



0000152326

STAFF MEMORANDUM

To: THE COMMISSION

RECEIVED

Arizona Corporation Commission

DOCKETED

From: Robert Marvin
Director
Safety Division

2014 APR -8 A 9:50

APR 08 2014

Date: April 8, 2014

ARIZONA CORPORATION COMMISSION
DOCKET CONTROL

DOCKETED BY

RE: IN THE MATTER OF THE APPLICATION OF THE TOWN OF QUEEN CREEK TO UPGRADE AN EXISTING CROSSING OF THE UNION PACIFIC RAILROAD COMPANY AT OCOTILLO ROAD IN QUEEN CREEK, MARICOPA COUNTY, ARIZONA, USDOT NO. 741-837-W.

DOCKET NO. RR-03639A-14-0035

ORIGINAL

Background

On February 5, 2014, the Town of Queen Creek ("Town") filed with the Arizona Corporation Commission ("Commission") an application for approval for the Union Pacific Railroad ("Railroad") to upgrade an existing crossing at Ocotillo Road in the Town, Maricopa County, Arizona at USDOT No. 741-837-W.

The Safety Division's Railroad Safety Section, ("Staff"), the Town and the Railroad participated in several diagnostic review meetings of the proposed improvements to this crossing. All parties present were in agreement to the proposed improvements at the crossing. The following is a breakdown of the crossing in this application, including information about the crossing that was provided to Staff by the Town.

Ocotillo Road

Ocotillo Road is an east-west two lane asphalt road. This project consists of widening the roadway to 4 lanes, as well as constructing a raised median in the roadway. Two automatic gates with LED flasher units will be installed on the curb sides of the roadway, and two automatic gates with LED flasher units will be installed within the new raised median. Constant Warning Time Circuitry will also be installed. Additionally, the Town will complete several civil improvements, including sidewalk adjustments, roadway approach improvements to accommodate the railroad signal and surface work, as well as signage and pavement markings. The proposed measures are consistent with safety measures employed at similar at-grade crossings in the State. The Railroad will maintain the warning devices and crossing surface after the upgrades are completed. The entire cost of the project is \$1,945,083 and will be funded by the Town.

Traffic data for Ocotillo Road was provided to Staff by the Town's contractor AMEC, Environment & Infrastructure, Inc. Per the Town, the average daily traffic counts for this crossing in 2011 were 14,900 vehicles per day ("vpd"). The Level of Service ("LOS") for this road was not available.

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 Ocotillo Road is 45 MPH. Staff records, as well as the Federal Railroad Administration’s (“FRA”) accident/incident records indicate no accidents at this crossing.

Alternative routes from this crossing are: to the southeast 3 miles is Combs Road, and to the northwest is Ellsworth Road .9 miles away. Both are at grade crossings.

Train Data

Data provided by the Town from the FRA website, regarding train movements through this crossing are as follows:

Train Count: 10 trains per day with no passenger service

Maximum Train Speed: 60 mph

Thru Freight/Switching Moves: there are sporadic switching movements through the crossing

Schools and Bus Routes

The following are schools near this crossing:

- Queen Creek High School – 1 mile east of Ocotillo Road
- Queen Creek Middle School – 1.2 miles northwest of the crossing
- Jack Barnes Elementary School – .8 miles north of the crossing
- Pickett Elementary School – 1.3 miles south of the crossing
- Desert Mountain Elementary School – 1.7 miles west of the crossing
- Ben Franklin Charter School – 1.09 miles north of the crossing

Per Carolyn Gaebler, Queen Creek Unified High School District Transportation Coordinator: High School buses cross every day approximately 20 times, two times per day (40 total crossings per school day). Elementary School buses cross every school day approximately 10 times, two times per day (20 total crossings per school day). Middle School buses cross every school day approximately 3 times, two times per day (6 crossings per school day total).

Hospitals

The Town gave the following response about hospitals and emergency services vehicles:

Hospitals are either to the west, Mercy Gilbert, or to the east Banner Ironwood.

AMEC spoke with Ron Knight, Fire Chief, Town of Queen Creek Fire Department, who said the crossing is not used extensively for emergency service vehicles, in particular because emergency vehicles are dispatched out of the station at Ellsworth/Ocotillo.

AMEC contacted Katrina, Administration at Banner Ironwood and Robin Drake, Paramedic Coordinator at Banner Ironwood, who informed them that they have no private emergency vehicles that would use the crossing; emergency services would come from Southwest Ambulance.

AMEC also spoke with Billy Warren at Southwest Ambulance and he said that on average, they use the crossing 2 – 4 times per day.

Hazardous Materials

The Town gave the following response when asked about vehicles transporting hazardous materials through this crossing:

The crossing is on the Town of Queen Creek’s Haul Route Map, but no data is available for hazardous materials hauling.

Zoning

Staff requested information from the Town regarding the type of zoning in adjacent areas from this crossing. The following was the response given:

- NWC: C-2 General Commercial currently built out*
- SWC: C-1 Light Commercial, currently built out*
- NEC: R-2 Urban Development (Townhouses), currently built out*
- SEC: I-1 Light Industrial, currently undeveloped*

Federal Highway Administration (“FHWA”) Guidelines Regarding Grade Separation

The 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:

		Ocotillo Road
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	No
	Crossing meets the criteria by 2030	No
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	No
	Crossing meets the criteria by 2030	No
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	No
	Crossing meets the criteria by 2030	No
Vehicle delay exceeds 40 vehicle hours per day	Crossing Currently meets the criteria	No
	Crossing meets the criteria by 2030	No

Grade Separation

The Town gave the following response about grade separation:

A grade separation would cause the following issues that would not be ideal:

1) There is inadequate right-of-way width to accommodate 30-foot high embankments or cut slopes along Ocotillo Road. 2) Access to existing businesses and residential subdivisions would be eliminated. 3) Several utility lines and access manholes in Ocotillo Road would require substantial upgrades and cause disruptions to existing services. 4) The distance between the railroad crossing and the existing intersection of Ocotillo Road and Rittenhouse Road is too short to provide adequate sight distance requirements if the roadway were to go over or under the railroad.

Vehicular Delays at Crossings

Another commonly used measure outlined in the FHWA Guidelines; is 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 currently met at this crossing. The current crossing exposure is 149,000 at Ocotillo Road, far below the 1,000,000 threshold for urban areas. It should be noted that the criteria identified in the FHWA material are not mandates, but guidelines established by the FHWA, which serve to alert those having jurisdiction that potential problems may arise.

Staff has utilized the FHWA Guidelines to determine the potential need for grade separation at this crossing. Based on existing conditions, Ocotillo Road meets none of the nine criteria for consideration of grade separation. Staff does not recommend a grade separation at the crossing.

Crossing Closure

The Town has stated they would not like to close this crossing because of negative impacts to numerous businesses and residential neighborhoods in the area. Staff agrees that closing the crossing would negatively affect local businesses and nearby residential areas.

Staff Conclusions

Having reviewed all applicable data, Staff supports the Town's application. Staff believes that the upgrades are in the public's interest and are reasonable. Staff believes that the measures proposed by the Town 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 Town's application.



Brian H. Lehman
Railroad Safety Supervisor
Safety Division

Originator: BHL

Original and thirteen (13) copies
of the foregoing were filed this
8th day of April, 2014 with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

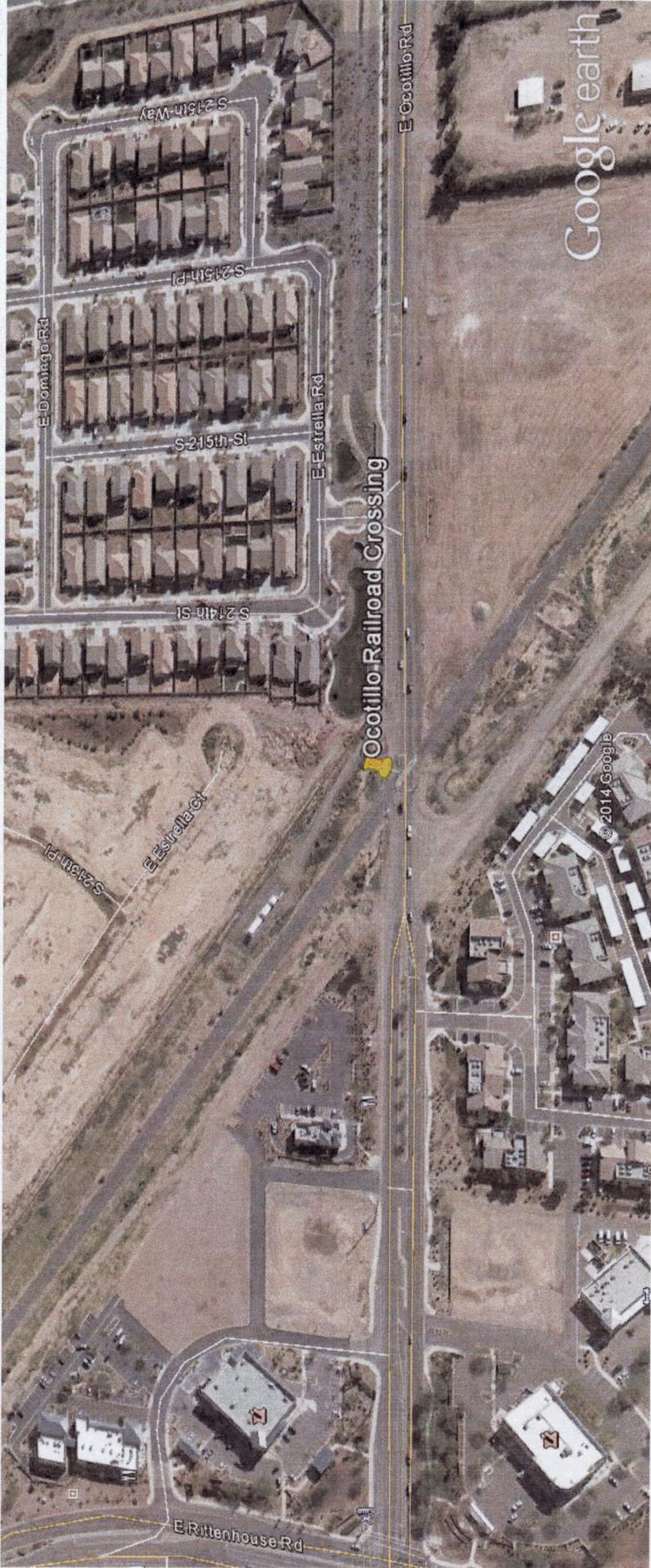
Copy of the foregoing mailed
this 8th day of April, 2014 to:

Alex Popovici
Union Pacific Railroad
631 S. 7th Street
Phoenix, AZ 85034

Anthony J. Hancock, Esq.
Terrance L. Sims, Esq.
Beaugureau, Zukowski & Hancock, P.C.
302 East Coronado
Phoenix, Arizona 85004
Attorney for Union Pacific Railroad Company

Tom Narva
Town of Queen Creek
22350 S. Ellsworth Road
Queen Creek, Az. 85124

Dick Yano
AMEC Environment & Infrastructure , Inc.
4600 E. Washington St. Suite 600
Phoenix, Az. 85034-1917



Ocotillo Railroad Crossing



UPRR