

NEW APPLICATION



0000165838



United States Department of the Interior

Bureau of Indian Affairs

Navajo Region

P. O. Box 1060

Gallup, New Mexico 87306

Arizona Corporation Commission



ORIGINAL

IN REPLY REFER TO
Division of Transportation
M/C: 370

DOCKETED AUG 07 2015

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Arizona Corporation Commission
Office of Railroad Safety
Attn: Chris Watson
1200 W Washington Street
Phoenix, AZ 85007

RE: Application to Replace at-Grade Crossing with Overpass Bridge, Navajo, Arizona

Dear Mr. Watson:

We are respectfully submitting this application to allow the DOI-Bureau of Indian Affairs, Navajo Regional Office Division of Transportation (BIA-NRDOT) to replace a BNSF at-grade railroad crossing with a four span bridge overpass that will span over both the railroad tracks and the Rio Puerco River. Below are the required Project information and other data as required in order of the application outline provided by your office.

1. Project Location and Description:

The new bridge overpass will be located approximately 100 feet to the west of the old bridge and railroad crossing with a new D.O.T. No. 025011J. The at-grade railroad crossing is located at (Lat 35° 7.371'N Long 109° 32.201'W).

The Project is located in Navajo, Arizona, adjacent to Exit 325 off I-40 going east. The work will involve re-construction of the I-40 interchange frontage road with replacement of the old structurally deficient bridge over the Rio Puerco River and the at-grade crossing of the railroad owned by BNSF. See the enclosed design plans of the Project.

The old Kerr McGee road N2007 will be upgraded to an all-weather paved surface with driveways for the adjacent housing, and to access the Navajo Travel center and gas station. At the south end of the Project, the roadway with bridge overpass will connect into the existing paved BIA Route N2007 that serves the relocated Navajo families from HOPI lands.

The construction of this Project is planned to begin in the fall or winter of 2015 and will be completed in the spring of 2017. Negotiations are on-going with the BIA Contractor in anticipation of a Contract to be issued by September 17th, 2015.

2. Reasons for the changes to the at grade crossing are needed:

There are several reasons for replacing the at-grade railroad crossing as follows:

- a. The existing 3 span bridge #N666 is structurally deficient and cannot handle the normal HS-20 loadings required for public use;
- b. The existing bridge has a 10 inch waterline hung on the side of the exterior bridge girders which would not allow for the new bridge to be built in the same footprint;
- c. The at-grade railroad crossing is within 25 feet of the old bridge which would prevent a replacement structure in the same location under AASHTO criteria without interfering with the at-grade railroad crossing ;
- d. The new bridge, shifted to the west, will span over the railroad and eliminate the unsafe at-grade crossing in favor of the overpass;
- e. The New Lands Chapter of the Navajo Nation has plans to develop the trust land south of the river to include a possible Wal-Mart warehouse hub, improvements to the Navajo Travel center to a full truck stop center with restaurant, rest area, and truck service center. The projected traffic volumes south of the railroad tracks of 686vpd with the new typical roadway section configuration will allow for a LOS of (A) through the year 2035.

3. How the Project Phasing will take place:

This Project will be built in several phases beginning with the relocation of the existing road and railroad crossing approximately 15 feet to the east for use as a detour while the piers and south abutment are constructed (see design plans for details). The existing bridge will remain as part of the detour. This will take 6-8 months from the notice to proceed to complete. Once the piers and the south abutment is built, the Contractor will begin building up the approach roadway from the south side of the Rio Puerco and re-grade this section of the existing roadway near the Travel Center and housing up to the new subgrade profiles and place all new drainage features which is north of the BNSF right-of-way line. This will take another 3-4 months to complete. Then the Contractor will build up the roadway approach to the new overpass bridge and build the north abutment all on BNSF land taking about 4-6 weeks to complete.

Once the entire substructure is completed, the Contractor will coordinate with BNSF the placing of the bridge girders over the railroad tracks and set stay-in-place deck forms to protect the trains passing under the new bridge. Then moving into the Rio Puerco wash to place the second span bridge beams and the third span bridge beams over a 4-6 week period.

The Contractor will then proceed to placing the bridge deck and other appruntenances over another 8 weeks and begin placement of the roadway base course and hot mix for the approaches to the new bridge. Then the final grading of the BNSF access road and placement of signs and striping for a total Contract time of 20 months.

4. Who and how will the maintenance of the crossing be carried out:

The completed roadway and bridge overpass will be maintained by the BIA-NRDOT in accordance with the Overpass Agreement attached.

5. The Types of warning devices to be installed:

Working with BNSF maintenance staff, the existing at-grade railroad signals will be moved about 15 feet to the east to be in line with the relocated frontage road so the grade crossing can continue to be used until the overpass bridge is built. The existing railroad signals will also be temporarily relocated to the new location by BNSF. Additional traffic control signs will be placed on the approaches to provide additional advance warning for the public with flaggers stationed on each approach during construction.

6. Project Funding:

This Project is being funded all by the Highway Trust Funds through the Federal Lands Highway Tribal Transportation Program. Because this Project involves a railroad crossing, BNSF will contribute 5% of the total cost of the bridge theoretical portion of the Project as their required share in accordance with 23 CFR Part 636.210.

This Project will be built by the BIA's Tribal construction contractor which we are currently in negotiations with on a Contract to be issued before the end of July, 2015. The Government's estimate of the Project is \$15.5 million with the railroad company's share of \$322,460.34.

7. Other Concerns:

- a) *Provide Average Daily Traffic Counts for each of the locations.* See the enclosed Traffic data sheets.
- b) *Please describe the current Level of Service (LOS) at each intersection.* Near the I-40 Frontage road and N2007, the LOS is currently "C". Just south of the railroad crossing the LOS is currently "C". See enclosed LOS analysis worksheets. Taking into account future development with a traffic volume increase of 3% each year, the LOS for the year 2035 is projected to be "A" for the South end of the existing crossing and "B" for the north end.
- c) *Provide any traffic studies done by the road authorities for each area.* A specific traffic study was not warranted for this crossing other than a LOS analysis provided in the enclosures.
- d) *Provide the population of the City the crossing is located in.* This location is in a rural town of Navajo, Arizona, which has a population of approximately 1731.
- e) *Provide what warning devices are currently installed at the crossing.* The BNSF railroad has put up traffic signals in both directions. See design plans emailed to your office for location and type.
- f) *Provide distances in miles to the next public crossing on either side of the proposed project location. Are any of these grade separations?* The next closest crossing is 30 miles to the east at Sanders, Arizona, which was just changed over to a new overpass

with Bridge by ADOT. To the West, the next crossing would be in Flagstaff, 120 miles from this crossing.

- g) *How and why was grade separation not decided on at this time? Please provide any studies that were done to support these answers.* The old one lane bridge inspection reports showed a rapid decline in the structural sufficiency rating which is what drove the decision to replace the bridge back in 2002. However, field inspections revealed a replacement bridge would be too close to the railroad crossing, resulting in a decision to build an overpass instead to span both the wash and railroad that would meet the current AASHTO Design criteria. In talking with BNSF technical staff in 2006, we also found out that the trains pass through the location every 22 minutes in the peak of summer, and 15 minutes in the late fall and winter. This would create a safety hazard to the Navajo community who use this route. In 2008, the Navajo Nation informed us of their plans to develop the land north and south of the Rio Puerco and local landowners also want to develop a big transfer station for Wal-Mart stores with a housing development. In light of these new developments, we and the Office of Navajo Hopi Indian Relocation Commission decided it made sense to build a large overpass that would span the railroad at-grade crossing and wash. It took us 8 years to finally consummate an agreement with the railroad company to now build the overpass.
- h) *If this crossing was grade separated, provide a cost estimate of the project.* The cost to build the new overpass is \$15.5 million.
- i) *Please describe what the surrounding areas are zoned for near this intersection i.e. Are there going to be new housing developments, industrial parks etc.* The lands are all fee status and there is already a small truck stop, gas station & convenient store next to the route along the I-40 interchange where this route N2007 connects to. There is also existing housing just south of the I-40 interchange with plans to build more to the south on the NHIRC New lands which this bridge will provide better access too. We also spoke with a land owner (Von Jensen) who has been planning with other investors to build a Wal-Mart transfer station and housing just south of the Rio Puerco wash. These planned developments cannot take place until a new bridge is built. See Land Status map enclosed herein.
- j) *Please supply the following: number of daily train movements through the crossing, speed of the trains, and the type of movements being made (i.e. thru freight or switching). Is this a passenger train route?* See response to (g) above. As we understand from BNSF, the railroad line is a passenger and cargo train route and there is a switching station just a mile west of the at-grade crossing.
- k) *Please provide the names and locations of all schools (elementary, junior high and high school) within the area of the crossing.* The closest school is the Sanders Elementary and High School 30 miles east of Navajo, Arizona, and the school buses do use route N2007 to pick up and drop off school children twice a day through the existing crossing.

- 1) *Please provide school bus route information concerning the crossing, including the number of times a day a school bus crosses this crossing. All the roads, on the enclosed New Lands map, are school bus routes for the New Lands community which covers Sanders, Navajo, and Chambers, Arizona.*

We respectfully request for your office to get our application onto the docket for the administrative hearing at the earliest possible date, followed quickly by a presentation to the commission for their final approval.

Thank you for your prompt attention in this matter. If you have any questions, please contact Mr. Herby Larsen, Division Manager, at (505) 863-8281 or Harold Riley-PE, Planning & Design Branch Chief, at (505) 863-8284.

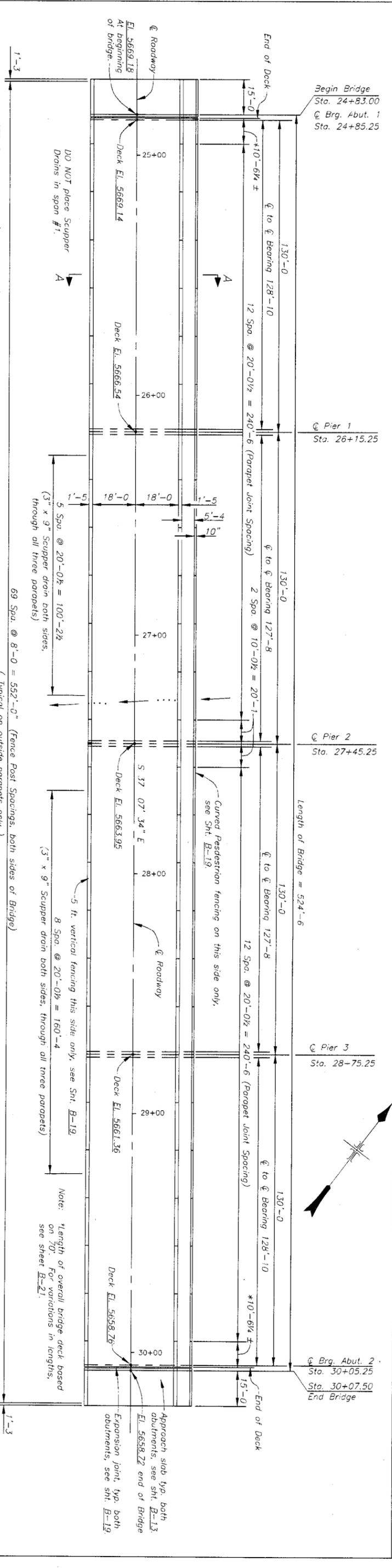
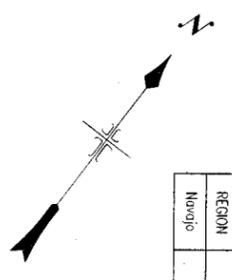
Sincerely,



Regional Director, Navajo

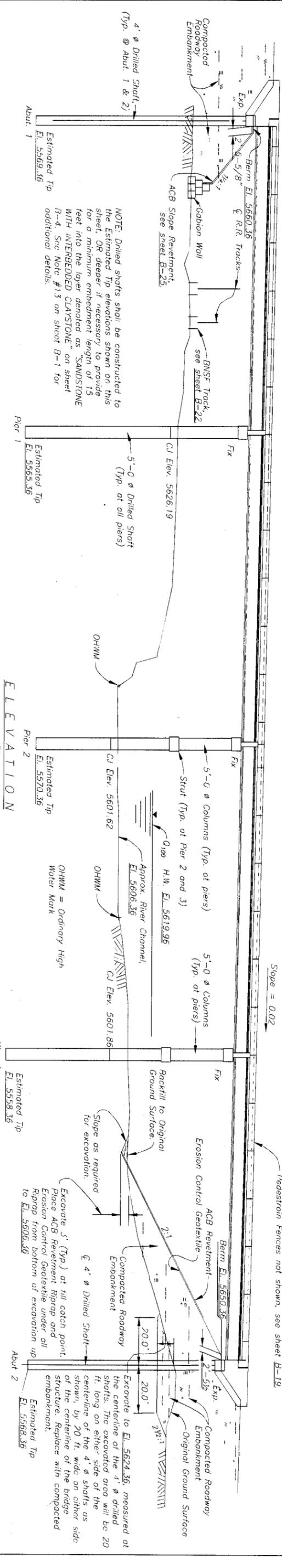
Enclosures
cc: 370 / 372 / 373

REGION	STATE	RESERVATION	ROUTE	PROJECT	SHEET	TOTAL SHEETS
Navajo	AZ	Navajo	N2007	N2007(1-1)284	B-2	63



NOTE: Permanent steel (stay-in-place) deck forms shall be utilized for the construction of Span 1. Permanent steel deck forms may also be used for the construction of Spans 2, 3 and 4 at the Contractor's option. See Sheet B-1, Note #14 for details.

PLANNED
NTS

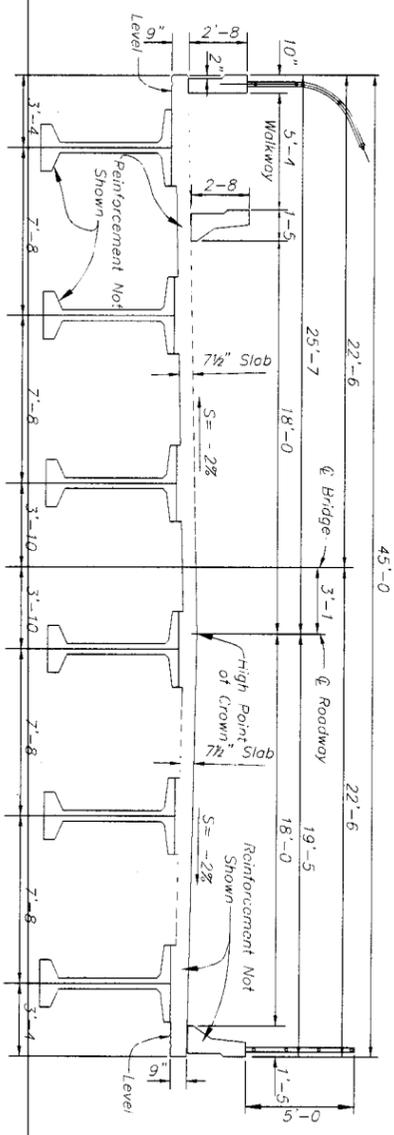


Note: Backfilling of abutment caps and backwalls is restricted to berm elevations shown, prior to girder placement. (Typ. at both abutments).

ELEVATION
NTS

HYDRAULIC DATA
 Drainage area = 2160 sq. mi.
 $Q_{50} = 23,200$ cfs EL. 5619.46 $V = 10.0$ ft/s
 $Q_{100} = 26,100$ cfs EL. 5619.96 $V = 10.0$ ft/s

APPLIED STRUCTURAL LOADS
 Abutment #1 : 314 tons/shaft (max.)
 Pier #1 : 527 tons/shaft (max.)
 Pier #2 : 525 tons/shaft (max.)
 Pier #3 : 545 tons/shaft (max.)
 Abutment #2 : 308 tons/shaft (max.)



SECTION A-A
NTS

NOTE
 For specific location of the beginning and ending bridge stations, see Abutment Plan on Sheet B-9.

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF INDIAN AFFAIRS
 NAVAJO REGIONAL OFFICE - DIVISION OF TRANSPORTATION

RIO PUERCO BRIDGE
 STRUCTURE LAYOUT

Designed by: BUREAU OF RECLAMATION
 Drawn by: BOK, d. rsh, csh Date: 01/17/14
 Revised by: - - - - - Date: - - - - -
 File Name: 02_BIA_plan

OVERPASS COOPERATIVE AGREEMENT

BNSF File No. **BF10004308**

BIA No. _____

Navajo Road Overpass
U.S. D.O.T. No. 025011J
Gallup Subdivision
MP 213.2
Navajo, Arizona

This Overpass Agreement ("**Agreement**"), is executed to be effective as of this 22nd day of May, 2015 ("**Effective Date**"), by and between BNSF RAILWAY COMPANY, a Delaware corporation ("**BNSF**"), and the UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Indian Affairs, Navajo Region, of the United States Government ("**Government**").

RECITALS:

WHEREAS, BNSF owns and operates a line of railroad in and through the County of Apache, State of Arizona;

WHEREAS, Government desires to improve the existing Navajo Road crossing by removing the at-grade crossing and constructing a new crossing at separated grades to be known as the Navajo Road Overpass, also known as the Navajo Route 2007 [N2007(1-1)1,2,4 Bridge Project] and designated D.O.T. No. 025011J; and

WHEREAS, the existing Navajo Road at-grade crossing will be closed, vacated, and removed upon completion of construction and the placing in service of said overpass.

NOW, THEREFORE, in consideration of the mutual covenants and agreements of the parties contained herein, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

ARTICLE I – SCOPE OF WORK

1. The term "**Project**" as used herein includes any and all work related to the construction of the proposed Navajo Road Overpass (hereinafter referred to as the "**Structure**"), more particularly described in Exhibit A, which is attached hereto and incorporated herein, including, but not limited to, any and all changes to telephone, telegraph, signal and electrical lines and appurtenances, temporary and permanent track work, approach roadway work, utility adjustments, removal of existing bridge, fencing, grading, alterations to or new construction of drainage facilities, preliminary and construction engineering and contract preparation, execution, and oversight. During construction of the Structure, vehicular traffic will be temporarily relocated to a detour road as shown on the construction plans. Additionally, temporary traffic control during construction must be in compliance with Section 8A-08, "Temporary Traffic Control Zones" of the Manual on Uniform Traffic Control Devices, U.S. Department of Transportation.

ARTICLE II – BNSF OBLIGATIONS

In consideration of the covenants of Government set forth herein and the faithful performance thereof, BNSF agrees as follows:

1. Upon Government's payment to BNSF of an administrative fee in the sum of Two Thousand and No/100 dollars (\$2,000.00), together with the sum of Three Thousand Eight Hundred and No/100 dollars (\$3,800.00) for Permanent Easements and a Temporary Construction License, such payment to be made within thirty (30) days of the giving of the Notice to Proceed pursuant to Article III, Section 16 of this Agreement, BNSF shall grant to Government, its

BNSF File No. BF10004308
Navajo Road Overpass, US DOT# 025011J

successors and assigns, upon and subject to the terms and conditions set forth in this Agreement, a temporary non-exclusive license (hereinafter called "Temporary Construction License") to widen the Structure across or upon the portion of BNSF's right-of-way described further on Exhibit A and Exhibit B, excepting and reserving BNSF's rights, and the rights of any others who have obtained, or may obtain, permission or authority from BNSF, to do the following:

- (a) Operate, maintain, renew and/or relocate any and all existing railroad track or tracks, wires, pipelines and other facilities of like character upon, over or under the surface of said right-of-way;
- (b) Construct, operate, maintain, renew and/or relocate upon said right-of-way, without limitation, such facilities as the BNSF may from time to time deem appropriate, provided such facilities do not materially interfere with the Governments' construction of the Project;
- (c) Otherwise use or operate the right-of-way as BNSF may from time to time deem appropriate, provided such use or operations does not materially interfere with the Government's construction of the Project;
- (d) Require the Government or its contractor to execute a Temporary Construction Crossing Agreement, for any temporary crossing requested to aid in the construction of the Project.

The term of the Temporary Construction License begins on the Effective Date and ends on the earlier of (i) substantial completion of the Structure, or (ii) thirty (30) months following the Effective Date. The Temporary Construction License and related rights given by BNSF to Government in this provision are without warranty of title of any kind, express or implied, and no covenant of warranty of title will be implied from the use of any word or words herein contained. The Temporary Construction License is for construction of the Structure only and shall not be used by Government for any other purpose. Government acknowledges and agrees that Government shall not have the right, under the Temporary Construction License, to use the Structure for any other purpose than construction. In the event Government is evicted by anyone owning, or claiming title to or any interest in said right-of-way, BNSF will not be liable to Government for any damages, losses or any expenses of any nature whatsoever. The granting of similar rights to others, subsequent to the date of this Agreement, will not impair or interfere with the rights granted to Government herein.

Upon such payment to BNSF of the above sums, with such payment to be made within thirty (30) days of the giving of the Notice to Proceed pursuant to Article III, Section 16 of this Agreement, and provided that Government is in compliance with the terms and conditions of this Agreement, BNSF shall deliver to Government, its successors or assigns, perpetual Permanent Easements to enter upon and use that portion of BNSF's right of way described therein as is necessary to use and maintain the Structure. The Easements shall be in the form attached hereto as Exhibit B and by this reference made a part hereof.

2. BNSF will furnish all labor, materials, tools, and equipment for railroad work required for the construction of the Project, such railroad work and the estimated cost thereof being as shown on Exhibit D attached hereto and made a part hereof. In the event construction on the Project has not commenced within six (6) months following the Effective Date, BNSF may, in its sole and absolute discretion, revise the cost estimates set forth in said Exhibit D. In such event, the revised cost estimates will become a part of this Agreement as though originally set forth herein. Any item of work incidental to the items listed on Exhibit D not specifically mentioned therein may be included as a part of this Agreement upon written approval of Government, which approval will not be unreasonably withheld. Construction of the Project must include the following railroad work by BNSF:

- (a) Procurement of materials, equipment and supplies necessary for the railroad work;
- (b) Preliminary engineering, design, and contract preparation;
- (c) Furnishing of flagging services necessary for the safety of BNSF's property and the operation of its trains during construction of the Project as set forth in further detail on Exhibit C, attached to this Agreement and made a part hereof;
- (d) Furnishing engineering and inspection as required in connection with the construction of the Project;

- (e) Removal of the existing Navajo Road at-grade crossing, including removal of the automatic warning devices, and obliteration of the crossing between the rails and two feet outside thereof;
- (f) Providing a BNSF project coordinator for the Project who will be BNSF's technical and safety representative for the project;
- (g) Construction of a temporary at-grade crossing and installation of automatic warning devices; and
- (h) The adjustment in the alignment, location, and elevation of BNSF's telephone, telegraph, signal and/or wire lines and appurtenances, over or under its tracks as may be required to accommodate construction of said Project.

3. BNSF will do all railroad work set forth in Article II, Section 2 above on an actual cost basis, when BNSF, in its sole discretion, determines it is required by its labor agreements to perform such work with its own employees working under applicable collective bargaining agreements.

4. Government agrees to reimburse BNSF for work of an emergency nature caused by Government or Government's contractor, in connection with the Project which BNSF deems is reasonably necessary for the immediate restoration of railroad operations, or for the protection of persons or BNSF property, upon presentation of evidence that the emergency was caused by the Government or the Government's contractor. Time-sensitive emergency work may be performed by BNSF without prior approval of Government but upon either prior telephonic or written notice of said emergency to Government (BIA NRDOT Manager: 505-863-8281) within 24 hours of occurrence or determination of the existence of an emergency situation by BNSF. Government's agreement to reimburse BNSF or to cause Government's contractor to reimburse BNSF for all such emergency work is subject to availability of appropriations and contingent upon presentation of detailed evidence of the work required and the actual detailed costs or charges for the emergency work performed.

5. BNSF may charge Government for insurance expenses, including self-insurance expenses, when such expenses cover the cost of Employer's Liability (including, without limitation, liability under the Federal Employer's Liability Act) in connection with the construction of the Project, provided that the actual insurance expenses relate only to employees actually performing work related to the Project and only to the time period when such work is being performed. Such charges will be considered part of the actual cost of the Project, regardless of the nature or amount of ultimate liability for injury, loss or death to BNSF's employees, if any.

6. During the construction of the Project, BNSF will provide to the Government progress cost reports (based on work completed) detailing the actual costs of railroad work performed by BNSF forces as outlined in this Agreement. The Government and BNSF agree that BNSF's railroad work costs shall be credited against BNSF's agreed financial contribution to the Project, defined in Article IV, Section 6 of this Agreement, up to the total amount of BNSF's contribution. Each progress cost report shall include a running balance of BNSF railroad work costs against the total agreed BNSF project financial contribution. The Government agrees to reimburse BNSF for undisputed railroad work costs that exceed the total agreed BNSF financial contribution within forty-five (45) days of the date of receiving a cost report and invoice, or resubmission of a corrected invoice that had been deemed defective by the Government¹. Upon completion of the Project, BNSF will submit to the Government a detailed invoice of final costs that exceed the total agreed BNSF financial contribution. The detailed invoice shall provide separate labor and material costs for each item in the recapitulation shown on Exhibit D. Pursuant to this section and Article IV, Section 7 herein, the Government must pay the final invoice within the requirements of the Prompt Payment Act.

¹An invoice may be considered defective for reasons such as errors and/or omissions in quantity calculations, including mathematical errors; lack of supporting documentation for verification purposes; missing dates or improper signatures; or lack of other required information. Defective invoices shall be returned to BNSF for corrections and resubmission

ARTICLE III – GOVERNMENT OBLIGATIONS

In consideration of the covenants of BNSF set forth herein and the faithful performance thereof, Government agrees as follows:

1. Government must furnish to BNSF plans and specifications for the Project. Four sets of said plans (reduced size 11" x 17" or 18" x 24"), together with two copies of calculations, and two copies of specifications in **English Units**, must be submitted to BNSF for approval prior to commencement of any construction. BNSF will give Government final written approval of the plans and specifications substantially in the form of Exhibit E, attached to this Agreement and made a part hereof within 30 calendar days of receipt. Upon BNSF's final written approval of the plans and specifications, said plans and specifications will become part of this Agreement and are hereby incorporated herein. Any approval of the plans and specifications by BNSF shall in no way obligate BNSF in any manner with respect to the finished product design and/or construction. Any approval by BNSF shall mean only that the plans and specifications meet the subjective standards of BNSF, and such approval by BNSF shall not be deemed to mean that the plans and specifications or construction is structurally sound and appropriate or that such plans and specifications meet applicable regulations, laws, statutes or local ordinances and/or building codes.
2. Government must make any required application and obtain all required permits and approvals for the construction of the Project.
3. Government must provide for and maintain minimum vertical and horizontal clearances, as required and approved by BNSF as part of the plans and specifications for the Project.
4. Government must acquire all rights of way necessary for the construction of the Project.
5. Government must make any and all arrangements, in compliance with BNSF's Utility Accommodation Manual (<http://www.bnsf.com/communities/faqs/pdf/utility.pdf>), for the installation or relocation of wire lines, pipe lines and other facilities owned by private persons, companies, corporations, political subdivisions or public utilities other than BNSF which may be necessary for the construction of the Project.
6. Government must construct the Project as shown on the attached Exhibit A and do all work ("Government's Work") provided for in the plans and specifications for the Project, except necessary and required railroad work that will be performed by BNSF hereunder. Government must furnish all labor, materials, tools and equipment for the performance of Government's Work. The principal elements of Government's Work (and that of its contractor) are as follows:
 - (a) Archaeological investigation and disposition of any artifacts and/or human remains;
 - (b) Construction and removal of a temporary roadway detour crossing of the tracks, including chain link fence;
 - (c) Construction of the Structure including roadway realignment of Navajo Route N2007 within BNSF right-of-way;
 - (d) All necessary grading and paving, including backfill of excavations and restoration/re-seeding of disturbed areas on BNSF's right-of-way;
 - (e) Provide suitable drainage, both temporary and permanent;
 - (f) Modification of fencing for BNSF's maintenance yard facility;
 - (g) Installation of fence and two (2) gates in the fence North & South of the BNSF service building in order to provide BNSF with permanent access for maintenance purposes;

- (h) Relocate existing chain link fencing as per Project Plans, for temporary security of BNSF's Service/Maintenance yard with appropriate traffic control as may be required by the Manual on Uniform Traffic Control Devices;
- (i) Installation of new electric service required for operation of BNSF's signal pole line, if required for Project construction;
- (j) Design and construction of a 20 foot wide permanent paved roadway to be used for maintenance access to BNSF property as shown on the Project Plans;
- (k) Installation and maintenance of concrete retaining wall and slope paving between the Structure and the BNSF maintenance building;
- (l) Job site cleanup including removal of all construction materials, concrete debris, surplus soil, refuse, contaminated soils, asphalt debris, litter and other waste materials to the extent caused by the Government or the Government's contractor to the satisfaction of BNSF; and
- (m) Removal of existing approach roadway and close off all access to the existing historic bridge within BNSF's right-of-way spanning the Rio Puerco Wash.

7. Government must apply and maintain D.O.T. Crossing number **025011J** in a conspicuous location on the Structure.

8. Government's Work must be performed by Government or Government's contractor in a manner that will not endanger or interfere with the safe and timely operations of BNSF and its facilities.

9. In order to prevent damage to BNSF trains and property, Government must require its contractor(s) to notify BNSF's Roadmaster at least thirty (30) calendar days prior to requesting a BNSF flagman in accordance with the requirements of Exhibit C attached hereto. Additionally, Government must require its contractor(s) to notify BNSF's Manager of Public Projects thirty (30) calendar days prior to commencing work on BNSF property or near BNSF tracks.

10. Government or its contractor(s) must submit four (4) copies of any plans (including two sets of calculations in **English Units**) for proposed shoring, falsework or cribbing to be used over, under, or adjacent to BNSF's tracks to BNSF's Manager of Public Projects for approval. The shoring, falsework or cribbing used by Government's contractor shall comply with the BNSF Bridge Requirements set forth on Exhibit F and all applicable requirements promulgated by federal agencies, departments, commissions and other legislative bodies.

11. Government must include the following provisions in any contract with its contractor(s) performing work on said Project:

- (a) The Contractor is placed on notice that fiber optic, communication and other cable lines and systems (collectively, the "Lines") owned by various telecommunications companies may be buried on BNSF's property or in its right-of-way. The locations of these Lines have been included on the plans based on information from the telecommunications companies. The contractor will be responsible for contacting BNSF's OneCall (telephone number (800)-533-2891) and the telecommunications companies and notifying them of any work that may damage these Lines or facilities and/or interfere with their service. The contractor must also mark all Lines, which are shown on the plans, in the field in order to verify their locations. The contractor must also use all reasonable methods when working in the BNSF right-of-way or on BNSF property to determine if any other Lines (fiber optic, cable, communication or otherwise) may exist by coordinating all work with all utility companies.

- (b) Failure to mark or identify these Lines will be sufficient cause for Government's representative to stop construction at the request of BNSF, at no cost to the Government or BNSF, until these items are completed.
- (c) In addition to the liability terms contained elsewhere in this Agreement, Government's contract with its Contractor must include a provision that the contractor hereby indemnifies, defends and holds harmless BNSF for, from and against all cost, liability, and expense whatsoever (including, without limitation, attorney's fees and court costs and expenses) arising out of or in any way contributed to by any act or omission of Contractor, its subcontractors, agents and/or employees that cause or in any way or degree contribute to (1) any damage to or destruction of any Lines by Contractor, and/or its subcontractors, agents and/or employees, on BNSF's property or within BNSF's right-of-way, (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 BNSF's property or within BNSF's right-of-way, and/or (3) any claim or cause of action for alleged loss of profits or revenue by, or loss of service by a customer or user of such telecommunication company(ies).
- (d) The Contractor, in full cooperation with the utility companies, will be responsible for the rearrangement of any utility facilities or Lines determined to interfere with the construction.

12. Government must incorporate in each prime contract for construction of the Project, or the specifications therefore (i) the applicable provisions set forth in Article III; (ii) the applicable provisions set forth in Article IV; and (iii) the provisions set forth in Exhibit C, Exhibit C-1, and Exhibit F attached hereto and by reference made a part hereof.

13. Except as otherwise provided below in this Section 13, all construction work performed hereunder by Government for the Project will be pursuant to a contract or contracts to be let by Government, and all such contracts must include clauses that cover the following:

- (a) All work performed under such contract or contracts within the limits of BNSF's right-of-way must be performed in a good and workmanlike manner in accordance with plans and specifications approved by BNSF;
- (b) Changes or modifications during construction that affect safety or BNSF operations must be subject to BNSF's timely approval;
- (c) No work will be commenced within BNSF's right-of-way until each of the prime contractors employed in connection with said work have (i) executed and delivered to BNSF an agreement in the form of Exhibit C-1, and (ii) delivered to and secured BNSF's approval of the required insurance; and
- (d) If it is in Government's best interest, if at any time, in the opinion of Government, the contractor has failed to prosecute with diligence the work specified in and by the terms of said contract, Government may terminate its contract with the contractor and take control over the work and proceed to complete the same by employing another contractor(s), provided; however, that any contractor(s) replacing the original contractor(s) must comply with the obligations in favor of BNSF set forth above and, provided further, that if such construction is performed by another contractor, Government will, at no expense to BNSF, insure that any and all replacement contractors procure and maintain on behalf of BNSF the insurance required by Exhibit C-1.
- (e) To facilitate scheduling for the Project, Government shall have its contractor give BNSF's representative (505-767-6826) thirty (30) days advance notice of the proposed times and dates for work windows. BNSF and Government's contractor will establish mutually agreeable work windows for the Project. BNSF has the right at any time to revise or change the work windows due to train operations or service obligations. BNSF will not be responsible for any additional costs and expenses resulting from a change in work windows. BNSF will take every practicable measure to provide work windows that once granted and started, will not be

changed or closed without allowing the government or its Contractor sufficient time to complete on-going critical construction activities

- (f) The plans and specifications for the Project must be in compliance with the Bridge Requirements set forth on Exhibit F, attached to this Agreement and incorporated herein.

14. Government must advise the appropriate BNSF Manager of Public Projects, in writing, of the completion date of the Project within thirty (30) days after such completion date. Additionally, Government must notify BNSF's Manager of Public Projects, in writing, of the date on which Government and/or its Contractor will meet with BNSF for the purpose of making final inspection of the Project.

15. TO THE EXTENT PERMITTED BY LAW, GOVERNMENT HEREBY RELEASES, INDEMNIFIES, DEFENDS AND HOLDS HARMLESS BNSF, ITS AFFILIATED COMPANIES, PARTNERS, SUCCESSORS, ASSIGNS, LEGAL REPRESENTATIVES, OFFICERS, DIRECTORS, SHAREHOLDERS, EMPLOYEES AND AGENTS FOR, FROM AND AGAINST ANY AND ALL CLAIMS, LIABILITIES, FINES, PENALTIES, COSTS, DAMAGES, LOSSES, LIENS, CAUSES OF ACTION, SUITS, DEMANDS, JUDGMENTS AND EXPENSES (INCLUDING, WITHOUT LIMITATION, COURT COSTS AND ATTORNEYS' FEES) OF ANY NATURE, KIND OR DESCRIPTION OF ANY PERSON (INCLUDING, WITHOUT LIMITATION, THE EMPLOYEES OF THE PARTIES HERETO) OR ENTITY DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR RELATED TO (IN WHOLE OR IN PART) (I) THE USE, OCCUPANCY OR PRESENCE OF GOVERNMENT, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES OR AGENTS IN, ON, OR ABOUT THE CONSTRUCTION SITE, (II) THE PERFORMANCE, OR FAILURE TO PERFORM BY THE GOVERNMENT, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES, OR AGENTS, ITS WORK OR ANY OBLIGATION UNDER THIS AGREEMENT, (III) THE SOLE OR CONTRIBUTING ACTS OR OMISSIONS OF GOVERNMENT, ITS CONTRACTORS, SUBCONTRACTORS, EMPLOYEES, OR AGENTS IN, ON, OR ABOUT THE CONSTRUCTION SITE, (IV) GOVERNMENT'S BREACH OF THE TEMPORARY CONSTRUCTION EASEMENT GRANTED TO GOVERNMENT PURSUANT TO ARTICLE II OF THIS AGREEMENT, (V) ANY RIGHTS OR INTERESTS GRANTED TO GOVERNMENT PURSUANT TO THE TEMPORARY CONSTRUCTION EASEMENT DISCUSSED IN ARTICLE II OF THIS AGREEMENT, (VI) GOVERNMENT'S OCCUPATION AND USE OF BNSF'S PROPERTY OR RIGHT-OF-WAY, INCLUDING, WITHOUT LIMITATION, SUBSEQUENT MAINTENANCE OF THE STRUCTURE BY GOVERNMENT, OR (VII) AN ACT OR OMISSION OF GOVERNMENT OR ITS OFFICERS, AGENTS, INVITEES, EMPLOYEES OR CONTRACTORS OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM, OR ANYONE THEY CONTROL OR EXERCISE CONTROL OVER. THE LIABILITY ASSUMED BY GOVERNMENT WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY OR DEATH WAS CONTRIBUTED TO BY THE NEGLIGENCE OF BNSF, ITS AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR GROSS NEGLIGENCE OF BNSF.

- A) The parties agree that nothing contained in this provision is intended to nor shall be read, deemed, or construed to require the Government to indemnify or reimburse BNSF for any liabilities, claims, demands, damages, costs, or expenses related to any action, error, omission, or non-action arising in any manner out of BNSF or its agents, employees, servants or contractor's gross negligence or willful misconduct;
- B) The Government's liability under Section 15 of Article III is subject to the availability of appropriated funds at the time a contingency occurs as provided in the section. Nothing in this Agreement shall be read, deemed, or construed as implying that the United States Congress will, at a later date, appropriate funds sufficient to meet deficiencies. If any suit or action is filed or any claim or demand made against BNSF, the cost and expense of which may be reimbursable to BNSF by the Government under section 15, BNSF shall: (a) immediately notify the Government and promptly furnish copies of all pertinent documents received; (b) authorize the Government representatives to collaborate with BNSF counsel and/or others in preparations for handling any such claim or demand; and (c) authorize the Government

representatives to settle or defend the claim or action and to represent BNSF in or to take charge of any litigation, if required by the Government. BNSF reserves the right, at its own expense, to be associated with the Government representatives in any such claim or litigation. The Government shall require any contractor it hires to work on the Project to obtain insurance coverage in accordance with Exhibit C-1 hereto and the provisions of the Federal Acquisition Regulations, 48 C.F.R. Chapter 1.

16. The Government must give BNSF's Manager of Public Projects written notice to proceed ("Notice to Proceed") with the railroad work after receipt of necessary funds for the Project. BNSF will not begin the railroad work (including, without limitation, procurement of supplies, equipment or materials) until written notice to proceed is received from the Government.

17. The Government will perform all necessary work to permanently close and vacate the existing Navajo Route N2007 and Bridge, within BNSF's right-of-way, in favor of the newly realigned roadway and bridge overpass. This includes sufficient fencing and existing roadway obliteration to prevent the accidental use of the old N2007 roadway and bridge. This does not include the removal of the existing or temporary at-grade crossing, signals and related structures. BNSF shall cooperatively work with the Government to achieve the permanent closure of the existing roadway and bridge as well as BNSF's removal of the existing and temporary at-grade crossing.

ARTICLE IV – JOINT OBLIGATIONS

IN CONSIDERATION of the promises in this Agreement, the parties hereto mutually agree to the following:

1. All work contemplated in this Agreement, by either party, must be performed in a good and workmanlike manner and each portion must be promptly commenced by the party obligated hereunder to perform the same and thereafter diligently prosecuted to conclusion in its logical order and sequence. Furthermore, any changes or modifications during construction that affect BNSF's operations or the safety thereof will be subject to BNSF's approval prior to the commencement of any such changes or modifications.

2. The work hereunder must be done in accordance with the Bridge Requirements set forth in Exhibit F and the detailed plans and specifications approved by BNSF.

3. The Government must require its contractor(s) to reasonably adhere to the Project's construction schedule for all Project work, subject to Acts of Nature, agreed-to changes in the work which adds time to the Project, and other excusable delays not the fault of the contractor(s). The parties hereto mutually agree that BNSF's failure to complete the railroad work in accordance with the construction schedule due to inclement weather or unforeseen railroad emergencies will not constitute a breach of this Agreement by BNSF or any other party and will not subject BNSF or any other party to any liability. Regardless of the requirements of the construction schedule, BNSF reserves the right to reallocate the labor forces assigned to complete the railroad work in the event of an emergency to provide for the immediate restoration of railroad operations of either BNSF or its related railroads, or to protect persons or property on or near any BNSF owned property. BNSF will not be liable for any additional costs or expenses resulting from any such reallocation of its labor forces. The parties mutually agree that any reallocation of labor forces by BNSF pursuant to this provision and any direct or indirect consequences or costs resulting from any such reallocation will not constitute a breach of this Agreement by BNSF. The parties also mutually agree that any failure of BNSF to meet the construction schedule, which in turn delays the Government and/or its contractor(s), shall be cause, if requested by the Government, for BNSF to extend this agreement and any construction permits, licenses, etc., for an equal amount of time that BNSF delays completion of Project at no additional cost to the government.

4. BNSF will have the right to stop construction work on the Project if any of the following events take place: (i) the Government (or any of its contractors) performs the Project work (within BNSF property) in a manner contrary to the plans and specifications approved by BNSF (including any modifications); (ii) the Government (or any of its contractors), in BNSF's opinion, prosecutes the Project work in a manner that is hazardous to BNSF property, facilities or the safe and expeditious movement of railroad traffic; or (iii) the insurance described in the attached Exhibit C-1 is canceled during the course of the Project. The work stoppage will continue until all necessary actions are taken by Government or its contractor to rectify the situation to the satisfaction of BNSF's Division Engineer or

until proof of additional insurance has been delivered to and accepted by BNSF. Any such work stoppage under this provision will not give rise to any liability on the part of BNSF. BNSF's right to stop the work is in addition to any other rights BNSF may have including, but not limited to, actions or suits for damages or lost profits. In the event that BNSF desires to stop construction work on the Project, BNSF agrees to immediately notify the following individual in writing:

Awarding Official
BIA Navajo Division of Self Determination
P.O. Box 1060, Gallup, NM, 87305
Telephone: (505) 863-~~8311~~ 8529
Facsimile: (505) 863-~~8382~~ 8461

5. The Government must supervise and inspect the operations of all Government contractors to ensure compliance with the plans and specifications approved by BNSF, the terms of this Agreement and all safety requirements of BNSF. If BNSF determines that proper supervision and inspection are not being performed by Government personnel at any time during construction of the Project, BNSF (with notification to the Government Awarding Official) has the right, in its sole discretion, to stop construction (within its operating right-of-way). Construction of the Project will not proceed until the Government corrects the situation to BNSF's reasonable satisfaction. If BNSF feels the situation is not being corrected in an expeditious manner, BNSF will immediately notify the Regional Awarding Official for appropriate corrective action.

6. BNSF will contribute a fixed amount of \$ \$322,460.34 (hereinafter referred to as "BNSF's Share") towards the total costs of the Project. BNSF's Share is based on the costs for preliminary engineering, right-of-way and construction within the following limits:

- (a) Where a grade crossing is eliminated by grade separation, the structure and approaches required to transition to a theoretical highway profile which would have been constructed if there were no railroad present, for the number of lanes on the existing highway and in accordance with the current design standards of the appropriate highway agency; and
- (b) Where another facility, such as a highway or waterway, requiring a bridge structure is located within the limits of a grade separation project, the estimated cost of a theoretical structure and approaches as described in 23 CFR 646.210(c)(1) to eliminate the railroad-highway grade crossing without considering the presence of the waterway or other highway.

The total estimated cost is presently estimated to be \$16,855,593.00, more particularly described in Exhibit G attached hereto and incorporated herein.

7. Pursuant to this section the Government must, out of funds made available to it for the construction of the Project, reimburse BNSF in full for the actual costs of all railroad work performed by BNSF under this Agreement as provided in Article II, Section 6, that exceeds BNSF's Share. In the event BNSF's actual costs are less than the BNSF Share, then BNSF shall submit the balance to the Government's Awarding Official under government reimbursement procedures at the completion of the project.

8. All expenses detailed in statements sent to the Government pursuant to Article II, Section 6 herein will comply with the terms and provisions of the Title 23 U.S. Code, Title 23 Code of Federal Regulations, and the Federal-Aid Policy Guide, U.S. Department of Transportation, as amended from time to time, which manual is hereby incorporated into and made a part of this Agreement by reference. The parties mutually agree that BNSF's preliminary engineering, design, and contract preparation costs described in Article II, Section 2 herein are part of the costs of the Project even though such work may have preceded the date of this Agreement.

9. The parties mutually agree that the following cannot occur during the fourth quarter of each calendar year (i.e. October 1st thru December 31st): any construction activities for the Project, or any future maintenance of the Structure once completed unless approved otherwise by BNSF Manager of Public Projects. Emergency work will be permitted only upon prior notification to BNSF's Network Operations Center (telephone number: 800 832-5452). The

parties hereto mutually understand and agree that trains cannot be subjected to delay during this time period. Minor construction or maintenance activities may be allowed with prior approval of BNSF subject to Exhibit C & Exhibit C-1 as applicable.

10. Subject to the restrictions imposed by Article IV, Section 9 above, the construction of the Project will not commence until the Government gives BNSF's Manager of Public Projects thirty (30) days prior written notice of such commencement. The commencement notices will reference BNSF's file number **BF10004308** and D.O.T. Crossing No. 025011J and must state the date that construction activities will begin.

11. In addition to the terms and conditions set forth elsewhere in this Agreement, including, but not limited to, the terms and conditions stated in Exhibit F, BNSF and Government agree to the following terms upon completion of construction of the Project:

- (a) Government will own and maintain, at its sole cost and expense, the Structure, the highway approaches, and appurtenances thereto, lighting, drainage structures, and any turnouts pursuant to Exhibit F within Government's right-of-way. BNSF may, at its option, perform emergency maintenance on the Structure in order to avoid conflicts with train operations. In the event such maintenance involves emergency repairs, BNSF will notify the Government at its earliest opportunity, in keeping with the provisions of Article II, Section 4 of this Agreement.
- (b) The Government must, at Government's sole cost and expense, keep the Structure painted and reasonably free from graffiti.
- (c) It is expressly understood by the Government and BNSF that any right to install utilities will be governed by a separate permit or license agreement between the parties hereto. BNSF agrees to take reasonable efforts to expedite the permit and/or license process to allow timely completion of the Project.
- (d) If the Government (including its contractors and agents) or BNSF, on behalf of the Government, performs (i) alterations or modifications to the Structure, or (ii) any maintenance or other work on the Structure with heavy tools, equipment or machinery at ground surface level horizontally within 25'-0" of the centerline of the nearest track, or (iii) any maintenance or other work outside the limits of the deck of the Structure vertically above the top of the rail, the Government's Contractor(s) and/or agents must abide by the insurance requirements given in Article III and including Exhibit C-1 to the extent allowed by federal law. Maintenance work performed by the Government's own forces is not subject to the insurance coverage shown below.

Railroad Protective Liability insurance naming only the **Railroad** as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy shall be issued on a standard ISO form CG 00 35 12 04 and include the following:

- Endorsed to include the Pollution Exclusion Amendment
- Endorsed to include the Limited Seepage and Pollution Endorsement.
- Endorsed to remove any exclusion for punitive damages.
- Endorsed to include Evacuation Expense Coverage Endorsement.
- No other endorsements restricting coverage may be added.
- The original policy must be provided to the **Railroad** prior to performing any work or services under this Agreement
- Definition of "Physical Damage to Property" shall be endorsed to read: "means direct and accidental loss of or damage to all property owned by any named insured and all property in any named insured' care, custody, and control arising out of the acts or omissions of the contractor named on the Declarations.

As used in this paragraph, "Railroad" means "Burlington Northern Santa Fe, LLC", "BNSF RAILWAY COMPANY" and the subsidiaries, successors, assigns and affiliates of each.

In lieu of providing a Railroad Protective Liability Policy, Government may participate in BNSF's Blanket Railroad Protective Liability Insurance Policy if available to Government or its contractors. The limits of coverage are the same as above.

12. Government hereby recognizes a right of access from Government property to BNSF property, including BNSF tracks for railroad maintenance purposes.

13. Government must provide one set of as built plans (prepared in English Units) to BNSF, as well as one set of computer diskettes containing as built CAD drawings of the Structure and identifying the software used for the CAD drawings. The "as built plans" must comply with the Bridge Requirements set forth on Exhibit F and depict all information in BNSF engineering stationing and mile post pluses. The "as built plans" must also include plan and profile, structural bridge drawings and specifications, and drainage plans. All improvements and facilities must be shown.

14. Subject to the restrictions imposed by Article IV, Section 9 above, Government must notify and obtain prior authorization from BNSF's Manager of Public Projects before entering BNSF's right-of-way for INSPECTION OR MAINTENANCE purposes that could endanger or interfere with the safe and timely operations of BNSF and its facilities, and the BNSF Manager of Public Projects will determine if flagging is required. If the construction work hereunder is contracted, Government must require its prime contractor(s) to comply with the obligations set forth in Exhibit C and Exhibit C-1, and Exhibit F, Government will be responsible for its contractor(s) compliance with such obligations.

15. BNSF may, at its expense, make future changes or additions to the railroad components of the Structure if necessary or desirable, in BNSF's sole discretion, including, without limitation the following: (i) the right to raise or lower the grade or change the alignment of its tracks, (ii) the right to lay additional track or tracks, or (iii) the right to build other facilities in connection with the operation of its railroad. Such changes or additions must not change or alter the highway components of the Structure. If it becomes necessary or desirable in the future to change, alter, widen or reconstruct the highway components of the Structure to accommodate railroad projects, the cost of such work, including any and all costs incidental to alteration of railroad or highway facilities made necessary by any such changes to the Structure, will be solely at the expense of BNSF unless the Government agrees in writing to share in the cost. Prior to any such alterations of the highway structure, BNSF agrees to submit detailed design plans and specifications, including provisions for traffic control as needed, to the Government for review and approval and further agrees to comply with applicable Government permitting requirements with respect to the proposed design of the modified Structure. Government's review, approval and permit issuance will not be unreasonably withheld or delayed for proposed Structure alterations.

16. Government may, at Government's sole expense (unless BNSF agrees to share in the costs) alter or reconstruct the highway components of the Structure if necessary or desirable, due to future traffic conditions or pedestrian or other recreational traffic, provided, however, that any such alteration or reconstruction must be covered by either a supplement to this Agreement, or a new agreement that provides for termination of this Agreement.

17. Any books, papers, records and accounts of the parties hereto relating to the work hereunder or the costs or expenses for labor and material connected with the construction will at all reasonable times be open to inspection and audit by the agents and authorized representatives of the parties hereto, as well as the State of Arizona and the Federal Highway Administration, for a period of three (3) years from the date of the final acceptance of the Project by the Government.

18. The covenants and provisions of this Agreement are binding upon and inure to the benefit of the successors and assigns of the parties hereto. Notwithstanding the preceding sentence, neither party hereto may assign any of its rights or obligations hereunder without the prior written consent of the other party.

19. Nothing contained in this agreement shall be construed as obligating the Government to undertake the actual construction of the Project, until such time as the Government deems appropriate. In the event construction of the Project does not commence within two (2) years of the Effective Date of the Overpass Agreement, this Agreement will become null and void.

20. Neither termination nor expiration of this Agreement will release either party from any liability or obligation under this Agreement, whether of indemnity or otherwise, resulting from any acts, omissions or events happening prior to the date of termination or expiration.

21. To the maximum extent possible, each provision of this Agreement will be interpreted in such a manner as to be effective and valid under applicable law. If any provision of this Agreement is prohibited by, or held to be invalid under applicable law, such provision will be ineffective solely to the extent of such prohibition or invalidity and the remainder of the provision will be enforceable.

22. This Agreement (including exhibits and other documents, manuals, etc. incorporated herein) is the full and complete agreement between BNSF and Government with respect to the subject matter herein and supersedes any and all other prior agreements between the parties hereto.

23. This Agreement is entered into freely by the Parties and constitutes a complete integration of the agreements between the Parties.

24. The persons signing this Agreement represent that they have all necessary legal authority and power in their official capacities to bind their respective entities.

25. Any notice provided for herein or concerning this Agreement must be in writing and will be deemed sufficiently given when sent by certified mail, return receipt requested, to the parties at the following addresses:

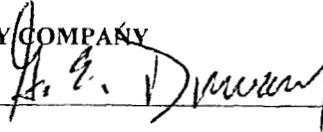
BNSF: BNSF's Manager of Public Projects
740 East Carnegie Drive
San Bernardino, CA 92408

Government: United States Department of the Interior
Bureau of Indian Affairs, Navajo Regional Office
P.O. Box 1060
301 West Hill Ave
Gallup, NM 87305-1060
Attn: Division of Transportation Manager

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and attested by its duly qualified and authorized officials as of the day and year first above written.

BNSF RAILWAY COMPANY

By: _____



Printed Name: Mr. Greg Dunaway

Title: AVP - Engineering Services

GOVERNMENT

**UNITED STATES DEPARTMENT OF INTERIOR
BUREAU OF INDIAN AFFAIRS**

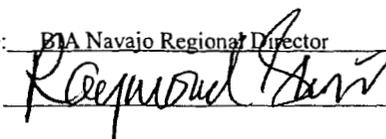
By: _____



Printed Name: Sharon Pinto

Title: BIA Navajo Regional Director

By: _____



Printed Name: Francis Price

Title: Awarding Official

TWO-LANE HIGHWAYS

WORKSHEET FOR GENERAL TERRAIN SEGMENTS

Site Identification: N2007(1-1)1,2,4
 Station 0+68 to 57+82
 Name: Harold Riley-PE

Date: 7/30/2015 14:27
 Location: Section 25
 Checked by:

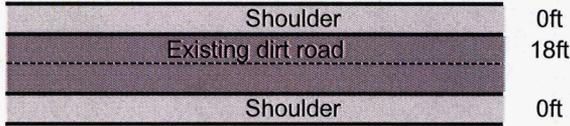
Existing Conditions
 South of Wash & RR Crossing



I. GEOMETRIC DATA



NORTH



Design Speed: 50 mph
 % No. Passing: 0%
 Terrain (L,R,M): Rolling
 Segment Length: 1.08 mi

II. TRAFFIC DATA

Total Volume, Both Direction:	47 vph	ADT (2015):	327 vpd	South
Total Volume, Both Direction:	101 vph	ADT (2015):	700 vpd	North
Flow Rate = Volume / PHF		Directional Distribution:	50/50	
Flow rate= 55 vph	South	Traffic Composition:	5% T, 1% RV, 2% B	
Flow rate= 119 vph	North	PHF=	0.85	Table 8-3

III. LEVEL OF SERVICE ANALYSIS

$$SF_i = 2,800 \times (v/c)_i \times f_d \times f_w \times f_{HV}$$

$$f_{HV} = 1 / [1 + P_T (E_T - 1) + P_R (E_R - 1) + P_B (E_B - 1)]$$

LOS	Sfi =	Capacity	$\times (v/c)_i$	$\times f_d$	$\times f_w$	$\times f_{HV}$	P_T	E_T	P_R	E_R	P_B	E_B
		Table 8-1										
A	39	3200	0.03	1.00	0.49	0.83	0.05	4.00	0.01	3.20	0.02	3.00
B	160	3200	0.13	1.00	0.49	0.78	0.05	5.00	0.01	3.90	0.02	3.40
C	344	3200	0.28	1.00	0.49	0.78	0.05	5.00	0.01	3.90	0.02	3.40
D	535	3200	0.43	1.00	0.49	0.79	0.05	5.00	0.01	3.30	0.02	2.90
E	1507	3200	0.90	1.00	0.66	0.79	0.05	5.00	0.01	3.30	0.02	2.90

IV. COMMENTS

Design Flow Rate= 55 vph

LOS =

S	N
B	B

 Minor Delays
 Adj LOS=

C	C
---	---

 <Bridge section single lane

The analysis is based on the lower end of the HCM chart of 9 foot lanes which the section over the railroad and axis Bridge is one 10 foot lane.

TWO-LANE HIGHWAYS

WORKSHEET FOR GENERAL TERRAIN SEGMENTS

Site Identification: N2007(1-1)1,2,4
 Station 0+68 to 57+82
 Name: Harold Riley-PE

Date: 7/30/2015 14:27
 Location: Section 25
 Checked by:

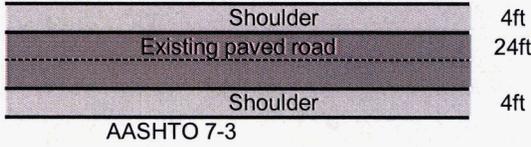
Future Conditions
 South of Wash & RR Crossing



I. GEOMETRIC DATA



NORTH



Design Speed: 50 mph
 % No. Passing: 0%
 Terrain (L,R,M): Rolling
 Segment Length: 1.08 mi

II. TRAFFIC DATA

Total Volume, Both Direction: 29 vph
 Flow Rate = Volume / PHF
 Flow rate= 31 vph

ADT (2035): 686 vpd (2035)
 Directional Distribution: 50/50
 Traffic Composition: 5% T, 1% RV, 2% B
 PHF: 0.92 Table 8-3

III. LEVEL OF SERVICE ANALYSIS

$$SF_i = 2,800 \times (v/c)_i \times f_d \times f_w \times f_{HV}$$

$$f_{HV} = 1 / [1 + P_T (E_T - 1) + P_R (E_R - 1) + P_B (E_B - 1)]$$

LOS	Sfi =	Capacity	$\times (v/c)_i$	$\times f_d$	$\times f_w$	$\times f_{HV}$	P_T	E_T	P_R	E_R	P_B	E_B
		2800										
A	64	2800	0.03	1.00	0.92	0.83	0.05	4.00	0.01	3.20	0.02	3.00
B	262	2800	0.13	1.00	0.92	0.78	0.05	5.00	0.01	3.90	0.02	3.40
C	565	2800	0.28	1.00	0.92	0.78	0.05	5.00	0.01	3.90	0.02	3.40
D	938	2800	0.43	1.00	0.92	0.85	0.03	5.00	0.01	3.30	0.02	2.90
E	1938	2800	0.90	1.00	0.97	0.79	0.05	5.00	0.01	3.30	0.02	2.90

IV. COMMENTS

Design Flow Rate= 31 vph LOS = A Free Flow

BIA Route N2007 is classified as Class 2 - Collector Road

Future capacity of this section is rated at "free flow" of traffic.

Note: the future LOS will be the same for the existing roadway geometry. Therefore, no future projections for these sections is necessary.

TWO-LANE HIGHWAYS

WORKSHEET FOR GENERAL TERRAIN SEGMENTS

Site Identification: N2007(1-1)1,2,4
 Station 0+68 to 57+82
 Name: Harold Riley-PE

Date: 7/30/2015 14:28
 Location: Section 25
 Checked by:

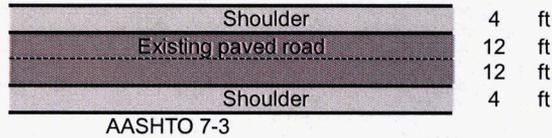
Future Conditions
 North of Wash & RR Crossing



I. GEOMETRIC DATA



NORTH



Design Speed: 50 mph
 % No. Passing: 0%
 Terrain (L,R,M): Rolling
 Segment Length: 1.08 mi

II. TRAFFIC DATA

Total Volume, Both Direction: 101 vph
 Flow Rate = Volume / PHF
 Flow rate = 109

ADT (2035): 1857 vpd
 Directional Distribution: 50/50
 Traffic Composition: 10% T, 1% RV, 2% B
 PHF = 0.92 Table 8-3

III. LEVEL OF SERVICE ANALYSIS

$$SF_i = \text{Capacity} \times (v/c)_i \times f_d \times f_w \times f_{HV}$$

Table 8-6

$$f_{HV} = 1 / [1 + P_T (E_T - 1) + P_R (E_R - 1) + P_B (E_B - 1)]$$

LOS	Sfi =	Capacity	x (v/c) _i	x f _d	x f _w	x f _{HV}	P _T	E _T	P _R	E _R	P _B	E _B
		Table 8-1										
A	57	2800	0.03	1.00	0.92	0.73	0.10	4.00	0.01	3.20	0.02	3.00
B	227	2800	0.13	1.00	0.92	0.68	0.10	5.00	0.01	3.90	0.02	3.40
C	488	2800	0.28	1.00	0.92	0.68	0.10	5.00	0.01	3.90	0.02	3.40
D	758	2800	0.43	1.00	0.92	0.68	0.10	5.00	0.01	3.30	0.02	2.90
E	1673	2800	0.90	1.00	0.97	0.68	0.10	5.00	0.01	3.30	0.02	2.90

IV. COMMENTS

Design Flow Rate = 109 vph LOS = B Minor Delays

BIA Route N2007 is classified as Class 2 - Collector Road

Future capacity of this section is rated at "Minor Delays" of traffic north of the RR crossing where businesse are

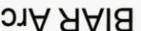
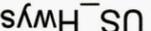
Note: the future LOS will be the same for the existing roadway geometry. Therefore, no future projections for these sections is necessary.

FHWA Guidelines Regarding Grade Separation

The Federal Highway Administration (FHWA) Railroad-Highway Grade Crossing Handbook (Revised Second Edition August 2007) provides nine criteria for determining whether highway-rail crossings should be considered for grade separation or otherwise eliminated across the railroad right of way. The Crossing Handbook indicates that grade separation or crossing elimination should be considered whenever one or more of the nine conditions are met. The nine criteria are applied to this crossing application as follows:

N2007(1-1)1,2,&4 US-DOT 025011J					
The highway is a part of the designated Interstate Highway System	Crossing Currently meets the criteria	No			
	Crossing meets the criteria by 2030	No			
The highway is otherwise designed to have full controlled access	Crossing Currently meets the criteria	Yes			
	Crossing meets the criteria by 2030	Yes			
The posted highway speed equals or exceeds 70 mph	Crossing Currently meets the criteria	No			
	Crossing meets the criteria by 2030	No			
AADT exceeds 100,000 in urban areas or 50,000 in rural areas	Crossing Currently meets the criteria	No			
	Crossing meets the criteria by 2030	No			
Maximum authorized train speed exceeds 110 mph	Crossing Currently meets the criteria	Yes			
	Crossing meets the criteria by 2030	Yes			
An average of 150 or more trains per day or 300 million gross tons/year	Crossing Currently meets the criteria	No			
	Crossing meets the criteria by 2030	No			
Crossing exposure (trains/day x AADT) exceeds 1M in urban or 250k in rural; or passenger train crossing exposure exceeds 800k in urban or 200k in rural	Crossing Currently meets the criteria	No			
	Crossing meets the criteria by 2030	No			
Expected accident frequency for active devices with gates, as calculated by the US DOT Accident Prediction Formula including five-year accident history, exceeds 0.5	Crossing Currently meets the criteria	0.13 No 0.01 No	Accident frequency is >0.02 with gates and < flashing light		
	Crossing meets the criteria by 2030	0.27 No 0.08 No	Accident frequency is >0.02 with gates and flashing light		
Vehicle delay exceeds 40 vehicle hours per day	Crossing Currently meets the criteria	No			
	Crossing meets the criteria by 2030	No			

Legend

-  NEWLANDS
-  BIAR Arc
-  State_Roads
-  US_Hwys
-  Interstate_Hwy

UNITED STATES
BUREAU OF INDIAN AFFAIRS
 * DIVISION OF TRANSPORTATION

BIA-NEW LANDS, AZ. SCHOOL BUS ROUTES

DESIGNED BY: NRDOT	DATE:
DRAWN BY: NRDOT	DATE: 08-04-15
REVISID:	BY:

Source: Esri, DigitalGlobe, GeoEye, AEX, Geomapping, AeroGRID, IGN, ICG



Navajo Nation School Bus Routes

COMMISSIONERS
SUSAN BITTER SMITH - Chairman
BOB STUMP
BOB BURNS
DOUG LITTLE
TOM FORESE



**ARIZONA CORPORATION COMMISSION
SAFETY DIVISION**

JODI JERICH
Executive Director

ROBERT MARVIN
Safety Division Director

Outline of Typical Rail-Crossing Upgrade Process

- 1) Applicant (sponsor) of the project will be responsible for setting up an on-sight meeting with all parties involved (railroad, ACC Rail Safety Section, local government agency having jurisdiction over the roadway i.e. city, state or county, and any other stakeholder interested in the proposed project).
- 2) Information typically discussed at the on-sight meeting:
 - The exact location of the proposed new grade crossing
 - Upgrades or modifications being considered to the existing crossing
 - Discussion of grade separation (over or under pass) Why or Why not?
 - Applicant must state who is paying for the crossing construction and maintenance
 - Proposed types of warning devices to be installed
 - ACC Staff's data Request
 - ACC Staff Report and recommendations
- 3) Contents of Application to the Commission – the following are not required content for an application but providing the following information is helpful for the processing of the application:
 - Applicant should include a letter providing a narrative description of the scope of the project to include but not limited to:
 - i. Location of crossing
 - ii. Why the anticipated changes are needed
 - iii. If grade separation is not being proposed, why the proposed or existing crossing can't be grade separated
 - iv. Type of warning devices to be installed
 - v. Who will maintain the crossing warning devices
 - vi. Who is funding the project
 - Applicant should include a signed agreement between the railroad and the road authority with jurisdiction at the crossing.
 - Applicant should include a conceptual drawing (**not an engineering plan**) on 8 ½ x 11 paper indicating the proposed changes to the crossing including all warning devices and pavement markings.
- 4) Applicant must submit one original and thirteen copies for materials filed in the docket including the application to:

Arizona Corporation Commission, Attn. Docket Control, 1200 W. Washington St.
Phoenix, AZ 85007.

- Docketed application will be scheduled for hearing by an Administrative Law Judge (ALJ). A Procedural Order with instructions to be followed will be issued by the ALJ. The Procedural Order will direct the applicant to provide public notice of the scheduled hearing. The applicant must file with the Commission Docket certification of the required public notice.
Failure to follow the Procedural Order may result in delaying the hearing process.
- 5) ACC Rail Safety Staff may request data. Such request may include but are not limited to:
- Average Daily Traffic Counts
 - Number and type of train movements per day along with speed of trains
 - Completed traffic studies including traffic projections and any Design Concept Reports.
 - Any other relevant issue raised by the application that is not clearly explained within the application.
- 6) Attendance at public hearings
- Applicant and legal counsel should attend the scheduled evidentiary hearing and Open Meeting. Failure by the applicant to attend the scheduled evidentiary hearing may result in continuance of the hearing. Failure to bring counsel to the scheduled evidentiary hearing may result in the continuance of the hearing.
 - At the conclusion of the hearing process, a Recommended Opinion and Order from the ALJ will be issued.
- 7) Recommended Opinion and Order of application to be presented at a regular scheduled Open Meeting for Commissioners approval.
- Attendance of applicant and legal counsel is strongly recommended in the event that the Commissioners have questions regarding the application.
 - Approval of the Recommended Opinion and Order is subject to a majority vote of the Commissioners at the Open Meeting.
- 8) Under ordinary circumstances, the process generally takes 90 to 120 days from application to Open Meeting, depending on hearing and Open Meeting scheduling.
- 9) If you have questions on the application process please call Chris Watson or Brian H. Lehman at (602-262-5601)