7. ACCESS MANAGEMENT PLAN

7.1 Introduction

The Access Management Plan presents the results of a study of access management requirements along US 93 between SR 89 and the Santa Maria River, within Yavapai County and ADOT's Kingman and Prescott Districts.

The purpose of the Access Management Plan is to document the need for access management and provide a plan that identifies access management features needed to protect the safety and function of US 93 while providing access between US 93 and adjacent properties that will accommodate anticipated uses of the properties. This Access Management Plan presents access Control features to accomplish the above requirements.

The Initial Access Management Plan will be used to present recommendations to the BLM, the State Land Department, Yavapai County, major utility owners and the public. After review of the proposed plan, a Final Access Management Plan will be prepared to provide a document for establishment of access control by the State Transportation Board.

7.2 Need for Access Management

Major transportation corridors such as US 93 are intended to allow commerce to take place and the public to travel safely and efficiently over large distances. Properties adjacent to major transportation corridors are attractive to developers, commercial businesses and the public for development of land use activities that are dependent upon vehicular access to the corridor. Over time, increasing numbers of crossroads and turnouts intersecting the highway and the increasing volume of vehicles entering and leaving the highway will cause conflicts with through traffic that result in loss of capacity and diminished safety. As the travel congestion increases, the level of service provided by the major transportation facility will decrease.

Management of access by restricting the number of access points and by locating and designing permitted access points to minimize conflicts with through traffic is a successful strategy for maintaining a high level of service on the highway while accommodating increasing numbers of vehicles to and from adjacent developments.

US 93 is within the designated NAFTA/CANAMEX corridor and is planned for ultimate construction as an access controlled facility. Improvements will be accomplished over an extended period of time, perhaps 15 or more years, and will involve numerous reconstruction segments. The section of US 93 within the study limits of this project is currently being proposed for improvement to a four-lane facility. Implementation of access control in conjunction with the improvement to four-lanes will preserve the function of the highway as a safe and efficient transportation corridor.

Owners of property abutting a public highway have a private right or easement for the purpose of ingress and egress to and from the property. Access rights are subject to reasonable regulation by ADOT for the protection of public health, safety, and welfare. Direct access between a property and a highway may be closed and replaced with alternative access via an access road or another public road abutting the property.

7.3 Access Management Plan

The Access Management Plan prepared and presented in this section describes the provisions necessary to transition from the existing, uncontrolled access situation to a partial access control, and ultimately to full access control.

7.3.1 Existing Access Management

Direct access to US 93 is currently allowed through permit application to the ADOT District under the authority of ADOT Administrative Rule R-17-3-702, Encroachment in Highway Rights-of-Way. There are no restrictions on the number of turnouts requested or the distance between turnouts, as long as adequate stopping sight distance for entering or leaving the highway is present.

Permit applications and granting of direct access to the existing two-lane US 93 will generally continue as currently administered. However, it is recommended that the minimum allowable distance between driveways be set at 1/4 mile. Exceptions would be granted where existing, contiguous properties could not meet these criteria due to narrow frontages along US 93. The exception would not be granted to accommodate the future subdividing of existing large properties into smaller parcels fronting the highway. All permits are subject to revocation when the access provisions are converted to partial or full access control.

7.3.2 Access Control

Access control can be categorized as either **Partial Access Control** or **Full Access Control**. Partial access control will be implemented as an interim measure and full access control will be implemented on a project-by-project basis, as development along the corridor progresses to the extent that full control is necessary to preserve the safety and function of US 93.

Partial access control permits some crossings at-grade and some private driveway connections. Frontage/access roads may be required to serve as collector roads in areas where parcels with small frontage along the highway would result in multiple access points that are too close together to provide a safe roadway for both through and local traffic.

Full access control means that properties abutting a highway do not have direct access to the highway and access is provided only at grade-separated interchanges. However, gated and locked access may be allowed by permit to provide access for utility companies or public agencies for intermittent use only. Full access control is implemented subsequent to the designation of a controlled access highway by the State Transportation Board.

7.3.3 Partial Access Control

Partial access control will be established as an interim control that will allow needed access to adjacent properties while protecting the function of US 93 as a major transportation corridor. Partial access control will be implemented as part of the reconstruction of US 93 to four-lanes.

All properties fronting on US 93 will continue to have reasonable access to the new highway. Direct access turnouts will be right-in/right-out only, spaced no closer than ¼ mile. At-grade median crossovers will be provided at major intersections. Intermediate median crossovers will be provided as requested by the Arizona

Department of Public Safety and to provide reasonable access from all directions to right-in/right-out turnouts, subject to a minimum one mile spacing. Frontage/access roads may be constructed as part of the reconstruction to serve as collector roads in areas that cannot meet the ¼ mile minimum spacing (see Section 7.3.6). The partial access control features are shown on the plans for the recommended alternative in Appendix D**.**

Applications for direct access onto US 93 that are received after partial access control has been implemented will be subject to the above criteria and will be subject to revocation when access provisions are converted to full access control. If future subdivision of adjacent properties results in frontages along US 93 that cannot meet the minimum ¼ mile spacing, they may be interconnected by access roads to a common entrance onto US 93. In these instances, the access roads will be constructed outside the US 93 right-of-way. It will be necessary for ADOT and the public agency having jurisdiction over developments and subdivisions to cooperate to see that properties are subdivided in such a way that access to US 93 will meet the ¼ mile spacing, sight distance requirements, and safety requirements.

7.3.4 Full Access Control

When full access control is implemented along any portion of reconstructed US 93, all turnout permits existing along the affected section of US 93 will be revoked and direct access to the highway will be permitted only at traffic interchanges. Frontage roads or access roads will be provided to ensure that all properties fronting on US 93 will have reasonable access to the highway (see Section 7.3.6). Responsibility for traffic interchanges and access roads required to implement full access control will be determined based on factors that trigger the need for full access control. As an example, if full access control is required by a combination of increased traffic on US 93 and new development along US 93, ADOT and the Developers may share financial responsibility for required improvements.

Generally, new grade-separated interchanges will be located near major intersections that have at-grade intersections under the partial access control provisions. Frontage/access roads will be extended or added to ensure that all properties fronting on US 93 at the time of conversion have access to the nearest traffic interchange (terrain permitting). An economic analysis and/or a feasibility study may be required to determine if access via a frontage/access road can be provided or if access rights to US 93 should be acquired by ADOT, in which case no access to US 93 would be provided. It may be more economical to purchase some parcels than to maintain access. If more than one access location is desired by property owners, or if properties are later subdivided and require new access, the cost for the additional access will be borne by the property owner(s). Three future traffic interchanges are recommended for implementation of full access control for the entire length of this study project. They are illustrated schematically on **Appendix E**. The future traffic interchanges and access roads required for conversion of partial access control to full access control are shown as dashed lines on the design concept plans in Appendix E.

Applications for direct access to US 93 that are received after full access control has been implemented will be permitted only by access roads that connect to a traffic interchange, with all costs for construction of the access roads to be borne by the property owner(s). In these instances, the access roads must be constructed outside the US 93 right-of-way.

7.3.5 Implementation of Access Control

Implementation of the access management plan described herein is contingent upon the following:

- Presentation and discussion of the plan with the public through public meetings;
- Review and acceptance of the plan by Yavapai County;
- Review and concurrence in the plan by the Arizona State Land Department and the Bureau of Land Management (BLM).
- Designation of US 93, as described herein, as a Full Access Controlled highway by the State Transportation Board;
- Acquisition of rights-of-way for interchanges and access roads, and acquisition of access rights, where required, from properties abutting US 93.

After US 93 is designated to be an access controlled highway by the Transportation Board the issuance of permits, by ADOT's Kingman District or Prescott District, as appropriate, for access to US 93 will be the vehicle for implementation of partial access control under the authority of ADOT Administrative Rule R17-3-702, Encroachments in Highway Right-of-Way.

Partial access control will be implemented as the construction to provide a 4-lane roadway is completed on a project-by-project basis. Access rights will by acquired from private property owners and revocable access permits will be granted to maintain access until full access control is implemented.

Full access control will be implemented along any section of US 93 as required to preserve the safety and level of service as traffic volumes increase and development occurs along the corridor.

Proposed US 93 rights of way delineated on the design concept plans includes property needed for partial access control. Right of way required for full access control is shown on the proposed Full Access Control Plans included in Appendix E as "Future Right of Way."

7.3.6 Frontage Roads/Access Roads

Frontage roads needed to implement partial or full access control will be constructed parallel to US 93 within ADOT right-of-way. Access roads other than frontage roads needed to provide access when partial or full access control is implemented will typically be constructed on privately or publicly owned property to replace current access roads under permit or agreement. Access roads will be constructed to match existing access roads. For example an access road tying into an existing primitive road will be constructed as a grader road without surfacing, paving or drainage facilities.

Frontage roads or access roads constructed for initial implementation of partial access control as an interim measure will be constructed by ADOT. In the future, when US 93 is converted from partial access control to full access control, all frontage roads or access roads necessary to implement full access control will also be constructed by ADOT.

Following construction, the process to transfer frontage road right-of-way and maintenance responsibilities to Yavapai County will be initiated in accordance with the State Transportation Board Policy 16. Turnback of State Routes Policy. ADOT Right-of-Way plans should identify the right-of-way required for US 93 and the right-of-way required for the frontage roads separately to facilitate turnback to the County.

Following construction, access roads on privately or publicly owned property will be returned to the owner for operation and maintenance.

ADOT will not assume responsibility for providing additional right-of-way and construction of additional access roads to serve property

subdivision and development that occurs after partial or full access control has been established.

All access roads installed by property owners after access control has been implemented will typically be located outside the US 93 right-of-way. If owners of adjacent properties intend that the County assume maintenance responsibilities, the access road and associated rights-of-way must be dedicated to the County. Roadway and drainage construction and right-of-way widths must meet County standards in effect at the time.

7.4 Description of Access Control

Existing local roads and turnouts that intersect US 93 within this section of highway have been identified in the following narrative. A preliminary analysis has been made to determine access points necessary to maintain access to adjacent properties for both partial and full access control. Due to the new R/W required for construction of the preferred alternative, a total of 588.2 acres of land on 51 parcels would be permanently incorporated into ADOT R/W (Table 5-1). The preferred alternative would generally minimize impacts on adjacent land uses by following the existing roadway corridor and avoiding developed properties. In addition, the preferred alternative would maintain access to adjacent properties and accommodate future traffic volumes associated with continued development in the project area.

In the vicinity of the SR 71 Interchange, there will be additional R/W acquired. The added R/W is necessary to construct a revised interchange configuration, with the US 60 mainline remaining at grade, and SR 71 constructed over the mainline. The added R/W in this area is required not only for the construction of the ramps and overpass, but to restrict access in the immediate areas of the ramps in accordance with revised ADOT policies.

The project description is broken into three study zones. Study Zone A includes the developed residential areas near the beginning of the project; Study Zone B includes the undeveloped areas through primarily level terrain north of the residential areas, and Study Zone C includes that section of US 93 that has been designated as the Joshua Forest Scenic Road where the terrain is rolling and the area is much more scenic.

7.4.1 Study Zone A; MP 193.5 to MP190.5

Study Zone A begins at the Junction of US 93 and SR 89 and proceeds northerly across the Matthie Railroad Overpass at MP 192.88, and through a residential development, ending north of the residential area. Major features in zone A include the channelization for the intersection of US 93 and SR 89, the Matthie Railroad Overpass at MP 192.9, and the residential development along US 93 from MP 192.6 to MP 191.5.

Property adjacent to US 93 in zone A is in private ownership from the Beginning of Project at MP 193.5 to MP 191.4. From MP 191.4 to the end of the study zone at MP 190.5 the adjacent property is State Trust Land.

7.4.1.1 Partial Access Control

This project will not change the intersection of SR 89 and US 93. Access between SR 89 and US 93 will remain as currently exists.

Existing access points between US 93 and adjacent property include several County roads and residential driveways north of the Matthie Railroad Overpass between MP 192.6 and MP 190.5.

- Quail Run intersects US 93 on the east side of US 93 at MP 192.6.
- Moreton Road intersects US 93 on the west side and Nine Irons Ranch Road intersects US 93 on the east side diagonally opposite each other at MP 192.4.
- Caballero Drive, which is the entrance to the Vista Royale residential subdivision, intersects US 93 on the west side at MP 192.1. Vista Royale is a developing subdivision with several homes completed and several more under construction.
- Between MP 192.1 and 191.6, 8 existing residential turnouts provide access to 12 lots on the east side of US 93.
- A gated access on the west side of US 93 at MP 191.5 provides emergency access to the Vista Royale subdivision.
- A gated access on the west side of US 93 at MP 190.6 provides access to a corral and primitive roads.

Implementation of Partial Access Control will provide the following access points:

- Retain the Quail Run intersection on the east side of US 93 at MP 192.6, and add a median crossover.
- A two-way frontage road will be constructed on the east side of US 93 from Quail Run (MP 192.6) to MP 191.5. Nine Irons Ranch Road and the eight existing residential turnouts will connect to the frontage road. Connections between the frontage road and US 93 will be provided at MP 192.6 and at MP 191.5.
- Remove the turnout for Nine Irons Ranch Road on the east side of US 93 at MP 192.4.
- The skewed intersection of US 93 and Moreton Road on the west side of US 93 at MP 192.4 will be realigned to provide a 90-degree right-in/right-out intersection.
- An at-grade intersection with median crossover will be constructed on the west side of US 93 at Caballero Drive (MP 192.1) to provide access to the Vista Royale subdivision.
- The gated emergency access to Vista Royale on the west side of US 93 at MP 191.5 will be realigned to a 90-degree turnout opposite the access to the frontage road on the east side of US 93. A median crossover will be provided.
- A gated right-in/right-out turnout will be provided on the west side of US 93 at MP 190.6 to provide access to a corral and primitive roads.

No other access points will be provided for the initial implementation of partial access control.

7.4.1.2 Full Access Control

It is anticipated that the planned Wickenburg Bypass will be in operation when full access control is required through Study Zone A. The partial access control features will remain in place for existing US 93 between SR 89 and the Bypass connection. Full access control will be implemented on the Bypass.

7.4.2 Study Zone B: MP 190.5 to MP 180.0

Study Zone B begins at the end of Study Zone A and proceeds northerly through essentially level terrain with very little development, ending at the southerly limit of the Joshua Forest Scenic Road.

The major access feature in Study Zone B is the junction of US 93 (MP 182.9) with SR 71 where a diamond traffic interchange provides access between the two highways.

Property adjacent to US 93 in this study zone is Arizona State Land except for several small parcels adjacent to the junction of US 93 and SR 71 that are privately owned. Tracts of private property that

access US 93 through State Lands are located away from the highway.

7.4.2.1 Partial Access Control

There are seven access points between US 93 and adjacent property within Study Zone B:

- A gated access on the east side of US 93 at MP 190.0 provides access to primitive roads.
- A turnout on the west side of US 93 at MP 187.5 provides access to gravel stockpiles and State land
- Gated access points on both sides of US 93 at MP 186.2 provide access to primitive roads.
- A gated access on the west side of US 93 at MP 184.5 provides access to primitive roads.
- An access road with a cattleguard on the east side of US 93 at MP 184.4 provides access to primitive roads.
- The existing diamond interchange at the junction of US 93 (MP 182.9) and SR 71 provides access between the two State highways.
- A gated access on the east side of US 93 at MP 181.2 provides access to a stock tank and corral on State land.

Implementation of partial access control will provide the following access points:

- A gated right-in/right-out turnout will be provided on the east side of US 93 at MP 190.0 to provide access to primitive roads.
- A gated right-in/right-out turnout will be provided on the west side of US 93 at MP 187.5 to provide access to State land. The gravel stockpiles will be removed.
- Gated turnouts on both sides of US 93 and a median crossover will be provided at MP 186.2 to provide access to primitive roads.
- The existing gated access road with on the west side of US 93 at MP 184.5 will be realigned to intersect US 93 at MP 184.4 opposite the existing access road with cattle guard on the east side of US 93. A median crossover will be provided.
- The existing diamond traffic interchange at the junction of US 93 and SR 71 (MP 182.9) will be reconstructed as part of the 4-laning of US 93. Full Access Control, which has been implemented within the limits of the existing interchange, will be retained with the reconstructed interchange. Existing access to SR 71 that lies within a minimum of 600 feet of the interchange ramp terminals will be closed and access will be provided to private properties by access roads that will tie back into SR 71 beyond the access control limits. An economic analysis should be made to determine if ADOT should acquire the private property in lieu of providing access
- A gated turnout on the east side of US 93 and a median crossover will be provided at MP 181.2.

No other access points will be provided for the initial implementation of partial access control.

7.4.2.2 Full Access Control

The SR 71 traffic interchange, which will be reconstructed during the four-laning of US 93, will continue to provide access to US 93 when full access control is implemented.

The gated access point at MP 190.0 will be south of the future connection of the Wickenburg Bypass to the existing US 93 corridor. It will remain.

The gated access point at MP 187.5 will be removed and access will be provided at the connection between the Wickenburg Bypass and US 93.

Access points at MP 186.2 and MP 184.4 will be removed. The existing primitive roads on the west side of US 93 tie into a network of roads that will be served by connections to the traffic interchange at the connection of the Wickenburg Bypass and US 93. The existing road network currently ties into SR 71. The existing primitive roads on the east side of US 93 opposite the above roads tie into SR 71 east of US 93.

The access point at MP 181.2 is a short (approx. 1,000 feet) primitive road that serves a stock pond. It will be removed. Access can be provided to this area from either SR 71 or the Alamo Road traffic interchange described in Study Zone C at MP 178.7.

Median crossovers at MP 186.2, MP 184.4, and MP 181.2 will be removed.

7.4.3 Study Zone C: MP 180.0 to MP 161.5

Study Zone C begins at the southerly limit of the Joshua Forest Scenic Road and continues to the end of project at MP 161.5.

Major access points within Study Zone C are the intersection of US 93 with Alamo Road at MP 178.6 and with Date Creek Road at MP 177.4. There are three ranch properties adjacent to US 93, and a network of primitive roads intersect US 93 at several locations providing access to large areas of State land, BLM Wilderness Areas, and isolated tracts of private land.

Property adjacent to the east side of US 93 within Study Zone C is State land except for the following three areas of private ownership:

- MP 174.0 to MP 173.5.
- MP 167.1 to MP 166.2.
- MP 162.0 to the end of project at MP 161.5.

Property adjacent to the west side of US 93 within Study Zone C is State land and BLM land except for the following four areas of private ownership:

- MP 174.0 to MP 173.5.
- MP 169.2 to MP 169.1.
- MP 167.1 to MP 166.2 - three small parcels in private ownership.
- MP 162.0 to the end of project at MP 161.5.

Two WAPA transmission lines cross over US 93 at MP 163.3. The WAPA structure nearest the east side of US 93 is for the 345 kv line and is designated as 162-3. Two major drainage channels cross US 93 in zone C: Date Creek crosses US 93 at MP 174.2 and Big Jim Wash crosses at MP 165.5.

7.4.3.1 Partial Access Control

There are eighteen access points to US 93 from adjacent property within Study Zone C.

- A gated access on the east side of US 93 at MP 178.7 provides access to State Lands and private property. Private property located away from the highway in Sections 21, 22, 27 and 28, T10N, R7W, has been subdivided into small acreages. The most direct access appears to be from US 93.
- Alamo Road intersects US 93 on the west side at MP 178.6 and provides access to a large area including private property, State Land, BLM land, the WAPA transmission line and recreational property.
- A gated turnout on the west side of US 93 at MP 177.6 provides access to corrals immediately west of the highway.
- The Date Creek Road intersects US 93 on both sides at MP 177.4. On the west side Date Creek Road intersects Alamo Road approximately 0.6 miles west of US 93. On the east side Date Creek Road provides access to the Date Creek Ranch and State Land.
- A gated access road on the west side of US 93 at MP 175.9 provides access to the WAPA transmission line and State Land.
- A gated turnout on the west side of US 93 at MP 174.0 provides access to a primitive road serving a small area adjacent to Date Creek.
- A gated turnout on the east side of US 93 at MP 174.0 provides access to a ranch area including buildings, corrals and a dirt landing strip.
- Roadside tables with a shelter and portable toilets are located on the west side of US 93 at MP 172.6
- Gated at-grade intersections on both sides of US 93 at MP 171.3 provide access to primitive roads that serve State Land on the east side and to State, BLM, private land and the WAPA transmission line on the west side of US 93.
- A gated turnout on the west side of US 93 at MP 169.4 provides access to private land with buildings, the WAPA transmission line, State land and BLM land.
- A gated access on the west side of US 93 at MP 167.8 provides access to the WAPA transmission line and BLM property.
- A turnout on the east side of US 93 at MP 167.0 is the entrance to the D G Ranch.
- A gated access on the west side of US 93 at MP 165.2 provides access to BLM land and the WAPA transmission line.
- A gated access on the east side of US 93 at MP 165.2 provides access to State land and private property.
- A gated access on the west side of US 93 at MP 163.6 provides access to the WAPA transmission line.
- A gated access on the east side of US 93 at MP 163.6 provides access to the WAPA transmission line.
- A gated access on the west side of US 93 at MP 163.1 provides access to BLM property and State land.
- A gated access on the east side of US 93 at MP 162.3 provides access to State land, the WAPA transmission line and private property.

Implementation of partial access control will provide the following access points:

- The access road on the east side of US 93 at MP 178.7 will remain as a gated, right-in/right-out intersection.
- Alamo Road on the west side of US 93 at MP 178.6 will be realigned to approximately MP 178.5. A median crossover of US 93 will be provided at Alamo Road.
- The gated turnout on the west side of US 93 at MP 177.6 will be removed. Access to the corrals will be provided from Date Creek Road.
- Date Creek Road will be realigned on the west side of US 93 to intersect the 4-lane roadway at MP 177.2, opposite the intersection on the east side. A median crossover of US 93 will be provided.
- A gated access with a median crossover will be provided on the west side of US 93 at MP 175.9 to provide access to primitive roads serving the WAPA transmission line and State Land.
- A gated turnout with a median crossover will be constructed on the east side of US 93 at MP 174.0 to provide access to a ranch area.
- The roadside table and turnouts at MP 172.6 will be removed.
- At-grade intersections with a median crossover will be provided on both sides of US 93 at MP 171.3 to provide access to State land on the east side and to State, BLM and private land, and the WAPA transmission line on the west side of US 93.
- A gated right-in/right-out access will be provided on the west side of US 93 at MP 169.4 to serve private land, the WAPA transmission line, State land and BLM land.
- A median crossover will be constructed at MP 168.9 to provide u-turn capability.
- A gated right-in/right-out access will be provided on the west side of US 93 at MP 167.8 to serve the WAPA transmission line and BLM property.
- A turnout with a median crossover will be constructed on the east side of US 93 at MP 167.0. The entrance to the D G Ranch will be modified to fit the new US 93 roadway.
- Gated turnouts with a median crossover will be provided on both sides of US 93 at MP 165.2. The existing road on the east side of US 93 will require minor realignment to connect to the grade intersection.
- The gated turnout on the west side of US 93 at MP 163.6 will remain as a right-in/right-out turnout to provide intermittent access to the WAPA transmission line.
- Access to the two WAPA towers that will be located in the median of the 4-lane roadway will be permitted.
- A gated right-in/right-out turnout will be constructed on the east side of US 93 at MP 163. 3 to provide intermittent access to the WAPA transmission line.
- A gated right-in/right-out access will be retained on the west side of US 93 at MP 163.1 that provides access to BLM property and State Land.
- A gated at-grade intersection with a median crossover will be constructed on the east side of US 93 at MP 162.4 to provide access to State land, the WAPA transmission line and private property.

No other access points will be provided for the initial implementation of partial access control.

7.4.4.2 Full Access Control

When full access control is implemented, access to lands now being served by at-grade intersections or turnouts from US 93 will need access to traffic interchanges or the access rights to the highway will have to be acquired.

7.4.4.2.1 Traffic Interchange – Alamo Road

Access between US 93 and Alamo Road on the west side of US 93, and between US 93 and Date Creek Road on the east side of US 93 will have to be maintained since those local roads serve large areas on both sides of US 93. A traffic interchange will be required to provide the necessary access.

Since Alamo Road and Date Creek Road are only about 1.3 miles apart, a single interchange with access road connections to the local roads would be more economical than constructing two interchanges, while providing efficient service to both crossroads.

In determining a recommended location for the interchange, consideration was given to locating it near the Alamo Road intersection or locating it near the Date Creek Road intersection.

- Alamo Road is a graded and maintained road that serves Alamo Lake State Park in addition to other areas. Recreational traffic from the Phoenix area contributes to the use of this road, making it a heavier traveled road than the other local roads in this immediate vicinity. Location of the traffic interchange near the existing intersection of US 93 and Alamo Road would accommodate the larger traffic volumes.
- An archaeological site that is located just west of US 93 near MP 177.7 may be impacted by an interchange located near Date Creek Road intersection. A location near Alamo Road intersection will minimize impact on the archaeological site.
- A stock pond and corrals are located close to the west side of US 93 near the westerly extension of Date Creek Road that may be impacted by an interchange located near the Date Creek Road intersection. A location near Alamo Road would minimize impact on the stock pond and corrals.
- Drainage channels cross US 93 at several locations that would be affected by any of the interchange locations. However, two of the larger drainages are located near the intersection of US 93 and Alamo Road and would have to be crossed by the interchange ramps if an interchange is located near Alamo Road. Preliminary analysis indicates both of these drainages will require 5-barrel box culverts while smaller drainage channels near Date Creek Road will require 2-barrel culverts.

After considering the above factors, a diamond interchange with a US 93 underpass is recommended near the Alamo Road intersection at MP 178.2. Alamo Road will be realigned to meet the interchange crossroad. Access to the stock pond and corrals will be provided from Alamo Road. An access road will be required along the easterly side of US 93 from the interchange crossroad at MP 178.2 to the Date Creek Road at MP 177.2, and from the local road on the east side of US 93 at MP 178.5 to the interchange crossroad at MP 178.2.

7.4.4.2.2 Traffic Interchange – MP 171.3

From the recommended traffic interchange near Alamo Road near MP 178.2 to the recommended traffic interchange near the Santa Maria River at MP 162.7 there are three ranch properties with access to US 93, and several minor intersections that provide access to networks of primitive roads serving large areas on both sides of US 93. The access provided under partial access control will allow properties served by primitive roads to develop over time. By the time full access control is needed to preserve the safety and function of US 93, it is likely that access to properties within this northerly sixteen-mile segment of study zone C will be required.

Consideration of the location of one or more interchanges to provide access to US 93 within northerly part of the study zone included the following items:

- The ranches are spread out to the point that it would require multiple interchanges to provide access close to their present access.
- Access to the Alamo Road interchange from any of the existing access points north of Date Creek would require crossing Date Creek which is located at approximately MP 174.2.
- Between Date Creek and Big Jim Wash, there are three ranch properties located adjacent to US 93 and three additional access points serve properties away from US 93.
- Date Creek and Big Jim Wash are located about 9 miles apart. Two interchanges could be located between the two drainage channels; one at MP 172.5 and one at 168.0. A total of approximately 6.5 miles of access road would be required to replace existing access. Existing primitive roads could be used for part of the distance.
- A single interchange could be placed between Date Creek and Big Jim Wash at MP 171.3, which is the location of existing access points on both sides of US 93. A total of approximately 8.8 miles of access road would be required to replace existing access. Existing primitive roads could be used for part of the distance for this location also.

Based on the above considerations, and the savings in construction cost of a single interchange vs. two interchanges, a diamond traffic interchange with a US 93 underpass located at MP 171.3, with unsurfaced access roads to serve existing access points is recommended. The gated at-grade intersections and median crossover at MP 171.3 will be closed. Consideration should be given to acquiring access rights from properties adjacent to US 93 if further studies indicate it is more economical to acquire access rights than to provide access.

7.4.4.2.3 Traffic Interchange – Santa Maria River

A proposed interchange at MP 162.7 is included in the Access Management Plan for US 93, Santa Maria River to Wikieup to serve properties near the Santa Maria River. This interchange will also serve adjacent properties along US 93 north of Big Jim Wash (MP 165.5).

Factors that were considered in locating a traffic interchange at MP 162.7 included the following.

- A traffic interchange will have to be located away from the Santa Maria River to minimize impact on riparian habitat and aquatic areas.
- The extremely rugged terrain north of the Santa Maria River will preclude construction of either access roads or a traffic interchange north of the Santa Maria River to serve the Barnes property, State Land and BLM land on both the east and west sides of US 93.
- A large hill rises above the west side of US 93 from MP 161.5 to MP 160.7 which would require a very large cut to construct a traffic interchange close to the existing access point. The terrain becomes more moderate to the south and an interchange could reasonably be constructed.
- A traffic interchange at MP 162.7 will provide access to areas south of the Santa Maria River and to areas north of Big Jim Wash (MP 165.5).

7.4.4.2.4 Other Considerations for Full Access Control

Additional access considerations for full access control within this study zone are:

- The gated turnout on the west side of US 93 and the median crossover at MP 175.9 will be removed. Access to the primitive roads and State Land will be from Alamo Road. The network of primitive roads serving this area currently intersects Alamo Road.
- The gated right-in/right-out turnout on the west side of US 93 at MP 174.1 will be removed.
- The median crossover at MP 173.1 proposed to be in place for partial access control will be removed.
- The gated access on the west side of US 93 at MP 169.4 will be closed. The unsurfaced frontage road to be constructed from the proposed interchange at MP 171.3 will tie into the existing access road.
- The median crossover at MP 168.9 will be removed.
- The gated access on the west side of US 93 at MP 167.8 will be retained as a right-in/right-out turnout for intermittent access to the WAPA transmission line.
- The turnout on the east side of US 93 and the median crossover at the D G Ranch (MP 167.0) will be removed. An access road will be provided from the traffic interchange at MP 171.3. The existing primitive road may be used for part of the access road.

- An access road will be constructed on the west side of US 93 from the interchange at MP 162.5 southerly to tie into the existing primitive road intersecting US 93 at MP 165.2. Consideration should be given to using the existing primitive road along the WAPA transmission line as the access road.
- The existing access on the east side of US 93 and the median crossover at MP 165.2 will be closed and access will be from primitive roads that tie into the interchange.
- The gated turnouts on the west side at MP 163.6 and on the east side at MP 163.3 that provide access to the WAPA transmission line will be closed and access will be provided from primitive roads that tie into the interchange. Access to the two WAPA towers that will be located in the median of the 4-lane roadway at MP 163.5 will be permitted.
- The gated access on the west side at MP 163.1 will be closed and access will be provided from the access road being constructed from the interchange to the south.
- The gated turnout with a median crossover on the east side of US 93 at MP 162.4 will be closed and the median crossing will be closed. Access will be provided at the interchange crossroad.
- A 2-way access road will be constructed on the east side of US 93 between the traffic interchange at MP 162.7 and the existing Santa Maria Road south of the Santa Maria River. A wash parallels US 93 on the east side from approximately MP 161.8, where it crosses from the west side of US 93, to the Santa Maria River. If the access road ran parallel and adjacent to US 93 it would require constructing a new channel. Because of the potential impact on riparian habitat and aquatic areas it is proposed that the access road from the interchange at MP 162.7 stay to the east of the wash until it gets near the existing access point at MP 160.9, where it will cross the wash and connect to the existing Santa Maria Road serving the Barnes property and public properties to the east.