Technical Memorandum

To: Kathy Arnold

From: Seri Park

Company: Rosemont Copper

Date: June 4, 2009

Re: Rosemont "T" Intersection Analysis – Acceleration Lane

Doc #: 102/09-320842-5.3

CC: Jamie Sturgess (Rosemont)

David Krizek and Jamie Joggerst (Tt)

1.0 Introduction

This Technical Memorandum was prepared by Tetra Tech and presents design alternatives for the proposed Primary Access Road associated with the Rosemont Copper Project (Rosemont). The Primary Access Road intersection is proposed to consist of a basic “T” intersection that allows access from the mine property to State Route 83 (AZ-83). As shown on Figure 1, the location of the Primary Access Road “T” intersection occurs at Milepost (MP) 46.9 along AZ-83. The current topography conditions at the “T” intersection consist of an undeveloped area. Adding a “T” intersection at this location will require the area to be upgraded per Arizona Department of Transportation (ADOT) and American Association of State Highways and Transportation Officials (AASHTO) roadway design guidelines.

The “T” intersection design presented in the Mine Plan of Operation (MPO) (WestLand, 2007) consisted of the Primary Access Road being “stop” controlled with traffic along AZ-83 being uncontrolled (i.e., no stop sign). The intersection design also included a 500-foot long center lane to the south of the intersection. This center lane would allow northbound traffic to merge onto the Primary Access Road. A 220-foot long deceleration and right turn lane was also proposed along the western edge of AZ-83, north of the intersection. The lane would also continue to the south of the intersection for 500 feet and serve as an accelerating lane for traffic going south on AZ-83. Figure 2 illustrates the “T” intersection configuration and corresponding typical section taken from the MPO.

Tetra Tech completed an in-depth analysis of the “T” intersection in order to assess potential traffic flow issues and to recommend designs that will allow traffic to safely merge from the Primary Access Road onto AZ-83. A total of four (4) alternatives to the MPO design were evaluated for this “T” intersection.
These four (4) alternatives include:

- A three-way stop sign;
- A speed limit reduction;
- An acceleration lane with both 55 and 35 miles per hour (MPH) speed limits; and
- A bypass lane.

In all of the above listed alternatives, gravel was added along the west side of AZ-83, at the “T” intersection location, allowing for a temporary pull-off area for trucks. This Technical Memorandum presents details and discusses the advantages and disadvantages for the acceleration lane with both 55 and 35 MPH speed limits design alternatives. The remaining design alternatives are presented in other Technical Memorandums prepared by Tetra Tech.

### 2.0 Design Vehicle

In order to assess the various intersection design alternatives for the “T” intersection, the design vehicle must first be established. Based on Table 407.2 in the ADOT Roadway Design Guidelines, a WB-62 type, Interstate Semi Trailer is recommended as the design vehicle for intersections along a State Route. In AASHTO’s Geometric Design of Highways and Streets, a WB-65 type is recommended as the minimum sized design vehicle for intersections on state highways that carry high volumes of traffic and/or provide local access for large trucks. Therefore, in this Technical Memorandum, a WB-65 type was chosen as design vehicle since a safe truck turning with a WB-65 type will also satisfy a safe truck turning for a WB-62 type.

### 3.0 Acceleration Lane (55 MPH) Alternative Design Criteria

Providing a dedicated acceleration lane on AZ-83 allows trucks leaving the Project site to accelerate to normal traffic speeds before merging with on-coming northbound through traffic. This will enhance the traffic flow of AZ-83 by minimizing interruptions caused by slow speed vehicles entering the traffic stream. Additionally, having a dedicated acceleration lane will increase the roadway capacity of AZ-83. Under this alternative, the existing speed limit of 55 MPH will be maintained as the posted speed limit. The acceleration lane should be long enough to provide drivers an adequate distance to accelerate to 85 percent of the entering highway speed. A detailed layout of this design alternative is shown on Figure 3. In Attachment A, before and after photos are provided to illustrate the visual changes with regards to a 55 MPH acceleration lane design alternative.

**Roadway Geometric Element:**

The acceleration lane design alternative requires the construction of an additional northbound lane and an overall widening of the “T” intersection. Per Figure 408.12 in the ADOT Roadway Design Guidelines (Attachment B), the length of the acceleration lane should be 650 feet for a design speed of 55 MPH. In addition to the acceleration lane, a standard merging taper is also required in order to gradually allow merging traffic to enter the through traffic. The length of the
taper is calculated by using the ratio of the design speed in MPH to one (V:1), as specified in ADOT Roadway Design Guidelines Section 408.12 and in the Manual on Uniform Traffic Control Devices (MUTCD) Figure 3B-12 (Attachment C). Furthermore, the “T” intersection would need to be widened to accommodate the 12-foot wide acceleration lane, per the ADOT Roadway Design Guidelines, Section 408.12.

Sign Installation:

When an extra lane is provided for slower moving traffic, a sign stating “LANE ENDS” or a sign showing a lane ends symbol (W4-2) should be installed in advance of the end of the acceleration lane. Per MUTCD Table 2C-4 (Attachment D), the advanced warning sign should be placed at 950 feet ahead of the end of the acceleration lane for a posted speed limit of 55 MPH. Since the length of the proposed acceleration lane is less than 950 feet, it is recommended that the W4-2 sign be placed at the beginning of the acceleration lane. For the Primary Access Road, a “STOP” (R1-1) sign and a “STOP AHEAD” (W3-1) sign should be placed 125 feet apart from each other as per Table 2C-4 of the MUTCD (Attachment D). In regards to sign installation, Section 303.2 in the ADOT Roadway Design Guidelines states:

“Roadside obstacles, non-traversable hazards and fixed objects, should be removed, made ‘breakaway’, relocated or shielded by barrier if they are within the minimum recovery area width”

Therefore, all new signs will need to be “breakaway” and any existing signs will need to be evaluated in order to ensure they meet the breakaway criteria. In addition, roadside clearing of large trees will need to be coordinated with ADOT in order to maintain a safe clear recovery area beyond the pavement limits. Clearing and Grubbing will conform to the guidelines specified in the Landscape and Irrigation Design Guidelines for Arizona Department of Transportation Encroachment Permit Applications (Attachment E).

### 3.1 Acceleration Lane (55 MPH) Alternative Advantage and Disadvantage

**Advantages:**

- Minimizes delays of through traffic on AZ-83
- Increase AZ-83 roadway capacity by allowing more through traffic onto the corresponding roadway
- Allows for safe merging and acceleration of trucks

**Disadvantages:**

- Increased cost to widen intersection in order to accommodate the acceleration lane as well as the longer merging taper
4.0 Acceleration Lane (35 MPH) Alternative Design Criteria

Adding a dedicated acceleration lane to AZ-83 allows for trucks leaving the Project site to accelerate to normal traffic speeds before merging with on-coming northbound through traffic. Reducing the speed limit on AZ-83 from 55 to 35 MPH at the “T” intersection will further increase the safety for trucks merging onto AZ-83. Figure 4 describes the layout for this proposed alternative. Before and after photos are provided in Attachment F to illustrate the visual changes with regards to a 35 MPH acceleration lane design alternative.

Roadway Geometric Elements:

Based on Figure 408.12A in the ADOT Roadway Design Guidelines (Attachment B), a 300-foot long acceleration lane is required for a design speed of 35 MPH. The transition from the acceleration lane to the through lane will be achieved by way of a taper lane. The length of the taper lane is calculated from the ratio of the design speed in MPH to the width of the acceleration lane. Therefore, the taper lane for a design speed of 35 MPH would be 120 feet long. This taper lane design method follows the ADOT Roadway Design Guidelines, Section 408.12 and the MUTCD Figure 3B-12 (Attachment C). Additionally, the “T” intersection would need to be widened to accommodate the 12-foot wide acceleration lane.

Sign Installation:

Similar to the previously mentioned alternative, a “lane ends” advanced warning sign (W4-2) should be placed prior to the end of the acceleration lane. Based on Table 2C-4 in the MUTCD (Attachment D), the distance of the advanced warning sign from the end of the acceleration lane should be 550 feet for a design speed of 35 MPH. However, since the acceleration lane is less than 550 feet long, the advanced warning sign should be placed at the beginning of the acceleration lane. For the Primary Access Road, a “STOP” sign (R1-1) and a “STOP AHEAD” sign (W3-1) sign should be placed 125 feet apart from each other as per Table 2C-4 of the MUTCD (Attachment D). Similar to the previous alternative, all new signs should be “breakaway” and any existing signs that remain in place should be evaluated to ensure they meet the breakaway criteria.

4.1 Acceleration Lane (35 MPH) Alternative Advantage and Disadvantage

Advantages:

- Minimizes delays to through-traffic
- Increase AZ-83 roadway capacity
- Allows for safe merging and acceleration of trucks
- Slower speed limit reduces chances of accidents
- If the speed limit on AZ-83 is reduced from 55 to 35 MPH, the acceleration and taper lanes are shorter, thus less widening is required along AZ-83
Disadvantages:

- Increased cost to widen intersection in order to accommodate the acceleration lane and merging taper
- Increased delays to traffic AZ-83 if the speed limit is reduced from 55 to 35 MPH
REFERENCES


Arizona Department of Transportation (2007) *Roadway Design Guidelines*


U.S. Department of Transportation Federal Highway Administration (2004) *Standard Highway Signs*

Intersection Widening Designed Per:

Legend:
- ROW - Right of Way

Location:
- Mile Post 46.9
- Intersection of SR-83 and Primary Access Road

Steering Angle
Lock to Lock Time
Articulating Angle

WB-65
Tractor Width: 8.00
Trailer Width: 8.50
Tractor Track: 8.50
Trailer Track: 8.50

43.50
19.50
19.50
3.00
6.00
6.00
28.40
70.00

20' Gravel Area
20' Right Turn Lane
12' Lane
Var
12' Lane
6' Shoulder

20' Right Turn Lane
12' Lane
Var
12' Lane
6' Shoulder

12' Lane
20' Right Turn Lane
Var
6' Shoulder

12' Lane
20' Right Turn Lane
Var
6' Shoulder

Legend:
- ROW - Right of Way
Intersection Widening Designed Per:

Legend:
- ROW - Right of Way

Location:
- Mile Post 46.9
- Intersection of SR-83 and Primary Access Road
Intersection Widening Designed Per:

Legend:
- ROW - Right of Way

Location:
- Mile Post 46.9
- Intersection of SR-83 and Primary Access Road

Legend:
- ROW - Right of Way
ATTACHMENT A
PHOTOS FOR THE ACCELERATION LANE (55 MPH)
“T” INTERSECTION ALTERNATIVE
Existing Roadway Layout at the Primary Access Road (Milepost 46.9 – looking south)
Existing Roadway Layout at the Primary Access Road (Milepost 46.9 – looking north)
Acceleration Lane (55 mph) Alternative (looking north)
ATTACHMENT B
ARIZONA DEPARTMENT OF TRANSPORTATION
(ADOT) ROADWAY DESIGN GUIDELINES
FIGURE 408.12
**Acceleration Distance Table**

<table>
<thead>
<tr>
<th>Design Speed (MPH)</th>
<th>Distance (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>30</td>
<td>150</td>
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<tr>
<td>40</td>
<td>300</td>
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<td>45</td>
<td>400</td>
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<td>50</td>
<td>500</td>
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<td>55</td>
<td>650</td>
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<td>60</td>
<td>800</td>
</tr>
<tr>
<td>70</td>
<td>1300</td>
</tr>
<tr>
<td>75</td>
<td>1600</td>
</tr>
</tbody>
</table>

**NOTE**

$V = \text{Design Speed in MPH, Acceleration Taper is Relative to Adjacent Through Lane Edge.}$

**ACCELERATION LANE CONFIGURATION**

**Figure 408.12A**

**Minimum Acceleration Lane Configuration**

**Figure 408.12B**
ATTACHMENT C
FIGURE 3B-12 IN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
Figure 3B-12. Examples of Lane Reduction Markings

a - From 3 lanes to 2 lanes

\[ L = 0.62 WS \] (L=WS)

For speeds less than 70 km/h (45 mph):

\[ L = \frac{WS^2}{155} \left( \frac{L}{WS} \right) \]

For speeds 70 km/h (45 mph) or more:

\[ L = 0.62 WS \] (L=WS)

See Section 3D.04 for delineator spacing.

b - From 4 lanes to 3 lanes

c - From 4 lanes to 2 lanes

Delineators

L = Length in meters (feet)
S = Posted, 85th-percentile, or statutory speed in km/h (mph)
W = Offset in meters (feet)
d = Advance warning distance (see Section 2C.05)
ATTACHMENT D

TABLE 2C-4 IN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
### Table 2C-4. Guidelines for Advance Placement of Warning Signs  
*(English Units)*

<table>
<thead>
<tr>
<th>Posted or 85th-Percentile Speed</th>
<th>Condition A: Speed reduction and lane changing in heavy traffic&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Condition B: Deceleration to the listed advisory speed (mph) for the condition&lt;sup&gt;4&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 mph</td>
<td>225 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>25 mph</td>
<td>325 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>30 mph</td>
<td>450 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
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<tr>
<td>35 mph</td>
<td>550 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>40 mph</td>
<td>650 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>45 mph</td>
<td>750 ft 175 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>50 mph</td>
<td>850 ft 250 ft 200 ft 150 ft 100 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>55 mph</td>
<td>950 ft 325 ft 275 ft 225 ft 175 ft 100 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>60 mph</td>
<td>1100 ft 400 ft 350 ft 300 ft 250 ft 175 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>65 mph</td>
<td>1200 ft 475 ft 425 ft 400 ft 350 ft 275 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>70 mph</td>
<td>1250 ft 550 ft 525 ft 500 ft 425 ft 350 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
<tr>
<td>75 mph</td>
<td>1350 ft 650 ft 625 ft 600 ft 525 ft 450 ft</td>
<td>0&lt;sup&gt;1&lt;/sup&gt; 10 20 30 40 50 60 70</td>
</tr>
</tbody>
</table>

**Notes:**

1. The distances are adjusted for a sign legibility distance of 175 ft for Condition A. The distances for Condition B have been adjusted for a sign legibility distance of 250 ft, which is appropriate for an alignment warning symbol sign.

2. Typical conditions are locations where the road user must use extra time to adjust speed and change lanes in heavy traffic because of a complex driving situation. Typical signs are Merge and Right Lane Ends. The distances are determined by providing the driver a PIEV time of 14.0 to 14.5 seconds for vehicle maneuvers (2001 AASHTO Policy, Exhibit 3-3, Decision Sight Distance, Avoidance Maneuver E) minus the legibility distance of 175 ft for the appropriate sign.

3. Typical condition is the warning of a potential stop situation. Typical signs are Stop Ahead, Yield Ahead, Signal Ahead, and Intersection Warning signs. The distances are based on the 2001 AASHTO Policy, Stopping Sight Distance, Exhibit 3-1, providing a PIEV time of 2.5 seconds, a deceleration rate of 11.2 ft/second<sup>2</sup>, minus the sign legibility distance of 175 ft.

4. Typical conditions are locations where the road user must decrease speed to maneuver through the warned condition. Typical signs are Turn, Curve, Reverse Turn, or Reverse Curve. The distance is determined by providing a 2.5 second PIEV time, a vehicle deceleration rate of 10 ft/second<sup>2</sup>, minus the sign legibility distance of 250 ft.

5. No suggested distances are provided for these speeds, as the placement location is dependent on site conditions and other signing to provide an adequate advance warning for the driver.
ATTACHMENT E
LANDSCAPE AND IRRIGATION DESIGN GUIDELINES
FOR ARIZONA DEPARTMENT OF TRANSPORTATION
ENCROACHMENT PERMIT APPLICATIONS
LANDSCAPE AND IRRIGATION
DESIGN GUIDELINES
ARIZONA DEPARTMENT OF TRANSPORTATION
ENCROACHMENT PERMIT APPLICATIONS

PREPARED BY:

ARIZONA DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ROADSIDE DEVELOPMENT SERVICES

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INTRODUCTION

The Arizona Department of Transportation, Highways Division, encourages the landscaping of its rights of way through the cooperative efforts with local governments and adjacent property owners. Because the right of way is a public area, of prime importance with relation to landscaping is the protection of the public and its safe access to the facilities as well as the improvement of aesthetic considerations.

Landscaping, being composed of living plant material, is in a constant state of change and must consider the ultimate growth of plants. Additionally, other considerations are the use of low water requirement plant materials and any other local jurisdictional requirements, such as sidewalks, signing setbacks and other requirements in relation to each specific roadway. After all of these factors have been considered the completion of the landscaping can greatly enhance the beauty of the roadway and the community.
I. GENERAL

An approved Encroachment Permit is required before any landscape improvements may be incorporated within the ADOT Highway right-of-way. This applies to work performed under nationwide programs such as Global Releaf as well as individual efforts. Landscaping by local governments may be constructed and maintained within the control of access on the crossroads of major highways under a fully executed Intergovernmental Landscape Maintenance Agreement prepared by the State and an approved Encroachment Permit.

The highway roadside is an integral unit of a total highway facility. The term "roadside" generally refers to the area between the outer edge of the roadway and the right-of-way boundary. These include all unpaved areas within the right-of-way.

Permit applicants are encouraged to employ competent design professionals such as Registered Landscape Architects, Architects or Engineers, and to direct their work toward securing a product that fully represents the owner's needs and desires and meets the Arizona Department of Transportation (ADOT) standards, before submitting such plans for review and approval. Permit applicants and design professionals are encouraged
to discuss landscape needs and proposals with District Permits Supervisors and Roadside Development Services Landscape Architects before commencing work on final construction plans.

All plans and specifications shall be sufficiently complete and detailed for easy analysis and compliance inspection. Plans shall be designed to select plant materials appropriate for the intended use and location, to arrange plants for optimum effect of color, texture, form and to ensure reasonable maintenance within the capability of the proposed permittee. Permit applications will be reviewed for consideration of the following factors which can affect the safe and efficient operation of the highway facility.

II. DRAWINGS

A. PLANS:

Drawings must be legible, accurate and drawn to scale. They shall include a north arrow, name of development, designer and design firm with appropriate phone numbers and location of project.

B. PLANT MATERIALS:

Plants proposed for use must be clearly located, showing mature sizes, and identified as to botanical name (genus species, variety), planting size, quantity and spacing used.
Areas within an Arizona Department of Water Resources Active Management Areas must adhere to the plant list provided for that area. (See attached Plant Lists.)

C. EXISTING FEATURES:

Existing features such as curbs, sidewalks, pipe culverts, drainage structures, retention basins, driveways, highway and non-highway signs, overhead lines, underground utilities, irrigation lines, manholes, service cabinets, etc, shall be shown. In addition, the posted speed limit for the highway shall be indicated. Existing trees and shrubs shall be incorporated into the design wherever feasible. Clearing of trees and shrubs will not be permitted unless approved through the permit process. When planters are cut out of existing sidewalk areas, sufficient space must remain for compliance with ARS statutes relating to accessibility by the physically handicapped. The use of steel tree grates is recommended to maximize usable sidewalk space and to maintain a safe walking surface.

D. SLOPES:

Existing or proposed slopes shall be identified with respect to elevation differences between top and bottom and rate of slope between.
III. DESIGN

A. EROSION CONTROL:

Erosion control measures must be employed to prevent surface drainage from eroding soil surfaces and carrying the resultant silt into natural or man made drainage systems, highways or private properties.

B. SAFETY SETBACKS FOR FIXED OBJECTS:

Minimum setbacks from the travel way for newly planted trees with an ultimate trunk diameter of more than 4 inches or other hazardous fixed objects should be as follows:

1. 50 MPH or Greater Design Speed:

   a. Minimum setback from the edge of the traffic lane should be 35 feet unless one of the following reasons will allow for a lesser distance.

      1) Cuts of 3 to 1 or steeper - obstacles are allowed 10 feet behind the point of vertical intersection (P.V.I.) at the toe of the slope. (See illustration 'A'.)

      2) Where concrete barriers, walls, abutments, or other rigid obstructions are used - fixed objects may be placed 4' behind the obstructions. (See illustration 'B')
3) Where flexible guardrail (box-beam, W-beam, or cable) is used - 6 to 20 feet behind the face of the guardrail, depending upon the type. (See illustration 'C'.)

4) Where there are barrier curbs (5" or more vertical face) near a traveled lane 6 feet behind the face of the curb (see illustration 'D'); adjacent to a parking lane - no definite setback distance.

b. Where limited right-of-way or the necessity for planting would result in less clearance, all factors in the particular problem area should be weighed to decide if a special exception is warranted.

2. 50 MPH or less design speed:

a. Minimum setback of a fixed object from the edge of the traffic lane may be 30 feet unless one of the reasons set forth under (1) will allow for a lesser distance.

b. On curves, adequate sight distance for the design speed of the highway must be maintained.

C. REQUIREMENTS FOR SIGHT DISTANCE:

A clear line of sight must be maintained at all highway intersections and entrances. Generally, shrubs, plantings or other obstructions in
this zone must be limited to an ultimate height of 18" or less to allow a clear line of sight down the highway in either direction for at least 400' from the front of the vehicle located 10' behind the edge of the highway to be entered. (See illustration 'E'.)

D. CULTURAL REQUIREMENTS FOR PLANTS:

Use plants that require minimal maintenance and are hardy to the area. Avoid plants that are messy, brittle, short lived or subject to infestations of insects or disease. Plants used in areas where sight distance must be maintained shall have a mature height of 18" or less.

E. VISIBILITY OF HIGHWAY FEATURES:

The visibility of highway signs, delineators, edges of sidewalks, curbs, roadway or guardrail must be maintained at all times. Therefore, provide sufficient plant setbacks and plants with mature sizes that will not outgrow spaces to avoid costly trimming as plants mature.

IV. DETAILS

A. Plans shall include, as appropriate, planting details for trees, shrubs, ground cover, vines, and cacti showing size of planting pit in relation to size of plant ball. (See planting details.)
B. Plans should include staking or guying details as required by the size and species of plant proposed. (See planting/staking details.)

C. Plans should identify problem soils and propose appropriate measures to overcome them.

D. If a mineral surface treatment is proposed, details should be included to indicate the depth, gradation, color and the vertical relationship to the roadway curb or sidewalk. A pre-emergent herbicide should be specified to preclude weeds in these areas. (See Granite and Rock Mulch details.)

E. Details for headers, signs, walls, sidewalks, planters, etc., should be included whenever proposed.

V. MAINTENANCE

A. Problems in maintenance shall be anticipated during the design phase. Changes in environmental conditions should be anticipated.

B. It shall be the responsibility of the permittee to assure that all landscaping and irrigation can be maintained to the satisfaction of ADOT.
ILLUSTRATION  'B'
6'-20'
Depending on type of Barrier

GUARD RAIL

ROADWAY

TREE or OTHER FIXED OBJECT

ILLUSTRATION 'C'
ILLUSTRATION 'D'
ATTACHMENT F
PHOTOS FOR THE ACCELERATION LANE (35 MPH)
“T” INTERSECTION ALTERNATIVE
Existing Roadway Layout at the Primary Access Road (Milepost 46.9)
Acceleration Lane (35 mph) Alternative
Existing Roadway Layout at the Primary Access Road (Milepost 46.9 – looking north)
Acceleration Lane (35 mph) Alternative (looking north)