AMENDMENT TO
TOWN ENGINEER AGREEMENT

Date: November 17, 2011

Request: Amendment

Project Name: Viewpoint Drive Connector, CIP # S168
411-1000-700-7340 - ST1201

Engineer: Dava & Associates, Inc.
Attn.: Gordon Bowers, P.E.
310 E. Union Street, Prescott, AZ 86303
Ph.: (928) 778-7587

Description of Proposed Change: This amendment adds design services for the Viewpoint Drive Connector project, CIP # S168 to the Town Engineer Agreement, per the proposal letter from Dava, dated October 18, 2011. This letter is hereby incorporated into this amendment by this reference as Exhibit "A".

Cost: Increase of up to **$274,300.00**
for a (project) total, including this amendment, of $274,300.00

Time: Expiration date remains the same as the Town Engineer Agreement

Submitted by: Norm Davis, P.E. - Public Works Director

Approved by Engineer: _____
Dava & Associates, Inc.

Approved by Prescott Valley: _____ November 17, 2011
Harvey Skoog, Mayor

Attest:

_____
Diane Russell, Town Clerk

_____
Ivan Legler, Town Attorney

EXHIBIT "A"

DAVA & ASSOCIATES, INC.
PLANNING
ENGINEERING
SURVEYING
310 East Union Street
Prescott,AZ 86303
(928) 778-7587
FAX:(928) 778-1047
www.davacivil.com

October 18, 2011

374VPCXN/PRO

Norm Davis, Public Works Director
Town of Prescott Valley
7501 E. Civic Circle
Prescott Valley, AZ 86314

Dear Mr. Davis:

RE: Proposal for Design Period Engineering Services
Viewpoint Drive Connector

Viewpoint Drive provides an alternate north south circulatory route through the north central part of town from Civic Center to Manley Drive and from Roundup Drive to SR 89A. A mile-long segment through the undeveloped State Land Department property that connects the two existing Viewpoint Drives has yet to be constructed. With the completion of the recent phase of improvements to Robert Road, the Town of Prescott Valley now wants to proceed with the design and construction of the Viewpoint Drive Connector. Dava & Associates, Inc. is pleased to provide our proposal for professional services to analyze preliminary options; provide initial plans for the ultimate roadway development through the State Land Section; and prepare construction documents for the interim phases of improvement.

We will provide the enclosed scope of services on a not-to-exceed fixed fee basis in accordance with our Town Engineer contract. If this proposed scope of services meets with your approval, we are ready to proceed at your direction. We look forward to a collaborative effort with the Town on this exciting project.

Thank you for this opportunity to provide professional engineering services to the Town of Prescott Valley. Should you have any questions, please contact me.

Sincerely,

DAVA & ASSOCIATES, INC.

Gordon Bowers, P.E.
Civil Engineer

GB:pa

Encl.
K:\374pv\374VPCXN\Pro\Viewpoint Connector WRK SCOPE Cvr.pro.doc

PROPOSAL FOR PROFESSIONAL SERVICES

For more than a decade, the Town of Prescott Valley (Town) has been planning an additional north-south circulation route to directly connect the commercial and residential areas north of Section 2 with the central part of town south of Section 2 including the Town Civic Center. Section 2 is under the stewardship of the Arizona State Land Department (ASLD). In 2001, right-of-way for the north-south corridor through Section 2 was purchased from the ASLD. The new roadway follows El Camino Wash north from Manley Drive to the Agua Fria River and connects the southern roadway segment formerly known as El Camino Real with the roadway segment formerly known as Robert Road in the north. Both segments have been renamed to Viewpoint Drive in anticipation of this eventual connection. The new roadway will provide an alternate north-south circulatory route through the center of Town and will ease the traffic burden on Robert Road. This will be especially important during the next phase of Robert Road improvements when necessary drainage improvements through the Long Mesa intersection will significantly disrupt traffic. Once in place, the Viewpoint Drive Connector will provide an alternate route around this construction congestion.

The following scope for professional services is proposed to provide the preliminary analysis, initial design, and final preparation of construction documents necessary for the interim implementation of the Viewpoint Drive Connector Project.

TASK No. One

PRELIMINARY ANALYSIS & CONCEPTUAL DESIGN:

An analysis of the existing conditions will reveal challenges, constraints, and opportunities for development of the Viewpoint Drive Corridor. Conceptual designs will be explored and presented to address solutions for the various geometric, roadway sections, drainage, and utility elements in roadway design. The impact of the future alignment of Santa Fe Loop must also be considered. The steps in planning for the new corridor are further outlined as follows:

Task 1A - AGUA FRIA CROSSING:

A critical component of the Viewpoint Drive design will be the crossing of the Agua Fria River. The Town of Prescott Valley's Master Drainage Plan (PVMDP) prepared by Claycomb/Rockwell/Woodson Associates in 2003 predicts the 100-year discharge over Roundup to be 10,400 cfs. Slightly upstream, where the future Viewpoint Drive will cross, the PVMDP establishes 8,000 cfs flowing from the Agua Fria River and 2,600 cfs from El Camino Wash. These are fairly significant discharges requiring thoughtful consideration on how best to accommodate the flow. We propose to analyze the following options and their impacts:

- Preliminary design of drainage structures and channels to convey the predicted discharge under Viewpoint Drive and downstream to Robert Road

- Preliminary analysis of detention options to consider impact of flow attenuation for design of drainage structures and channel to convey a lesser flow
- Disposition of the El Camino flow at it's confluence with Agua Fria either by crossing Viewpoint Drive at its existing flow path to discharge downstream of Viewpoint Drive or directing the flow to the proposed culvert inlet upstream of Viewpoint Drive

The new roadway construction will likely impact the Jurisdictional Waters of the United States administered by the Army Corps of Engineers (ACOE). The extent of Jurisdictional Waters is defined by the limits of Ordinary High Water (OHW). In 2007, Biozone Inc. conducted an OHW delineation study for the El Camino water course. A similar study will be necessary for the existing Agua Fria water course. Biozone, Inc. will conduct the Agua Fria study and initiate any necessary applications to the ACOE to acquire nationwide or individual 404 permits that allow construction through Jurisdictional Waters to proceed. The application and follow-up with the ACOE to secure these permits could take over year or longer, so it becomes essential to start early in the project to identify the impacts and apply for the permit to enable the construction to commence when the Town is ready to proceed. It is also prudent to survey the impacted area for possible archeological and/or environmental constraints. Biozone will provide these studies as well.

Task 1A will be completed for the Fixed Fee of $ 27,010

Task 1B - EXISTING INTERSECTION CONSIDERATIONS:

The introduction of the new Viewpoint Drive Connector will affect three intersections along the southern segment of the existing Viewpoint Drive; Long Look, Spouse, and Manley Drives. At present, all three have through-movements along the east-west residential street with stop conditions on Viewpoint Drive. The impact that the new Viewpoint Drive Connector will have on the three existing intersections will be considered to determine the proper recommendations for traffic control at each intersection. With assistance provided by Lee Engineering, we will conduct preliminary analyses at the three existing intersections as follows:

- Determine up-to-date traffic counts at the three intersections
- Determine projected traffic counts to analyze future impacts of the Viewpoint Drive Connector
- Provide justification and recommendations for adjustments to traffic control at each intersection
- Prepare preliminary intersection configurations to implement the recommendations

Another existing intersection will be affected by the new roadway. Currently, Long Mesa connects with Fulton Drive as the through movement along a curved alignment with the stop condition on the "Short" Mesa leg. We will reconfigure a new

intersection from the existing curve to a "Tee" at Long Mesa with the stop condition on the Fulton leg.

Task 1B will be completed for the Fixed Fee of $ 15,700

Task 1C - FUTURE INTERSECTION CONSIDERATIONS:

The alignment of the new Viewpoint Drive Connector will create three new intersections with existing streets; the connection with the western extension of Long Mesa and each approach from the west and the east by Roundup. A future junction of Viewpoint Drive and Santa Fe Loop will create a fourth intersection between Long Mesa and Roundup. In addition to the existing and projected traffic counts noted above, the following preliminary analysis of the new intersections will be provided:

- Determine the realignments of Roundup Drive's east and west approaches to Viewpoint Drive
- Determine the alignment and profile of the extension of Long Mesa
- Determine the preliminary alignment of the future Santa Fe Loop through Section 2 and eastward through Sections 1 and 36 to account for its impact at Viewpoint Drive once Santa Fe is constructed as an east/west arterial
- Determine recommendations for the future Santa Fe Traffic Control condition

Task 1C will be completed for the Fixed Fee of $ 8,080

Task 1D - TOPOGRAPHIC SURVEYS & FUTURE R/W IDENTIFICATION:

Dava & Associates will use existing Town of Prescott Valley 2003 DTM data (NGVD 1929) converted to the current TOPV 2008 datum (NAVD 1988) specifications. We will conduct supplemental field surveys to collect cultural, topographical, and utility location data to use for planning and design purposes.

The planning for the future Santa Fe Loop arterial and Agua Fria River channelization will reveal which privately owned properties in Section 1 east of Viewpoint Drive may be in the path of the future road and channel work. We anticipate a total of 12 or 13 platted parcels, all within the current FEMA floodplain, may be affected. To assist in the identification of these parcels, we will prepare an exhibit that shows the future impact of the Santa Fe alignment and the possible Agua Fria channelization.

Task 1D will be completed for the Fixed Fee of $ 11,210

Note: The Town may choose to start acquiring these properties earlier than later, and if so, we will be happy to prepare a work scope proposal to assist in the Town's acquisition of these properties once the extent of the need is determined.

Task 1E - PAVEMENT STRUCTURAL SECTION:

Selecting the pavement structural section for the Viewpoint Drive Connector is essential to determining the interim and ultimate earth construction requirements. The pavement structural section depends on the projected traffic load, which will be provided by Lee Engineering, and the anticipated soil condition. Engineering Testing Consultants, ETC, will collect representative soil samples along the new alignment in Section 2 and perform the soils analysis for determining and presenting pavement structural section options for consideration. ETC will prepare a report outlining the structural options and presenting the soil boring results. We will follow their recommendations and conclusions to develop initial and final plans. Their report will also be useful to the contractors in the preparation of their bids.

Task 1E will be completed for the Fixed Fee of $ 10,080

Task 1F – PRELIMINARY DESIGN OPTIONS:

These analyses, concept designs, and studies described above will be used to develop opinions of probable construction costs for various project elements and options. The preliminary estimated costs will be presented to the Town and reviewed with Town staff. The preliminary designs, project elements, and studies presented and discussed will be the basis for decisions to proceed with the final project design and preparation of construction documents.

Task 1F will be completed for the Fixed Fee of $ 8,020

TASK No. Two

INITIAL PROJECT DESIGN - ULTIMATE IMPROVEMENT:

The conceptual designs developed as described above for the roadway and drainage improvements will be used as the basis for the design of the ultimate Viewpoint Drive roadway section. Revisions to the published FEMA floodplain may be warranted due to the impacts of the new roadway. We assume for now the ultimate section will nominally be a 4-lane section with turn lanes and a landscaped center median with a multi-use path along the west side. We have included an exhibit illustrating the typical sections with this project scope proposal. It is anticipated that turn lanes will be needed at the intersections of Long Mesa Drive, Santa Fe Loop, and Roundup Drive. The steps to revise the floodplain and prepare initial construction plans for the ultimate typical section are further outlined as follows:

Task 2A - FEMA FLOODPLAIN REVISIONS:

Depending on the results of the preliminary analyses, modification to the published floodplain on the Flood Insurance Rate Maps (FIRMS) by the Federal Emergency

Management Agency (FEMA) will be required. The maps affected are FIRM G-Series Maps 1714G and 2077G. Changes in Base Flood Elevations (BFE) caused by new embankment or culvert installation require a Conditional Letter of Map Revision (CLOMR) submission to FEMA. For this eventuality, Mark Dubrois of Dubrois Engineering, an original author of the Town's Master Drainage Plan, will prepare and coordinate a FEMA submission to modify the floodplains of the Agua Fria as necessary. Dubrois will look at two components; the impact of the Viewpoint Drive roadway embankment on the existing FEMA floodplain, and a change in floodplain limits caused by the possible channelization of the Agua Fria downstream to Robert Road. Should a map revision be appropriate, Dubrois will submit the CLOMR application and follow through with FEMA.

Task 2A will be completed for the Fixed Fee of $ 42,810

Note: A final Letter of Map Revision (LOMR) is based on actual construction; therefore, submission of a LOMR application must wait until the improvements are complete. The work and fees for a LOMR application will not be included with this project scope but can be included in a proposal for Construction Period Services at the appropriate time.

Task 2B - EXISTING & FUTURE UTILITIES:

Developing a new transportation corridor presents an opportunity for the Town and private utility companies to consider strengthening their systems. We will coordinate with the Town and private utility companies to explore accommodation and determine preliminary alignments for underground utilities as follows:

- Incorporate existing sewer collection mains into roadway design
- An optimum alignment for new water main between the existing 12-inch water mains in Manley, Long Mesa, and Roundup Drives
- The optimum placement of natural gas, electrical power, and communication facilities within the right-of-way should they be requested by the private utility companies

Existing sanitary sewer mains follow the proposed alignment and, according to the Town's Sewer Model Analysis, are properly sized. No further improvements are anticipated beyond adjustment of manholes to new roadway grade. The Town's Water System Model did not analyze or anticipate a loop or connection through Section 2 and one may not be needed. However, we should consider the possibility of a connection between existing mains.

The ultimate improvement to the Viewpoint Drive corridor may or may not include street lights. That determination can be made later, so it will not be necessary to determine their ultimate location and placement as part of the initial design.

Task 2B will be completed for the Fixed Fee of $ 3,600

Task 2C - TRAFFIC CONTROL DEVICE PLANS:

The future intersection of Viewpoint Drive with Santa Fe Loop will require some type of traffic control to serve both arterials. We anticipate that a traffic signal or roundabout will be the two options to consider. Lee Engineering will analyze and compare the merits of each option and prepare initial traffic signal plans and an initial roundabout design. Both designs will be presented in the initial design plan for review and consideration. One traffic control method will be chosen at the conclusion of the 30% design review as the preferred option to provide a foundation for further design.

Task 2C will be completed for the Fixed Fee of $ 27,000

Task 2D - INITIAL DESIGN PLANS:

Dava & Associates will design and prepare Initial (30%) Plans of the ultimate Viewpoint Drive Section based on the accepted recommendations presented in the preliminary analysis. The plans will show the initial design of Viewpoint Drive extending from and including Manley Drive to the connection north of Roundup Drive and will include:

- Typical Roadway Sections
- Initial Earth volume analysis
- Initial Roadway drainage analysis
- Initial Agua Fria and El Camino drainage structures
- Initial utility alignments
- Initial traffic control configurations at the future Santa Fe Loop intersection

Dava & Associates will prepare initial cost estimates corresponding with the project design submittal. We will attend design planning meetings and be available as needed to clarify design elements. The initial plans will be used to determine the final direction to follow in planning for the future roadways and construction of the interim Viewpoint Drive section. We will also include initial designs of the Spouse and Long Look intersections. The Initial Plans will be submitted for review by Town staff. Once we update the Initial Plans to include final direction, they will be used as the basis for interim and future construction. We will send out the Initial Plans to the private utility companies for their use.

Task 2D will be completed for the Fixed Fee of $ 32,200

Task 2E – PUBLIC MEETING:

Upon completion of the Initial Plans for the Ultimate Section, we will prepare for and attend a meeting with interested residents and public interests. We will document comments and evaluate for inclusion in the project design.

Task 2E will be completed for the Fixed Fee of $ 2,590

TASK No. Three

FINAL CONSTRUCTION DOCUMENTS – INTERIM IMPROVEMENT:

Subsequent to staff review of the Initial Design Plans of the ultimate section, Dava & Associates will incorporate the preliminary planning and initial design elements into the final set of construction drawings for the interim section, initially envisioned as a two-lane rural section with additional turn lanes. The steps to prepare final construction documents for the interim roadway section are further outlined as follows:

Task 3A - INTERIM SECTION DESIGN & CONSTRUCTION DRAWINGS:

Dava & Associates will design and prepare final construction drawings for the interim roadway section of two lanes with turn lanes. The final construction drawings will include:

- Separate construction drawings for improvements to the existing intersections of Long Look and Spouse Drives
- Plan & Profile drawings for the interim section between Manley and Roundup
- Intersection configuration drawings at Manley, Long Mesa, Roundup, and Fulton Drives
- Accommodation for the future Santa Fe Loop intersection.
- Culvert details and profiles
- Drawings for Signing and Marking; Traffic Control; and Erosion Control.
- Specifications
- Estimates of probable construction costs

We anticipate that the final construction drawings will be reviewed twice, once at 95% and once at 100% complete.

Task 3A will be completed for the Fixed Fee of $ 64,290

Note: Should the Town elect to proceed with the installation of a 12-inch water main connection, we will provide a separate project scope proposal to include the water main with the plan and profile sheets and to submit an application to secure an Approval to Construct from Yavapai County.

Task 3B - RIGHT of WAY RECORDS of SURVEY:

Over the years, the Town has acquired floodplain properties through Section 11 in anticipation of creating a green belt along El Camino Wash and Viewpoint Drive. Viewpoint Drive continues north of Section 2 through residential and commercial properties in Section 35. Dava & Associates recently completed and recorded a Record of Survey documenting the sectional corners and Viewpoint Drive right-of-way property corners through Section 2.

To complete the documentation of Town right of way for the Viewpoint Drive corridor outside of Section 2, we will prepare two additional Records of Survey. One for the Town's right of way through Section 11 south of Section 2 and the second through Section 35 south of SR 89A to Section 2. We will complete the necessary field surveys to collect the measurements of found monuments, research and analyze their positions, and submit to the Town for review. Once Town review comments are addressed, we will set missing monuments and record the two Records of Survey. With the completion and recording of these new Records of Survey, the Town will have documented their right of way of Viewpoint Drive from the Civic Center at Civic Circle to SR89A.

Task 3B will be completed for the Fixed Fee of $ 6,780

Task 3C - CONSTRUCTION CONTROL SURVEYS:

To facilitate the anticipated construction, Dava & Associates will establish construction control monuments along the route at approximately 700-foot intervals based on the TOPV survey datum. The position and elevation of each monument will be included in the construction drawings for reference.

Task 3C will be completed for the Fixed Fee of $ 2,380

Task 3D - BID PACKAGE:

Dava & Associates will provide a template of the specifications and an estimate of probable construction costs at the first submittal of 95% complete. The second and final submittal will include:

- Final specifications and provisions
- Final Estimates of probable construction costs
- Final construction drawings

Once all review concerns are addressed to the satisfaction of the Town, we will prepare final mylars of the construction drawings, a final bid package, and the final Engineer's Estimate of Probable Construction Costs for bidding purposes. We will include plotted cross sections to assist contractors in preparing their bids.

We will assist the Town in the advertisement for bid; attend the pre-bid meeting; prepare necessary addenda to the plans and specifications; evaluate bid results; and recommend to the Town a successful bidder for award of the construction contract.

Task 3D will be completed for the Fixed Fee of $ 12,550

PROJECT FEES:

The following estimated fixed fees for the above described scope of services are based on the enclosed staff hour estimate:

Task No. One - Preliminary Analysis & Design		$ 80,100.00
Task 1A	$27,010.00	
Task 1B	$15,700.00	
Task 1C	$ 8,080.00	
Task 1D	$11,210.00	
Task 1E	$10,080.00	
Task 1F	$ 8,020.00	
Task No. Two – Initial Project Design		$ 108,200.00
Task 2A	$42,810.00	
Task 2B	$ 3,600.00	
Task 2C	$27,000.00	
Task 2D	$32,200.00	
Task 2E	$ 2,590.00	
Task No. Three - Final Construction Documents		$ 86,000.00
Task 3A	$64,290.00	
Task 3B	$ 6,780.00	
Task 3C	$ 2,380.00	
Task 3D	$12,550.00	
Reimbursable Expenses		
CLOMR Application Fees		$ 4,840.00
Printing & Reproduction Costs		$ 2,860.00
COST NOT to EXCEED:		$ 274,300.00

The following Consultant Fees are included in the above costs and are listed below for additional information:

Bio-Zone	$ 13,750.00
Lee Engineering	$ 28,600.00
Engineering Testing Consultants, (ETC)	$ 3,960.00
Dubrois Engineering	$ 30,250.00

The fees for the consultants we will engage for this project include their proposed maximum fee plus 10% for administration by Dava & Associates. Should additional design elements not anticipated by this scope be identified over the course of the project, we will prepare and present supplemental project scopes for consideration. Reimbursable expenses include foreseeable printing and reproduction costs normal to the work described and include 10% for administration in accordance with our Town Engineer's contract.

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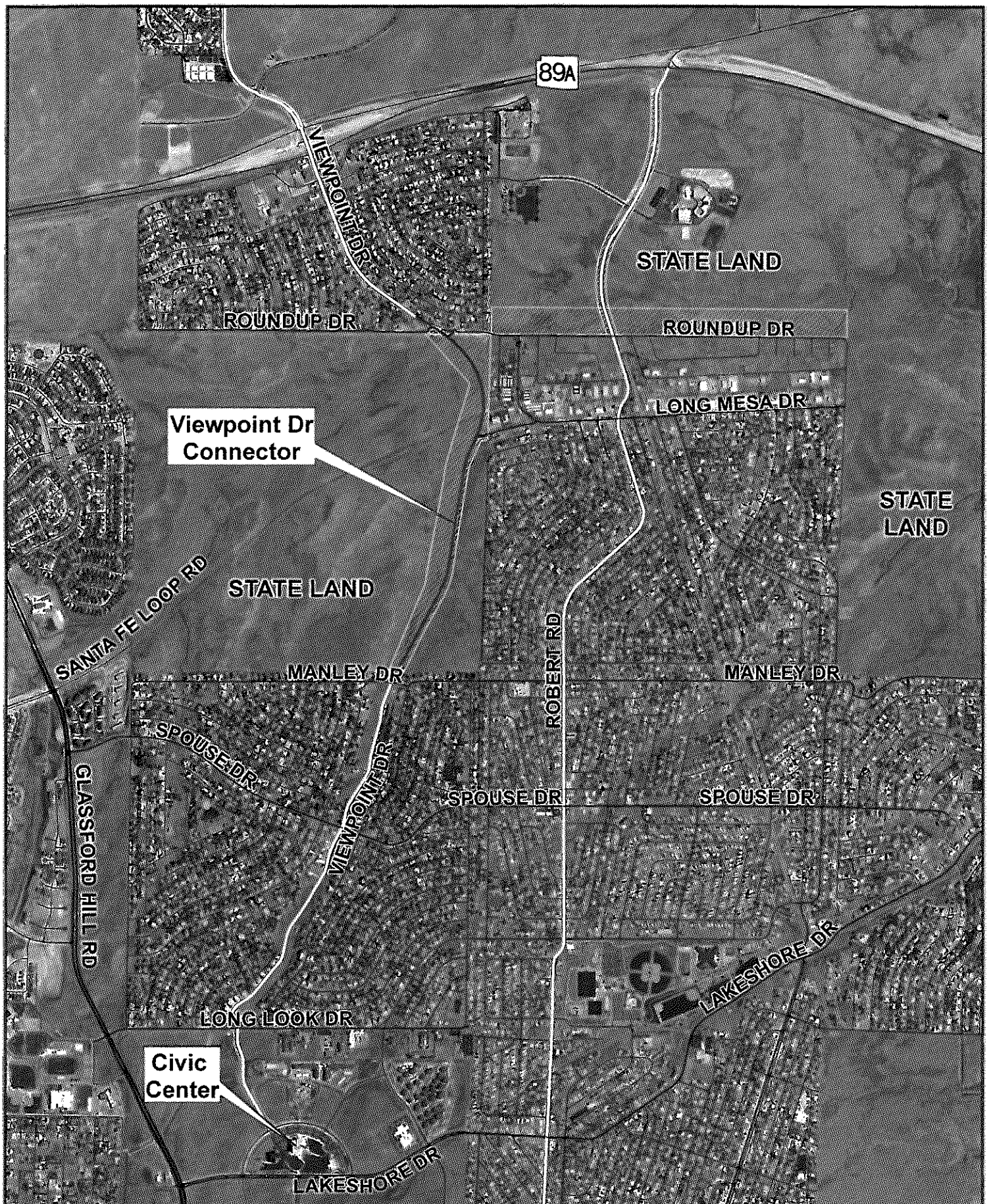


VIEWPOINT DR CONNECTOR LOCATION PRESCOTT VALLEY, AZ

LEGEND
- ROADS
- PROPOSED ROAD
- ROBERT RD
- VIEWPOINT DR

STATE LAND LEASE FOR PUBLIC ROW

AERIAL PROVIDED BY MICROSOFT BING 2011

SCALE
0 600 1,200
Feet

NORTH

Created by: Larry Prentice, GIS Manager, Public Works / GIS Division
Coordinate System: State Plane - AZ Central, NAD 83, NAVD 88
Location: GIS_Maps\Projects\Internal\Public Work...\Engineering\Drainage\Western Blvd Viewpoint Exp Drainage-Floodplain3.pdf
Date: 10-19-2011

Prescott Valley GIS

AGUA FRIA DRAINAGE OUTFALL

LEGEND
- ROADS
- PROPOSED RD
- ROBERT RD
- PARCELS
- EL PASO GASLINE
- 102.9 Q100 LABELS
- STREAM SEGMENTS
- FLOODPLAIN 2010
- STATE LAND LEASE FOR PUBLIC ROW

SCALE
0 500 1,000
Feet

N

Created By: Larry Prentice, Public Works / GIS Division

Coordinate System: State Plane - AZ Central, NAD 83, NAVD 88

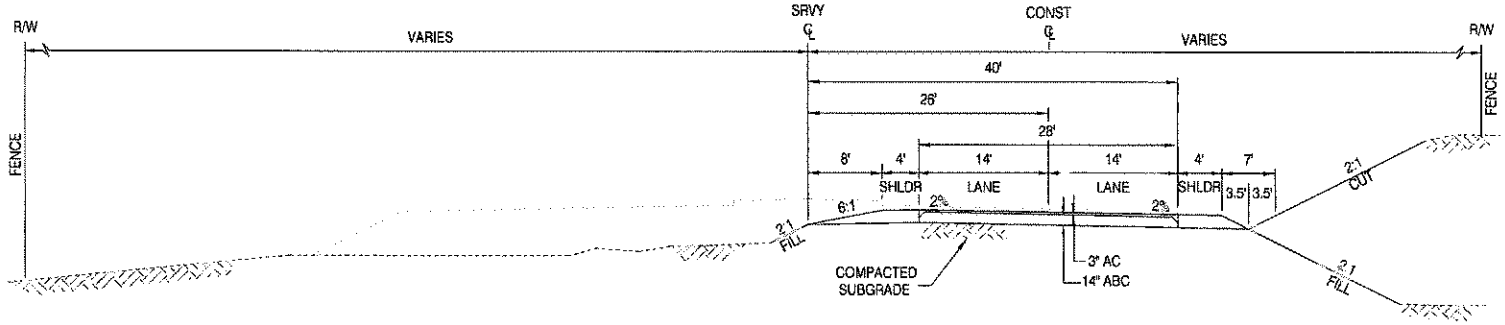
Location: X:\GIS_Maps\Projects\Internal\Public Works\Engineering\Drainage\Western Blvd\Agua Fria Drainage Outfall.pdf

Date: 02-24-2011

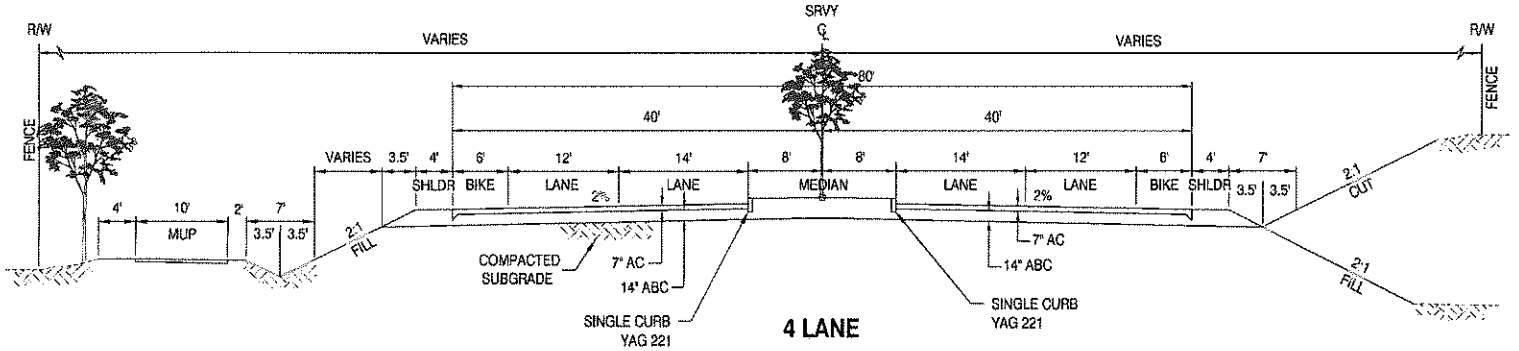
This map is designed to provide information about the Town of Prescott Valley. Every effort has been made to make this data complete and accurate as possible. However, no warranty of any kind is implied. This map is for reference only and is not a legal document. The Town of Prescott Valley shall have no liability or responsibility to any person or entity with respect to any loss or damage in connection with or arising from the information contained in this map.

Prescott Valley GIS

VIEWPOINT DRIVE CONNECTOR
TYPICAL SECTIONS



2 LANE
INTERIM



4 LANE
ULTIMATE

OCTOBER 2011