations and to repair and restore any Railroad property, tracks and facilities of Railroad and/or its tenants damaged as the result of the Contractor's operations (except as otherwise specified by the Final Plans and Specifications).

B. The Contractor must submit a proposed method of erosion control and have the method reviewed and approved by the Railroad prior to beginning any grading on the Project site. Erosion control methods must comply with all applicable local, state and federal regulations.

1.15 SITE INSPECTIONS BY RAILROAD PROJECT REPRESENTATIVE, RAILROAD MTM REPRESENTATIVE OR RAILROAD'S CONTRACTOR

A. In addition to the office reviews of construction submittals, site observations will be performed by the Railroad Project Representative, Railroad MTM Representative or Railroad's Contractor at significant points during construction per Section 4.11 of the Guidelines for Railroad Grade Separation Projects.

B. Site inspections are not limited to the milestone events listed in the Guidelines for Railroad Grade Separation Projects. Site visits to check the progress of work may be performed at any time throughout the construction process as deemed necessary by the Railroad; provided that all such site observations, visits and inspections shall be conducted so as not to unreasonably interfere with the Project Partners' or the Contractor's construction activities (provided that the foregoing shall not limit the right of the Railroad's Representatives to direct the Contractor to stop work or take other action to ensure safety or to protect the Railroad's property and operations, as elsewhere provided in the Agreement).

C. A Project Timeline, including the proposed temporary horizontal and vertical clearances and construction sequence for work and all major project elements to be performed, shall be provided by the Contractor to the relevant Project Partner for submittal to the Railroad's Project Representative for review and approval prior to commencement of work. This Project Timeline shall also include the anticipated dates on which the above listed events will occur. This Project Timeline shall be updated for all critical listed events as necessary but at least every 60 days so that site visits may be scheduled.

1.16 RAILROAD REPRESENTATIVES

A. Railroad project managers or flag persons will be provided by the Railroad at the expense of the relevant Project Partner or Contractor (as stated elsewhere in the Agreement) to protect Railroad facilities, property and movements of its trains and engines. In general, the Railroad will furnish such personnel or other protective services as follows:

1. When any part of any equipment or object, such as erection or construction activities, is standing or being
operated within 25 feet, measured horizontally from centerline, of any track on which trains may operate.

2. For any excavation below the elevation of track subgrade when, in the opinion of the Railroad MTM Representative, the track or other Railroad facilities may be subject to settlement or movement.

3. During any clearing, grubbing, excavation or grading in proximity to Railroad facilities which, in the opinion of the Railroad MTM Representative, may affect Railroad facilities or inhibit operations.

4. During any Contractor's operations when, in the opinion of the Railroad MTM Representative, the Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines or pipe lines, may be endangered.

B. The Contractor shall arrange with the Railroad Local Representative to provide the adequate number of flag persons to accomplish the work.

1.17 WALKWAYS REQUIRED

Parallel to the outer side of each exterior track of multiple track and on each side of single track within the Project work area, an unobstructed continuous space suitable for trainman's use in walking along trains, extending in width not less than twelve feet (12') perpendicular from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during working hours must be covered, guarded and/or protected as soon as practical. Walkways with railings shall be constructed by the Contractor over open excavation areas when in close proximity of track, and railings shall not be closer than 9' perpendicular from the center line of tangent track or 9' — 6" horizontal from curved track.

1.18 COMMUNICATIONS AND SIGNAL LINES

As and to the extent provided in the Agreement, the Railroad, at NTTA's expense, will rearrange its communications and signal lines, grade crossing warning devices, train signals, tracks and facilities that are in use and maintained by Railroad forces in connection with its operation. This work by the Railroad will be done by its own forces or by contractors under a continuing contract and may or may not be a part of the work under the Agreement.

1.19 TRAFFIC CONTROL

The Contractor's operations which control traffic across or around Railroad facilities shall be coordinated with and approved by the Railroad MTM Representative and shall be in compliance with the MUTCD.

1.20 CONSTRUCTION EXCAVATIONS; CALL BEFORE YOU DIG NUMBER

A. The Contractor shall be required to take special precautions and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. In addition to calling the "811" number and/or the local "one call center", the Contractor shall call the Railroad's "Call Before Your Dig" number at least 48 hours prior to commencing work at 1-800-336-9193 during normal business hours (6:30 a.m. to 8:00 p.m. Central Standard Time, Monday through Friday, except holidays - also a 24 hour, 7 day a week number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near Railroad property, the Contractor will co-ordinate with the Railroad and the Telecommunication Company(ies) to arrange for relocation or other protection of the system prior to beginning any work on or near Railroad property. The determination of whether fiber optics will be affected by the Project shall be made during the initial design phase of the Project.

C. Other than as contemplated by the Final Plans and Specifications, the Railroad does not allow temporary at grade crossings unless absolutely necessary and there is no alternative route available to Contractor to access the project site. Alternative plans should be considered to avoid crossing Railroad tracks at grade.

1.21 RAILROAD FLAGGING

Performance of any work by the Contractor in which person(s) or equipment will be within twenty-five (25) feet of any track, or that any object or equipment extension (such as, but not limited to, a crane boom) will reach within twenty-five (25) feet of any track, require railroad flagging services or other protective measures. The Contractor shall give an advance notice to the Railroad as required in the Contractor's Right of Entry Agreement before commencing any such work, allowing the Railroad to determine the need for flagging or other protective measures which ensure the safety of Railroad's operations, employees and equipment. Contractor shall comply with all other requirements regarding flagging services covered by the Contractor's Right of Entry Agreement. Any costs associated with failure to abide by these requirements will be borne by the Contractor.

The estimated pay rate for each flag person is $1,000 per day for a(n) eight (8)-hour work day with time and one-half for overtime, Saturdays, Sundays; double time and one-half for holidays. Flagging

rates are set by the Railroad and are subject to change due to, but not limited to, travel time, setup plus, per diem and rest time (if work is required at night).

1.22 CLEANING OF RIGHT-OF-WAY

The Contractor shall, upon completion of the work to be performed within the right-of-way and/or properties of the Railroad and adjacent to its tracks, wire lines and other facilities, promptly remove from the Railroad right-of-way all Contractor's tools, implements and other materials whether brought upon the right-of-way by the Contractor or any subcontractors employee or agent of Contractor or of any subcontractor, and leave the right-of-way in a clean and presentable condition to the satisfaction of the Railroad.

1.23 CONTRACTOR'S RESPONSIBILITY OF SUPERVISION

The Contractor, at its expense, shall adequately supervise all work to be performed by the Contractor. Such responsibility shall not be lessened or otherwise affected by Railroad's approval of the Final Plans and Specifications, or by the presence at the work site of the Railroad Project Representative, Railroad MTM Representative or any other Railroad representative or Railroad contractor providing inspection services, or by the compliance by the Contractor with any requests or recommendations made by such representatives. The Contractor will give due consideration to suggestions and recommendations made by such representatives for the safety and protection of the Railroad's property and operations.

1.24 USE OF EXPLOSIVES AT PROJECT SITE PROHIBITED

The Contractor's use of explosives at the Project site is expressly prohibited unless authorized in advance in writing by the Railroad Project Representative.

EXHIBIT C

CONTRACTOR'S
RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of the ___ day of _____ , 20____ by and between **UNION PACIFIC RAILROAD COMPANY,** a Delaware corporation ("Railroad"); and _____ _____, a _____ corporation ("Contractor").

RECITALS:

Contractor has been hired by [the North Texas Tollway Authority] [the Texas Department of Transportation] [the City of Grand Prairie] (the "Contracting Party") to perform work relating to the extension and construction of State Highway 161 (SH 161) across the Railroad's rail line at DOT No. 924 430N (Railroad Milepost 227.51) in Grand Prairie, Dallas County, Texas by constructing (i) a new highway-underpass structure, (ii) two (2) dedicated one-way frontage-road at-grade crossings with active warning devices to accommodate local traffic at Railroad Milepost 227.54, new DOT No. 924 108M (SH 161 Southbound Frontage Road), and Railroad Milepost 227.48, new DOT No. 924 109U (SH 161 Northbound Frontage Road), and (iii) tolled main lanes underneath the highway-underpass structure (the "work"), in Dallas County, State of Texas, in the general location shown on the print marked **Exhibit A,** attached hereto and hereby made a part hereof.

Railroad is willing to permit Contractor to perform the work described above at the location described above subject to the terms and conditions contained in this Agreement.

AGREEMENT:

NOW, THEREFORE, it is mutually agreed by and between Railroad and Contractor, as follows:

ARTICLE 1 - DEFINITION OF CONTRACTOR.

For purposes of this Agreement, all references in this agreement to Contractor shall include Contractor's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

ARTICLE 2 - RIGHT GRANTED; PURPOSE.

Railroad hereby grants to Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the property described in the Recitals for the purpose of performing the work described in the Recitals above. The right herein granted to Contractor is limited to those portions of Railroad's property specifically described herein, or as designated by the Railroad Representative named in Article 4.

ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS B, C, D, and E.

The terms and conditions contained in **Exhibit B, Exhibit C** and **Exhibit D,** attached hereto, are hereby made a part of this Agreement.

ARTICLE 4 - ALL EXPENSES TO BE BORNE BY CONTRACTOR; RAILROAD REPRESENTATIVE.

A. Contractor (or the Contracting Party, as may be agreed between Contractor and the Contracting Party) shall bear any and all costs and expenses associated with any work performed by Contractor, or any costs or expenses incurred by Railroad relating to this Agreement.

B. Contractor shall coordinate all of its work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

Gerald Usher
Manager of Track Maintenance
Union Pacific Railroad Company
9211 Forney Road
Dallas, Texas 75227
214-413-3412
gausher@up.com

C. Contractor, at its own expense, shall adequately police and supervise all work to be performed by Contractor and shall ensure that such work is performed in a safe manner as set forth in Section 7 of **Exhibit B.** The responsibility of Contractor for safe conduct and adequate policing and supervision of Contractor's work shall not be lessened or otherwise affected by Railroad's approval of plans and specifications involving the work, or by Railroad's collaboration in performance of any work, or by the presence at the work site of a Railroad Representative, or by compliance by Contractor with any requests or recommendations made by Railroad Representative.

ARTICLE 5 - TERM; TERMINATION.

A. The grant of right herein made to Contractor shall commence on the date of this Agreement, and continue until _____, unless sooner terminated as herein provided, or at such time as Contractor has completed its work on Railroad's property, whichever is earlier. Contractor agrees to notify the Railroad Representative in writing when it has completed its work on Railroad's property.

B. The grant of right herein made to Contractor may be terminated by the Railroad due to Contractor's default hereunder upon the expiration of ten (10) days written notice and opportunity to cure provided to Contractor and the Project Partners.

ARTICLE 6 - CERTIFICATE OF INSURANCE.

Before commencing any work, Contractor will provide Railroad with the (i) insurance binders, policies, certificates and endorsements set forth in **Exhibit C** of this Agreement, and (ii) the insurance endorsements obtained by each subcontractor as required under Section 12 of **Exhibit B** of this Agreement.

All insurance correspondence, binders, policies, certificates and endorsements shall be sent to:

Paul Farrell
Union Pacific Railroad Company
Real Estate Dept. MS 1690
1400 Douglas Street
Omaha, Nebraska 68179-1690
402-544-8620
pgfarrell@up.com

ARTICLE 7 - DISMISSAL OF CONTRACTOR'S EMPLOYEE.

At the request of Railroad, Contractor shall remove from Railroad's property any employee of Contractor who fails to conform to the instructions of the Railroad Representative in connection with the work on Railroad's property, and any right of Contractor shall be suspended until such removal has occurred. Contractor shall indemnify Railroad against any claims arising from the removal of any such employee from Railroad's property pursuant to the terms of the preceding sentence.

ARTICLE 8 - ADMINISTRATIVE FEE.

Upon the execution and delivery of this Agreement, Contractor shall pay to Railroad Zero Dollars ($0.00) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this Agreement.

ARTICLE 9 - CROSSINGS.

No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Contractor without the prior written permission of Railroad, except as otherwise permitted or contemplated by the approved plans and specifications.

ARTICLE 10.- EXPLOSIVES.

Explosives or other highly flammable substances shall not be stored on Railroad's property without the prior written approval of Railroad.

IN WITNESS WHEREOF, the parties hereto have duly executed this agreement in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By:_____
Title:_____

(Name of Contractor)

By:_____
Title:_____

EXHIBIT B
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.

A. Except as otherwise provided in the Highway Underpass and New At-Grade Crossing Railroad License and Force Account Agreement to which Railroad and Contracting Party are a party and the Final Plans and Specifications described therein (collectively, the "Crossing Agreement"), a copy of which has been provided to Contractor, Contractor agrees to notify the Railroad Representative at least fifteen (15) days in advance of Contractor commencing its work and at least fifteen (15) days in advance of proposed performance of any work by Contractor in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such fifteen (15)-day notice, the Railroad Representative will determine and inform Contractor whether a flagman need be present and whether Contractor needs to implement any special protective or safety measures (consistent with the Crossing Agreement). If flagging or other special protective or safety measures are performed by Railroad, Railroad will bill Contractor for such expenses incurred by Railroad, unless Railroad and the Contracting Party have agreed that Railroad is to bill such expenses to the Contracting Party. If Railroad will be sending the bills to Contractor, Contractor shall pay such bills within thirty (30) days of Contractor's receipt of billing. If Railroad performs any flagging, or other special protective or safety measures are performed by Railroad, Contractor agrees that Contractor is not thereby relieved of any of its responsibilities or liabilities set forth in this Agreement.

B. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates and additional charges on labor are subject to change, at any time, by law or by agreement between Railroad and its employees (so long as such agreements are not specific to this work or are applied in a discriminatory fashion against Contractor), and may be retroactive as a result of labor negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed as provided above, Contractor (or the Contracting Party, as applicable) shall pay for the flagging services on the basis of the new rates and charges.

C. Reimbursement to Railroad will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work , even though Contractor may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Contractor must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Contractor will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional ten (10) days notice must then be given to Railroad if flagging services are needed again after such five day cessation notice has been given to Railroad.

Section 2. LIMITATION OF RIGHTS GRANTED.

A. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all part of its property, all or any of which may be freely done at any time or times by Railroad without liability to Contractor or to any other party for compensation or damages.

B. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licenses and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant title or for quiet enjoyment.

Section 3. NO INTERFERENCE WITH OPERATIONS OF RAILROAD AND ITS TENANTS.

A. Contractor shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including without limitation, the operations of Railroad's lessees, licensees or others, except as provided for in the Crossing Agreement, and unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Contractor at any time that would in any manner impair the safety of such operations. When not in use, except as provided for in the Crossing Agreement, Contractor's machinery and materials shall be kept at least fifty (50) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroads tracks except at existing open public crossings.

B. Operations of Railroad and work performed by Railroad personnel, and delays in the work to be performed by Contractor caused by such railroad operations and work are expected by Contractor, and Contractor agrees that Railroad shall have no liability to Contractor, or any other person or entity for any such delays. The Contractor shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any work to be performed by Contractor.

Section 4. LIENS.

Contractor shall pay in full all persons who perform labor or provide materials for the work to be performed by Contractor. Contractor shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such work performed. Contractor shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished. If Contractor fails to promptly cause any lien to be released of record by its payment, release or bonding, Railroad may, at its election, discharge the lien or claim of lien at Contractor's expense.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

A. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Contractor shall telephone Railroad during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Contractor. If it is, Contractor will telephone the telecommunications company(ies) involved, make arrangements for a cable locator and, if applicable, for relocation or other protection of the fiber optic cable. Contractor shall not commence any work until all such protection or relocation (if applicable) has been accomplished.

B. IN ADDITION TO OTHER INDEMNITY PROVISIONS IN THIS AGREEMENT, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD RAILROAD HARMLESS FROM AND AGAINST ALL COSTS, LIABILITY AND EXPENSE WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS AND EXPENSES) ARISING OUT OF ANY ACT OR OMISSION OF CONTRACTOR, ITS AGENTS AND/OR EMPLOYEES, THAT CAUSES OR CONTRIBUTES TO (1) ANY

DAMAGE TO OR DESTRUCTION OF ANY TELECOMMUNICATIONS SYSTEM ON RAILROAD'S PROPERTY, AND/OR (2) ANY INJURY TO OR DEATH OF ANY PERSON EMPLOYED BY OR ON BEHALF OF ANY TELECOMMUNICATIONS COMPANY, AND/OR ITS CONTRACTOR, AGENTS AND/OR EMPLOYEES, ON RAILROAD'S PROPERTY. CONTRACTOR SHALL NOT HAVE OR SEEK RECOURSE AGAINST RAILROAD FOR ANY CLAIM OR CAUSE OF ACTION FOR ALLEGED LOSS OF PROFITS OR REVENUE OR LOSS OF SERVICE OR OTHER CONSEQUENTIAL DAMAGE TO A TELECOMMUNICATION COMPANY USING RAILROAD'S PROPERTY OR A CUSTOMER OR USER OF SERVICES OF THE FIBER OPTIC CABLE ON RAILROAD'S PROPERTY.

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this Agreement, Contractor shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments applicable to the Contracting Party in the performance of the work including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Contractor. Contractor shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Contractor shall comply with Railroad's safety standards listed in **Exhibit D,** hereto attached, to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Contractor's safety responsibilities, Contractor shall notify Railroad if Contractor determines that any of Railroad's safety standards are contrary to good safety practices. Contractor shall furnish copies of **Exhibit D** to each of its employees before they enter the job site.

B. Without limitation of the provisions of paragraph A above, Contractor shall keep those conditions and features of the job site under the control of Contractor free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

C. Contractor shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Contractor shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Contractor shall have a nondelegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.

D. If and when requested by Railroad, Contractor shall deliver to Railroad a copy of Contractor's safety plan for conducting the work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Contractor to correct any deficiencies in the Safety Plan. The terms of this Agreement shall control if there are any inconsistencies between this Agreement and the Safety Plan.

Section 8. INDEMNITY.

A. TO THE EXTENT NOT PROHIBITED BY APPLICABLE STATUTE, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS RAILROAD, ITS AFFILIATES, AND ITS AND THEIR OFFICERS, AGENTS AND EMPLOYEES (INDIVIDUALLY AN "INDEMNIFIED PARTY" OR COLLECTIVELY "INDEMNIFIED PARTIES") FROM AND AGAINST ANY AND ALL LOSS, DAMAGE, INJURY, LIABILITY, CLAIM, DEMAND, COST OR EXPENSE (INCLUDING, WITHOUT LIMITATION, ATTORNEY'S, CONSULTANT'S AND EXPERT'S FEE, AND COURT COSTS), FINE OR PENALTY (COLLECTIVELY, "LOSS") INCURRED BY ANY PERSON (INCLUDING, WITHOUT LIMITATION, ANY INDEMNIFIED PARTY, CONTRACTOR, OR ANY EMPLOYEE OF CONTRACTOR OR OF ANY INDEMNIFIED PARTY) TO THE EXTENT AND IN THE PROPORTION ARISING OUT OF OR IN ANY MANNER CONNECTED WITH (I) ANY WORK PERFORMED BY CONTRACTOR, OR (II) ANY ACT OR OMISSION OF CONTRACTOR, ITS OFFICERS, AGENTS OR EMPLOYEES, OR (III) ANY BREACH OF THIS AGREEMENT BY CONTRACTOR.

B. THE RIGHT TO INDEMNITY UNDER THIS SECTION 8 SHALL ACCRUE UPON OCCURRENCE OF THE EVENT GIVING RISE TO THE LOSS, AND SHALL APPLY REGARDLESS OF ANY NEGLIGENCE OR STRICT LIABILITY OF ANY INDEMNIFIED PARTY, EXCEPT WHERE THE LOSS IS CAUSED BY THE SOLE ACTIVE NEGLIGENCE OF AN INDEMNIFIED PARTY AS ESTABLISHED BY THE FINAL JUDGMENT OF A COURT OF COMPETENT JURISDICTION. THE SOLE ACTIVE NEGLIGENCE OF ANY INDEMNIFIED PARTY SHALL NOT BAR THE RECOVERY OF ANY OTHER INDEMNIFIED PARTY.

C. CONTRACTOR EXPRESSLY AND SPECIFICALLY ASSUMES POTENTIAL LIABILITY UNDER THIS SECTION 8 FOR CLAIMS OR ACTIONS BROUGHT BY CONTRACTOR'S OWN EMPLOYEES. CONTRACTOR WAIVES ANY IMMUNITY IT MAY HAVE UNDER WORKER'S COMPENSATION OR INDUSTRIAL INSURANCE ACTS TO INDEMNIFY THE INDEMNIFIED PARTIES UNDER THIS SECTION 8. CONTRACTOR ACKNOWLEDGES THAT THIS WAIVER WAS MUTUALLY NEGOTIATED BY THE PARTIES HERETO.

D. NO COURT OR JURY FINDINGS IN ANY EMPLOYEE'S SUIT PURSUANT TO ANY WORKER'S COMPENSATION ACT OR THE FEDERAL EMPLOYERS' LIABILITY ACT AGAINST A PARTY TO THIS AGREEMENT MAY BE RELIED UPON OR USED BY CONTRACTOR IN ANY ATTEMPT TO ASSERT LIABILITY AGAINST ANY INDEMNIFIED PARTY.

E. THE PROVISIONS OF THIS SECTION 8 SHALL SURVIVE THE COMPLETION OF ANY WORK PERFORMED BY CONTRACTOR OR THE TERMINATION OR EXPIRATION OF THIS AGREEMENT. IN NO EVENT SHALL THIS SECTION 8 OR ANY OTHER PROVISION OF THIS AGREEMENT BE DEEMED TO LIMIT ANY LIABILITY CONTRACTOR MAY HAVE TO ANY INDEMNIFIED PARTY BY STATUTE OR UNDER COMMON LAW.

Section 9. RESTORATION OF PROPERTY.

In the event Railroad authorizes Contractor to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the work to be performed by Contractor, then in that event Contractor shall, as soon as possible and at Contractor's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed, except as otherwise contemplated by the Final Plans and Specifications. Contractor shall remove all of Contractor's tools, equipment, rubbish and other materials from Railroad's property promptly upon completion of the work, restoring Railroad's property to the same state and condition as when Contractor entered thereon.

Section 10. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Contractor shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 11. MODIFICATION - ENTIRE AGREEMENT.

No modification of this Agreement shall be effective unless made in writing and signed by Contractor and Railroad. This Agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Contractor and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, between Contractor and the Railroad, with respect to the work to be performed by Contractor.

Section 12. ASSIGNMENT - SUBCONTRACTING.

Contractor shall not assign this Agreement, or any interest therein, without the written consent of the Railroad; provided that Contractor shall have the right to enter into subcontracts for the performance of the work on the condition that the subcontractors provide the insurance coverages set forth below. Contractor shall be responsible for the acts and omissions of all subcontractors. Before Contractor commences any work, the Contractor shall, except to the extent prohibited by law; (1) require each of its subcontractors to include the Contractor as "Additional Insured" in the subcontractor's Commercial General Liability policy and Business Automobile policies

with respect to all liabilities arising out of the subcontractor's performance of work on behalf of the Contractor by endorsing these policies with ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage; (2) require each of its subcontractors to endorse their Commercial General Liability Policy with "Contractual Liability Railroads" ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) for the job site; and (3) require each of its subcontractors to endorse their Business Automobile Policy with "Coverage For Certain Operations In Connection With Railroads" ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) for the job site.

EXHIBIT C
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Union Pacific Railroad Company
Insurance Provisions For
Contractor's Right of Entry Agreement

Contractor shall, at its sole cost and expense, procure and maintain during the course of the work and until all work on Railroad's property has been completed and the Contractor has removed all equipment and materials from Railroad's property and has cleaned and restored Railroad's property, the following insurance coverage:

A. **Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than $5,000,000 each occurrence and an aggregate limit of not less than $10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.
- Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 10 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less $2,000,000 for each accident and coverage must include liability arising out of any auto (including owned, hired and non-owned autos).

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

C. **Workers' Compensation and Employers' Liability** insurance. Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the state where the work is being performed.
- Employers' Liability (Part B) with limits of at least $500,000 each accident, $500,000 disease policy limit $500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy must contain the following endorsement, which must be stated on the certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

D. **Railroad Protective Liability** insurance. Contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than $2,000,000 per occurrence and an aggregate of $6,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.

E. **Umbrella or Excess** insurance. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.

F. **Pollution Liability** insurance. Pollution liability coverage must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least $2,000,000 per occurrence and an aggregate limit of $4,000,000.

If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

Other Requirements

G. All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement or insurance coverage may not be lawfully obtained for punitive damages that might arise under this Agreement.

I. Contractor waives all rights for recovery of damages against Railroad and its agents, officers, directors and employees to the extent those damages are covered by workers' compensation and employers' liability or commercial umbrella or excess liability insurance obtained by Contractor required by this Agreement. This waiver must be stated on the certificate of insurance.

J. Prior to commencing the work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.

K. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state where the work is being performed.

The fact that insurance is obtained by Contractor or by Railroad on behalf of 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 from Contractor or any third party will not be limited by the amount of

EXHIBIT D
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

MINIMUM SAFETY REQUIREMENTS

The term "employees" as used herein refer to all employees of Contractor, as well as all employees of any subcontractor or agent of Contractor, in each case that are engaged in activities on Railroad's property.

I. Clothing

A. All employees of Contractor will be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing, or free use of their hands or feet.

Specifically, Contractor's employees must wear:

(i) Waist-length shirts with sleeves.
(ii) Trousers that cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching.
(iii) Footwear that covers their ankles and has a defined heel. Employees working on bridges are required to wear safety-toed footwear that conforms to the American National Standards Institute (ANSI) and FRA footwear requirements.

B. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal.

C. Employees must not wear loose or ragged clothing, neckties, finger rings, or other loose jewelry while operating or working on machinery.

II. Personal Protective Equipment

Contractor shall require its employees to wear personal protective equipment as specified by Railroad rules, regulations, or recommended or requested by the Railroad Representative.

Hard hat that meets the American National Standard (ANSI) Z89.1 — latest revision. Hard hats should be affixed with Contractor's company logo or name.

Eye protection that meets American National Standard (ANSI) for occupational and educational eye and face protection, Z87.1 — latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, etc.

Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site. Hearing protection, in the form of plugs or muffs, must be worn when employees are within:

- 100 feet of a locomotive or roadway/work equipment
- 15 feet of power operated tools
- 150 feet of jet blowers or pile drivers
- 150 feet of retarders in use (when within 10 feet, employees must wear dual ear protection — plugs and muffs)

(iv) Other types of personal protective equipment, such as respirators, fall protection equipment, and face shields, must be worn as dictated by the task, working conditions or area the Contractor's employees are in.

III. On Track Safety

Contractor is responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection regulations — 49CFR214, Subpart C and Railroad's On-Track Safety rules. Under 49CFR214, Subpart C, railroad contractors are responsible for the training of their employees on such regulations. In addition to the instructions contained in Roadway Worker Protection regulations, all employees must:

(i) Maintain a distance of twenty-five (25) feet to any track unless the Railroad flagger is present to authorize movements or such employees are within a work zone and separated from such track by a semi-permanent fence as provided for in the Crossing Agreement.
(ii) Wear an orange, reflectorized workwear approved by the Railroad Representative.
(iii) Participate in a job briefing that will specify the type of On-Track Safety for the type of work being performed. Contractor must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. Contractor will also receive special instructions relating to the work zone around machines and minimum distances between machines while working or traveling.

IV. Equipment

A. It is the responsibility of Contractor to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Contractor's equipment is unsafe for use, Contractor shall remove such equipment from Railroad's property. In addition, Contractor must ensure that the operators of all equipment are properly trained and competent in the safe operation of the equipment. In addition, operators must be:

- Familiar and comply with Railroad's rules on lockout/tagout of equipment.
- Trained in and comply with the applicable operating rules if operating any by-rail equipment on-track.
- Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other railbound equipment.

B. All self-propelled equipment must be equipped with a first-aid kit, fire extinguisher, and audible back-up warning device.

C. Unless permitted by the Crossing Agreement or otherwise authorized by the Railroad Representative, all equipment must be parked a minimum of twenty-five (25) feet from any track. Before leaving any equipment unattended, the operator must stop the engine and properly secure the equipment against movement.

D. Cranes must be equipped with three orange cones that will be used to mark the working area of the crane and the minimum clearances to overhead powerlines.

V. General Safety Requirements

A. Contractor shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.

B. Contractor shall ensure that all employees participate in and comply with a job briefing participated in by the Railroad Representative in coordination with the Contractor. During this briefing, the Contractor and Railroad Representative will specify safe work procedures, (including On-Track Safety) and the potential hazards of the job. If any employee has any questions or concerns about the work, the employee must voice them during the job briefing. Additional job briefings will be conducted during the work as conditions, work procedures, or personnel change.

C. All track work performed by Contractor meets the minimum safety requirements established by the Federal Railroad Administration's Track Safety Standards 49CFR213.

D. All employees comply with the following safety procedures when working around any railroad track:

(i) Always be on the alert for moving equipment. Employees must always expect movement on any track, at any time, in either direction.
(ii) Do not step or walk on the top of the rail, frog, switches, guard rails, or other track components.
(iii) In passing around the ends of standing cars, engines, roadway machines or work equipment, leave at least 20 feet between yourself and the end of the equipment. Do not go between pieces of equipment of the opening is less than one car length (50 feet).
(iv) Avoid walking or standing on a track unless so authorized by the employee in charge.
(v) Before stepping over or crossing tracks, look in both directions first.
(vi) Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when track and equipment have been protected against movement.

E. All employees must comply with all federal and state regulations concerning workplace safety.

EXHIBIT D

EMPLOYEE ENTRY PROTOCOL

Section 1. NOTICE OF COMMENCEMENT OF ENTRY - FLAGGING.

A. Except as otherwise provided in the Highway Underpass and New At-Grade Crossing Railroad License and Force Account Agreement to which Railroad, the State, the NTTA and the City are a party and the Final Plans and Specifications described therein (collectively, the "Crossing Agreement"), the State, the NTTA and the City (hereinafter, the "Project Partners") agree to notify the Railroad Representative at least fifteen (15) days in advance of commencing their respective entry upon Railroad property (the "Relevant Project Partner") and subsequent activity (hereinafter, collectively, an "entry") in which any person or equipment will be within twenty-five (25) feet of any track. No person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such fifteen (15)-day notice, the Railroad Representative will determine and inform the Relevant Project Partner whether a flagman need be present and whether the Relevant Project Partner needs to implement any special protective or safety measures consistent with the Crossing Agreement. If flagging or other special protective or safety measures are performed by Railroad, Railroad will bill the Relevant Project Partner for such expenses incurred by Railroad. The Relevant Project Partner shall pay such bills within thirty (30) days of the Relevant Project Partner's receipt of billing. If Railroad performs any flagging, or other special protective or safety measures are performed by Railroad, the Relevant Project Partner agrees that the Relevant Project Partner is not thereby relieved of any of its responsibilities or liabilities set forth in the Crossing Agreement.

B. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates and additional charges on labor are subject to change, at any time, by law or by agreement between Railroad and its employees (so long as such agreements are not specific to this work or are applied in a discriminatory fashion against the Relevant Project Partner), and may be retroactive as a result of labor negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed as provided above, the Relevant Project Partner shall pay for the flagging services on the basis of the new rates and charges.

C. Reimbursement to Railroad will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though the Relevant Project Partner may not be conducting activity during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, the Relevant Project Partner must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, the Relevant Project Partner will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional ten (10) days notice must then be given to Railroad if flagging services are needed again after such five day cessation notice has been given to Railroad.

Section 2. LIMITATION OF RIGHTS GRANTED.

A. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of

Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all part of its property, all or any of which may be freely done at any time or times by Railroad without liability to Contractor or to any other party for compensation or damages.

B. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licenses and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant title or for quiet enjoyment.

Section 3. NO INTERFERENCE WITH OPERATIONS OF RAILROAD AND ITS TENANTS.

A. The Relevant Project Partner shall conduct its entry so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including without limitation, the operations of Railroad's lessees, licensees or others, except as provided for in the Crossing Agreement, and unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by the Relevant Project Partner at any time that would in any manner impair the safety of such operations. When not in use, except as provided for in the Crossing Agreement, the Relevant Project Partner's machinery and materials shall be kept at least fifty (50) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroads tracks except at existing open public crossings.

B. Operations of Railroad and work performed by Railroad personnel, and delays in the activities to be performed by the Relevant Project Partner caused by such railroad operations and work are expected by the Relevant Project Partner, and the Relevant Project Partner agrees that Railroad shall have no liability to the Relevant Project Partner, or any other person or entity for any such delays. The Relevant Project Partner shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any activities to be performed by the Relevant Project Partner.

C. No additional crossings (including temporary haul roads) or pedestrian crossings over trackage shall be installed or used by the Relevant Project Partner without the prior written permission of the Railroad.

Section 4. LIENS.

The Relevant Project Partner shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such entry. If the Relevant Project Partner fails to promptly cause any lien to be released of record by its payment, release or bonding, Railroad may, at its election, discharge the lien or claim of lien at the Relevant Project Partner's expense.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable sysems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. The Relevant Project Partner shall telephone Railroad during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on Railroad's property to be intrusively inspected by the Relevant Project Partner. If it is, the Relevant Project Partner will telephone the telecommunications company(ies) involved, make arrangements for a cable locater and, if applicable, for relocation or other protection of the fiber optic cable. The Relevant Project Partner shall not commence any work until all such protection or relocation (if applicable) has been accomplished.

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of any entry, the Relevant Project Partner shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments applicable to the Relevant Project Partner in the prosecution of such entry, including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of any entry by the Relevant Project Partner. The Relevant Project Partner shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the entry notwithstanding any Railroad approval of plans and specifications regarding the Relevant Project Partner's entry, or by Railroad's collaboration in providing entry, or by the presence at the entry site of a Railroad Representative, or by compliance by the Relevant Project Partner with any requests or recommendations made by Railroad Representative. The Relevant Project Partner shall comply with Railroad's safety standards listed in Attachment 1, hereto attached and made part hereof, to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of the Relevant Project Partner's safety responsibilities, the Relevant Project Partner shall notify Railroad if the Relevant Project Partner determines that any of Railroad's safety standards are contrary to good safety practices. The Relevant Project Partner shall furnish copies of Attachment 1 to each of its employees before they enter the job site.

B. Without limitation of the provisions of paragraph A above, the Relevant Project Partner shall keep those conditions and features of the entry site under the control of the Relevant Project Partner free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

C. The Relevant Project Partner shall have proper first aid supplies available on the entry site so that prompt first aid services may be provided to any person injured on the entry site. The Relevant Project Partner shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. The Relevant Project Partner shall have a nondelegable duty to control its employees while they are on the entry site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.

D. If and when requested by Railroad, and to the extent appropriate given the nature and scope of the entry, the Relevant Project Partner shall deliver to Railroad a copy of the Relevant Project Partner's safety plan for conducting the entry (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require the Relevant Project Partner to correct any deficiencies in the Safety Plan. The terms of the Crossing Agreement shall control if there are any inconsistencies between the Crossing Agreement and the Safety Plan.

Section 8. RESTORATION OF PROPERTY.

In the event Railroad authorizes the Relevant Project Partner to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the entry by the Relevant Project Partner, then in that event the Relevant Project Partner shall, as soon as possible and at the Relevant Project Partner's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed, except as otherwise contemplated by the Final Plans and Specifications. The Relevant Project Partner shall remove all of the Relevant Project Partner's tools, equipment, rubbish and other materials from Railroad's property promptly upon completion of the work, restoring Railroad's property to the same state and condition as when the Relevant Project Partner entered thereon.

Section 9. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by the Relevant Project Partner shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 10. RAILROAD REPRESENTATIVE.

The Relevant Project Partner shall coordinate all of its work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

Gerald Usher
Manager of Track Maintenance
Union Pacific Railroad Company
9211 Forney Road
Dallas, Texas 75227
214-413-3412
gausher@up.com

ATTACHMENT 1
TO
EMPLOYEE ENTRY PROTOCOL

The term "employees" as used herein refer to all employees of a Relevant Project Partner that are engaged in the Relevant Project Partner's entry activities on Railroad's property.

I. **Clothing**

A. All employees of the Relevant Project Partner will be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing, or free use of their hands or feet.

Specifically, the Relevant Project Partner's employees must wear:

(i) Waist-length shirts with sleeves.
(ii) Trousers that cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching.
(iii) Footwear that covers their ankles and has a defined heel. Employees working on bridges are required to wear safety-toed footwear that conforms to the American National Standards Institute (ANSI) and FRA footwear requirements.

B. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal.

C. Employees must not wear loose or ragged clothing, neckties, finger rings, or other loose jewelry while operating or working on machinery.

II. **Personal Protective Equipment**

The Relevant Project Partner shall require its employees to wear personal protective equipment as specified by Railroad rules, regulations, or recommended or requested by the Railroad Representative.

Hard hat that meets the American National Standard (ANSI) Z89.1 — latest revision. Hard hats should be affixed with the Relevant Project Partner's logo or name.

Eye protection that meets American National Standard (ANSI) for occupational and educational eye and face protection, Z87.1 — latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, etc.

Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site. Hearing protection, in the form of plugs or muffs, must be worn when employees are within:

- 100 feet of a locomotive or roadway/work equipment
- 15 feet of power operated tools
- 150 feet of jet blowers or pile drivers
- 150 feet of retarders in use (when within 10 feet, employees must wear dual ear protection — plugs and muffs)

Other types of personal protective equipment, such as respirators, fall protection equipment, and face shields, must be worn as dictated by the task, working conditions or area the Relevant Project Partner's employees are in.

III. On Track Safety

With respect to Relevant Project Partner's entry on Railroad property, the Relevant Project Partner is responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection regulations — 49CFR214, Subpart C and Railroad's On-Track Safety rules. Under 49CFR214, Subpart C, railroad contractors are responsible for the training of their employees on such regulations. In addition to the instructions contained in Roadway Worker Protection regulations, all employees must:

(i) Maintain a distance of twenty-five (25) feet to any track unless the Railroad flagger is present to authorize movements or such employees are within an entry zone and separated from such track by a semi-permanent fence as provided for in the Crossing Agreement.

(ii) Wear an orange, reflectorized workwear approved by the Railroad Representative.

(iii) Participate in a job briefing that will specify the type of On-Track Safety for the type of work being performed. The Relevant Project Partner must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. The Relevant Project Partner will also receive special instructions relating to the work zone around machines and minimum distances between machines while working or traveling.

IV. Equipment

A. It is the responsibility of the Relevant Project Partner to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of the Relevant Project Partner's equipment is unsafe for use, the Relevant Project Partner shall remove such equipment from Railroad's property. In addition, the Relevant Project Partner must ensure that the operators of all equipment are properly trained and competent in the safe operation of the equipment. In addition, operators must be:

- Familiar and comply with Railroad's rules on lockout/tagout of equipment.
- Trained in and comply with the applicable operating rules if operating any by-rail equipment on-track.
- Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other railbound equipment.

B. All self-propelled equipment must be equipped with a first-aid kit, fire extinguisher, and audible back-up warning device.

C. Unless permitted by the Crossing Agreement or otherwise authorized by the Railroad Representative, all equipment must be parked a minimum of twenty-five (25) feet from any track. Before leaving any equipment unattended, the operator must stop the engine and properly secure the equipment against movement.

D. Cranes must be equipped with three orange cones that will be used to mark the working area of the crane and the minimum clearances to overhead powerlines.

V.General Safety Requirements

A. The Relevant Project Partner shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.

B. The Relevant Project Partner shall ensure that all employees participate in and comply with a job briefing participated in by the Railroad Representative in coordination with the Relevant Project Partner. During this briefing, the Relevant Project Partner and Railroad Representative will specify safe work procedures, (including On-Track Safety) and the potential hazards of the job. If any

employee has any questions or concerns about the work, the employee must voice them during the job briefing. Additional job briefings will be conducted during the work as conditions, work procedures, or personnel change.

C. All employees comply with the following safety procedures when working around any railroad track:

(i) Always be on the alert for moving equipment. Employees must always expect movement on any track, at any time, in either direction.

(ii) Do not step or walk on the top of the rail, frog, switches, guard rails, or other track components.

(iii) In passing around the ends of standing cars, engines, roadway machines or work equipment, leave at least 20 feet between yourself and the end of the equipment. Do not go between pieces of equipment of the opening is less than one car length (50 feet).

(iv) Avoid walking or standing on a track unless so authorized by the employee in charge.

(v) Before stepping over or crossing tracks, look in both directions first.

(vi) Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when track and equipment have been protected against movement.

D. All employees must comply with all federal and state regulations concerning workplace safety.

E. Explosives or other highly flammable substances shall not be used on Railroad's property without the prior written approval of the Railroad.

ATTACHMENT 1

City of Grand Prairie Railroad Grade Crossing Consolidation Resolution

[follows this page]

RESOLUTION NO. 3990

A RESOLUTION AUTHORIZING THE CITY COUNCIL TO CLOSE BOTH 5TH STREET UNION PACIFIC RAILROAD CROSSINGS AND TO RELOCATE THE WEST 14TH STREET UNION PACIFIC RAILROAD CROSSING PRIOR TO THE OPENING OF THE SH 161 FRONTAGE ROADS.

WHEREAS, the State Highway 161 frontage road project requires two new Union Pacific main line railroad crossings; and

WHEREAS, Union Pacific Railroad (UPRR) requires that for every new approved crossing, two main line crossings must be closed; and

WHEREAS, UPRR has agreed to allow the West 14th Street crossing to be relocated to the east to serve as the southbound frontage road; and

WHEREAS, UPRR still requires that two (2) crossings be closed in exchange for the northbound frontage road.

NOW THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF GRAND PRAIRIE, TEXAS THAT:

SECTION 1. That the City Council is hereby authorized to approve the closing of the main line railroad crossings at both 5th Streets and the relocation of the West 14th Street crossing prior to the opening of the SH 161 frontage roads;

SECTION 2. That, this Resolution shall be effective immediately upon its passage and approval.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF GRAND PRAIRIE, TEXAS, THIS 1ST DAY OF JUNE, 2004.

Mayor, Grand Prairie, Texas

ATTEST:

City Secretary

APPROVED AS TO FORM:

City Attorney

ATTACHMENT 2

Highway-Railroad Preliminary Engineering Agreement

[follows this page]

Texas Department of Transportation

DEWITT C. GREER STATE HIGHWAY BLDG. • 125 E. 11TH STREET • AUSTIN, TEXAS 78701-2483 • (512) 463-8585

May 9, 2008

AGREEMENT FOR PRELIMINARY ENGINEERING SERVICES AND SUBMITTAL OF EXHIBIT A FOR RAILROAD APPROVAL

Dallas County – DOT No. TBA
CSJ 2964-01-040
Project C 2964-1-40
SH 161 in Grand Prairie

New Highway Underpass

Mr. R. K. Rouse
Regional Manager, Industry & Public Projects
Union Pacific Railroad
24125 Aldine Westfield Road
Spring, TX 77373-9015

Dear Mr. Rouse,

Plans are being prepared to construct SH 161 across your company's tracks by constructing a new highway-underpass structure at the location referenced above. In connection with the project, the Texas Department of Transportation (TxDOT) considers it necessary for the successful advancement of the project for your company to collaborate with TxDOT in the development of the project by performing the following:

- preliminary engineering and other related services
- development of cost estimates
- review of the project's preliminary layouts
- submit current train and switching moves

TxDOT authorizes and agrees to reimburse the Railroad for actual costs that are incurred for collaborating in the development of the project's preliminary engineering and other preliminary activities. Please prepare and enclose the cost estimate(s) for Railroad preliminary engineering and other preliminary activities when you return the signed State Original counterpart of this Letter Agreement. This information is needed for District budgeting purposes and will be attached to the State Original counterpart of this Letter Agreement. The Railroad may submit monthly bills of at least $2,500.00, prepared in satisfactory form, for work performed as described herein. Payment will be made within thirty (30) days from the State's receipt and approval of the Railroad's request for reimbursement.

Additionally, attached for your company's review and approval is one (1) set of half-scale prints of the preliminary bridge layout, which shows the basic features of the proposed highway underpass at the location referenced above. Please review and provide approval of the basic features of the preliminary layout as soon as possible.

The project may require the Railroad to incur costs for force account activities. Please prepare the railroad force account cost estimate for work activities to be provided by your company, as identified in the preliminary layout.

Please submit the number of current regular train and switching movements at the grade separation location. This information will be used by the TxDOT contractor to obtain Railroad Protective Liability Insurance.

TxDOT and the Railroad will enter into a separate agreement associated with the actual construction of the project. The construction agreement will be drafted by this office and forwarded to your company after the preliminary layout has been approved.

Please sign both counterparts of this Letter Agreement and return the State Original as well as the preliminary engineering estimate to this office. Please return the railroad force account estimates to this office for review and approval as soon as possible.

This project currently is scheduled to let to contract in October 2008.

Your cooperation in this matter is appreciated. If you have any questions, please contact Hal B. Owen at telephone number (512) 416-3285.

Sincerely,

Darin Kosmak
Railroad Section Director
Traffic Operations Division

UNION PACIFIC RAILROAD

By _____ Date _____

Name and Title _____

Attachment
cc: **Steven W. Martchenke, UP** - Three (3) sets of Exhibit A.
Dexter Hollabaugh, Dallas District Office, TxDOT – Copy of Exhibit A.
Kenneth L. Mullin, P.E., Bridge Division, TxDOT – Copy of Exhibit A. At the behest of Darin Kosmak, this layout is being sent to UP coincidentally to submitting it to you for review and approval. Please review and provide comments/approval.
Norma Lopez and Kevin Steele, Finance Division, TxDOT

ATTACHMENT 3

Railroad Cost Estimates

UNION PACIFIC RAILROAD

SUMMARY OF ESTIMATED COSTS FOR RAILROAD WORK
STATE HIGHWAY 161 PROJECT
DALLAS SUBDIVISION M.P. 227.51

Flagging ($1,000/day) 300 Days	$ 300,000
Plan Review and Engineering	$ 50,000
Field Inspection	$ 50,000
Track Construction and Cutovers	$ 808,216
Crossing Signal Estimate - Jefferson St	$281,867
Crossing Signal Estimate – N/B & S/B 161 FR	$847,639
Total Estimate for Railroad Work	$2,337,722

Note: These figures are estimated costs. Actual costs will be billed and are payable within 45 days of receipt of bill.

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD COMPANY
FOR THE
STATE OF TEXAS AND NTTA

DESCRIPTION OF WORK: Perform flagging services for State of Texas/NTTA during the new bridge construction for SH 161 {RR/O} and 2 new one-way frontage roads in Grand Prairie, at MP 227.50 on the Dallas Subdivision and having a DOT of 924430N

Tarrant County DOT – 924430N (new)
CSJ – 2964-01-040
Project: NH
SH 161 in Grand Prairie

LOCATION: FW SERVICE UNIT: 11 STATE: Texas DATE: 02/21/2010

DESCRIPTION	LABOR	MATERIAL	STATE TOTAL
FLAGGING SERVICES			
FLAGGING (per day)	$1,000.00		
Times 300 Days	$300,000.00		
TOTAL PROJECT	$300,000.00		$300,000.00

EXISTING REUSABLE MATERIAL - NONE

SALVAGE NONUSABLE MATERIAL - NONE

TOTAL ESTIMATED COST OF PROJECT LESS CREDITS $300,000.00

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OF AMOUNT OF LABOR REQUIRED, THE STATE AND NTTA WILL BE BILLED FOR ACTUAL CONSTRUCTION COST AT THE CURRENT RATES EFFECTIVE THEREOF.

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD COMPANY

DESCRIPTION OF WORK: Perform services for NTTA, City of Grand Prairie, and the State of Texas associated with the construction of the new SH 161 in Grand Prairie, Texas on the Dallas Sub. at MP 227.51 and having a DOT number of 924430N, All work performed will be a 100% recollectable.

LOCATION: FW SERVICE UNIT: 11 STATE: Texas DATE: 02/25/2010

DESCRIPTION	TOTAL
Plan Review and Inspection	$50,000
Field Inspection	$50,000
TOTAL PROJECT	**$100, 000.00**

EXISTING REUSABLE MATERIAL - NONE

SALVAGE NONUSABLE MATERIAL - NONE

TOTAL ESTIMATED COST OF PROJECT LESS CREDITS $100,000.00

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OF AMOUNT OF MATERIAL OR LABOR REQUIRED, THE RESPONSIBLE PARTY WILL BE BILLED FOR ACTUAL CONSTRUCTION COST AT THE CURRENT RATES EFFECTIVE THEREOF.

Attachment 3

DATE: 2010-02-25

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD

THIS ESTIMATE GOOD FOR 6 MONTHS EXPIRATION DATE IS :2010-08-26

DESCRIPTION OF WORK:
GRAND PRAIRIE,TX / SHOOFLY FOR STATE HIGHWAY 161, MP 227.50, DALLAS SUB
LABOR TO BE PROVIDED BY UNION PACIFIC RAILROAD USING FEDERAL ADDITIVE RATES
WITH OVERHEAD AND INDIRECT COSTS.
PID: 62059 AWO: 88210 MP,SUBDIV: 227.50, DALLAS
SERVICE UNIT: 11 CITY: GRAND PRARIE STATE: TX

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
ENGINEERING WORK							
ENGINEERING			13115		13115		13115
PERSONAL EXPENSES				30000	30000		30000
HOMELINE FREIGHT				11337	11337		11337
SIGNAL INSPECTIONS			3566		3566		3566
TRACK SUPERVISORS			13114		13114		13114
LABOR ADDITIVE 205%			61077		61077		61077
TOTAL ENGINEERING			90872	41337	132209		132209
SIGNAL WORK							
SIGNAL			18358	16520	34878		34878
PERSONAL EXPENSES				7500	7500		7500
RCLW WIRING				1932	1932		1932
LABOR ADDITIVE 167.76%			30439		30439		30439
TOTAL SIGNAL			48797	25952	74749		74749
TRACK & SURFACE WORK							
BALAST-SURF.LINE SHIFTS	24.00	CL	34886	18399	53285		53285
CONTRACT ASSIST				75000	75000		75000
FIELD WELDS			2993	317	3310		3310
OTM			24758	1416	26174		26174
RDXING		TF	29099		29099		29099
XTIE	510.00	EA	39075	22916	61991		61991
SWTXE	26.00	EA	2470	2125	4595		4595
SALES TAX				1803	1803		1803
MATL STORE EXPENSE				85	85		85
WORK TRAIN			5100		5100		5100
MT/CS ADDITIVE 169%			8618		8618		8618
LABOR ADDITIVE 205%			170498		170498		170498
TOTAL TRACK & SURFACE			317497	122061	439558		439558
CONTINGENCY-25%			114300	47400	161700		161700
LABOR/MATERIAL EXPENSE			571466	236750			
RECOLLECTIBLE/UPRR EXPENSE					808216	0	
ESTIMATED PROJECT COST							808216
SALVAGE NONUSEABLE MATERIAL CREDIT					0		
RECOLLECTIBLE LESS CREDITS					808216		

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, UPRR WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

FILE:'EENG205.TSO.EPM.ESTIMATE(P062059B)'

Attachment 3

DATE: 2009-09-15

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD

THIS ESTIMATE GOOD FOR 6 MONTHS EXPIRATION DATE IS :2010-03-16

DESCRIPTION OF WORK:
INSTALL LED FL SIGNALS W/GATES AND CMT IN MEN CABIN AT JEFFERSON STREET
IN GRAND PRAIRIE, TX. M.P. 227.60 ON THE DALLAS SUB.
SIGNAL PROJECT MANAGER: RON CLARKSON 867-7261
RAILROAD TO PERFORM ALL WORK / COST DISTRIBUTED AS FOLLOWS:
SIGNAL - STATE OF TEXAS 100%
ESTIMATED USING FEDERAL ADDITIVES WITH OVERHEAD & INDIRECT
CONSTRUCTION COSTS - 167.76%

PID: 50213 AMO: 01762 MP,SUBDIV: 227.60, DALLAS
SERVICE UNIT: 21 CITY: GRAND PRAIRIE STATE: TX

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
ENGINEERING/SIGNAL WORK							
BILL PREP			900		900		900
CONTRACT				613	613		613
EARTH FILL / ROCK				1250	1250		1250
ENGINEERING			9643		9643		9643
LABOR ADDITIVE			134080		134080		134080
METER SERVICE				6000	6000		6000
PERSONAL EXPENSES				46080	46080		46080
SIGNAL			61380	5131	75511		75511
TRANSP/IB/OB/RCLM CONTR				703	703		703
WE TRAFFIC CONTROL				5297	5297		5297
ENVIRONMENTAL-PERMITS				1	1		1
TOTAL ENGINEERING/SIGNAL			214003	66048	280048		280048
TRACK & SURFACE WORK							
OFM				1819	1819		1819
TOTAL TRACK & SURFACE				1819	1819		1819
LABOR/MATERIAL EXPENSE			214003	67864			
RECOLLECTIBLE/UPRR EXPENSE					281867		
ESTIMATED PROJECT COST							281867

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, UPRR WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

DATE: 2010-01-20

ESTIMATE OF MATERIAL AND FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD

THIS ESTIMATE GOOD FOR 6 MONTHS EXPIRATION DATE IS :2010-07-21

DESCRIPTION OF WORK:
REMOVE EXISTING FLASHERS & CASE AND INSTALL LED FL SIGNALS M/CATED AND
CNT IN NEW CABIN AT 50 S MS SH-161 IN GRAND PRAIRIE, TX. M.P. 227.53
SIGNAL PROJECT MANAGER: RON CLARKSON 867-7261
RAILROAD TO PERFORM ALL WORK / COST DISTRIBUTED AS FOLLOWS:
SIGNAL - FEDERAL/STATE - 100% RECOLLECTABLE
ESTIMATED USING FEDERAL ADDITIVES WITH OVERHEAD & INDIRECT
CONSTRUCTION COST'S - 167.76%

FID: 50793 .AMO: 48109 MP,SUBDIV: 227.53, DALLAS
SERVICE UNIT: 13 CITY: GRAND PRAIRIE STATE: TX

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
ENGINEERING WORK							
ENGINEERING			19616		19616		19616
LABOR ADDITIVE 167.76%			40809		40809		40809
SIG-ENG XMO			4821		4821		4821
TOTAL ENGINEERING			65246		65246		65246
SIGNAL WORK							
BILL PREP			900		900		900
CANTILEVERS				23550	23550		23550
CONTRACT				21869	21869		21869
FOUNDATION REMOVAL				5000	5000		5000
LABOR ADDITIVE 167.76%			248023		248023		248023
MATL STORE EXPENSE				39	39		39
METER SERVICE				3000	3000		3000
PERSONAL EXPENSES				77250	77250		77250
ROCK/GRAVEL/FILL				2000	2000		2000
SIGNAL			146944	218687	365631		365631
TRANSP/IB/OB RCLM CONTR				35082	35082		35082
TOTAL SIGNAL			395867	386525	782392		782392
TRACK & SURFACE WORK							
ENVIRONMENTAL PERMITTING				1	1		1
TOTAL TRACK & SURFACE				1	1		1
LABOR/MATERIAL EXPENSE			461113	386526			
RECOLLECTIBLE/UPRR EXPENSE					847639	0	
ESTIMATED PROJECT COST							847639

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, UPRR WILL BILL FOR ACTUAL CONSTRUCTION COSTS AT THE CURRENT EFFECTIVE RATE.

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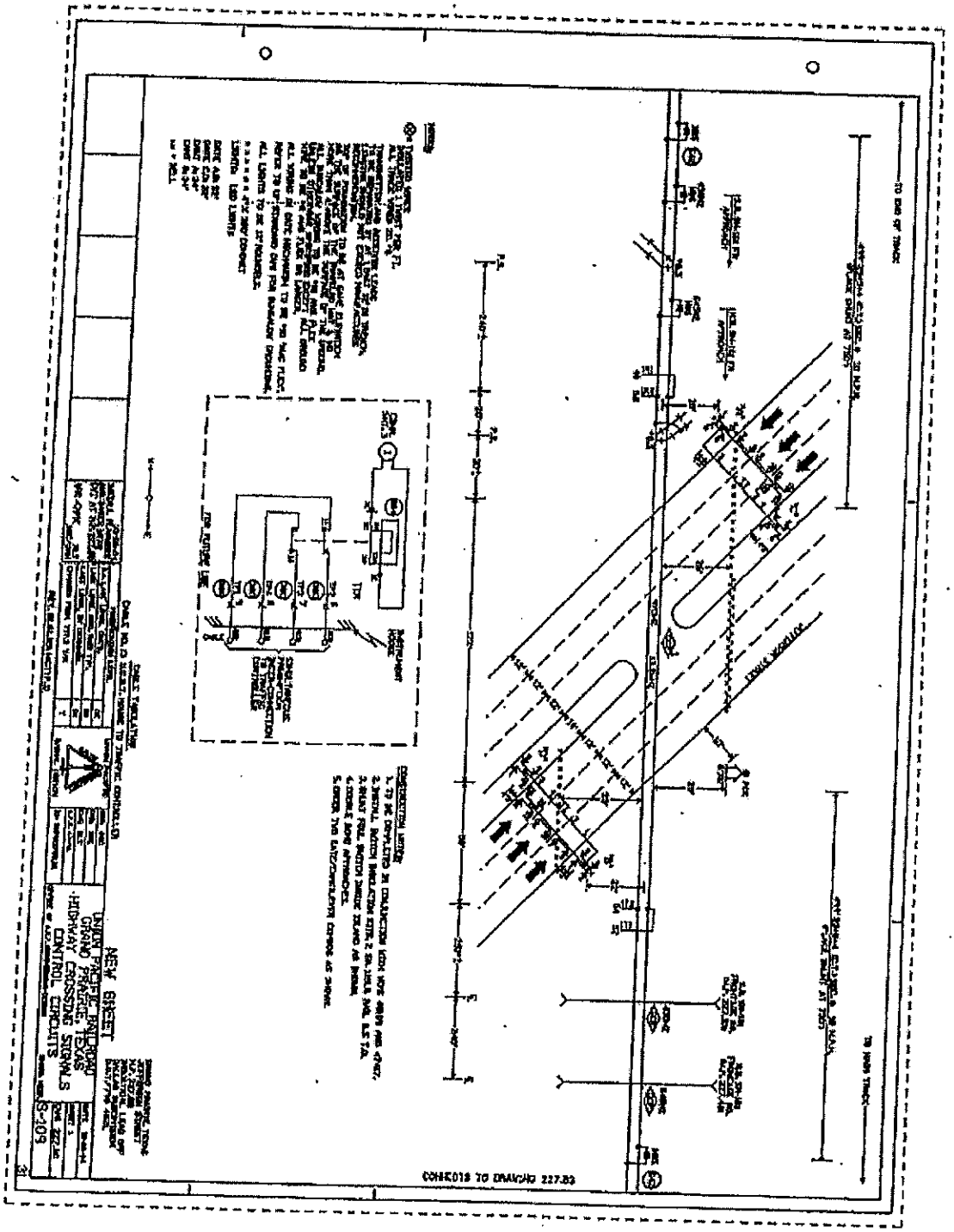
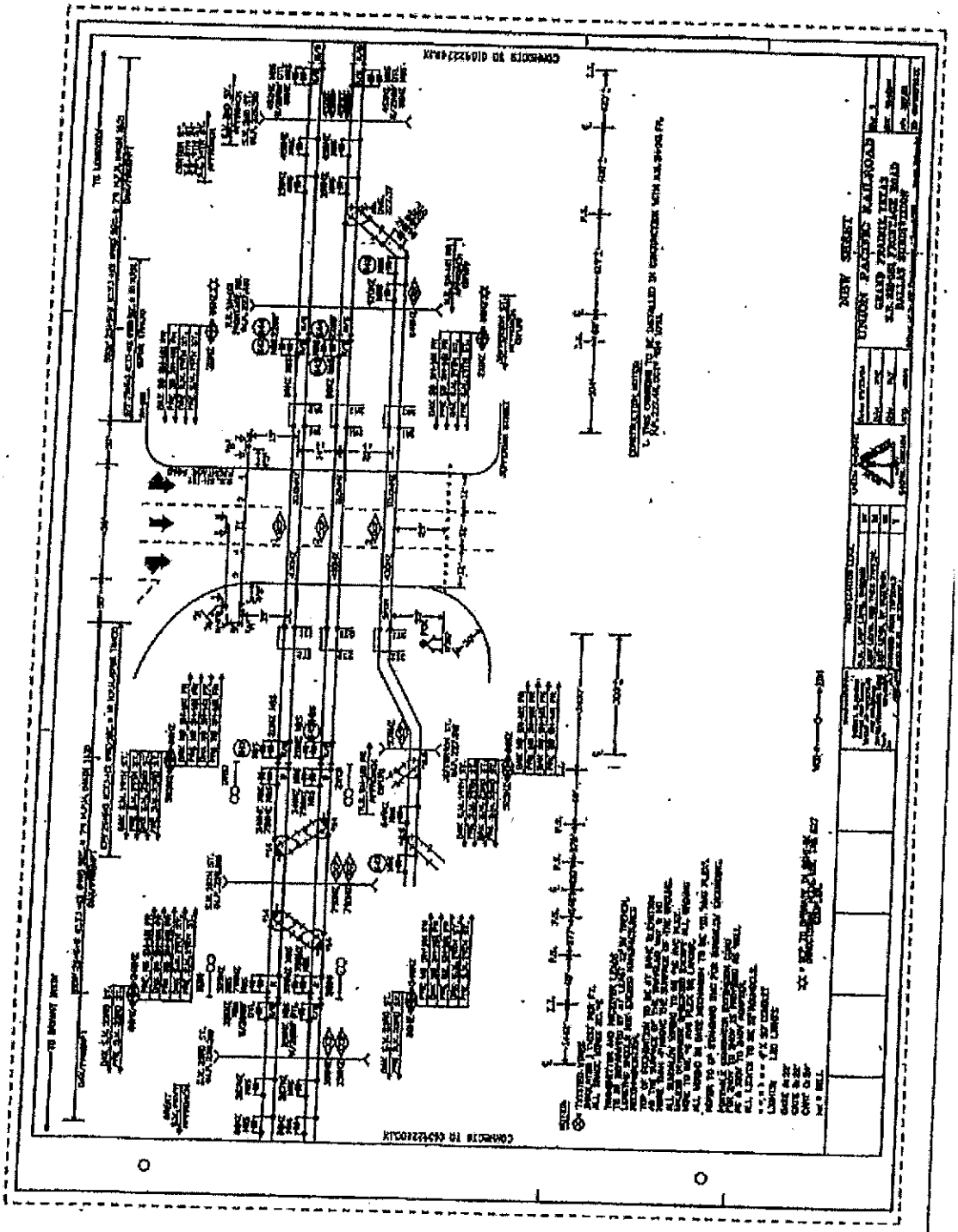
ATTACHMENT 4

Railroad's Signal Circuit Layout

Attachment 4



Attachment 4



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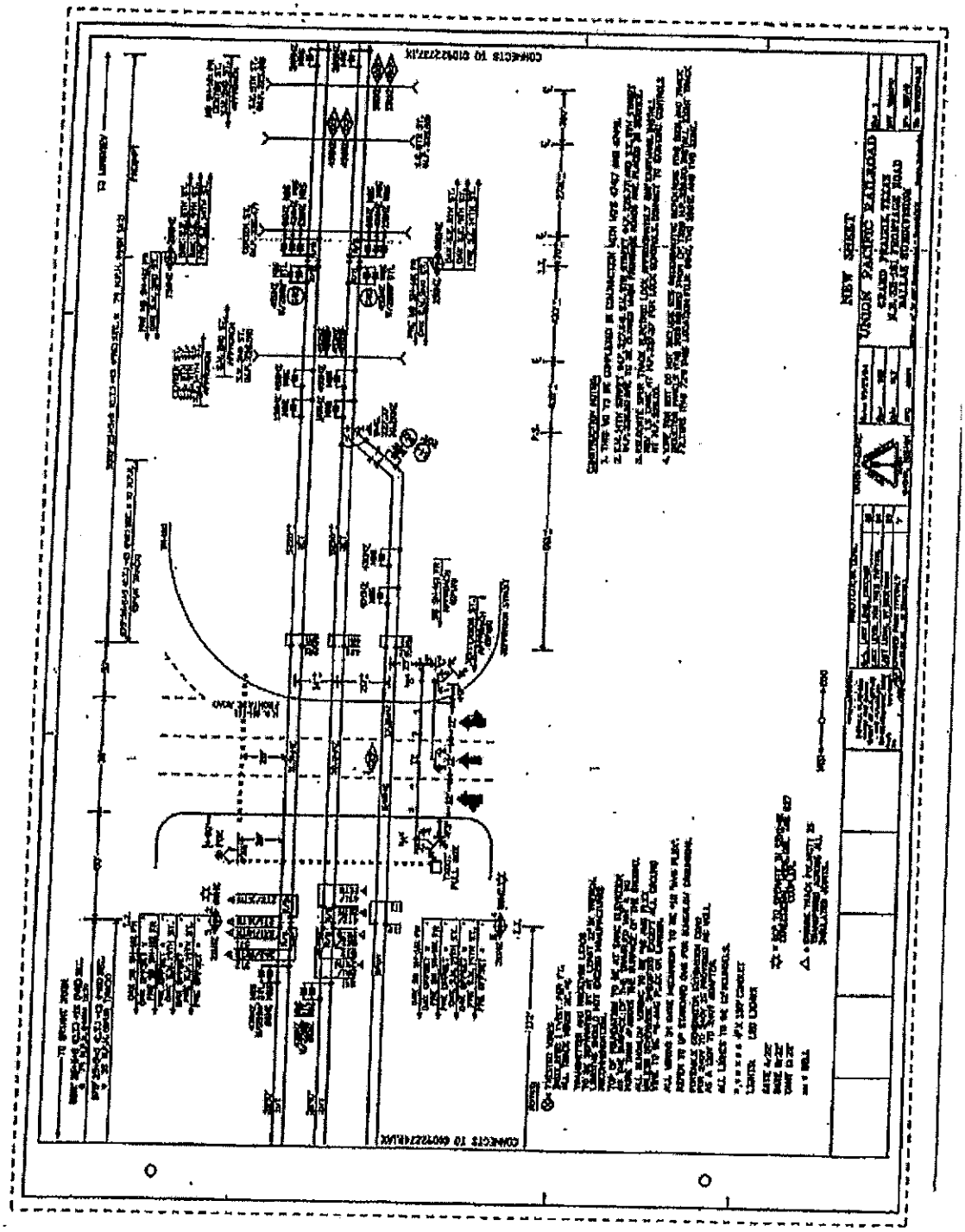

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