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**Staff Memorandum**

To: THE COMMISSION DOCKET NO. RR-03639A-08-0036

From: Safety Division

Date: September 4, 2008

RE: IN THE MATTER OF THE APPLICATION OF THE UNION PACIFIC RAILROAD COMPANY TO ALTER THREE CROSSINGS OF THE UNION PACIFIC RAILROAD IN THE TOWN OF MARANA, PIMA COUNTY, ARIZONA AT CAMINO DE MANANA, MASSINGALE, AND JOINER ROADS.

**Background**

On January 17, 2008 the Union Pacific Railroad Company ("Railroad") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Railroad to alter three crossings in the Town of Marana ("Town"), Arizona by adding a second set of mainline tracks. This application is part of the Railroad's double tracking effort for their Sunset Route across Arizona. Union Pacific's filing in this application requests approval for the Railroad to add a second main track, twenty feet from the center of the existing main track at three crossings in the jurisdiction of the Town of Marana, at Camino De Manana, AAR/DOT No. 741-097-U, Massingale, AAR/DOT No. 741-100-A, and Joiner Roads AAR/DOT 741-102-N.

In Commission Decision No. 48561 dated 1/13/78, flashing lights, automatic gates and bells were installed at the Camino De Manana crossing. In Decision No. 48247 dated 9/19/77, flashing lights, automatic gates and bells were installed at the Massingale Road crossing. In Decision No. 43655 dated 9/18/73, flashing lights, automatic gates and bells were installed at Joiner Road.

On March 1, 2007, Staff, the Railroad, and the Town participated in diagnostic reviews of the proposed improvements at Camino De Manana, Massingale, and Joiner. All parties present were in agreement to the proposed improvements at the crossings. The following is a break down of each of the three crossings in this application, including information about each crossing that was provided to Staff by the Railroad and its contractors.

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## **Geographical Information**

All three crossings in this application are located within Pima County with the Town of Marana having jurisdiction over the three roadways. According to 2006 estimates, the population of the Town is 33,000. Marana was the fourth fastest-growing municipality, among all cities and towns in Arizona of any size from 1990 to 2000. The Town extends along Interstate 10, from the line between Pinal and Pima County to the Tucson city line, with the exception of the area around the unincorporated community of Rillito.

The rail line runs in a south-east to north-west direction, parallel to the Casa Grande Highway (North I-10 Frontage Road). The first crossing (starting at the most western end and working east) is the Camino De Manana crossing, which runs in a north - south direction. Camino De Manana terminates at the North I-10 Frontage Road when traveling southbound. Traveling in a northeast direction from the railroad crossing on Camino De Manana, this area has scattered residential and undeveloped land. From Camino De Manana to the east 2.95 miles is Massingale Road. Traveling westbound on Massingale, after crossing the railroad tracks the roadway terminates at the North I-10 Frontage Road. North of the railroad crossing on Massingale Road is a substantial residential area. From Massingale Road to the east 2.26 miles is Joiner Road which runs in a north-south direction. Approximately .2 of a mile north of the crossing, Joiner Road merges into North Thornydale Road. The surrounding area of the Joiner Road crossing and along Thornydale Road is primarily commercial and light industrial with some residential nearby. Traveling south on Joiner Road after crossing the railroad tracks, approximately .2 of a mile the roadway ends at Travel Center Drive. The area along Travel Center Drive is mostly commercial (**See attachment "A"**).

## **Camino De Manana Road**

The proposed second main track at this crossing will be located north of the existing main track. The Railroad will re-profile a portion of the two lane rural asphalt road to meet the new tracks. The Railroad's proposed upgrades will replace the existing incandescent flashing lights, gate mechanisms, bells and detection circuitry, with the latest in industry standards to include: 12 inch LED flashing lights, gates, bells, and constant warning time circuitry. A new concrete crossing surface will be added, along with replacing any impacted pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the state. The estimated cost of the proposed railroad crossing upgrade is \$272,104. The Railroad is paying for the entire cost of the crossing improvements, broken down by signal and crossing surface work, with the signal work costing \$248,944 and the crossing surface \$23,160.

Traffic data for Camino De Manana was provided to the Railroad by Jennifer Crumbliss of HDR Engineering, and Keith Brann, Assistant Public Works Director for the Town of Marana. The data provided indicates the Average Daily Traffic (ADT) for 2006 to be 1,670 vpd. The estimated ADT for the year 2030 is 22,400 vpd. The current

and projected traffic data was verified by Staff with Keith Brann in August, 2008. The current Level of Service ("LOS") for this two lane road is LOS A, for both north and south bound traffic.

**Note:** The American Association of State Highway and Transportation Officials (AASHTO) Geometric Design of Highways and Streets, 2004, states that the Level of Service characterizes the operating conditions on a facility in terms of traffic performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. This is a measure of roadway congestion ranging from LOS A--least congested--to LOS F--most congested. LOS is one of the most common terms used to describe how "good" or how "bad" traffic is projected to be.

The posted speed limit on Camino De Manana is 45 MPH. Commission Rail Safety Section records, as well as Federal Railroad Administration ("FRA") accident/incident records indicate four accidents at this crossing, with no injuries and no fatalities. The first accident occurred on 2/26/1979, when a truck failed to stop for the warning devices and was struck. The second incident occurred on 9/17/1983, when a truck did not stop for the warning devices and was hit. The third accident occurred on 11/11/1984, when a semi truck stopped on the tracks and was struck by a train. On 6/2/2001, accident/incident records indicate a truck stopped on the tracks and was struck by the approaching train. Records indicate the warning devices were reported to be working as intended in all four accidents.

Alternative routes from this crossing are as follows; to the west 4.73 miles to Tangerine Road, and to the east 1.59 miles to Cortaro Farms Road.

### **Massingale Road**

The proposed second main track at this crossing will be north of the existing main track. The Railroad will re-profile a portion of the two lane asphalt road to meet the new track. The Railroad's proposed upgrades will replace the existing incandescent flashing lights, gate mechanisms, bells and detection circuitry, with the latest in industry standards to include: 12 inch LED flashing lights, gates, bells, and constant warning time circuitry. A new concrete crossing surface will be added, along with replacing any impacted pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the state. The estimated cost of the proposed railroad crossing upgrade is \$258,021. The Railroad is paying for the entire cost of the crossing improvements, broken down by signal and crossing surface improvements, with the signal improvements costing \$227,141, and the crossing surface \$30,880.

Traffic data was provided to the Railroad by Keith Brann, Assistant Public Works Director for the Town of Marana and Jenifer Crumbliss of HDR Engineering. The estimated ADT for Massingale Road is 1,300 vpd, taken in the year 2006. No future projections were provided for this crossing. In August of 2008, Staff verified with Keith Brann the most recent estimated traffic counts, which remain at 1,300 vpd. Mr. Brann indicated Massingale Road is not experiencing any significant delays at this time and no

future development is planned that would affect the roadway. The current Level of Service ("LOS") for the two lane road is LOS A, for both north and south bound traffic.

The posted speed limit on this road is 25 MPH. Commission Rail Safety Section records, as well as FRA accident/incident records indicate four accidents at this crossing, with no injuries and four fatalities. The first accident occurred on 5/10/1984, with records indicating a car stopped on the tracks and was struck resulting in no injuries or fatalities. On 12/30/1986 an accident occurred when a car did not stop for the warning devices and was struck resulting in three fatalities. A third accident occurred on 10/24/1989, when the driver of an auto failed to obey the warning devices and was struck and killed. The fourth accident occurred on 02/20/99, when the driver of a truck failed to obey the warning devices and was struck. There were no injuries or fatalities in this accident. Records indicate the crossing warning devices were working as intended for all four incidents.

Alternative routes from this crossing are as follows; to the west 1.37 miles to Cortaro Road, and to the east .65 miles to Ina Road, both are at-grade crossings.

### **Joiner Road**

The proposed second main track at this crossing will replace the existing siding at this location. There are currently two sets of tracks through this crossing. The Railroad will re-profile a portion of the two lane rural asphalt road to meet the new track. The Railroad's proposed upgrades will replace the existing incandescent flashing lights, gate mechanisms, bells and detection circuitry, with the latest in industry standards to include: 12 inch LED flashing lights, gates, bells, and constant warning time circuitry. A new concrete crossing surface will be added, along with replacing any impacted pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the state. The estimated cost of the proposed railroad crossing upgrade is \$330,880. The Railroad is paying for the entire cost of the crossing improvements, broken down by signal and crossing surface improvements, with the signal work costing \$ 300,000, and the crossing surface \$30,880.

Traffic data was provided to the Railroad by Keith Brann of the Marana Public Works Department and Jennifer Crumbliss of HDR Engineering. The estimated ADT for this crossing is 980 vpd. This traffic count was taken in 2006. No future traffic data was provided for this crossing. In August of 2008, Staff verified with Keith Brann the most recent traffic counts, which remain at 980 vpd. Mr. Brann indicated Joiner Road is not experiencing any significant delays at this time and no future development is planned that would affect the roadway. The current Level of Service ("LOS") for the two lane road is LOS A, for both north and south bound traffic.

The posted speed limit is 25 MPH. Commission Rail Safety Section records, as well as FRA accident/incident records indicate one accident at this crossing. The accident occurred on 10/12/1986, as a result of a semi-tractor trailer stopped on the

crossing. There were no injuries or fatalities in this accident. Accident/ incident records indicate the warning devices were working as intended.

Alternative routes from this crossing are as follows; to the west .25 miles to Orange Grove Road, and to the east 2.15 miles to Ruthrauff Road. Orange Grove Road is an underpass at the railroad tracks and Ruthrauff Road is an at-grade crossing.

### **Train Data**

Data provided by the railroad regarding train movements through these three crossings are as follows, and are the same for all three crossings:

**Train Count:** 48 total average trains per day (46 freight, and 2 passenger trains)

**Train Speed:** 79 mph passenger / 70 mph freight

**Thru Freight/Switching Moves:** All train movements through these crossings are thru movements with no switching operations, according to Union Pacific, Manager of Train Operations, Rob Henderson. These crossings are used by Amtrak twice per day, three times per week.

### **Schools and Bus Routes**

There are three schools in Pima County & the Town of Marana within the area of the three crossings in this application. They are:

- ✓ Marjorie W. Estes Elem. School @ 11279 W. Grier Rd, Marana, AZ 85653
- ✓ Marana Middle School @ 11279 W. Grier Rd, Marana, AZ 85653
- ✓ Marana High School @ 12000 W. Emigh Road, Tucson, AZ 85743.

Per Alisha Meza, Operations Manager of Transportation for Marana Unified School District, no school buses currently cross any of these three crossings.

### **Hospitals**

The nearest hospital to these crossings is Northwest Medical Center in Marana. The following are the distances from the crossings to the hospital:

- Camino De Manana – 7.0 miles
- Massingale – 2.45 miles
- Joiner – 2.0 miles

**Hazardous Materials**

The railroad gave the following response when asked about hazardous materials shipments crossing these three crossings:

*Union Pacific has been unable to obtain any information responsive to this request. It is Union Pacific's understanding that any vehicle carrying hazardous materials may utilize public crossings unless otherwise posted, but Union Pacific knows of no way it can investigate or determine whether such vehicles use these crossings or with what frequency.*

**Zoning**

Staff requested the Railroad provide information regarding the type of zoning in adjacent areas from the crossing. The following was their response:

*Union Pacific believes that the second part of CW 1.7 calls for speculation as to whether new housing developments, industrial parks, or other developments will occur in the future. In addition, Union Pacific does not have access to such information, but instead must rely on information provided by others. With those caveats, Union Pacific responds as follows:*

*Pima Association of Governments has a 2007 Land Use Map that matches the field diagnostic observations. The observed land use from the field diagnostics are shown below:*

<i>Crossing</i>	<i>2007 Observed Land Use</i>	<i>2007 Existing Pima County Land Use</i>
<i>Camino de Manana Road</i>	<i>Agricultural</i>	<i>Agricultural/Ranching</i>
<i>Massingale Road</i>	<i>Residential</i>	<i>Medium Residential</i>
<i>Joiner Road</i>	<i>Commercial</i>	<i>Commercial / Industrial</i>

*Pima Association of Governments planning departments can better answer the question of future developments. They review development impact studies and regulate zoning.*

**Spur Lines**

The Union Pacific gave the following answer regarding spur lines located in the area:

*Using the definition of a "spur line" or "spur track" as "a stub track of indefinite length diverging from a main track or other track," ACC Regulation R14-5-101(20), no spur lines have been removed within the last three years inside a 10-mile radius of any crossings covered in this application.*

## 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:

		<b>Camino De Manana</b>	<b>Massingale</b>	<b>Joiner</b>
The highway is a part of the designated Interstate Highway System	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	No	No
The highway is otherwise designed to have full controlled access	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	No	No
The posted highway speed equals or exceeds 70 mph	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	No	No
AADT exceeds 100,000 in urban areas or 50,000 in rural areas	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	N/A	N/A
Maximum authorized train speed exceeds 110 mph	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	No	No
An average of 150 or more trains per day or 300 million gross tons/year	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030 <sup>1</sup>	Yes	Yes	Yes
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	No	No
	Crossing meets the criteria by 2030 <sup>2</sup>	Yes	No	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	No	No	No
	Crossing meets the criteria by 2030	Unknown	Unknown	Unknown
Vehicle delay exceeds 40 vehicle hours per day	Crossing Currently meets the criteria	No	No	No
	Crossing meets the criteria by 2030	No	N/A	N/A

N/A = Information was not available.

This table utilizes the most recent projected ADT data as follows: Camino De Manana – 22,400 (2030), Massingale – N/A, Joiner – N/A

<sup>1</sup> The Railroad is projected to exceed 300 million gross tons as of 2016. This projection is based on the fact that the Railroad is currently exceeding 217 million gross tons with 46 trains per day and is projected to run twice the number of trains (at lengths of up to 8,000 feet instead of the current length of 6,000 feet) by 2016.

<sup>2</sup> The projected crossing exposures utilizing the most recent projected VPD data are as follows: Camino De Manana – 1.9 million, Massingale – N/A, Joiner – N/A.

## Vehicular Delays at Crossings

Based on the current single track configuration, the railroad gave the following response about delay time for vehicles at the crossings in this application. The delay time 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.

*Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:*

*Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at the crossings involved in this application operate at timetable speeds of 65 mph and the average length of trains is approximately 6,000 feet. At that train length and speed, the average delay for vehicular traffic (1) to allow the train to pass at this crossing, 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, is approximately 1.549 minutes.*

*The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, 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, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.*

*With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.*

Based on the railroads double tracking project, and the projected number of 84 trains per day through this crossing by the year 2016, the railroad gave this response as to what future delay times would be for vehicles at the crossings in this application

*Delays for vehicular (roadway) traffic caused by trains occupying a crossing depend on the length and speed of each train traversing the crossing. Because each*

*train can be unique for these values it would be impossible for Union Pacific accurately to provide the time of delay for vehicular traffic either while allowing trains to pass the crossing or because trains are stopped in the crossing. With that caveat, Union Pacific responds as follows:*

*Union Pacific operations are governed by maximum allowable speeds as identified by timetable. Trains at the crossing involved in this application are projected to operate at timetable speeds of 65 mph and the average length of trains is projected to be approximately 8,000 feet. At that train length and speed, the average delay for vehicular traffic at this crossing in 2016 (1) to allow the train to pass at the crossing, 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, is projected to be approximately 1.899 minutes.*

*The average time vehicular traffic is delayed (2) due to trains stopped on the track for any purpose, 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, varies according to the condition creating the blockage. These varied conditions include mechanical failure such as a broken air hose, a grade crossing accident, or operations such as trains meeting or passing. Given the variety of possible conditions causing trains to be stopped on a crossing, Union Pacific does not catalog the average time vehicular traffic is delayed by stopped trains.*

*With that caveat, Union Pacific responds as follows: A.R.S. § 40-852 requires that, except in cases of unavoidable accident, a train blocking a crossing for more than 15 minutes must be cut to facilitate traffic flow. ACC Regulation R14-5-104(C)(7) and Union Pacific's operating practices allow a train to block a public grade crossing for no more than 10 continuous minutes, unless the train is continuously moving in the same direction during the entire time it occupies the crossing, or the blockage is caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.*

A traffic delay and queuing analysis was performed by Staff for all three crossings in this application utilizing formulas found in the Transportation and Traffic Engineering Handbook, Second Edition. This document is published by the Institute of Transportation Engineers (ITE). Additionally, there are no future traffic projections for Massingale and Joiner. Using the most current ADT data available, it was determined that the current daily vehicle delays at the crossings are as follows:

Camino De Manana Road	0.7 hours of delay per day
Massingale Road	0.5 hours of delay per day
Joiner Road	0.4 hours of delay per day

Using the most current data regarding projected ADT's and the Railroad's projection of 84 trains per day, it was determined that daily vehicle delays in the year 2030 may be as follows:

Camino De Manana Road	28.5 hours of delay per day
Massingale Road	N/A
Joiner Road	N/A

Current delays fall well below the FHWA recommended threshold of 40 delay hours per day. Projected delays for the year 2030 for Camino De Manana continue to remain below the FHWA threshold. The Town of Marana does not have future traffic projections for Massingale or Joiner Road; therefore no projected traffic delays were performed.

Another commonly used measure outlined in the FHWA Guidelines, the so-called Crossing Exposure Index (which is simply the product of the number of trains per day multiplied by the number of vehicles crossing daily) is not met at any of the three crossings. Using future projected traffic volumes for 2030, Camino De Manana is likely to exceed the FHWA threshold for urban areas of one million (1.9 million). It should be noted that the criteria identified in the FHWA material are not mandates, but Guidelines established by the Federal Highway Administration, which serve to alert those having jurisdiction that potential problems may arise.

### **Grade Separation**

With regard to grade separating any of the crossings, the Railroad gave the following response:

*Union Pacific understands that whether a grade separation is needed is primarily a question of mobility and convenience for vehicular traffic on the roadway, not safety. That is because an at-grade crossing can be safe without constructing a grade separation and eliminating the grade crossing. Based on this understanding, Union Pacific believes the question of whether a grade separation is needed is irrelevant to Union Pacific's application to add a second mainline track at these grade crossings. With that caveat, Union Pacific responds as follows:*

*In addition to the foregoing, grade separation is not appropriate for determination at this time because the local communities and roadway authorities have not finally determined whether grade separations at these crossings are desired by those communities and authorities, what priority grade separations would have with respect to other public projects, when construction of grade separations could be begun and finished, and how grade separations would be funded. Union Pacific is aware that the local communities and roadway authorities are studying these matters outside of the context of Union Pacific's applications for grade crossing alterations. Specifically, Union Pacific is aware that the Town of Marana is planning a grade separation at Camino de Manana. That grade separation is currently in the final design stage and includes an interchange with I-10.*

*Furthermore, Union Pacific believes the three crossings involved in this application are safe without constructing grade separations. This conclusion is supported by the fact that the Federal Highway Administration authorizes the use of gates and lights at multiple-track grade crossings as proposed in this application.*

*In connection with its recent application to upgrade the crossing of Union Pacific tracks at the intersection of Power and Pecos Roads, RR-03639A-07-0398, the Town of Gilbert estimated that a grade separation at that location would cost \$22 million. Depending on the particular crossing involved, a reasonable range for the costs of constructing a grade separation would be between \$20 million and \$40 million.*

Staff has utilized the FHWA Guidelines to determine the potential need for grade separation at these crossings.

Based on currently existing conditions, none of the three crossings in this application meet any of the nine criteria for consideration of grade separation. Projected data indicates that all three crossings will meet at least one criteria and Camino De Manana will meet two of the nine criteria by the year 2030.

#### **Future Twin Peaks Interchange Project**

The Town of Marana and the Arizona Department of Transportation (ADOT) are currently developing the final design for a new traffic interchange on Interstate 10 (I-10) between the existing Avra Valley Road and Cortaro Road interchanges. The new roadway will connect Twin Peaks Road, west of the Santa Cruz River, to Camino De Manana and Linda Vista Boulevard on the east side of I-10 (**see attachment "B"**). The need for a new I-10 interchange has been recommended in local and regional planning studies that date back to the late 1980's. This project was included in the Regional Transportation Authority's (RTA) transportation plan approved by voters in May 2006.

This project will relieve traffic congestion in the Town and the northwestern area of metropolitan Tucson. It will also provide an infrastructure to aide the rapid growth of northwest Pima County. This area continues to exceed the current transportation infrastructure capacity.

The design of this project took into consideration public comments and feedback as well as findings from RTA planning studies to develop the new traffic interchange. The project will include the extension of Twin Peaks Road across the Santa Cruz River with a connection to I-10, which will allow residents west of the Santa Cruz River to access and cross I-10. Additionally, a grade separation will be constructed over the Union Pacific Railroad tracks. The final design was completed this summer (2008) and is currently undergoing the approval process. The project is anticipated to go through the construction bid process beginning in October 2008 with construction to begin shortly after, subsequent to Commission approval. Construction will take approximately 18

months to complete and will open to traffic in 2010. The total cost of this project is estimated at approximately \$82 million. The project is fully funded by multiple sources including:

- Federal
- ADOT
- Union Pacific Railroad
- Regional Pima County
- Private Developer
- Town of Marana

### **Future Crossing Closure**

The Twin Peaks Interchange project also proposes the closure of the Camino De Manana at-grade crossing. During the early stages of the second phase of the Twin Peaks Interchange project, the Town is proposing to close the Camino De Manana at-grade crossing for public use; however it will remain open for construction traffic until the conclusion of the project. At the conclusion of the project, with Commission approval the crossing will be permanently closed, including the removal of the warning devices and the concrete crossing surface.

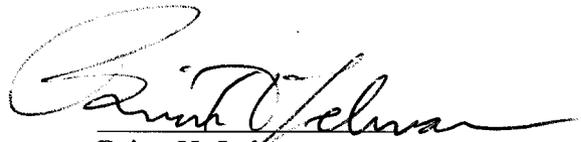
### **Staff Conclusions**

Having reviewed all applicable data, Staff generally supports the Railroad's application. Staff believes that the upgrades are in the public interest and are reasonable. Additionally, Staff believes that the measures proposed by the Railroad are consistent with other similar at-grade crossings in the State and will provide for the public's safety. Therefore, Staff recommends approval of the Railroad's application.



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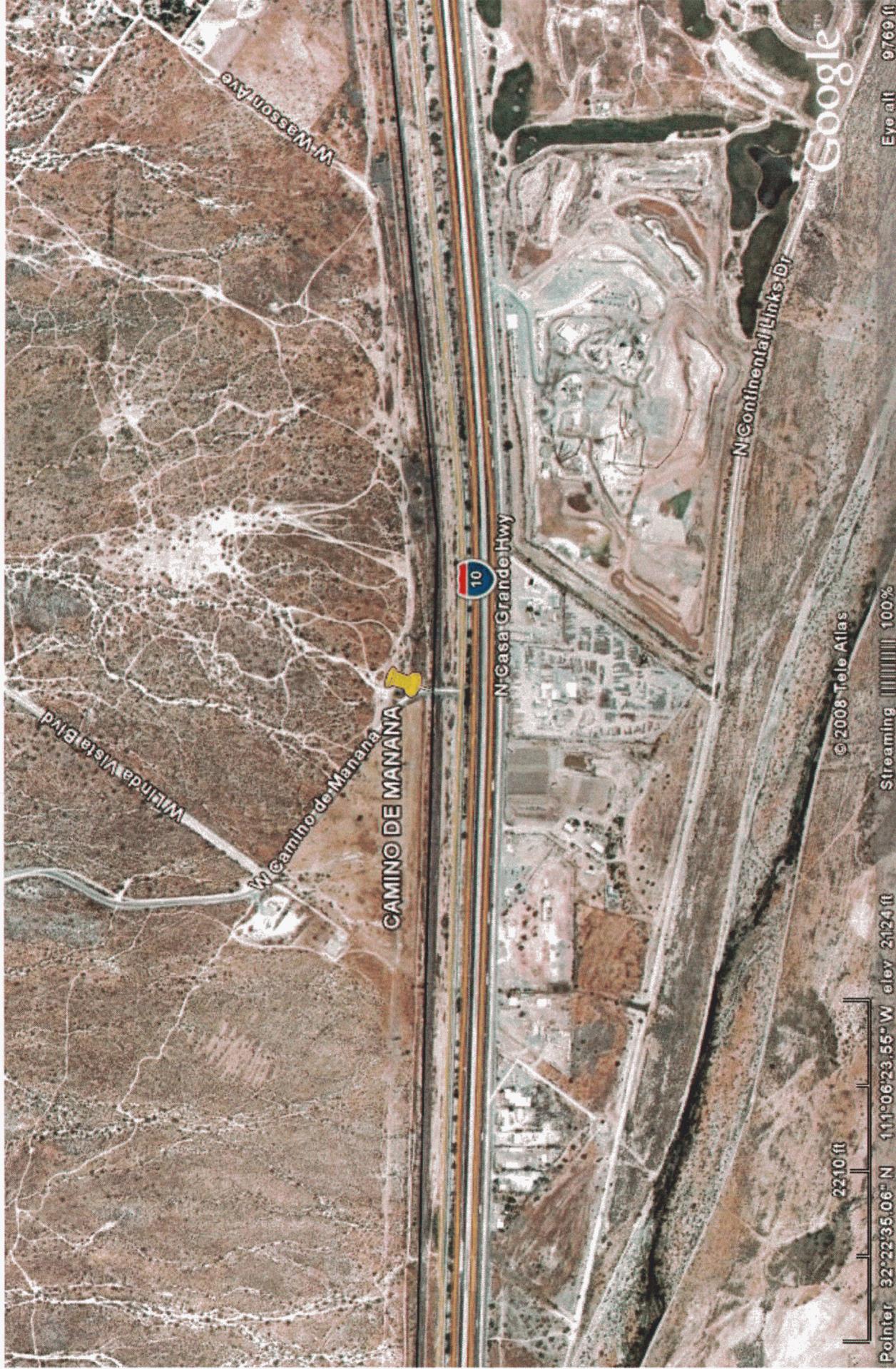
Dave Raber  
Director  
Safety Division



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Brian H. Lehman  
Railroad Supervisor  
Safety Division

**Attachment "A"**



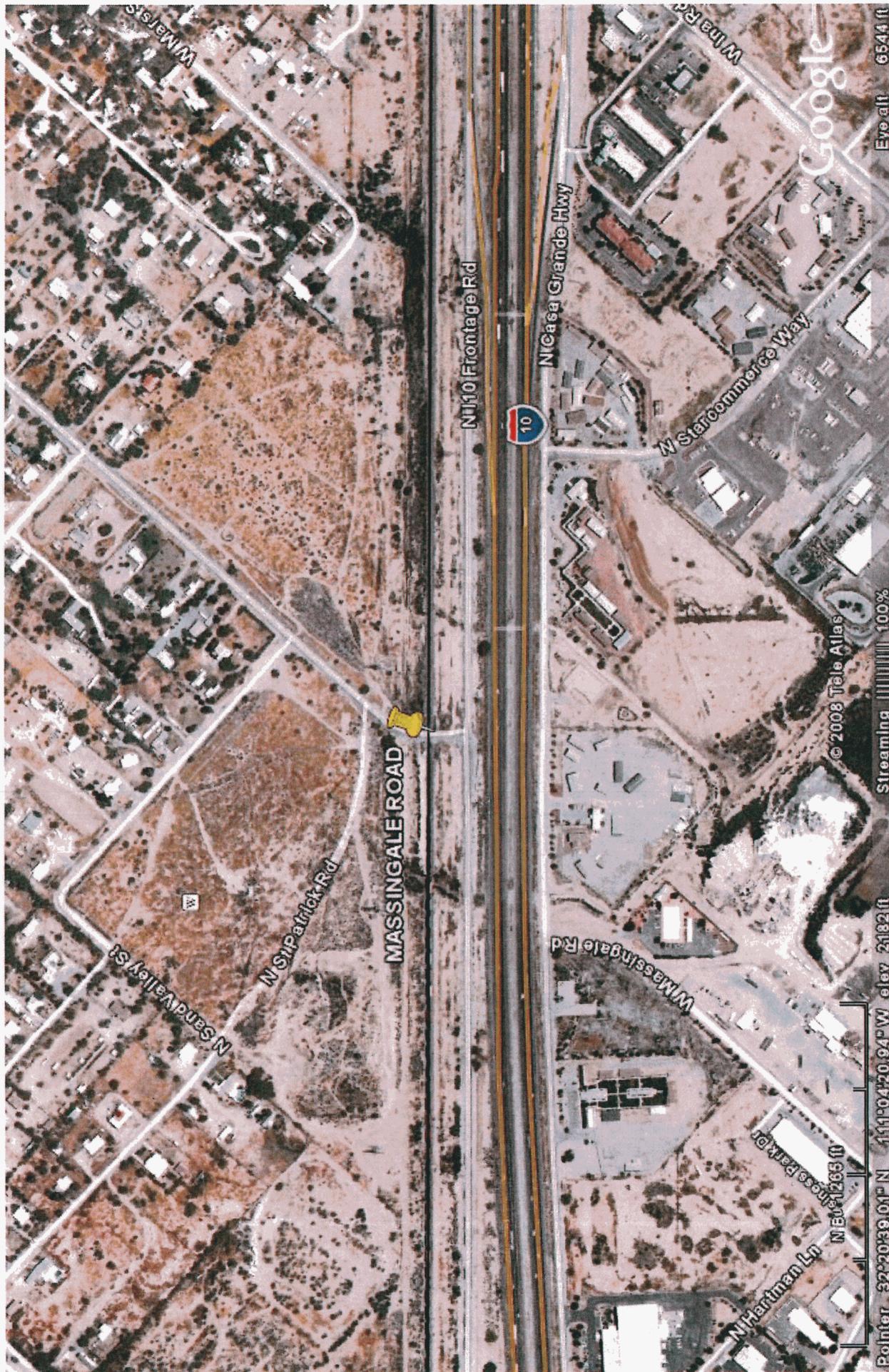
Eye alt 9769 ft

© 2008 Tele Atlas

Streaming 100%

2210 ft

Pointer 32°22'35.06" N 111°06'23.55" W elev 2124 ft

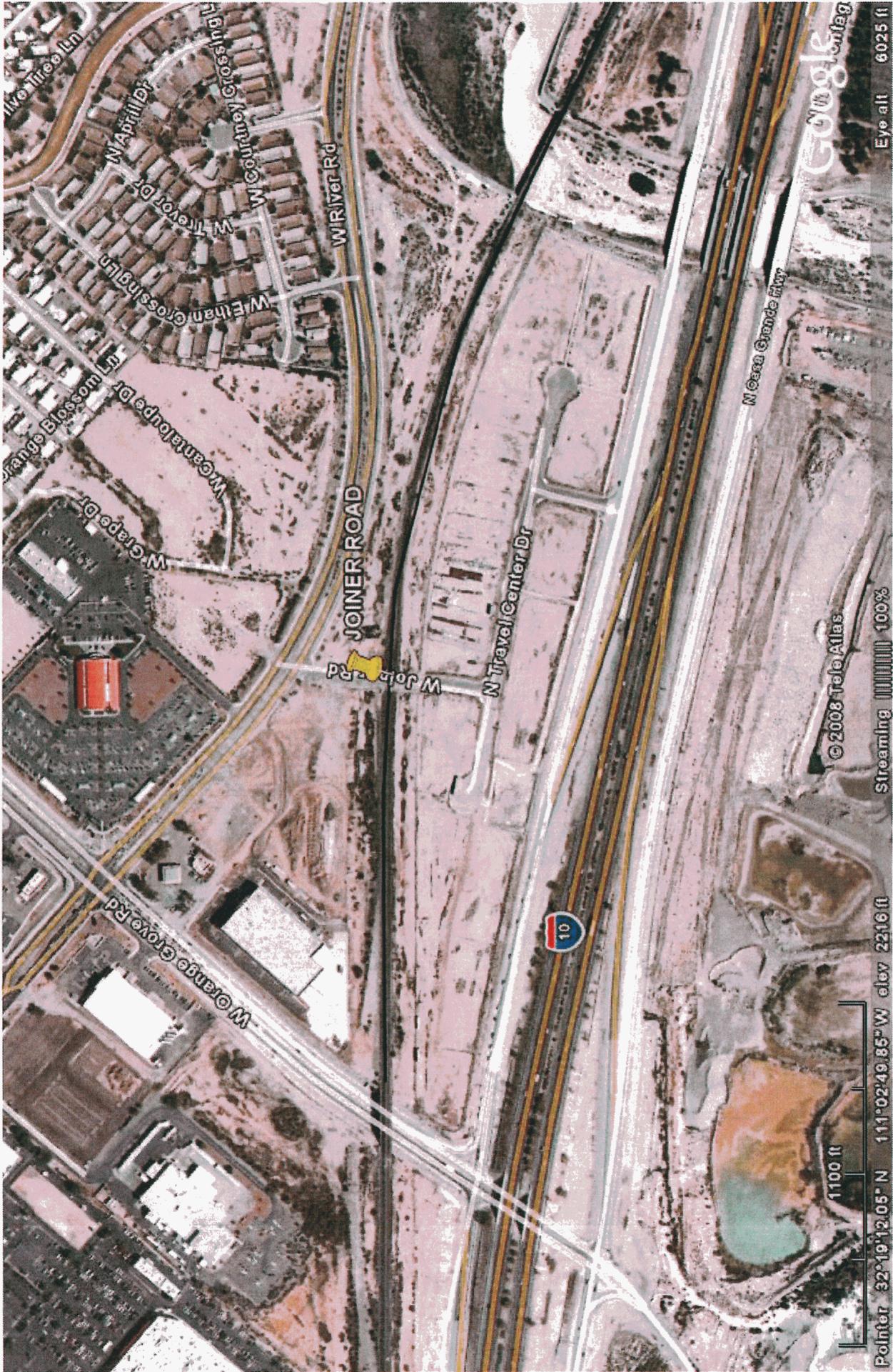


Pointer 32°20'39.01" N 111°04'20.94" W elev 2182 ft

© 2003 Tele Atlas Streaming 100%

Eye alt 6544 ft

Google



Google

Eye alt 6025 ft

JOINER ROAD

W Joiner Rd

N Travel Center Dr

N Casa Grande Hwy

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Streaming 100%



1100 ft

Pointer 32°19'12.05" N 111°02'49.85" W elev 2216 ft



CAMINO DE MANANA

MASSINGALE ROAD

JOINER ROAD

W Cortaro Farms Rd

N Thomydale Rd

W Ina Rd

N Cassa Grande Hwy

Pointer 32°20'57.91" N 111°04'46.05" W elev 2168 ft

10111 ft

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Eye alt 37176 ft

Google

**Attachment "B"**

I-10 Traffic Interchange at Twin Peaks

PRELIMINARY

