ORIGINAL NEW APPLICATION

0000154127

ADOT
Intermodal Transportation

Dallas Hammit, Acting State Engineer

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AZ CORP COMMISSION
DOCKET CONTROL

November 5, 2014

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

RR-03639A-14-0385

Arizona Corporation Commission
DOCKETED
NOV 05 2014
DOCKETED BY

RE: Application to modify existing railroad signals and surface
Project: 15th Avenue north of Lincoln Street in Phoenix, Arizona
Federal Project #PHX-0(248)T
ADOT TRACS # 0940 MA PHX SR243 01C
15th Ave crossing AAR/DOT # 741-459D

Mr. Watson,

Please find enclosed the original and 13 copies of the application to allow a modification and upgrade of the gate and flasher units and an upgrade of the track surfaces on 15th Avenue north of Lincoln Street. Also enclosed is an excerpt from City of Phoenix plans (Entellus-project #ST85100336, Sheet 4). 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,

Jason Pike
Railroad and Utility Coordinator
Arizona Department of Transportation
205 S. 17th Ave, Room 357 MD 618E
Phoenix, AZ 85007
Phone: 602-712-7149 jpike@azdot.gov

November 5, 2014

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

RE: Application to modify existing railroad signals and surface
Project: 15th Avenue north of Lincoln Street in Phoenix, Arizona
Federal Project #PHX-0(248)T
ADOT TRACS # 0940 MA PHX SR243 01C
15th Ave crossing AAR/DOT # 741-459D

Mr. Watson,

This application is being submitted to allow a modification and upgrade of the gate and flasher units and an upgrade of the track surfaces on 15th Avenue north of Lincoln Street.

1. **Project Location and Description**
   The project is located at the crossing of Union Pacific Railroad (UPRR) on 15th Avenue north of Lincoln St. in Phoenix, Arizona. This crossing currently consists of five tracks - one mainline with daily usage for UPRR and four spur lines. Two UPRR customers CEMEX and Western States Petroleum (WSP) are served at this crossing. 15th Avenue is an at-grade roadway used for 2 way traffic consisting of one thru southbound lane and one thru northbound lane. Both CEMEX and WSP have business entrances off of 15th Avenue and have large trucks that cross the tracks.

   The project consists of civil improvements by City of Phoenix to build sidewalks and improve road approaches. Union Pacific RR will construct the railroad signals and surfaces.

   - South side of the tracks gate/flasher unit and cantilever equipment will be upgraded by UPRR.
   - North side of the tracks gate/flasher unit will be upgraded and moved closer to the tracks by UPRR once existing track is removed.
   - Four sets of tracks will be upgraded to concrete panel surfaces.
   - One set of tracks will be removed.

2. **Why the crossing is needed**
   Based on the 2009 crossing improvement array, the 15th Ave. crossing was selected for upgrades to the surface and approaches. Removal of one spur track and approach improvements make the signal modification necessary.

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, build the crossing surface and authorize City of Phoenix to construct their civil improvements. Once an Opinion and Order is issued, UPRR will modify the signal equipment. The railroad signal improvements will be installed by UPRR within 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 equipment and crossing surfaces. The City of Phoenix will be responsible for installing and maintaining sidewalks and road approaches outside of UPRR and CEMEX responsibility. CEMEX will retain part of the maintenance responsibility for the two south spur tracks as outlined in agreement with UPRR.

5. **Project Funding**
Project funding will be provided by the Federal Highway Administration thru their Section 130/Railroad-Highway Crossing Safety improvement program and by City of Phoenix through matching funds.

Total Federal Funds	$867,535.00
(Includes RR surface, signal, civil improvements, right of way acquisition, contingency)	
Total City of Phoenix matching funds	$ 42,465.00
Total Project Cost	$910,000.00

This total includes Railroad crossing costs as follows:	
Railroad Signal work	$ 80,000.00
Railroad Surface work	$508,000.00

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

1. Provide Average Daily Traffic Counts for each of the locations.
   Per Phoenix: 2010 Traffic Count = 8,511 vehicles per day

2. Please describe the current Level of Service (LOS) at each intersection.
   The City of Phoenix has not established a LOS value.

3. Provide any traffic studies done by the road authorities for each area.
   The City of Phoenix states that no traffic studies have been completed recently for 15th Avenue or the area around this crossing.

4. Provide the population of the City the crossing is located in.
   2010 census (census.gov): 1,445,632 persons.

5. Provide what warning devices are currently installed at the crossing.

   Currently there are flashing lights and gates on the outside edges of the roadway for both northbound and southbound traffic. There is also a cantilever on the northbound side.

6. Provide distances in miles to the next public crossing on either side of the proposed project location. Are any of these grade separations?

   There is a grade separated crossing (741-458W) 0.3 miles west and 0.10 miles north on 17th Avenue. There is also an adjacent at-grade crossing on the same road 600ft to the north (025-451A). This crossing is owned by the BNSF Railroad.

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 because the crossing does not meet any of the criteria outlined in the FHWA-Grade Separation Guidelines.

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.

   According to the City of Phoenix General Plan Land Use Map, the areas east and west of the crossing are zoned Commerce / Business Park.

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 the Union Pacific RR, there are approximately 10 trains/day UPRR movement (includes BNSF operating on UP track 2 trains/day), CEMEX also enters the crossing with their own switching movements (using their track mobile). The trains move over the crossing at speeds between 5 mph and 20 mph. There is a maximum time table speed of 60mph, but currently there is a permanent speed restriction of 20mph. Both thru and switching movements are being made at the crossing.

11. Please provide the names and locations of all schools (elementary, junior high and high school) within the area of the crossing.

    - Capitol Elementary School — 330 N 16th Ave, Phoenix, AZ
    - Children First Academy — 374 N 6th Ave, Phoenix, AZ
    - Mary McLeod Bethune School — 1310 S 15th Ave, Phoenix, AZ
    - Paul Dunbar Lawrence School — 707 W Grant St, Phoenix, AZ

12. Please provide school bus route information concerning the crossing, including the number of times a day a school bus crosses this crossing.

    Per Phoenix Elementary District and Phoenix Union High School District – no school busses cross these tracks.

13. Please provide information about any hospitals in the area and whether the crossing is used extensively by emergency service vehicles.

St Luke's Medical Center	1800 E Van Buren St, Phoenix, AZ
Maricopa Integrated Health System	1201 S 7th Ave, Phoenix, AZ
Saint Joseph's Hospital and Medical Center	2346 N Central Ave, Phoenix, AZ

    15th Avenue is not a major emergency service route.

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 Phoenix states that it's not aware of any vehicles carrying hazardous materials utilizing this crossing and that 15th Ave. is not considered an alternative to I-10 at the Deck Park Tunnel.

16. Please provide the posted vehicular speed limit for the roadway.

    25 MPH

17. Do any buses (other than school buses) utilize the crossing, and how many times a day do they cross the crossing.

    None.

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.

    The only one is the spur being removed as part of this project.

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 Phoenix has no information or complaints regarding delays however the delay at the crossing is really a function of the average length of the train and the average speed that is traveling.

    FOR EXAMPLE: 7,000 ft. train traveling 30mph (44 fps) would result in 160 seconds or a little over 3.5 minutes of delay.

Sincerely,

Jason Pike
Railroad and Utility Coordinator
Arizona Department of Transportation
205 S. 17th Ave, Room 357 MD 618E
Phoenix, AZ 85007
Phone: 602-712-7149
jpike@azdot.gov

FHWA - GRADE SEPARATION GUIDELINES (15th Avenue north of Lincoln St, DOT#741-459D)					
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:**		**15TH AVE**			
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			
AADT 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 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	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			

ADOT

15th Avenue @ UPRR

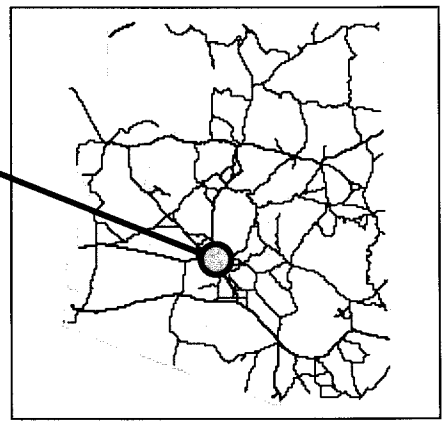
Rail-Safety Project with UPRR and City of Phoenix. DOT# 741-459D

15th Ave and UPRR rail crossing.
DOT# 741-459D

Part of ACC Application for railroad crossing surface and signal modification. UPRR Crossing DOT#741-459D

0 0.125 0.25 0.5 Miles

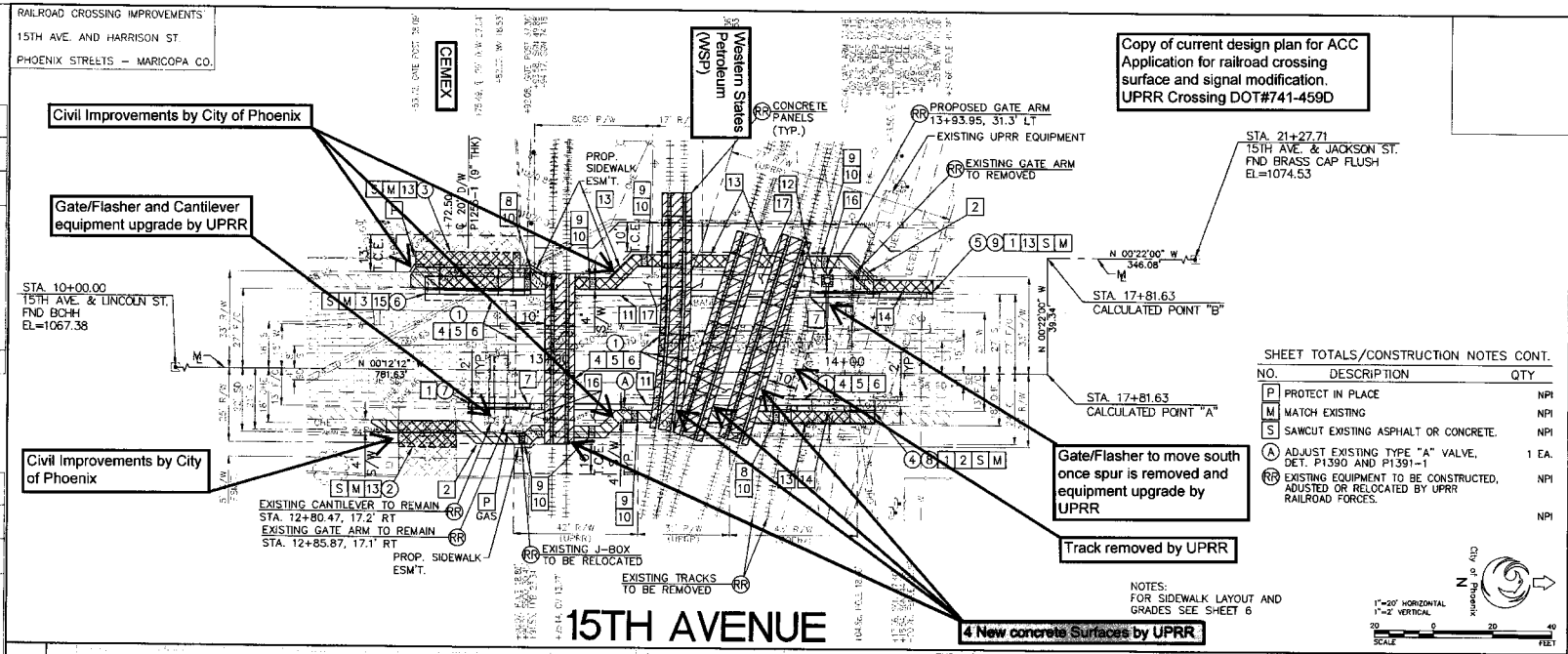
1:18,056



CREATED BY: ON WEDNESDAY, NOVEMBER 05, 2014 @ 1:35:07 PM

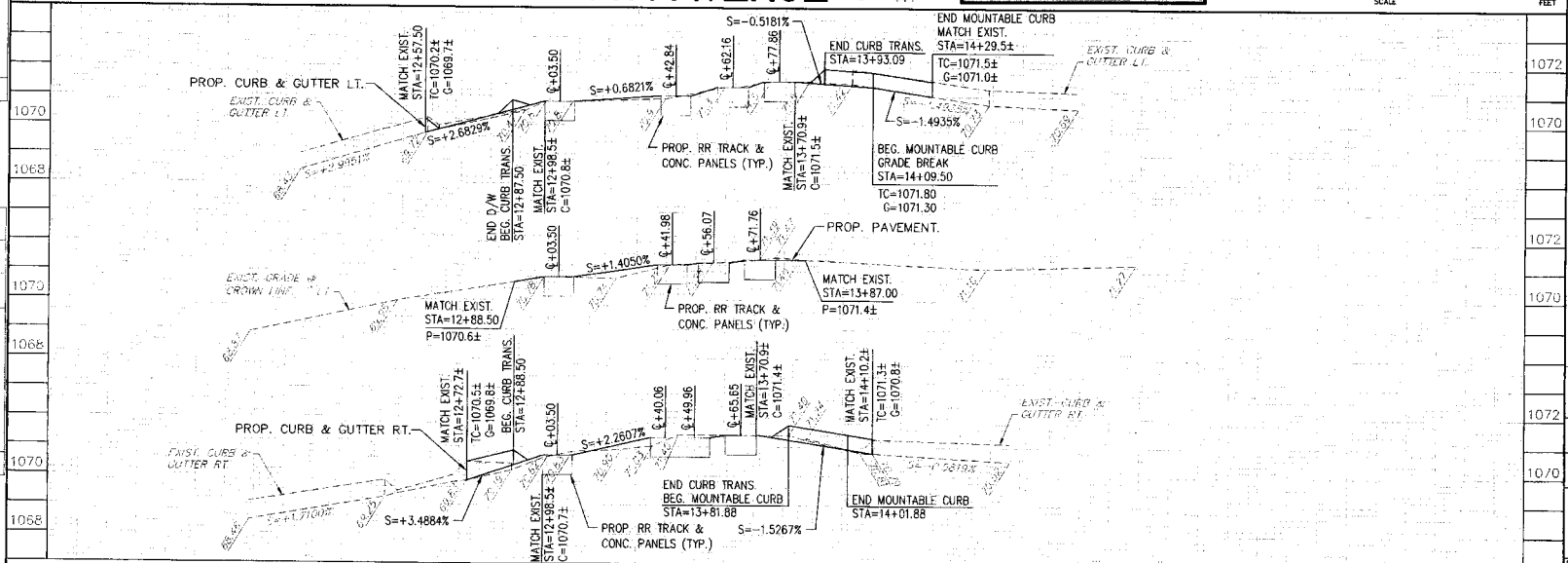
CREATED USING THE FIS MAPPING UTILITY

RAILROAD CROSSING IMPROVEMENTS
15TH AVE. AND HARRISON ST.
PHOENIX STREETS – MARICOPA CO.



SHEET TOTALS/CONSTRUCTION NOTES CONT.

NO.	DESCRIPTION	QTY
P	PROTECT IN PLACE	NPI
M	MATCH EXISTING	NPI
S	SAWCUT EXISTING ASPHALT OR CONCRETE.	NPI
(A)	ADJUST EXISTING TYPE "A" VALVE, DET. P1390 AND P1391-1	1 EA.
(RR)	EXISTING EQUIPMENT TO BE CONSTRUCTED, ADJUSTED OR RELOCATED BY UPRR RAILROAD FORCES.	NPI
		NPI



SHEET TOTALS/CONSTRUCTION NOTES

NO.	DESCRIPTION	QTY
1	VERT. CURB & GUTTER, DET. 220-1 TYPE "A"	84 L.F.
2	CONCRETE SIDEWALK, DET. P-1230	651 S.F.
3	CONCRETE DRIVEWAY, DET. P1255-1 (9" THICK)	140 S.F.
4	ASPHALT CONCRETE SURFACE COURSE 19MM "SUPER PAVE", 3½" THICK.	263 S.Y.
5	ASPHALT CONCRETE BASE COURSE A-1½, 4" THICK.	263 S.Y.
6	ASPHALT APPROACH AT RAILROAD TRACKS PER DET. ON SHT. 5.	NPI
7	CURB TRANSITION PER DET. ON SHT. 5.	NPI
8	CURB, GUTTER & SIDEWALK APPROACH PER DET. ON SHT. 5.	NPI
9	CONCRETE SIDEWALK APPROACH PER DET. ON SHT. 5.	NPI
10	TRUNCATED DOMES PER DET P-1232.	72 S.F.
11	RIBBON CURB DET 220-1, TYPE "B"	76 L.F.
12	EARTHWORK BACKFILL, COMPACT AND RE-GRADE PER MAG SPECS. SEC. 205. SLOPE 4:1 MAX.	LS
13	CONCRETE SLAB, CLASS "A" (9" THICK)	733 S.F.
14	CONCRETE CURB & GUTTER, DET. 220-2 TYPE "E", INCLUDING TRANSITION	40 L.F.
15	VERT. CURB & GUTTER, DET 220-1 TYPE "A" (H=4")	41 L.F.
16	DECOMPOSED GRANITE, 3/4" MINUS, 2" THICK (COLOR PER CITY INSPECTOR)	3 C.Y.
17	HEAVY DUTY STABILIZED DECOMPOSED GRANITE, 3/4" MINUS, 4" THICK PER DET. ON SHT. 5.	3 C.Y.

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST85100336	4	6

ENTELLUS INC.
CONSULTING ENGINEER

DES: JDS | DR: JDS | CK: TC | DATE: 10/2014

REMOVE EXISTING A.C. PAVEMENT

NO.	STATION to STATION		SIDE	S.Y.
1	12+57	14+10	RT & LT	587

REMOVE CONCRETE S.W., V.G., D.W., SLAB

NO.	STATION to STATION		SIDE	S.F.
2	12+48	12+68	RT	182
3	12+52	12+92	LT	456
4	13+87	14+10	RT	82
5	14+03	14+30	LT	108

REMOVE CONCRETE CURB AND GUTTER

NO.	STATION to STATION		SIDE	L.F.
6	12+57	12+92	LT	35
7	12+73	12+88	RT	15
8	13+88	14+10	RT	22
9	14+03	14+30	LT	27

Entellus™
2255 N. 44th Street Suite 125
Phoenix AZ 85008-8279
Tel 602.244.2566
Fax 602.244.8947
Website Entellus.com

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

PLAN SHEET

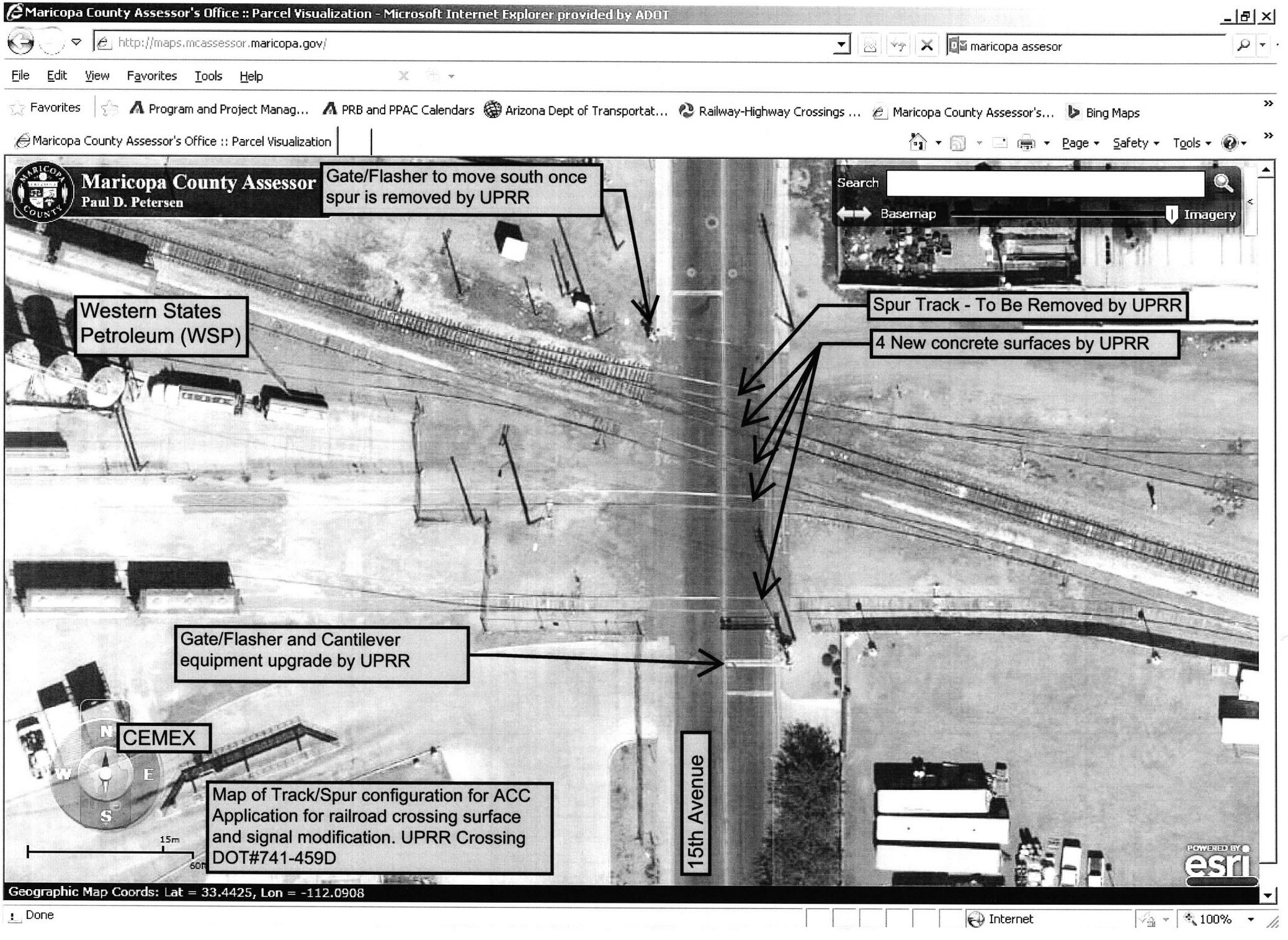
CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

15TH AVENUE UPRR
RAILROAD CROSSING IMPROVEMENTS
ST85100336

DR: JDS	DES: JDS	CK: TC	SHEET NO:	TOTAL SHEETS
DATE: 10/2014	DATE: 10/2014	DATE: 10/2014	4	6

SCALE: 1"=20' HORIZONTAL, 1"=2' VERTICAL

ST85100336_PAV.dwg Oct 23, 2014


Maricopa County Assessor's Office :: Parcel Visualization - Microsoft Internet Explorer provided by ADOT
http://maps.mcassessor.maricopa.gov/
maricopa assesor
File Edit View Favorites Tools Help
Favorites
Program and Project Manag...
PRB and PPAC Calendars
Arizona Dept of Transportat...
Railway-Highway Crossings ...
Maricopa County Assessor's...
Bing Maps
Maricopa County Assessor's Office :: Parcel Visualization
Page Safety Tools
Maricopa County Assessor
Paul D. Petersen
Gate/Flasher to move south once spur is removed by UPRR
Search
Basemap
Imagery
Western States Petroleum (WSP)
Spur Track - To Be Removed by UPRR
4 New concrete surfaces by UPRR
Gate/Flasher and Cantilever equipment upgrade by UPRR
CEMEX
N
W
E
S
15m
60ft
Map of Track/Spur configuration for ACC Application for railroad crossing surface and signal modification. UPRR Crossing DOT#741-459D
15th Avenue
POWERED BY esri
Geographic Map Coords: Lat = 33.4425, Lon = -112.0908
Done
Internet
100%