



0000146153

**ORIGINAL**

June 25, 2013

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

Jennifer Tott, State Engineer  
 Robert Samour, Senior Deputy State Engineer, Operations  
 Dallas Hammit, Senior Deputy State Engineer, Development

Arizona Corporation Commission  
**DOCKETED**

JUN 27 2013

DOCKETED BY	nr
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RE: Application to upgrade existing railroad signals  
 Project: 5<sup>th</sup> Street in Tempe, Arizona  
 Federal Project # TMP-0(233)  
 ADOT Tracs # 0000 MA TMP SR252 01C  
 5<sup>th</sup> Street Crossing AAR/DOT # 741-561-J

RR-03639A-13-0211

Mr. Watson,

Please find enclosed the original and 13 copies of the application to allow UPRR to furnish and install 3 gate and flasher units on the 5<sup>th</sup> Street and constant warning circuitry. Also enclosed is a copy of the addendum and agreement between ADOT and the UPRR Railroad, and excerpt from City of Tempe final plans (Gannett-Fleming Project 5405370, Sheet 7). I have also included pictures of both road approaches to this crossing for reference.

Feel free to contact me if you have any questions.

Sincerely,

Robert Travis, PE  
 Railroad Liaison  
 Arizona Department of Transportation  
 205 S. 17th Ave, Room 357 MD 618E  
 Phoenix, AZ 85007  
 Phone: 602-712-6193 [rtravis@azdot.gov](mailto:rtravis@azdot.gov)

AZ CORP COMMISSION  
 DOCKET CONTROL

2013 JUN 21 P 12:05

RECEIVED

June 25, 2013

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

RE: Application to upgrade existing railroad signals  
Project: 5<sup>th</sup> Street in Tempe, Arizona  
Federal Project # TMP-0(233)  
ADOT Tracs # 0000 MA TMP SR252 01C  
5<sup>th</sup> Street Crossing AAR/DOT # 741-561-J

Mr. Watson,

This application is being submitted to allow the Union Pacific Railroad (UPRR) to furnish and install 3 gate and flasher units on 5<sup>th</sup> Street and constant warning circuitry.

**1. Project Location and Description**

The project is located at the crossing of UPRR on 5<sup>th</sup> Street in Tempe, Arizona. This crossing consists of one mainline with daily usage and one siding for UPRR. 5<sup>th</sup> Street is an at-grade roadway and is used for 2 way traffic, consisting of 1 thru eastbound lane, 1 turning eastbound lane, and 1 thru westbound lane.

The project consists of installing two gate and flasher units on the outside edge of 5<sup>th</sup> Street, installing one new gate and flasher unit within a new raised median along 5<sup>th</sup> Street, and installing constant warning on 5<sup>th</sup> Street. The City of Tempe will also construct civil improvements including adjusting sidewalks, installing raised medians, re-striping, and improving the road approaches on 5<sup>th</sup> Street, these civil improvements will help facilitate the necessary railroad safety improvements at the crossing.

**2. Why the crossing is needed**

Based on the 2002 crossing improvement array, the 5<sup>th</sup> Street crossing was selected for upgrades by installing lights and gates on the outside edges of the roadway and within a proposed raised median and constant warning.

**3. Construction Phasing**

Once the utility, environmental, and right-of-way clearances are obtained, ADOT can apply for and receive FHWA construction authorization and authorize UPRR to order their signal materials and authorize the City of Tempe to construct their civil improvements. Once an Opinion and

Order is issued and the City of Tempe constructs the civil improvements on 5<sup>th</sup> Street, UPRR will install the signal equipment. The railroad signal improvements will be installed by UPRR within 12-15 months of the receipt of an Opinion and Order from the ACC.

**4. Maintenance of the crossing**

UPRR will be responsible for installing and maintaining the railroad signal and surface equipment. The City of Tempe will be responsible for maintaining the road approaches outside of UPRR responsibility, sidewalks, medians, and traffic signal equipment.

**5. Project Funding**

100% of the funding will be provided thru the Federal Highway Administration thru their Section 130/highway-railroad crossing safety improvement program.

Costs are as follows:

Preliminary and Construction Engineering	15,000.00
UPRR Furnish and Install Flashers and Gates and Constant Warning	\$304,152.00
City of Tempe Construction of Civil Improvements	<u>\$180,248.00</u>
Total Cost	\$499,400.00

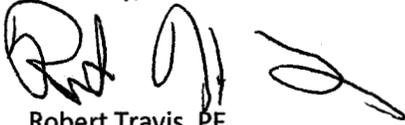
**6. Other information (based on typical Staff Data Requests):**

1. Provide Average Daily Traffic Counts for each of the locations.  
Per City of Tempe:  
5<sup>th</sup> Street Traffic Count = 3,508 vehicles per day
2. Please describe the current Level of Service (LOS) at each intersection.  
The City of Tempe stated that 5<sup>th</sup> Street has a current Level of Service of A.
3. Provide any traffic studies done by the road authorities for each area.  
The City of Tempe stated that no traffic studies have been completed recently for 5<sup>th</sup> Street or the area around this crossing.
4. Provide the population of the City the crossing is located in.  
2010 census: 161,719 persons.
5. Provide what warning devices are currently installed at the crossing.  
Currently at this crossing there are flashing lights and gates on the outside edges of the roadway for both eastbound and westbound traffic on 5<sup>th</sup> Street. These lights do not cover all of the lanes currently at the crossing.

6. Provide distances in miles to the next public crossing on either side of the proposed project location. Are any of these grade separations?  
University Drive (AAR/DOT 741 560 C) is an at-grade crossing 0.28 miles to the south of the 5<sup>th</sup> Street crossing. 1<sup>st</sup> Street (AAR/DOT 741 547 N) is an at-grade crossing 0.30 miles to the north of the 5<sup>th</sup> Street crossing. Rio Salado Parkway (AAR/DOT 741 546 G) is a grade separated crossing 0.59 miles north of the 5<sup>th</sup> Street crossing.
7. How and why was grade separation not decided on at this time? Please provide any studies that were done to support these answers.  
Grade separation was not considered as part of this Section 130 safety upgrade due to the proximity of the crossing to the Arizona State University campus and Mill Avenue a major street in Tempe and the overall high cost to complete a grade separation at this location.
8. If this crossing was grade separated, provide a cost estimate of the project.  
Estimate \$30,000,000++ due to urbanized location.
9. 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 areas adjacent to the 5<sup>th</sup> Street railroad crossing are zoned as Mixed Used (MU-4) and City Center (CC).
10. 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?  
Per FRA website, there are a total of 8 train movements over the crossing including 2 switching movements and 4 daytime thru movements. The trains move over the crossing at speeds between 5 mph and 20 mph, with a maximum time table speed of 20mph.  
  
This is not a passenger train route.
11. Please provide the names and locations of all schools (elementary, junior high and high school) within the area of the crossing.
  - Scales Technology Academy – 1115 West 5<sup>th</sup> Street, Tempe
  - Gililand Middle School – 1025 South Beck Avenue, Tempe
12. Please provide school bus route information concerning the crossing, including the number of times a day a school bus crosses this crossing.  
Per Tempe Union High School District and Tempe Elementary School District, no school buses utilize this crossing.

13. Please provide information about any hospitals in the area and whether the crossing is used extensively by emergency service vehicles.
  - Tempe St. Luke's Hospital – 1500 South Mill Avenue, Tempe  
The City of Tempe stated the 5<sup>th</sup> Street crossing is not on a major emergency service route for the hospital.
14. Please provide total cost of the railroad improvements to each crossing.  
Cost described above.
15. Provide any information as to whether vehicles carrying hazardous materials utilize this crossing and the number of times a day they might cross it.  
The City of Tempe stated that the City is not aware of any vehicles carrying hazardous materials that utilize this crossing.
16. Please provide the posted vehicular speed limit for the roadway.  
5<sup>th</sup> Street – 35 MPH
17. Do any buses (other than school buses) utilize the crossing, and how many times a day do they cross the crossing. Bus traffic varies depending on sporting events.  
The City of Tempe stated that two bus transit routes utilize the 5<sup>th</sup> Street crossing with a total of 168 daily crossings.
18. Please indicate whether any spur lines have been removed within the last three years inside a 10 mile radius of any crossings covered in this application. Please include the reason for the removal, date of the removal and whether an at-grade crossing or crossings were removed in order to remove the spur line.  
None
19. Please fill in the attached FHWA Grade Separation Guidelines Table, (from FHWA's 2007 revised second edition Railroad Highway Grade-Crossing Handbook, page 151) with a yes or no answer as to whether each item applies. Also, please provide all information to support your answers of yes or no (i.e. vehicle delay numbers, any calculations that were performed to get the answers).
20. Based on the current single track configuration at the crossings specified by this application, please provide the current traffic blocking delay per train. Please indicate the time in which vehicular traffic is delayed (1) to allow the train to pass at a crossing and (2) due to trains stopped on the track for any purpose. The delay is measured from the point that the warning devices are activated at the crossing to the time after the train has cleared the crossing and the warning devices are reset.  
The City of Tempe stated that the delay at the crossing is really a function of the average length of the train and the average speed that is traveling. The City of Tempe provided an example that a 7,000 foot train traveling 30 miles per hour would cause a traffic delay of approximately 3.5 minutes.

Sincerely,

A handwritten signature in black ink, appearing to be 'R. Travis', written over a horizontal line.

Robert Travis, PE

Railroad Liaison

Arizona Department of Transportation

205 S. 17th Ave, Room 357 MD 618E

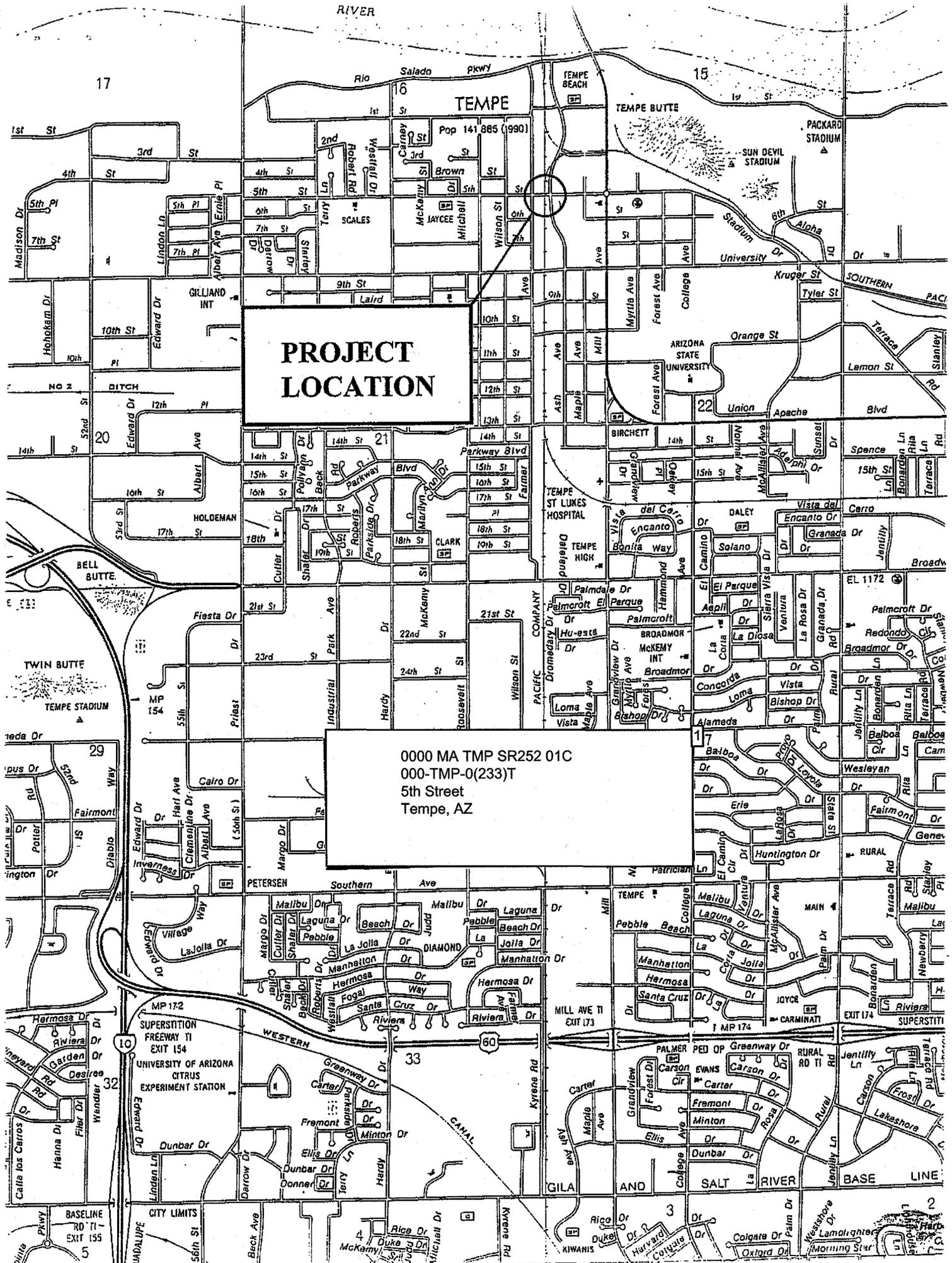
Phoenix, AZ 85007

Phone: 602-712-6193 [rtravis@azdot.gov](mailto:rtravis@azdot.gov)

**FHWA - GRADE SEPARATION GUIDELINES**

Highway-rail grade crossings should be considered for grade separation or otherwise eliminated across the railroad **right of way whenever one or more of the following conditions exist:**

	5th Street		
The highway is a part of the designated Interstate Highway System	Crossing Currently meets the criteria	N	
	Crossing meets the criteria by 2030	N	
The highway is otherwise designed to have full controlled access	Crossing Currently meets the criteria	N	
	Crossing meets the criteria by 2030	N	
The posted highway speed equals or exceeds 70 mph	Crossing Currently meets the criteria	N	
	Crossing meets the criteria by 2030	N	
AA DT exceeds 100,000 in urban areas or 50,000 in rural areas	Crossing Currently meets the criteria	N	
	Crossing meets the criteria by 2030	N	
Maximum authorized train speed exceeds 110 mph	Crossing Currently meets the criteria	N	
	Crossing meets the criteria by 2030	N	
An average of 150 or more trains per day or 300 million gross tons/year	Crossing Currently meets the criteria	N	
	Crossing meets the criteria by 2030	N	
Crossing exposure (trains/day x AA DT) 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	N	
	Crossing meets the criteria by 2030	N	
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	N	
	Crossing meets the criteria by 2030	N	
Vehicle delay exceeds 40 vehicle hours per day	Crossing Currently meets the criteria	N	
	Crossing meets the criteria by 2030	N	



17

RIVER

TEMPE

TEMPE BUTTE

**PROJECT  
LOCATION**

0000 MA TMP SR252 01C  
000-TMP-0(233)T  
5th Street  
Tempe, AZ

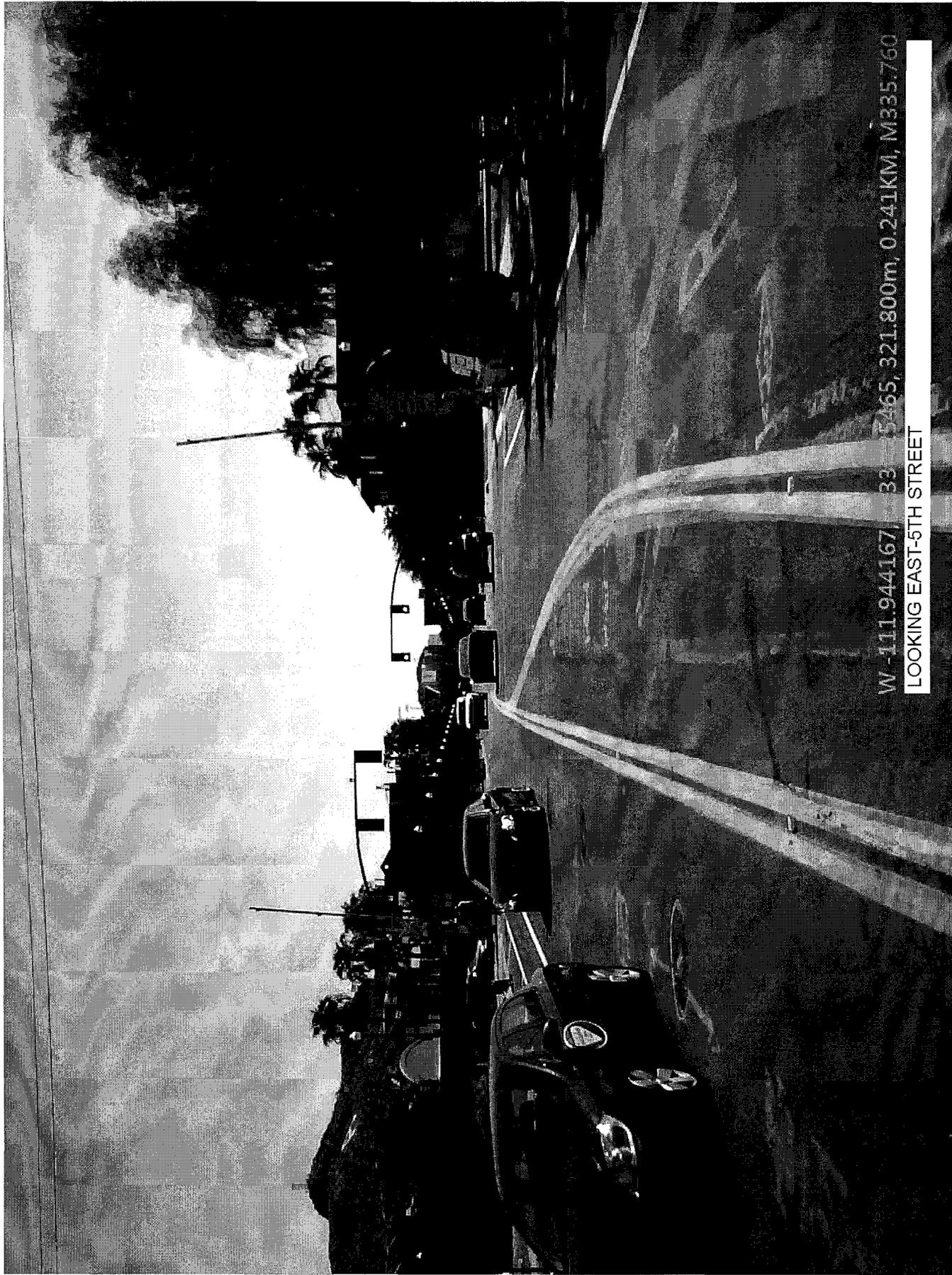
MP 172  
SUPERSTITION  
FREWAY T1  
EXIT 154  
UNIVERSITY OF ARIZONA  
CITRUS  
EXPERIMENT STATION

GILA AND SALT RIVER BASE LINE

CITY LIMITS

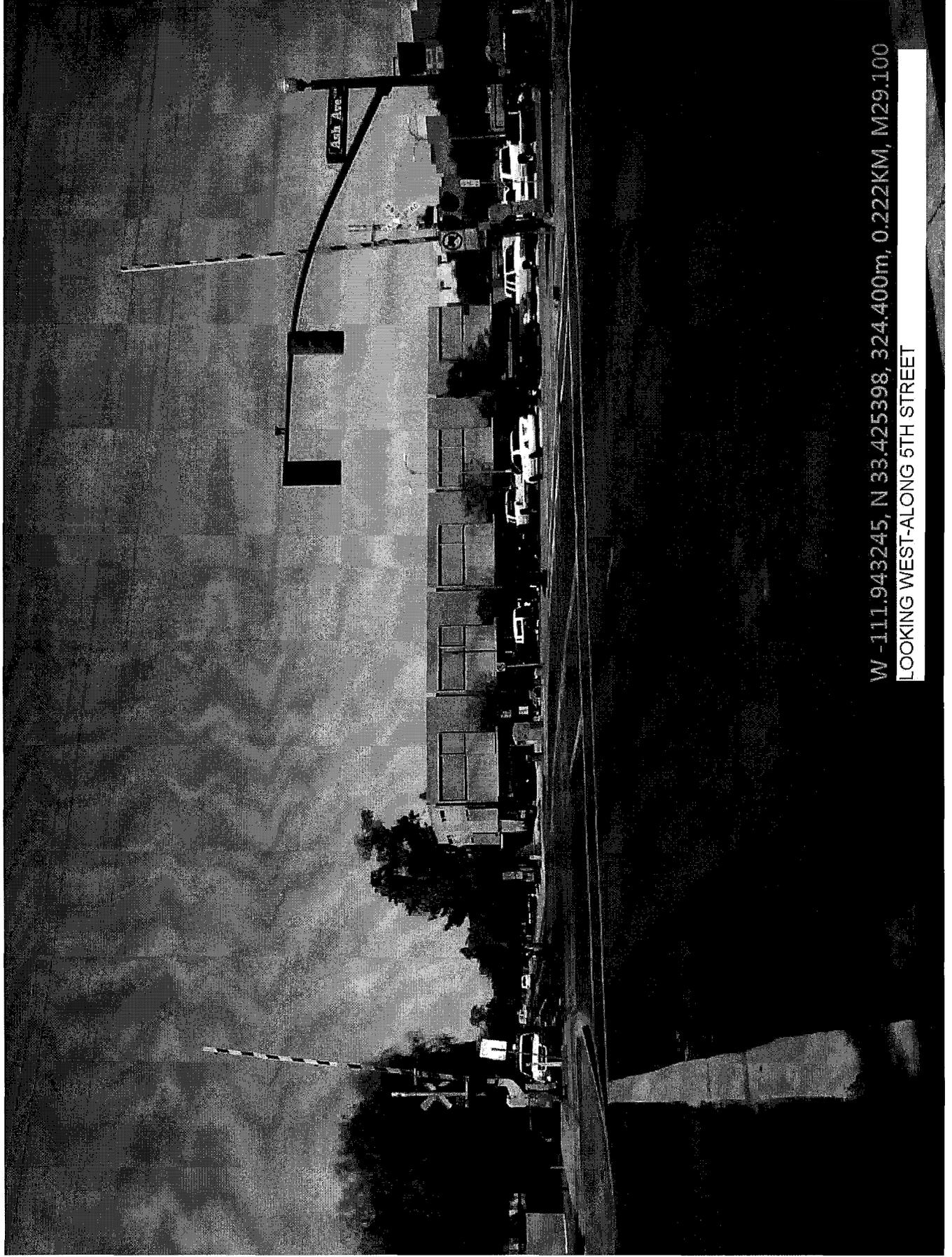
1st St, 2nd St, 3rd St, 4th St, 5th St, 6th St, 7th St, 8th St, 9th St, 10th St, 11th St, 12th St, 13th St, 14th St, 15th St, 16th St, 17th St, 18th St, 19th St, 20th St, 21st St, 22nd St, 23rd St, 24th St, 25th St, 26th St, 27th St, 28th St, 29th St, 30th St, 31st St, 32nd St, 33rd St, 34th St, 35th St, 36th St, 37th St, 38th St, 39th St, 40th St, 41st St, 42nd St, 43rd St, 44th St, 45th St, 46th St, 47th St, 48th St, 49th St, 50th St, 51st St, 52nd St, 53rd St, 54th St, 55th St, 56th St, 57th St, 58th St, 59th St, 60th St, 61st St, 62nd St, 63rd St, 64th St, 65th St, 66th St, 67th St, 68th St, 69th St, 70th St, 71st St, 72nd St, 73rd St, 74th St, 75th St, 76th St, 77th St, 78th St, 79th St, 80th St, 81st St, 82nd St, 83rd St, 84th St, 85th St, 86th St, 87th St, 88th St, 89th St, 90th St, 91st St, 92nd St, 93rd St, 94th St, 95th St, 96th St, 97th St, 98th St, 99th St, 100th St





W -111.944167, 33.5265, 321.800m, 0.241KM, M335.760

LOOKING EAST-5TH STREET



W -111.943245, N 33.425398, 324.400m, 0.222KM, M29.100

LOOKING WEST-ALONG 5TH STREET

**RAILROAD CROSSING PROJECT**

TRACS No.: 0000 MA TMP SR252 01C

Project No.: 000-TMP-0(233)T

Location: 5<sup>th</sup> Street

AAR/DOT No.: 741-561-J

RR M.P.: 914.57 Phoenix Subdivision

ADOT Accounting No: R1532JC13

**RAILROAD AGREEMENT  
For  
FEDERAL AID  
Railroad Crossing Projects****THE UNION PACIFIC RAILROAD COMPANY  
Agreement No. 1532-91-SPTC  
RAIL/HIGHWAY SAFETY PROGRAM**

**EXHIBIT A**  
**Agreement 1532-91-SPTC**  
**TRACS No. 0000 MA TMP SR252 01C**  
**PROJECT 000-TMP-0(233)T**  
**ADOT Accounting Number R1532JC13**

**SUMMARY OF ESTIMATE**

Total

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**Construction:**

Signals	
Construction Engineering	\$25,393.00
Labor	\$118,790.00
Materials	<u>\$159,969.00</u>
Signal Subtotal	\$304,152.00
	<u><u>*\$304,152.00</u></u>

\* Railroad will invoice ADOT for 100% of total work.  
Railroad will separate Preliminary Engineering costs  
from Construction costs. Costs include installation of  
signals and providing power to the site.

DATE: 2013-01-25

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

THIS ESTIMATE GOOD FOR 6 MONTHS EXPIRATION DATE IS :2013-07-26

DESCRIPTION OF WORK:

INSTALL AUTOMATIC FLASHING LIGHT CROSSING SIGNALS  
 WITH GATES AT TEMPE, AZ. 5TH STREET M.P. 914.57  
 ON THE PHOENIX SUB. DOT #741561J  
 WORK TO BE PERFORMED BY RAILROAD WITH EXPENSE AS BELOW:  
 SIGNAL - FEDERAL/STATE - 100%  
 ESTIMATED USING FEDERAL ADDITIVES - 109.54%

PID: 71935 AWO: 07262 WP,SUBDIV: 914.57, PHOENIX  
 SERVICE UNIT: 16 CITY: TEMPE STATE: AZ

DESCRIPTION	QTY	UNIT	LABOR	MATERIAL	RECOLL	UPRR	TOTAL
<b>ENGINEERING WORK</b>							
ENGINEERING			7329		7329		7329
LABOR ADDITIVE 109.54%			13243		13243		13243
SIG-HWY XNG			4821		4821		4821
<b>TOTAL ENGINEERING</b>			<b>25393</b>		<b>25393</b>		<b>25393</b>
<b>SIGNAL WORK</b>							
BILL PREP			900		900		900
CONTRACT				8806	8806		8806
LABOR ADDITIVE 109.54%			62099		62099		62099
MATL STORE EXPENSE				21	21		21
METER SERVICE				15000	15000		15000
PERSONAL EXPENSES				27528	27528		27528
ROCK/GRAVEL/FILL				3000	3000		3000
SALES TAX				3522	3522		3522
SIGNAL			55791	88061	143852		143852
TRANSF/IB/OB/RCLW CONTR				14030	14030		14030
ENVIRONMENTAL - PERMITS				1	1		1
<b>TOTAL SIGNAL</b>			<b>118790</b>	<b>159969</b>	<b>278759</b>		<b>278759</b>
<b>LABOR/MATERIAL EXPENSE</b>			<b>144183</b>	<b>159969</b>			
<b>RECOLLECTIBLE/UPRR EXPENSE</b>					<b>304152</b>	<b>0</b>	
<b>ESTIMATED PROJECT COST</b>							<b>304152</b>

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.

**AREMA UNIT STATEMENT OF RAILROAD HIGHWAY GRADE CROSSING SIGNALS  
ESTIMATED MAINTENANCE COSTS**



**BUILDING AMERICA®**

FOR **PID #71935**  
BY THE **UNION PACIFIC RAILROAD**

**STREET** **5th STREET**  
**TOWN** **TEMPE, AZ.**  
**MILEPOST** **914.57**  
**SUBDIVISION** **PHOENIX**  
**AAR/DOT NO.** **741561J**  
**WORK ORDER#** **7276**

DESCRIPTION	UNIT VALUE	QUANTITY	UNITS
NON-CODED TRK. CIRCUIT, (Standalone AFTAC or Ring 10)	2	1	2
SUPERIMPOSED CIRCUIT(AFTAC) / DETECTION LOOP	2	0	0
HIGHWAY GRADE CROSSING SIGNAL (ONE PAIR OF FLASHING LIGHTS)	2	2	4
ADDITIONAL PAIR OF LIGHTS	1	0	0
GATE MECHANISM, AUTOMATIC WITH ARM UP TO 26 FT	8	2	16
GATE MECHANISM, AUTOMATIC WITH ARM OVER 26 FT	10	0	0
GCP/HXP (Constant warning device, per track circuit)	15	3	45
EXIT GATE MANAGEMENT SYSTEM RACK*	10	0	0
MOVEMENT DETECTOR (PMD)	6	0	0
MOVEMENT DETECTOR (STANDBY UNIT)	3	0	0
RADIO DATA LINK, PER UNIT	1	0	0
PREEMPTION CIRCUIT	2	0	0
DATA RECORDER	1	0	0
REMOTE MONITORING DEVICE*	2	1	2
BONDED RAIL JOINTS (per mile, each rail, single bonded)	1	0	0
BATTERY AND CHARGER (per set)	1	2	2

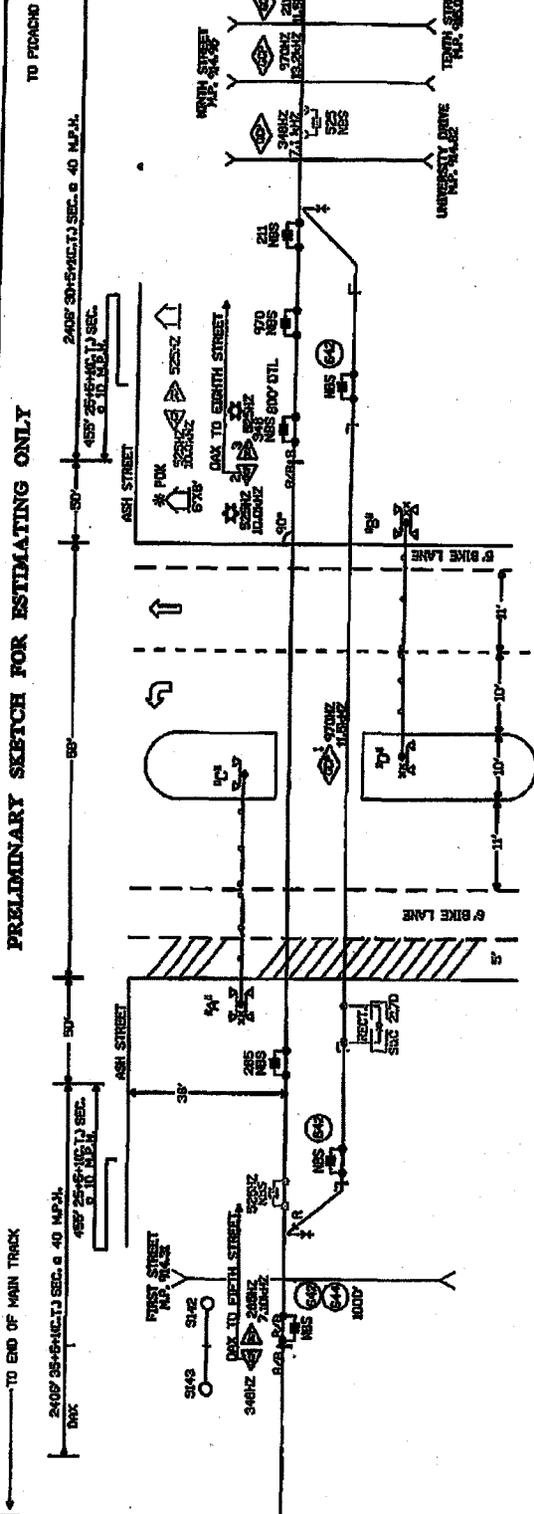
**TOTAL UNIT COUNT** **71**

**PAVEMENT RESTORATION COSTS** **(Actual)**  
**Annual Maintenance Cost at \$170/Unit** **\$12,070**

\*UP supplied Unit Value

January 25, 2013

PRELIMINARY SKETCH FOR ESTIMATING ONLY



- NOTES**
- WARNING DEVICE PLACEMENTS:
    - CROSSINGS > 90 DEGREES
    - CROSSINGS < 90 DEGREES OR
    - ALL FOUNDATIONS TO C.L. TRACK = 15'
    - TIP OF GATE TO C.L. TRACK = 22'
    - EDGE OF ROAD TO C.L. FOUNDATIONS
    - MIN. 5' WITHOUT CURB
    - HOUSE CLEARANCES
    - 30' MIN. TO NEAR RAIL
    - 50' MIN. TO EDGE OF ROAD
  - ◇ = CONSTANT WARNING BIC-DIRECTIONAL
  - ◇ = CONSTANT WARNING UNIC-DIRECTIONAL
  - ◇ = MOTION SENSOR
  - ◇ = DAX
  - ◇ X = CONDUIT
  - ◇ = LED LIGHTS
  - ◇ = BELL
  - ◇ = GUARD RAIL
  - ◇ = RETAINING WALL
  - ◇ = DAX TO OPERATE IN 2ND 1/2 SEC
  - ◇ = DAX TO OPERATE IN 1ST 1/2 SEC

**CONSTRUCTION NOTES**

1. ORDER AND INSTALL 8 LED LIGHTS PART NUMBER 321-2630-0 FOR GATES 14 AND 15.
2. ORDER AND INSTALL 8 BELL PART NUMBER 321-2630-0 FOR GATES 14 AND 15.
3. ORDER AND INSTALL 8 BELL PART NUMBER 321-2630-0 FOR GATES 14 AND 15.
4. ORDER INTERCONNECT BOX TAB 94.
5. THIS WORK TO BE DONE IN CONNECTION WITH W.B. 07261.

TRACS No. 0000 MA TMP SR252 01C  
 Project No. 000-TMP-0(233)T  
 Agreement No. 1532-91-SPTC  
 EXHIBIT "A"  
 Sheet 4 of 5

YELLOW IN  
 RED OUT

JOB REF. # 0449	DATE 10/09/10	UNION PACIFIC RAILROAD
PIP# 71925	DATE 09/10	TEMPE ARIZONA
LABOR AND 106.51	DATE 09/10	FIFTH STREET
	DATE 09/10	PHOENIX SUBDIVISION
	DATE 09/10	PROJECT NO. 1532-91-SPTC
	DATE 09/10	SHEET 2408/1
	DATE 09/10	NO. 2407
	DATE 09/10	NO. 2408



STATE OF ARIZONA  
DEPARTMENT OF TRANSPORTATION

Agreement No. 1532-91-SPTC

Agreement Addendum No. 1

Company's Name: The Union Pacific Railroad Company  
Address: 101 S. Watson Road, Arlington, TX 76010

The purpose of this addendum is to modify the Company name as stated herein:

WHEREAS: Agreement No. 1532-91-SPTC terms the "RAILROAD" as SOUTHERN PACIFIC TRANSPORTATION COMPANY.

WHEREAS: Agreement No. 1532-91-SPTC is revised to term the "RAILROAD" as the UNION PACIFIC RAILROAD COMPANY.

THEREFORE: The parties hereto agree that Agreement No. 1532-91-SPTC is hereby amended as shown herein. All other provisions of Agreement No. 1532-91-SPTC shall remain unabrogated.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

ARIZONA DEPARTMENT OF TRANSPORTATION

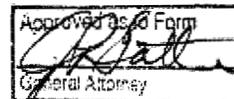
UNION PACIFIC RAILROAD COMPANY

By *William R. Briscoe*  
WILLIAM R. BRISCOE, P.E.  
Utility & Railroad Engineering Section

By *Thomas J. Gee*  
CHIEF ENGINEER

Date 2-18-99

Date \_\_\_\_\_



**ARIZONA DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION**

UTILITY AND RAILROAD ENGINEERING SECTION

MASTER  
RAILROAD AGREEMENT  
For  
FEDERAL AID  
Railroad Crossing Projects

SOUTHERN PACIFIC TRANSPORTATION COMPANY  
Agreement No. 1532-91-SPTC  
RAIL/HIGHWAY SAFETY PROGRAM

THIS AGREEMENT by and between SOUTHERN PACIFIC TRANSPORTATION COMPANY, a Delaware corporation, herein termed "RAILROAD," and STATE OF ARIZONA, DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, herein termed "STATE".

WITNESSETH:

The parties hereto desire to set forth by this instrument their understanding and agreements with respect to the installation, at various times, of railroad warning devices and/or surface crossing materials with track rehabilitation, if required, throughout the State of Arizona, where a roadway crosses the property and tracks of RAILROAD.

AGREEMENT:

NOW THEREFORE, it is mutually agreed as follows:

1. The work to be performed by RAILROAD under this agreement is hereinafter referred to as "PROJECT".

2. RAILROAD agrees to furnish all labor, materials, tools, and equipment necessary to install such warning devices including necessary actuating and operating circuits and adequate instrument housing and/or roadway crossing materials with track rehabilitation, if required, upon its property at certain designated grade crossings.

Said installation shall comply with the latest standards prescribed by the Association of American Railroads and the Manual On Uniform Traffic Control Devices, Part VIII.

3. RAILROAD will prepare both a cost estimate, marked Exhibit "A" and a location plan marked, Exhibit "B", showing the general details of each PROJECT and send them to STATE for acceptance.

4. It is agreed that the work to be performed by RAILROAD is a part of a Federal-Aid project. Pursuant to the provisions of Federal-Aid Policy Guide Subchapter G, Part 646 Subpart B, there is no ascertainable net benefit to RAILROAD, and STATE agrees to reimburse RAILROAD for one hundred percent (100%) of the cost and expense incurred by RAILROAD in furnishing of materials and performing the work as described in the Cost Estimate, marked EXHIBIT "A", attached to and made a part hereof.

Agreement No. 1532-91-SPTC

5. It is understood and agreed that the STATE is acting solely as an agent for the project sponsor in securing and administering Federal funds and STATE assumes no other liability hereunder for the project sponsor.

6. Prior to commencing construction of each PROJECT, Railroad agrees to notify STATE, in writing, of the actual construction start date. Upon completion of each PROJECT, RAILROAD agrees to notify STATE, in writing, of the actual completion date. The construction start date shall not be prior to receiving a notice to proceed from STATE. Construction progress payments shall not be made without the actual construction start date. Final payment shall not be made without the actual construction completion date.

7. The work for each PROJECT shall be performed by RAILROAD forces on an actual cost basis, and as supported by the analysis of estimated costs set forth in Exhibit "A". The actual cost shall be payable in payments as follows:

- a. RAILROAD will order the materials for each PROJECT, and may invoice the STATE upon receipt, for materials and related costs, as set forth in Exhibit "A".
- b. RAILROAD may submit monthly invoices for work performed and materials installed unless invoiced under subparagraph a.
- c. Minimum payment, except for final invoice, is \$5,000.
- d. Upon completion of all work under each PROJECT, RAILROAD shall arrange for a joint close-out inspection of the completed PROJECT. Upon determination by STATE that the work has been completed in accordance

with Exhibits "A" and "B", RAILROAD will submit final and complete invoice to the STATE. STATE agrees to pay RAILROAD the difference between the final invoice and any previous payments for PROJECT. Any amount with which STATE disagrees shall be paid under protest, subject to resolution.

- e. All invoices will be paid by STATE within sixty (60) days of receipt.

All expenses incurred by RAILROAD for work which STATE is obligated to reimburse RAILROAD hereunder, including all work incidental to such work but not specifically mentioned herein, shall be subject to the provisions of the Federal-Aid Policy Guide Subchapter B Part 140 Subpart I.

8. Pursuant to A.R.S. Sections 35-214, 35-215 and 41-1279.04, the books of RAILROAD shall be open for inspection and audit by authorized representatives of STATE and the Federal Government for a period of not less than five (5) years from the date final payment has been received by RAILROAD. State agrees to pay RAILROAD any sums found to be owing as a result of an audit within sixty (60) days of receipt of the audit by the Utility and Railroad Engineering Section of STATE. RAILROAD agrees to reimburse STATE, within sixty (60) days of notification for any amount STATE disallows as a result of its audit. Any audit exceptions with which RAILROAD disagrees shall be paid to STATE under protest subject to resolution.

9. All invoices shall contain STATE's project number and agreement number. The invoice shall be sent to:

Agreement No. 1532-91-SPTC

ARIZONA DEPARTMENT OF TRANSPORTATION  
Utility and Railroad Engineering Section  
205 South 17th Ave. Mail Drop 618E  
Phoenix, Arizona 85007-3212

10. Once installation of railroad warning devices and/or roadway crossing material has been completed, RAILROAD shall maintain, in kind, the railroad warning devices and the crossing material two feet outside of each rail as long as they remain in place. However, RAILROAD shall be entitled to receive any contribution toward the cost of such maintenance as may be now or hereafter made available by means of any law, ordinance, regulation, order, grant or by other means or sources.

11. Claims and disputes between STATE and RAILROAD involving sums less than \$100,000 and arising out of the terms of this Agreement relating to work performed, invoicing and similar matters, shall be subject to arbitration, at the request of either party, in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then obtaining; provided, however, that claims or disputes arising out of personal injury, death, property damage, or environmental incidents shall not be subject to arbitration without the concurrence of both parties, except to the extent otherwise required by the rules of Arizona courts.

12. In compliance with the regulations of the United States Department of Transportation, RAILROAD hereby agrees to comply fully with all of the provisions of Appendix "A", attached hereto and by this reference made a part of this Agreement; provided, however, that Appendix "A" shall be applicable only in those cases where RAILROAD does not perform the work contemplated in this Agreement with its own forces.

13. This Agreement is subject to the budgetary limitations set forth in Arizona Revised Statutes Subsection 28-1823 through 28-1826 inclusive and is further subject to the provisions of Chapter 1 of Title 35, Arizona Revised Statutes.

14. STATE and RAILROAD each agrees to be liable to the other party for its own acts of negligence and the negligence of its own employees.

15. This Agreement shall inure to the benefit of and be binding upon the successors and assigns of RAILROAD and the assigns of STATE.

16. RAILROAD is required to comply with Executive Order 75-5, "Non-Discrimination in Employment by Government Contractors and Subcontractors," which is hereby included in its entirety by reference and considered a part of this Agreement.

17. Pursuant to A.R.S. Subsection 38-511, STATE may cancel this Agreement, without penalty or further obligation, if any person significantly involved in initiating, negotiating, securing, drafting or creating the Agreement on behalf of STATE or any of its departments or agencies is, at any time while this Agreement or any extension of it is in effect, an employee of any other party to this Agreement with respect to the subject matter of this Agreement.

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APPENDIX A  
(Revised)

II EQUAL OPPORTUNITY

1. Selection of Labor:

During the performance of this contract, the contractor shall not discriminate against labor from any other State, possession or territory of the United States.

2. Employment Practices:

During the performance of this contract, the contractor agrees as follows:

a. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoffs or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the State highway department setting forth the provisions of this nondiscrimination clause.

b. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

c. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the State highway department advising the said labor union or workers' representative of the contractor's commitments under this section II-2 and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

d. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations (41 CFR, Part 60) and relevant orders of the Secretary of Labor.

e. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the Federal Highway Administration and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

f. In the event of the contractor's noncompliance with the non-discrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or Federally-assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

g. The contractor will include the provisions of this Section II-2 in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the State highway department or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the Federal Highway Administration, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

3. Selection of Subcontractors, Procurement of Materials, and Leasing of Equipment:

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

a. Compliance With Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

b. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

c. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

d. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the State highway department or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the State highway department, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.

e. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the State highway department shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- (1) withholding of payments to the contractor under the contract until the contractor complies, and/or
- (2) cancellation, termination or suspension of the contract, in whole or in part.

f. Incorporation of Provisions: The contractor shall include the provision of this paragraph 3 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontractor or procurement as the State highway department or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the State highway department to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.