

AGENDA

4:30 P.M.

CITY OF SEDONA, CITY COUNCIL MEETING

TUESDAY, SEPTEMBER 12, 2017

NOTES:

- Public Forum:
Comments are generally limited to **3 minutes**.
- Consent Items:
Items listed under Consent Items have been distributed to Council Members in advance for study and will be enacted by one motion. Any member of the Council, staff or the public may remove an item from the Consent Items for discussion. Items removed from the Consent Items may be acted upon before proceeding to the next agenda item.
- Meeting room is wheelchair accessible. American Disabilities Act (ADA) accommodations are available upon request. Please phone 928-282-3113 at least two (2) business days in advance.
- City Council Meeting Agenda Packets are available on the City's website at:

www.SedonaAZ.gov

GUIDELINES FOR PUBLIC COMMENT

PURPOSE:

- To allow the public to provide input to the City Council on a particular subject scheduled on the agenda.
- This is not a question/answer session.

PROCEDURES:

- Fill out a "Comment Card" and deliver it to the City Clerk.
- When recognized, use the podium/microphone.
- State your:
 1. Name and
 2. City of Residence
- Limit comments to **3 MINUTES**.
- Submit written comments to the City Clerk.

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE/MOMENT OF SILENCE/ROLL CALL

2. CITY'S VISION/MOMENT OF ART

3. CONSENT ITEMS - APPROVE

LINK TO DOCUMENT = 

- a. Minutes - August 8, 2017 City Council Regular Meeting. 
- b. Minutes - August 9, 2017 City Council Special Meeting. 
- c. Approval of a Proclamation Supporting a Statewide/Citywide Attainment Goal & World Class Education for All Students. 
- d. Approval of Proclamation, National Constitution Week, September 17-23, 2017. 
- e. AB 2269 Approval of the donation of a bronze statue of a police canine from the Friends of Police to be placed in the City Hall Plaza in front of the Police Department Building. 
- f. AB 2270 Approval of appointments of Thomas Freestone and Ronald Ramsey as Magistrates Pro Tem for the Sedona Municipal Court. 
- g. AB 2246 Approval of a Special Event Liquor License for Friends of the Sedona Library for a fund raising event scheduled for Sunday, November 12, 2017, from 4:00 to 6:30 p.m. located at the Sedona Public Library, 3250 White Bear Road, Sedona, AZ. 

4. APPOINTMENTS - None.

5. SUMMARY OF CURRENT EVENTS BY MAYOR/COUNCILORS/CITY MANAGER

6. PUBLIC FORUM

(This is the time for the public to comment on matters not listed on the agenda. The City Council may not discuss items that are not specifically identified on the agenda. Therefore, pursuant to A.R.S. § 38-431.01(H), action taken as a result of public comment will be limited to directing staff to study the matter, responding to any criticism, or scheduling the matter for further consideration and decision at a later date.)

7. PROCLAMATIONS, RECOGNITIONS & AWARDS

- a. Presentation of the Proclamation Supporting a Statewide/Citywide Attainment Goal & World Class Education for All Students.
- b. Presentation of Proclamation, National Constitution Week, September 17-23, 2017.

8. REGULAR BUSINESS

- a. AB 2274 **Discussion/possible direction** to provide official City comments to the Forest Service in response to a draft National Environmental Policy Act (NEPA) study which assesses three possible alternatives to create an access easement for the construction of a private road to Coconino County parcels 408-27-003 C, E, and F, located across Oak Creek from Poco Diablo Resort and Chavez Crossing Campground in Sedona. 
- b. AB 2229 **Discussion/possible direction** regarding the Draft Revised Sign Code (DRSC), an update of Sedona Land Development Code Article 11, Sign Regulations. 

CITY COUNCIL CHAMBERS
102 ROADRUNNER DRIVE, SEDONA, AZ

The mission of the City of Sedona government is to provide exemplary municipal services that are consistent with our values, history, culture and unique beauty.

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- c. Reports/discussion on Council assignments.
- d. Discussion/possible action on future meeting/agenda items.

9. EXECUTIVE SESSION

If an Executive Session is necessary, it will be held in the Vultee Conference Room at 106 Roadrunner Drive. Upon a public majority vote of the members constituting a quorum, the Council may hold an Executive Session that is not open to the public for the following purposes:

- a. To consult with legal counsel for advice on matters listed on this agenda per A.R.S. § 38-431.03(A)(3).
- b. Return to open session. Discussion/possible action on executive session items.

10. ADJOURNMENT

Posted: _____

By: _____

Susan L. Irvine, CMC
City Clerk

Note: Pursuant to A.R.S. § 38-431.02(B) notice is hereby given to the members of the City Council and to the general public that the Council will hold the above open meeting. Members of the City Council will attend either in person or by telephone, video, or internet communications. The Council may vote to go into executive session on any agenda item, pursuant to A.R.S. § 38-431.03(A)(3) and (4) for discussion and consultation for legal advice with the City Attorney. Because various other commissions, committees and/or boards may speak at Council meetings, notice is also given that four or more members of these other City commissions, boards, or committees may be in attendance.

A copy of the packet with material relating to the agenda items is typically available for review by the public in the Clerk's office after 1:00 p.m. the Thursday prior to the Council meeting and on the City's website at www.SedonaAZ.gov. The Council Chambers is accessible to people with disabilities, in compliance with the Federal 504 and ADA laws. Those with needs for special typeface print, may request these at the Clerk's Office. All requests should be made **forty-eight hours** prior to the meeting.

CITY COUNCIL CHAMBERS
102 ROADRUNNER DRIVE, SEDONA, AZ

The mission of the City of Sedona government is to provide exemplary municipal services that are consistent with our values, history, culture and unique beauty.

Action Minutes
Regular City Council Meeting
City Council Chambers, Sedona City Hall,
102 Roadrunner Drive, Sedona, Arizona
Tuesday, August 8, 2017, 4:30 p.m.

1. Call to Order/Pledge of Allegiance/Moment of Silence/Roll Call

Mayor Moriarty called the meeting to order at 4:30 p.m.

Roll Call: Mayor Sandy Moriarty, Councilor John Currivan, Councilor Scott Jablow, Councilor Tom Lamkin, Councilor Jon Thompson, Councilor Joe Vernier. Vice Mayor John Martinez was absent and excused.

Staff Present: City Manager Justin Clifton, Assistant City Manager Karen Osburn, City Attorney Robert Pickels, Jr., Assistant City Attorney Lisa Weiler-Parsons, Legal Administrative Assistant Katie Johnson, Chief of Police David McGill, Commander Ron Bayne, Lieutenant Lucas Wilcoxson, Sergeant Michael Dominguez, Sergeant James Pott, Detective Casey Pelletier, Detective Chris Stevens, Officer Brandon Bergstad, Officer Wayne Butler, Officer Ryan Gavin, Officer Ty Langmack, Officer Michael Lucas, Officer Aldo Ortega, Officer Kevin McCullar, Officer Rod Ramirez, Officer Steve Willadsen, Communications Supervisor Mark Coughlin, Communications Specialist Maryjane Smith, Property & Evidence Technician Larry Woodruff, Police Administrative Assistant Sherri O'Connor, Community Service Officer Gene Kurz, Community Service Aide Barbara Gonzalez, Community Service Aide Bill Melton, Director of Public Works & City Engineer Andy Dickey, Engineering Supervisor Stephen Craver, Associate Engineer David Peck, Director of Community Development Audree Juhlin, Assistant Director of Community Development Warren Campbell, Director of Finance Cherie Wright, Accounting Supervisor Derrick Beracy, Accounting Technician Marsha Beckwith, Accounting Technician Kris Capite, Accounting Technician Lori Dean, Accounting Technician Terry DePasquale, Accounting Technician Martha Keider, Information Technology Manager Chuck Hardy, City Clerk Susan Irvine.

2. City's Vision/Moment of Art

A video of the City's vision was played.

Nancy Lattanzi introduced Peggy Lanning recent recipient of the Mayor's Arts Award for Lifetime Achievement. A video about Ms. Lanning and her impact on the Sedona arts community was played. Ms. Lanning addressed the Council and thanked the Mayor for this award.

3. Consent Items

- a. **Minutes - July 25, 2017 City Council Special Meeting.**
- b. **Minutes - July 25, 2017 City Council Regular Meeting.**
- c. **Minutes - July 26, 2017 City Council Special Meeting.**
- d. **AB 2253 Approval of FY18 service contract between the City of Sedona and the Sedona Humane Society.**
- e. **AB 2256 Approval of award of a Job Order Contract to Tiffany Construction Company, Inc. in the approximate amount of \$3,660,000 for construction of drainage improvement projects (including projects for the Coffee Pot Drainage Basin and the Brewer Road/Tlaquepaque area of Soldier Wash).**

- f. **AB 2266 Approval of award of a Job Order Contract extension with Cactus Asphalt, Inc. in an amount not to exceed \$1,200,000 for street maintenance projects during FY18.**
- g. **AB 2169 Approval of a Special Event Liquor License for Rotary Club of Sedona Red Rocks for a fashion show fundraiser event scheduled for Thursday, September 7, 2017 from 6:00 to 9:00 p.m. located at the Sedona Public Library, 3250 White Bear Rd, Sedona, AZ.**
- h. **AB 2267 Approval of a Purchase and License Agreement in the approximate amount of \$451,464 between Spillman Technologies and the Sedona Police Department to install a new CAD/RMS System.**
- i. **AB 2262 Approval of a Special Event Liquor License for Red Earth Theatre for an art show opening scheduled for Saturday, September 9, 2017 located at The Hub, 525 B Posse Grounds Rd, Sedona, AZ.**
- j. **AB 2263 Approval of a Special Event Liquor License for Red Earth Theatre for a concert/fundraiser scheduled for Sunday, October 8, 2017 located at The Hub, 525 B Posse Grounds Rd, Sedona, AZ.**
- k. **AB 2265 Approval of 19 Wine Festival Liquor License applications for the Sedona Winefest scheduled for September 23 & 24, 2017, from 11:00 a.m. to 6:00 p.m. at Posse Grounds Park, 525 Posse Grounds Road, Sedona, AZ for the following: Alcantara LLC, Arizona Stronghold Vineyards, Burning Tree Cellars LLC, Caduceus Cellars, Carlson Creek Vineyard LLC, Cellar 433, Chateau Tumbleweed, Fire Mountain Wines LLC, Four Eight Wineworks, Four Tails LLC, Javelina Leap Estate Vineyard, Kief-Joshua Vineyards, Page Springs Vineyards & Cellars, Pierce Wines Arizona LLC, Pillsbury Wine Company, Southwest Wine Center, Su Vino Winery, Village of Elgin Winery, and Winery 101-Gallifant Cellars.**
- l. **AB 2271 Approval of endorsement of the vision statement and goals of the Red Rock Trails Sustainable Funding Work Group.**
- m. **AB 2272 Approval of updates to the Board of Adjustment Hearing Officer Rotation List.**

Item 3d was pulled at the request of Councilor Currivan.

Motion: Councilor Thompson moved to approve consent items 3a, 3b, 3c, 3e, 3f, 3g, 3h, 3i, 3j, 3k, 3l, and 3m. Seconded by Councilor Jablow. Vote: Motion carried unanimously with six (6) in favor and zero (0) opposed.

4. Appointments – None.

5. Summary of Current Events by Mayor/Councilors/City Manager

Councilor Jablow invited everyone to attend a ceremony at the Sedona Fire District's 9-11 Memorial at Station 6 on September 11th at 9:11 a.m. Councilor Thompson advised that there is a documentary entitled "Take Back Your Power" which has been recently updated. It is available for free this week, and he stated that a search for the title along with the name Mercola should allow interested parties to find it.

6. Public Forum – None.

7. Proclamations, Recognitions, and Awards

a. Swearing in and Oath of Office for Police Commander Ron Bayne.

Chief McGill read a biography for Ron Bayne. Judge Goimarac administered the oath of office to Commander Bayne. Commander's Bayne's girlfriend pinned his badge to his uniform, and Chief McGill administered the Code of Ethics.

b. Presentation of GFOA's Certificate of Achievement for Excellence in Financial Reporting.

Mayor Moriarty presented the GFOA's Certificate of Achievement for Excellence in Financial Reporting to Cherie Wright and the entire Finance Department staff.

8. Regular Business

Pulled Consent Item:

3d - AB 2253 Approval of FY18 service contract between the City of Sedona and the Sedona Humane Society.

Questions from Council.

Presentation by Robert Pickels, Jr., Karen Osburn, Justin Clifton, and Austin Gates, Director of the Sedona Humane Society.

Comments from Council.

Motion: Councilor Thompson moved to approve the proposed service agreement between the City of Sedona and the Sedona Humane Society and authorize the City Manager to sign said contract. Seconded by Councilor Jablow. Vote: Motion carried with five (5) in favor and one (1) opposed. Councilor Currivan opposed.

a. AB 2252 Discussion/possible action regarding a resolution and ordinance amending the Sedona City Code, Chapter 6.05 (Humane Animal Control).

Presentation by Robert Pickels, Jr. and Austin Gates Sedona Humane Society Director.

Questions from Council.

Motion: Councilor Lamkin moved to approve Resolution No. 2017-18, a Resolution of the Mayor and Council of the City of Sedona, Arizona, establishing as a public record the terms of proposed amendments to the City Code Chapter 6.05 (Humane Animal Control). Seconded by Councilor Jablow. Vote: Motion carried unanimously with six (6) in favor and zero (0) opposed.

Motion: After 1st reading, Councilor Lamkin moved to adopt Ordinance No. 2017-05, an Ordinance of the City of Sedona, Arizona, amending the City Code Chapter 6.05 (Humane Animal Control); providing for a savings clause; and providing for repeal of any Ordinance or parts of Ordinances or Code provisions in conflict herewith. Seconded by Councilor Jablow. Vote: Motion carried unanimously with six (6) in favor and zero (0) opposed.

b. AB 2160 Discussion/possible action authorizing City Staff to work with the Sedona Historical Society to submit a Certificate of Appropriateness application to the Historic Preservation Commission for consideration to construct a new shade ramada at the City's Jordan Historical Park located at 735 Jordan Road.

Presentation by Warren Campbell.

Questions and comments from Council.

Motion: Councilor Thompson moved to authorize City Staff to work with the Sedona Historical Society to submit a Certificate of Appropriateness application to the Historic Preservation Commission regarding the proposal to construct a shade ramada on the City's Jordan Historical Park, 735 Jordan Road. Seconded by Councilor Jablow. Vote: Motion carried unanimously with six (6) in favor and zero (0) opposed.

- c. AB 2237 Discussion/possible action regarding the construction of the Posse Grounds Dog Park Improvements Project, including but not limited to possible award of a contract to Valwest Construction, in the approximate amount of \$228,548.50 and possible approval of use of additional restricted Parks DIF funding in the amount of \$48,548.50.**

Presentation by Stephen Craver and Andy Dickey.

Questions from Council.

Opened to the public at 6:03 p.m.

The following spoke on this item: Joe Lee Frank, Sedona, Kegn Moorcroft, Village of Oak Creek, and Cynthia Bishop-Weisbaum, Sedona.

Brought back to Council at 6:12 p.m.

Comments from Council.

Motion: Councilor Lamkin moved to approve award of a contract to Valwest Construction, in the amount of \$228,548.50 for the construction of the Posse Grounds Dog Park Improvements Project base bid only, subject to approval of a written contract by the City Attorney's Office and to approve use of additional restricted Parks DIF funding in the amount of \$48,548.50. Seconded by Councilor Jablow. Vote: Motion carried unanimously with six (6) in favor and zero (0) opposed.

Break at 6:17 pm. Reconvened at 6:33 p.m.

- d. AB 2264 Discussion/possible direction regarding the legislative Resolutions to be considered at the Annual Conference of the League of Arizona Cities and Towns.**

Presentation by Robert Pickels, Jr.

Questions from Council.

Discussion only. No direction given.

- e. Reports/discussion on Council assignments – None.**
- f. Discussion/possible action on future meeting/agenda items**

Mayor Moriarty advised that there is a meeting tomorrow at 3:00 p.m. Robert Pickels, Jr. advised that November 15th will be targeted as the legislative round table meeting for Council and the legislative delegation.

9. Executive Session

Upon a public majority vote of the members constituting a quorum, the Council may hold an Executive Session that is not open to the public for the following purposes:

- a. To consult with legal counsel for advice on matters listed on this agenda per A.R.S. § 38-431.03(A)(3).
- b. Return to open session. Discussion/possible action on executive session items.

No Executive Session was held.

10. Adjournment

Mayor Moriarty adjourned the meeting at 6:50 p.m. without objection.

I certify that the above are the true and correct actions of the Regular City Council Meeting held on August 8, 2017.

Susan L. Irvine, CMC, City Clerk

Date

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**Action Minutes
Special City Council Meeting
City Council Chambers, Sedona City Hall,
102 Roadrunner Drive, Sedona, Arizona
Wednesday, August 9, 2017, 3:00 p.m.**

1. Call to Order/Pledge of Allegiance/Moment of Silence

Mayor Moriarty called the meeting to order at 3:00 p.m.

2. Roll Call

Roll Call: Mayor Sandy Moriarty, Councilor John Currivan, Councilor Scott Jablow, Councilor Tom Lamkin, Councilor Jon Thompson, Councilor Joe Vernier. Vice Mayor John Martinez was absent and excused.

Staff Present: City Manager Justin Clifton, Assistant City Manager Karen Osburn, City Attorney Robert Pickels Jr., Director of Public Works and City Engineer Andy Dickey, Engineering Supervisor Stephen Craver, Deputy City Clerk JoAnne Cook.

3. Special Business

a. AB 2268 Discussion/possible direction regarding development of next steps toward a transportation action plan.

Presentation by Justin Clifton, Stephen Craver, Andy Dickey, and Karen Osburn.

Questions and comments from Council.

Opened to the public at 3:45 p.m.

The following spoke on this item: David Ellis, Oak Creek Canyon, Mark Allen, Sedona, Michele Braun, Sedona, on behalf of the HOA at North View, Marcie Ellis, Oak Creek Canyon, and Chetan Kane, Sedona.

Brought back to Council at 3:58 p.m.

Additional questions and comments from Council.

By majority consensus, Council agreed with staff's proposed action plan for moving forward with the following projects:

- **Uptown Sedona Roadway Improvements**
- **Uptown Sedona Pedestrian Improvements**
- **Uptown Sedona Parking Improvements**

Justin Clifton advised that this item would be continued at a future meeting date.

b. Discussion/possible action on future meeting/agenda items - None.

4. Executive Session

Upon a public majority vote of the members constituting a quorum, the Council may hold an Executive Session that is not open to the public for the following purposes:

- a. To consult with legal counsel for advice on matters listed on this agenda per A.R.S. § 38-431.03(A)(3).**
- b. Return to open session. Discussion/possible action on executive session items.**

No Executive Session was held.

5. Adjournment

Mayor Moriarty adjourned the meeting at 5:12 p.m. without objection.

I certify that the above are the true and correct actions of the Special City Council Meeting held on August 9, 2017.

JoAnne Cook, Deputy City Clerk

Date



City of Sedona Proclamation Request Form

Full Name of Contact Person	Jennifer Hernandez
Contact Phone Number	928-607-9018
Contact Mailing Address	2415 E Camelback Rd. PHX AZ 85016
Contact Email Address	jennifer@expectmorearizona.org
Group, Organization, Activity or Event Being Recognized (Please make sure you provide complete and current information about the group or event)	Arizona Education Progress Meter
Website Address (if applicable)	www.expectmorearizona.org/progress
Name of the sponsor(s) of the Proclamation (2 Council members or the City Manager)	Justin Clifton
What is the proclaimed day, days, week or month? (e.g. 10/11/12, October 11-17, 2012, October 2012)	September 12, 2017
Would you like to attend a Council meeting for formal presentation of the Proclamation or would you like to pick it up?	<input checked="" type="checkbox"/> Presentation at Meeting <input checked="" type="checkbox"/> Pick up Proclamation
If you would like the Proclamation presented at a Council meeting, please provide the full name and contact information (phone number and email address) of the party who will accept it on behalf of the group.	Jennifer Hernandez, Expect More Arizona, 928-607-9018, jennifer@expectmorearizona.org, and Evelyn Casuga, Center for the Future of Arizona,(520) 705-8628, Evelyn.Casuga@gmail.com

Provide information about the organization/event including a mission statement, founding date, location and achievements.

In February 2016, Expect More Arizona and the Center for the Future of Arizona – both nonpartisan, nonprofit organizations – launched the Arizona Education Progress Meter. The Education Progress Meter represents key milestones on the path to improving educational opportunities and outcomes for all Arizonans. Progress made in each area will ultimately create a more prosperous economy, ensure students have the knowledge and credentials necessary for good jobs and improve the civic health of communities.

It will take local communities, like Sedona, leading the way to make significant progress on these indicators and to help the state reach its postsecondary attainment goal—60% of Arizona adults will have a degree or industry credential by 2030. Therefore, it is critical to support local municipalities in adopting the Education Progress Meter and improving one or more of the indicators locally. To date, more than 10 local governments across the state, including the City of Flagstaff, the City of Cottonwood and the Coconino County Board of Supervisors have proclaimed their support for this statewide road-map for education and ultimately, economic prosperity.

Please explain why this Proclamation and any events accompanying it are important to the Community and are consistent with the City’s vision statement and Community Plan goals. What is the clear reason for the Proclamation and why are you requesting this honor? What activities/events are planned around this Proclamation and how do you plan to promote this to the community?

The City of Sedona’s Community Plan (2013) recognizes the need for a community that supports a diverse and prosperous economy. We believe that education is a critical component of a community’s economic prosperity, quality of life and civic health. Excellence in education requires students who are motivated and ready to learn, involved parents, trained and committed educators, informed voters, an engaged business community, and capable and supportive elected officials.

Via Proclamation, we request that City of Sedona acknowledge the need to make education a top priority in the community in order to ensure a strong economic future and a higher quality of life for everyone. We ask the City to support the statewide attainment goal of 60% by 2030.

We will celebrate the City’s commitment with recognition on our website and through traditional and social media . We will make digital and printed education resources available to City of Sedona, and we will seek out opportunities to highlight the City’s efforts to positively impact the quality of education in the community.

Please include a draft of the proposed Proclamation with this request, preferably a Word file in electronic format.

*Office of the Mayor
City of Sedona, Arizona*



**Proclamation
Supporting a Statewide/Citywide Attainment Goal
& World Class Education for All Students**

WHEREAS, the City of Sedona recognizes that we have to make education a top priority in our community to ensure a strong economic future and a higher quality of life for everyone; and

WHEREAS, the City of Sedona understands that our future economy and workforce demands will require more than a high school diploma, and only 42% of Arizona adults currently possess a degree, certificate, or industry credential; and

WHEREAS, the City of Sedona recognizes the need to improve educational attainment across the state and in our local community and supports the statewide attainment goal of 60% by 2030; and

WHEREAS, Expect More Arizona and the Center for the Future of Arizona, statewide, nonpartisan organizations, have launched an Arizona Education Progress Meter by which we can measure our progress on attainment and other key education indicators; and

WHEREAS, the City of Sedona believes in the importance of the community coming together and the significance of partnerships to achieve big goals and tackle large issues like those defined by the Arizona Education Progress Meter.

NOW, THEREFORE, I, SANDY MORIARTY, MAYOR OF THE CITY OF SEDONA, ARIZONA, ON BEHALF OF THE SEDONA CITY COUNCIL, hereby proclaim that we support the statewide attainment goal of 60% by 2030, support the Arizona Education Progress Meter as a tool to make progress toward the attainment goal by tracking the priority indicators for our local community, and affirm that we are a World Class Education Partner with Expect More Arizona and the Center for the Future of Arizona and will work together to advance this shared vision for education.

Issued this 12th day of September, 2017.

Sandra J. Moriarty, Mayor

ATTEST:

Susan L. Irvine, CMC, City Clerk

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City of Sedona Proclamation Request Form

Full Name of Contact Person	Roberta Rust
Contact Phone Number	480-294-7241
Contact Mailing Address	20 Rue de Lynn Lane
Contact Email Address	bertier1@earthlink.net
Group, Organization, Activity or Event Being Recognized (Please make sure you provide complete and current information about the group or event)	National Society Daughters of the American Revolution requesting Proclamation for "National Constitutional Week" September 17-23 2017
Website Address (if applicable)	
Name of the sponsor(s) of the Proclamation (2 Council members or the City Manager)	Sandy Moriarty Mayor of Sedona John Martinez Vice Mayor of Sedona
What is the proclaimed day, days, week or month? (e.g. 10/11/12, October 11-17, 2012, October 2012)	The "National Proclamation Day" is September 17-23 2017
Would you like to attend a Council meeting for formal presentation of the Proclamation or would you like to pick it up?	<input checked="" type="checkbox"/> Presentation at Meeting <input type="checkbox"/> Pick up Proclamation
If you would like the Proclamation presented at a Council meeting, please provide the full name and contact information (phone number and email address) of the party who will accept it on behalf of the group.	Donna Pratt NSDAR Oak Creek Chapter Regent e mail address (donnapratt@centurylink.net) telephone 928-282-6428

Provide information about the organization/event including a mission statement, founding date, location and achievements.

The National Society Daughters of the American Revolution was founded 1890 and is headquartered in Washinton D. C. The NSDAR is a non-profit, non-political, and a volunteer women's service organization dedicated to promoting patriotism, preserving "American History" and securing American future for a better education for children and community. The NSDAR Oak Creek hapter was founded June 26, 2006. The Chapter was preceded by the Kachina Chapter which was established in 1970. Several of the members of Kachina are active in our chapter.

Please explain why this Proclamation and any events accompanying it are important to the Community and are consistent with the City's vision statement and Community Plan goals. What is the clear reason for the Proclamation and why are you requesting this honor? What activities/events are planned around this Proclamation and how do you plan to promote this to the community?

The National Society Daughters of the American Revolution Oak Creek Chapter wish to address, "Proclamation" application with City of Sedona to recognize "National Constitutional Week" September 17-23 2017. Public law 915 quarantees the issuing of a "Proclamation" each year for "National Constitutional Week is recognized by our President of the United States each year "National Constitutional Week" designating September 17-23 2017. We are asking our citizens to reaffirm the "ideas" the framers of the "Constitution" had in 1787. The NSDAR Oak Creek Chapter members place a display on the "Constitution" in the Sedona Library between September 17-23 2017. There will be information on the Constitution and a display in the Children's Library for the public to read about our Nations Constitution.

Please include a draft of the proposed Proclamation with this request, preferably a Word file in electronic format.

Office of the Mayor
City of Sedona, Arizona



Proclamation
CONSTITUTION WEEK
September 17 through 23, 2017

WHEREAS, September 17, 2017 marks the two hundred and thirtieth anniversary of the drafting of the Constitution of the United States of America by the Constitutional Convention; and

WHEREAS, it is fitting and proper to officially recognize this magnificent document and the anniversary of its creation; and

WHEREAS, it is fitting and proper to officially recognize the patriotic celebrations that will commemorate the occasion; and

WHEREAS, public law 915 guarantees the issuing of a proclamation each year by the President of the United States of America designating September 17th through 23rd as Constitution Week,

NOW, THEREFORE, I, SANDY MORIARTY, MAYOR OF THE CITY OF SEDONA, ARIZONA, ON BEHALF OF THE SEDONA CITY COUNCIL, do hereby proclaim September 17 through 23, 2017 to be **CONSTITUTION WEEK** in Sedona, Arizona, and ask our citizens to reaffirm the ideals the Framers of the Constitution had in 1787.

Issued this 12th day of September, 2017.

Sandra J. Moriarty, Mayor

ATTEST:

Susan L. Irvine, CMC, City Clerk

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**CITY COUNCIL
AGENDA BILL**

**AB 2269
September 12, 2017
Consent Items**

Agenda Item: 3e
Proposed Action & Subject: Approval of the donation of a bronze statue of a police canine from the Friends of Police to be placed in the City Hall Plaza in front of the Police Department Building.

Department	Arts & Culture
Time to Present	N/A
Total Time for Item	
Other Council Meetings	N/A
Exhibits	A. Donation Agreement B. K-9 Sculpture Sketch C. Map of Proposed Location

City Attorney Approval	Reviewed 9/5/17 RLP	Expenditure Required	\$ 0
City Manager's Recommendation	Approve the donation of the bronze canine statue.	Amount Budgeted	\$ 0
		Account No. (Description)	N/A
		Finance Approval	<input checked="" type="checkbox"/>

SUMMARY STATEMENT

Background: Friends of Police would like to donate a police dog bronze sculpture modeled in the likeness of Dalan, the City of Sedona's retired police dog. Sculptor Neil Logan has been commissioned to complete the bronze to be installed in front of the Police Department. In the future, an officer memorial sculpture is proposed to be installed adjacent to the K-9 sculpture.

The Friends of Police have commissioned the sculpture for \$26,000. They are currently in the process of fundraising and are targeting January 2018 for installation.

Community Plan Consistent: Yes - No - Not Applicable

Board/Commission Recommendation: Applicable - Not Applicable

Alternative(s): Do not approve the donation of a police canine sculpture from Friends of Police.

MOTION

I move to: approve the donation of a bronze statue of a police canine from the Friends of Police to be placed in the City Hall Plaza in front of the Police Department Building.



**Agreement Between
City of Sedona
and
Friends of Police
for donation**



THIS AGREEMENT, entered into this 12th day of September, 2017, is by and between the City of Sedona (the "City"), a municipal corporation, and Friends of Police, Linda Brecher, Chairman, (the "Donor") 785 Kachina Drive, Sedona, AZ 86336.

WHEREAS the Donor and the City recognize the importance of park facilities and amenities; and

WHEREAS the Donor has offered to donate one K-9 bronze sculpture and bronze officer to come.

NOW, THEREFORE, the City and the Donor, for the consideration and under the described conditions and obligations, hereinafter set forth and agree as follows:

- Section 1. The donation, known as *K-9 Police Statue*, as described below, is donated in its entirety to the citizens of Sedona to be hereafter owned by the City of Sedona and managed on behalf of the citizens by the Arts and Culture Division.
- Section 2. Description: K-9 Bronze Police Statue will be approximately 36 inches x 40 inches and stand on a red rock base. The proposed officer memorial will have one foot on the rock and the other on the ground. The overall item when completed will be 4 feet x 4 feet.
The artist is Neil Logan.
Park or Facility: City of Sedona plaza
Location: In front of the police station.
Contributed by Friends of Police.
- Section 3. The City reserves the right to move/remove and/or retire the said donations following cessation of a five-year period. The five-year period shall commence upon the date entered into and indicated above. The City of Sedona will notify Friends of Police, if and when the department relocates. The statue would relocate with the department with future location approval from City Council to come.
- Section 4. Maintenance
The City shall be responsible for maintenance of the item, including any reasonable repairs, and will have the discretion to not replace and/or repair the donation, if it is deemed damaged beyond reasonable repair and/or replacement, suffers repeated vandalism, and/or expires prior to cessation of the five year period. Maintenance or replacement of the item will be at the City's sole discretion.

Section 5. Term

The initial term of this agreement shall be five years. Following cessation of the five year period, the City may treat the donation, as it would any other City property similar in nature. This item is a lifetime gift to the City of Sedona.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their duly authorized officials on the date set forth above.

Sandra J. Moriarty, Mayor
City of Sedona
102 Roadrunner Drive
Sedona, Arizona 86336

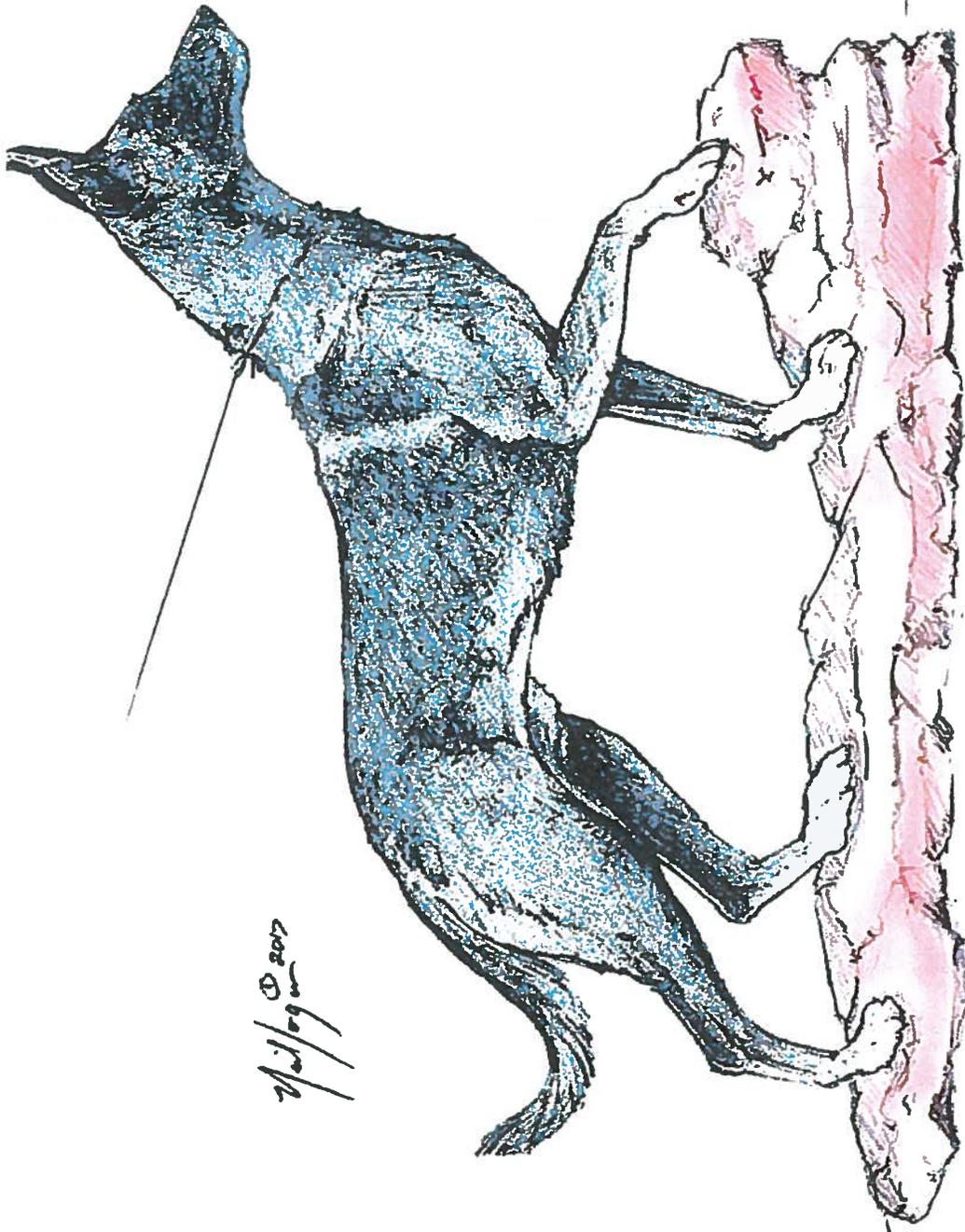
Linda Brecher, Chairman
Friends of Police
785 Kachina Drive
Sedona, AZ 86336

ATTEST:

Susan L. Irvine, CMC, City Clerk

Approved as to form:

Robert L. Pickels, Jr., City Attorney



Neil Logan 2007

Neil

Neil

ground level concrete slab
REAL Red Rocks embedded
Leash is for future addition
easily added at later time

Overall 4' x 4'
K-9 approx 39" x 40"
Artist: NEIL LOGAN

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Legal

HR / Finance

Proposed Site Location



Police Department

Community Development

City Clerk/
Court

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CITY COUNCIL
AGENDA BILL

AB 2270
September 12, 2017
Consent Items

Agenda Item: 3f
Proposed Action & Subject: Approval of appointments of Thomas Freestone and Ronald Ramsey as Magistrates Pro Tem for the Sedona Municipal Court.

Department: Municipal Court
Time to Present: N/A
Total Time for Item:
Other Council Meetings: None
Exhibits: A. Resumes and Information on the candidates

Table with 2 columns: City Attorney Approval, City Manager's Recommendation, Expenditure Required, Amount Budgeted. Includes details like 'Reviewed 9/5/17 RLP', 'N/A', '\$ 5,000', and 'Finance Approval' with a checked box.

SUMMARY STATEMENT

Background: A Pro Tem Judge is a judge that serves on an on-call basis when the Presiding Judge is not available due to illness, training, vacation, or when it is necessary for the Presiding Judge to recuse himself due to a conflict-of-interest.

Thomas Freestone and Ronald Ramsey are both persons of high integrity with a wealth of judicial experience. They both live within the Verde Valley. Information outlining their background and experience is submitted herewith. Pro Tem Judges are paid at a rate of \$50 per hour.

Community Plan Consistent: [] Yes - [] No - [x] Not Applicable

Board/Commission Recommendation: [] Applicable - [x] Not Applicable

Alternative(s):

MOTION

I move to: approve the appointments of Thomas Freestone and Ronald Ramsey as Magistrates Pro Tem for the Sedona Municipal Court.

Tom Freestone

Tom Freestone is a fourth generation Arizonan. His political career can best be described as a political cornucopia. During his lifetime he has worn a variety of hats in the political arena and his political experience has a broad spectrum that ranges from a concerned citizen of Arizona to an elected official.

His long history of politics began in his twenties as a Constable and flourished into a political legacy that few Arizonans have equaled. His political career has encompassed three branches of government; executive, legislative and judicial. He also served in the administrative/operational end of government.

He has served as a Maricopa County Auto License Administrator, Maricopa County Recorder, on the Maricopa County Board of Supervisors for fifteen years, as a member of the Executive Board of Clemency/Pardons and Parole Board, State Senator and Justice of the Peace.

During his tenure as a Maricopa County Supervisor he became well known for his insight in infrastructure within Maricopa County. Some of his many East Valley projects include; countless miles of roadway, construction of five bridges across the Salt River, Senior Citizen Centers in nearly every East Valley city, flood control dams and channels, libraries, Animal Control and job training facilities, funding for and the expansion of the Child Crisis Center, a food bank, the South East Regional Complex, and the Freestone Rehabilitation Center for individuals with developmental disabilities in conjunction with the Marc Center.

As a department administrator in the County Recorder and Auto Licensing Department he made necessary budget cuts and staff reductions to lower taxes while improving customer service and quality care to his constituents. His mission has always been to improve government services for Arizona's citizens, without raising their taxes.

He is an environmental conservationist; he led a campaign to improve our environment by planting a million trees within the county. With the help of all of the cities and towns involved and countless individuals, they accomplished their goal. He implemented a hotline to report illegal desert dumping and environmental risks taking place in Maricopa County's open spaces and was invited to give a presentation on Desert Reforestation at the Helsinki Commission. He served on the Greater Phoenix Economic Council and on over sixty boards and commissions throughout his career.

Tom Freestone has been honored for his outstanding service to many cities and organizations such as; the city of Gilbert who named a regional park—Freestone Park to honor him, the City of Mesa named him Man of the Year, the MARC Center built a rehab center and gives a yearly award in his name, and the Arizona Newspaper Association recognized his leadership by calling him one of Arizona's best legislators. He is known for his fair and equal treatment of others and for his open door policy.

Not only is he a public servant to the citizens of Arizona, but to his family as well. He has been married to his wife Phyllis for forty six years and has four children and fourteen grandchildren. He served on two past missions for his church, was a Boy Scout leader, and he still finds the time to continue to serve on numerous boards and commissions while he also serves in various courts as a Judge Pro Tem.



250 East First Avenue
Mesa, Arizona 85210

mesaaz.gov

March 27, 2013

Judicial Selection Advisory Board
Sedona Municipal Court
Sedona, Arizona 86351

Re: Tom Freestone

Distinguished Members of the Board:

I am honored to write this letter to urge your favorable consideration toward the appointment of Tom Freestone as Judge of the Sedona Municipal Court. I have been a Judge for 29 years and the last 10 years I have served as the Presiding Judge of the Mesa Municipal Court. I have known Tom for over 10 years in a social and professional capacity. I do recommend Tom for the position **without reservation** and this is why: He has a combination of common sense and an innate knowledge of how a court should be managed not only to administer justice to those appearing in court but in reducing the workload and jail cost through sound case management principals. Tom is down-to-earth and has the ability to lead and bring together in a consensus fashion all the stake holders for the efficient operation of the court such as the prosecutor, police, and the defense bar.

Over the years I have met with Tom for two to four hours at a time on numerous occasions here at the court to discuss solutions to issues plaguing the courts that can be implemented with the institutional courage to make common sense decisions that are the right thing to do for the users of the court and the community. **What you have in Tom is a person that cares.** He truly believes that the courts are a sanctuary for neutrality free from bias and prejudice guaranteeing each person a fair and impartial hearing.

Tom has maintained a well-deserved reputation as a hardworking, energetic individual who is never averse to working extra hours to insure that the job is done completely, competently and correctly. He is a person of high principles who has confidence, wisdom, and a very sound knowledge of the law and its application. One of his strongest points is his down-to-earth, unassuming personality coupled with common sense and an innate ability to get along with people, even in the most adverse of situations. His powerful sense of commitment and fairness to people makes him an outstanding judge.

Judicial Selection Advisory Board

Judicial Selection Advisory Board
March 27, 2013
Page Two

As can be seen I hold Tom in high esteem. If you appoint Tom, my expectations are such that history would prove him to be one of the top jurist ever to sit on the Sedona Municipal Court. Please do not hesitate to call me if I can be of any further assistance.

Sincerely,



J. Matias Tafoya
Presiding Judge of the Mesa Municipal Court
Work: 480-644-4647
Cell: 602-571-6288

JMT: eda

To whom it may concern:

I am very pleased to highly recommend Mr. Tom Freestone for the position of Sedona Magistrate.

I have known Mr. Freestone for fifteen years. As a former justice of the peace in Maricopa County, Tom has always been a great resource for me, given his wealth of knowledge and experience as an elected official and judge. He is an excellent and experienced jurist, and a very kind, compassionate and thoughtful person.

Moreover, I can tell you first-hand that Mr. Freestone would make a great judge for the Sedona court, because he has served in my court as a *pro tem* judge many times. Tom is efficient, thorough, fair, and exceedingly patient. His demeanor on the bench is exemplary. My staff loves working with him.

A polite and dignified demeanor is a very important quality for a *pro tem* justice of the peace to have, because JPs are elected and therefore answerable to the voters for their treatment of litigants. I never have any cause for concern when Mr. Freestone sits in my place. I know he'll do an impeccable job, both in terms of what he does and how he does it.

I hope you find this information helpful. Feel free to contact me if you need more insights as to Mr. Freestone's excellent qualifications.

Yours,

Frank J. Conti

Justice of the Peace

Dreamy Draw Justice Court

www.contiforjustice.com

Judge Daniel A. Barker, Ret.

*Arizona Court of Appeals
Maricopa County Superior Court
2838 East Cotton Court
Gilbert, Arizona, 85234
dbarker@azbar.org
480-250-0789*

April 1, 2013

Re: Judge Tom Freestone

To Whom It May Concern:

It has come to my attention that Judge Tom Freestone has applied for the position of Magistrate of Sedona.

I wish to give my whole-hearted and unequivocal support to Judge Freestone's application for this position. I have known Judge Freestone for over twenty years. I met him first when he was a county supervisor and then when he served in the state senate and, finally, in his various judicial roles as a Justice of the Peace and in other pro tem capacities.

As a retired judge on the Arizona Court of Appeals and the Maricopa Superior Court, where I served for a combined twenty years, I think I am able to identify those judges who instill public confidence in the judiciary and are a credit to the communities they serve. Judge Freestone is such a judge. He would make an outstanding city magistrate for Sedona. Please give him every consideration.

Do not hesitate to contact me if I can be of further assistance.

Sincerely,



Judge Daniel A. Barker, Ret.

Marc Community Resources, Inc.

April 2, 2013

2013 Board of Directors

Officers of the Board

Brian C. Middleton
Chairman

Jon Scott Williams
First Vice Chair

Deborah Elliott
Secretary

Jeffery A. Buehrle, CPA
Treasurer

Dlane Hough
Member-at-Large

Chris Schneck
Member-at-Large

Brian Koisur
Immediate Past Chair

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Don Fowls, MD
Tom Freestone
Harold D. Fuller, Ed.D.
Randall L. Gray
Chief Frank Milstead
Barbara Rabe
Holly Williams

Members Emeritus

John F. Clark
Joanle L. Flatt
William J. Gosney
Maynard Schneck

President & CEO

Randall L. Gray

General Counsel

John D. Belthea
Fennemore Craig

Dear Panel:

Over the past 35 years, I have been asked to write numerous letters of reference on behalf of individuals for honorary positions and appointments. The honor of recommending Tom Freestone as Magistrate for the City of Sedona ranks as one of the most significant letters of endorsement I have written.

I have known Tom on both a personal and professional level for almost 40 years. Over this period of acquaintance, Mr. Freestone has brought forth a commitment, a dignity, and a high level of integrity to his positions with Maricopa County and as an elected official on the County Board of Supervisors, State Legislature and within the judicial system. He is recognized by all who know him as possessing the admiral characteristics of competence and personality and has developed an outstanding reputation.

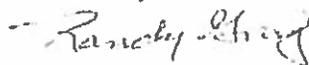
The Honorable Tom Freestone has demonstrated the ideals of "service above self", always making himself available as a volunteer to improve the quality of life for citizens who need assistance. In addition to a lifetime of service as an elected official, Tom has also been active with several community organizations, including the Mesa Chamber of Commerce, Mesa United Way, East Valley Partnership, and numerous other nonprofit organizations. He currently serves as a member of the Marc Community Resources, Inc. Board of Directors, an organization that has served children and adults with disabilities since 1957.

Of even greater significance are his volunteer efforts; his personal credo is notably simple – the more one gives, the more one receives in return. So trite, yet so appropriate and filled with significance when I look back to see how one person has made such a strong positive impact upon the lives of people in his community. His ethics are beyond reproach and he has truly demonstrated to his profession and to the community his high regard for the legal profession.

Mr. Freestone has gained a high level of recognition and acceptance, not only because of his competence, but because of his core values...accountability, doing the best, compassion, honesty, empathy, fairness, respect, social justice, trust...these are the values that have shaped the foundation in his profession and in his daily life. These are the values that are a source of his strength and intellect and would make him an outstanding magistrate for the City of Sedona.

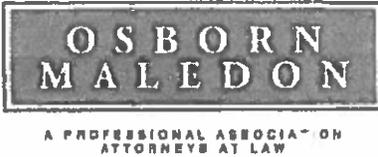
If I may provide any additional information, please feel free to contact me at 480.969.3800 or randy.gray@marccr.com.

Sincerely,



Randall L. Gray
President & CEO

RLG/bjs



Colin F. Campbell

ccampbell@omlaw.com

Direct Line 602.640.9343

2929 North Central Avenue
21st Floor
Phoenix, Arizona 85012

Telephone 602.640.9000
Facsimile 602.640.9150
omlaw.com

April 1, 2013

Via E-Mail

Mayor and Council
City of Sedona

Re: Judge Tom Freestone

Dear Mayor and Council:

From June 2000 to July 2005, it was my privilege to serve as Presiding Judge for Maricopa County. While the position had its burdens, one of its delights was working with Judge Tom Freestone. Chief Justice Charles Jones had instituted a reform of the lower courts, both Municipal Court and Justice Courts. Judge Freestone, with his prior extensive political experience, was invaluable for both his insights and willingness to navigate these reforms to fruition.

Judge Freestone's judicial demeanor is outstanding. He truly has the simple common touch of listening intently and then firmly resolving cases. I doubt there is anyone who would be as good a Magistrate for the citizens of Sedona. He also has a firm grasp of budgets, management and the political issues surrounding the governance of counties and towns. Judge Freestone has my highest recommendation. If there is anything further I can do to assist this long time public servant, please call me.

Sincerely,

Colin F. Campbell

CFC:ne

RONALD C. RAMSEY

CURRENT POSITION

Assistant City Attorney, City of Sedona. Assumed this position in September 2004 as part of a job-sharing agreement with current assistant, Gene Neil. Arrangement for 3 days per week (usually Wed-Fri), now that Gene left the city. Primary tasks now are Planning & Zoning Commission; elections; policy reviews; department documentation of agenda items on the Novell GroupWise 7.0 intranet; preparation of new self-teaching modules for new employees on PR requests, email, and basic legal information; scanning of civil memos and forms into TimeMatters 9.0 software, and PR request/e-mail production policy with associated software. Position eliminated June 2016.

Clarkdale magistrate since June 2010. Completed the New Judge Orientation (NJO) in April 2011.

PRIOR POSITION

City Attorney, City of Bullhead City from April 2002- Sep 2004. Staff of 12 in department, including 5 attorneys (3 prosecutors). Recent civil work included formation of CFDs, annexation, revisions to zoning codes for civil enforcement procedures using ARS 9-500.21, enforcement of wastewater and abatement liens, condemnation for storm water facilities, multi-agency negotiations for Colorado River bridge, coordination with outside litigation counsel on pending cases, obtaining tariff through ACC for water service turnoff on delinquent sewer bills, participation in redistricting lawsuits, development agreements for planned communities, revisions to public records and retention policies

COMPUTER TRAINING

Windows XP, WESTLAW, Lexis, Office XP/2003, Mac OS X, internet browsers, Novell GroupWise 7.0, Blackboard 6.0, Adobe Acrobat Pro 6.0, Lexis TimeMatters 9.0. Prepared first Town of Camp Verde website using FrontPage, and prepared Internet paralegal courses (*Environmental Law*, *Digital Media Copyright Law*, *Native American Law* and *Elder Law*) for Yavapai College (<http://www.yc.edu>). Trademarked “*Arizona Public Lawyers?*” in Arizona to set up online collaboration for public lawyers using Windows SharePoint Services (2003). Continue to work as adjunct with University of Phoenix for online classes in graduate and Axia divisions using proprietary software.

EDUCATION

- Purdue University, B.A., 1967
- J.D., Arizona State University 1974, law review (*Law & Social Order*)
- Completed Masters in Education in Online Instruction [MS.Ed] with

California State University, Hayward, 2003

PROFESSIONAL EXPERIENCE

- Associate with Wolfinger & Lutey, Prescott, 1974-1976
- Private solo practice in Verde Valley, 1976-1996, with focus on real estate, business, and estate planning. Managed two branch offices and supervised paralegal/secretarial staff of up to 5 at a time
- City Attorney, Cottonwood, 1977-80
- Town Attorney, Town of Camp Verde, 1986-June 2001

ADDITIONAL PROFESSIONAL ACTIVITIES

- Adjunct Faculty, Yavapai College, teaching business and paralegal courses, 1976-2007, in classrooms and over the Internet
- Assisted League in drafting new legislation for civil enforcement of municipal ordinances (codified in [ARS 9-500.21](#))
- Received 2001 McClurg Award from Yavapai College as outstanding adjunct faculty
- Teaching graduate business and multiple undergraduate courses online for University of Phoenix/AXIA college last 13 years

PROFESSIONAL MEMBERSHIPS

- Member of State Bar of Arizona (Bar No. 3980), U.S. District Court, Ninth Circuit, U.S. Supreme Court
- Community College teaching certificate for the State of Arizona in law (submitting application to add business) since 1977

COMMUNITY ACTIVITIES

- Kiwanis member 1976- 2002 in Clarkdale/Camp Verde
- High School Youth Group leader with *Young Life* and Calvary Chapel

REFERENCES

- Susan Howery, Prescott Valley Campus Dean, Yavapai College
- Mike Goimarac, City Attorney, Sedona

INTERESTS AND ACTIVITIES

Photography, Grand Canyon hiking, travel, gardening, running events, grandkids, film festivals, Disney cruises!

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**CITY COUNCIL
AGENDA BILL**

**AB 2246
September 12, 2017
Consent Items**

Agenda Item: 3g
Proposed Action & Subject: Approval of a Special Event Liquor License for Friends of the Sedona Library for a fund raising event scheduled for Sunday, November 12, 2017 from 4:00 to 6:30 p.m. located at the Sedona Public Library, 3250 White Bear Rd, Sedona, AZ.

Department	City Clerk
Time to Present	N/A
Total Time for Item	
Other Council Meetings	N/A
Exhibits	Special Event Liquor License Application is available for review in the City Clerk's office.

City Attorney Approval	Reviewed 9/5/17 RLP	Expenditure Required
		\$ 0
City Manager's Recommendation	Approve a Special Event Liquor License for the Friends of the Sedona Library.	Amount Budgeted
		\$ 0
		Account No. N/A (Description)
		Finance <input checked="" type="checkbox"/> Approval

SUMMARY STATEMENT

Background: State liquor laws require the City of Sedona's governing body to approve or disapprove applications for a Special Event Liquor License [A.R.S. § 4-203.02.A].

Friends of the Sedona Library has submitted an application for a Special Event Liquor License for the Festival of Wreaths, a fund raising event, scheduled for Sunday, November 12, 2017 from 4:00 to 6:30 p.m. located at the Sedona Public Library, 3250 White Bear Rd, Sedona, AZ.

A Special Event Liquor License is a temporary, non-transferable, on-sale retail privileges liquor license that allows a charitable, civic, fraternal, political or religious organization to sell and serve spirituous liquor for consumption only on the premises where the spirituous liquor is sold, and only for the period authorized on the license. The applicant for a special event license must request a special event application from the State and file the application with the governing body of the city or town, or Board of Supervisors of an unincorporated area of a county, where the special event is to take place, for approval or disapproval. If the

application is approved by the local authority, and the event meets the requirements for granting the license, the director will issue a special event license to the qualifying organization. Qualifying organizations will be granted a special event license for no more than ten (10) days in a calendar year. Events must be held on consecutive days and at the same location or additional licenses will be required. The license is automatically terminated upon closing of the last day of the event or the expiration of the license, whichever occurs first. The qualified organization must receive at least twenty-five percent (25%) of the gross revenues of the special events.

Community Development, Finance, Parks and Recreation, the Sedona Police Department (SPD), and Sedona Fire District (SFD) have conducted a review of the application. No objections were noted.

Community Plan Consistent: Yes - No - Not Applicable

Board/Commission Recommendation: Applicable - Not Applicable

Alternative(s): Do not approve the Special Event Liquor License application for Friends of the Sedona Library for a fund raising event scheduled for Sunday, November 12, 2017 from 4:00 to 6:30 p.m. located at the Sedona Public Library, 3250 White Bear Rd, Sedona, AZ.

MOTION

I move to: approve the Special Event Liquor License application for Friends of the Sedona Library for a fund raising event scheduled for Sunday, November 12, 2017 from 4:00 to 6:30 p.m. located at the Sedona Public Library, 3250 White Bear Rd, Sedona, AZ.



**CITY COUNCIL
AGENDA BILL**

**AB 2274
September 12, 2017
Regular Business**

Agenda Item: 8a

Proposed Action & Subject: Discussion/possible direction to provide official City comments to the Forest Service in response to a draft National Environmental Policy Act (NEPA) study which assesses three possible alternatives to create an access easement for the construction of a private road to Coconino County parcels 408-27-003 C, E, and F, located across Oak Creek from Poco Diablo Resort and Chavez Crossing Campground in Sedona.

Department	City Manager
Time to Present	20 minutes
Total Time for Item	2 hours
Other Council Meetings	April 5, 2007, April 10, 2007, October 23, 2007, January 8, 2008, February 12, 2008, December 13, 2011
Exhibits	<ul style="list-style-type: none"> A. Draft Environmental Assessment - 2017 B. Council letter to USFS – 2011 C. Council letter to USFS - 2007 D. Council packet December 2011 E. 2017 Notice Letter from USFS F. USFS Tobias/Flynn Access PowerPoint Presentation

City Attorney Approval	Reviewed 9/5/17 RLP	Expenditure Required
		\$ 0
City Manager's Recommendation	Discuss and provide direction regarding comments to the draft EA for Tobias Flynn property access.	Amount Budgeted
		\$ 0
		Account No. N/A (Description)
		Finance <input checked="" type="checkbox"/> Approval

SUMMARY STATEMENT

Background: For more than a decade, the Coconino National Forest has been assessing options for a proposed permit/easement for the construction, operation, and maintenance of an access road to the 27-acre Tobias-Flynn private land parcel under the National Environmental Policy Act. The proposed action would provide access across Coconino National Forest land to private land in accordance with a judgment rendered by the United States District Court for the District of Arizona in September of 2002.

The City Council began discussing this item in 2007, continued discussions in 2008, and then again considered this item in 2011. Previous City Councils made formal comment to the

Coconino National Forest (USFS) in 2007 and 2011 regarding the then proposed alternatives. The letters sent to the USFS in 2011 and 2007 are attached as Exhibits B & C. The most recent letter documented Council's strong opinion that the best solution was for the property owners to work with the adjacent Oak Creek Cliffs neighborhood to reach an access agreement along the Oak Creek Cliffs Drive alignment through private property. Understanding that may not be possible, given a choice between only the alternatives through USFS property, they preferred Alternative D to avoid the construction of a bridge over Oak Creek and the potential impact to the riparian area. The entire Council packet from 2011 is included as Exhibit D.

Since 2011, the USFS has continued its environmental assessment process and released an updated EA on August 17, 2017. Staff is seeking direction/comment from City Council on the new EA, since the USFS is again seeking public comment in hopes of selecting a preferred alternative. Per USFS rules, the City of Sedona will have to provide written comment by September 17, 2017 to be eligible as appellants as any comments provided after that date will not constitute standing for appeal purposes.

2017 Environmental Assessment

The analysis area is located in the City and is bordered on the east by Oak Creek Cliffs, Doodle Bug, and Poco Diablo Villa subdivisions. Coconino National Forest lands border the private parcel on all other sides. The 27-acre subject property is zoned RS-35 (Single Family Residential), which would allow a maximum of 27 lots on the property, although fewer lots are likely due to the subject property's difficult/steep topography. The proposed access roads are proposed to be private and gated. The property owners would be required to process a subdivision through the City of Sedona to develop the property.

The Forest Service's Preliminary Environmental Assessment (EA) is attached as Exhibit A. Additional materials including a summary of public comments and various appendices can be found at: <https://www.fs.usda.gov/project/?project=15870>.

The Forest Service evaluated the following alternatives:
Maps of each alternative are included in the EA.

Alternative A. This alternative does not allow road access on National Forest as a baseline (No Action). No Action will be used as a baseline with which to compare the expected effects of implementing the proposed access. This alternative is not an option given the court judgment that the USFS must provide access.

Alternative B. This alternative crosses Oak Creek at the head of an identified informal water play area or "swimming hole" and starts from Oak Creek Cliffs Drive. This alternative would include a road approximately 4,500 feet long (0.85 miles) from Oak Creek Cliffs Drive to the subject property. The route would include a 24-foot wide bridge approximately 450 feet in length that would cross Oak Creek just above the upper end of the "swimming hole" and cross one ephemeral natural drainage tributary to Oak Creek. The bridge would be approximately 60 feet above the surface of Oak Creek. The access road would be constructed to City of Sedona standards. The design speed would be 25 MPH. The road would be private and a gate would be installed at the entrance of the road.

Alternative C. This alternative crosses Oak Creek upstream from Alternative B and the “swimming hole”, starts from SR 179 approximately 850 feet south of Oak Creek Cliffs Drive, and would cross one ephemeral natural drainage tributary to Oak Creek twice. This alternative would include a road approximately 2,600 feet long (.49 miles) and a 24-foot wide bridge of approximately 650 feet in length. The bridge would be approximately 80 feet above the surface of Oak Creek. The access road would be constructed to City of Sedona standards. The design speed would be 25 MPH. The road would be private and a gate would be installed at the entrance of the road.

Alternative D. This alternative provides access from the west and Chavez Ranch Road and does not cross Oak Creek. This alternative would include a road approximately 7,500 feet long (1.4 miles) plus 1,850 feet (.35 miles) of reconstructed Chavez Ranch Road to the private property starting from Chavez Ranch Road. It would cross a total of approximately nine small ephemeral natural drainages and washes that are tributaries to Oak Creek. The proposed access route would start from Red Rock Loop Road and Chavez Ranch Road and then access above the Rancho Chavez subdivision and along the side of Airport Mesa north to the subject property. An approximate .35 mile portion of Chavez Ranch Road would need to be widened and paved to Yavapai County standards to connect with the proposed new road. The new road would be constructed to City of Sedona standards. The design speed would be 25 MPH. The road would be private and a gate would be installed at the entrance of the road.

A comparative analysis of the three alternatives, as completed by the Forest Service, can be found on pages 20-22 of the EA. Each alternative has its own set of impacts with B and C affecting Oak Creek and D creating more of a visual impact with the construction of the long road and its nine wash crossings.

The following outlines additional preliminary observations and comments from City staff. Time did not permit a more comprehensive analysis of the proposed options to be completed.

Traffic/Neighborhood Connections:

- § None of the three proposed alternatives provides neighborhood road connections. They all entail a new gated community with a one way in and one way out private road with no vehicular linkage to other residential areas.
- § Although a new subdivision on this property would add traffic to SR 179, in the case of Alternatives B and C, and SR 89A, in the case of Alternative D, it would not likely cause a measurable traffic impact on SR 179 or SR 89A with any of these alternatives. The development would have a maximum of 27 homes and likely fewer given the property's topography. The Institute of Traffic Engineer's Manual (ITE) estimates ten trips per day per residence for a maximum of 200-270 vehicle trips per day if 20 to 27 homes are developed. Should some of the homes be occupied on a seasonal basis, the traffic impact would be even less.
- § In the case of Alternative C, any time an additional roadway/driveway is added directly to the highway it adds conflicts to the highway. Keeping the access to/from the highway at an existing intersection would be preferred.

Safety/Response:

Alternative B

- § Access from Oak Creek Cliffs Drive provides an entry point away from the major highway (SR 179) and still within Sedona city limits.
- § The bridge over Oak Creek will be fairly high, offering a platform for potential suicides. It is recommended that, if this alternative is selected, anti-suicide barriers be installed to mitigate potential suicide attempts.
- § Access to the subject property is on the furthest side of the property line requiring a greater response time to arrive.
- § If changing the design of the center median, as described under Alternative C, cannot be accomplished, the Police Department recommends Alternative B to the others.

Alternative C

- § Access from the major highway (SR 179) is concerning for northbound vehicles as there are no left turns from that direction. Officers would have an increased response time having to drive past the entry to negotiate a U-turn, unless a cutout is made in the median. Southbound SR 179 traffic would not be affected.
- § As in Alternative B, the bridge over Oak Creek will be fairly high, offering a platform for potential suicides. It is recommended that, if this alternative is selected, anti-suicide barriers be installed to mitigate potential suicide attempts.
- § Access to the subject property is nearer to the highway access, and a more direct route, which is superior to Alternative B.
- § If the center median on SR 179 at the access point illustrated in Alternative C can allow for northbound traffic to turn left onto the access road, the Police Department would recommend this route as the most direct for responding to emergencies.

Alternative D

- § This alternative would require officers to drive outside City limits along roads that are not within City limits to access the property barely inside the City limits. The response time would be several times longer than the other two Alternative routes, which would be a major public safety concern. A more direct, shorter route is preferred, as would a route within or very near the City limits.
- § Alternative D is not recommended by the Police Department due to its extreme distance outside the City limits to access in an emergency.

Other Possible Alternatives:

Although the USFS is required to assess and determine the most suitable access through their own property, more direct access with less environmental impacts may be possible through private property, and the following has been considered over the years.

- § Negotiated access via the Oak Creek Cliffs Drive alignment.

Throughout the City's involvement with this issue, Council has consistently encouraged the developer and the Oak Creek Cliffs Homeowners Association to work out an access arrangement using the existing private crossing and private road at the Oak Creek Cliffs Drive alignment. This included Council making a formal request to that effect on April 10, 2007. The Oak Creek Cliffs Homeowner's Association subsequently provided a letter

indicating they would not reconsider granting access through their property. Staff is unaware of the status of more recent attempts to negotiate this access.

§ Use City's power of eminent domain to condemn the private portion of Oak Creek Cliffs Drive in order to obtain access to the Tobias/Flynn property.

Because agreement could not be reached between the private parties, and because the Council had concerns regarding the environmental impacts of the then proposed easement route through Forest Service property, the Council met on January 8, 2008 to consider condemnation to provide access through the Oak Creek Cliffs Drive alignment. Council decided not to pursue condemnation at that time to allow the NEPA process to run its course first.

Should Council now elect to consider using condemnation to acquire access through Oak Creek Cliffs Drive alignment, additional analysis and legal review would be necessary. This would be a high cost option and it is unclear whether or not the private developer would pay for this. Consideration would also need to be given to the appropriateness of using condemnation for this purpose and whether or not it constitutes a public necessity in accordance with the City's power of eminent domain.

Oak Creek Cliffs Drive is a public road from its intersection with SR 179 to the City of Sedona wastewater lift station located adjacent to the Poco Diablo Resort. Oak Creek Cliffs Drive becomes private beyond the lift station. The condemnation area could begin at the end of the public portion of Oak Creek Cliffs Drive and terminate at the Tobias/Flynn property. Depending on the exact alignment and right-of-way width of a new roadway and bridge crossing of Oak Creek, the condemnation area as identified in 2008, would affect five separate private parcels of land possibly including a small section of Forest Service land.

Further consideration of condemnation would not preclude the Council from providing comments on the Forest Service current EA process.

Community Plan Consistent: Yes - No - Not Applicable

Goals outlined in the Community Plan Section 4, Circulation, (page 57) include:

- Coordinate land use and transportation planning and systems
- Make the most efficient use of the circulation system for long-term community benefit
- Limit the building of new roads and streets and make strategic investments in other modes of travel

None of the USFS alternatives promote these goals.

A key issue identified under the Traffic and Parking Section (page 60) is a lack of connecting streets between neighborhoods.

All three USFS alternatives exacerbate this issue.

Board/Commission Recommendation: Applicable - Not Applicable

Alternative(s):

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United States
Department of
Agriculture

Forest
Service

August, 2017



Draft Environmental Assessment

Tobias-Flynn Private Land Access

Red Rock Ranger District, Coconino National Forest
Yavapai and Coconino Counties, Arizona

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SUMMARY

The Coconino National Forest proposes to allow construction, operation and maintenance of an access road by issuance of an easement to the Tobias-Flynn private land parcel located within national forest land. Forest Service Handbook 2709.12 contains direction for road rights-of-way easement grants. A standard form (FS-2700-9h; ex. 02) contains grantor's reservations that specify the terms of the easement. Easement terms would be determined partly on requirements specified in an alternative. The analysis area is located in the City of Sedona and is bordered on the east by Oak Creek Cliffs, Doodle Bug, and Poco Diablo Villa subdivisions. Coconino National Forest lands border the parcel on all other sides. The 27-acre parcel is located in Section 24, Township 17N, Range, 5E, Gila and Salt River Meridians in Yavapai County within the Red Rock Ranger District of the Coconino National Forest. See Figure 1. Current City of Sedona zoning establishes a minimum lot size of 35,000 square feet per single family residence. This action is needed, because the United States District Court for the District of Arizona issued Order No. C1V00-1107-PHX-MHM in favor of Tobias-Flynn finding that an easement across national forest lands exists by necessity.

The proposed access route submitted in the application for an easement by Mr. Tobias and Mr. Flynn would involve road and bridge construction, and may affect recreation, special status species, cultural resources, floodplains, wetlands, water quality, and riparian vegetation.

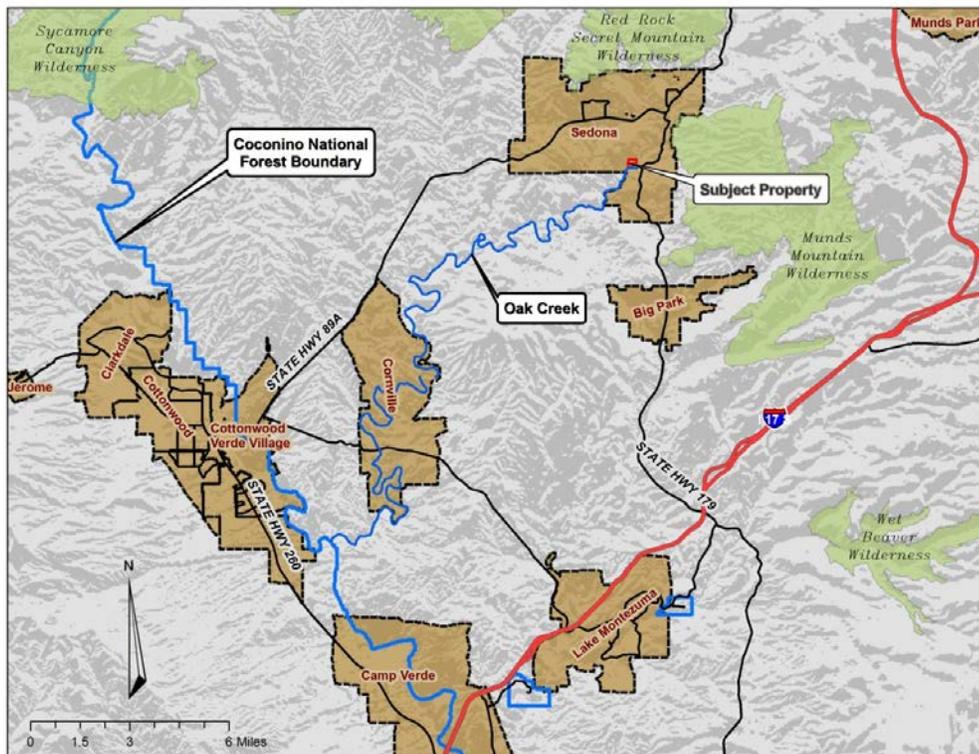


Figure 1. Vicinity Map.

The Forest Service evaluated the following alternatives:

- Alternative A. An alternative that does not allow road access on National Forest as a baseline (No Action).
- Alternative B. An alternative originally proposed to the public for comment that crosses Oak Creek at the head of an identified informal water play area or “swimming hole” starting from Oak Creek Cliffs Drive.
- Alternative C. An alternative starting from Highway 179 just south of Oak Creek Cliffs Drive that crosses Oak Creek upstream from Alternative B and an identified informal water play area or “swimming hole”.
- Alternative D. An alternative that provides access from the west and Chavez Ranch Road, and does not cross Oak Creek.

Based upon the effects of the alternatives, the responsible official will decide which access route to authorize by easement, and what mitigation measures are appropriate for construction, operation and maintenance of that route by the easement holder.

INTRODUCTION

Document Structure

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental effects that would result from the proposed access and alternatives. The document is organized into four parts:

- *Introduction:* The section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Comparison of Action Alternatives, including the Proposed Access:* This section provides a more detailed description of the proposed access as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Environmental Consequences:* This section describes the environmental effects of implementing the proposed access and other alternatives. This analysis is organized by resource. Within each section, the affected environment is described first, followed by the effects of a no action alternative that provides a baseline for evaluation and comparison of the action alternatives that follow.
- *Agencies and Persons Consulted:* This section provides a list of preparers and agencies consulted during the development of the environmental assessment.
- *Appendixes:* The appendixes provide additional information to support the analyses presented in the environmental assessment.

Additional documentation, including more detailed analyses of analysis area resources, may be found in the project planning record located at the Red Rock Ranger District Office in Sedona, Arizona.

Background

The private landowners acquired the property in 1993 and contacted the Forest Service to inquire about obtaining access to their land. The parcel owners were advised that they should first try to obtain access over the private property to the east of their parcel. The parcel owners attempted to negotiate for access through non-federal land to the parcel. When negotiations failed, the parcel owners sued to condemn a private way of necessity in Coconino County Superior Court. The state court denied the parcel owners motion for failing to carry their burden of proving reasonable necessity for the easement because the parcel owners might obtain access over National Forest land.

Subsequently, suit was filed by Tobias and Flynn in the United States District Court for the District of Arizona. On September 23, 2002, the Court issued Order No. C1V00-1107-PHX-MHM in favor of the Plaintiffs, finding that an easement by necessity exists.

Since that time, the owners and the Forest Service have been considering possible locations for the road access and the Forest Service accepted an application for a location from Oak Creek Cliffs Drive and crossing Oak Creek to the private property.

Purpose and Need for Action _____

The purpose of this initiative is to provide access to private land across Coconino National Forest Land to comply with a U.S. District Court decision. This action implements the court order within the goals and objectives outlined in the Coconino National Forest Plan (Coconino Land and Resource Management Plan USDA 1987, as amended). Resource specific objectives are included in Chapter 3 for each resource. A compilation of applicable management direction, objectives, goals, and standards and guidelines for this analysis is contained in the project record.

Proposed Access _____

The proposed access accepted for analysis by the Forest Service to meet the purpose and need is to approve a location for an access to private land and issue an easement or other authorization that would permit construction, operation and maintenance of that access route and its associated facilities. This action is needed to comply with the United States District Court Order of September, 2002. The proposed access route includes construction of approximately 0.8 miles of road and a 24-foot wide bridge of approximately 450 feet in length across Oak Creek in order to access private property. An authorization (likely an easement) would be issued that would allow for the construction, operation and maintenance of a road and its facilities for access to private property.

Decision Framework _____

Given the purpose and need, the deciding official reviews the proposed access and the other alternatives in order to make the following decisions:

Whether or not to issue an authorization for construction, operation and maintenance of an access road and associated facilities.

To determine according to which alternative or combination of alternatives, an authorization for a road easement including construction, operation, and maintenance shall occur.

Whether or not there are significant impacts that would result from the chosen alternative or unavailable information requiring the initiation of an Environmental Impacts Statement for additional analysis of potential impacts.

The Deciding Official is the Coconino National Forest Supervisor.

Public Involvement _____

The proposal has been listed in the Schedule of Proposed Actions since January, 2007. The proposal was provided to the public and other agencies for comment during scoping February through March, 2007. In addition, as part of the public involvement process, the agency

issued a news release on February 20, 2007, and held a public scoping open house on March 7, 2007. Using the comments from the public, other agencies, (see Issues section), the interdisciplinary team developed a list of issues to address. A public open house for a review of the preliminary draft environmental assessment was held on November 30, 2011. Revision of the preliminary draft according to those comments, and the need to incorporate additional data has been accomplished.

Issues

The Forest Service separated the responses to scoping into two groups: substantive and not substantive. Substantive responses were defined as those directly or indirectly caused by implementing the proposed access. Not substantive responses were identified as those: 1) outside the scope of the proposed access; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or substantive or which have been covered by prior environmental review (Sec. 1506.3)...". The comment analysis summary containing a list of substantive and non-substantive comments and reasons regarding their categorization may be found in Appendix C of this EA.

As for substantive issues, the Forest Service identified four topics raised during scoping. These include:

- 1) Access corridor construction associated with the proposed route could result in changes from a relatively undeveloped setting and recreation experience along Oak Creek, at the swimming hole, Chavez Group Campground and for hiking use in the area to a more developed and less primitive experience and setting.

Evaluation criteria:

- Changes in recreation setting compared with Forest Plan Recreation and Recreation Opportunity Spectrum (ROS) objectives. Approximate Length Of Road In The Semi-Primitive Non-Motorized ROS Area.
 - Changes in Scenery compared with Forest Plan objectives.
- 2) Access corridor construction could require removal of riparian and large vegetation along the creek that could affect wildlife habitat and wildlife use, specifically, riparian habitat dependent species like the Common Black Hawk.

Evaluation criteria:

- Acres of wildlife habitat and corridors affected by construction activities and by long-term use, operation and maintenance activities.

- Acres of riparian habitat permanently removed and acres of riparian forest temporarily removed.
- 3) Increased access from a new road corridor and visitation by residents could increase access to cultural resource sites and could result in effects to sites in the analysis area.

Evaluation criteria:

- Effects to cultural resources.
- 4) Access corridor construction activities could result in changes to soil productivity and slope stability, water quality in Oak Creek, and air quality.

Evaluation criteria:

- Disturbed acres of soil out of production, short and long term. The potential for slumping of the soil above the road because of construction.
- Predicted sediment delivered to Oak Creek in pounds and cubic feet per year, short and long term in addition to existing sediment recruitment.
- Air quality standards and changes to air quality.

ALTERNATIVES

This chapter describes and compares the action alternatives considered for the Tobias-Flynn access project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative (i.e., length of new road construction, crossing Oak Creek) and some of the information is based upon the environmental, or social effects of implementing each alternative (i.e., the effects to water quality in Oak Creek, or changes in the riparian environment). Mitigation described in Table 1 in this section and Appendix D is a part of each action alternative. Specific type, location, and application of mitigation measures would be addressed at final design and permitting. The analysis area comprises the location of each alternative route, and the area described in the scope of the analysis described for each resource. The reference to a possible subdivision is made for alternative evaluation. No specific subdivision plans exist at this time, but a subdivision would be consistent with the granting of an easement. Bonding would be required for all access construction activities as a part of a grant of an easement. Bonding could also be required as part of any possible development.

Alternatives

Alternative A

This alternative does not allow road access on National Forest land, and does not address the purpose and need. There would be no access corridor construction. No Action will be used as a baseline with which to compare the expected effects of implementing the proposed access, and the other action alternatives. See Figure 2. With Alternative A, current management plans would continue to guide management of the analysis area.

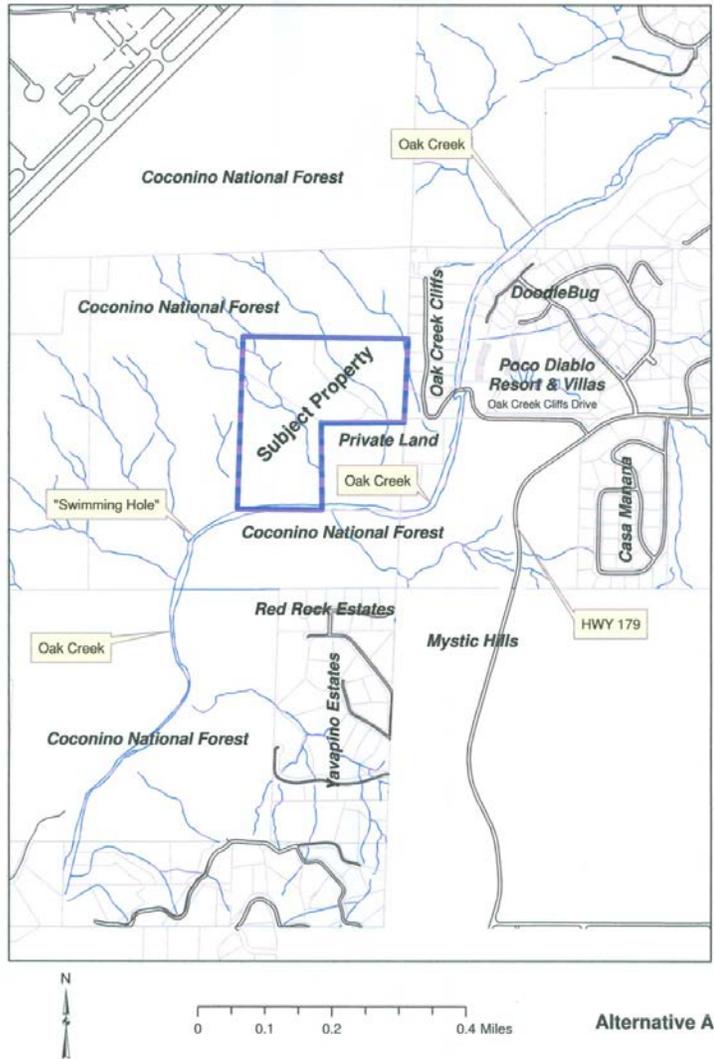


Figure 2. Alternative A, No Action

Alternative B

This alternative would address the purpose and need. It would authorize construction, operation and maintenance of an access road into the private property, to include a road approximately 4,500 feet long (0.85 miles) to the subject property. This road would start from Oak Creek Cliffs Drive, and would be designed and constructed to City of Sedona residential collector standards within a 50-foot wide right-of-way for construction and vegetation management including a 28-foot wide pavement and a 5-foot wide shoulder on each side. The design speed would be 25 MPH. It would be a gated road, but would not close the area to non-motorized public use. The gate would be installed at the entrance of the road. See Figure 3. All of the route would be on National Forest land. Approach and exit turn lanes would be included at the intersection of Oak Creek Cliffs Drive and State Route 179 if a planned traffic analysis indicated the need.

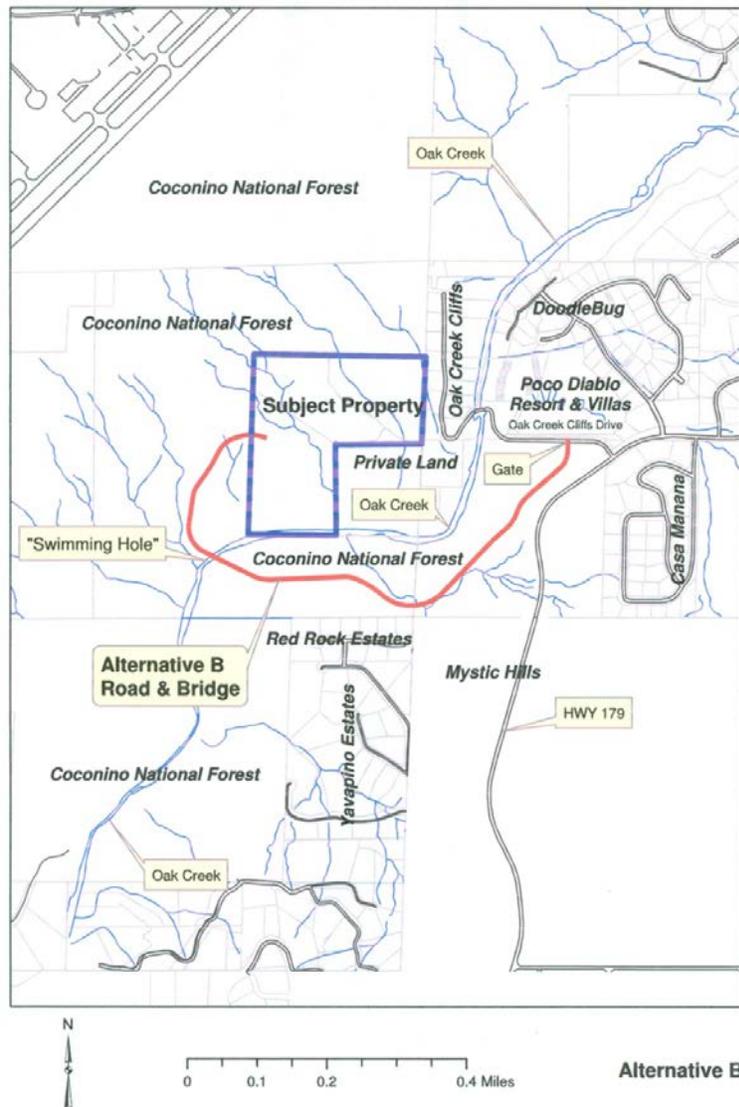


Figure 3. Alternative B.

The route would include a 24-foot wide bridge of approximately 450 feet in length, and approximately 60 feet high that would cross Oak Creek just above the upper end of the “swimming hole”, and cross one ephemeral natural drainage tributary to Oak Creek. The bridge would be a straight, two-lane design consisting of four 100-foot-long pre-stressed concrete spans, concrete abutments on the east and west sides of Oak Creek, and four 8-foot diameter columns in the Oak Creek flood plain but outside the base flow channel to support the bridge. Those four columns are within the delineated riparian area. The west abutment is approximately 4 feet high by 200 feet wide. The east abutment is approximately 20 feet high by 200 feet wide. Design and construction would comply with American Association of State Highway Traffic Officials (AASHTO) standards. The following Figure 4 is from preliminary flood analysis data at the site, and does not represent a design.

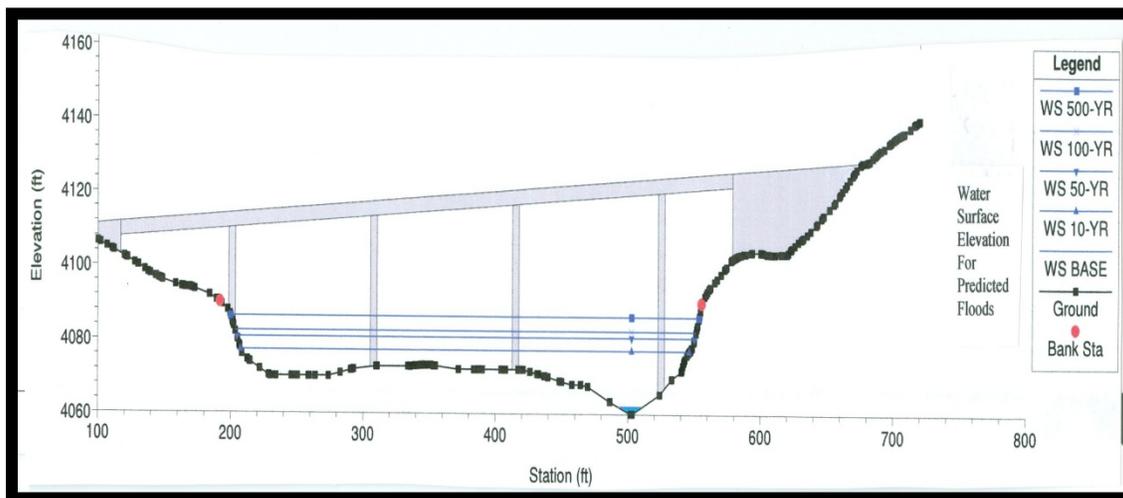


Figure 4. Preliminary Drawing of Proposed Bridge Alternative B

An estimated 100 x 100 foot staging area would be established at the start of the route in coordination with the Forest Service. Clearing of vegetation to bare soil and stream bed would be required for construction. Salvage of trees and other significant vegetation would be accomplished for revegetation of disturbed areas, or for planting in other suitable areas. This alternative contains riparian vegetation in a proper functioning condition. Bridge construction is expected to disturb or remove all of this vegetation. Alternative B would result in riparian habitat permanently lost on 0.025 acre because of the bridge supports. Temporary loss of riparian forest would be 0.78 acre because of the bridge construction footprint. Riparian vegetation would be replanted under the bridge with native cottonwood, willow, sycamore, and alder except in those areas occupied by bridge supports. The riparian vegetation lost under the bridge is expected to recover, but mature growth would never be restored as long as the bridge is in place because vegetation under and on the sides of the bridge would need to be trimmed for maintenance and for safety.

Construction would begin in the 50-foot right of way with an initial temporary graded unsurfaced road that would be built for construction purposes prior to the road being finished to standard from Oak Creek Cliffs Drive on the proposed alignment to Oak Creek. At the east side of Oak Creek, a short, steep temporary trail would be constructed down the east bank of Oak Creek to lower equipment providing access to the Oak Creek floodplain for bridge

construction. A 450-foot long temporary road would proceed on the Oak Creek streambed along the proposed bridge alignment with a temporary bridge spanning Oak Creek. As needed, a temporary relocation of a portion of Oak Creek with a diversion channel or a pipe within the bridge construction footprint would be used. Complete dewatering of the stream bed is not expected except at the support column construction areas because of the porous type of soils.

A short, steep temporary trail would be constructed up the west bank of Oak Creek to facilitate construction of the west abutment, and the rest of the temporary access road to the private property. Equipment to drill for the support column foundations in the Oak Creek floodplain, form construction, and concrete trucks would use the east side of Oak Creek and floodplain temporary road for access and egress. Road construction would generally remain within the 50 foot right of way. Temporary grading slopes involving an estimated 0.8 acres would be outside the 50-foot right of way for abutment construction and stabilization of steep cut slopes would be needed in certain areas during construction, but would be reclaimed when not needed.

At the bridge construction site, disturbance would be restricted to the 100-foot wide bridge construction footprint on the Oak Creek floodplain. The temporary road would be finished to design standards and the temporary road on the flood plain and adjacent to Oak Creek would be replanted with native riparian vegetation except for areas occupied by bridge supports.

Construction activities would generate noise similar to that of the ADOT 179 project from heavy machinery, and possible blasting during working hours. Noise from construction would likely be heard throughout the analysis area. Dust control measures would be employed. All temporary roads would be needed until all construction was finished. Bridge construction is expected to be completed in approximately one year, with total construction finished in approximately 18 months.

Mitigation measures for the action alternatives are described in Appendix D. Soils and water quality best management practices (BMP) mitigation measures like erosion control nets, silt fences, and catchment basins to reduce and trap eroded soil would be installed and maintained from the start of construction to the finish. An Army Corps of Engineers Section 401 Certification and a Section 404 permit would be required. The permit would include a monitoring plan. Plan implementation would monitor BMP effectiveness, and sediment delivered to Oak Creek. A Storm Water Pollution Prevention Plan would be developed. An onsite Storm Water Pollution Prevention Program Manager would be required to assure the application of best management practices, and to resolve issues of effectiveness so implementation would be consistent with effects stated in this analysis.

Arizona Game and Fish Department Bridge and Culvert Design Guidelines would be incorporated into the construction design. Mitigation measures to reduce the results of road and bridge construction to scenery would also be incorporated. Additional mitigation would include fueling of equipment away from water, and steam cleaning of construction equipment to ensure there was no introduction of Quagga mussels or Chytrid fungus in Oak Creek waters. Steam cleaning would also address concerns about invasive weed species. Approximately 500 feet upstream and 500 feet downstream from the bridge construction site on the Oak Creek floodplain would be closed for public safety during the 18 month construction period.

This alternative includes a project-specific Forest Plan amendment to the 1987 Coconino National Forest Land and Resource Management Plan, as amended. This project specific plan amendment is being prepared and analyzed under the 2012 Planning Rule requirements. The purpose of this amendment is to allow a site-specific change to the Recreation Opportunity Spectrum in the vicinity of the proposed constructed road and bridge from the current Semi-Primitive Non-Motorized setting to Roaded Natural setting. Because the amendment applies to only the Tobias-Flynn Private Land Access Project, it is not considered a substantive change to any element of the plan for purposes of the NFMA (36 CFR 219.13(b)(5)).

Alternative C

This alternative would address the purpose and need. It would authorize construction, operation and maintenance of an access road into the private property, to include a road approximately 2,600 feet long (0.49 miles) to the subject property. It would cross Oak Creek upstream from Alternative B and an informal water play area, and cross one ephemeral natural drainage tributary to Oak Creek twice. See Figure 5.

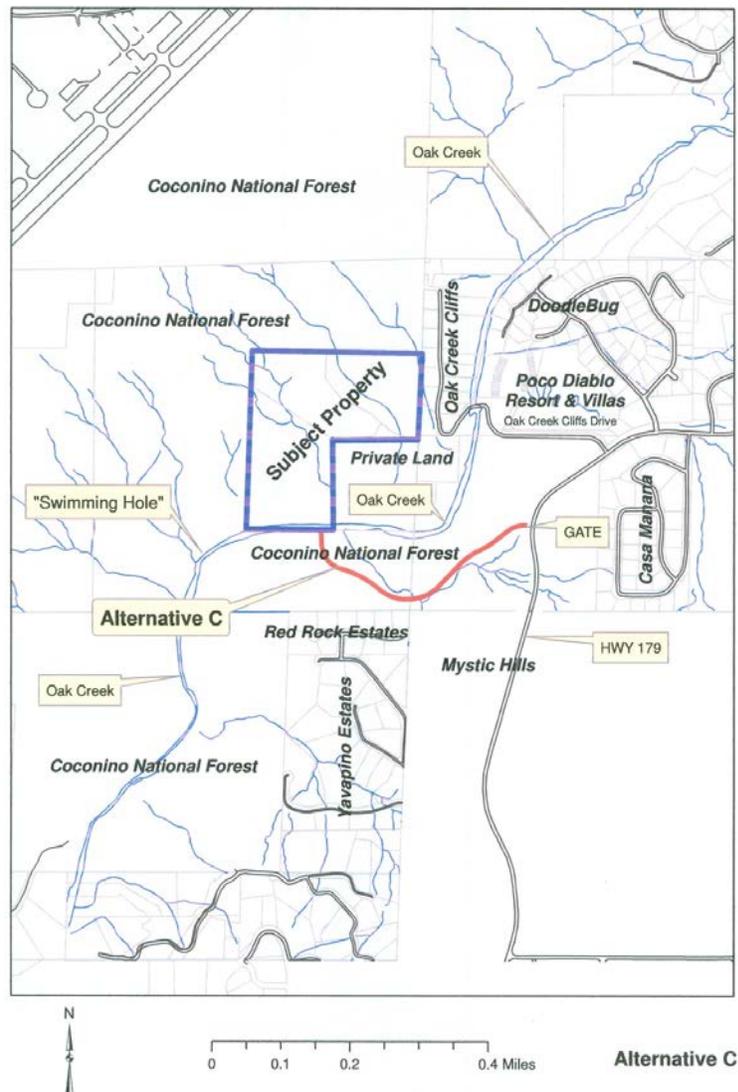


Figure 5. Alternative C

It would authorize construction, operation and maintenance of an access road to the private property from State Route 179 approximately 850 feet south of the Oak Creek Cliffs Drive intersection at an informal parking area to the private property boundary. Improvement of the parking area could be included as part of the road design. This would be a right in-right out intersection because there is no existing median break on State Route 179. Approach and exit turn lanes would be included if a planned traffic analysis indicated the need. Clearing of vegetation would be required, and salvage of trees and other significant vegetation would be accomplished for revegetation of disturbed areas, or for planting in other suitable areas. Construction would begin in the 50-foot right of way with an initial temporary graded unsurfaced road that would be built for construction purposes prior to the road being finished to standard. A portion of this road would use the same alignment as that of Alternative B. It would be designed and constructed to City of Sedona residential collector standards within a 50-foot wide right of way for construction and vegetation management with a 28-foot wide pavement and a 5-foot wide shoulder on each side. The design speed would be 25 MPH. It

would be a gated road, but would not close the area to non-motorized public use. The gate would be installed at the entrance of the road.

A 24-foot wide bridge of approximately 650 feet in length and approximately 80 feet in height would cross Oak Creek downstream from another informal "swimming hole", B, identified in the draft EA review process. The bridge would be a straight, two-lane design consisting of seven pre-stressed concrete spans approximately 100 feet long, abutments on the south and north sides of Oak Creek, and six 8-foot diameter columns in the Oak Creek flood plain but outside the base flow channel to support the bridge (Figure 7). Three of those columns are within the delineated riparian area. The north abutment is more of a foundation and buried, not visible. The south abutment is approximately 12 feet high by 200 feet wide. This alternative contains riparian vegetation in a proper functioning condition. Bridge construction is expected to disturb or remove all of this vegetation. Alternative C would result in riparian habitat permanently lost of 0.001 acre on national forest lands because of the bridge supports. Temporary loss of riparian forest would be 0.23 acre on national forest lands because of the bridge construction footprint. Removed riparian vegetation would be replanted with native cottonwood, willow, sycamore, and alder except in those areas occupied by bridge supports. The riparian vegetation lost under the bridge is expected to recover, but mature growth would never be restored as long as the bridge is in place because vegetation under and on the sides of the bridge would need to be trimmed for maintenance and for safety.

Design and construction would comply with American Association of State Highway Traffic Officials (AASHTO) standards. The following Figure 6 is from preliminary flood analysis data at the site, and does not represent a design.

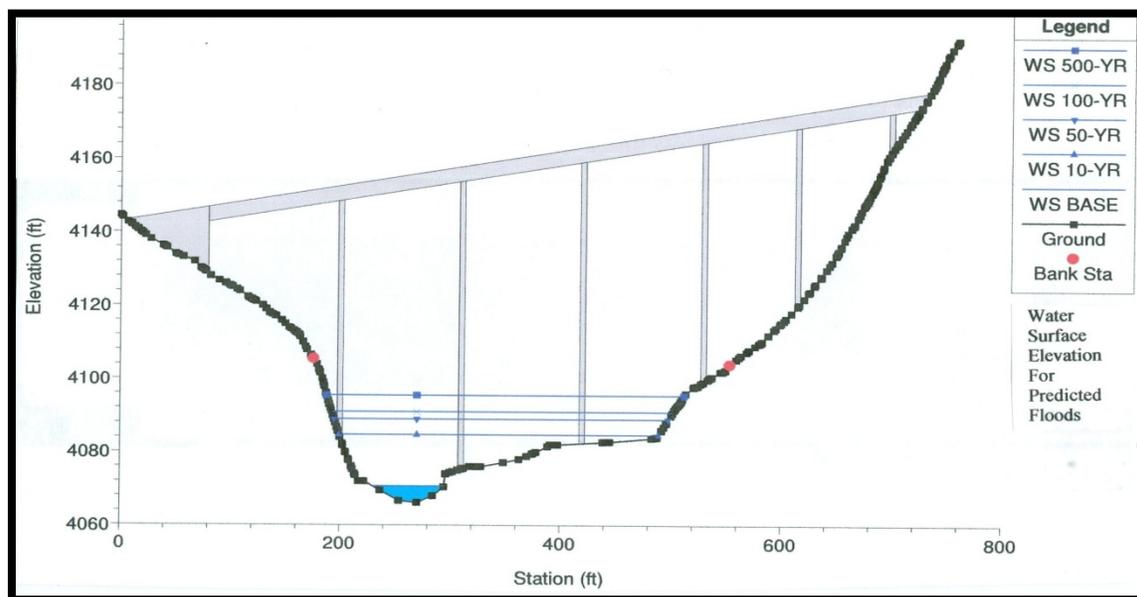


Figure 6. Preliminary Drawing of Proposed Bridge Alternative C

A 100 x 100 foot staging area would be established at the start of the route in coordination with the Forest Service at the existing informal parking area that is used for creek and "swimming hole" access. Construction would begin on the route alignment to Oak Creek with a temporary road from State Route 179. Clearing of vegetation to bare soil and stream

bed would be required for construction. At the south side of Oak Creek, a short, steep temporary trail to lower equipment would be constructed down the south bank of Oak Creek providing access to the Oak Creek floodplain for bridge construction. The 650 foot long temporary road would proceed on the Oak Creek streambed along the proposed bridge alignment with a temporary bridge spanning Oak Creek. As needed, a temporary relocation of a portion of Oak Creek using a diversion pipe, or diversion channel within the bridge construction footprint would be used. Complete dewatering of the stream bed is not expected except at the support column construction areas because of the porous nature of the soils. A short, steep temporary trail would be constructed up the north bank of Oak Creek to facilitate construction of the north abutment, and the rest of the temporary access road on private property. Equipment to drill for the support column foundations in the Oak Creek floodplain, form construction, and concrete trucks would use the south side and floodplain temporary road for access and egress. Road construction would generally remain within the 50 foot right of way. Temporary grading slopes involving an estimated 1.2 acres would be outside the 50-foot right of way for abutment construction and stabilization of steep cut slopes would be needed in certain areas during construction, but would be reclaimed when not needed.

At the bridge construction site, disturbance would be restricted to the 100-foot wide bridge construction footprint on the Oak Creek floodplain. The temporary road would be finished to design standards, and the temporary road within Oak Creek would be reclaimed. Construction activities would generate noise from heavy machinery, and possible blasting during working hours. Noise from construction would likely be heard throughout the analysis area. Dust control measures would be employed, and native riparian vegetation would be replanted in the disturbed riparian area except for areas occupied by bridge supports. All temporary roads would be needed until all construction was finished.

Bridge construction is expected to be completed in approximately one year, with total construction finished in approximately 18 months.

Mitigation measures for the action alternatives are described in Appendix D. Soils and water quality best management practices (BMP) mitigation measures like erosion control nets, silt fences, and catchment basins to reduce and trap eroded soil would be installed and maintained from the start of construction to the finish. An Army Corps of Engineers Section 401 Certification and a Section 404 permit would be required. The permit would include a monitoring plan. Plan implementation would monitor BMP effectiveness, and sediment delivered to Oak Creek. A Storm Water Pollution Prevention Plan would be developed. An onsite Storm Water Pollution Prevention Program Manager would be required to assure the application of best management practices, and to resolve issues in effectiveness so implementation would be consistent with effects stated in this analysis.

The Arizona Game and Fish Department Bridge and Culvert Design Guidelines would be incorporated into the construction design. Mitigation measures to reduce the results of road and bridge construction to scenery would also be incorporated. Additional mitigation would include fueling of equipment away from water, and steam cleaning of construction equipment to ensure there was no introduction of Quagga mussels or Chytrid fungus in Oak Creek waters. Steam cleaning would also address concerns about invasive weed species. Approximately 500 feet upstream and 500 feet downstream from the bridge construction site on the Oak Creek floodplain would be closed for public safety during the 18 month construction period.

Alternative D

This alternative would address the purpose and need. It would provide access from the west, and would not cross Oak Creek. It would authorize construction, operation and maintenance of an access road, 7,500 feet (1.4 miles) long plus 1,850 feet (0.35 miles) of reconstructed Chavez Ranch Road, to the private property starting from the Chavez Ranch Road. It would cross a total of approximately nine small ephemeral natural drainages and washes that are tributary to Oak Creek.

Yavapai County standards of a 68-foot right of way, 28-foot-wide paved surface with a 5-foot wide shoulder on each side are used for the analysis. The proposed route would access the private property starting at the Red Rock Loop Road and Chavez Ranch Road intersection; proceed along the Chavez Ranch Road above the Rancho Chavez subdivision along the side of Airport Mesa north to the private property. An approximate 0.35 mile portion of the unpaved existing Chavez Ranch Road would need to be widened and paved to connect with the proposed new road to the private property. The final road standard would be determined by a planned future traffic impact analysis. The design speed would be 25 MPH. It would be a gated road, but would not close the area to non-motorized public use. The gate would be installed at the entrance of the road (Figure 7). All of the route would be on National Forest Land. No bridge across Oak Creek would be needed.

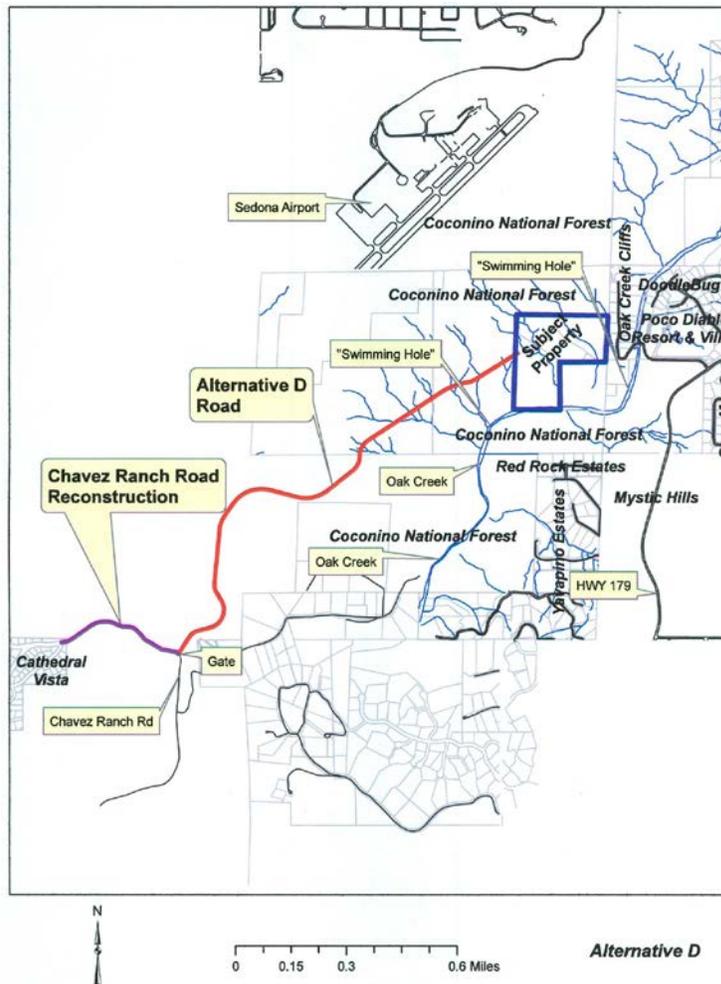


Figure 7. Alternative D

Construction would begin at an estimated 100 x 100 foot staging area in coordination with the Forest Service with improvements to the Chavez Ranch Road for approximately 1,850 feet (.35 miles) and continuing across the mid-slope of Airport Mesa above the portion of Chaves Ranch Road through, or around the private property of the Mystic Heights subdivision to the subject private property. It would not use the existing road through Rancho Chavez. Construction would generally remain within the 50 foot right of way. Temporary grading slopes to stabilize steep slopes would be needed in certain areas during construction. Some would be outside the 50-foot right of way, but would be reclaimed when not needed. Construction activities would generate noise from heavy machinery, and possible blasting during working hours similar to that of the ADOT 179 project. Noise from construction would likely be heard throughout the analysis area. Dust control measures would be employed. Clearing of vegetation to bare soil during construction would be required, and salvage of trees and other significant vegetation would be accomplished for revegetation of the construction area, or for planting in other suitable areas.

Mitigation measures for the action alternatives are described in Appendix D. Soils and water quality best management practices (BMP) mitigation measures like erosion control nets, silt fences, and catchment basins to reduce and trap eroded soil would be installed and maintained from the start of construction to the finish. An Army Corps of Engineers Section 401 Certification and a Section 404 permit would be required. The permit would include a monitoring plan. Plan implementation would monitor BMP effectiveness, and sediment delivered to Oak Creek. A Storm Water Pollution Prevention Plan would be developed. An onsite Storm Water Pollution Prevention Program Manager would be required to assure the application of best management practices, and to resolve issues in effectiveness so implementation would be consistent with effects stated in this analysis.

The Arizona Game and Fish Bridge and Culvert Design Guidelines would be incorporated into the construction design.

Mitigation measures to reduce the results of road and bridge construction to scenery would also be incorporated. Steam cleaning of equipment would address concerns about invasive weed species. To mitigate potential effects to recreational use, where the road crosses a formal recreation trail, key way-finding cues such as clumps of large boulders that reinforce the trail tread, promote a trail character, and limit motorized access to the trail would be incorporated in the design along with safety signage, crossing, and wayfinding signs. Alternative D might be used to provide access to a proposed Mystic Heights subdivision in the future, but no specific proposal has been made at this time. Preliminary design data and maps for all action alternatives are in the Project Record.

This alternative includes a project-specific Forest Plan amendment to the 1987 Coconino National Forest Land and Resource Management Plan, as amended. This plan amendment is being prepared and analyzed under the 2012 Planning Rule requirements. The purpose of this amendment is to allow a change to the Recreation Opportunity Spectrum in the vicinity of the constructed road and bridge from the current Semi-Primitive Non-Motorized setting to Roaded Natural setting. Because the amendment applies to only the Tobias-Flynn Private Land Access Project, it is not considered a substantive change to any element of the plan for purposes of the NFMA (36 CFR 219.13(b)(5)).

Alternatives Considered But Not Evaluated In Detail _____

The following alternatives in addition to previous mediation and condemnation attempts were considered, but found to be infeasible. The parcel owners attempted to negotiate for access through non-federal land to the parcel using Oak Creek Cliffs Drive. Negotiations failed. The parcel owners then initiated a suit in Coconino County Superior Court to condemn a private way of necessity that would use Oak Creek Cliffs Drive. The court denied the parcel owners motion. The City of Sedona considered condemnation of the Oak Creek Cliffs Drive access, but decided not to take action.

An alternative providing access from Airport Mesa was considered. That route would meet City of Sedona design standards. Access would be through the Sedona Airport. An easement was requested, but could not be obtained because of airport security needs.

Two alternatives using access from Brewer Road were considered. They were found to be infeasible because one access at the end of Brewer Road through private land was not available because the landowner was unwilling, and the other on National Forest land would

not meet City of Sedona design standards because of steep grades and side slopes in excess of 60 percent. No variance request from the City of Sedona was requested at this time.

Another alternative using access through Red Rock Estates was considered. Road rights of way in that subdivision do not meet current city standards. Subdivision restrictions do not allow for road use on lots.

Another alternative crossing Oak Creek below the “swimming hole” was considered. It was not analyzed in detail because it did not address the concern about the swimming hole, and it would have a larger affect on the riparian area with an 850-foot long bridge.

Mitigation Common to All Action Alternatives

In response to public comments on the proposal, mitigation measures were developed to ease or avoid some of the potential impacts the various alternatives may cause. The mitigation measures may be applied to any of the action alternatives as needed.

Mitigation measures are designed to avoid, reduce, eliminate, rectify, or compensate for undesirable effects from proposed activities. Unless noted otherwise in the decision document, the mitigation measures are mandatory if the Responsible Official selects an action alternative for implementation.

The mitigation measures/project design features listed in Table 1 and Appendix D are practices the ID Team developed during this analysis to address site-specific environmental concerns and to meet Forest Plan Standards and Guidelines. Each issue includes a mitigation measure, the objective of the measure, an effectiveness rating with the basis for that rating, and monitoring guidance. Resource-specific mitigation is located in each resource section. Both State and Federal permits will be required for work in Oak Creek. Detailed mitigation measures are located in Appendix D.

The Council on Environmental Quality regulations (40 CFR 1508.20 Mitigation) state the following:

“Mitigation” includes:

Avoiding the impact altogether by not taking a certain action or parts of an action.

Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

Compensating for the impact by replacing or providing substitute resources or environments.”

See Table 1 and the descriptions of alternatives for mitigation measures.

Mitigation effectiveness is rated as follows for this analysis:

High

The mitigation is highly effective (estimated at greater than 90%) at meeting the objective, and one or more of the following types of documentation is available:

Research or literature

Administrative studies

Experience: professional judgment of an expert

Fact: evident by logic or reason.

Moderate

The mitigation is moderately effective (estimated at 60 to 90 percent), and its effectiveness is supported either by evidence or logic. Implementation of this mitigation needs to be monitored, and the mitigation may be modified if needed to achieve its objective.

Low

The mitigation is somewhat effective (estimated at less than 60%), but its effectiveness is not supported by substantial evidence; or professional judgment indicates limited success in implementation or meeting objectives. Implementation of this mitigation needs to be monitored, and the mitigation may be modified if necessary to achieve its objective.

The following mitigation measures summary and design features are incorporated into all the action alternatives (Alternatives B, C, and D) to address resource concerns, minimize environmental effects, and ensure proposed activities are consistent with the Coconino National Forest Plan. A comprehensive listing of mitigation measures is contained in Appendix D.

Table 1. Issues / Mitigation Measures Summary For All Action Alternatives
Refer To Appendix D For Mitigation Measure Details

Issue / Mitigation Measure	Objective	Effectiveness and Basis (see previous page)	Enforcement / Follow up Methods
Recreation Opportunity / Gated Access, no public vehicle access from future road but road could be walked.	Limit motorized access impacts to desired non-motorized character.	Low / Experience	Monitor easement administration.
Scenery /Material color, rock/slope shaping, revegetation	Reduce impacts to scenery.	Moderate / Experience	Monitor design & construction for inclusion of mitigation measures.
Riparian Vegetation / Conserve and Replant areas not occupied by bridge supports.	Minimize changes in riparian vegetation and function.	High / Experience	Monitor acres and survival of planted materials. Replant as needed.

Issue / Mitigation Measure	Objective	Effectiveness and Basis (see previous page)	Enforcement / Follow up Methods
Wildlife Habitat / Incorporate Arizona Game and Fish Bridge And Culvert Design Guidelines and appropriate mitigation measures for affected species.	Minimize effects on wildlife species.	High / Literature and administrative studies.	Monitor design & construction for inclusion of mitigation measures.
Cultural Resources / Avoid Locations , Evaluate if subsurface resources are discovered during excavation.	Conserve or minimize effects on cultural resources.	High / Fact	Monitor design & construction for inclusion of mitigation measures and to avoid locations.
Potential For Slumps, Soil Erosion / Road, Bridge, and Culvert Construction Best Management Practices.	Maintain stable slopes. Minimize soil erosion.	High / Experience	Monitor design & construction for inclusion of mitigation measures.
Water Quality / Road, Bridge, and Culvert Construction Best Management Practices.	Comply with state and Federal water quality standards.	High / Experience	Monitor design & construction for inclusion of mitigation measures.
Air Quality / Road & Bridge Construction Best Management Practices.	Comply with state and Federal air quality standards.	High / Experience	Monitor design & construction for inclusion of mitigation measures.

Comparison of Alternatives

This section with Table 2 provides a brief summary of the effects of implementing each alternative with applied mitigation described for each action alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives. A more detailed discussion of effects is described in the next section, Environmental Consequences.

Table 2. Summary Of Expected Effects Of Implementation With Planned Mitigation By Comparison With Measures For Key Issues For Each Alternative.

Issue / Measure	Alternative A No Action	Alternative B	Alternative C	Alternative D
Recreation Opportunity / Approximate Length Of Proposed Road in Semi-Primitive Non-Motorized ROS Objective	0 Feet	790 Feet	0 Feet	5,400 Feet
Effects to Scenery/ And Meeting Forest Plan Objectives	High Scenic Integrity /Retention No Change.	High Scenic Integrity /Retention lowered to Moderate Scenic Integrity /Partial Retention.	High Scenic Integrity /Retention lowered to Moderate Scenic Integrity /Partial Retention.	High Scenic Integrity /Retention lowered to Moderate Scenic Integrity /Partial Retention..
Riparian Vegetation Permanently Removed. / Temporary Riparian Forest Removed.*	No Acres Affected.	0.025 Acres Removed / 0.78 Acres Temporary Riparian Forest Removed	0.001 Acres Removed / 0.23 Acres Temporary Riparian Forest Removed National Forest Land Only	No Acres Affected.
Riparian Dependent TES Wildlife / Fisheries Species Habitat Affected National Forest lands only. Effects Determined For Forest Service Sensitive Species Effects To Habitat Have Either Been Mitigated Or Adjacent Habitat Is Ample.	No acres of habitat for riparian dependent species would be affected. No effects.	Approximately 0.025 acre of habitat would be permanently lost, and 0.78 acre would be temporarily lost. May impact individuals, but not likely to result in a downward trend toward federal listing.	Approximately 0.001 acre of habitat would be permanently lost, and 0.23 acre would be temporarily lost. May impact individuals, but not likely to result in a downward trend toward federal listing.	No acres of habitat for riparian dependent species would be affected. May impact individuals, but not likely to result in a downward trend toward federal listing.
Cultural Resources Affected	No Change In Existing Access By The Public.	Increased public access could increase affect on resources.	Increased public access could increase affect on resources.	Increased public access could increase affect on resources.

Issue / Measure	Alternative A No Action	Alternative B	Alternative C National Forest Lands	Alternative D
<p>Soil Productivity / Acres Of Soil Not Growing Vegetation Because Of Construction Disturbance Short Term</p> <p>Soil Productivity / The Long Term Paved Surface Not Growing Vegetation With Full Mitigation, National Forest Lands</p> <p>Potential for Slumps / Stability.</p>	<p>0 Acres Short Term.</p> <p>0 Acres Long Term.</p> <p>Slump Potential Is Low. Slopes Are Stable.</p>	<p>Construction Disturbance, 8.4 Ac.</p> <p>Paved Road Surface, 3 Ac.</p> <p>Slump Potential Is Low. Slopes Are Stable.</p>	<p>Construction. Disturbance, 3 Ac.</p> <p>Paved Road Surface, 1.3 Ac.</p> <p>Slump Potential Is Low. Slopes Are Stable.</p>	<p>Construction. Disturbance, 12 Ac.</p> <p>Paved Road Surface, 5 Ac.</p> <p>Slump Potential Is Low. Slopes Are Stable.</p>
<p>Water Quality / Predicted Annual Short And Long Term Sediment Production In Cubic Feet With Full Mitigation, National Forest Lands.</p> <p>Sediment Input Amounts To Oak Creek Would Occur As A Relationship To Precipitation Intensity Which Mirror Existing Land Forming Events. The Antidegradation Standard Would Be Met Because Of The Intermittent, Short Duration Nature Of Sediment Delivery.</p>	<p>No Increase Over Existing.</p> <p>Consistent With Water Quality Standards</p>	<p>60 Cu. Ft. Annual Short Term</p> <p>15 Cu. Ft. Annual Long Term.</p> <p>Consistent With Water Quality Standards</p>	<p>10 Cu. Ft. Annual Short Term</p> <p>3 Cu. Ft. Annual Long Term.</p> <p>Consistent With Water Quality Standards</p>	<p>13 Cu. Ft. Annual Short Term</p> <p>3 Cu. Ft. Annual Long Term.</p> <p>Consistent With Water Quality Standards</p>
<p>Air Quality Standards Attainment</p>	<p>In Attainment.</p>	<p>In Attainment.</p>	<p>In Attainment.</p>	<p>In Attainment.</p>

* Temporary disturbed riparian forest acres removed in the Oak Creek channel is based on preliminary engineering data in the project record, and would be replaced with new plantings of native species except for areas occupied by bridge supports, but a return to mature trees is not expected under a bridge because of maintenance.

ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, and social environments of the affected analysis area and the potential changes to those environments due to implementation of the action alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in Table 2 above. The No Action alternative is a base line for comparison purposes. Existing conditions are described in the affected environment sections. If the base line were to be implemented, there would be no change from existing conditions of the resources evaluated in this analysis. Existing conditions and evaluations are taken from specialist reports for each resource. Specialist reports may contain more information related to methodologies or other technical documentation used in this assessment; however, this environmental assessment is the instrument used to inform the decision-making process. Specialist reports are incorporated by reference, and are in the Project Record (40 CFR 1502.21).

Each resource section contains a Forest Plan direction statement. References to Forest Plan direction in this section state a general goal or objective that summarizes a body of direction for that resource. A comprehensive listing of Forest Plan direction for this analysis is contained in Appendix E.

Recreation and Scenery

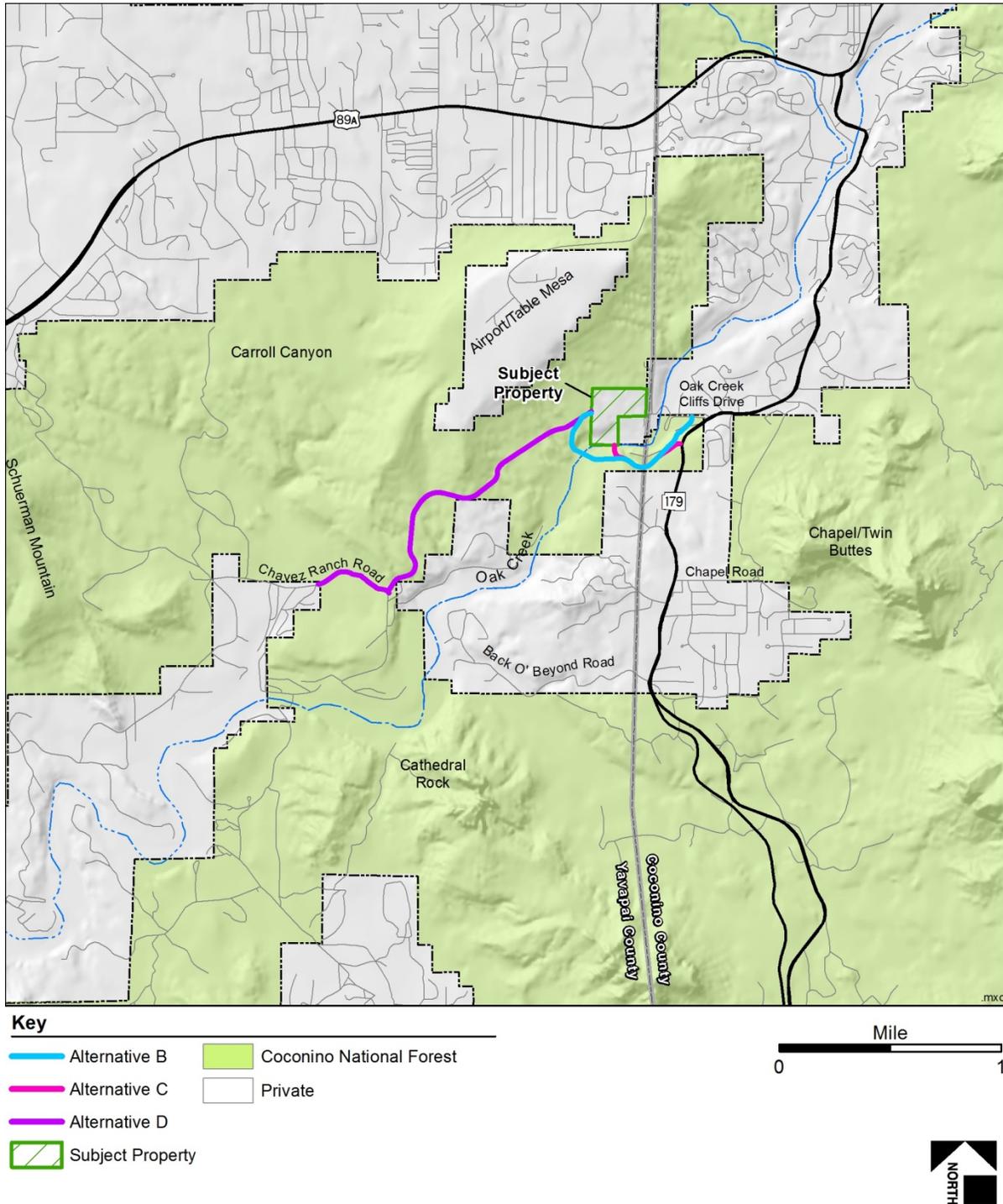


Figure 8. Analysis Area Location

Issues

Access road and corridor construction associated with the action alternatives would result in changes from a relatively undeveloped recreation setting to a developed and less primitive

setting. Action alternatives would likely be visible from numerous locations and result in notable changes from the desired undeveloped natural-appearing landscape to less natural appearing developed landscape.

Indicators

- Changes in Recreation Opportunity Spectrum (ROS) compared with Forest Plan objectives.
 - Approximate length of road proposed in the Semi-Primitive Non-Motorized ROS Area.
- Changes in Scenery Objectives (VQO/SIOs) compared with Forest Plan objectives.

Introduction

National Forest lands surrounding Sedona are an international, national, and regional destination for recreation and scenery. Residents and visitors alike come to Sedona to view dramatic red-rock formations and the vegetated Oak Creek. Popular recreation activities include: scenic viewing, photography, hiking, mountain biking, horseback riding, driving for pleasure, water play, and bird watching. Camping and picnicking opportunities are available at developed facilities. According to the 2014 Sedona Community Plan, an estimated 2 to 4 million tourists visit the Sedona–Oak Creek area annually. The National Visitor Use Monitoring (NVUM) conducted on the Coconino National Forest shows 32% of respondents identified hiking /walking as their main activity and 23.7 % identified viewing natural features as their main activity (USDA, 2011).

The rolling terrain in the piñon-juniper forest provides a variety of landscapes and offers varied panoramic views of the rock formations while driving, using trails, or spending time by the Creek or at developed facilities. Oak Creek flows south through the area, with adjacent prominent cliffs on the north side of the creek. Management activities can either improve or detract from the recreation or scenic setting. Road construction unless directly tied to improving access to recreation opportunities tends to detract from the recreation setting. Roads provide opportunities for viewing scenery and access for those using them; but when viewed from other locations the road cut and fill and associated constructed features can be noticeable and detract from the overall scenic beauty of a scene.

Forest Plan Direction

The analysis area for both the Scenery and Recreation resources lies within the Neighborwoods Management Area. The area is often referred to as “Sedona’s backyard”, and the general management emphasis is building strong community partnerships for stewardship of the land and to “support resident health, safety and quality of life.” There is easy access to national forest lands from surrounding development and trailheads.

Recreation

Recreation Opportunity Spectrum

The Forest Service (FS) uses the Recreation Opportunity Spectrum (ROS) as a framework for defining outdoor recreation settings and opportunities in the Forest Plan. ROS is based on the premise that a continuum of recreation opportunities exist within a variety of settings, from completely undeveloped (primitive) to highly developed (urban). Using three

overlapping setting conditions – social, physical, and managerial – managers and planners use ROS to describe existing and desired conditions for recreation settings. Conceptually, forest visitors choose a specific setting for a particular activity or set of activities to have a desired experience. The spectrum of ROS designations ranges from Primitive, Semi-primitive Non-motorized, Semi-primitive Motorized, Roaded Natural, Rural, to Urban.

According to the Coconino National Forest Land and Resource Management Plan (USDA Forest Service 1998), Semi-primitive Non-motorized (SPNM) and Rural (R) are the ROS classes in the analysis area. SPNM are areas with trail access only, a low number of encounters with other people, subtle and limited management presence, and a high degree of naturalness, with infrequent evidence of human activity. The SPNM in the analysis area is located along the south slope of Airport Mesa. “Due to the level of adjacent development and the ease of access, the Forest in the analysis area is managed generally for Rural or Roaded Natural ROS settings, except where there are remnant pockets of Semiprimitive ROS settings...” (LRMP Page 206-41). The pocket of 1,475 acres SPNM ROS on the south slope of Airport Mesa emphasizes the strong public value for maintaining a nonmotorized landscape, with a low level of development. The national forest lands closer to the private land parcels on Oak Creek and development on SR 179 and near Chavez Ranch Road, are inventoried as Rural to recognize the influence of that development on private land and ease of access (Figure 9). Rural ROS is characterized by “paved or gravel all weather roads, moderate to high numbers of encounters with other people, high management presence, facilities are generally more rustic, but common and convenient, moderate degree of naturalness,” (LRMP p. 273).

Included in the management emphasis for the analysis area is: “Relatively quiet, easily accessed National Forest supports wildlife, scenic viewing and experiencing nature.” (LRMP p.206-40).

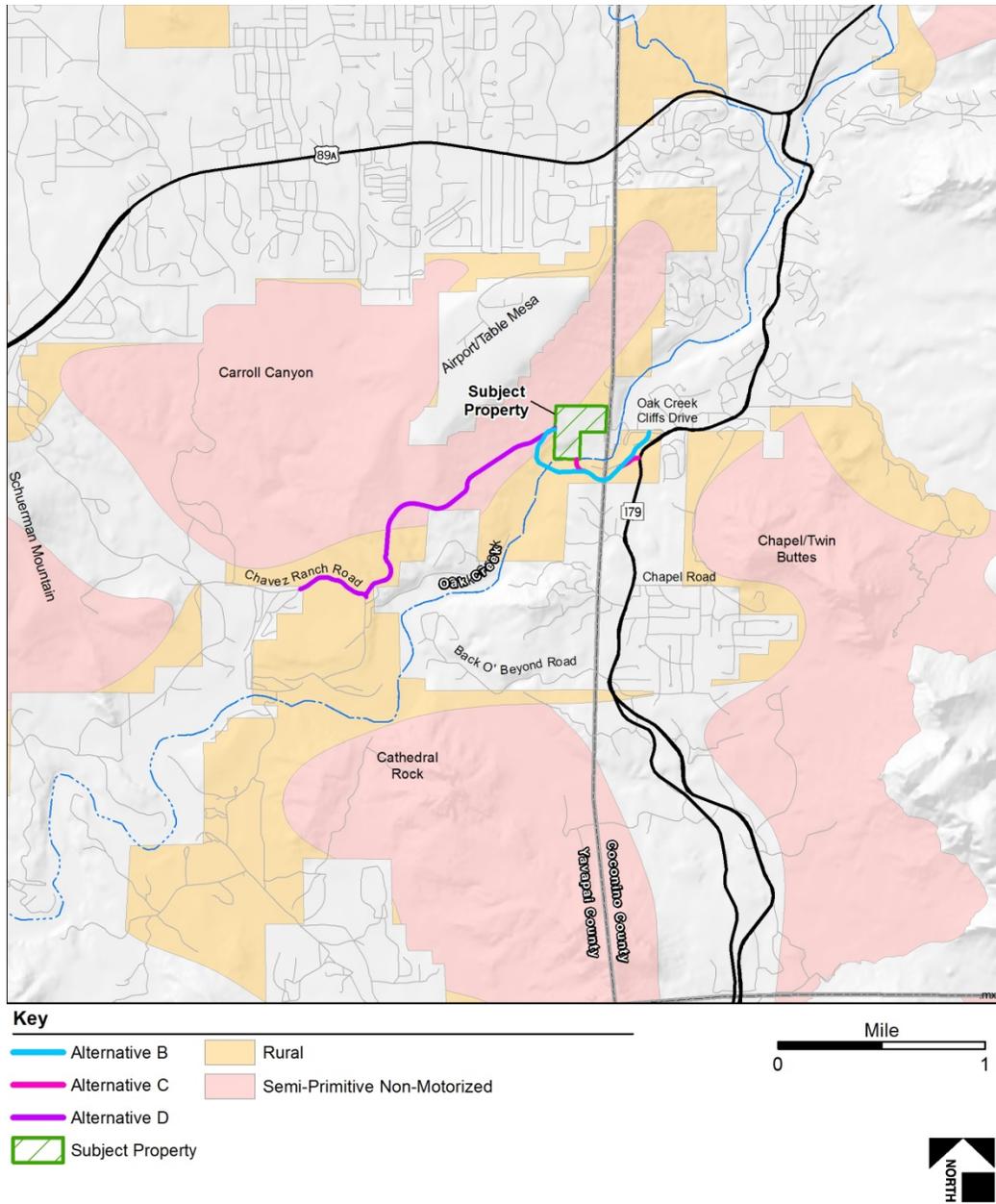


Figure 9. Proposed Alternative Routes and ROS Classes

Table 3. Approximate Length of Road in the Semi-Primitive Non-Motorized Recreation Opportunity Spectrum (ROS) Area by Alternative			
Alternative A (No Action)	Alternative B 4,573 ft. ¹	Alternative C 2,600 ft. ¹	Alternative D 9,369 ft. ^{1,2}
0 ft.	790 ft.	0 ft.	5,400 ft.

Table Notes: ¹ Length of route on national forest lands according to preliminary GIS data

² Includes Chavez Ranch Road

In addition to the ROS, applicable Recreation Goals and objectives for the Analysis Area include (LRMP 206- 22), page 60:

- Appropriate degrees of natural quiet are restored and maintained.
- Emphasize opportunities for individuals, families or small groups and opportunities for experiencing solitude, scenic beauty and natural quiet. Recreation opportunities are primarily nature based.
- Recreation activities and facilities meet visitor needs and are consistent with ecological goals and recreational opportunity spectrum (ROS) objectives.
- Recreation activities and facilities protect water quality and the aquatic/riparian community.
- Visitors have access to high-quality trail experiences.
- Recognize the strong demand for inspirational and contemplative benefits in the natural landscape and provide settings that contribute to these benefits.
- Increase opportunities for Semi-primitive and Primitive ROS experiences to better meet the high demand for this type of recreation setting.
- Some forest sites are a destination for visitors with interest in the spiritual landscape, including, but not limited to, locations at Bell Rock, Boynton Canyon, Cathedral Rock, Schnebly Hill and Table Top Mesa. Where possible provide access to these sites with opportunities for contemplative reflection and scenic vistas, and provide access for older people and people with disabilities seeking opportunities for regenerative reflection.
- Complete ROS assessments for analyses on national forest lands that could change recreation settings. Use the ROS as a tool to adjust management and protect and restore the recreation experience.
- Allow only one classification movement downward unless a larger movement is justified after doing an environmental analysis for emergency situations such as removal of fire damaged timber or I&DC control needs.

Scenery

Scenery Management System/ Visual Management System

Similar to ROS, the Forest Service uses the Scenery Management System (SMS) as a framework for managing scenery on national forest lands. SMS evolved from the Visual Management System (VMS). The scenic integrity objectives for the analysis area are High or Retention under the VMS (Figure 10). These objectives are applied to landscapes where the desired landscape character on national forest land appears intact. In areas with High/Retention objectives deviations may be present but must repeat the form, line, color, texture and pattern common to the landscape character so completely and at such a scale, that they are not evident to the casual observer.

Landscape Visibility and Concern Level The analysis area is visible as either a foreground (up to ½ mile) or middleground (1/2 mile to 4 miles) view from a concern level 1 travelways (road, trail, waterway or destination) where visitors have a primary concern for scenery. All of the trails, developed recreation sites, trailheads vistas, open roads and waterways are inventoried as concern level 1 travelways in the analysis area. Visibility models were created for each alternative to assist with locations where the access route may be seen in the near vicinity. These visibility model overlay maps by alternative help quantify the magnitude of the differences in the action alternatives. All of the action alternatives are seen from multiple

locations for varying lengths of time depending on the context of the viewer. For example, a direct view of the bridge abutments and columns from the creek corridor translates to a greater magnitude of change than for someone driving who may view the proposal for several seconds or catch glimpses of a proposal several times along their drive. Someone sitting on slickrock with a direct view of the alternative versus someone biking on one of the trails will be able to perceive differing levels of detail. Generally, in an open landscape like the project area- the larger the scale of change and the higher the elevation, the more places it will be seen from. The more discreet and smaller the scale the less it will be noticeable. The steeper the slope and the greater the need for cutting and filling to create a roadbed will translate to more noticeable change from desired and increase the difficulty of sculpting or screening the route to blend seamlessly with the surrounding landscape.

Scenic Attractiveness Class A (distinctive/unique) features usually exhibits a great deal of variety in form, line, color, and texture. Landform, rock, water and vegetation stand out as being unusual and/or outstanding in scenic quality compared to those found in the general area.

Variety Class B (common/typical) includes features such as land-forms, water forms, rock formation, and vegetative patterns commonly found in the general area.

Table 4. Comparison of National Forest Visual Quality Objective and Scenic Integrity Objective Classifications		
Visual Quality Objective	Scenic Integrity Objective	Level of Landscape Integrity
Preservation	Very High	Landscapes where the valued landscape character “is” intact with only minute, if any deviations. The existing landscape character and sense of place is expressed at the highest possible level.
Retention	High	Landscapes where the valued landscape character “appears” intact. Deviations may be present but must repeat the form, line color, texture, and pattern common to the landscape character so completely, and at such scale, that they are not evident.
Partial Retention	Moderate	Landscapes where the valued landscape character “appears slightly altered.” Noticeable deviations in the viewed landscape must remain visually subordinate to the landscape character being viewed.
Modification	Low	Landscapes where the valued landscape character “appears moderately altered.” Deviations begin to dominate the landscape character being viewed, but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed.
Maximum Modification	Very Low	Landscapes where the valued landscape character “appears heavily altered.” Deviations may strongly dominate the landscape character. They may not borrow from valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed.

Scenic Attractiveness, landscape visibility and concern levels inform the overall Forest Plan objective. See below for Forest Plan Scenery Objectives in this analysis area. For more information on SMS or VMS please refer to Forest Service handbooks *Landscape Aesthetics: A Handbook for Scenery Management* and *The Visual Management System. In national forest landscape Management, Volume 2.*

Applicable Scenery goals, objectives and guidelines for the Analysis Area (*RLMP 206-14-206-16, page 60*):

- Provide and maintain high-quality opportunities for people to enjoy the Sedona area's many scenic and aesthetic qualities.
- Evidence of human activities and developments such as roads, trails and facilities, is visually subordinate to the natural-appearing landscape.
- Scenic quality meets public expectations.
- Views of dramatic natural features are protected and enhanced.
- Developments such as roads, trails, camping and day-use sites and trailheads borrow from local materials and landscape characteristics to blend with the adjacent natural appearing landscape...
- Achieve scenic quality recovery in the shortest possible time.
- Complete scenic resource assessments for developments and projects on National Forest lands that could affect scenic quality. Include evaluation of cumulative effects.
- Follow scenic management guidelines established under the Forest Service Scenery Management System (SMS) and Guidelines for Highways on National Forest Land (ADOT and U.S. Forest Service, 1994).
- Protect native plants to the extent possible by site design and mitigation measures during construction. Develop native plant rehabilitation measures for disturbed areas to speed scenic quality recovery. Use methods that result in a natural vegetative composition and pattern.
- Avoid placement of new structures where they will interfere with scenic views from primary viewing areas such as highways, recreation sites, trails and residential areas. Use natural land forms and vegetation to the extent possible to screen facilities from important viewing locations.

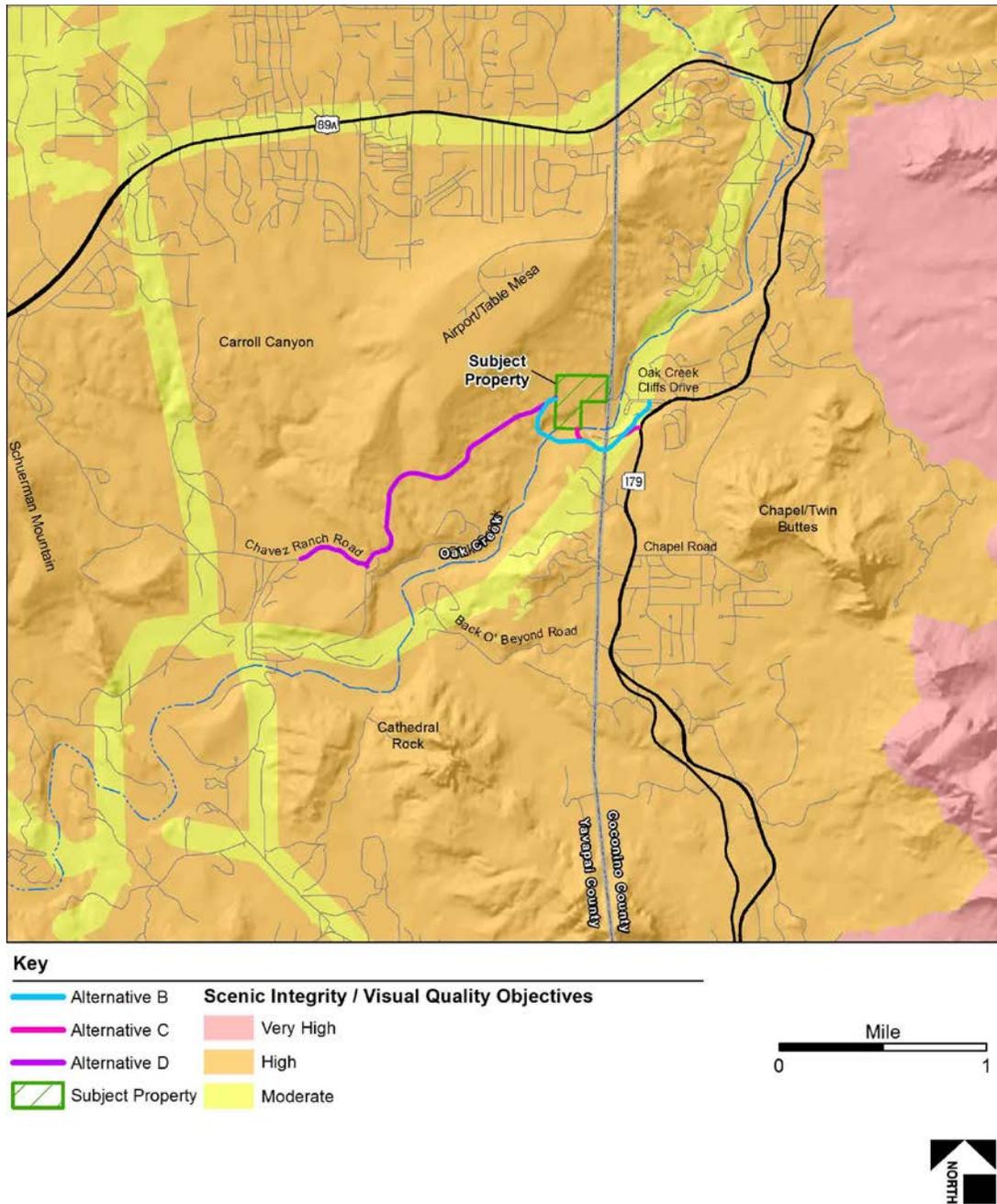


Figure 10. Proposed Alternative Routes and Scenery Objectives.

Scope of the Analysis

The Tobias-Flynn Access Proposal analysis area for Scenery and Recreation is within Arizona’s “Red Rock Country,” characterized by eroded monuments, promontories, cliffs, and buttes of red sandstone. Numerous prominent landmarks are visible within the analysis area including Tabletop Mesa, Bell Rock, Courthouse Butte, and Cathedral Rock. The analysis area is generally bound by Airport Mesa to the north, Red Rock Loop Road to the west, Cathedral Rock to the south, and the Chapel/Twin Buttes to the east (Figure 11).

Analysis Area Constituents

National Forest lands in the analysis area have a high volume of use by people with a major concern for scenery and quality recreation settings. Residents in the surrounding subdivisions are also sensitive to potential changes in the scenery or recreation settings. With the notoriety of Red Rock Country and the number of local, regional, national, and international visitors to the area, a high concern level is recognized for the analysis area. The surrounding subdivisions also have a high sensitivity to changes in scenery.

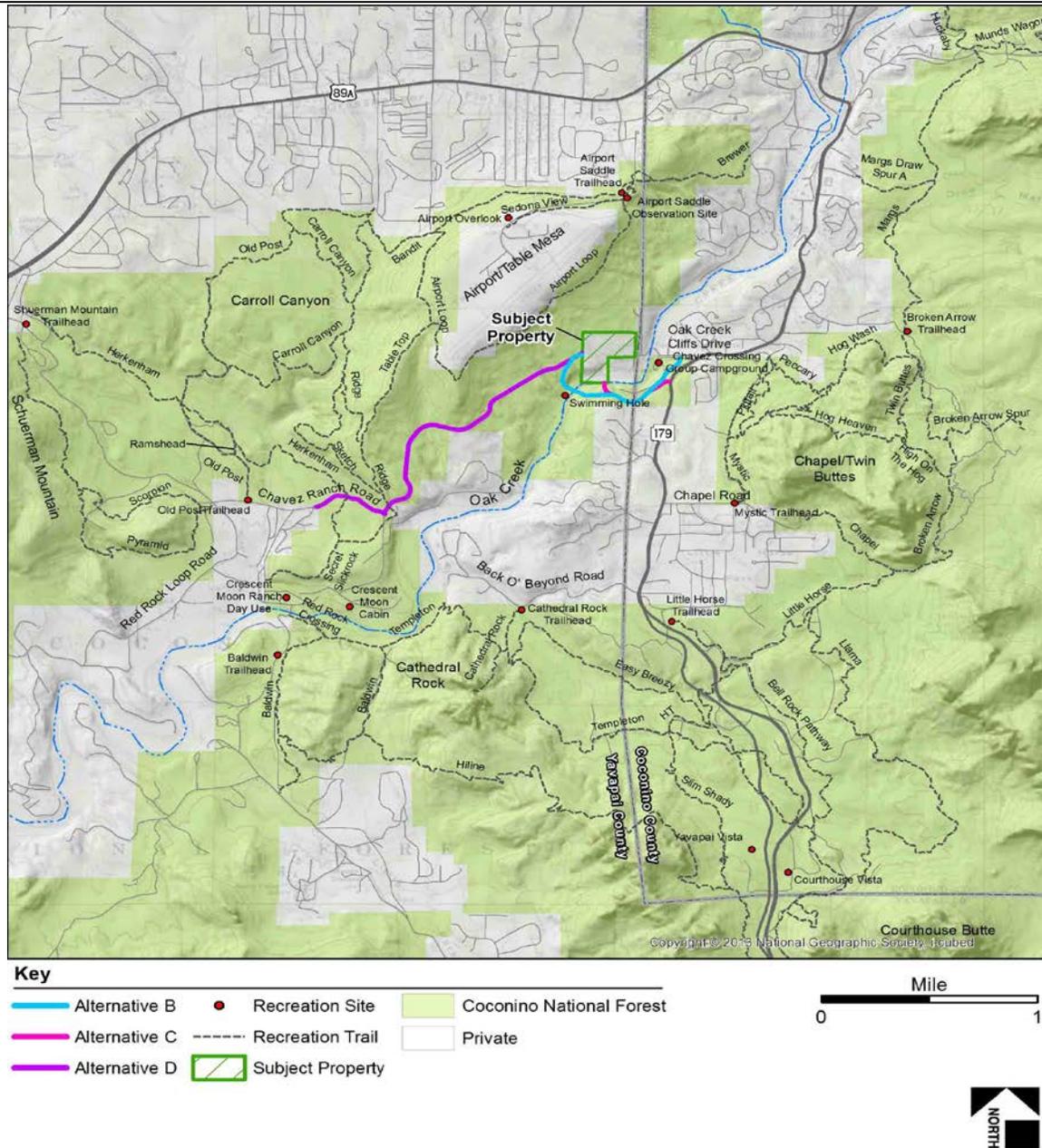


Figure 11. Recreation Opportunities

Existing recreation opportunities in the analysis area include trails on Airport Mesa, Cathedral Rock, Carroll Canyon Scheurman Mountain and Chapel/Twin Buttes; water play and nature study along Oak Creek corridor, including at the “swimming hole” identified during public scoping and other dispersed recreation use such as walking, viewing scenery, and scenic driving. Chavez Group Campground, Crescent Moon Ranch Day Use and Crescent Moon Rental Cabin are the developed facilities in the analysis area aside from the developed trails and associated trailheads. Two trails cross Chavez Ranch road in the section proposed for widening: Ridge, and Ramshead trails. General access to recreation opportunities is via SR 179, Chavez Ranch Road, Airport Road, Verde Valley School Road and the extensive network of trails in the near vicinity. Popular scenic driving routes in the near vicinity include SR179, Red Rock Loop Road, Airport Road, Chapel Road, Back o’ Beyond Road, Verde Valley School Road, and Chavez Ranch Road.

Airport /Tabletop Mesa Trails

- Sedona View trail- approximately .6 mile connector route from the overlook to the saddle/ vortex area
- Brewer trail approximately .7 mile connector trail from end of Brewer Road
- Airport Mesa/ Airport Saddle Spurs A and B trails approximately .5 mile loop trail network
- Airport Loop approximately 3.25 mile loop around Airport Mesa
- Table Top- approximately .5 mile trail to overlook accessed off of Airport Loop trail

The approximate 5.5 Airport Mesa trail system is accessed from the Airport Saddle Trail Head (TH) the Airport Overlook TH or the Carroll Canyon trail system in west Sedona. The trail system offers changing, panoramic views of Red Rock Country from the slopes of Tabletop or Airport Mesa. The Airport Saddle Overlook is also accessible from the Airport Saddle parking area and provides expansive Red Rock views in all directions and is a destination for metaphysical activities as an alleged vortex site. In November 2013, the Forest Service completed the Sedona View trail, a connector route from the airport overlook to the Airport Loop trail and Airport Saddle Parking area, increasing the access to the saddle overlook and Airport Loop trail. The Sedona View trail generally parallels Airport Road and the proposed access routes are not likely notable to visitors on this trail. Observations during field visits indicated that visitors and commercial tours combined with easy access make the saddle a popular destination. Tabletop Mountain is the highest point in the Sedona City limits and a destination for viewing scenery. Though there is no prohibition for equestrians, equestrian use is not recommended on these trails due to the large amount of slickrock and steep drop offs. The predominant use is from hikers and bikers. Although the area is close to private development opportunities, the slope and vegetated screen provide for secluded natural settings along the trails with expansive views along slick rock sections.

Carroll Canyon Trails

- Bandit- approximately 0.5 mile trail connecting Carroll Canyon trail system to trail network on tabletop mountain via Airport Loop trail
- Old Post- approximately 2.7 mile north-south trail providing numerous loop options when connected with Carroll Canyon, Bandit, Ramshead, and Herkenham Trails.
- Ridge- approximately 2.2 mile north-south route connecting west Sedona to Chavez Ranch Road
- Carroll Canyon - two segments totaling approximately 1.5 miles connecting Old Post and the Ridge trail

- Herkenham approximately 1 mile trail accessed from Red Rock loop road connecting to Old Post trail
- Secret Slickrock- approximately 0.4 mile connector trail from Chavez Ranch Road to Ridge trail
- Ramshead- approximately 0.9 mile trail connecting Old Post and Ridge trails it crosses Chavez Ranch road
- Sketch- approximately 1.2 mile north south route providing a loop or alternative route from Ridge Trail.

This approximately 10.4 mile network of trails is in Carroll Canyon, east of Tabletop Mountain. The trail system is accessed by the Old Post TH, Scheurman Mountain TH, Airport Overlook TH, Chavez Ranch Road, and via Shelby Drive in West Sedona. The trail system is open to hikers, bikers and equestrians. The system is used for loops or one-way by staging vehicles at different trailheads. The trails are characterized as being out of sight of development in an open canyon with relatively little grade change and a high degree of naturalness with moderate use depending on time of day or year.

Cathedral Rock Trails

- Approximately 0.6 mile Cathedral Rock trail
- Approximately 2.5 mile Baldwin loop trail accessed from Verde Valley School road,
- Approximately 0.3 mi Red Rock Crossing connector trail from Verde Valley School road to the Baldwin trail
- Approximately 3.4 mi Templeton trail connects the trail system on the east side of 179 to the Cathedral trail system.
- Approximately 2.2 mi Easy breezy trail connects to the Templeton trail for a loop option.
- Approximately 3 mile Hiline trail connects the Baldwin trail and Slim Shady for a loop option
- Approximately 2.45 mile Slim Shady trail connects with Made in the Shade, Hiline, Templeton, and the nested loop trails at Yavapai Point for multiple loop trail options of varying lengths and challenge.
- Approximately 0.8 mile HT Trail

The Cathedral Rock trail network encompasses over 14.5 miles of trails open to hikers, bikers, and equestrians, though bikers and equestrians are not recommended on the top half of the Cathedral Rock Trail itself, and equestrians are not recommended on Hiline, Easy Breezy, or Made in the Shade trails steep due to the steep sections of slickrock. The system is accessed from the Back o Beyond TH, Baldwin TH, Yavapai Point TH, and trailheads/ associated trails on the east side of SR179: Bell Rock, Courthouse and Little Horse. Cathedral Rock itself is an iconic landmark for Sedona and another “vortex site” for those that have an interest in metaphysical activities. These trails are very popular with a moderate to high number of visitors depending on time of day.

Scheurman Mountain Trails

- Approximately 0.5 mile there and back Schuerman Mountain trail is accessed from Scheurman Mountain trailhead off Red Rock Loop Road
- Approximately 1.25 mile Pyramid makes a loop around a landmark feature known as the Pymid from the Scorpion Trail

- Approximately 1.9 mile north-south Scorpion trail connects the Carroll Canyon trails from the Scheurman mountain trailhead to the Pyramid trail and Old Post trailhead off Red Rock Crossing Road

Equestrians are not recommended on the Scheurman Mountain trails due to the steep sections of slickrock. These trails are popular with hikers and bikers.

Oak Creek Corridor/Waterplay Water play and nature study along the entire length of the creek corridor in the analysis area is a recognized and popular public use. The “swimming hole” is an informal recreation area not designated as a recreation site by the national forest but specifically identified by users and petition signers during scoping. It is a series of wide pool areas in Oak Creek near the subject property.

The “swimming hole” is accessed from informal river access routes starting from the Chavez Ranch Road parking area at the end of Chavez Ranch Road, Chavez Crossing Group Camp located on Oak Creek Cliffs Drive and from an informal parking area off SR179. There are no designated formal river access routes or trails leading to the swimming hole. The setting along Oak Creek provides a high degree of naturalness and lower visitor contacts. The swimming hole offers a somewhat secluded, quiet recreation experience, and there is little other evidence of human activity.

Chapel/ Twin Buttes Vicinity Trail System

- Approximately 0.9 mile Mystic trail north-south connecting neighborhoods and providing access to loop options when combined with other trails
- Approximately 0.7 mile Pigtail trail is a north-south route providing loop options when combined with other trails
- Approximately 1.5 mile Hog Wash trail connects Pigtail with Broken Arrow trail to the east
- Approximately 0.5 mile Peccary trail connects the Mystic and Pigtail trails with the Hog Wash trail
- Approximately 0.9 mile Hog Heaven trail, connects Hog Wash, Twin Buttes, and High on the Hog trails.
- Approximately 0.3 mile High on the Hog trail connects Twin Buttes and Hog Heaven to Broken Arrow
- Approximately 0.7 Twin Buttes trail is a north-south route that connects Hog Heaven, High on the Hog, Broken Arrow and Hog Wash Trails
- Approximately 1.5 mile Broken Arrow trail with approximately 0.5 mile Broken Arrow Spur
- Approximately 0.7 mile Chapel Trail that provides a connection to the approximately 1.5 mile Little Horse trail to the south and the Broken Arrow trails to the north.
- Approximately 1.9 mile Margs Draw Trail a north-south trail that connects Chapel/ Twin Buttes trail system to Huckabee and Munds Wagon trails to the north.

The Chapel/ Twin Butte vicinity has approximately 11 miles of trails that connect to the Schnebley Hill trails to the northeast and Little Horse/ Courthouse Trails to the south to provide longer distance trail opportunities. This vicinity is popular with hikers and bikers and has a lot of slickrock formations that afford long distances views of the analysis area. The Chapel of the Holy Cross is a sightseeing destination and the Chapel Area is one of the

neighborhoods in Sedona. This vicinity is on the western edge of the Munds Mountain Wilderness.

Chavez Crossing Group Camp

A developed overnight facility situated among an Arizona Sycamore grove along Oak Creek, with 3 group sites and a maximum occupancy of 110 people total. Site amenities include picnic tables, fire pits, cooking grills, drinking water and a vault toilet. Waterplay and exploration along the creek is popular from this site. The facility is accessed off Oak Creek Cliffs Drive and is east of the subject property.

Crescent Moon Ranch Picnic Area and Crescent Moon Rental Cabin

Crescent Moon Ranch is a popular destination for picnicking, water play, and photography. There are picnic tables, cooking grills, vault toilets and a group ramada. The site is also a destination for weddings and other group events. The historic “Red Rock Crossing” and photos of Cathedral Rock reflected in Oak Creek are some of the most photographs scenes in the southwest and are accessed from this site (or from the end of Verde Valley School Road). Crescent Moon Rental Cabin is a popular overnight destination available to the public through a reservation system. Crescent Moon Day use is accessed via Red Rock Loop Road, Chavez Ranch Road and Red Rock Crossing Road. Crescent Moon Rental Cabin and is accessed via Red Rock Loop Road, Chavez Ranch Road and Chavez Crossing Road.

Landscape Character

Airport Mesa/ Tabletop Mesa is the highest point in the City of Sedona and a destination for the scenic overlook at the airport, the vortex at the saddle, and trail opportunities. Oak Creek is highly valued as one of the few perennial flowing creeks in the arid southwest and known for exceptional scenery. The red-rock formations and distant mesas visible from the analysis area form a distinct and unique backdrop to Sedona and Village of Oak Creek communities. These formations are visible from aerial views or from on-the-ground vantage points. The rolling terrain provides a variety of visual experiences and offers continuously changing sequences of panoramas of the rock formations. From an aerial perspective, the landscape is coarse textured and has a vegetation pattern that varies from dense to sparse areas of trees and shrubs that range from dark evergreen to gray-green in color. The orange-red soil color contrasts with the vegetation to create a mottled appearance to the land surface. The riparian vegetation along Oak Creek is a linear feature of dense brighter green vegetation in the spring and summer that can provide for a fall foliage viewing opportunities before a transition to gray in the winter when the deciduous trees have lost their leaves.

Visibility

The slope of the surrounding terrain where the access road would be located has a direct influence on the visibility of the alternatives. Slope refers to the steepness of the ground surface. The steeper the slope, the more the landscape is visible to the viewer and the more sensitive the land is to alterations. A slope analysis that identifies slope categories for the existing terrain was prepared for this analysis. Slope also affects vegetation-screening effectiveness. For this analysis, the following slope categories were used:

- 0–12 percent slope: level to moderately sloping
- 12–30 percent slope: moderately steep
- 30–40 percent slope: steep
- >40 percent slope: very steep

Figure 12 illustrates the distribution of the slope conditions of the existing terrain within the analysis area. Twelve percent slope equates to an approximately 8:1 slope ratio, or 60 degree angle of slope. For this analysis, it is assumed that a 12 percent slope is the general threshold at which an average person is aware of a notable slope in natural surroundings. The height of cut/fill slopes required to build the access road to maintain the required design standards would increase in relation to the slope of the land. In locations where the proposed road is located in terrain with slopes greater than 30 percent, higher cut/fill slopes would be required to construct the roadway into the existing terrain than in locations where the existing slope is less than 12 percent. The cut/fill slopes would become the most visible elements of the access road because of the contrast in form and color to the existing landscape.

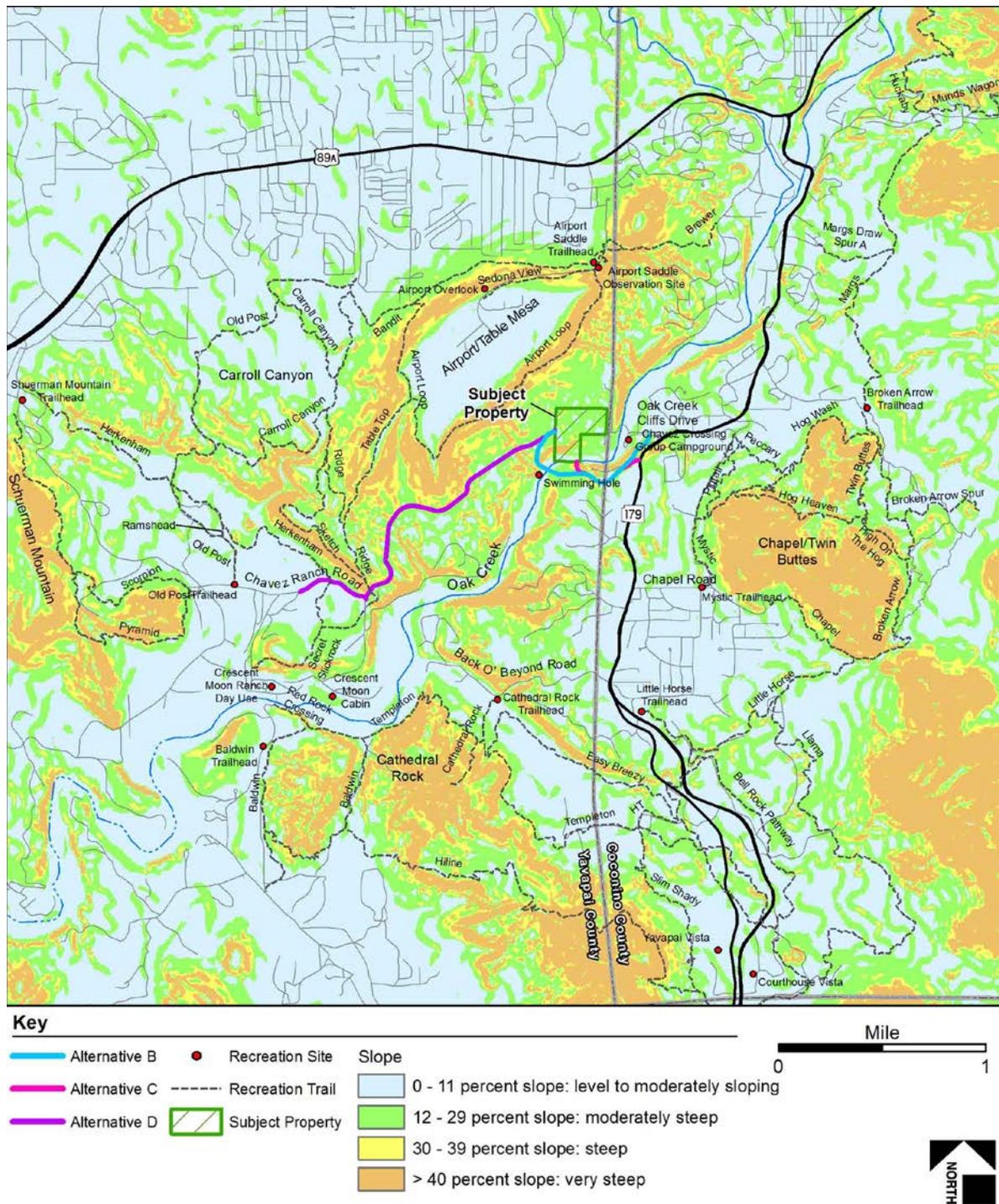


Figure 12: Slope Analysis with Proposed Alternatives

Distance Zones

Distance zones are based on the distance from where the visual element is located in reference to viewpoint. For this analysis, distance zones refer to the distance from the key viewing platform to the proposed access road alignment. The distance zones were classified

as foreground (0 feet to 0.5 miles) and middleground (0.5 to 4.0 miles) and background (greater than 4.0 miles). No background distance zone visibility analysis, except for the general qualitative assessment for the aerial view, was done because none of the key observation platforms developed in coordination with the national forest include segments of the alternatives in the background distance zone. The distance zones were applied to the visibility analysis to determine how much of each alternative was visible within each distance zone.

Change to Landscape Character

For the purposes of this analysis, the intensity or magnitude of change in the scenic resources is defined below. In the analysis the magnitude of change in landscape character is described for the most dominant level of change for the overall alternative and from the identified viewing platforms. An alternative could have multiple levels of change over its length. Additionally, the visible areas of each alternative were compared with the preliminary engineering plans for each alternative to identify the heights of cut and fill slopes required for construction. In attempt to quantify effects the cut and fill slopes, thresholds of landscape alteration are categorized here.

- **Subtle.** Changes or effects to the landscape would be barely perceptible. Elements of form, line, color, and texture would be generally compatible with the visual setting, scale, and continuity of the landscape. Cut or fill slopes would generally be below four feet and would be subtly visible. The slopes could be formed to blend with adjacent landforms and vegetation near the road would mostly obscure all views of the slopes.
- **Notable.** Changes or effects to the landscape would be perceptible. Alternatives would be a readily visible addition to the landscape, but would be only somewhat compatible with the visual setting. Alternatives could be highly visible, but would generally be recognized as a normal component in the landscape. Cut or fill slopes from 4 to 12 feet high were considered to have a notable level of landscape alteration because the slopes could be formed to mimic surrounding landforms and the height of local vegetation would partially screen the slope faces.
- **Substantial.** Changes or effects to the landscape would be clearly detectable and could have appreciable effect. Alternatives would be a fundamental change in the visual setting, and its forms, lines, colors, and textures would generally be incompatible with the surrounding area. Cut and fill slopes ranging from 12 to 20 feet high were considered to have a substantial level of landscape alteration. The ability to modify the slopes to blend with surrounding landforms would be reduced, and vegetation would screen a smaller portion of the slopes.
- **Severe.** Changes or effects to the landscape would have a high magnitude of change and a highly detectable effect. Alternatives would become the dominant element in the landscape, and its forms, lines, colors, and textures would be highly incompatible with the visual setting. Alternatives would have a strong contrast with adjacent landforms and uses in terms of scale and continuity. Cut and fill slopes over 20 feet in height were considered to have a high level of landscape alteration. The ability to modify the slope to match surrounding

landforms would be very limited, and the existing vegetation would screen only a small portion of the slopes. The bridge structure in alternatives B and C was also considered to have a severe level of landscape modification because the scale and prominence of the structure would be a dramatic change in the visual setting.

For purpose of this evaluation, short-term effects are defined as effects that would be less than 5 years in duration, and long-term effects are considered to be effects that would persist more than 5 years. Table 5 shows the general relationship of the magnitude of change in landscape character to the approximate slope of the existing topography and the level of landscape modification that could be expected from the cut and fill slopes required to construct the proposed access road.

Magnitude of Change in Landscape Character	Approximate Slope of Existing Landscape	Level of Landscape Alteration – Cut/Fill Height
Subtle	0-12%	– less than 4'
Notable	12-30%	– 4' to 12'
Substantial	30-40%	– 12' to 20'
Severe	>40%	– greater than 20'

Sample Observation Platforms.

It is not possible to analyze quantify and disclose every location by which the differing action alternatives would be seen. Ten sample viewpoints or observation platforms were selected for detailed analysis because of their proximity to the analysis area and sensitivity to changes in the visual setting. These platforms are either linear (road or trail) or stationary (point location) in nature from which a visibility analysis of the proposed alternatives was conducted. This is not meant to imply that these viewing platforms are the only locations that the action alternatives are visible from, but rather a means to quantify effects at these sample sites to better describe the difference in proposed action alternatives. Other locations with similar perspectives will have similar impacts.

The platforms selected for analysis were: Airport Trail, Airport Saddle Overlook, Cathedral Rock Trail, the “swimming hole” within Oak Creek, Chavez Crossing Group Camp and SR 179. Back O’ Beyond, Oak Creek Cliffs Drive, Red Rock Trail and Elysian Drive are associated with nearby subdivisions that could possibly have views of analysis components. (Figure 13).

Visibility Analysis Methodology

For this analysis, it is important to know where the proposed roadway and associated cut and fill slopes would potentially be visible within the analysis area. Generally, the steeper the slope the greater the landform modification necessary to create road alignments. Additionally, the higher and longer the alternative, the more visible it will be from sensitive landscapes.

Visibility models were created to better identify locations that may have views of each of the proposed alternatives. Two separate visibility analyses were conducted:

- **Views Within Analysis Area (views from proposed alternatives).** This analysis used an overlay of visibility from each of the alternatives to identify the foreground and middleground of the alternative. This overlay provides an understanding of where the alternative may be visible within the analysis area. This method assumes that if the project can “see” a location within the analysis area then that location can see a portion of the proposed alternative. This method of overlay is used because it is not possible to analyze each specific location within the analysis area due to geographic complexity and number of potential viewing locations. (See Visibility Overlay by Alternative – Figures 14,16,18)
- **Views From Sample Observation Platforms (views from representative locations).** This analysis identified 10 sample observation platforms (point and linear) in proximity to the proposed alternatives as representative locations to quantify effects to better describe the differences in alternatives. The analysis identified where each of the proposed alternatives would be visible from the selected platforms which provides quantifiable information to determine the length of proposed alternatives visible within the foreground and middleground of each sample observation platform.

A visibility analysis was performed from each of the proposed alternatives and sample observation platforms (linear and stationary), using an observation height of 5 feet (standard viewer height) above finished grade for a distance of 4 miles (middleground distance zone). A visibility analysis observation point interval of 100 feet along the centerline of each alternative and linear sample platform was used during the analysis. Civil 3D design files for each of the proposed alternatives were utilized to modify the United States Geographical Survey 10 meter Digital Elevation Model (DEM) to reflect the post-construction cut/fill ground surface disturbance for each alternative to provide a more accurate representation of post construction landscape alterations. The resulting 10 meter DEMs were used to run viewsheds associated with each of the proposed alternatives and sample observation platforms.

The visibility analysis for sample observation platforms identified the total length of each alternative that would be visible from each observation platform. The following information was then calculated for each alternative:

- The length in feet of the alternative that would be visible from each platform within each specific distance zone (foreground, middleground) of the viewing location
- For the visible areas of the alternative, the length in feet of cut and fill slopes with notable, substantial, and severe levels of landscape alteration within each distance zone

Both visibility analyses are based on “bare earth” visibility which reflects a worst-case scenario in determining the potential visual impacts as if there was no vegetation or structures to screen project components. Existing vegetation may help to minimize the impacts by screening views to and from the Alternatives. However, since vegetation is subject to fire, disease and other modification circumstances, it cannot be considered as a permanent measure to reduce impacts.

The Airport Saddle Overlook which was selected as a sample observation platform during coordination with CNF was not carried forward in the analysis due to lack of visibility of proposed alternatives during initial visibility modeling.

Note: Due to the technical complexity of the visibility analysis, additional GIS specific information pertaining to visibility modeling inputs can be found as part of the project record.

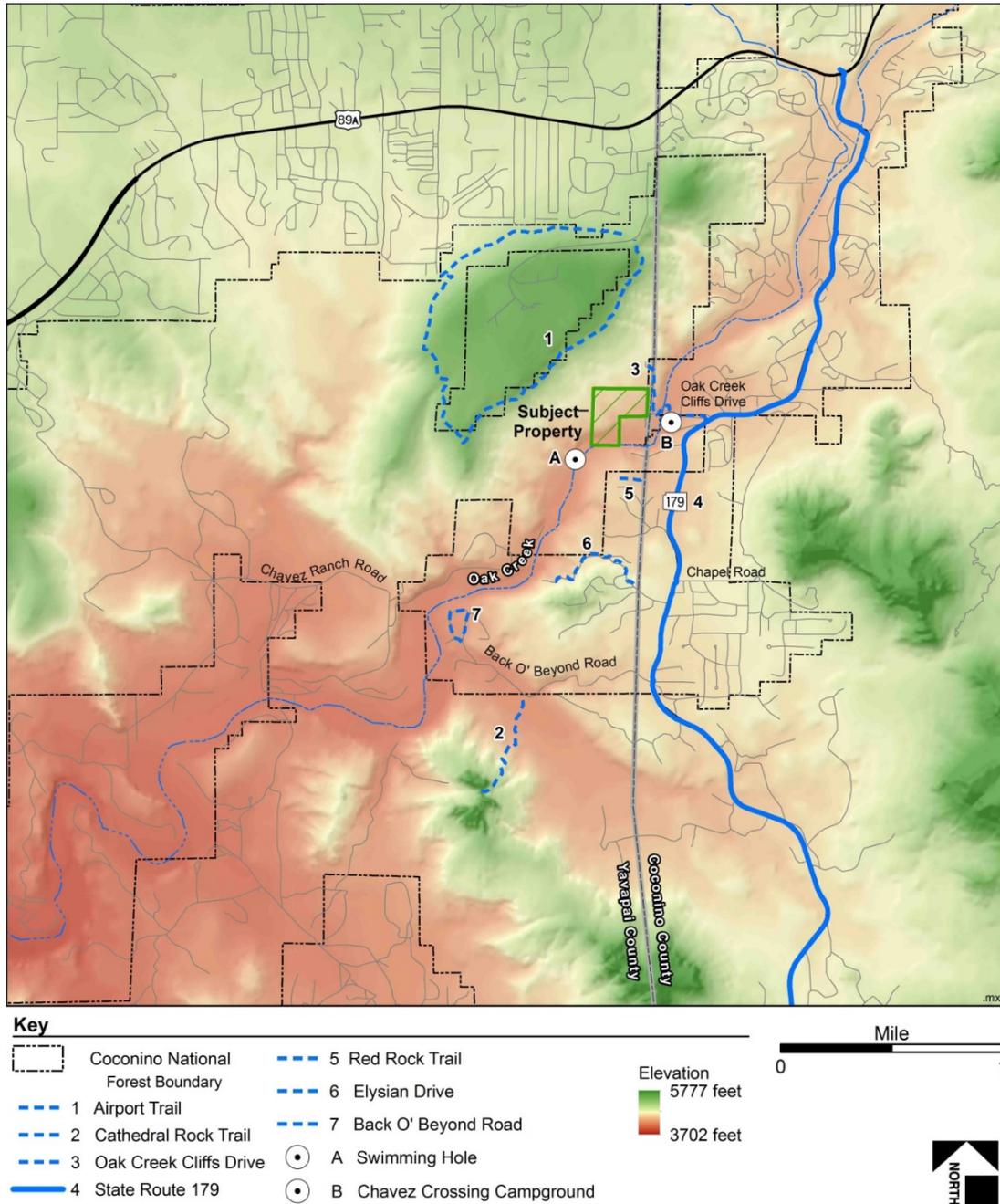


Figure 13. Sample Observation Platforms

Direct and Indirect Environmental Effects

This section describes the expected effects on scenery from taking no action or implementing any of the three action alternatives. Only the portions of the alternatives on the National Forest are considered in the analysis for direct effects and identified under each alternative. Table 5 provides a general comparison of alternatives. The potential effects from access on private land are considered in cumulative effects for the alternative. With existing City of Sedona zoning of RS - 35, 33 residential units would be allowed on the subject property. Based on estimates, approximately 375 trips on the access road would be expected daily with the current zoning under all action alternatives.

Comparison Factors	Alternative A (No Action)	Alternative B 4,573 ft. ¹	Alternative C 2,600 ft. ¹	Alternative D 9,369 ft. ^{1,2}
Total length on national forest	0 ft.	4,570 feet (0.9 miles)	2045 feet (0.4 miles)	7,450 feet (1.4 miles): to include widening of Chavez Ranch Road up to 68 feet for approximately 1,850 feet (.35 miles)
Amount of national forest land to be incorporated into a permanent easement	0	Approximately 3.0 acres	Approximately 1.3 acres	Approximately 5.0 acres
Length Of Proposed Road in Semi-Primitive Non-Motorized ROS Objective	0 Feet	790 Feet	0 Feet	5,400 Feet

Total Landscape Alteration Resulting from Cut/Fill – Linear Feet

Cut/Fill >20' Severe	0	1,117 ⁴ (24%) ⁵	600 (23%)	1,370 (15%)
Cut/Fill 12'- 20' Substantial	0	958 (21%)	188 (7%)	1,611 (17%)
Cut/Fill 4' - 12' Notable	0	2,060 (45%)	814 (31%)	6,234 (67%)
Total ³	0	4,135 (90%)	1,959 (61%)	9,215 (99%)

Bridge Details

Bridge span	0	Approximately 450 feet.	Total span is approximately 650 feet; only approximately 82 feet would be on national forest land.	0
Number of columns in Oak Creek Flood Plain	0	Four 8-foot diameter columns.	Six 8-foot diameter columns.	0
Height above Oak Creek	0	60 feet.	80 feet.	0

National Forest Acres Modeled Visible Within Foreground and Middleground of Alternatives

Visible National Forest Acres	0	2,779	2,237	6,397
Foreground Visible Acres	0	410 (15%)	307 (14%)	737 (12%)
Middleground Visible Acres	0	2,369 (85%)	1,930 (86%)	5,660 (88%)

Table Notes:

1. Length of route on national forest lands according to preliminary GIS data
2. Includes improvements to Chavez Ranch Road
3. Cut/fill visible linear feet does not include visibility of bridge or cut/fill <4'
4. Linear feet of each size of cut/fill slopes per alternative
5. The percent of the visible linear feet within each category of cut/fill slope size

Each of the action alternatives was considered based on the changes in landscape character as well as visibility of the alternative in the foreground, and middleground distance zones from within the vicinity of each alternative and from sample observation platforms. Table 6 identifies current forest plan scenery objectives and change in scenery objectives in relation to visibility of alternatives from sample observation platforms for comparison. Consideration was also given to the casual forest visitor and to a bird's-eye perspective from an aerial platform. The short-term direct effects would be different for each of the build alternatives. It is important to remember that the focus for evaluation of effects is at the alternative level rather than individual view points.

Existing mature piñon pines and juniper trees and large shrubs (Manzanita and scrub oak) would screen a portion of the area disturbed by construction of the action alternatives depending on the perspective of the viewer. Appendix B contains photo simulations of before and after implementation for each alternative from several viewing platforms.

The Airport Loop Trail was evaluated in its entirety as part of the analysis; only portions along the southern and southeast slopes of Airport / Table Top Mesa associated with the Airport Loop Trail would have views of the proposed action. All references to the length of the alternative and the visible portions refer to the length on national forest, with the exception of visibility of Alternative C which includes the entire length of bridge including private land (approximately 650 feet, of which 82 feet is located on national forest land) due to its presence within the viewshed and the inability for the casual observer to discern where the bridge is in location to management boundaries.

In this analysis the proposed bridge over Oak Creek for Alternatives B and C is considered to be a severe level of landscape modification. Similar to cut/fill slopes exceeding 20 feet, the bridge would be a permanent, visible element in the landscape setting. Visual simulations of the action alternatives from selected viewpoints are provided in Appendix B. The effects of the No Action Alternative are also considered.

Table 6. Length of Each Alternative on National Forest Managed Lands Modeled Visible From Sample Observation Platforms and Change in Scenic Integrity/Visual Quality					
Sample Viewing Platforms	Forest Plan Scenery Objectives	Alternative A (No Action)	Alternative B 4,573 ft.¹	Alternative C 2,600 ft.¹	Alternative D 9,369 ft.^{1,2}
Airport Loop Trail	High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	Approx. 4,175 ft. ³ (91%) / Moderate Scenic Integrity /Partial Retention	Approx. 2,541ft. ³ (97%) / Moderate Scenic Integrity /Partial Retention	Approx. 6,066 ft. (65%) / Low Scenic Integrity /Modification
Cathedral Rock Trail	High Scenic Integrity /Retention)	0 ft. / High Scenic Integrity /Retention	Approx. 489 ft. ³ (10%) / High Scenic Integrity /Retention (distance & absorption capacity)	0 ft. / High Scenic Integrity /Retention	Approx. 6,501 ft. (69%) / Moderate Scenic Integrity/Partial Retention
Swimming Hole	High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	Approx. 674 ft. ³ (15%) / Low Scenic Integrity /Modification (dominance of alteration)	Approx. 697 ft. ³ (27%) / Low Scenic Integrity /Modification (dominance of alteration)	Approx. 72 ft.(1%) / High Scenic Integrity /Retention (Limited visibility)
Sample Viewing Platforms	Forest Plan Scenery Objectives	Alternative A (No Action)	Alternative B 4,573 ft.¹	Alternative C 2,600 ft.¹	Alternative D 9,369 ft.^{1,2}
Chavez Crossing Group Camp	High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	Approx. 364 ft. ³ (7%) / Low Scenic Integrity /Modification (dominance of alteration)	Approx. 977 ft. ³ (38%) / Low Scenic Integrity /Modification (dominance of alteration)	Approx. 880 ft.(9%) / High Scenic Integrity /Retention (Limited visibility)
SR 179 Corridor	High Scenic Integrity /Retention	0 ft. / High /Retention	Approx. 2,847 ft. ³ (62%) / Moderate Scenic Integrity /Partial Retention	Approx. 1,837 ft. ³ (71%) / Moderate Scenic Integrity /Partial Retention	Approx. 6,463 ft.(69%) / Moderate Scenic Integrity /Partial Retention
Oak Creek Cliffs Drive	High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	Approx. 2,861 ft. ³ (63%) / Moderate Scenic Integrity /Partial Retention	Approx. 1,907ft. ³ (73%) / Moderate Scenic Integrity /Partial Retention	Approx. 1,582 ft. (17%) / Moderate Scenic Integrity /Partial Retention
Red Rock Trail	High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	Approx. 2,373 ft. ³ (52%) / Moderate Scenic Integrity /Partial Retention	Approx. 1,746 ft. ³ (67%) / Moderate Scenic Integrity /Partial Retention	Approx. 3,425 ft. (37%) / Moderate Scenic Integrity /Partial Retention
Elysian Drive	High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	Approx. 2,115 ft. ³ (46%) / Moderate Scenic Integrity /Partial Retention	Approx. 925 ft. ³ (36%) / Moderate Scenic Integrity /Partial Retention	Approx. 6,096 ft. (65%) / Moderate Scenic Integrity /Partial Retention
Back O' Beyond	High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	0 ft. / High Scenic Integrity /Retention	Approx. 2,232 ft. (24%) / Moderate Scenic Integrity /Partial Retention

Table Notes:

¹ Length of route on national forest lands according to preliminary GIS data

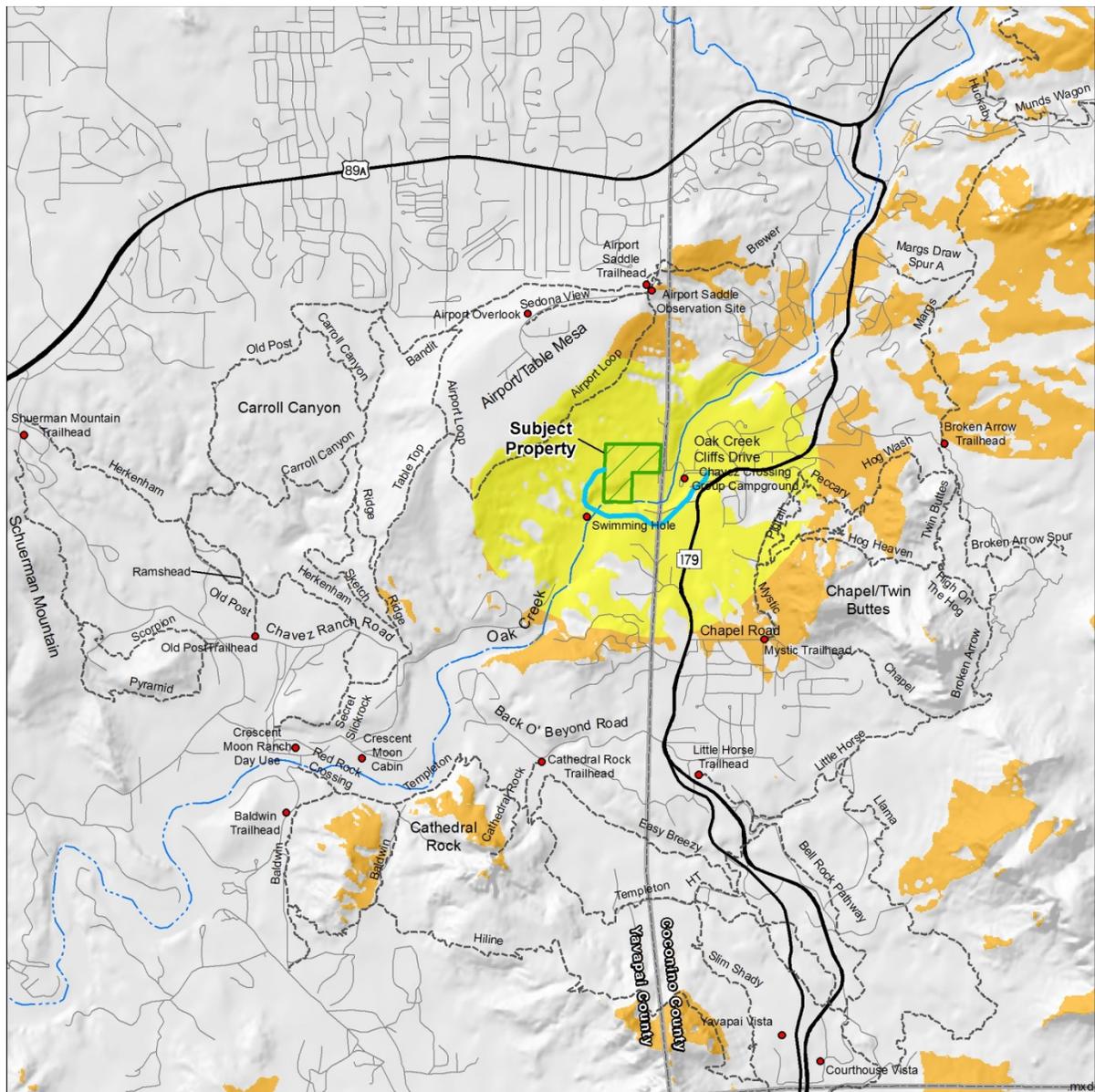
² Includes Improvements to Chavez Ranch Road

³ Includes visible portion of bridge

Alternative A

Direct Effects – No Action. Taking no action would not change scenery from the existing. Forest Plan objectives for Scenery would not be affected. With no direct or indirect effects, there would be no cumulative effects.

Alternative B



Key

- Alternative B
- Recreation Site
- - - - Recreation Trail
- Subject Property
- Alternative B Foreground Seen Areas
- Alternative B Middleground Seen Areas



Figure 14. Alternative B: Visibility Model Overlay

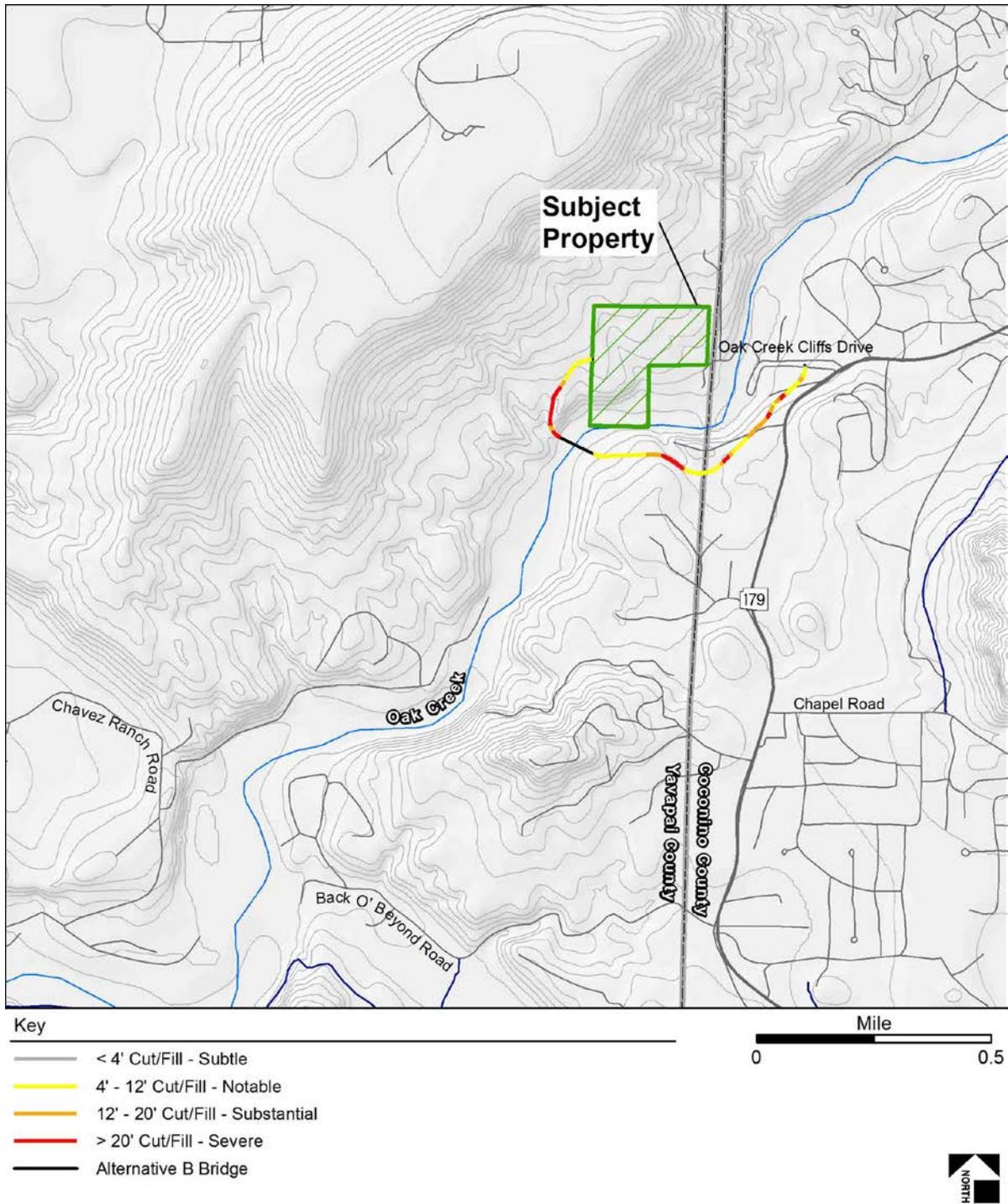


Figure 15. Cut/ Fill Locations– Alternative B

Direct Effects.

Forest Plan guidance applies to the alternative as a whole. While there are some site-specific locations or approaches (such as the swimming hole) that move scenic quality more than one level downward, the alternative as a whole only moves scenic quality one level down from identified scenic objectives. As a result, it complies with Forest Plan guidance because the Forest Plan allows a one level downward movement.

Figure 14 highlights locations this alternative may be seen if built. Figure 15 highlights the areas of cut and fill that would be most likely be noticeable to the casual observer when the alternative is seen. The steeper the slope, the greater the anticipated disturbance to fit the roadbed through cut and fill to fit the alternative on the landscape. This would translate to a marked contrast with the surrounding landscape that would likely be difficult to blend into the surrounding landscape or screen with vegetation. The portions of the alternative highest in elevation would be likely be seen from more viewpoints. When seen, Alternative B would generally meet a SIO/VQO of Moderate/Partial Retention rather than the Forest Plan direction of High/ Retention. Proposed improvements would be noticeable but likely remain visually subordinate to the surrounding landscape from most viewpoints. The exception would be from the perspective of Oak Creek where the bridge would be a dominant feature and the scenic integrity would be Low/Modification. Design criteria and mitigations are meant to lessen the impact of these proposed developments to the extent practical.

Alternative B includes 790 ft. of new road in the Semi-Primitive Non-Motorized ROS and a bridge across Oak Creek- currently valued for its natural, undeveloped character. If this proposal were built, the ROS would change to Roaded Natural under an alternative-specific Forest Plan amendment.

View from within the Analysis area. A VQO of Retention or SIO of High would not be met. Alternative B would also affect casual visitors who venture into the national forest. The visibility analysis indicates that within 0.5-mile of the alternative, the majority of Alternative B would be visible, especially from elevations higher than the alternative (Figure 15). Of the 2,779 visible national forest acres from Alternative B, approximately 15 percent (410 acres) are visible within the foreground of the alternative and approximately 85 percent (2,369 acres) are visible within the middleground of the alternative. Forest visitors on Airport Mesa, above the proposed access road, could be at locations along the slope of the mesa that would have a high level visibility of the proposed road. Forest visitors in these locations above the access would have views of the exposed soil of cut and fill slopes and possibly the road surface in a currently undisturbed area. Approximately 45 percent (2,075 feet) of the analyzed alternative would have cut or fill slopes exceeding 12 feet in height. The magnitude of change in the landscape character at these locations would be substantial to severe. From some locations at lower elevations, such as along Oak Creek, along the slopes on the east side of Oak Creek and from the lower slopes of Airport Mesa, there would be a severe magnitude of change in the landscape character because Forest visitors would have views of the bridge across Oak Creek. The bridge would be a dominant element in the landscape from some locations and the forms, lines and colors of the structure would be incompatible with the existing landscape. From some locations within the analysis area there would be a substantial change to the landscape setting, but the existing natural setting would remain the dominant element of the visual character. Alternative B would meet a SIO/VQO of Moderate/Partial Retention because the proposed improvements would remain visually subordinate in the landscape from most viewpoints.

Bird's-eye View. Alternative B would not meet a VQO of Retention or SIO of High but would meet a VQO of Partial Retention or SIO of Moderate because proposed improvements, though visible, would remain visually subordinate in the landscape. From an aerial perspective, Alternative B would have a notable short-term effect on the landscape from the clearing of vegetation and exposure of soil that would be apparent even as revegetated material matures and the soil becomes covered with grasses or other types of vegetation, the long-term effect would still be considered a notable effect because the proposed roadway, bridge, and associated cut and fill slopes would still be readily apparent, and only somewhat compatible with the surrounding landscape.

Casual Forest User. The recreation experience of the casual forest user would be affected by the addition of the road and bridge into previously undisturbed areas. The recreation setting would change to more developed, rather than valued natural open space. The access road could impede access across previously open areas, and the change in setting would alter the recreation setting to that of being within a residential subdivision. For the portion of the alternative in the Rural ROS, the change in the recreation setting would be consistent with the level of landscape alteration expected in the Rural ROS class, though typically improvements on Forest Land would directly benefit visitors by providing access and improvements for visitor comfort. In this case the road will seem more like access to a gated subdivision. The paved access road and introduction of motorized vehicle travel would extend into the Semi-Primitive Non-Motorized ROS class for approximately 1,000 feet immediately adjacent to the possible future development. The Semi-Primitive Non-Motorized class would require an alternative-specific Forest Plan amendment change the ROS class to Roaded Natural (as previously noted).

Alternative B is within Rural and Semi-Primitive Non-Motorized ROS classes. The proposed access road would have a greater impact on the recreation experience for users at some locations than others. ROS class would change to Roaded Natural for users along Airport Loop Trail and for casual forest visitors on the upper slope of airport mesa. The ROS class and recreation setting would not change for users along Cathedral Rock Trail, Ridge Trail, or the Chavez Crossing Group Camp due to the distance of the proposed road from those recreation areas. Alternative B would impact visitors who value water play along Oak Creek including those exploring the creek from Chavez Group Camp. The proposed bridge would cross directly over one of the pool play areas and dominate the recreation setting. The ROS class along that section of creek is Rural, a class which is permissive of development when in keeping with the valued landscape character.

Views from Airport/Table Top Mesa Vicinity. The eastern portion of Airport Loop trail would have views of Alternative B in the foreground (within ½ mile) and middleground (½ mile-4 miles). Effects of Alternative B on Airport Loop trail are described further under the Sample Observation Platform section for this alternative. Brewer trail as well as Airport Saddle Observation Site would have middle ground views of Alternative B. Due to distance and topography, changes in landscape character would be subtle from these locations due to absorption capacity of the surrounding landscape and would not alter the sense of natural open space or otherwise change the recreation experience for trail users in the Airport/Table Top Mesa Vicinity. The ROS classification of Rural and Semi-Primitive Non-Motorized for the Airport/Table Top Mesa Vicinity would not be affected by this alternative other than those effects specific to Airport Loop trail.

Oak Creek Corridor/Waterplay. The SIO of High / VQO of Retention would not be met when seen from the Oak Creek corridor because the form, line, and colors of the bridge structure would be incompatible with the desired landscape character and desired condition.

Alternative B would impact the existing scenery setting for users and visitors along the Oak Creek Corridor/Waterplay area between Chavez Crossing Group Camp and the downstream “swimming hole” identified during initial scoping. Users of the corridor would have foreground views of the bridge and associated components as they navigate the corridor. The bridge would be approximately 60 feet above the surface of Oak Creek. The bridge would be located on national forest land and it would dominate the setting for users in this area and the SIO would be either Low or Modification from this corridor. The bridge would be a dominant feature of the setting, which would have Substantial to Severe effects to users associated with waterplay and exploration of Oak Creek. The bridge would have a severe level of landscape alteration to those recreating in Oak Creek at this location because it would introduce a human-made structure as a dominant visual element where human-made structures do not currently exist.

This section of Oak Creek is within the Rural ROS class which is permissive of development when in keeping with the valued landscape character. The loss of the valued undeveloped creek-side would change to a developed roadway with a bridge spanning across Oak Creek. During the 18 months anticipated for construction, approximately one-quarter mile of Oak Creek would be closed to visitor use. In the long-term, visitors will be able to hear the traffic on the gated road serving the possible residences with an estimated 375 trips per day.

Views from the Chapel/ Twin Buttes Vicinity. The Chapel of the Holy Cross would not likely have a view of the alternative. Proposed road improvements are likely visible as foreground views (within ½ mile) from both Mystic and Pigtail trails. Sections of Hog Heaven, Hogwash, and Marg’s Draw likely have middleground views (½ mile- 4 miles) of the proposed road improvements, particularly areas along slickrock where there is no vegetation to block views of proposed improvements. Trail users may note the subtle change in scenery- especially the cut and fill slopes. These improvements would not dominate the setting due to the distance from the viewer and the absorption capacity of the surrounding landscape. The ROS classification of Semi-Primitive Non-Motorized for the Chapel/ Twin Buttes Vicinity would not be affected by this alternative.

Views from Cathedral Rock Vicinity. Cathedral Rock trail and Baldwin trail would have distant views of Alternative B in middleground (½ mile-4 miles). Red Rock Crossing, Templeton, Easy Breezy, Hiline, Slim Shady and HT trail would not have views of Alternative B. Crescent Moon Day Ranch Day Use and Crescent Moon Rental Cabin would also not have view of Alternative B. Due to distance and topography, changes in landscape character would be subtle from Cathedral Rock trail and Baldwin trail due to absorption capacity of the surrounding landscape and topography which would not alter the sense of natural open space or otherwise change the recreation experience for trail users. The ROS classification of Rural and Semi-Primitive Non-Motorized for this vicinity would not be affected by this alternative.

Views from the Scheurman Mountain Vicinity. Alternative B would not be visible in the Scheurman Mountain vicinity.

Views from Carroll Canyon Vicinity. Bandit, Old Post, Carroll Canyon, Herkenham Secret Slickrock, Ramshead and Sketch would not have views of Alternative B. Alternative B may

be visible from a small segment of Ridge trail near the southern intersection of Sketch trail. This view would be a middleground view. Due to distance and topography Alternative B would not be discernible from Ridge trail and would not alter the sense of natural open space or otherwise change the recreation experience for trail users in the Carroll Canyon Vicinity. The ROS classification of Semi-Primitive Non-Motorized for the Carroll Canyon Vicinity would not be affected by this alternative.

From the Perspective of Sample Observation Platforms

Airport Loop Trail. From Airport Loop trail the VQO of Retention or SIO of High would not be met. The proximity of the proposed access route would increase the evidence of human activity from the perspective of the southeastern section of the airport loop trail. Alternative B would be visible and likely diminish the sense of natural open space valued by trail users on Airport Loop Trail. The alternative would not add visitor contacts to the trail because there would be no access from the proposed improvements to the trail. The sound of the construction activities and the sound of traffic on the access route in the development of the possible subdivision would likely be a noticeable change from the current levels of natural quiet at this setting.

Visibility modeling shows approximately 90 percent (4,175 feet) of Alternative B would be visible from some portion of the Airport Loop trail. Approximately 46 percent (1,985 feet) would be a foreground view. Approximately 28 percent (566 feet) of the foreground would have cut or fill slopes exceeding 12 feet in height whereby both a finer level of detail would likely be discernible to the casual observer and there would be limited ability to shape the slope to match the surrounding landform or screen with vegetation. Approximately 52 percent (2,189 feet), of the modeled visible portion of the analyzed alternative would be a middleground view and 51 percent (1,122 feet) of this portion would have cut or fill slopes exceeding 12 feet (Table 8). Overall, approximately 1,688 feet, or about 37 percent of the length of Alternative B that would be visible from Airport Trail would have cut or fill slopes exceeding 12 feet, whereby the ability to modify slopes to blend or with the surrounding landform or for vegetation to screen would be limited. Alternative B would meet a SIO of Moderate or VQO of Partial Retention from this view because the proposed improvements though visible would remain subordinate to the surrounding landscape. ROS class would change to Roded Natural for users along Airport Loop Trail.

Cathedral Rock Trail. The VQO of Retention or High SIO would be met from this viewing platform. The western end of Alternative B proposed on the slope of Airport Mesa is modeled visible from the Cathedral Rock Trail. The modeled visible portion of this alternative is approximately 11 percent (489 feet) of the total alternative length (4,573 feet) and within the middleground (greater than ½ mile from trail) of the platform. Approximately 32 percent (156 feet) of the visible portion of the alternative within the middleground of the platform would have cut or fill slopes exceeding 12 feet (Table 8) which would be difficult to blend into the surround landscape. This alternative would have a subtle to notable magnitude of change in the landscape character over the short and long-term. The visible portions of the alternative would be located approximately 1.25 to 1.5 miles from the trail. From this distance the features would appear to be generally compatible with the visual setting because of the adjacent residential subdivisions and absorption capacity of airport mesa and the surrounding view. The ROS class would remain unchanged for the Cathedral Rock Vicinity.

Oak Creek “Swimming Hole”. The SIO of High / VQO of Retention would not be met when seen from the "swimming hole" because the form, line, and colors of the bridge structure would be incompatible with the desired landscape character. Alternative B would have short and long-term effects on the recreation experience for this location. Most of the proposed bridge over the “swimming hole” would be highly visible with one of the proposed 8-foot diameter concrete support columns near a wide pool valued for waterplay associated with this location. The modeled visible portion of this Alternative B is approximately 15 percent (674 feet) of the total length of Alternative B when viewed within the foreground (within the ½ mile) of the of the “swimming hole”. Approximately 12 percent (79 feet) of the visible portion of Alternative B would have cut or fill slopes exceeding 12 feet in height (Table 8). The concrete abutments that are associated with the bridge are approximately 20 feet high, 200 feet wide on the east side and 4 feet high, 200 feet wide on the west side, of which both would be readily visible. The bridge structure would be a dominant component of the view from this perspective. The proposed bridge would be approximately 60 feet above the surface of Oak Creek and located in entirety on national forest lands. The dominance of the bridge structure on the recreation setting and the scene would change from an undisturbed, natural, secluded setting to a more modified and developed setting due to the visibility and character of the concrete bridge and four, 8-foot diameter support columns and the noise associated with traffic on the road.

This alternative contains dense riparian vegetation consisting of mature cottonwood, willow, sycamore and low shrubs and grasses within this area of the Oak Creek corridor. Bridge construction is expected to disturb or remove all of this vegetation within the 100 foot bridge construction footprint. Alternative B would result in permanent loss of approximately 0.025 acres of riparian habitat because of the placement of bridge supports. Temporary loss of riparian vegetation would be 0.78 acre because of the bridge construction footprint. Visitors to the area would notice the exposed mineral soil in the construction footprint and the change in setting from the lush vegetation in the short term. Riparian vegetation would be replanted under the bridge with native species except in those areas occupied by bridge supports. The riparian vegetation lost under the bridge is expected to recover, but mature growth would never be restored as long as the bridge is in place which would limit screening of the proposed action by vegetation. The bridge would be highly visible.

Construction access, the temporary bridge, and rerouting of Oak Creek would result in short-term and long-term changes in the landscape character. Visitors would see the loss of vegetation and temporary facilities that would be incompatible with the valued landscape character. In the long-term, the bridge would result in a fundamental change in the landscape setting -the structure would be a dominant visual element for visitors to this section of the Creek and the swimming hole. During the 18 months anticipated for construction, approximately one-quarter mile of Oak Creek would be closed to visitor use. In the long-term, visitors would be able to hear the traffic on the gated road serving the residences in a possible development with an estimated 375 trips per day.

The “swimming hole” is within the Rural ROS class which is permissive of development when in keeping with the valued landscape character. The loss of the valued undeveloped Creekside would change to a developed roadway with a bridge spanning across Oak Creek in this location. Alternative B would meet a VQO of Modification or SIO of Low when seen from the “swimming hole” because the proposed improvements would dominate the landscape from this location

Chavez Crossing Group Camp. The campground is within the Rural ROS class and would not be changed. The modeled visible portion is approximately 8 percent (364 feet) of the total alternative length (4,573 feet) viewed within the foreground (less than ½ mile) of the platform. Approximately 51 percent (185 feet) of the visible portion of the alternative within the middleground of the platform would have cut or fill slopes exceeding 12 feet (Table 7). Campers that explore Oak Creek will be impacted as described under the Oak Creek Corridor /Waterplay section above. Campers would likely hear the construction activities during the 18 month construction period and will see construction traffic off of Oak Creek Cliffs Drive.

SR 179 Corridor. The SIO/VQO of High/Retention would not be met from this viewpoint. Alternative B from this view would meet a SIO/VQO of Moderate/Partial Retention because depending on the context of the viewer- direction of travel, and proximity to the proposed access road, the proposed improvements would remain subordinate to the surrounding landscape as viewed from SR 179, with the exception of the bridge. Alternative B would have short- and long-term subtle to notable effects on motorists driving along SR 179. All visible portions of the alternative are located in the foreground (up to ½ mile) distance zone. Based on visibility modeling, the varied terrain within the viewshed of the SR 179 corridor allows for intermittent visibility of the proposed access road with some head on views likely. Approximately 62 percent (2,847 feet) of Alternative B is modeled visible. Of the total length of the analyzed alternative from this viewing platform, approximately 40 percent (1,126 feet) would have cut or fill slopes that exceed 12 feet (Table 7) which will be difficult to blend into the natural landscape or screen with vegetation. The visible portions of the alternative closest to SR 179 would have a subtle effect because of the surrounding development. The portion near Oak Creek would have a notable effect on the visual character of the landscape because the access road would be readily visible. In the short travelers will notice the construction activity and loss of vegetation in the Oak Creek corridor. Most of the proposed bridge across Oak Creek would be visible, and would have a long-term notable effect on the scenic character of the landscape. The entire bridge would be visible in the foreground and would have a severe level of landscape modification.

Residential Areas (Oak Creek Cliffs Drive, Red Rock Trail, Elysian Drive and Back O Beyond). The VQO of Retention or SIO of High would not be met. Alternative B would meet a VQO of Partial Retention or SIO of Moderate. The visible portion from Red Rock Trail would be about 52 percent (2,373 feet) of the total alternative length (4,573 feet) and would be viewed within the foreground of the trail. About 11 percent (271 feet) of the visible portion of the visible portion of the alternative would have cut or fill slopes exceeding 12 feet. From Oak Creek Cliffs Drive, approximately 63 percent (2,861 feet) of Alternative B would be visible in the foreground of the platform and about 42 percent (1,196 feet) of the visible portion would have cut or fill slopes exceeding 12 feet. From Elysian Drive, approximately 46 percent (2,115 feet) of Alternative B would be visible, approximately 38 percent (803 feet) of the visible portion would be a foreground view (within the ½ mile) and approximately 1,312 feet, or about 62 percent of the modeled visible portion of the analyzed alternative would be a middleground view (greater than ½ mile). Approximately 48 percent (1,016 feet) of the visible portions of the alternative within the foreground (303 feet) and middleground (713 feet) of the viewing platform would have cut or fill slopes exceeding 12 feet (Table 7). Back O Beyond would not have views of Alternative B.

Alternative B would have a notable to substantial effect on the visual character of the landscape from the adjacent subdivisions depending on the context of the viewer (it would be

more visible from some locations than others). The overall visible portion of the alternative is approximately one-third of the length or less from individual subdivisions. The proposed improvements would remain visually subordinate in the landscape because limited sections

Table 7. Visibility Characteristics of Alternative B from Sample Observation Platforms					
Alternative Length on National Forest Managed Lands 4,573 L.F. ¹					
Observation Platform	Landscape Alteration ²	Foreground		Middleground	
Airport Loop Trail		Visible L.F. ³	1580 ^{4,5}	Visible L.F.	2,189
	Cut/Fill >20'	397	25% ⁶	439	20%
	Cut/Fill 12'- 20'	169	11%	683	31%
	Cut/Fill 4' - 12'	1,013	64%	1,047	48%
Cathedral Rock Trail		Visible L.F.	0	Visible L.F.	489
	Cut/Fill >20'	0	0%	102	21%
	Cut/Fill 12'- 20'	0	0%	53	11%
	Cut/Fill 4' - 12'	0	0%	333	68%
Swimming Hole		Visible L.F.	256	Visible L.F.	0
	Cut/Fill >20'	77	30%	0	0%
	Cut/Fill 12'- 20'	2	1%	0	0%
	Cut/Fill 4' - 12'	177	69%	0	0%
Chavez Crossing Group Camp		Visible L.F.	364	Visible L.F.	0
	Cut/Fill >20'	48	13%	0	0%
	Cut/Fill 12'- 20'	137	38%	0	0%
	Cut/Fill 4' - 12'	179	49%	0	0%
SR 179		Visible L.F.	2,468	Visible L.F.	0
	Cut/Fill >20'	508	21%	0	0%
	Cut/Fill 12'- 20'	618	25%	0	0%
	Cut/Fill 4' - 12'	1,322	54%	0	0%
Oak Creek Cliffs Drive		Visible L.F.	2,482	Visible L.F.	0
	Cut/Fill >20'	549	22%	0	0%
	Cut/Fill 12'- 20'	647	26%	0	0%
	Cut/Fill 4' - 12'	1,265	51%	0	0%
Red Rock Trail		Visible L.F.	1,983	Visible L.F.	0
	Cut/Fill >20'	249	13%	0	0%
	Cut/Fill 12'- 20'	472	24%	0	0%
	Cut/Fill 4' - 12'	1,241	63%	0	0%
Elysian Dr.		Visible L.F.	433	Visible L.F.	1,312
	Cut/Fill >20'	207	48%	408	31%
	Cut/Fill 12'- 20'	96	22%	305	23%
	Cut/Fill 4' - 12'	131	30%	599	46%
Back O'Beyond		Visible L.F.	0	Visible L.F.	0
	Cut/Fill >20'	0	0%	0	0%
	Cut/Fill 12'- 20'	0	0%	0	0%
	Cut/Fill 4' - 12'	0	0%	0	0%

Table Notes:

1. Entire bridge length analyzed to include portion on private property.
2. See Figure 15 for cut/fill locations associated with alternative
3. This column shows the linear feet of each size of cut/fill slopes of the alternative from each sample viewing platform.
4. The total number of linear feet of the alternative that is visible from each sample viewing platform.
5. Cut/fill visible linear feet does not include visibility of bridge or cut/fill <4'
6. The percent of the visible linear feet within each category of cut/fill slope size visible from each sample viewing platform.

of the alternative would be visible from the subdivisions and natural open space would remain a dominant element in the setting.

Indirect Effects. Alternative B is not expected to have short- or long-term indirect effects on forest users to include motorists driving along SR 179, various trails and trail heads, water play and recreation along Oak Creek, campground users, or on adjacent residents. Indirect effects would include additional damage or clearing of vegetation from increased use along established trails or along new routes established by an increase in informal access to the national forest. The proposed access road would be a private road and would not increase access to area trails or streets in adjacent subdivisions by visitors seeking vehicular access. Connections to existing trails would not occur from the access road so there would be no increase in trail use that could affect the setting. The proposed access road could provide access to national forest lands to the residents of a possible future development and to national forest visitors who could access the proposed road on foot.

Effect of Alternative-Specific Forest Plan Amendment

Alternative B includes 790 ft. of new road in the Semi-Primitive Non-Motorized ROS and a bridge across Oak Creek- currently valued for its natural, undeveloped character. If this proposal were built, the ROS would change to Roaded Natural. This would be an alternative specific modification to the Forest Plan direction for Recreation Opportunity Spectrum and would not necessarily be applied to future project planning in the area. While this amendment to the ROS is expected to last for the next several decades, the effect of the amendment is fairly limited to the direct effects of the actions described in the alternative because of the limited scope in the change of the ROS.

Alternative C

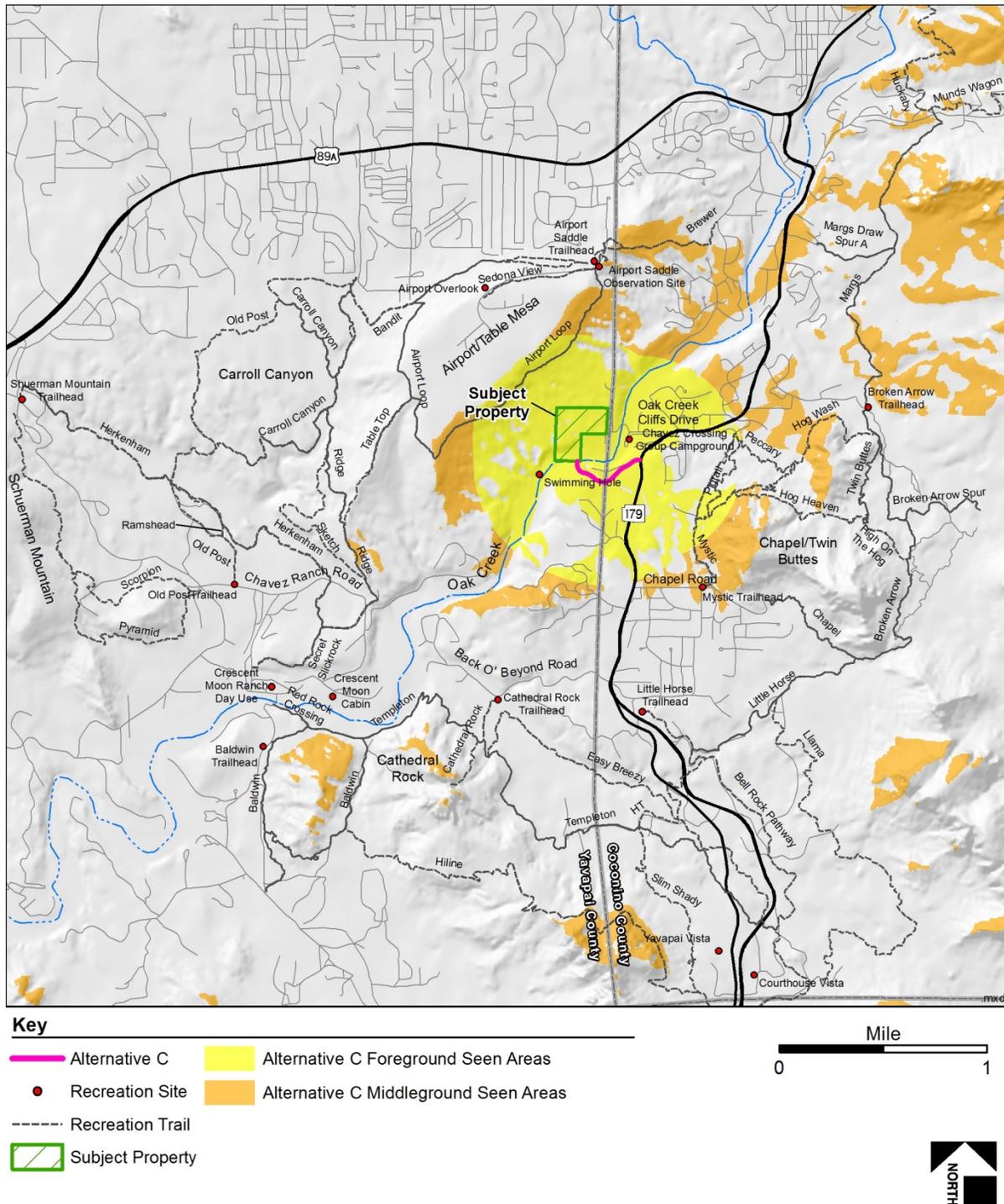


Figure 16. Alternative C: Visibility Model Overlay

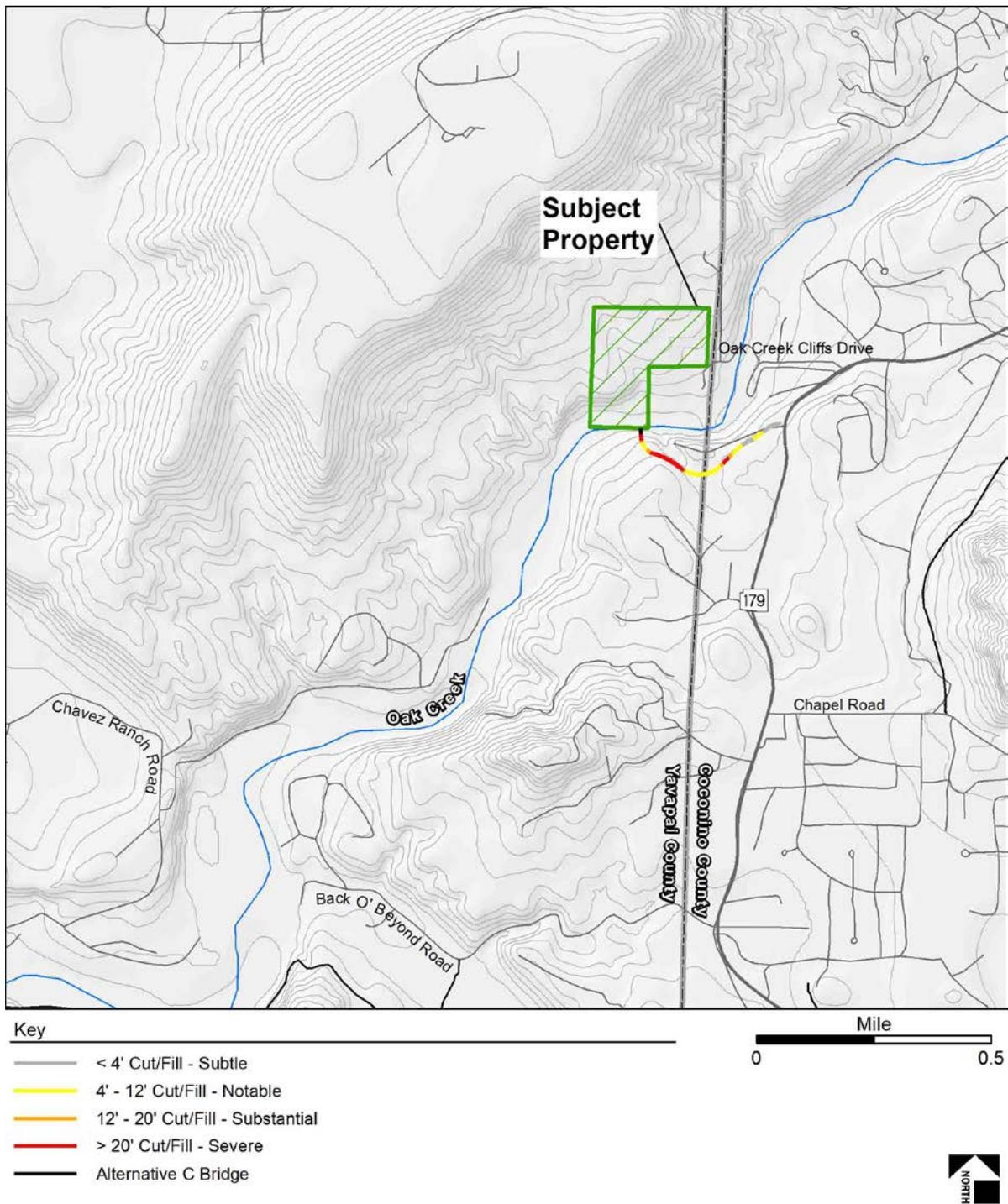


Figure 17. Cut/ Fill Locations On National Forest – Alternative C

Direct Effects.

Alternative C is within the Rural ROS class and would not require a Forest Plan amendment for inconsistencies. Figure 16 highlights locations this alternative may be seen if built. Figure

17 highlights the areas of cut and fill that would be most likely noticeable to the casual observer when the alternative is seen. This is the shortest action alternative on national forest, therefore likely the least impactful to scenery. The proposed access road would have a greater impact on recreation experience for users at some locations than others, the level of modification of the natural landscape and the evidence of human activity is consistent with the Rural ROS class. This would be a notable change from the currently valued secluded and undeveloped atmosphere along this section of Oak Creek. The proposed access point for Alternative C from SR179 would remove an existing informal parking area that is valued by locals for creek access and dispersed access to national forest. One special use permit is issued to an outfitter and guide at this parking area who leads metaphysical tours and healing ceremonies at the Creek and in the near vicinity.

When seen, Alternative C would generally meet a SIO of Moderate or VQO of Partial Retention rather than the Forest Plan direction of High/ Retention. Proposed improvements would remain visually subordinate to the surrounding landscape from most viewpoints. The exception would be from the perspective of Oak Creek where the bridge would be a dominant feature and the scenic integrity would be Low/Modification. Design criteria and mitigations are meant to lessen the impact of these proposed developments to the extent practical.

The magnitude of change in the landscape character created by the construction of Alternative C would be notable to severe depending on the perspective of the viewer. The length of this alternative on national forest is almost half as long than Alternative B. The bridge, though only 82 feet is on the national forest, would be approximately 20 feet higher than Alternative B, and the total span across the creek is 200 feet longer which would require two additional 8-foot concrete support columns. The bridge would likely be more visible overall, but the segment on national forest is 60 feet versus the 450 feet of Alternative B.

Substantial short-term effects due to ground-disturbing activities, removing existing vegetation, and exposing soil from grading and grubbing activities during construction would be noticeable when seen from the near vicinity. Approximately 1.9 acres would be disturbed temporarily for construction. The SIO/VQO of High/Retention would not be met. Alternative C would meet a SIO/VQO of Moderate/Partial Retention because the proposed improvements would remain visually subordinate in the landscape for the majority of viewpoints- the exception being when viewed from the Creek corridor. This one classification downward is consistent with the forest plan.

Casual Forest Visitor. The recreation experience of the casual forest user would be affected particularly for those that are accessing Oak Creek. The access road is proposed across previously undisturbed natural areas, though a much smaller area of disturbance on national forest than is proposed for Alternative B. The existing recreation experience would change from a relatively undisturbed, natural setting to a more developed setting because of the visibility and character of the concrete bridge structure, the level of modification of the natural landscape and sights of humans and sounds of human activity though consistent with the Rural ROS class are inconsistent with the valued natural, undeveloped character of the creek corridor.

View from within the Analysis Area. The SIO/VQO of Retention would not be met. Of the 2,237 visible national forest acres from Alternative C, approximately 14 percent (307 acres) are visible within the foreground of the alternative and approximately 86 percent (1,930

acres) are visible within the middleground of the alternative (Figure 16). The visibility analysis indicates that within a 0.5-mile radius of the alternative, the majority of Alternative C would be visible. Approximately 30 percent (788 feet) of the analyzed alternative would have cut or fill slopes exceeding 12 feet in height. As a result, Alternative C would not meet a SIO/VQO of Retention, but would meet a SIO/VQO of Partial Retention because the proposed improvements would remain visually subordinate in the landscape, and the existing natural open space character would remain the dominant character in the landscape for the majority of views in the near vicinity.

Bird's-eye View. The SIO/VQO of Retention would not be met. Similar to Alternative B, Alternative C would have a notable short-term effect on the landscape from the clearing of vegetation and exposure of soil that would be apparent from an aerial perspective. Even as revegetated material matures and the soil becomes covered with grasses or other types of vegetation, the long-term effect would still be considered a notable effect because the roadway and associated cut and fill slopes would still be readily apparent, though over a smaller area than that of Alternative B. Alternative C would meet a SIO/VQO of Partial Retention because the proposed improvements would generally remain visually subordinate in the landscape from the aerial perspective.

Views from Airport/Table Top Mesa Vicinity. Similar to Alternative B, the eastern portion of Airport Loop trail would have views of Alternative C in the foreground (within ½ mile) and middleground (½ mile-4 miles). Effects of Alternative C on Airport Loop trail are described further under the Sample Observation Platform section for this alternative. Brewer trail as well as Airport Saddle Observation Site would have middle ground views of Alternative C. Due to distance and topography, changes in landscape character would be subtle from these locations due to absorption capacity of the surrounding landscape and would not alter the sense of natural open space or otherwise change the visual experience for trail users in the Airport/Table Top Mesa Vicinity. The ROS classification of Rural and Semi-Primitive Non-Motorized for the Airport/Table Top Mesa Vicinity would not be affected by this alternative other than those effects specific to Airport Loop trail.

Oak Creek Corridor/Waterplay. The SIO of High / VQO of Retention would not be met when seen from the Oak Creek corridor because the form, line, and colors of the bridge structure would be incompatible with the desired landscape character and existing condition.

Similar to Alternative B, Alternative C would impact the existing visual setting for users and visitors along the Oak Creek Corridor/Waterplay area between Chavez Crossing Group Camp and the downstream “swimming hole” identified during initial scoping. Users of the corridor would have foreground views of the bridge and associated components as they navigate the Oak Creek corridor. The bridge would be approximately 90 feet above the surface of Oak Creek. The concrete abutment that is associated with the bridge is approximately 12 feet high, 200 feet wide on the south side which would be readily visible. It is anticipated that the north side abutment will be buried and not visible based on preliminary drawings. Though only approximately 95 feet of the bridge would be located on national forest land, it would dominate the recreation setting for users in this area and the SIO would be either Low or Modification from this corridor. The bridge would be a dominant feature of the setting, which would have Substantial to Severe effects to users associated with waterplay and exploration of Oak Creek. The bridge would have a severe level of landscape alteration

because it would introduce a human-made structure as a dominant visual element where human-made structures do not currently exist.

This section of Oak Creek is within the Rural ROS class which is permissive of development when in keeping with the valued landscape character. The loss of the valued undeveloped Creekside would change to a developed roadway with a bridge spanning across Oak Creek. During the 18 months anticipated for construction, approximately one-quarter mile of Oak Creek would be closed to visitor use. In the long-term, visitors along Oak Creek may be able to hear the traffic on road serving the residences of a possible development with an estimated 375 trips per day.

Views from the Chapel/ Twin Buttes Vicinity. The Chapel of the Holy Cross would not likely have a view of Alternative C. Proposed road improvements are likely visible as foreground views (within ½ mile) from both Mystic and Pigtail trails. Sections of Hog Heaven, Hogwash, and Marg's Draw likely have middleground views (½ mile- 4 miles) of the proposed road improvements, particularly areas along slickrock where there is no vegetation to block views of proposed improvements. Trail users may note the subtle change in scenery- especially the cut and fill slopes. These improvements would not dominate the setting due to the distance from the viewer and the absorption capacity of the surrounding landscape. The ROS classification of Semi-Primitive Non-Motorized for the Chapel/ Twin Buttes Vicinity would not be affected by this alternative.

Views from Cathedral Rock Vicinity. Cathedral Rock trail and Baldwin trail would have distant views of Alternative C in middleground (½ mile-4 miles). Red Rock Crossing, Templeton, Easy Breezy, Hiline, Slim Shady and HT trail would not have views of Alternative C. Similar to Alternative B, Crescent Moon Day Ranch Day Use and Crescent Moon Rental Cabin would not have views of Alternative C. Due to distance and topography, changes in landscape character would be subtle from Cathedral Rock trail and Baldwin trail due to absorption capacity of the surrounding landscape and topography which would not alter the sense of natural open space or otherwise change the visual experience for trail users. The ROS classification of Rural and Semi-Primitive Non-Motorized for this vicinity would not be affected by this alternative.

Views from the Scheurman Mountain Vicinity. Alternative C would not likely be visible in the Scheurman Mountain vicinity.

Views from Carroll Canyon Vicinity. Similar to Alternative B, Bandit, Old Post, Carroll Canyon, Herkenham Secret Slickrock, Ramshead and Sketch trails would not have views of Alternative C. Alternative C may be visible from a small segment of Ridge trail near the southern intersection of Sketch trail. This view would be a middleground view. Due to distance and topography Alternative B would not be discernible from Ridge trail and would not alter the sense of natural open space or otherwise change the visual experience for trail users in the Carroll Canyon Vicinity. The ROS classification of Semi-Primitive Non-Motorized for the Carroll Canyon Vicinity would not be affected by this alternative.

From the Perspective of Sample Observation Platforms

Note: Visibility model overlays for each sample platform can be found in Appendix B.

Airport Loop Trail. The Airport Loop Trail is within the SPNM ROS class. Alternative C would subtly alter the setting for trail users along southeast slope of Airport Mesa on the

Airport Loop Trail, but would not add visitor contacts or otherwise change the visual experience for the trail users.

The change in setting for Alternative C would be subtle because the visual focus for trail users would be on the surrounding red-rock landforms and distant views and the access road would be located near existing residential development. The proposed improvements would remain visually subordinate in the landscape as viewed from Airport Loop Trail. Visibility modeling shows approximately 98 percent (2,541 feet) of Alternative C would be visible from some portion of the Airport Loop Trail. Approximately 33 percent (847 feet) of the visible portion would be a foreground view (within the ½ mile) and 19 percent (158 feet) of this portion would have cut or fill slopes exceeding 12 feet in height. Approximately 1,693 feet, or about 65 percent of the modeled visible portion of the analyzed alternative would be a middleground view (greater than ½ mile from trail) and 561 feet or approximately 33 percent of the analyzed alternative within would have cut or fill slopes exceeding 12 feet visible within the middleground (Table 9). Overall, approximately 719 feet, or about 28 percent of the length of Alternative B that would be visible from Airport Loop Trail would have cut or fill slopes exceeding 12 feet. Alternative C would have a substantial effect on the visual setting from Airport Trail because of the high level of visibility and the amount of the alternative that would have cut or fill slopes exceeding 12 feet. The proposed access road and bridge would be similar to the existing improvements in the adjacent subdivisions and the existing natural open space character would continue to remain the focus of the visual setting. None of Alternative C would be visible from Airport Saddle Overlook.

Cathedral Rock Trail. ROS for the Cathedral Rock Trail would not change. The proposed road would not be visible and there would be no change in the visual setting for trail users. The SIO/VQO of High/Retention would be met.

Oak Creek Swimming Hole Alternative C would impact the existing recreation setting for “swimming hole” users and visitors to the Oak Creek corridor. The proposed bridge location would be approximately 830 feet upstream from the bridge location proposed in Alternative B, and would be partially visible from the “swimming hole.” Visibility modeling shows approximately 27 percent (697 feet) of Alternative C would be visible in the foreground (within the ½ mile) from some portion of the swimming hole and about 14 percent (97 feet) of the visible portion of the alternative would have cut or fill slopes exceeding 12 feet (Table 9). The bridge would be approximately 90 feet above the surface of Oak Creek. Though only approximately 95 feet of the bridge would be located on national forest land, it would dominate the recreation setting for users in this area of the swimming hole and the Scenic integrity would be Low or Modification from this viewpoint. The bridge would be a dominant feature for users of the swimming hole near the location of Alternative C or exploring the Creek corridor. The bridge would have a severe level of landscape alteration because it would introduce a human-made structure as a dominant visual element.

This alternative contains dense riparian vegetation consisting of mature cottonwood, willow, sycamore and low shrubs and grasses within the Oak Creek corridor. Bridge construction would disturb or remove all of this vegetation within the corridor of the bridge. Alternative C would result in permanent loss of approximately 0.001 acres of vegetation because of the placement of bridge supports. Temporary loss of riparian vegetation would be 0.23 acre on national forest lands because of the bridge construction footprint. Riparian vegetation would be replanted under the bridge with native species except in those areas occupied by bridge

supports. The riparian vegetation lost under the bridge is expected to recover, but mature growth would never be restored as long as the bridge is in place which may result in limited screening of the proposed action by vegetation resulting in a highly visible bridge structure.

Construction access, the proposed temporary bridge and rerouting of Oak Creek would result in short-term change in landscape character. Alternative C would result in a fundamental change in the landscape setting in the long-term because the bridge would be the dominant visual element for visitors to the swimming hole. The bridge would also likely be visible from other locations within the area that visitors use for water play along Oak Creek. While the bridge would not be located right above other locations used for water play it would be still be a dominant feature in the landscape and would not be compatible with the valued landscape character.

During the 18 months anticipated for construction, approximately one-quarter mile of Oak Creek would be closed to visitor use. In the long-term, visitors will be able to hear the traffic on the gated road serving the possible residences with an estimated 375 trips per day.

Though the recreation experience would change from a relatively undisturbed, natural setting to a more developed setting, the ROS class would remain Rural. The visibility and character of the concrete structure, the level of modification of the natural landscape, and sights of humans and sounds of human activity would be a substantial change from the valued natural, undeveloped character of this area and the gated road would not provide any benefit to the general public.

Chavez Crossing Group Camp. An ROS class of Rural would be maintained. Alternative C would have a major impact on the recreation setting for Chavez Crossing Group Camp users. Visibility modeling shows approximately 38 percent (977 feet) of Alternative C would be visible within the foreground (within the ½ mile) of the viewing platform. Approximately 5 percent (46 feet) of the visible portion would have cut or fill slopes exceeding 12 feet in height (Table 9). The recreation experience would change from the valued relatively undisturbed, natural setting to a more developed, urban setting because of the visibility and character of the concrete bridge structure. The Scenic integrity would be lowered from this vantage point and be Low or Modification when the bridge is in view. The bridge would be a dominant feature in the viewshed of the campground.

SR 179 Corridor. The SIO/VQO of High/Retention would not be met from SR 179. Alternative C would meet a VQO of Partial Retention because the proposed improvements though visible would remain visually subordinate in the landscape and would be viewed for short durations as motorist travel at 35 mph on the roadway. Similar to Alternative B, Alternative C would have short- and long-term effects on motorists driving along SR 179. Visibility modeling shows approximately 71 percent (1,837 feet) of Alternative C would be visible within the foreground (within the ½ mile) and 511 feet or approximately 28 percent of the visible portion would have visible cut or fill slopes exceeding 12 feet (Table 9). The visible portions of the alternative closest to SR 179 would have a notable effect because of the surrounding development, and the proposed access road would be similar to existing roads and not be out of context. Revegetation and cut and fill slope mitigation would reduce long-term effects. The visibility of the proposed bridge across Oak Creek and access road would have a long-term, notable effect, primarily on motorists driving southbound along SR 179. The 82 feet of the bridge on national forest lands would be visible in the foreground and would introduce a manmade structure with forms, lines and textures that deviate from the

desired landscape character. The short- and long-term visual effects from the construction of the alternative would be less for travelers along northbound SR 179.

Residential Areas (Oak Creek Cliffs Drive, Red Rock Trail and Elysian Drive). The SIO/VQO of High/Retention would not be met. Portions of Alternative C would be visible from 300 feet to 0.5 mile from two viewpoints—Oak Creek Cliffs and Red Rock Trail, and visible in more than 0.5 mile from Elysian Drive.

From Oak Creek Cliffs Drive the visible portion of the alternative within the foreground of the viewing platform would be approximately 1,907 feet or 73 percent of the alternative. Approximately 524 feet, or 27 percent of the visible portion would have cut or fill slopes exceeding 12 feet. From Red Rock Trail the visible portion of the alternative within the foreground of the viewing platform would be approximately 1,746 feet, or about 67 percent of the overall alternative. Approximately 214 feet, or 12 percent of the visible portion would have cut or fill slopes exceeding 12 feet (Table 8). From Elysian Drive, approximately 36 percent (925 feet) of Alternative C would be visible. Within the foreground of the viewing platform approximately 31 percent (290 feet) would be visible and approximately 635 feet (69 percent) of the alternative would be visible within the middleground of the viewing platform. However, almost all of the visible portion, which would consist of the proposed bridge across Oak Creek and associated abutments, would have substantial effects because of the introduction of the man-made structure. The overall visible portion of Alternative C is approximately forty-percent of the length or less from individual subdivisions. Alternative C would meet a SIO/VQO of Moderate/Partial Retention because limited sections of the alternative would be visible from the subdivisions and the natural open space would remain the dominant element in the visual setting. Back O'Beyond would not have views of Alternative C.

Table 8. Visibility Characteristics of Alternative C from Sample Observation Platforms Alternative Length on National Forest Managed Lands 2,600 L.F.					
Observation Platform	Landscape Alteration ¹	Foreground		Middleground	
		Visible L.F. ²	251 ^{3,4}	Visible L.F.	1,693
Airport Loop Trail	Cut/Fill >20'	79	31% ⁵	422	30%
	Cut/Fill 12'- 20'	79	31%	139	13%
	Cut/Fill 4' - 12'	93	37%	775	48%
		Visible L.F.	0	Visible L.F.	0
Cathedral Rock Trail	Cut/Fill >20'	0	0%	0	0%
	Cut/Fill 12'- 20'	0	0%	0	0%
	Cut/Fill 4' - 12'	0	0%	0	0%
		Visible L.F.	102	Visible L.F.	0
Swimming Hole	Cut/Fill >20'	67	66%	0	0%
	Cut/Fill 12'- 20'	30	29%	0	0%
	Cut/Fill 4' - 12'	5	5%	0	0%
		Visible L.F.	546	Visible L.F.	0
Chavez Crossing Group Camp	Cut/Fill >20'	33	6%	0	0%
	Cut/Fill 12'- 20'	13	2%	0	0%
	Cut/Fill 4' - 12'	299	36%	0	0%
		Visible L.F.	1,241	Visible L.F.	0
SR 179	Cut/Fill >20'	444	36%	0	0%
	Cut/Fill 12'- 20'	67	5%	0	0%
	Cut/Fill 4' - 12'	399	32%	0	0%
		Visible L.F.	1,310	Visible L.F.	0
Oak Creek Cliffs Drive	Cut/Fill >20'	458	35%	0	0%
	Cut/Fill 12'- 20'	66	5%	0	0%
	Cut/Fill 4' - 12'	430	33%	0	0%
		Visible L.F.	1,105	Visible L.F.	0
Red Rock Trail	Cut/Fill >20'	67	6%	0	0%
	Cut/Fill 12'- 20'	147	13%	0	0%
	Cut/Fill 4' - 12'	561	51%	0	0%
		Visible L.F.	290	Visible L.F.	523
Elysian Dr.	Cut/Fill >20'	0	0%	0	0%
	Cut/Fill 12'- 20'	113	39%	236	45%
	Cut/Fill 4' - 12'	176	61%	287	55%
		Visible L.F.	0	Visible L.F.	0
Back O' Beyond	Cut/Fill >20'	0	0%	0	0%
	Cut/Fill 12'- 20'	0	0%	0	0%
	Cut/Fill 4' - 12'	0	0%	0	0%
		Visible L.F.	0	Visible L.F.	0

Table Notes:

1. See Figure 17 for cut/fill locations associated with alternative.
2. This column shows the linear feet of each size of cut/fill slopes of the alternative from each sample viewing platform
3. The total number of linear feet of the alternative that is visible from each sample viewing platform
6. Cut/fill visible linear feet does not include visibility of bridge or cut/fill <4'
7. The percent of the visible linear feet within each category of cut/fill slope size visible from each sample viewing platform

Indirect Effects. Similar to Alternative B, Alternative C is not expected to have short- or long-term indirect effects on forest users to include motorists driving along SR 179, various trail and trail head users, water play and recreation along Oak Creek, campground users, or on adjacent residents. Indirect effects would include additional damage or clearing of vegetation from increased use along established trails or along new routes established by an

increase in informal access to the national forest. The proposed access road would be a gated road and would not increase access to area trails or streets in adjacent subdivisions by visitors seeking vehicular access. Connections to existing trails would not occur from the access road so there would be no increase in trail use that could affect the setting. The proposed access road could provide access to national forest lands for the residents of the future development and to national forest visitors who could access the proposed road on foot. National forest visitors walking along the road past the vehicle entry gate may have easier access to some locations in the analysis area, but all of the analysis area is currently open to use. Therefore, use of the road would not provide access to areas that are currently inaccessible, or otherwise lead to effects from an increase in informal use of national forest lands.

Alternative D

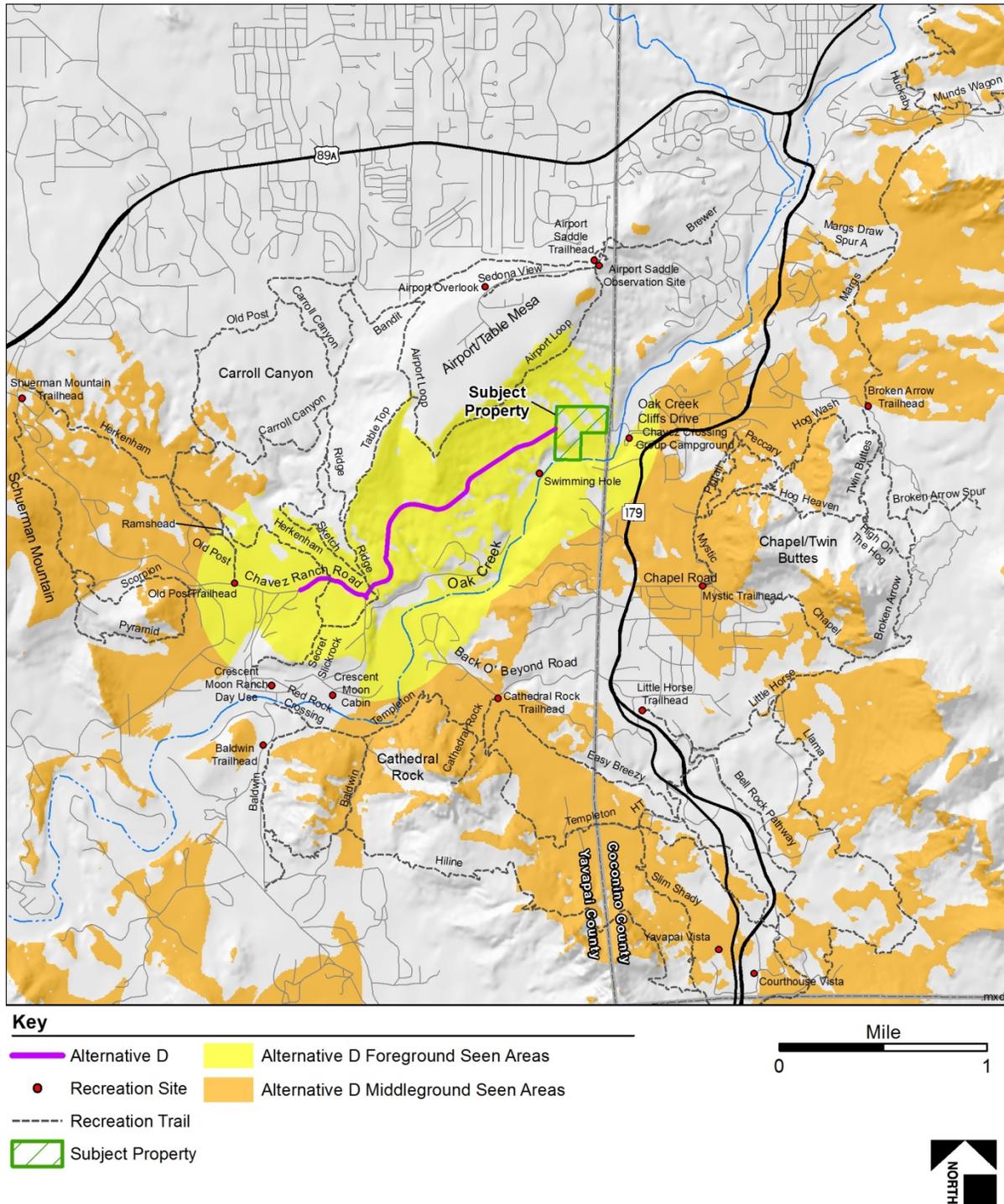


Figure 18. Alternative D: Visibility Model Overlay

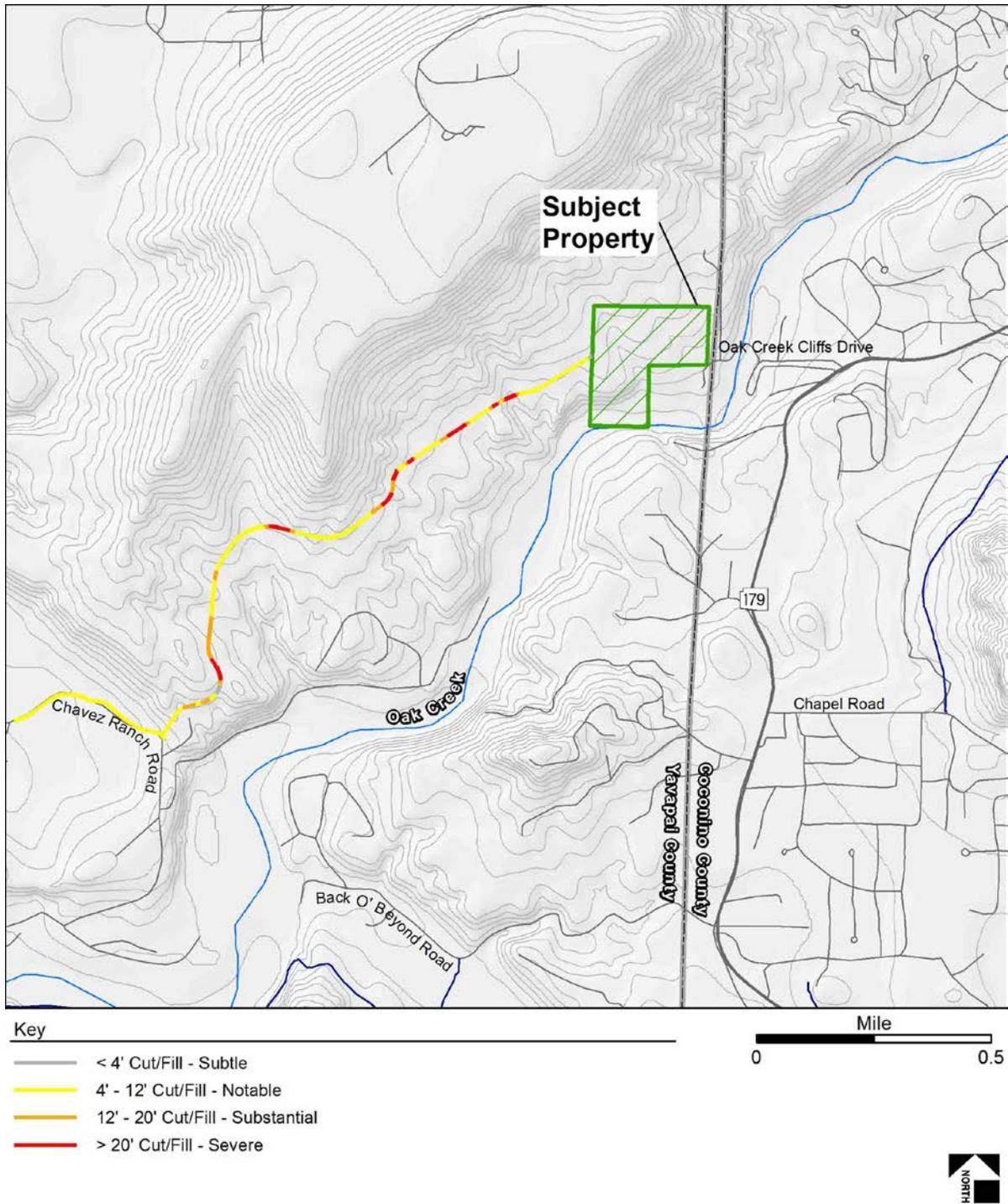


Figure 19. Cut/ Fill Location – Alternative D

Direct Effects

This alternative is consistent with Forest Plan direction for Recreation. The Semi-primitive Non-Motorized ROS class would be changed to Roded Natural via an alternative-specific Forest Plan amendment. Figure 18 highlights locations this alternative may be seen if built.

Figure 19 highlights the areas of cut and fill that would be most likely noticeable to the casual observer when the alternative is seen. The proposed access route would be readily evident with sights of human development and the heavily modified natural environment. The length of this proposal as and the location on the slope of Airport Mesa would allow the proposed improvements to be visible from many locations. The steep hillside and crossing natural drainages will result in the need for substantial modification of the landscape for construction. Of the total length of Alternative D (9,369 feet) approximately 9,215 feet / 99% would have cut/fill greater than 4 feet. As compared to total cut/fill of Alternative B (90%) and Alternative C (61%).

The construction of Alternative D would create a magnitude of change in the landscape character similar to that of Alternatives B and C, except the change would occur over a larger area and would likely be seen from more viewpoints. Alternative D would have substantial short-term effects over approximately 6.8 acres proposed for ground-disturbing activities including remove existing vegetation and exposing soil from grading and grubbing activities during construction. However, the proposed roadway would remain a subordinate element in the visual setting for the majority of the viewpoints in the analysis area.

View from within the Analysis Area. Alternative D would not meet the SIO/VQO of High/Retention. The proposed access road would be subordinate in the landscape setting and the lower end of SIO/VQO of Moderate/Partial Retention would be met from many locations in the near vicinity with views of Airport Mesa. The visibility analysis within a 0.5-mile radius of Alternative D indicates the majority of Alternative D would be visible from locations throughout the analysis area. Of the 6,397 visible national forest acres from Alternative D, approximately 12 percent (737 acres) are visible within the foreground of the alternative and approximately 88 percent (5,660 acres) are visible within the middleground of the alternative (Figure 18). Forest visitors on Airport Mesa, above the proposed access road, could be at locations along the slope of the mesa that would have open views looking down on the access road. Visitors in these locations would have views of exposed soil of cut and fill slopes and possibly the road surface in a currently unnatural appearing area. Approximately 32 percent (2,981 feet) of the analyzed alternative would have cut or fill slopes exceeding 12 feet in height. The proposed access road would be a noticeable development along the slopes of Airport Mesa and in conflict with desired natural appearing landscape. Locations such as the swimming hole and other locations along Oak Creek at elevations below the proposed access road would not likely have a view of the proposed development and there would be no change in the setting for those visitors.

Ridge Trail. Alternative D would cross Ridge Trail and would have the effect of a reduced sense of natural open space and disruption of the trail by the roadway. The Ridge trail already crosses Chavez Ranch Road, and the proposed access route would cross the trail again within a very short distance. There may be options for rerouting the trail to limit the trail to one road crossing. If this alternative is chosen, additional NEPA analysis may be required for a reroute of the Ridge trail to be completed before implementation. Where the road crosses the trail would provide another access point for visitors to walk on the proposed access road and access to the currently undeveloped setting. Special design features and wayfinding features would be incorporated to reduce conflict between motorized and non-motorized use, and reduce the likelihood of trail users getting lost due to the introduction of the road across the trail. Additionally the character of the trail tread would be protected from motorized intrusion at the road crossing. There could be an increase in trail use from the

homeowners using the access road to access trails from their neighborhood that could subtly change the social recreation experience for trail users.

Casual Forest Visitor. Similar to the other alternatives, Alternative D would be a gated road and have similar effects on the recreation experience of the casual forest user. The access road would also provide access across the largest extent of currently undisturbed natural areas, and the change in the visual setting would alter the experience over a larger area than Alternatives B or C. Visitors to the area would see not only the road, but also hear the sounds of motorized traffic. Though the road is gated, visitors to the area would be permitted to walk on the road, thereby increasing the ease of access to this vicinity. The gated road would not promote a sense of being on national forest land. This alternative, when seen would show a marked contrast with the existing Piñon- Juniper forest. The cleared vegetation and readily visible cut and fill slopes would be visible from long distances. The closer the viewer is to the development the more apparent the change in setting would be and the increased likelihood of the roadway being a dominant feature in the landscape- detracting from the valued natural appearing, undeveloped landscape character.

Alternative D is within the Semi-primitive Non-Motorized and Rural ROS classes. The proposed access road would have a greater impact on recreation experience for users at some locations than others. Alternative D would introduce a substantial road into the Semi-primitive Non-Motorized ROS class and the class would change to Roaded Natural character over a larger area than for Alternatives B and C. If implemented, this would require a alternative-specific Forest Plan amendment and the ROS map. Alternative D would change the Recreation setting for Ridge Trail and Cathedral Rock Trail users because of the introduction of the 28-foot wide paved road into the Semi-primitive Non-motorized ROS class. The level of modification of the natural landscape and the evidence of human activity would be consistent with the Roaded Natural ROS class and the ROS class for Alternative D would change to Roaded Natural. A direct effect of implementing Alternative D would be the widening and paving of 0.5 miles of Chavez Ranch Road that would be required for implementation of this alternative. Specific details of design features relating to the improvement of Chavez Ranch Road are not available and will be associated with the permitting and design phase of the proposed action.

Bird's-eye View. A SIO/VQO of High/Retention would not be met. From an aerial perspective Alternative D would meet a SIO/VQO of Moderate/Partial Retention because the proposed roadway would remain subordinate in the landscape. Because of its length, Alternative D would have a notable, short-term effect on the landscape from the clearing of vegetation and exposure of soil that would be apparent from an aerial perspective over a larger area than that of Alternative B or C. Even as revegetated material matures and the soil becomes covered with grasses or other types of vegetation, the long-term effect would still be considered a notable effect because the roadway and associated cut and fill slopes would still be a change from the current vegetated slope.

Views from Airport/Table Top Mesa Vicinity. The eastern and southern segments of Airport Loop and Table Top trails would have views of Alternative D in the foreground (within ½ mile) of each trail. Trail users may note the subtle change in scenery- especially the cut and fill slopes. These improvements would not dominate the setting and are similar to existing roads within the vicinity. Distance from the viewer, direction of travel and the absorption capacity of the surrounding landscape may reduce visibility of this alternative

from these locations. It is anticipated that there would be a Subtle to Notable effect associated with Alternative D in this vicinity. Effects of Alternative D on Airport Loop trail are described further under the Sample Observation Platform section for this alternative. Alternative D would introduce a substantial road into the Semi-primitive Non-Motorized ROS class changing the ROS to Routed Natural.

Oak Creek Corridor/Waterplay. The Oak Creek corridor/waterplay area occurs within the foreground of Alternative D. It is anticipated that topography will obscure views of this alternative due the Oak Creek corridor being lower than the alignment of Alternative D. In the long-term, visitors along Oak Creek may be able to hear the traffic on the road serving the residences of a possible development with an estimated 375 trips per day.

Views from the Chapel/ Twin Buttes Vicinity. Locations within the Chapel/Twin Buttes vicinity would occur in the middleground (½ mile-4 miles) of Alternative D and may have intermittent views of Alternative D, particularly areas along slickrock where there is no vegetation to block views of the alternative. Trail users may note the subtle change in scenery- especially the cut and fill slopes. These improvements would not dominate the setting due to the distance from the viewer and the absorption capacity of the surrounding landscape. The ROS classification of Semi-Primitive Non-Motorized for the Chapel/ Twin Buttes Vicinity would not be affected by this alternative.

Views from Cathedral Rock Vicinity. Locations within the Cathedral Rock vicinity would occur in the middleground (½ mile-4 miles) of Alternative D. The Crescent Moon Day Ranch Day Use and Crescent Moon Rental Cabin would not have views of Alternative D. Airport mesa is a prominent foreground feature from the majority of trails in the vicinity. Changes in landscape character on Airport Mesa would be notable from trails in the vicinity, particularly along the slickrock sections. The proposed road corridor would be seen as a marked contrast from the existing green vegetated slope to a ribbon of red from the cut and fill slopes associated with the road corridor and lower the overall scenic integrity from this vicinity. The proposed roadway would be a noticeable feature in an undisturbed area, but would not dominate the visual setting. The roadway would not appear to be as compatible with the visual setting as the other alternatives because of its isolated location on the slope of Airport Mesa, away from the adjacent residential subdivisions. The ROS classification of Rural and Semi-Primitive Non-Motorized for this vicinity would not be affected by this alternative.

Views from the Scheurman Mountain Vicinity. Locations within the Scheurman Mountain vicinity would occur in the middleground (½ mile-4 miles) of Alternative D and may have intermittent views of the alternative, particularly areas where there is minimal vegetation to block views of the alternative. Trail users would likely notice the change in scenery- especially the cut and fill slopes associated with the beginning of the new road that intersects Chavez Ranch Road. These improvements would not dominate the setting due to the distance from the viewer and the absorption capacity of the surrounding landscape. The ROS classification of Semi-Primitive Non-Motorized and isolated areas of Rural for Scheurman Mountain vicinity would not be affected by this alternative.

Views from Carroll Canyon Vicinity. Segments of Old Post, Herkenham, Ridge, Secret Slickrock, Ramshead and Sketch trails occur within the foreground of Alternative D. Ridge and Herkenham trails intersect Alternative D and associated improvements to Chavez Ranch Road. The proximity of these trails to Alternative D would alter the user experience changing

the ROS classification associated with Semi-Primitive Non-Motorized and Rural to Roaded Natural for the Carroll Canyon vicinity would not be affected by this alternative.

From the Perspective of Sample Observation Platforms

Note: Visibility model overlays for each sample platform can be found in Appendix B of the specialist report in the project record.

Airport Loop Trail. The SIO/VQO of High/Retention would not be met from Airport Loop Trail because Alternative D would introduce a substantial road into the Semi-primitive Non-Motorized ROS area changing the ROS to Roaded Natural. Alternative D would not add visitor contacts for the Airport Mesa Trails. However, similar to the other alternatives, none of Alternative D would be visible from Airport Saddle Overlook (Table 9).

The visual focus for trail users is the surrounding red-rock landforms and distant views rather than the proposed road because the location of the access road would require trail users to specifically look down the slope to see the road. Visibility modeling shows approximately 65percent (6,066 feet) of Alternative D would be visible from some portion of the Airport Loop trail. Approximately 55 percent (5,154feet) of the visible portion would be a foreground view (within the ½ mile) and 1,818 feet of this portion would have cut or fill slopes exceeding 12 feet in height (Table 10). Approximately 912 feet, or about 10 percent of the modeled visible portion of the analyzed alternative would be a middleground view (greater than ½ mile from trail) and 723 feet or approximately 8 percent of the analyzed alternative would have cut or fill slopes exceeding 12 feet. Overall, approximately 2,541 feet, or about 27 percent of the length of Alternative D that would be visible from Airport Trail would have cut or fill slopes exceeding 12 feet. With its total length of visibility and its severe level of landscape modification the proposed access road could begin to dominate the landscape from some viewing locations along Airport Loop Trail based on viewer position along the trail.

Cathedral Rock Trail. The SIO/VQO of High/Retention would not be met from this trail. A SIO/VQO of Low/Modification would be met because Alternative D would be readily visible on the slopes of Airport Mesa from Cathedral Rock Trail. The proposed access road would be located in a currently undisturbed area and appear as a noticeable visual intrusion in the landscape because it is within view of trail users. Though similar to other roads for residential development, the proposed roadway would be an isolated feature and the disruption of views of open space could diminish the recreation setting for trail users. Substantially larger portions of Alternative D would be visible from Cathedral Rock Trail than the other alternatives. Approximately 6,501 feet, or about 70 percent of the modeled visible portion of the analyzed alternative would be a middleground view (greater than ½ mile from trail). Approximately 2,165 feet or 23 percent of the visible portion of Alternative D within the middleground of the trail would have a substantial to severe level of landscape modification with cut and fill slopes exceeding 12 feet (Table 10). The visibility analysis indicates that the most visible areas along the trail would be in the higher elevations, near Cathedral Rock. From these locations, trail users would be approximately 1.0 to 1.5 miles away from the proposed access road. The location in the middleground distance zone would result in a notable magnitude of change in the landscape character when viewed from the trail. From this distance the proposed roadway would be a noticeable feature in an undisturbed area, but would not dominate the visual setting. The roadway would not appear

to be as compatible with the visual setting as the other alternatives because of its isolated location on the slope of Airport Mesa, away from the adjacent residential subdivisions.

Swimming Hole. The SIO/VQO of High/Retention would be met from this location. This alternative would not affect the existing recreation experience for “swimming hole” users. Alternative D is located at a higher elevation on the slope of Airport Mesa, above the “swimming hole”, and does not include a bridge across Oak Creek. The alternative would not be visible from the “swimming hole”.

Chavez Crossing Group Camp. The SIO/VQO of High/Retention would be met from this location. The visible portion of the alternative is located within the middleground of the campground, and would not affect the recreation experience for campground users due to distance. Approximately 9 percent (880 feet) of Alternative D would be visible within the middleground of the campground. Of the visible portions of the alternative within the middleground of the viewing platform. Approximately 58 percent (508 feet) of the visible alternative would have cut or fill slopes exceeding 12 feet (Table 9).

SR 179 Corridor. The SIO/VQO of High/Retention would be not met. A SIO/VQO of Moderate/Partial Retention would be met because the proposed roadway would remain subordinate to the surrounding landscape. The visible portions of Alternative D are located approximately 0.5 mile or more from SR 179. Alternative D could have short- and long-term subtle to notable effects on motorists driving along SR 179, though from a further distance than the other alternatives. Approximately 6,463 feet, or about 69 percent of the modeled visible portion of the analyzed alternative would be a middleground view (greater than ½ mile from SR 179) approximately 2,640 feet, or 28 percent, of that visible length would have cut or fill slopes exceeding 12 feet in height visible in the middleground of the viewing platform where details of the modifications would be less noticeable (Table 9).

Residential Areas (Oak Creek Cliffs Drive, Red Rock Trail and Elysian Drive, Back O Beyond). Alternative D would meet a SIO/VQO of Moderate/Partial Retention from residential areas.

From Oak Creek Cliffs Drive, approximately 17 percent (1,582 feet) of Alternative D would be visible, approximately 7 percent (114 feet) of the visible portion would be a foreground view (within the ½ mile) and approximately 1,468 feet, or about 93 percent of the modeled visible portion of the analyzed alternative would be a middleground view (greater than ½ mile). Approximately 44 percent (702 feet) of the visible portions of the alternative within the foreground (40 feet) and middleground (662 feet) of the viewing platform would have cut or fill slopes exceeding 12 feet (Table 9).

From Red Rock Trail, approximately 37 percent (3,425 feet) of Alternative D would be visible, approximately 60 percent (2,062 feet) of the visible portion would be a foreground view (within the ½ mile) and approximately 1,363 feet, or about 40 percent of the modeled visible portion of the analyzed alternative would be a middleground view (greater than ½ mile). Approximately 46 percent (1,567 feet) of the visible portions of the alternative within the foreground (726 feet) and middleground (841 feet) of the viewing platform would have cut or fill slopes exceeding 12 feet.

From Elysian Drive, approximately 66 percent (6,096 feet) of Alternative D would be visible in the middleground, approximately 38 percent (2,340 feet) of the visible portions of the alternative within the middleground of the viewing platform would have cut or fill slopes

exceeding 12 feet. Alternative D would have a notable impact on the visual character from Elysian Drive because the road would be noticeable in the landscape but would generally be recognized as a normal component of the landscape when viewed from the middleground of the viewing platform. However the SIO/VQO of High/Retention would not be met but the proposed roadway would remain subordinate in the landscape.

From Back O Beyond, approximately 24 percent (2,232 feet) of Alternative D would be visible, approximately 47 percent (1,046 feet) of the visible portion would be a foreground view (within the ½ mile) and approximately 1,186 feet, or about 53 percent of the modeled visible portion of the analyzed alternative would be a middleground view (greater than ½ mile). Approximately 44 percent (979 feet) of the visible portions of the alternative within the foreground (316 feet) and middleground (663 feet) of the viewing platform would have cut or fill slopes exceeding 12 feet.

Table 9. Visibility Characteristics of Alternative D from Sample Observation Platforms					
Alternative Length on National Forest Managed Lands 9,369 L.F.					
Observation Platform	Landscape Alteration ¹	Foreground		Middleground	
Airport Loop Trail		Visible L.F. ²	5,154 ^{3,4}	Visible L.F.	912
	Cut/Fill >20'	895	17% ⁵	265	29%
	Cut/Fill 12'- 20'	923	18%	458	50%
	Cut/Fill 4' - 12'	3,285	64%	103	11%
Cathedral Rock Trail		Visible L.F.	6,501	Visible L.F.	0
	Cut/Fill >20'	0	0%	985	15%
	Cut/Fill 12'- 20'	0	0%	1,180	18%
	Cut/Fill 4' - 12'	0	0%	4,223	65%
Swimming Hole		Visible L.F.	72	Visible L.F.	0
	Cut/Fill >20'	0	0%	0	0%
	Cut/Fill 12'- 20'	0	0%	0	0%
	Cut/Fill 4' - 12'	72	100%	0	0%
Chavez Crossing Group Camp		Visible L.F.	0	Visible L.F.	880
	Cut/Fill >20'	0	0%	213	24%
	Cut/Fill 12'- 20'	0	0%	295	34%
	Cut/Fill 4' - 12'	0	0%	372	42%
SR 179		Visible L.F.	501	Visible L.F.	5,961
	Cut/Fill >20'	0	0	1,227	21%
	Cut/Fill 12'- 20'	0	0	1,413	24%
	Cut/Fill 4' - 12'	451	90%	3,219	54%
Oak Creek Cliffs Drive		Visible L.F.	114	Visible L.F.	1,468
	Cut/Fill >20'	1	1%	314	21%
	Cut/Fill 12'- 20'	39	34%	348	24%
	Cut/Fill 4' - 12'	40	35%	796	54%
Red Rock Trail		Visible L.F.	2,062	Visible L.F.	1,363
	Cut/Fill >20'	487	24%	501	37%
	Cut/Fill 12'- 20'	239	12%	340	25%
	Cut/Fill 4' - 12'	1,286	62%	445	33%
Elysian Dr.		Visible L.F.	0	Visible L.F.	6,069
	Cut/Fill >20'	0	0%	1,144	19%
	Cut/Fill 12'- 20'	0	0%	1,196	20%
	Cut/Fill 4' - 12'	0	0%	137	2%
Back O'Beyond		Visible L.F.	1,046	Visible L.F.	1,186
	Cut/Fill >20'	12	1%	251	11%
	Cut/Fill 12'- 20'	304	29%	412	18%
	Cut/Fill 4' - 12'	627	60%	1,466	66%

Table Notes:

1. See Figure 19 for cut/fill locations associated with Alternative D.
2. This column shows the linear feet of each size of cut/fill slopes of the alternative from each sample viewing platform
3. The total number of linear feet of the alternative that is visible from each sample viewing platform
4. Cut/fill visible linear feet does not include visibility of bridge or cut/fill <4'
5. The percent of the visible linear feet within each category of cut/fill slope size visible from each sample viewing platform

Indirect Effects. Similar to Alternatives B and C, indirect effects would include additional damage or clearing of vegetation from increased use along established trails or along new

routes established by an increase in informal access to the Forest. However, Alternative D is not expected to have short- or long-term indirect effects on forest users to include motorists driving along SR 179, various trail and trail head users, water play and recreation along Oak Creek, campground users, or on adjacent residents. The proposed access road would be a gated road and would not increase vehicle access to area trails or streets in adjacent subdivisions. Improvements to Chavez Ranch road may increase to amount of traffic from casual visitors to the end of the road and informal creek access. As in Alternatives B and C, the proposed access road could provide access to national forest land to the residents of the future development and to Forest visitors who could access the proposed road on foot. However, similar to those alternatives, use of the road would not provide access to areas that are currently closed or inaccessible, or would otherwise lead to visual effects from an increase in informal use of National forest lands.

Effect of Alternative-Specific Forest Plan Amendment

Alternative D includes approximately 5,400 ft. of new road in the Semi-Primitive Non-Motorized ROS setting - currently valued for its natural, undeveloped character. If this alternative were implemented, the ROS would change to Roaded Natural. This would be a project-specific modification to the Forest Plan direction for Recreation Opportunity Spectrum and would not necessarily be applied to future project planning in the area. While this amendment to the ROS is expected to last for the next several decades, the effect of the amendment is fairly limited to the direct effects of the actions described in the alternative because of the limited scope in the change of the ROS.

Summary of Direct Effects - Overall

Alternative B would be consistent with Forest Plan direction for the Recreation Opportunity Spectrum. When seen, this alternative would generally meet the SIO/VQO of Moderate/Partial Retention which would meet the forest plan guidance because the change is only one level downward. The ROS for 790 feet of Alternate B is Semi-Primitive Non-Motorized and would need to be changed to Roaded Natural under an alternative-specific Forest Plan amendment, the remaining portion is within the ROS of Rural. The total length of alternative B is approximately 0.9 miles on national forest, with approximately 3.0 acres to be incorporated into a permanent easement. Of the total length of Alternative B, approximately 90 percent of the alternative would have cut/fill slopes greater than 4 feet in height, of this, approximately 45% of the cut/fill is between 4-12 percent with a notable level of perceptible landscape alteration, approximately 21 percent is between 12-20' of cut/fill with a substantial level of perceptible landscape alteration and approximately 24 percent if over 20' of cut/fill which translates to a severe level of perceptible landscape alteration. Forest visitors would have views of exposed soils associated with cut/fill slopes as well as the road surfaces depending on viewing location. Short term effects due to ground disturbing activities such as vegetation removal, and soil exposure as a result of grading activities during construction would be noticeable when seen in the near vicinity. In the long term, this alternative would be noticeable from most user locations within the foreground and middleground of the alternative, but would likely remain visually subordinate as a result of absorption capacity of the surrounding landscape. The exception would be from users of Oak Creek where the bridge associated with this alternative would be a dominant feature in the immediate landscape creating a severe change in landscape character due to incompatible elements of form, line, color and scale associated with the structure. The bridge is proposed

to be approximately 60 feet in height, and the span is approximately 450 feet, with four 8-foot diameter support columns.

As the shortest alternative on the national forest, with 0.4 miles or approximately 1.3 acres proposed to be incorporated into a permanent easement, Alternative C would have the least amount of overall visibility of the three proposed alternatives. Alternative C is also inconsistent with Forest Plan Scenery objectives of High/Retention, and would be lowered to Moderate/Partial Retention. The total span of the bridge is approximately 650 feet, but only about 82 feet is on the national forest. The proposed height of the bridge is 80 feet (20 feet higher than Alternative B). The bridge is proposed to be accessed directly from SR179, and would likely be a prominently visible element for short distances along SR179. Alternative C would have a notable to substantial change in the visual character, though over a smaller area because of its shorter length. Short term effects due to ground disturbing activities such as vegetation removal and soil exposure as a result of grading activities during construction would be noticeable when seen in the immediate vicinity. In the long term, this alternative would be noticeable from most user locations that occur within the foreground and the middleground of the alternative, but would likely remain visually subordinate as a result of absorption capacity of the surrounding landscape. Similar to Alternative B, is the dominance of the bridge when seen from the Oak Creek corridor. The bridge associated with this alternative would be a dominant feature in the immediate landscape creating a severe change in landscape character due to incompatible elements of form, line, color and scale associated with the structure; thereby lowering scenic integrity. The ROS for the location of Alternative C is Rural and would not require a alternative-specific Forest Plan amendment for inconsistencies. Of the total length of Alternative C, approximately 75 percent of the alternative would have cut/fill slopes greater than 4 feet in height. Forest users would have views of exposed soils associated with cut/fill slopes as well as the road surfaces depending on viewing location.

Alternative D would have the greatest amount of overall visibility within the analysis area of the three alternatives. Increased visibility of Alternative D can be attributed to overall project length, amount of cut/fill and location of the alternative within the existing landscape. As the longest of the alternates, the total length of Alternative D is approximately 1.4 miles of new construction and 0.35 miles of road improvements (approximately 5.0 acres of land incorporated into a permanent easement). The 5,400 feet of alternative that occurs within the Semi-primitive Non-Motorized ROS class would be changed to Roaded Natural via an alternative-specific Forest Plan amendment. The proposed access route would be readily evident with sights of human development and the heavily modified natural environment. The length of this proposal as and the location on the slope of Airport Mesa would allow the proposed improvements to be visible from many locations. Alternative D would have the largest overall impact on the landscape as viewed from analyzed viewing platforms, and surrounding subdivisions. The steep hillside and crossing natural drainages will result in the need for substantial modification of the landscape for construction. Almost the entire length of this alternative would result in cut/fill over four feet in height. Approximately 67 percent of the alternative would require cut/fill 4-12 feet (notable alteration), 17 percent between 12-20 feet cut/ fill (substantial alteration) and approximately 15 percent of this alternative would require over 20 feet in height of cut/fill resulting in a severe level of perceptible landscape alteration necessary for the construction of this alternative. Locations such as the swimming

hole and other locations along Oak Creek at elevations below the proposed access road would not likely have a view of the proposed development and there would be no change in the setting for those visitors.

Indirect effects were identified for the alternatives. The access road would be gated and serve possible future residences. It would not provide vehicle access to national forest lands for the general public, but the casual forest visitor could walk the road and gain access to surrounding undeveloped lands for hiking. With the exception of Alternative D, the proposed access roads would not connect with or cross the designated trail network to provide residents of a possible development access to recreation areas. However, there would be an increase in potential contacts for casual forest visitors from residents of the new development. The access road could provide residents of a possible new development access to forest areas currently used by casual forest visitors who may seek a more solitary recreation experience. Potential effects from residents of a possible development for which the easement would provide access are considered in the cumulative effects section.

Comparison Factors	Alternative A (No Action)	Alternative B 4,573 ft. ¹	Alternative C 2,600 ft. ¹	Alternative D 9,369 ft. ^{1,2}
Total length on national forest	0 ft.	4,570 feet (0.9 miles)	2045 feet (0.4 miles)	7,450 feet (1.4 miles): to include widening of Chavez Ranch Road up to 68 feet for approximately 1,850 feet (.35 miles)
Amount of national forest land to be incorporated into a permanent easement	0	Approximately 3.0 acres	Approximately 1.3 acres	Approximately 5.0 acres
Length Of Proposed Road in Semi-Primitive Non-Motorized ROS Objective	0 Feet	790 Feet	0 Feet	5,400 Feet

Total Landscape Alteration Resulting from Cut/Fill – Linear Feet

Cut/Fill >20' Severe	0	1,117 ⁴ (24%) ⁵	600 (23%)	1,370 (15%)
Cut/Fill 12'- 20' Substantial	0	958 (21%)	188 (7%)	1,611 (17%)
Cut/Fill 4' - 12' Notable	0	2,060 (45%)	814 (31%)	6,234 (67%)
Total ³	0	4,135 (90%)	1,959 (61%)	9,215 (99%)

Bridge Details

Bridge span	0	Approximately 450 feet.	Total span is approximately 650 feet; only approximately 82 feet would be on national forest land.	0
Number of columns in Oak Creek Flood Plain	0	Four 8-foot diameter columns.	Six 8-foot diameter columns.	0
Height above Oak Creek	0	60 feet.	80 feet.	0

National Forest Acres Modeled Visible Within Foreground and Middleground of Alternatives

Visible National Forest Acres	0	2,779	2,237	6,397
Foreground Visible Acres	0	410 (15%)	307 (14%)	737 (12%)
Middleground Visible Acres	0	2,369 (85%)	1,930 (86%)	5,660 (88%)

Table Notes:

1. Length of route on national forest lands according to preliminary GIS data
2. Includes improvements to Chavez Ranch Road
3. Cut/fill visible linear feet does not include visibility of bridge or cut/fill <4'
4. Linear feet of each size of cut/fill slopes per alternative
5. The percent of the visible linear feet within each category of cut/fill slope size

Summary of Direct Effects From Sample Observation Platforms

Alternative D has the highest level of visibility when viewed from the 9 selected viewing platforms and will have the greatest impact to Recreation and Scenery. All alternatives would have the highest level of visibility from Airport Trail due to the viewing platform being in a superior position with viewers looking down onto proposed action components.

Alternatives B and C would be visible from the swimming hole especially views of the bridge associated with alternative. At the Swimming Hole, the proposed bridge over Oak Creek would account for all of the visible portions within the foreground and would have a severe level of landscape alteration. The bridge structure would dominate the visual setting at the swimming hole because it would be located directly over areas currently used for water play along Oak Creek.

Alternatives B and C would be visible within the foreground of Chavez Crossing Group Camp. As at the Swimming Hole all of the visible portion of Alternative C on national forest lands would be the bridge and it would be a dominant feature in the viewshed of the campground. Alternative D would not affect the visual setting at the campground.

From SR 179, almost half of Alternative B would be visible within the foreground, and of that portion, nearly half would have a substantial to severe level of landscape alteration because of the visibility of the proposed bridge. Alternatives C would have similar levels of visibility from SR 179 within the foreground but would be less visible than Alternative B. However, the bridge in Alternative C would be 80 feet higher than the bridge in Alternative B and accessed directly from SR179. The visible portions of Alternative D would be viewed predominately within the middleground distance zone though the alterations in landscape character would be prominent in some locations.

From surrounding subdivisions, all alternatives would have some degree of visibility from viewing platforms. The majority of the visibility of Alternative D would be from Elysian Drive. Alternatives C and D would also have similar visibility from Oak Creek Cliffs and similar substantial to severe levels of landscape alteration within the foreground. Alternative C would have the lowest level of visibility of visibility within the foreground of Red Rock Trail. Most of the visible portion of Alternative C would have a relatively substantial level of landscape alteration.

Overall, of the three alternatives, Alternative C would have the least amount of substantial to severe level of landscape alteration from sample observation platforms.

Alternatives B and D would have similar levels of contribution to cumulative effects. Alternative C would have the greatest cumulative impact because of the extension of the bridge and access road onto the subject property.

None of the build alternatives would comply with the established Scenery objectives for national forest lands in the analysis area. Alternatives B and D would have notable to substantial changes in the existing landscape character. All viewers would be expected to have high sensitivity to changes in the existing visual setting, and the alternatives would be evident to the casual user and could dominate the natural landscape character from specific viewpoints.

Cumulative Effects

Cumulative effects on scenery include the extent of the area from which the analysis area would be visible. Past, present, and reasonably foreseeable actions that could cumulatively affect scenic resources include the possible residential development (approximately 33 residential units) for which the proposed road would provide access and new residential development on undeveloped lots in adjacent subdivisions. The development of residences on vacant lots in adjacent subdivisions and within the proposed subdivision, though not within Forest Service jurisdiction, would have a subtle to notable effect on the scenery of the analysis area.

Cumulative effects consider the continued development of residences on vacant lots in adjacent subdivisions and the development of the residences within a possible subdivision, for which the proposed easement would provide access. Alternative C considers the portion of the proposed bridge that would be located on private land and Alternative D considers the portion of Chavez Ranch Road to be upgraded and paved.

The analysis area includes Arizona's Red Rock Country that is characterized by eroded monuments, promontories, cliffs, and buttes of red sandstone. Numerous prominent landmarks are visible from the analysis area including Bell Rock, Courthouse Butte, and Cathedral Rock. It is generally bounded by Airport Trail on the south side of Airport Mesa, Ridge Trail to the west, and Cathedral Rock Trail to the south and State Route 179 to the east.

Alternative B. The development of residences on vacant lots in existing, adjacent subdivisions, and within a possible subdivision for which the proposed easement provides access would have a subtle impact on the recreation setting for Airport Trail and Cathedral Rock Trail. The new residences would be an evident change for trail users, but they would be in context with existing development. The development of new residences would likely be visible from the "swimming hole" and from Chavez Crossing Group Camp and there would change in the recreation setting for these recreation sites. The additional residents from the new development for which the access road would be constructed could lead to increased visitor contacts, but there are no designated connections from the development areas to the identified recreation trails or sites. The increase in visitor contacts would be minimal. The traffic on the road from residents of the future development would alter the recreation setting for casual forest users by creating a sense of loss of naturalness in the forest.

Alternative B, combined continuing residential, commercial, and transportation development associated with other past, present, and reasonably foreseeable future actions, would contribute to subtle to notable cumulative effects on visual resources. There would be a subtle change in the landscape character from the construction of a possible residential development (approximately 33 residential units) and the development of vacant lots in adjacent subdivisions because the form, lines, color and texture of the residences would be

generally compatible with the existing visual setting. A planned new subdivision as a whole would be readily visible, but would be recognized as a normal component in the landscape because of its similarity to surrounding development. The existing character of development is low- to moderate-density residential development adjacent to a major circulation corridor. Future residential development or new homes built on vacant lots in the existing subdivisions and the new residences would be a notable change to the currently undeveloped landscape character.

Alternative C. The cumulative effects of Alternative C would be similar to Alternative B, except there would be increased visual effects from the construction of the bridge across Oak Creek on private land and the development of an entrance feature along SR 179. There would be a notable change in the landscape character from the construction of a possible new residential development (approximately 33 residential units), the development of vacant lots in adjacent subdivisions and continued area development. The form, lines, color, and texture of the residences and future development would be a change from the currently undeveloped naturally appearing setting. As in Alternative B, the possible subdivision as a whole would be readily visible, but may be recognized as a normal component in the landscape because of its similarity to surrounding development. The bridge across Oak Creek would be a dominant element in the visual landscape and would result in a substantial change in visual character from some locations including the foreground view from SR179 and from the creek corridor. The forms and lines of the structure would not be viewed as compatible with the surrounding landscape. However, the natural open space character of the existing landscape would remain as the dominant element in the visual setting. The gated entrance would be constructed at the location where the access road intersects with SR 179. Alternative C, combined with continuing residential, commercial, and transportation development associated with other past, present, and reasonably foreseeable future actions, would result in subtle to substantial cumulative effects on visual resources. Alternatives would have individual features such as the bridge that may attract attention, but overall development would generally be in context with, and be recognized as a normal component of the existing landscape character

Similar to Alternative B, the development of residences on vacant lots in adjacent subdivisions and within the subdivision for which the proposed easement provides access would have a subtle to notable impact on the recreation setting for Airport Trail and Cathedral Rock Trail. The proposed bridge would be mostly on private land and would be a dominant visible element from the “swimming hole” and Chavez Crossing Group Camp. The bridge would have a substantial effect on the recreation experience at those sites by changing the recreation setting from a natural undeveloped experience to a setting with a high level of development. The residences in a possible subdivision for which the proposed access road would be developed are may be visible from the “swimming hole” and campground and there may be change in the recreation setting from the new homes. Similar to Alternative B, the additional residents would not have designated access to identified trails or recreation sites. Residents could access them informally and this could lead to a slight increase in visitor contacts above existing conditions. As in Alternative B, traffic on the road from residents of the future development would alter the recreation experience for casual forest users by creating a sense of loss of naturalness in the forest.

Alternative D. The cumulative effects of Alternative D would be similar to those of Alternatives B and C, except for the paving of a portion of Chavez Ranch Road. The development of future residences would have a subtle impact on the recreation setting for

Airport Trail and Cathedral Rock Trail because additional residents would be present. Paving of approximately 0.5 miles of Chavez Ranch Road would have a minor effect on the recreation experience for visitors accessing the Chavez Ranch Road parking area because the drive to the site would have a more urban character than the existing dirt road. The additional paving and ease of access is likely to increase visitors along Chavez Ranch Road to the parking area and potentially increase visitation/affect the recreation experience for visitors in the Creek Corridor.

Forest Plan Consistency

Changes in the existing recreation setting would occur under each alternative. Alternative D would change the ROS setting from Semi-Primitive Non-Motorized to Roaded Natural because it would introduce a paved roadway into an undisturbed area. This is inconsistent with Forest Plan objectives cited at the beginning of this resource section, and would require a alternative-specific Forest Plan amendment to change to Roaded Natural. Alternative B would also result in a change in ROS class from Semi-Primitive Non-Motorized to Roaded Natural in a small area adjacent to the subject property, west of Oak Creek. The proposed road would extend into the Semi-Primitive Non-Motorized class and alter the ROS setting. Alternatives B and C would retain the Rural ROS setting along Oak Creek. However the recreation experience for some forest visitors would substantially change. Visitors along Oak Creek would experience the introduction of a large, man-made feature that would dominate the recreation setting and is inconsistent with the valued undeveloped character of the creek corridor. The recreation experience would change from one of being within natural open space to one dominated by an engineered structure. In the Rural ROS class, the sights and sounds of human activity can be readily evident in a modified environment.

The Neighborwoods Management Area contains direction stating, “*The Coconino National Forest Land and Resource Management Plan* has adopted a SIO/VQO of High/Retention”. None of the alternatives meet a SIO/VQO of Retention, but would meet the next level of scenic integrity- Partial retention/ Moderate. They would be consistent with the Forest Plan because they would meet the next level, which is allowed per Forest Plan guidance on p. 60, “Allow only one classification movement downward...”. Alternative D would have the greatest level of visibility and impacts to scenery for viewers in surrounding sensitive areas. All of the alternatives would overall remain subordinate in the landscape setting, and therefore would meet a SIO/VQO of Moderate/Partial Retention, though each alternative would have locations where proposed developments would be a dominant factor.

Irreversible and Irretrievable Commitments

Implementation of Alternatives B, C, and D would result in irretrievable commitments. Certain changes in the setting caused by development of the proposed roads and bridges would endure for the life of those roads and bridges. Mitigation measures including revegetation and restoration as well as rock staining and aesthetic treatments incorporated into the bridge structure of Alternatives B and C would reduce the effects to scenery and recreation. However, the views of the natural landscape would be irretrievable from several of the sensitive viewpoints for the period of time that the access road is in place.

None of the alternatives would result in irreversible commitments. The roadway surface and cut and fill slopes could be removed and the landscape restored to pre-easement conditions with extensive restoration and reclamation of the disturbed areas. Construction of the bridge

and access road through the rock formations at Oak Creek would result in permanent changes to the rock formations. With restoration, sculpting and coloring of the affected areas, the rock formations could appear similar in form, line, color, and texture to the existing formations, the recreation setting along Oak Creek and the other identified recreation sites would appear similar to pre-easement conditions.

Wildlife, Aquatic, And Special Status Species _____

Issue

- Access corridor construction could require removal of riparian and large vegetation along the creek and result in noise disturbance that could impact wildlife and aquatic habitat and use, specifically, riparian habitat dependent species like the yellow-billed cuckoo.

Indicator

- Acres wildlife habitat and corridors impacted by construction activities, noise, and by long-term use, operation and maintenance activities. Acres of riparian habitat permanently removed and acres of riparian forest temporarily removed.

Acres wildlife habitat and corridors impacted by construction activities, noise, and by long-term use, operation and maintenance activities. Acres of riparian habitat permanently removed and acres of riparian forest temporarily removed.

Introduction

The proposed road and bridge construction could have the potential to affect the quality of upland and riparian dependent species, and special status plant habitats within the analysis area and adjacent areas.

Forest Plan Direction

Manage habitat to maintain viable populations of wildlife and fish species and improve habitat for selected species. (Page 22-1).

Cooperate with the Arizona Game and Fish Department to at least achieve management goals and objectives specified in the Arizona Wildlife and Fisheries Comprehensive Plans and strategic plans. (Page 22-1).

Evaluate potential resource impacts on T&E and sensitive species habitat by projects and activities through a biological assessment (FSM 2670) and conduct appropriate consultation (FSM 2670) when necessary. Provide appropriate protection or enhancement. (Page 64).

Scope Of The Analysis

The scope of this analysis generally includes an action area defined as the actual area of disturbance, i.e., 0.8, 0.6, or 1.4 miles of road construction in which the 0.8 and 0.6-mile lengths would include proposed Alternative B and C bridges approximately 450 and 650 feet long, respectively, spanning Oak Creek, plus a 0.5-mile buffer around the analysis area for some species because this is expected to be the greatest extent of potential direct effects, and

a 3-mile buffer of the analysis area because this is the estimated farthest probable effect such as disturbance from sound for evaluating indirect effects for most species. For fisheries and other aquatic species, the scope continues down Oak Creek nearly 1.6 miles from the proposed bridge of Alternative C because of potential sediment transport.

Existing Conditions and Evaluations

This section is arranged by species each having an affected environment description and an evaluation of alternative implementation. It starts with a summary table of species considered and an evaluation of alternative implementation. All species in this analysis are discussed in the biology specialist report. Species with a “No effect” determination are discussed in the biology specialist report instead of this analysis. The environmental consequences on all species evaluated in this document of taking no action would be no change in affected species, acres of habitats, and no change in migration corridors.

Table 11. Federally Listed and Forest Service Sensitive Species

Common Name	Scientific Name	Current Status	Effects Determination
Bald eagle	<i>Haliaeetus leucocephalus</i> [wintering population]	USFS Sensitive	Alternative Routes B, C and D may impact bald eagles but are not likely to result in a trend toward federal listing or loss of viability.
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Threatened, USFS Sensitive	Alternative Routes B and C may affect but are not likely to adversely affect Mexican spotted owls. Alternative D would not affect Mexican spotted owls. Alternative Routes B, C, and D would not affect critical habitat.
Spikedace	<i>Meda fulgida</i>	Endangered with critical habitat.	Alternative Routes B and C may adversely affect Spikedace critical habitat. There would be no effect on the Spikedace because it is not present, and not expected to be present in the foreseeable future. Alternative D would not likely adversely affect Spikedace critical habitat.
Loach minnow	<i>Tiaroga cobitis</i>	Endangered with critical habitat.	Alternative Routes B and C may adversely affect Loach minnow critical habitat. There would be no effect on the Loach minnow because it is not present, and not expected to be present in the foreseeable future. Alternative D would not likely adversely affect Loach minnow critical habitat.
Roundtail chub	<i>Gila robusta</i>	Proposed Threatened, USFS Sensitive	Alternatives B and C may adversely affect the Roundtail chub and its habitat. Alternative D would not likely adversely affect Roundtail chub and its habitat.

Common Name	Scientific Name	Current Status	Effects Determination
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Threatened with proposed critical habitat.	Alternatives B and C may adversely affect yellow-billed cuckoo and proposed critical habitat.
Golden eagle	<i>Aquila chrysaetos</i>	Eagle Protection Act	No effect
Abert's towhee	<i>Pipilo aberti</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability
Allen's lappet-browed bat	<i>Idionycteris phyllotis</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
California floater	<i>Anodonta californiensis</i>	USFS Sensitive	Alternatives B, C, and D would not affect individuals, but may indirectly affect suitable habitat temporarily. They are not likely to result in a trend toward federal listing or loss of viability.
American peregrine falcon	<i>Falco peregrinus anatum</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Arizona toad	<i>Bufo microscaphus microscaphus</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Common black-hawk	<i>Buteogallus anthracinus</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Desert sucker	<i>Catostomus clarki</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Greater western mastiff bat	<i>Eumops perotis californicus</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Hualapai milkwort	<i>Polygala rusbyi</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Longfin dace	<i>Agosia chrysogaster</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Lowland leopard frog	<i>Rana yavapaiensis</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.

Common Name	Scientific Name	Current Status	Effects Determination
Metcalfe's tick-trefoil	<i>Desmodium metcalfei</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Narrow-headed gartersnake	<i>Thamnophis rufipunctatus</i>	Threatened with proposed critical habitat.	Alternatives B and C may adversely affect the Narrow-headed gartersnake and proposed critical habitat.
Northern Mexican gartersnake	<i>Thamnophis eques megalops</i>	Threatened with proposed critical habitat.	Alternatives B and C may adversely affect the Northern Mexican gartersnake and proposed critical habitat.
Pale Townsend's big-eared bat	<i>Corynorhinus townsendii pallascens</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability
Plains harvest mouse	<i>Reithrodontomys montanus</i>	USFS Sensitive	No effect
Sonora sucker	<i>Catostomus insignis</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability
Spotted bat	<i>Euderma maculatum</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability
Page Springs agave	<i>Agave yavapaiensis</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Sacred Mountain agave	<i>Agave verdensis</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Phillips' Agave	<i>Agave phillipsiana</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Tonto Basin agave	<i>Agave delamateri</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability.
Verde Valley (Mearns) sage	<i>Salvia dorrii mearnsii</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability
Western red bat	<i>Lasiurus blossevillii</i>	USFS Sensitive	May impact individuals, but not likely to result in a downward trend toward federal listing as threatened or endangered or loss of viability

Mitigation measures for bridge and culvert design, soils and water Best Management Practices (BMPs), an Arizona Pollutant Discharge Elimination System (AZPDES) permit, a

storm water pollution prevention plan (SWPPP), and reestablishment of riparian vegetation in areas not occupied by bridge supports are included in each of the action alternatives evaluated in this section.

Species specific mitigation will be described with the evaluation of those species. A comprehensive list of mitigation measures used for this analysis is in Appendix D.

Management Indicator Species

A short-form MIS report was completed for this analysis and potential impacts to the following species were analyzed as a result of these species being the MIS for piñon-juniper woodlands, Verde Valley, and riparian and open water areas: juniper titmouse, Lucy's warbler, macro invertebrates, mule deer, and yellow-breasted chat. These species are evaluated in greater detail in the wildlife specialist report. Vegetation would be altered by the the action alternatives. However, because the scope of the analysis is minimal in size compared to the undisturbed habitat that would be available adjacent to the analysis area, the proposed alternatives would not affect the forest-wide trend of MIS species and their habitat. Based on the findings noted above and the limited size and scope of the proposed disturbance, a detailed MIS evaluation and further analysis were not deemed necessary.

Migratory Birds

Executive Order 13186, January 10, 2001, requires federal agencies to consider management impacts to migratory birds. Considered for these analyses were 1) birds identified as priority species in the Arizona Partners In Flight Bird Conservation Plan (Latta, et al. 1999) (APIF Plan), and 2) birds in Bird Conservation Regions 34 and 16 of U.S. Fish and Wildlife Service's Birds of Conservation Concern (BCC). Important Bird Areas (IBA's) and important overwintering areas are also addressed. The analysis area is located within the Lower Oak Creek IBA according to the National Audubon Society.

The APIF Plan and the Birds of Conservation Concern lists priority species of concern. There are 10 species listed as Partners in Flight species of concern that have already been addressed in the specialist report under listed species, sensitive species, and/or management indicator species and will therefore not be addressed again in this section. These birds include: Mexican spotted owl, bald eagle, western yellow-billed cuckoo, common black hawk, Lucy's warbler, Abert's towhee, juniper titmouse, American peregrine falcon, and yellow-breasted chat. The following species are identified by either Partner's in Flight as a priority species or by the US Fish and Wildlife Service as a bird of conservation concern and may be impacted by project activities: band-tailed pigeon, Bell's vireo, black-chinned sparrow, black-throated gray warbler, gray flycatcher, gray vireo, phainopepla, piñon jay, Virginia's warbler, and yellow warbler.

Road construction for all three action alternatives could indirectly impact those ten species of migratory birds as a result of increased vehicular and pedestrian traffic (e.g., through an increase in noise and air pollution, increased animal-vehicle collisions, etc.) and a potential increase in non-native vegetation subsequently leading to a further loss of foraging and nesting habitat. The selection of Alternative Routes B and C may also result in indirect impacts to the ten species of migratory birds resulting from a potential disruption of local flight routes (i.e., placement of bridge may block typical flight routes for some species during foraging or mating behavior), increased noise and air pollution, and increased sedimentation and pollution in Oak Creek.

Each of the action alternative routes would not be expected to result in a significant decline in population numbers or a decrease in species richness for any of the ten migratory birds based on current data for the area. As the area already exhibits moderate recreational use and existing roads, this project is not expected to have any significant impacts to the Oak Creek Important Bird Area (IBA). It is expected that none of the migratory bird species that currently reside in this IB, whether year-round or seasonal, would be completely displaced from the area as a result of the action alternatives in this analysis. Cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate. These activities could combine to increase stressors on migratory birds further disrupting local flight routes or affecting migration patterns in and around the analysis area.

These species are evaluated in greater detail in the wildlife specialist report.

Threatened and Endangered Species

Spikedace (*Meda fulgida*)

Affected Environment

Spikedace was federally listed as endangered, with critical habitat on March 26 (USDI 2012). U.S. Fish and Wildlife Service approval of the species' recovery plan came in September 1991 (USDI 1991). Spikedace critical habitat occurs within the analysis area.

Habitat characteristics include an abundant aquatic insect food base consisting of mayflies, true flies, black flies, caddisflies, stoneflies, and dragonflies; streams with no or no more than low levels of pollutants; no nonnative aquatic species, or levels of nonnative aquatic species that are sufficiently low as to allow persistence of Spikedace; and streams with a natural, unregulated flow regime that allows for periodic flooding or, if flows are modified or regulated, a flow regime that allows for adequate river functions, such as flows capable of transporting sediments.

Historically, the Spikedace was common and locally abundant throughout the upper Gila River Basin of Arizona and New Mexico. Its distribution was widespread in large and moderate-sized rivers and streams in Arizona, including the Gila, Salt, and Verde Rivers and their major tributaries. In the Verde River Basin, Spikedace have been recorded in the lower end of West Clear Creek, in Wet Beaver Creek at the confluence with the Verde River, and also within the Montezuma Castle National Monument. Spikedace were collected in Beaver Creek in 1937 and 1938. The most recent occurrences of Spikedace have been recorded in the upper Verde River from the headwaters downstream to the confluence with Sycamore Creek. Spikedace now occurs in Fossil Creek as a result of recent repatriation efforts. No other reported collections from Beaver Creek contained Spikedace. Spikedace may be extirpated from the Verde River. Until recently, spikedace were thought to persist in the upper reaches of the Verde River. However, formal monitoring surveys over the past several years have failed to collect spikedace. During a 1999 survey other than the formal monitoring mentioned above, a single spikedace was collected from a location along the upper Verde River.

Distribution and abundance of Spikedace has declined due to riparian degradation, water diversion, and groundwater pumping. Introduction and spread of non-native predatory and competitive fishes also contribute to its decline. Resource activities that affect water quality, such as removal of riparian vegetation, sedimentation, or control of water levels, can affect Spikedace habitat quality.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact fish habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Construction using heavy machinery would occur in suitable and Critical Habitat for Spikedace. The pillars of the bridge and one abutment would result in a permanent loss of 0.025 acres of habitat on NFS lands. Bridge construction would disturb aquatic and riparian habitat that would result in a short term loss of 0.78 acres of riparian habitat on national forest lands. In order to construct the bridge, diversion of Oak Creek flows around the construction site would be required. This diversion would occur in suitable and Critical Habitat. There are two options for diversion; diversion through a 36" pipe, and diversion via a temporarily constructed ditch. In addition, the pipe option would be enclosed, further reducing habitat qualities. Both diversions could present a temporary barrier to aquatic organism passage upstream.

Determination

Alternative route B contains suitable and Critical Habitat for Spikedace. Construction using heavy machinery and diversion of flow around the construction area would occur. It is the determination that alternative route B may adversely affect Spikedace Critical Habitat. There would be no effect on the Spikedace because it is not present, and not expected to be present in the foreseeable future.

Alternative C.

Construction using heavy machinery would occur in suitable and Critical Habitat for Spikedace. Pillars of the bridge would result in a permanent loss of 0.001 acre of habitat on national forest lands. Bridge construction would disturb aquatic and riparian habitat that would result in a temporary loss of 0.23 acre of riparian habitat on national forest lands. In order to construct the bridge, diversion of Oak Creek flows around the construction site would be required. This diversion would occur in suitable and Critical Habitat. There are two options for diversion; diversion through a 36" pipe, and diversion via a temporarily constructed ditch. In addition, the pipe option would be enclosed, further reducing habitat qualities. Both diversions could present a temporary barrier to aquatic organism passage upstream.

Determination

Alternative route C contains suitable and Critical Habitat for Spikedace. Construction using heavy machinery and diversion of flow around the construction area would occur. It is the determination that alternative route C may adversely affect Spikedace Critical Habitat. There would be no effect on the Spikedace because it is not present, and not expected to be present in the foreseeable future.

Alternative D.

Alternative route D does not contain occupied, suitable, or Critical Habitat for Spikedace because the route would be from 0.25 to 0.50 mile beyond Oak Creek. However, indirect effects to habitat may occur. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment and storm runoff flows directly into Oak Creek. Alternative route D would occur in the uplands along about a mile length of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact suitable and Critical Habitat for this species, but are expected to be minimized by implementation of the mitigation measures for culvert design. BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize changes to water quality.

Determination

Because alternative route D would be from 0.25 to 0.5 miles away from Oak Creek, there would be no direct effects to individuals or habitat. Indirect effects may include storm runoff carrying sediment and road pollutants into Oak Creek. However, given BMPs, an AZPDES permit, and the required implementation of a SWPPP, these levels are expected to be well under that which could affect Critical Habitat. Therefore, it is the determination that alternative route D may affect but would not likely adversely affect Spikedace Critical Habitat.

Indirect effects to Spikedace Critical Habitat could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting prey species and their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Steinke 2008, Childs 2010, and Thompson 2010). Fish have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize indirect impacts to Spikedace Critical habitat.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing

streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Loach Minnow (*Tiaroga cobitis*)

Affected Environment

Loach Minnow was federally listed as endangered, with critical habitat on March 26 (USDI 2012). U.S. Fish and Wildlife Service approval of the species' recovery plan came in September 1991 (USDI 1991). Loach minnow critical habitat occurs within the analysis area.

Habitat characteristics include an abundant aquatic insect food base consisting of mayflies, true flies, black flies, caddisflies, stoneflies, and dragonflies; streams with no or no more than low levels of pollutants; no nonnative aquatic species, or levels of nonnative aquatic species that are sufficiently low as to allow persistence of Loach Minnow; and streams with a natural, unregulated flow regime that allows for periodic flooding or, if flows are modified or regulated, a flow regime that allows for adequate river functions, such as flows capable of transporting sediments.

Historically, Loach Minnow was locally common throughout much of the Gila River Basin of Arizona and New Mexico. Loach Minnow distribution in Arizona included the Gila, Salt, and Verde Rivers and their major tributaries. Loach Minnow populations are considered to be extirpated from the Verde River Basin. The last recorded collections from within the Verde River Basin were in 1938. These 1938 collections came from the Verde River above Camp Verde and from Beaver Creek near its confluence with the Verde River. Currently, the only known Loach Minnow populations are in the Salt, San Pedro, Gila, and San Francisco River Basins and now the reintroduced population in Fossil Creek.

Since 1987, the Arizona Game and Fish Department has conducted extensive surveys of the Verde River mainstem. In addition, beginning in 1994, research fisheries biologists from the Rocky Mountain Research Station have monitored seven sites on the upper Verde River. Neither of these efforts has resulted in finding Loach Minnow.

During the last century, both the distribution and abundance of Loach Minnow was greatly reduced throughout the species' range. Competition and predation by non-native fish and habitat destruction have reduced the historic range of the Loach Minnow by about 85%. Both historic and present landscapes surrounding Loach Minnow habitats have been impacted to varying degrees by domestic livestock grazing, mining, agriculture, timber harvest, recreation, development, or impoundments. These activities degrade Loach Minnow habitat by altering flow regimes, increasing watershed and channel erosion and thus sedimentation, and adding contaminants to streams and rivers. As a result, these activities may affect loach minnow through direct mortality, interference with reproduction, and reduction of invertebrate food supplies.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact aquatic habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Construction using heavy machinery would occur in suitable and Critical Habitat for Loach Minnow. The pillars of the bridge and one abutment would result in a permanent loss of 0.025 acres of habitat on NFS lands. Bridge construction would disturb aquatic and riparian habitat that would result in a short term loss of 0.78 acres of riparian habitat on NFS lands. In order to construct the bridge, diversion of Oak Creek flows around the construction site would be required. This diversion would occur in suitable and Critical Habitat. There are two options for diversion; diversion through a 36" pipe, and diversion via a temporarily constructed ditch. In addition, the pipe option would be enclosed, further reducing habitat qualities. Both diversions could present a temporary barrier to aquatic organism passage upstream.

Determination

Alternative route B contains suitable and Critical Habitat for Loach minnow. Construction using heavy machinery and diversion of flow around the construction area would occur. It is the determination that alternative route B may adversely affect Loach minnow Critical Habitat. There would be no effect on the Loach minnow because it is not present, and not expected to be present in the foreseeable future.

Alternative C.

Construction using heavy machinery would occur in suitable and Critical Habitat for Loach minnow. Pillars of the bridge would result in a permanent loss of 0.001 acre of habitat on national forest lands. Bridge construction would disturb aquatic and riparian habitat that would result in a temporary loss of 0.23 acre of riparian habitat on national forest lands. In order to construct the bridge, diversion of Oak Creek flows around the construction site would be required. This diversion would occur in suitable and Critical Habitat. There are two options for diversion; diversion through a 36" pipe, and diversion via a temporarily constructed ditch. In addition, the pipe option would be enclosed, further reducing habitat qualities. Both diversions could present a temporary barrier to aquatic organism passage upstream.

Determination

Alternative route C contains suitable and Critical Habitat for Loach minnow. Construction using heavy machinery and diversion of flow around the construction area would occur. It is the determination that alternative route C may adversely affect Loach minnow Critical Habitat. There would be no effect on the Loach minnow because it is not present, and not expected to be present in the foreseeable future.

Alternative D.

Alternative route D does not contain occupied, suitable, or Critical Habitat for Loach Minnow because the construction of this route occurs from 0.25 to 0.50 mile beyond Oak Creek. However, indirect effects to habitat may occur. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment and storm runoff flows directly into Oak Creek. Alternative route D would occur in the uplands along about a mile stretch of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact suitable and Critical Habitat for this species, but is expected to be mitigated by implementation of the mitigation measures for culvert design. BMPs, an AZPDES permit, and the required implementation of a SWPPP would prevent changes to water quality.

Determination

Because alternative route D occurs 0.25 to 0.5 miles away from Oak Creek, there would be no direct effects to individuals or habitat. Indirect effects may include storm runoff carrying sediment and road pollutants into Oak Creek. However, given BMPs, an AZPDES permit, and the required implementation of a SWPPP, these levels are expected to be well under that which could affect Critical Habitat. Therefore, it is the determination that alternative route D may affect but would not likely adversely affect Loach Minnow Critical Habitat.

Indirect effects to Loach minnow Critical Habitat could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting prey species and their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Fish have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize indirect impacts to Loach minnow Critical habitat.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Northern Mexican gartersnake (*Thamnophis eques megalops*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate an occurrence record for the Northern Mexican gartersnake within 3 miles of the analysis area. However, according to

HDMS, the closest known records are approximately 3 to 5 miles north of the analysis area and 5 to 10 miles southwest of the analysis area. In addition, during field reconnaissance it was noted that suitable habitat for this species is present in the analysis area.

According to USFWS (2006), there was a known population of this species near Oak Creek at Midgley Bridge. However, this population has been extirpated, most likely from historical/current threats such as nonnatives, prey base reductions, improper grazing, recreation, development, and intentional harm. A known extant population is located along and adjacent to Oak Creek at Page Springs/Bubbling Ponds Hatcheries, which is approximately 8.5 miles southwest of the analysis area. In Arizona, the northern Mexican gartersnake historically occurred within several perennial or intermittent drainages and disassociated wetlands that included Oak Creek from the Midgley Bridge location downstream to the confluence with the Verde River. Reliable unvouchered sightings (Rosen and Schwalbe 1988, as cited in Holycross et al. 2006) suggest the species also occurred in Spring Creek, a tributary of Oak Creek. The current status of the population at Spring Creek above confluence with Oak Creek is unknown. This location is approximately 9 miles southwest of the Tobias-Flynn Road analysis area (USFWS 2006). Nonnatives, prey base reductions, and development are considered to be historical/current threats to this species.

The analysis area is within proposed critical habitat for northern Mexican gartersnakes. Following are the primary constituent elements for the species.

Table 12. Northern Mexican gartersnake proposed critical habitat – primary constituent elements	
PCE #	Primary Constituent Elements
PCE-1	<p>Aquatic or riparian habitat that includes:</p> <ul style="list-style-type: none"> a) Perennial or spatially intermittent streams of low to moderate gradient that possess appropriate amounts of in-channel pools, off-channel pools, or backwater habitat, and that possess a natural, unregulated flow regime that allows for periodic flooding or, if flows are modified or regulated, a flow regime that allows for adequate river functions, such as flows capable of processing sediment loads; or b) Lentic wetlands such as livestock tanks, springs, and cienegas; and c) Shoreline habitat with adequate organic and inorganic structural complexity to allow for thermoregulation, gestation, shelter, protection from predators, and foraging opportunities (e.g., boulders, rocks, organic debris such as downed trees or logs, debris jams, small mammal burrows, or leaf litter); and d) Aquatic habitat with characteristics that support a native amphibian prey base, such as salinities less than 5 parts per thousand, pH greater than or equal to 5.6, and pollutants absent or minimally present at levels that do not affect survival of any age class of the northern Mexican gartersnake or the maintenance of prey populations.
PCE-2	Adequate terrestrial space (600 feet, or 182.9 meters, lateral extent to either side of bankfull stage) adjacent to designated stream systems with sufficient structural characteristics to support life-history functions such as gestation, immigration, emigration, and brumation (extended inactivity).
PCE-3	A prey base consisting of viable populations of native amphibian and native fish species.
PCE-4	An absence of nonnative fish species of the families Centrarchidae and Ictaluridae, bullfrogs (<i>Lithobates catesbeianus</i>), and/or crayfish (<i>Orconectes virilis</i> , <i>Procambarus clarki</i> , etc.), or occurrence of these nonnative species at low enough levels such that recruitment of northern Mexican gartersnakes and maintenance of viable native fish or soft-rayed, nonnative fish populations (prey) is still occurring.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact aquatic habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Alternative route B contains suitable (and historical) habitat for the Northern Mexican gartersnake. In addition, this route contains proposed critical habitat (PCH).

Construction using heavy machinery would occur in suitable habitat and PCH. Construction activities could crush individuals and would disturb aquatic and riparian habitat.

Construction would result in a temporary loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in suitable habitat and PCH. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. Both options would likely make foraging conditions unsuitable due to fairly high velocities (5.28 and 2.76 Ft/s). In addition, the pipe option would be totally enclosed further reducing habitat capabilities.

Construction activities would disturb terrestrial space within the 600' lateral of bankfull, and riparian habitat in the Oak Creek channel. These direct effects could result in crushing individuals while they are foraging, shedding, or brumating as well as loss of proposed critical habitat primary constituent elements including shoreline habitat with organic and inorganic structure and terrestrial space with structural features that support gestation, movement between terrestrial and aquatic habitat, and cover during brumation and shedding. The total temporary riparian and terrestrial habitat disturbance would be 2.68 acres. Of this 1.9 acres is located within 600 feet of Oak Creek. The total permanent riparian and terrestrial habitat disturbance would be 0.025 acre because of mitigation.

Determination

Alternative route B contains suitable and historical habitat for the Northern Mexican gartersnake, and proposed critical habitat (PCH). It is the determination that alternative route B may adversely affect the Northern Mexican gartersnake and proposed critical habitat.

Alternative C.

Alternative route C contains suitable (and historical) habitat for the Northern Mexican gartersnake. In addition, this route contains proposed critical habitat (PCH).

Construction using heavy machinery would occur in suitable habitat and PCH. Construction activities could crush individuals and would disturb aquatic and riparian habitat.

Construction would result in a short term loss of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of habitat on national forest lands. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in suitable habitat and PCH.

There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. Both options would likely make foraging conditions unsuitable due to fairly high velocities (5.28 and 2.76 Ft/s). In addition, the pipe option would be totally enclosed further reducing attractiveness.

Construction activities would disturb terrestrial space within the 600' lateral of bankfull (PCE 2), and riparian habitat in the Oak Creek channel. These direct effects could result in crushing individuals while they are foraging, shedding, or brumating as well as loss of proposed critical habitat primary constituent elements including shoreline habitat with organic and inorganic structure and terrestrial space with structural features that support gestation, movement between terrestrial and aquatic habitat, and cover during brumation and shedding. The total temporary riparian and terrestrial habitat disturbance would be 2.59 acres. Of this 1.9 acres is located within 600 feet of Oak Creek. The total permanent riparian and terrestrial habitat disturbance would be 0.003 acre because of mitigation.

Determination

Alternative route C contains suitable and historical habitat for the northern Mexican gartersnake, and proposed critical habitat (PCH). It is the determination that alternative route C may adversely affect the Northern Mexican gartersnake and proposed critical habitat.

Alternative D.

Alternative route D does not contain suitable or proposed critical habitat for Mexican gartersnake because the construction of this route occurs from 0.25 to 0.50 mile beyond Oak Creek. However, indirect effects may occur. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment with storm runoff flowing directly into Oak Creek. Alternative route D occurs in the uplands along about a mile stretch of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact habitat for this species, but is expected to be minimized by implementation of the mitigation measures for culvert design. BMPs, an AZPDES permit, and the required implementation of a SWPPP would not result in change to water quality measures such as salinities less than 5 parts per thousand, pH greater than or equal to 5.6, and pollutants absent or minimally present at levels that do not affect survival of any age class of the northern Mexican gartersnake or the maintenance of prey populations.

Determination

Because alternative route D occurs 0.25 to 0.5 miles away from Oak Creek, there are no direct effects to individuals and proposed critical habitat primary constituent elements. Therefore, it is the determination that alternative route D would not affect the Northern Mexican gartersnake or proposed critical habitat.

Indirect effects to Northern Mexican gartersnake and proposed critical habitat could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting prey species and their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These effects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be

different because of the small amounts when compared to natural events (Op. cit.). Aquatic species have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize indirect impacts to the Northern Mexican gartersnake and proposed critical habitat.

Cumulative Effects

Concerning riparian habitat loss with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost on private land. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Roundtail chub (*Gila robusta*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did indicate a documented location for the Roundtail chub within a 3-mile buffer around the analysis area. Roundtail chub is present in the Verde River and its major tributaries. The U S Fish and Wildlife Service proposed listing the species as Threatened on October 6, 2015.

The species was included on the Regional Forester's 2013 Sensitive Species list. The U.S. Fish and Wildlife Service proposed listing the Roundtail chub as Threatened in October, 2015. Roundtail chub occupies the Verde River and the lower elevation reaches of major tributaries to the Verde River. This species is known to occur in the analysis area (Agyagos 2008). Suitable habitat for this species was observed in Oak Creek during field reconnaissance.

Roundtail chub is a moderately streamlined member of the minnow family (Cyprinidae); it has a slender caudal peduncle and a deeply forked, relatively large caudal fin. Coloration of adults is silvery shading dorsally to dusky yellow or light green. Both sexes have orange-red coloration of the ventrolateral surface and on all fins except the dorsal. Both males and females possess breeding tubercles to a highly variable degree. Adult roundtail can attain 20 inches in length and two pounds in weight. It occupies cool to warm water, mid elevation streams, and rivers where typical adult microhabitat consists of pools to eight feet deep adjacent to swifter riffles and runs. Cover is usually present and consists of large boulders, tree rootwads, submerged large trees and branches, undercut cliff walls, or deep water. Smaller chub generally occupy shallower, low velocity water adjacent to overhead bank cover. Roundtail chub appear to be very selective in their choice of pools. Spawning takes place over gravel substrate. Water temperature preference ranges up to 80°F.

Young chub feed on small insects, crustaceans, and algal films, while older chub move into moderate velocity pools and runs to feed on both terrestrial and aquatic insects along with filamentous algae. Large chub take small fish, and even terrestrial animals such as lizards that fall into the water. Roundtail chub breed in early summer as spring runoff is subsiding,

in areas often associated with beds of submergent vegetation or other kinds of cover such as fallen trees and brush. Fertilized eggs are randomly scattered over gravel substrate with no parental care.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact fish habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Construction using heavy machinery would occur in occupied and suitable habitat for Roundtail chub. Construction activities could crush individuals and would disturb aquatic and riparian habitat. Construction would result in a temporary loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. In order to construct the bridge, flow diversion around the construction site would be required. This diversion would occur in occupied and suitable habitat. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. In addition, the pipe option would be enclosed, further reducing habitat qualities. Both diversions could present a temporary barrier to aquatic organism passage upstream.

Determination

Because alternative route B contains occupied and suitable habitat for Roundtail chub, construction using heavy machinery and diversion of flow around the construction area would occur in this habitat, construction equipment and activities could crush individuals, and alter habitat. It is the determination that alternative route B may adversely affect Roundtail chub and its habitat.

Alternative C.

Construction using heavy machinery would occur in occupied and suitable habitat for the Roundtail chub. Construction activities could crush individuals and would disturb aquatic and riparian habitat. Construction would result in a temporary loss of 0.23 acres of riparian on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of habitat on national forest lands. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in occupied and suitable habitat. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. In addition, the pipe option would be totally enclosed further reducing habitat qualities. Both diversions could present a temporary barrier to aquatic organism passage upstream.

Determination

Because alternative route C contains occupied and suitable habitat for Roundtail chub, construction using heavy machinery and diversion of flow around the construction area

would in this habitat, construction equipment and activities could crush individuals. It is the determination that alternative route C may adversely affect Roundtail chub and its habitat.

Alternative D.

Alternative route D does not contain suitable or proposed critical habitat for Roundtail chub because the construction of this route occurs from 0.25 to 0.50 mile beyond Oak Creek. However, indirect effects may occur. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment with storm runoff flowing directly into Oak Creek. Alternative route D occurs in the uplands along about a mile stretch of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact habitat for this species.

Determination

Because alternative route D occurs 0.25 to 0.5 miles away from Oak Creek, there are no direct effects to individuals or occupied habitat. Therefore, it is the determination that alternative route D may affect but will not likely adversely affect Roundtail chub or its habitat.

Indirect effects to Roundtail chub could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Fish have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize indirect impacts to Roundtail chub and the habitat.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Western yellow-billed cuckoo (YBCU) (*Coccyzus americanus occidentalis*)

Affected Environment

The AGFD's AZHGIS report for the project area did indicate a documented location for the western YBCU within a 3-mile buffer of the project area. According to HDMS, the record is most likely located southwest of the project area near Oak Creek. A 2008 record of YBCU is known downstream (southwest) from the project area at nearby Crescent Moon (Holmes et al,

2008). The cuckoo has been listed as threatened, and critical habitat has been proposed. The two bridge alternatives are located within proposed critical habitat.

During field reconnaissance by SWCA biologists, the presence of suitable breeding/nesting habitat was not observed within the alternative routes B and C areas. Mature cottonwood-willow stands and willows or isolated cottonwoods mixed with tall mesquites, or mesquite bosques, were not observed in the thick density known to be present in areas typically used by this species. A field reconnaissance by Forest Service biologist and hydrologist on October 3, 2012 confirmed these observations. In addition, the suitability of Crescent Moon (occupied habitat) was compared with the suitability of the habitat at the two bridge locations and it was determined that the riparian habitat in alternative routes B and C is not as optimal as the habitat at Crescent Moon. At Crescent Moon, the channel broadens, the riparian corridor is close to 900 feet (4 of 5 sightings) and over 600 feet (1 of 5 sightings), and the channel is likely lower gradient. Habitat by the two bridge crossings is much narrower (closer to 200 feet), confined by steep slopes and canyon walls, and likely slightly higher gradient. In addition, the riparian vegetation at the two bridge sites is mixed broadleaf rather than being dominated by cottonwood willow and is so confined there is no potential for adjacent mesquite forests which are important for foraging during the breeding season. Surveys for the western yellow-billed cuckoo were conducted to protocol during the 2016 nesting season along a half mile section of Oak Creek spanning Alternatives B and C. No cuckoos were detected during any of the survey periods. However, surveys in 2015 downstream of the end of Chavez Ranch Road (for a different project), did result in detections of cuckoos.

Although nesting habitat at the two bridge locations may be limited, there is suitable habitat for foraging, dispersing, and migrating western YBCUs (Hedwall 2008).

Noise from construction activities may disturb foraging, dispersing, and migrating cuckoos. Potential adverse impacts for this species would be minimized if bridge and road construction activity occurs outside the breeding and dispersal season for this species (mid-May through September). Additionally, noise from the subsequent use of the road by vehicles could directly affect nesting success or cause nest abandonment up to 0.25 mile away from the analysis area.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no removal of riparian and large vegetation along the creek that could impact wildlife habitat and wildlife use. There would be no impact to wildlife habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Construction could directly impact suitable dispersal habitat and proposed critical habitat for this species through the removal of trees. Those activities would result in a temporary loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. In

addition, construction activities and subsequent use of the road and bridges have the potential to disturb birds during the dispersal and possible nesting season.

Determination

Therefore, it is the determination that alternative route B may adversely affect yellow-billed cuckoo and proposed critical habitat.

Alternative C.

Construction could directly impact suitable dispersal habitat and proposed critical habitat for this species through the removal of trees. Those activities would result in a temporary loss of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of habitat on national forest lands. In addition, construction activities and subsequent use of the road and bridges have the potential to disturb birds during the dispersal and possible nesting season.

Determination

Therefore, it is the determination that alternative route C may adversely affect yellow-billed cuckoo and proposed critical habitat.

Alternative D.

Alternative route D does not contain suitable or proposed critical habitat for yellow-billed cuckoo because the construction of this route occurs from 0.25 to 0.50 mile beyond Oak Creek. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment with storm runoff flowing directly into Oak Creek. Alternative route D occurs in the uplands along about a mile stretch of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact habitat for this species.

Because alternative route D occurs 0.25 to 0.5 miles away from Oak Creek, there are no direct effects to individuals and proposed critical habitat. Therefore, it is the determination that alternative route D would not affect the yellow-billed cuckoo or proposed critical habitat.

Determination

Indirect effects to yellow-billed cuckoo could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Species have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize indirect impacts to yellow-billed cuckoo and the habitat.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost.

Mexican Spotted Owl (MSO) (*Srix occidentalis lucida*)

Affected Environment

The MSO occurs from southern Utah and Colorado south to the Guadalupe Mountains in western Texas and into isolated Mexican mountain ranges (Gutierrez et al. 1995); it is known or believed to occur in all Arizona counties except La Paz and Yuma (USFWS 2016d). It is patchily distributed in forested mountains statewide and in steep canyons of the Colorado Plateau, including isolated side drainages of the Grand Canyon (AGFD 2005; Corman and Wise-Gervais 2005). The owl is primarily a resident, although some individuals move to lower elevations or migrate short distances (<31 miles), leaving their breeding areas in October and returning in late February or March (Corman and Wise-Gervais 2005; Ganey and Block 2005). The breeding season window is approximately February and early March (when pairs start roosting together more frequently) to September and October (when young disperse) (Gutierrez et al. 1995).

The owl breeds primarily in high-elevation (4,000 to 10,000 feet) old-growth forests: mixed-conifer forests dominated by Douglas-fir (*Pseudotsuga macrocarpa*), limber pine (*Pinus flexilis*), white fir (*Abies concolor*), or blue spruce (*Picea pungens*); and pine-oak forests dominated by ponderosa pine (*Pinus ponderosa*) and Gambel oak (*Quercus gambelii*) (USFWS 1995, 2004). It also breeds in steep, narrow canyons with cliffs and a perennial water source (Rinkevich 1991; Willey 1993). These canyons frequently contain small clumps or stringers of ponderosa pine, Douglas-fir, white fir, and/or pinyon-juniper and may contain deciduous riparian and upland tree species (USFWS 2004). The owl is highly selective for roosting and nesting habitat, but will forage in a wider array of habitats (Gutierrez et al. 1995; USFWS 1995). Nesting and roosting habitat includes large trees, uneven-aged tree stands, multi-storied canopy, moderate to high canopy closure, downed logs, and snags (USFWS 2004). Roost and nest trees are typically the oldest and largest within tree stands (Seamans and Gutierrez 1995). Foraging habitat includes a wide variety of forest conditions, canyon bottoms, cliff faces, tops of canyon rims, and riparian areas, including pinyon-juniper habitats. Juveniles disperse to a variety of habitats, including high-elevation forests, pinyon-juniper woodlands, and riparian areas (Gutierrez et al. 1995). Wintering owls will use high- to low-elevation forests, including pinyon-juniper woodlands, conifer forests, and mountain-shrub habitat (Gutierrez et al. 1995).

Within designated boundaries, critical habitat includes only “protected” and “recovery” (formerly called “restricted”) habitats. Protected habitat includes all known owl sites (Protected Activity Centers [PACs]), and all areas in mixed-conifer or pine-oak forest types with slopes >40% where timber harvest has not occurred in 20 years, and steep-walled canyon areas (USFWS 2013a). Recovery habitat includes areas adjacent to or outside protected habitat that owls use for foraging and dispersing, and may provide nesting and roosting habitat over time (USFWS 1995, 2004, 2013a). Restricted habitat includes mixed-conifer forest, pine-oak forest, and riparian habitats. Primary Constituent Elements (PCEs) identified for the owl (USFWS 2012a) include:

1. Mixed-conifer, pine-oak, and riparian forest types, with different size/age class (30%–45% are large trees, ≥ 12 -inch dbh); a canopy cover of $\geq 40\%$; and large snags (≥ 12 -inch dbh).
2. Adequate prey base indicated by high volumes of fallen trees and other woody debris, tree and plant diversity, including hardwoods, and residual plant cover to maintain fruits, seeds, and allow plant regeneration.
3. Canyon habitats that include presence of water; clumps of stringers of mixed-conifer, pine-oak, pinyon-juniper, and/or riparian vegetation; canyon walls containing crevices, ledges, or caves; and a high percentage of ground litter and woody debris.

Known Occurrence and Habitat in the Analysis Area:

MSO is known to be present in or directly adjacent to the analysis area during dispersal. The project area includes pinyon-juniper woodland mixed with scrub oak and is adjacent to the riparian vegetation of Oak Creek; neither contains the PCEs for the owl. The riparian habitat, specifically, does not contain a high volume of fallen trees or woody debris, and is not within a steep, narrow canyon, characteristics preferred by nesting and roosting individuals. Both the pinyon-juniper and riparian habitat types could be used for foraging as well as during winter or juvenile dispersal. There are no known nesting or roosting habitats nearby. The nearest critical habitat is designated about five miles northeast of the project area (Oak Creek and Sterling Canyons, adjacent to Wilson Mountain). The nearest PAC is located around 5.5 miles east-northeast of the project area (north of Damfino Canyon, west of Schnebly Hill).

The eBird (2016) site documents a dispersing subadult (Basic I Plumage; see Gutierrez et al. 1995) observed near Chavez Ranch Road on February 17, 2016. Though exact coordinates are not posted on the eBird site, photographs (Figure 3) indicate that this individual was observed in a deciduous tree in the Oak Creek riparian corridor, just downstream of the project area.

Noise from construction activities may disturb foraging, dispersing, and migrating MSO, especially if construction activities occur during the fall and winter when dispersing owls may occur in or near the project area. Additionally, noise from the subsequent use of the road by vehicles could disturb any MSO that may occur in the project area.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no removal of riparian and large vegetation along the creek that could impact wildlife habitat and wildlife use. There would be no impact to wildlife habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Construction could directly impact recovery riparian habitat for this species through the removal of trees. Those activities would result in a temporary loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. In addition, construction activities and

subsequent use of the road and bridges have the potential to disturb birds during the dispersal season.

Determination

Therefore, it is the determination that alternative route B may affect, but is not likely to adversely affect the Mexican spotted owl. Since critical habitat does not occur in the project area, there is no effect to Mexican spotted owl critical habitat.

Alternative C.

Construction could directly impact suitable dispersal habitat for this species through the removal of trees. Those activities would result in a temporary loss of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of habitat on national forest lands. In addition, construction activities and subsequent use of the road and bridges have the potential to disturb birds during the dispersal season.

Determination

Therefore, it is the determination that alternative route C may affect, but is not likely to adversely affect the Mexican spotted owl. Since critical habitat does not occur in the project area, there is no effect to Mexican spotted owl critical habitat.

Alternative D.

Alternative route D does not contain suitable, recovery, or proposed critical habitat for Mexican spotted owl because the construction of this route occurs from 0.25 to 0.50 mile beyond Oak Creek. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment with storm runoff flowing directly into Oak Creek. Alternative route D occurs in the uplands along about a mile stretch of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact habitat for this species.

Determination

Because alternative route D occurs 0.25 to 0.5 miles away from Oak Creek, there are no direct effects to individuals. Therefore, it is the determination that alternative route D would not affect the Mexican spotted owl or its critical habitat.

Indirect effects to MSO could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Species have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the

required implementation of a SWPPP would minimize indirect impacts to yellow-billed cuckoo and the habitat.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Forest Service Sensitive Species

Bald and Golden Eagle Protection Act

Golden eagle (*Aquila chrysaetos*)

No effect. See Wildlife Specialist Report in the Project Record.

Bald eagle (*Haliaeetus leucocephalus*), desert population

Analysis of Effects

The 2010 Wildlife Specialist Report, analyzed this species as Threatened. However, since then, it has been delisted and is now analyzed in both the Eagle Act section for take and the Sensitive species section here for habitat effects.

For this analysis, the action area is defined for the bald eagle as the actual area of disturbance (i.e., 0.8, 0.4, or 1.4 miles of road construction in which the 0.8- and 0.4-mile lengths would include a bridge approximately 450 and 650 feet long, respectively, spanning Oak Creek), plus a 0.5-mile buffer around the analysis area to account for indirect disturbances. No bald eagles are known to nest anywhere along Oak Creek near the analysis area. The only known bald eagle nest on Oak Creek is located near the Oak/Verde confluence over 15 miles away, where biologists suspect larger fish and more abundant waterfowl are present to sustain an eagle pair feeding young. Therefore it is unlikely that activities under any action alternative would result in nest abandonment or decreased productivity as a result of disturbing nesting eagles. However, it is possible that foraging breeding bald eagles and wintering bald eagles could use the analysis area for either foraging or roosting. The AGFD's AZHGIS report for the analysis area did indicate a documented location for the bald eagle wintering population within a 3-mile buffer of the analysis area. This report is likely from a wintering bald eagle observed during annual winter bald eagle counts. The use of the analysis area for foraging is very limited based on an average of 1.8 bald eagles detected per year along the entire Oak Creek corridor during the annual winter bald eagle counts. Based on this very low average, there would be minimal chance that there would be any injury or decrease in productivity as a result of interfering with feeding and sheltering behavior.

Determination

Activities associated with all three action alternatives would not result in take as defined by the Bald and Golden Eagle Protection Act. Effects to bald eagles would be insignificant and discountable and would not cause: 1) injury to an eagle, 2) a decrease in productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest

abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

Bald eagle (*Haliaeetus leucocephalus*), desert population

Affected Environment

The Bald eagle has been delisted and is now analyzed in the Sensitive species section here.

For the proposed alternatives, the action area (APE) is defined for the bald eagle as the actual area of disturbance (i.e., 0.8, 0.4, or 1.4 miles of road construction in which the 0.8- and 0.4-mile lengths would include a bridge approximately 450 and 650 feet long, respectively, spanning Oak Creek), plus a 0.5-mile buffer around the analysis area to account for indirect disturbances. No bald eagles are known to nest anywhere along Oak Creek near the analysis area. The only known bald eagle nest on Oak Creek is located near the Oak/Verde confluence over 15 miles away, where biologists suspect larger fish and more abundant waterfowl are present to sustain an eagle pair feeding young. However, it is possible that foraging (breeding bald eagles) and wintering bald eagles could use the analysis area for either foraging or roosting. The AGFD's AZHGIS report for the analysis area did indicate a documented location for the bald eagle (wintering population) within a 3-mile buffer of the analysis area.

While the action alternatives are not expected to directly affect nesting bald eagles, activities of the proposed alternatives could affect bald eagles indirectly by reducing food, cover, and shelter for prey species and increasing sedimentation into aquatic systems which affects prey habitat. The road and bridge construction may result in a slight loss/modification of their foraging habitat, but is not expected to have direct effects on this species or its habitat due to the short duration and limited habitat modification.

Alternative A.

There would be no removal of riparian and large vegetation along the creek that could impact wildlife habitat and wildlife use. There would be no impact to bald eagle habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Construction associated with alternative Route B would result in a temporary loss of 0.78 acres of riparian vegetation on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. Long term vegetation production loss would be three acres occupied by the paved road surface.

Breeding bald eagles and wintering bald eagles could use the analysis area for either foraging or roosting. Activities could indirectly affect bald eagles by reducing food, cover, and shelter for prey species and increasing sedimentation into aquatic systems which affects prey habitat.

Determination

It is the determination that alternative Route B may impact bald eagles, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

Construction associated with alternative Route C would result in a temporary of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of riparian habitat on national forest lands. Long term vegetation production loss would be 1.3 acres occupied by the paved road surface on national forest lands.

Breeding bald eagles and wintering bald eagles could use the analysis area for either foraging or roosting. Activities could indirectly affect bald eagles by reducing food, cover, and shelter for prey species and increasing sedimentation into aquatic systems which affects prey habitat.

Determination

It is the determination that alternative Route C may impact bald eagles, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

Construction activities of alternative Route D would occur from 0.25 to 0.50 mile beyond Oak Creek and therefore would not impact the most suitable foraging habitat which is found along Oak Creek. The total construction footprint is 12 acres of upland habitat that is marginal for foraging or for winter roosting. However, limited indirect effects to the more suitable riparian habitat may occur. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment with storm runoff that flows directly into Oak Creek. There is a slight possibility that breeding bald eagles and wintering bald eagles could use uplands that occur within the analysis area for either foraging or roosting.

Activities could indirectly affect bald eagles through loss of habitat along 1.4 miles of new road, or five acres occupied by the paved road surface on national forest lands reducing food, cover, and shelter for prey species and increasing sedimentation into aquatic systems which affects prey habitat.

Determination

It is the determination that alternative Route D may impact bald eagles but is not likely to result in a trend toward federal listing or loss of viability.

Indirect effects to Bald eagle could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Fish have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and

the required implementation of a SWPPP would minimize indirect impacts to Bald eagle and the habitat.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Abert's Towhee (*Pipilo aberti*)

Affected Environment

Suitable habitat for Abert's towhee occurs in the analysis area. Abert's towhee inhabits dense brush and woodlands along Sonoran Desert rivers and streams in Arizona and surrounding states. Because this nonmigratory towhee spends most of its life on a permanent territory concealed by dense shrubs, it is thought to be secretive and is most often detected by its call notes. In interactions with other birds, however, it is bold and aggressive. This species was detected aurally during the field reconnaissance near a drainage in the northwestern portion of the analysis area. The majority of the analysis area contains Great Basin Conifer Woodland. A linear strip of Interior Riparian Deciduous Forest and Woodland adjacent to Oak Creek is also present. Both areas are similar to areas in which Abert's towhee is likely to occur. Road construction could potentially affect Abert's towhees through the modification, alteration, or loss of suitable dense shrub nesting and foraging habitat; decreased nesting success or site abandonment resulting from construction and vehicular noise, and increased strikes by vehicles.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no removal of riparian and large vegetation along the creek that could impact wildlife habitat and wildlife use. There would be no impact to wildlife habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Alternative B would temporarily affect approximately 8.4 acres of Great Basin Conifer Woodland, and 0.78 acre of riparian deciduous forest. With mitigation, approximately 3 acres of woodland would be affected long term with the paved road surface. The riparian/streamside habitat for Abert's towhee would be replanted with native riparian species, but 0.025 acre of riparian habitat would be permanently lost.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging and nesting habitat long term, but are not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

Alternative C would temporarily affect approximately 3 acres of Great Basin Conifer Woodland and 0.23 acres of riparian deciduous forest on national forest land. With mitigation, approximately 1.3 acres of woodland would be affected long term with the paved road surface and 0.001 acre of riparian deciduous forest on national forest lands. The riparian/streamside habitat for Abert's towhee would be replanted with native riparian species.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging and nesting habitat long term, but are not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

This alternative contains suitable and occupied habitat for Abert's towhee. Road construction could potentially affect Abert's towhees through the modification, alteration, or loss of suitable dense shrub nesting and foraging habitat; decreased nesting success or site abandonment resulting from construction and vehicular noise, and increased strikes by vehicles. However, the analysis area is minimal in size, compared with the undisturbed habitat that would be available adjacent to the analysis area. Alternative D would temporarily affect approximately 12 acres of Great Basin Conifer Woodland. With mitigation, approximately 5 acres of woodland would be affected long term with the paved road surface of Alternative D.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging and nesting habitat long term, but is not likely to result in a trend toward federal listing or loss of viability.

Cumulative Effects

Concerning temporary riparian habitat loss on private land with the bridge, Alternative C would temporarily affect 0.48 acre of riparian deciduous forest. Permanent loss of riparian habitat would be 0.002 acre on private land. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Allen's lappet-browed bat (*Idionycteris phyllotis*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate a documented location for the Allen's lappet-browed bat within a 3-mile area around the analysis area. According to HDMS, the closest known record may be 5 to 10 miles northwest of the analysis area. The analysis area does contain suitable foraging and roosting habitat for the Allen's lappet-browed bat because of Oak Creek, rocky cliffs, and caves. This species is not typically known to roost in trees or under bridges. Like most bats, the main potential threats to this species resulting from the project would be noise or any other disturbance that may disrupt

their roosting sites, which are typically caves and mines. Suitable roosting and foraging habitat was observed during field reconnaissance.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek and uplands that could impact wildlife habitat and wildlife use. There would be no impact to wildlife habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Alternative B would temporarily affect approximately 8.4 acres of Great Basin Conifer Woodland, and 0.78 acre of riparian deciduous forest. With mitigation, approximately 3 acres of woodland would be affected long term with the paved road surface. The riparian/streamside habitat for Allen's lappet-browed bat would be replanted with native riparian species, but 0.025 acre of riparian habitat would be permanently lost. Erosion and contamination of Oak Creek by pollutants and sediment from road, bridge, and culvert construction could indirectly impact foraging sites. These affects are expected to be minimized by proper implementation of the specified mitigation measures. Temporary affects to potential roosting sites in adjacent caves are possible because of the noise of construction.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Alternative C.

Alternative C would temporarily affect approximately 3 acres of Great Basin Conifer Woodland and 0.23 acres of riparian deciduous forest on national forest land. With mitigation, approximately 1.3 acres of woodland would be affected long term with the paved road surface and 0.001 acre of riparian deciduous forest on national forest lands. The riparian/streamside habitat for Allen's lappet-browed bat would be replanted with native riparian species. Erosion and contamination of Oak Creek by pollutants and sediment from road, bridge, and culvert construction could indirectly impact foraging sites. These affects are expected to be minimized by proper implementation of the specified mitigation measures. Temporary affects to potential roosting sites in adjacent caves are possible because of construction noise.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging and nesting habitat long term, but are not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

This alternative contains minimal suitable habitat for roosting habitat for Allen's lappet-browed bats, but does contain suitable foraging habitat. The location of this route is in proximity to Oak Creek and its floodplain and varies from only 0.25–0.5 mile beyond Oak Creek. Several drainages bisect the route, and storm runoff flows directly into Oak Creek. Alternative D would temporarily affect approximately 12 acres of Great Basin Conifer Woodland. With mitigation, approximately 5 acres of woodland would be affected long term with the paved road surface of Alternative D.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat long term, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Cumulative Effects

Concerning temporary riparian habitat loss on private land with the bridge, Alternative C would temporarily affect 0.48 acre of riparian deciduous forest. Permanent loss of riparian habitat would be 0.002 acre on private land. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

American peregrine falcon (*Falco peregrinus anatum*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did indicate a documented location for the peregrine falcon within 3 miles of the analysis area. According to HDMS, at least three records occur less than 5 miles northwest, northeast, and southeast of the analysis area indicating foraging habitat. This indicates the presence of ample foraging habitat in the area. During field reconnaissance, foraging habitat and perch sites (i.e., Oak Creek drainage, nearby rock cliffs) were observed in, and adjacent to, the analysis area. However, breeding/nesting habitat was not observed.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact wildlife habitat and wildlife use. There would be no impact to wildlife habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternatives B and C.

These alternatives contain suitable foraging habitat for the peregrine falcon. There may be disturbance to suitable foraging habitat for the falcon and to breeding and foraging habitat for prey species resulting from construction activities. Noise during construction, and from vehicles after the road is built, may cause foraging peregrine falcons (and/or prey species) to abandon the area. Steep cliffs and Oak Creek are adjacent to or in a portion of the analysis

area for these routes. However, the analysis area is minimal in size, compared with the undisturbed habitat that would be available adjacent to the analysis area.

Determination

Implementing each of these alternatives may directly affect individuals of American peregrine falcon by temporary displacement, and indirectly affect suitable foraging habitat temporarily, but are not likely to result in a trend toward federal listing or loss of viability. No mitigation measures are recommended.

Alternative D.

This alternative contains minimal suitable foraging habitat for the peregrine falcon, compared with Alternative Routes B and C. In addition, the analysis area is minimal in size, compared with the undisturbed habitat that would be available adjacent to the analysis area.

Determination

Implementing this alternative may indirectly affect suitable foraging habitat of American peregrine falcon by temporary displacement, but is not likely to result in a trend toward federal listing or loss of viability. Therefore, no mitigation measures are recommended.

Cumulative effects for the action alternatives could include private development, ongoing streamside recreation, and other disturbance activities that could result in cumulative disturbance to the falcon.

Arizona toad (*Bufo microscaphus microscaphus*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate a documented location for Arizona toad within a 3-mile buffer around the analysis area to account for indirect disturbances. However, according to HDMS, the closest known record may be 3 to 5 miles southwest of the analysis area. There is a historic record of this species near the analysis area (Agyagos 2008). However, the species has been absent from the area for some time. Oak Creek and its floodplain are suitable unoccupied habitat for this species, and these components are in the analysis area. Any disturbance to vegetation along Oak Creek could potentially affect suitability of the area for this species. Changes to ponding, stream flow, or overflow areas adjacent to Oak Creek and its tributaries could be expected to have potential negative effects on Arizona toad breeding and reproductive success. Arizona toads may be directly affected by crushing while attempting to cross the road or construction sites. Suitable habitat was observed for this species in the analysis area during field reconnaissance. This species is typically observed in close proximity to unaltered, late seral riparian areas.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact aquatic habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Construction using heavy machinery would occur in suitable habitat for the Arizona toad. Construction activities would disturb aquatic and riparian habitat, and would result in a temporary loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. In order to construct the bridge, flow diversion around the construction site would be required. This diversion would occur in suitable habitat. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. In addition, the pipe option would be enclosed, further reducing habitat qualities.

Determination

Implementing this alternative may affect suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

Construction using heavy machinery would occur in suitable habitat for the Arizona toad. Construction activities would disturb aquatic and riparian habitat, and would result in a short term loss of 0.23 acres of riparian on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of habitat on national forest lands. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in occupied and suitable habitat. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. In addition, the pipe option would be totally enclosed further reducing habitat qualities.

Determination

Implementing this alternative may affect suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

This alternative route contains minimal suitable habitat for Arizona toad. The location of this route is in proximity to Oak Creek and its floodplain and varies from only 0.25–0.5 mile beyond Oak Creek. Several drainages bisect the route and storm runoff flows directly into Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly affect habitat for this species.

Determination

Implementing this alternative is not likely to result in a trend toward federal listing or loss of viability.

Indirect effects to the Arizona toad could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural

events (op cit.). Species have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize indirect impacts to the Arizona toad habitat.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Common black-hawk (*Buteogallus anthracinus*)

Affected Environment

According to HDMS, at least two breeding records are known within 5 miles southwest of the analysis area indicating use in the area. In addition, a stick nest and black-hawks have been observed in the vicinity of the analysis area (Agyagos 2008). During field reconnaissance suitable foraging and breeding/nesting habitat for this species was observed (i.e., Oak Creek drainage, trees, nearby rock cliffs) in the analysis area. Mitigation for this species specifies conducting surveys for common black-hawks according to accepted protocol. If no black-hawks are detected nesting within 1/4 mile of bridge construction site, there would be no restriction on construction activities. If black-hawks are detected nesting, no construction activities would occur within 1/4 mile of nest location during the breeding season (April 1 through July 31). If no surveys are conducted, then construction activities would not occur within 1/4 mile of Oak Creek during the breeding season (late February through August).

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no removal of riparian and large vegetation along the creek that could impact wildlife habitat and wildlife use. There would be no impact to wildlife habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

This alternative contains suitable foraging and breeding/nesting habitat for the black-hawk. The road and bridge construction may result in a slight loss/modification of their foraging habitat. Construction would result in a temporary loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. Implementation could affect common black-hawks indirectly by reducing food, cover, and shelter for prey species and increasing sedimentation into aquatic systems which affects prey habitat.

Determination

Implementing this alternative with mitigation is not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

This alternative contains suitable foraging and breeding/nesting habitat for the black-hawk. The road and bridge construction may result in a slight loss/modification of their foraging habitat. Construction would result in a short term loss of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of riparian habitat on national forest lands. Implementation could affect common black-hawks indirectly by reducing food, cover, and shelter for prey species and increasing sedimentation into aquatic systems which affects prey habitat.

Determination

Implementing this alternative with mitigation is not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

This alternative contains less suitable foraging and breeding/nesting habitat for the black-hawk, compared with the Alternative Routes B and C. In addition, the analysis area is minimal in size, compared with the undisturbed habitat that would be available adjacent to the analysis area. However, this route is located 0.25–0.5 mile from Oak Creek and noise disturbance may adversely affect this species.

Determination

Implementing this alternative with mitigation is not likely to result in a trend toward federal listing or loss of viability.

Indirect effects to the black-hawk could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Desert sucker (*Catostomus clarki*)**Affected Environment**

The AGFD's AZHGIS report for the analysis area did indicate a documented location for the desert sucker within 3 miles of the analysis area to account for indirect disturbances.

According to HDMS, this record is located in the immediate vicinity of Oak Creek and the analysis area. This species is known to occur in the analysis area (Agyagos 2008), and during field reconnaissance suitable habitat for this species was observed in Oak Creek. Individuals may be crushed by equipment working in the Oak Creek channel. Sedimentation effects from the road and bridge construction may directly affect desert sucker individuals in the analysis area and indirectly affect desert sucker individuals downstream of the analysis area. Sedimentation and contamination of Oak Creek may cause a decrease in the prey base, a decrease in foraging, spawning, or breeding success; and a loss of individuals directly through lowered dissolved oxygen levels, turbidity, etc.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact fish habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Direct effects of construction using heavy machinery would occur in suitable habitat. Construction activities could crush individuals and would disturb aquatic and riparian habitat. Construction would result in a short term loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. Construction using heavy machinery and diversion of flow around construction area would occur in suitable habitat, and would disturb and obliterate habitat. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in suitable habitat. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. Both options would likely make foraging conditions unsuitable due to fairly high velocities (5.28 and 2.76 Ft/s). In addition, the pipe option would be totally enclosed further reducing habitat capability.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

Alternative route C contains suitable and occupied habitat for the Desert sucker. Direct effects of construction using heavy machinery would occur in suitable habitat. Construction activities could crush individuals and would disturb aquatic and riparian habitat. Construction would result in a short term loss of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of riparian habitat on national forest lands. Construction using heavy machinery and diversion of flow around construction area would occur in suitable habitat, and would disturb and obliterate habitat. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in suitable habitat. There are two options

for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. Both options would likely make foraging conditions unsuitable due to fairly high velocities (5.28 and 2.76 Ft/s). In addition, the pipe option would be totally enclosed further reducing habitat integrity.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

Alternative route D does not contain suitable or proposed critical habitat for the Desert sucker, and the construction of this route would occur from 0.25 to 0.50 mile beyond Oak Creek. However, indirect effects may occur. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment with storm runoff flowing directly into Oak Creek. Alternative route D occurs in the uplands along about a mile stretch of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact habitat for this species.

Determination

Because alternative route D occurs 0.25 to 0.5 miles away from Oak Creek, there are no direct effects to individuals or occupied habitat. Therefore, it is the determination that alternative route D may affect but would not likely adversely affect the Desert sucker or its habitat.

Indirect effects to the Desert sucker could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting prey species and their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These effects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Aquatic species have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize indirect impacts to the Desert sucker and its habitat.

Cumulative Effects

Concerning riparian habitat loss on private land because of the bridge with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Greater western mastiff bat (*Eumops perotis californicus*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate a documented location for the greater western mastiff bat within a 3-mile area around the analysis area to account for indirect disturbances. During field reconnaissance, suitable roosting and foraging habitat was observed in and adjacent to the analysis area including nearby upstream and downstream portions of Oak Creek and its floodplain, and nearby cliffs and crevices. This species is not typically known to roost in trees or under bridges. Like most bats, the main potential threats to this species resulting from the project would be noise or any other disturbance that may disrupt their roosting sites, which are typically caves and mines.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no removal of riparian and large vegetation along the creek that could impact wildlife habitat and wildlife use. There would be no impact to wildlife habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

This alternative contain suitable foraging habitat and is near suitable roosting habitat for the greater western mastiff bat. Oak Creek, rocky cliffs, and caves are suitable habitat for this species, and these components are adjacent to or in a portion of the analysis area for this route. Temporary affects to potential roosting sites in adjacent caves are possible because of the noise of construction. Concerning foraging habitat, Alternative B would temporarily affect approximately 8.4 acres of Great Basin Conifer Woodland short term and 0.78 acre of riparian forest. Total riparian habitat permanently lost would be 0.025 acre. With mitigation, approximately 3 acres of woodland would be affected long term with the paved road surface of Alternative B. The riparian/streamside habitat for Greater western mastiff bat would be reclaimed after construction by replanting with native riparian species.

Indirect effects from erosion and contamination of Oak Creek by pollutants and sediment from road, bridge, and culvert construction could impact foraging sites. These affects are expected to be minimized by proper implementation of the specified mitigation measures.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Alternative C.

This alternative contain suitable foraging habitat and is near suitable roosting habitat for the greater western mastiff bat. Oak Creek, rocky cliffs, and caves are suitable habitat for this species, and these components are adjacent to or in a portion of the analysis area for this route. Temporary affects to potential roosting sites in adjacent caves are possible because of

the noise of construction. Alternative C would temporarily affect approximately 3 acres of Great Basin Conifer Woodland and 0.23 acres of riparian deciduous forest on national forest land. With mitigation, approximately 1.3 acres of woodland would be affected long term with the paved road surface, and 0.001 acre of riparian deciduous forest on national forest lands. The riparian/streamside habitat for Greater western mastiff bat would be replanted with native riparian species.

Indirect effects from erosion and contamination of Oak Creek by pollutants and sediment from road, bridge, and culvert construction could impact foraging sites. These affects are expected to be minimized by proper implementation of the specified mitigation measures.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Alternative D.

This alternative contains minimal suitable habitat for roosting and foraging Greater western mastiff bats. The location of this route is in proximity to Oak Creek and its floodplain and varies from only 0.25–0.5 mile beyond Oak Creek. Several drainages bisect the route, and storm runoff flows directly into Oak Creek. Alternative D would temporarily affect approximately 12 acres of Great Basin Conifer Woodland. With mitigation, approximately 5 acres of woodland would be affected long term with the paved road surface of Alternative D.

Indirect effects from erosion and contamination of Oak Creek by pollutants and sediment from road, bridge, and culvert construction could impact foraging sites. These affects are expected to be minimized by proper implementation of the specified mitigation measures.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat long term, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Hualapai milkwort (*Polygala rusbyi*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate a documented location for the Hualapai milkwort within a 3-mile area around the analysis area to account for indirect disturbances. The presence of Hualapai milkwort is possible in the analysis area Agyagos (2008). Field reconnaissance and the information available regarding this species appear to

indicate that suitable habitat for this species is present in the analysis area above the floodplain of Oak Creek. However, no individuals were observed.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no removal of conifer woodland vegetation that could impact plant habitat. There would be no impact to habitat from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

This alternative contains suitable habitat for the Hualapai milkwort above Oak Creek and its floodplain. If this species occurs in the analysis area, construction could result in a loss of Hualapai milkwort individuals, or at least could result in the temporary loss of 8.4 acres of suitable habitat, especially if there is an increase in non-native vegetation after construction is completed. Alternative B would temporarily affect approximately 8.4 acres of Great Basin Conifer Woodland. With mitigation, approximately 3 acres of woodland would be affected long term with the paved road surface. Replanting after construction would be accomplished with native species.

Indirect effects from erosion and contamination of the piñon-juniper woodland by pollutants and sediment from road, bridge, and culvert construction could affect habitat for this species. These affects are expected to be minimized by proper implementation of the specified mitigation measures.

Determination

Implementing this alternative may directly affect individuals, and indirectly affect suitable habitat, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the large amount of existing habitat in the area.

Alternative C.

This alternative contains suitable habitat for the Hualapai milkwort above Oak Creek and its floodplain. If this species occurs in the analysis area, construction could result in a loss of Hualapai milkwort individuals, or at least could result in the temporary loss of suitable habitat, especially if there is an increase in non-native vegetation after construction is completed. Alternative C would temporarily affect approximately 3 acres of Great Basin Conifer Woodland. With mitigation, approximately 1.3 acres of woodland would be affected long term with the paved road surface. Replanting after construction would be accomplished with native species.

Indirect effects from erosion and contamination of the piñon-juniper woodland by pollutants and sediment from road, bridge, and culvert construction could affect habitat for this species. These affects are expected to be minimized by proper implementation of the specified mitigation measures.

Determination

Implementing this alternative may directly affect individuals, and indirectly affect suitable habitat, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the large amount of existing habitat in the area.

Alternative D.

This alternative contains more suitable habitat for Hualapai milkwort, compared with Alternative Routes B and C. Erosion and contamination of the piñon-juniper woodland by pollutants and sediment from road and culvert construction could indirectly affect habitat for this species. These affects are expected to be minimized by proper implementation of the specified mitigation measures. Alternative D would temporarily affect approximately 12 acres of Great Basin Conifer Woodland. With mitigation, approximately 5 acres of woodland would be affected long term with the paved road surface of Alternative D. All of the replanting after construction would be accomplished with native species.

Indirect effects from erosion and contamination of the piñon-juniper woodland by pollutants and sediment from road, bridge, and culvert construction could affect habitat for this species. These affects are expected to be minimized by proper implementation of the specified mitigation measures.

Determination

Implementing this alternative may directly affect individuals, and indirectly affect suitable habitat long term, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the large amount of existing habitat in the area.

Cumulative effects for the action alternatives could include ongoing area recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Longfin dace (*Agosia chrysogaster*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate a documented location for the longfin dace within a 3-mile buffer around the analysis area to account for indirect disturbances. According to HDMS, the closest known record is approximately 10 miles southwest of the analysis area. However, this species is known to occur in the analysis area (Agyagos 2008), and during field reconnaissance suitable habitat was observed for this species in Oak Creek.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact fish habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

This alternative contains suitable and occupied habitat for the longfin dace according to the Ranger District Biologist. Crushing of individuals and sedimentation effects from the road, bridge, and culvert construction may directly affect longfin dace individuals in the analysis area and indirectly affect individuals downstream from the analysis area. Sedimentation may cause a decrease in the prey base; a decrease in foraging, spawning, or breeding success; and a loss of individuals directly through lowered dissolved oxygen levels, turbidity, etc. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on this alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Fish have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. The Oak Creek channel would be reclaimed after bridge construction.

Determination

Implementing this alternative may directly affect individuals, and indirectly affect suitable habitat, but are not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

This alternative contains suitable and occupied habitat for the longfin dace according to the Ranger District Biologist. Crushing of individuals and sedimentation effects from the road, bridge, and culvert construction may directly affect longfin dace individuals in the analysis area and indirectly affect individuals downstream from the analysis area. Sedimentation may cause a decrease in the prey base; a decrease in foraging, spawning, or breeding success; and a loss of individuals directly through lowered dissolved oxygen levels, turbidity, etc. Alternative C would contribute an estimated 3 cu ft. of sediment annually from national forest lands during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Fish have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. The Oak Creek channel would be reclaimed after bridge construction.

Determination

Implementing this alternative may directly affect individuals, and indirectly affect suitable habitat, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative D

This alternative does not contain suitable habitat for the longfin dace. The location of this route is in proximity to Oak Creek and its floodplain and varies from only 0.25–0.5 mile beyond Oak Creek. Several drainages bisect the route and storm runoff flows directly into Oak Creek. Alternative D would contribute an estimated 3 cu ft. annually during periods of peak precipitation to indirectly affect habitat. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction would be minimized by implementation of the specified mitigation measures. The effects of sediment on this

alternative would not be different from the others because of the small amounts when compared to natural events (Op. cit.).

Determination

Implementing this alternative may indirectly affect individuals and suitable habitat temporarily but is not likely to result in a trend toward federal listing or loss of viability.

Cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Lowland leopard frog (*Rana yavapaiensis*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate a documented location for the lowland leopard frog within a 3-mile buffer around the analysis area to account for indirect disturbances. However, according to HDMS, the closest known current records are approximately 5 miles north of the analysis area and less than 10 miles southwest of the analysis area. Additionally, the HDMS shows a historical occurrence record at Grasshopper Point in Oak Creek for this species. Suitable habitat was observed during field reconnaissance for this species in the analysis area.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact aquatic habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Oak Creek and its floodplain are suitable habitat for this species, and these components are adjacent to or in a portion of the analysis area for this route. Crushing of individuals and sedimentation effects from the road, bridge, and culvert construction may directly affect lowland leopard frog individuals in the analysis area and indirectly affect individuals downstream from the analysis area. Any activities that include draining, diversion, or damming of water, or the alteration of riparian trees, would be expected to affect this species through habitat modification and fragmentation, potentially causing decreased reproductive success. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually during periods of peak precipitation. These effects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on this alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Amphibians have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Riparian/streamside habitat for the lowland leopard frog would be reclaimed after construction by replanting with native riparian species.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

Oak Creek and its floodplain are suitable habitat for this species, and these components are adjacent to or in a portion of the analysis area for this route. Crushing of individuals and sedimentation effects from the road, bridge, and culvert construction may directly affect lowland leopard frog individuals in the analysis area and indirectly affect individuals downstream from the analysis area. Any activities that include draining, diversion, or damming of water, or the alteration of riparian trees, would be expected to affect this species through habitat modification and fragmentation, potentially causing decreased reproductive success. Alternative C would contribute an estimated 3 cu ft. of sediment annually from national forest lands during periods of peak precipitation. These effects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on this alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Amphibians have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Riparian/streamside habitat for the lowland leopard frog would be reclaimed after construction by replanting with native riparian species.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

This alternative contains minimal suitable habitat for lowland leopard frog. The location of this route is in proximity to Oak Creek and its floodplain and varies from only 0.25–0.5 mile beyond Oak Creek. Several drainages bisect the route and storm runoff flows directly into Oak Creek. Alternative D would contribute an estimated 3 cu ft. annually during periods of peak precipitation. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly affect suitable habitat for lowland leopard frog, but would be minimized by implementation of the specified mitigation measures. The effects of sediment on this alternative would not be different from the others because of the small amounts when compared to natural events (Op. cit.).

Determination

Implementing this alternative may indirectly affect individuals temporarily, and indirectly affect suitable foraging habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Mayfly sp. (*Homoleptohyphes quercus*)

Affected Environment

Oak Creek and its floodplain provide suitable aquatic habitat for this species, and these components are adjacent to or in a portion of the analysis area for these routes. The AGFD's AZHGIS report for the analysis area did not indicate a recorded location for the mayfly within the 3-mile buffer of the analysis area. However, field reconnaissance confirmed potential habitat in the analysis area. The eggs of this species are laid in aquatic environments, and the species also spends its nymph stage in aquatic environments. Disturbance to submerged objects, substrate, silt, fine sand, gravel, woody debris, moss and other plant growth on stones, exposed roots of terrestrial plants, and bases of rooted aquatic vegetation in and adjacent to Oak Creek would directly affect the mayfly and its habitat.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact aquatic habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

A potential direct effect of this alternative on this species is crushing of individual adult mayflies by equipment during both road and bridge construction because they fly around areas adjacent to Oak Creek looking for mates and suitable places to lay eggs. Sedimentation effects from road and bridge construction may directly affect mayfly individuals (particularly in the larval stage) in the analysis area and indirectly affect mayfly individuals downstream from the analysis area. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually during periods of peak precipitation. These effects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit).

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

A potential direct effect of this alternative on this species is crushing of individual adult mayflies by equipment during both road and bridge construction because they fly around areas adjacent to Oak Creek looking for mates and suitable places to lay eggs. Sedimentation effects from road and bridge construction may directly affect mayfly individuals particularly in the larval stage in the analysis area and indirectly affect mayfly individuals downstream from the analysis area. Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. These

affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.).

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

This alternative contains minimal suitable habitat for this mayfly. The location of this route is in proximity to Oak Creek and its floodplain and varies from only 0.25–0.5 mile beyond Oak Creek. Several drainages bisect the route, and storm runoff flows directly into Oak Creek. Alternative D would contribute an estimated 3 cu ft. annually during periods of peak precipitation to indirectly affect habitat. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction would be minimized by implementation of the specified mitigation measures. The effects of sediment on this alternative would not be different from the others because of the small amounts when compared to natural events (Op. cit.).

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Metcalfé's tick-trefoil (*Desmodium metcalfei*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate a documented location for the Metcalfé's tick-trefoil within a 3-mile buffer around the analysis area to account for indirect disturbances. However, a list of USFS sensitive species specific to this analysis Agyagos (2008) notes suitable habitat occupied by this species near Oak Creek at the Huckaby Trail area. This area is approximately 1.5 to 2.5 miles northeast of the analysis area. It is also documented in the Fossil Creek area. It is found on rocky slopes, in ditches, and in canyons within grasslands, piñon-juniper and oak woodlands, and riparian forests between 4,000 and 6,000 feet in elevation. This perennial plant is deciduous. It produces purple pea-shaped flowers from August to October. No plants were observed during field reconnaissance.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no removal of conifer woodland vegetation that could impact plant habitat. There would be no impact to habitat from construction activities, noise, and by long-term

use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Because of the proximity (less than 2.5 miles) of a known record of occurrence for Metcalfe's tick-trefoil near Oak Creek, this alternative contains suitable habitat for this species. Direct effects would include the possibility that individual plants may be crushed by construction equipment or cleared as a result of the road and bridge construction.

Alternative B would temporarily affect approximately 8.4 acres of Great Basin Conifer Woodland. With mitigation, approximately 3 acres of woodland would be affected long term with the paved road surface of Alternative B.

Indirect effects would only occur if the road surface created a run-off situation impacting plants located adjacent to the road. This may include an increase, decrease, or diversion of run-off resulting from the road surface, or if plants were located close enough to the road that vehicles pulling off the road to park might crush individuals. Erosion and sedimentation could indirectly affect suitable habitat for Metcalfe's tick-trefoil. These effects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.).

Determination

Because this alternative occurs in suitable habitat, there would be disturbance, modification, and loss of habitat for this species. Therefore, it is the determination that alternative route B may impact Metcalfe's tick-trefoil, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

Because of the proximity (less than 2.5 miles) of a known record of occurrence for Metcalfe's tick-trefoil near Oak Creek, this alternative contains suitable habitat for this species. Direct effects would include the possibility that individual plants may be crushed by construction equipment or cleared as a result of the road and bridge construction. Alternative C would temporarily affect approximately 3 acres of Great Basin Conifer Woodland on national forest land. With mitigation, approximately 1.3 acres of woodland on national forest land would be affected long term with the paved road surface of Alternative C.

Indirect effects would only occur if the road surface created a run-off situation impacting plants located adjacent to the road. This may include an increase, decrease, or diversion of run-off resulting from the road surface, or if plants were located close enough to the road that vehicles pulling off the road to park might crush individuals. Erosion and sedimentation could indirectly affect suitable habitat for Metcalfe's tick-trefoil. These effects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.).

Because this alternative occurs in suitable habitat, there would be disturbance, modification, and loss of habitat for this species. Therefore, it is the determination that alternative route B may impact Metcalfe's tick-trefoil but is not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

This alternative contains suitable habitat for Metcalfe's tick-trefoil. Alternative D would temporarily affect approximately 12 acres of Great Basin Conifer Woodland. With mitigation, approximately 5 acres of woodland would be affected long term with the paved road surface of Alternative D.

Erosion and sedimentation could indirectly affect suitable habitat for Metcalfe's tick-trefoil. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.).

Determination

Because alternative route D occurs in suitable habitat, there would be disturbance, modification, and loss of habitat for this species. Therefore, it is the determination that alternative D may impact Metcalf's tick-trefoil, but is not likely to result in a trend toward federal listing or loss of viability.

Cumulative effects for the action alternatives could include ongoing area recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Narrow-headed gartersnake (*Thamnophis rufipunctatus*)

Affected Environment. The AGFD's AZHGIS report for the analysis area did indicate a documented location for the narrow-headed gartersnake within a 3-mile buffer around the analysis area to account for indirect disturbances. According to HDMS, the closest known record may be in the analysis area or immediately adjacent to and southwest of the analysis area. Suitable habitat for this species was observed during field reconnaissance.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact aquatic habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Alternative route B contains suitable (and historical) habitat for the narrow-headed gartersnake. In addition, this route contains proposed critical habitat (PCH).

Construction using heavy machinery would occur in suitable habitat and PCH. Construction activities could crush individuals and would disturb aquatic and riparian habitat.

Construction would result in a short term loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in suitable habitat and PCH. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. Both options would likely make foraging conditions

unsuitable due to fairly high velocities (5.28 and 2.76 Ft/s). In addition, the pipe option would be totally enclosed further reducing habitat capability.

Construction activities would disturb terrestrial space within the 600' lateral of bankfull. This could result in crushing individuals while they are foraging, shedding, or brumating. The total temporary riparian and terrestrial habitat disturbance would be 2.68 acres. Of this 1.9 acres are located within 600 feet of Oak Creek.

Determination

Because alternative route B contains suitable (and likely occupied) habitat for the narrow-headed gartersnake; this route contains proposed critical habitat (PCH). Construction using heavy machinery and diversion of flow around construction area occurs in suitable and PCH and would disturb and obliterate habitat. Construction equipment and activities could crush individuals should they occur in the area. There would be a short term loss of 0.78 acres and a long term loss of 0.025 acres of riparian habitat. There is potential for indirect effects to individuals and prey. It is the determination that alternative route B may adversely affect the narrow-headed gartersnake and proposed critical habitat.

Alternative C.

Alternative route C contains suitable (and likely occupied) habitat for the narrow-headed gartersnake. In addition, this route contains proposed critical habitat (PCH).

Construction using heavy machinery occurs in suitable habitat and PCH. Construction activities could crush individuals and would disturb aquatic and riparian habitat. Construction would result in a short term loss of 0.23 acres of riparian habitat on national forest system (NFS) lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of habitat on NFS lands (with an additional 0.002 acres on private land). In order to construct the bridge, it is first required to divert flows around the construction site. This diversion will occur in suitable habitat and PCH. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. Both options would likely make foraging conditions unsuitable due to fairly high velocities (5.28 and 2.76 Ft/s). In addition, the pipe option would be totally enclosed further reducing effectiveness.

Construction activities would disturb terrestrial space within the 600' lateral of bankfull. This could result in crushing individuals while they are foraging, shedding, or brumating. The total temporary riparian and terrestrial habitat disturbance would be 2.68 acres. Of this 1.9 acres are located within 600 feet of Oak Creek.

Determination

Because alternative route C contains suitable (and likely occupied) habitat for the narrow-headed gartersnake; this route contains proposed critical habitat (PCH). Construction using heavy machinery and diversion of flow around construction area occurs in suitable and PCH and will disturb and obliterate habitat. Construction equipment and activities could crush individuals should they occur in the area. There would be a short term loss of 0.23 acres and long term loss of 0.001 acres of riparian habitat; and there is potential for indirect effects to individuals and prey. It is the determination that alternative route C may adversely affect the narrow-headed gartersnake and proposed critical habitat.

Alternative D.

This route would cross approximately nine small washes and some steep slopes near the west end of the alignment with storm runoff flowing directly into Oak Creek. Alternative route D occurs in the uplands along about a mile stretch of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact habitat for this species but is expected to be minimized by implementation of the mitigation measures for culvert design. BMPs, an AZPDES permit, and the required implementation of a SWPPP would not result in change to water quality or the native amphibian and fish prey base.

Determination

Because alternative route D occurs 0.25 to 0.5 miles away from Oak Creek, there are no direct effects to individuals and proposed critical habitat primary constituent elements. Indirect effects may include storm runoff carrying sediment and road pollutants into Oak Creek. However, given BMPs, an AZPDES permit, and the required implementation of a SWPPP, these levels are expected to be well under that which could affect individuals and prey species and their habitat. Therefore, it is the determination that alternative route D will not affect the narrow-headed gartersnake nor proposed critical habitat.

Indirect effects to the narrow-headed gartersnake could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These effects are expected to be minimized by proper implementation of the specified mitigation measures.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)

Affected Environment

Oak Creek, rocky cliffs, and caves are suitable habitat for this species, and these components are adjacent to or in a portion of the analysis area for these routes. The AGFD's AZHGIS report for the analysis area did not indicate a documented location for the Pale Townsend's big-eared bat within a 3-mile buffer around the analysis area to account for indirect disturbances. According to HDMS, the closest known record is more than 10 miles south of the analysis area. However, during field reconnaissance suitable roosting habitat in the form of caves was observed near the analysis area and suitable foraging habitat in the riparian area along Oak Creek was observed in the analysis area. This species is not typically known to roost in trees, cracks or crevices, or under bridges.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Like most bats, the main potential threats to this species resulting from the project would be noise or any other disturbance that may disrupt their roosting sites, which are typically caves and mines. Temporary affects to potential roosting sites in adjacent caves are possible because of the noise of construction. With alternative B, construction would result in a short term loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat, but are not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Alternative C.

Like most bats, the main potential threats to this species resulting from the project would be noise or any other disturbance that may disrupt their roosting sites, which are typically caves and mines. Temporary affects to potential roosting sites in adjacent caves are possible because of the noise of construction. With Alternative C, construction would result in a short term loss of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of riparian habitat on national forest lands.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat, but are not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Alternative D.

This alternative contains minimal suitable habitat for roosting and foraging pale Townsend's big-eared bat. The location of this route is in proximity to Oak Creek and its floodplain and varies from only 0.25–0.5 mile beyond Oak Creek. Several drainages bisect the route and storm runoff flows directly into Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly affect foraging sites, but would be minimized by implementation of the specified mitigation measures. The effects of sediment on this alternative would not be different from the others because of the small amounts when compared to natural events (Op. cit.).

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Indirect effects to the Townsend's big-eared bat could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These effects are expected to be minimized by proper implementation of the specified mitigation measures.

Cumulative Effects

Concerning riparian habitat loss on private land with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Sonora sucker (*Catostomus insignis*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did indicate a documented location for the Sonora sucker within a 3-mile buffer around the analysis area to account for indirect disturbances. According to HDMS, the closest known record may be less than 2 miles southwest of the analysis area. This species is known to occur in the analysis area (Agyagos 2008), and suitable habitat was observed in Oak Creek during field reconnaissance for this species.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact fish habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

Alternative route B contains suitable and occupied habitat for the Sonora sucker. Direct effects of construction using heavy machinery would occur in suitable habitat. Construction activities could crush individuals and would disturb aquatic and riparian habitat. Construction would result in a short term loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. Construction using heavy machinery and diversion of flow around construction area would occur in suitable habitat, and would disturb and obliterate habitat. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in suitable habitat. There are two options for

diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. Both options would likely make foraging conditions unsuitable due to fairly high velocities (5.28 and 2.76 Ft/s). In addition, the pipe option would be totally enclosed further reducing habitat capability.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative C.

Alternative route C contains suitable and occupied habitat for the Sonora sucker. Direct effects of construction using heavy machinery would occur in suitable habitat. Construction activities could crush individuals and would disturb aquatic and riparian habitat. Construction would result in a short term loss of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of riparian habitat on national forest lands. Construction using heavy machinery and diversion of flow around construction area would occur in suitable habitat, and would disturb and obliterate habitat. In order to construct the bridge, it is first required to divert flows around the construction site. This diversion would occur in suitable habitat. There are two options for diversion; diversion through a 36" pipe and diversion via a temporarily constructed ditch. Both options would likely make foraging conditions unsuitable due to fairly high velocities (5.28 and 2.76 Ft/s). In addition, the pipe option would be totally enclosed further reducing habitat capability.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability.

Alternative D.

Alternative route D does not contain suitable or proposed critical habitat for the Sonora sucker, and the construction of this route would occur from 0.25 to 0.50 mile beyond Oak Creek. However, indirect effects may occur. This route would cross approximately nine small washes and some steep slopes near the west end of the alignment with storm runoff flowing directly into Oak Creek. Alternative route D occurs in the uplands along about a mile stretch of Oak Creek. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction could indirectly impact habitat for this species.

Determination

Because alternative route D occurs 0.25 to 0.5 miles away from Oak Creek, there are no direct effects to individuals or occupied habitat. Therefore, it is the determination that alternative route D may affect but would not likely adversely affect the Sonora sucker or its habitat.

Indirect effects to the Sonora sucker could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting prey species and their habitat.

Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and

Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures. The effects of sediment on each alternative would not be different because of the small amounts when compared to natural events (Op. cit.). Aquatic species have evolved or maintained populations with the present regime of temporary high peak flows with sediment separated by longer periods of low flows with very little sediment. Erosion and contamination of Oak Creek by pollutants and sediment from road and culvert construction is expected to be minimized by implementation of the mitigation measures for culvert design. In addition, BMPs, an AZPDES permit, and the required implementation of a SWPPP would minimize indirect impacts to the Northern Mexican gartersnake and proposed critical habitat.

Cumulative Effects

Concerning riparian habitat loss on private land because of the bridge with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Spotted bat (*Euderma maculatum*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did not indicate a documented location for the spotted bat within 3 miles of the analysis area. Suitable roosting habitat in the form of cracks and crevices in cliff faces in and near the analysis area. Their habitat always seems to be associated with a water source such as a spring, creek, river or lake. Suitable foraging habitat along Oak Creek and piñon-juniper woodland in the analysis area were observed during field reconnaissance.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

This alternative contains suitable foraging habitat and roosting habitat for the spotted bat. Like most bats, the main potential threats to this species resulting from the project would be noise or any other disturbance that may disrupt their roosting sites, which are typically cracks and crevices in cliff faces and alteration of foraging habitat. Alternative B would temporarily affect approximately 8.4 acres of Great Basin Conifer Woodland. With mitigation, approximately 3 acres of woodland would be affected long term with the paved road surface. Construction would result in a short term loss of 0.78 acres of riparian habitat on national

forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Alternative C.

This alternative contains suitable foraging habitat and roosting habitat for the spotted bat. Like most bats, the main potential threats to this species resulting from the project would be noise or any other disturbance that may disrupt their roosting sites, which are typically cracks and crevices in cliff faces and alteration of foraging habitat. Alternative C would temporarily affect approximately 3 acres of Great Basin Conifer Woodland. With mitigation, approximately 1.3 acres of woodland would be affected long term with the paved road surface. Construction would result in a short term loss of 0.23 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.001 acres of riparian habitat on national forest lands.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Alternative D.

This alternative contains suitable habitat for roosting and foraging spotted bats. The location of this route is in proximity to Oak Creek and its floodplain and varies from only 0.25–0.5 mile beyond Oak Creek. Several drainages bisect the route. Alternative D would temporarily affect approximately 12 acres of Great Basin Conifer Woodland. With mitigation, approximately 5 acres of woodland would be affected long term with the paved road surface of Alternative D.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable foraging habitat, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation and the abundance of suitable habitat adjacent to the analysis area.

Indirect effects to the spotted bat could occur when storm runoff causes erosion and carries sediment and road pollutants into Oak Creek affecting their habitat. Alternative B would contribute an estimated 15 cu ft. of sediment to Oak Creek annually, and Alternative C would contribute an estimated 3 cu ft. annually from national forest lands during periods of peak precipitation. Alternative D would be expected to contribute an estimated 3 cubic feet annually during periods of peak precipitation. These affects are expected to be minimized by proper implementation of the specified mitigation measures.

Cumulative Effects

Concerning riparian habitat loss on private land because of the bridge with Alternative C, approximately 0.002 acre of riparian habitat would be permanently lost, and 0.48 acres of riparian forest would be temporarily lost. Other cumulative effects for the action alternatives could include ongoing streamside recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Additional Sensitive Species

The Threatened, Endangered and Sensitive Species (TES) List for the Coconino National Forest (revised in 2013) was reviewed against the list of TES species analyzed in the 2010 Wildlife Specialist Report.

Additional sensitive species for which suitable habitat occurs include: Phillips' agave (*Agave phillipsiana*), Sacred Mountain agave (*Agave verdensis*), Page Springs agave (*Agave yavapaiensis*), Tonto Basin agave (*Agave delamateri*), and Metcalfe's Tick-trefoil (*Desmodium metcalfei*).

Affected Environment

Phillips' Agave (*Agave phillipsiana*)

This plant is known to only occur in four places in Grand Canyon National Park, and is found at elevations between 700-1100m in sandy, gravelly substrates in desert scrub habitats. The locations this plant are found are on terraces near perennial waterways. This plant is found near archaeology sites of pre-Columbian peoples and is believed to have possibly been cultivated as a food source. SWCA completed plant surveys documented in the 2010 Wildlife Specialist Report, and agaves were identified but not to species. Suitable habitat exists and consists of rocky, well-drained soils near riparian areas.

Sacred Mountain agave (*Agave verdensis*)

This species is known to occur in 43 locations, all of which are pre-Columbian people archaeological sites. Typically found at elevations of 3465-4455 feet on "Rocky, limestone, sandstone or clayey-loamy igneous derived soils in semi-arid desert grassland to piñon-juniper woodland" (Hodgson and Salywon, 2009). This plant is found most often atop ridges with nearby permanent or seasonal water sources. The area along Wet Beaver Creek is an especially important portion of the population likely due to the long history of ancient people having lived here and their likely domestication of this plant. Observed in Yavapai and Coconino counties, AZ, populations near Sacred Mountain have been observed. Suitable habitat exists and consists of rocky, well-drained soils near riparian areas.

Page Springs agave (*Agave yavapaiensis*)

This plant is known to occur in ten locations in Arizona, all of these locations are near pre-Columbian peoples archaeological sites. According to Hodgson and Salywon (2009) "It grows on rocky, clayey-loamy igneous derived soils, less frequently on limestone soils in semi-arid desert grassland to piñon-juniper woodland." Plants occur on top of rocky ridges above permanent water sources near Page Springs in Yavapai County, Arizona. Suitable habitat exists and consists of rocky, well-drained soils near riparian areas.

Tonto Basin agave (*Agave delamateri*) is usually found between 2,800 and 3,400 feet atop benches (often high benches), at edges of slopes, and on gentle slopes overlooking major drainages and perennial streams. Found in association (sometimes direct, often indirect) with archeological features, including multi-room foundations and also above check dams and alignments. As with most agaves, *Agave delamateri* requires well drained soil, being susceptible to root rot. Suitable habitat exists and consists of rocky, well-drained soils near riparian areas.

Direct and Indirect Effects For All Agave Species

Alternative A, No Action

Because there would be no construction, road, or bridge, there would be no impact to the agave species or their habitat. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative Routes B and C.

These alternative routes contain suitable habitat for the four sensitive agave species. Construction activities can disturb habitat and crush plants. Alternative B would temporarily affect approximately 8.4 acres of Great Basin Conifer Woodland. With mitigation, approximately 3 acres of woodland would be affected long term with the paved road surface. Alternative C would temporarily affect approximately 3 acres of Great Basin Conifer Woodland. With mitigation, approximately 1.3 acres of woodland would be affected long term with the paved road surface. Because these alternatives occur in suitable habitat, there would be disturbance, modification, and loss of habitat for the four sensitive agave species.

Determination

Therefore, it is the determination that alternative routes B and C may impact Sacred Mountain agave, Tonto Basin agave, Phillips' agave, and Page Springs agave, but are not likely to result in a trend toward federal listing or loss of viability.

Alternative Route D

Because alternative route D occurs in suitable habitat, there would be disturbance, modification, and loss of habitat for the four sensitive agave species. Alternative D would temporarily affect approximately 12 acres of Great Basin Conifer Woodland. With mitigation, approximately 5 acres of woodland would be affected long term with the paved road surface of Alternative D.

Determination

Therefore, it is the determination that alternative D may impact Sacred Mountain agave, Tonto Basin agave, Phillips' agave, and Page Springs agave but is not likely to result in a trend toward federal listing or loss of viability.

Cumulative effects for the action alternatives could include ongoing area recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Verde Valley (Mearns) sage (*Salvia dorrii mearnsii*)

Affected Environment

The AGFD's AZHGIS report for the analysis area did indicate a documented location for Verde Valley sage within a 3-mile buffer around the analysis area to account for indirect disturbances. Although this species is probably not present in the analysis area (Agyagos 2008), suitable habitat for this species was observed in the analysis area during field reconnaissance above the floodplain of Oak Creek.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no removal of conifer woodland vegetation that could impact plant habitat. There would be no impact to habitat from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternatives B and C.

These alternative routes contain suitable habitat for the Verde Valley sage above Oak Creek and its floodplain. If this species occurs in the analysis area, direct effects would include the possibility that individual plants may be crushed by construction equipment or cleared as a result of the road construction. Indirect effects would only occur if the road surface created a run-off situation impacting plants located adjacent to the road. This may include an increase, decrease, or diversion of run-off resulting from the road surface, or if plants were located close enough to the road that vehicles pulling off the road to park might crush individuals. Alternative B would temporarily affect approximately 8.4 acres of Great Basin Conifer Woodland. With mitigation, approximately 3 acres of woodland would be affected long term with the paved road surface. Alternative C would temporarily affect approximately 3 acres of Great Basin Conifer Woodland. With mitigation, approximately 1.3 acres of woodland would be affected long term with the paved road surface. Native plants would be used to re-vegetate disturbed areas.

Determination

Implementing each of these alternatives may directly affect suitable habitat or individuals temporarily, and indirectly affect suitable habitat temporarily, but are not likely to result in a trend toward federal listing or loss of viability because of the large amount of habitat adjacent to the analysis area.

Alternative D.

This alternative route contains suitable habitat for Verde Valley sage. Alternative D would temporarily affect approximately 12 acres of Great Basin Conifer Woodland. With mitigation, approximately 5 acres of woodland would be affected long term with the paved road surface of Alternative D. Indirect effects would only occur if the road surface created a run-off situation impacting plants located adjacent to the road. This may include an increase, decrease, or diversion of run-off resulting from the road surface, or if plants were located close enough to the road that vehicles pulling off the road to park might crush individuals.

Determination

Implementing this alternative may directly affect individuals temporarily, and indirectly affect suitable habitat, but is not likely to result in a trend toward federal listing or loss of viability because of the large amount of habitat adjacent to the analysis area.

Cumulative effects for the action alternatives could include ongoing area recreation, invasive species, and the potential for increasing frequency and intensity of drought caused by a changing climate.

Western red bat (*Lasiurus blossevillii*)

Affected Environment

According to HDMS, the closest known record may be 5 to 10 miles west of the analysis area. The species could occur in the analysis area (Agyagos 2008). Western red bats are solitary animals who prefer riparian areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores where they roost in these broad-leafed trees. They roost only in tree foliage. During field reconnaissance, suitable riparian habitat for this species was observed along Oak Creek.

Direct and Indirect Environmental Effects

Alternative A. No Action.

There would be no stream channel disturbance, or removal of riparian and large vegetation along the creek that could impact habitat and use. There would be no impact to habitat and corridors from construction activities, noise, and by long-term use, operation and maintenance activities. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B.

The riparian community of Oak Creek is suitable for this species and is present within a portion of the analysis area. Like most bats, the main potential threats to this species resulting from the proposed construction would be noise or any other disturbance that may disrupt their roosting sites, which are typically riparian trees. With alternative B, construction would result in a short term loss of 0.78 acres of riparian habitat on national forest lands. The pillars of the bridge would result in a permanent loss of 0.025 acres of habitat on national forest lands. The 0.78 acre would be reclaimed after construction by replanting native riparian vegetation.

Determination

Implementing this alternative may directly affect individuals and suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation.

Alternative C.

The riparian community of Oak Creek is suitable for this species and is present within a portion of the analysis area. Like most bats, the main potential threats to this species resulting from the proposed construction would be noise or any other disturbance that may disrupt their roosting sites, which are typically riparian trees. With Alternative C, construction would result in a short term loss of 0.23 acres of riparian habitat on national forest lands. The

pillars of the bridge would result in a permanent loss of 0.001 acres of riparian habitat on national forest lands. The 0.23 acre would be reclaimed after construction by replanting native riparian vegetation.

Determination

Implementing this alternative may directly affect individuals and suitable habitat temporarily, but is not likely to result in a trend toward federal listing or loss of viability because of mitigation.

Alternative D.

This alternative route does not contain suitable riparian habitat for roosting and foraging western red bats. No effect is expected.

Cumulative Effects

Cumulative effects include the effects of future Federal, state, local, or private actions that are reasonably certain to occur in or near the analysis area. The Tobias Road Project occurs adjacent to private lands, and within national forest lands. Private projects (such as utilities, development, etc.) are likely to contribute more to the cumulative effects related to this project than USFS projects. The Crescent Moon Ranch and Chavez Ranch, both downstream of the analysis area, irrigation ditches contribute to the dewatering of Oak Creek, and so the past effects of those projects, along with future maintenance, could contribute to cumulative effects. And development planned within the private in-holding parcel of land that precipitated the need for this project would contribute to the cumulative effects for the Tobias Road Project. Future maintenance of State Route #179 and the Ridge Trail could contribute to cumulative effects; however, future federal actions that are unrelated to the proposed action are not considered in this section because they would require separate consultation pursuant to Section 7 of the ESA if they resulted in any effect on a listed or candidate species. Future non-federal activities within the analysis area that are reasonably certain to occur include the modification of habitat and disturbance from actions occurring on adjacent ownerships and in-holdings (e.g., utilities and road construction, development, water diversion, vegetation clearing, fuelwood gathering, road maintenance). These activities may 1) reduce the quality and quantity of suitable habitat (breeding, foraging and/or roosting) for all of the species discussed above (e.g., MSO, all riparian species including fish, all bats); 2) result in disturbance to nearby breeding activities for some of these species (e.g., bald eagle and yellow-billed cuckoo); and 3) contribute to the cumulative effects of the proposed action.

Recreation is the primary activity that occurs in the analysis area. Recreation activity may result in disturbance effects on the special-status species being evaluated for this project, although the extent of such possible disturbance is unknown. The Ridge Trail receives recreational day-use hiking activity and State Route # 179 receives recreational vehicle use. Wildfires started by lightning could affect suitable habitat for most or all of the species to an unknown extent (e.g., MSO, Abert's towhee, peregrine falcon, riparian species, etc.). Because MSOs occur predominantly on federal lands, within a few miles from the analysis area (HDMS breeding records for the MSO indicate the closest known record of occurrence is approximately 10 miles northeast of the analysis area), and because of the role of the respective federal agencies in administering MSO habitat, actions implemented in the future by non-federal entities on non-federal lands are considered to be an insignificant and discountable affect to the overall MSO population.

Effect of Alternative-Specific Forest Plan Amendment on Threatened and Endangered Species and their Critical Habitat

The forest plan amendment included in alternatives B and D are to allow changes to the recreational management standards, and would not result in effects beyond those discussed for the project activities identified in each alternative themselves.

Irreversible and Irretrievable Commitments

None of the action alternatives would cause irreversible commitments of habitat for threatened, endangered, and sensitive plant and animal species because the road and bridge could be removed, and the areas reclaimed with native vegetation. Habitat use during construction, use, and maintenance would be irretrievable.

Cultural Resources

Issue

Increased access from a new road corridor and visitation by residents could increase access to cultural resource sites and could result in impacts to sites in the analysis area.

Indicators

- Impacts to cultural resources.

Introduction

The Mogollon Rim area including the Verde Valley and the Sedona area shows evidence of habitation by previous cultures. The area is rich in such evidence. Ground disturbing activities and increased access have the potential to damage cultural resource sites and reduce or eliminate their value for understanding previous cultures and the appreciation of their way of life.

Forest Plan Direction

A complete or sample cultural resources survey is done on project undertakings. The intensity of sampling is determined by using FSM 2360. (Page 49).

Ground disturbing projects receive cultural resources clearance. This includes projects proposed in areas that have been previously cleared for other projects. Projects, not areas, receive clearance. Projects receive clearance without additional archaeological field work whenever sufficient prior field work has been done to clear the project. Cultural resource reports are reviewed by the Forest Archaeologist who also determines site significance and recommends, through the Forest Supervisor, nomination of sites to the National Register of Historic Places, as prescribed in FSM 2360 and in consultation with the State Historic Preservation Officer. Pertinent reports and documentation are completed before cultural resource clearance is granted and projects proceed, unless otherwise agreed to with the SHPO and, if necessary, Advisory Council on Historic Preservation (ACHP). (Pages 49 and 50).

Existing Conditions and Evaluation

Affected Environment

The archaeological investigation of the survey corridor resulted in the identification of two previously recorded sites (AR-03-04-06-135 and AR-03-04-06-154) which are recommended eligible for listing in the National Register of Historic Places (NRHP), one previously unrecorded site (Chavez Ranch Road) would need additional field work to determine eligibility, one previously unrecorded site (AZ O:1:165(ASM)) which is recommended ineligible for listing in the NRHP, and 25 isolated occurrences.

In addition, archival research indicates that one NRHP-ineligible site, AR-03-04-06-238, has been previously recorded immediately adjacent to the survey corridor. The current survey identified the recorded area of AR-03-04-06-238 as being impacted by road, sidewalk, and landscaping activities, and the surveyors found no remaining evidence of the site.

AR-03-04-06-135 is located outside the boundary of the survey corridor, and AR-03-04-06-154 is outside the boundary of the survey corridor. These two resources, which are both recommended NRHP-eligible, are not located within the survey corridor as currently defined and can be avoided completely by project construction. The sites are heavily impacted by past use, as evidenced by the general lack of prehistoric artifacts.

The Chavez Ranch Ditch runs along Oak Creek and lies outside the survey corridor. The diversion for the Chavez Ranch Ditch is downstream from the proposed Alternative B bridge and outside the area of disturbance.

Direct and Indirect Environmental Effects

Alternative A. No Action.

Taking no action would maintain the current level of visitation and interaction with the cultural resources near and within the analysis area. There would be no increased potential for disturbance of cultural resources because the proposed access routes would not be constructed. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B, Alternative C, and Alternative D.

Because all of the proposed routes avoid known cultural resources, direct effects to those resources are not expected.

AR-03-04-06-135, AR-03-04-06-154, and AR-03-04-06-238 are outside of the proposed routes and area of disturbance, but would be indirectly subject to increased vandalism, artifact removal, and other disturbances caused by increased visitation to the area.

Alternatives B and C pose the greatest risk in terms of increased traffic near the sites. AR-03-04-06-154 is adjacent to the survey corridor for Alternatives B and C where the alternatives overlap. The low-density prehistoric artifact scatter is adjacent to the survey corridor for Alternative B. Of particular concern is the possibility of increased visitation and use of AR-03-04-06-154 which has already been impacted by modern use. Alternative D poses the least amount of risk to AR-03-04-06-135 and AR-03-04-06-154 because its route approaches the property from the west and does not run near either site.

Additional archaeological work may include site monitoring, nature and extent testing, and/or data recovery. If previously undocumented buried cultural resources are identified during ground-disturbing activities, all work in the immediate vicinity of the discovery would stop until the find could be evaluated by a professional archaeologist.

Cumulative Effects

A possible new subdivision on the subject property may increase the number of people who might walk on the road and indirectly affect this resource. Alternative C could present the greatest risk to cultural resources because people could walk from State Route 179 into the area. However, any marginal increase in visitation would likely not be a significant change from the current condition.

Because of the requirements for survey, testing, and recovery if needed, the action alternatives would not contribute to a loss of cultural resources data.

Forest Plan Consistency

The action alternatives are consistent with forest plan direction because of the inclusion of mitigation to conserve cultural properties potentially eligible for listing on the National Register. The site specific amendment associated with alternatives B and D would allow for alternative-specific changes to the current plan direction related to recreation experience, and would not result in additional effects beyond those discussed for each action alternative.

Irreversible and Irretrievable Commitments

There are no irreversible or irretrievable commitments of cultural resources.

Soils, Water Quality, Riparian Vegetation, Channel Stability, And Flooding

The 1987 Coconino National Forest Plan (USDA 1987), as amended identifies the following goals and direction for managing Soil, Water Quality, Riparian Vegetation, Channel Stability and Flooding:

- Maintain or, where needed, enhance soil productivity and watershed condition. Put all areas in a satisfactory watershed condition by 2020. Maintain a high quality sustained water yield for Forest users and others. Identify and protect wetlands and floodplains. Consider air quality during prescribed fires especially Class I areas over wildernesses. (Page 23-24).
- Monitor water quality and quantity in compliance with P.L. 92-500, Section 208. (Page 187). Conduct water quality monitoring of primary contact recreation sites to standards of FSM 2540 and Arizona Water Quality Standards for full body contact waters (swimming and wading). Conduct monitoring as necessary to assure compliance with standards for aquatic life and wildlife where known problems are occurring. (Page 73).
- Maintain or, where needed, enhance soil productivity and watershed condition. Page 23).
- Soil function and long-term productivity are sustained so that the soil can resist erosion, recycle nutrients and absorb water. (Pages 23 and 24).

- Evaluate potential resource impacts on T&E and sensitive species habitat by projects and activities through a biological assessment (FSM 2670) and conduct appropriate consultation (FSM 2670) when necessary. Provide appropriate protection or enhancement. (Page 64).
- A native fish community exists and functions naturally within the lower reaches of Oak Creek. There is an appropriate range of spawning, rearing, and overwintering habitat to support native fish. (Page 206-38).
- Maintain a high quality sustained water yield for Forest users and others. Identify and protect wetlands and floodplains. (Pages 23 and 24).
- Riparian communities have adequate in-stream flows and adequate plant cover to protect stream banks and dissipate energy during high flows. Channel characteristics support natural biodiversity. (Page 206-9).
- Reduce flood potential, and secure favorable conditions of water flow. (Page 206-10).
- Accomplish eighty percent of the riparian recovery by 2030. The remaining 20 percent would be significantly improved, but would not have all of the characteristics of a fully recovered riparian area, such as 3 age classes of woody vegetation. Page 206-11).
- Ensure compliance with PL 92-500 "Federal Water Pollution Control Act" and Arizona Water Quality Standards through the implementation of Best Management Practices (BMP) to prevent water quality degradation. (Page 71).
- Plan and design projects in areas of unsatisfactory or degraded condition to promote channel and streambank stability and to improve flow and timing of water. (Page 73).
- As information is available, develop inventory of important groundwater recharge areas. Evaluate management practices to assure that recharge potential is maintained. (Page 73).
- Assure compliance with Executive Order 11990, protection of wetlands. (Page 73).
- Assure compliance with Executive Order 11988, floodplain management. (Page 73).
- Maintain current satisfactory watershed conditions and improve any unsatisfactory conditions to satisfactory by 2020. (Page 74).
- Implement resource improvement projects that are cost-effective and/or are beneficial for maintaining and improving water quality, quantity, and soil productivity. (Page 74).

Soils

Issue

Access corridor construction activities could result in increased soil erosion and potential for slumps.

Indicators

- Soil productivity loss short term and long term.
- Potential for slumps.

Introduction

Long-term soil productivity can be affected through detrimental disturbances to the soil that are impactive and persistent, through long-term commitments of the soil resource to facilities (i.e. roads, campgrounds, gravel pits, etc.), and through practices that do not maintain desired levels of ground cover. The removal of ground cover and vegetation has the potential to increase erosion and reduce productivity.

Soil erosion relating to sediment production is discussed and analyzed in the water quality part of this section.

Existing Conditions and Evaluations

Affected Environment

The current condition of the soil resource has been influenced by both natural processes (i.e. climatic events, floods, drought, wind, fire, etc.) and human related disturbances (i.e. road construction, grazing, recreation, etc.). Natural processes have been and continue to be the foundation of soil formation while human related disturbances have effects on soil productivity and soil hydrologic function.

Terrestrial Ecosystem Survey (TES) (USDA Forest Service. 2001) soil map units of the analysis area include 46, 457, and 458. See Figure 20.

A discussion of soil characteristics is intended to "set the stage" for understanding how they are used in sediment calculations in the WEPP sediment model, and the potential for slumps. Information and interpretation of soil characteristics is contained in the specialist report in the project record.

Soils of map unit 46 are developing in alluvium from mixed sources, and comprise deep bouldery and very bouldery sands, and riverwash, 0 to 5% slopes in the Oak Creek flood plain. They are susceptible to wind erosion, have a low water holding capacity, and are subject to frequent flooding. Management opportunities are limited by these factors. The TES soil condition rating for this map unit is "satisfactory". Soil Condition is determined by evaluating surface soil properties as related to sheet and rill erosion losses as predicted by the Universal Soil Loss Equation (USLE). The classes used are Satisfactory, Unsatisfactory and Unsited.

Soils of map unit 457 are developing in place on elevated plains, 0 to 15% slopes, from sandstone residuum, and comprise moderately deep gravelly fine sandy loams, and shallow very gravelly fine sandy loams. Erosion hazards are slight because of the gentle slopes and gravelly nature of the soils. They are not subject to slumping (mass wasting). The revegetation potential of the shallow soils of this map unit is low without additional mitigation. The TES soil condition rating for this map unit is "satisfactory".

Soils of map unit 458 are developing in place on hills, 15 to 40% slopes, from sandstone residuum, and comprise moderately deep extremely gravelly fine sandy loams, and shallow extremely gravelly fine sandy loams. Erosion hazards are only moderate because of the gravelly nature of the soils. The mass wasting potential for the moderately deep soils is low, and slight for the shallow soils. Excavations for roads are expected to encounter significant

amounts of bedrock. The revegetation potential of the shallow soils of this map unit is low without additional mitigation. The TES soil condition rating for the moderately deep soils of this map unit is “satisfactory”, and “unsuited” for the shallow soils meaning that sheet and rill erosion losses are high because of little soil depth.

The Coconino National Forest Terrestrial Ecosystem Survey contains interpretations for mass wasting (slumping), or inherent slope stability based on soil map unit slope, soil depth, soil coarse fragment (rocks) content, and depth to bedrock. Some map units are not rated because the potential is so low. The mass wasting interpretation is used to describe the potential for slumps.

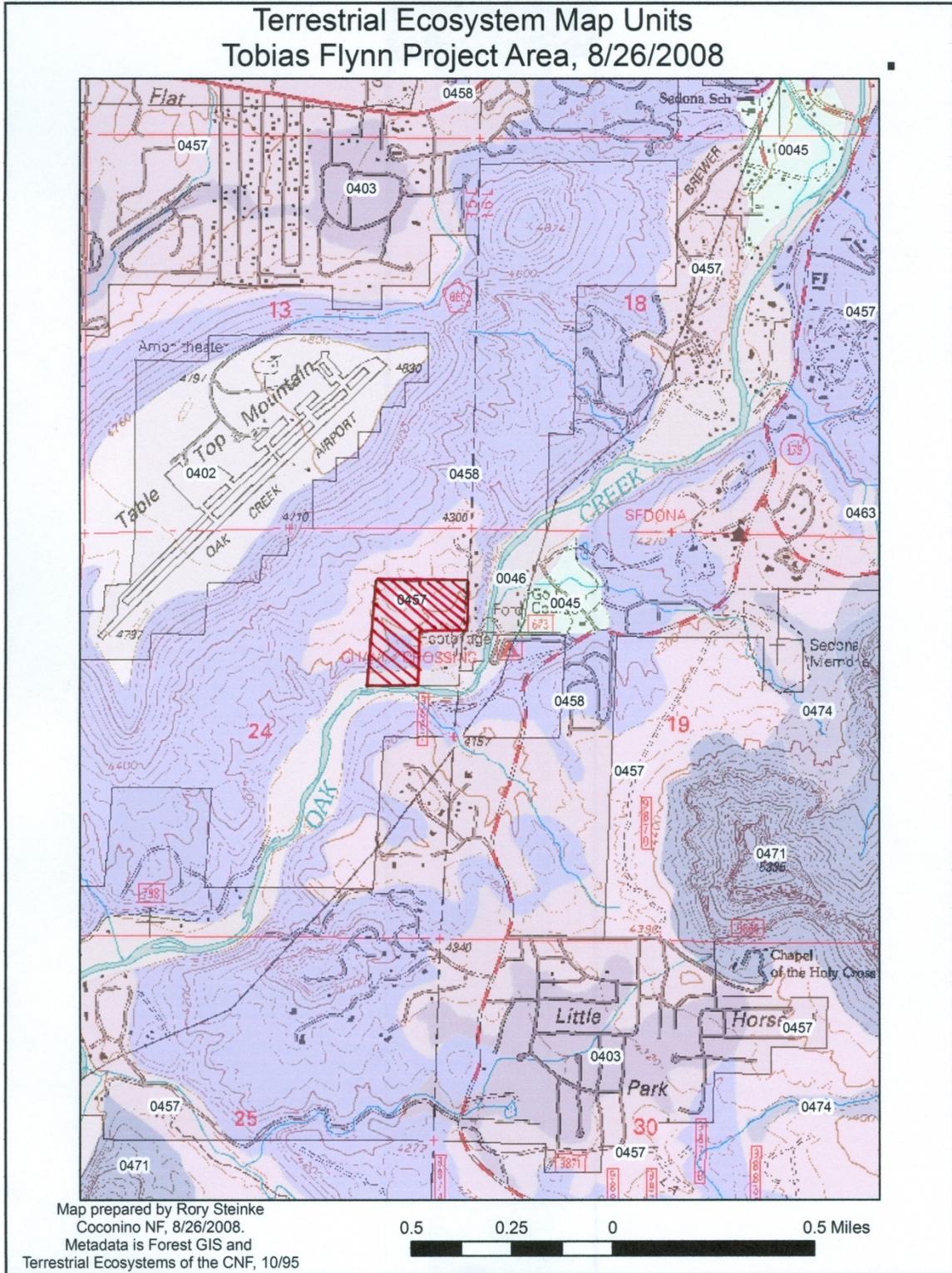


Figure 20. Terrestrial Ecosystem Survey Map Units.

Direct and Indirect Environmental Effects

Forest Service Handbook 2509.22_40 describes road and bridge construction BMPs including mechanical and vegetative soil surface stabilization measures, drainage control, and control of sidecast material. Mechanical measures may include, but are not limited to: wattling, erosion nets, terraces, side drains, blankets, mats, silt fences, riprapping, mulch, tackifiers, pavement, soil seals, and retaining walls. Vegetative measures may include seeding, fertilization and mulching to ensure success. There would be no erosion from the finished road surface because it would be paved. Best Management Practices (BMPs) appropriate for bridge construction will be discussed in the water resources section. Mass wasting and slumping is not expected because of the large amount of rock in the soils, and bedrock in the slopes. Appendix D contains a more detailed description of an array of BMPs that would be used for action alternative implementation.

Alternative A

Taking no action would not reduce the potential for slumps, or increase soil erosion and loss of productivity because no road construction would occur. Because there are no direct or indirect effects, there would be no cumulative effects.

Alternative B

Approximately 8.4 acres of soil would be out of productivity in the short term, two years, with 3.0 acres of paved road surface out of productivity long term with full BMP implementation. Slumping of road cut slopes is not expected because of the large amount of rock in the soils.

Alternative C National Forest Land.

Approximately 3 acres of soil would be out of productivity in the short term, two years, with approximately 1.3 acres of paved road surface out of productivity long term with full BMP implementation. Slumping of road cut slopes is not expected because of the large amount of rock in the soils. Soil productivity losses by including the private land are discussed in the cumulative effects section.

Alternative D.

Approximately 12 acres of soil would be out of productivity in the short term, two years, with 5 acres of road surface out of productivity long term with full BMP implementation. Slumping of road cut slopes is not expected because of the large amount of rock in the soils.

Cumulative Effects

Development could potentially cumulatively reduce overall soil productivity. Evaluation of the cumulative effects on the soil resource include assessing all past, present, and foreseeable future actions that would affect soils within and adjacent to the analysis area. Details of a possible subdivision are not available. The area contains a number of paved roads in subdivisions and State Route 179. Implementing any of the action alternatives described in this analysis, a possible development of the subject private land, and potential additional subdivisions outside national forest lands would result in a cumulative loss of soil to developed areas, but would be unlikely to cumulatively affect the erosion rates or productivity of remaining soils due to BMPs.

Forest Plan Consistency

Alternative A, taking no action, meets forest plan standards because there would be no change to existing conditions. All of the action alternatives, B, C, and D meet forest plan soil and watershed standards and guidelines because of the application of road and bridge construction best management practices as outlined above. The intent of forest plan direction to locate new roads out of stream courses and water-collecting features is to insure roads are not located in and parallel to stream courses. The action alternatives comply with this intent.

The site specific amendment associated with alternatives B and D would allow for alternative-specific changes to the current plan direction related to recreation experience, and would not result in additional impacts beyond those discussed for each action alternative.

Irreversible and Irretrievable Commitments

Taking no action would not create irreversible or irretrievable commitments of soil productivity. Implementing any of the action alternatives are considered to be irretrievable losses of soil productivity as long as the road is in place because of the acres occupied by a road surface. The action alternatives are not considered an irreversible commitment of soil productivity because the road could be removed, and the slopes reshaped and planted with native vegetation restoring those acres of productive soil.

Water Quality / Sediment

Issues

Access corridor construction activities could result in changes to water quality in Oak Creek.

Indicators

- Predicted annual sediment delivered to Oak Creek during periods of peak precipitation in cubic feet per year, short and long term in addition to existing sediment recruitment.
- Water Quality indicators are maintaining State Water Quality Standards and to provide for the assigned designated beneficial uses. Water quality is maintained or enhanced to conform to the creek's classification as an Outstanding Arizona Water.

Introduction

The Arizona Department of Environmental Quality (ADEQ) prepares a biennial Arizona Water Quality Assessment. This report fulfills requirements under the Federal Clean Water Act of 1987, section 305(b). In fulfilling these requirements, the 305(b) report includes such elements as water quality condition, water pollutants, and designated uses. The information provided in the report is based on accepted numeric and narrative standards, and assessment criteria.

Surface waters are classified with "designated use" identifiers, the designated uses are: aquatic and wildlife (warm water - A&Ww or coldwater - A&Wc), full body contact (FBC), partial body contact (PBC), fish consumption (FC), domestic water source (DWS), agriculture irrigation (AgI), and agriculture livestock watering (AgL).

As designated by the ADEQ pursuant to A.C.C. R18-11-112, Arizona Surface Water Quality Standards, Oak Creek has exceptional recreational or ecological significance and/or provides habitat for threatened or endangered species. They are designated Tier III Outstanding Arizona Waters (OAW), which are subject to special protection and standards.

The Arizona Department of Environmental Quality lists the reach of Oak Creek from the confluence with the West Fork of Oak Creek to the confluence with Spring Creek as not in attainment of full body contact standards due to high levels of E.coli (Arizona Department of Environmental Quality, ADEQ 305(b) assessment report, 2016 draft report). Physical and chemical parameters (including stream flow, temperature, pH, dissolved ion concentrations and biological oxygen demand) indicate that the water of Oak Creek, AZ is of high quality. However, fecal coliform enumerations of Oak Creek demonstrated an annual deterioration of water quality during the summer seasons of 1994, 1995 and 1996. The results of this study show that sediment agitation by recreational activity and storm surges associated with the summer storm season are responsible for the impact to water quality as well as irresponsible recreators who do not use restroom facilities. Sources of fecal pollution in the Oak Creek watershed may include grazing cattle, natural animal populations (primarily elk and deer), septic tanks, failed municipal sewage systems and recreational users (Craybill et al, 1998).

Roads are known sources of sediment and turbidity in stream channels. Unpaved roads, cut and fill slopes, roadside ditches, and embankments are areas of surface disturbance that are subject to elevated rates of erosion. Sediments generated from road derived erosion can ultimately be discharged into streams and affect turbidity, fish, and aquatic habitat. The likelihood that roads would cause sediment or turbidity problems in streams is dependent on a number of factors including precipitation intensity, soil type, road surfacing, road drainage and erosion control measures, and buffer distance between roads and stream channels.

The primary activities proposed with the Tobias-Flynn access project with the potential to affect sediment yield and water quality are road and bridge construction. The sediment model WEPP (Water Erosion Prediction Project) was used as an evaluation tool. A review of some sediment models and the reason for selecting WEPP is contained in the Soil, Water Quality, Riparian Vegetation Resources Specialist Report in the Project Record.

Data input to the model “WEPP: Road” uses the length of each different road segment and grade, a paved road surface, and stabilized inside ditch for each alternative. Additional mitigation is applied to model outputs based on application of BMPs.

According to WEPP documentation, the accuracy of the predicted values are, at best, within plus or minus fifty percent. True erosion rates are highly variable due to large variations in local topography, climate, soil properties, and vegetative properties, so predicted values are only a single estimate of a highly variable process. Model outputs used here do not necessarily portray the real world because of this high degree of variability. However, they are useful in comparing alternatives.

Precipitation at Sedona ranges from the normal low intensity rain or snowfall that produces little or no runoff because the precipitation is absorbed by the soil or intercepted by vegetation, to high intensity relatively short duration storms including rain on snow events that produce large amounts of runoff with large amounts of sediment such as the storm of February, 1993. Flooding in the Verde Valley and damage in Sedona was extensive. High sediment loads were carried by the Verde River, and all streams in the area.

The Oak Creek water quality anti degradation clause specifies that an increase in turbidity cannot exceed 3 Nephelometric Turbidity Units (NTU) from a discharge for six months or longer and still be within the standard. Sedona climate data for WEPP indicates that the area experiences about 64 days a year with measurable precipitation. Sediment delivery to Oak

Creek would occur when precipitation amounts are enough to generate runoff into Oak Creek. Sediment inputs to Oak Creek from road construction and maintenance would be intermittent, short duration, occasional, and would be expected to closely follow the events depicted by the following Figure 21 hydrographs. In addition, the rerouting of Oak Creek for bridge construction would be expected to produce temporary short-term increases in turbidity.

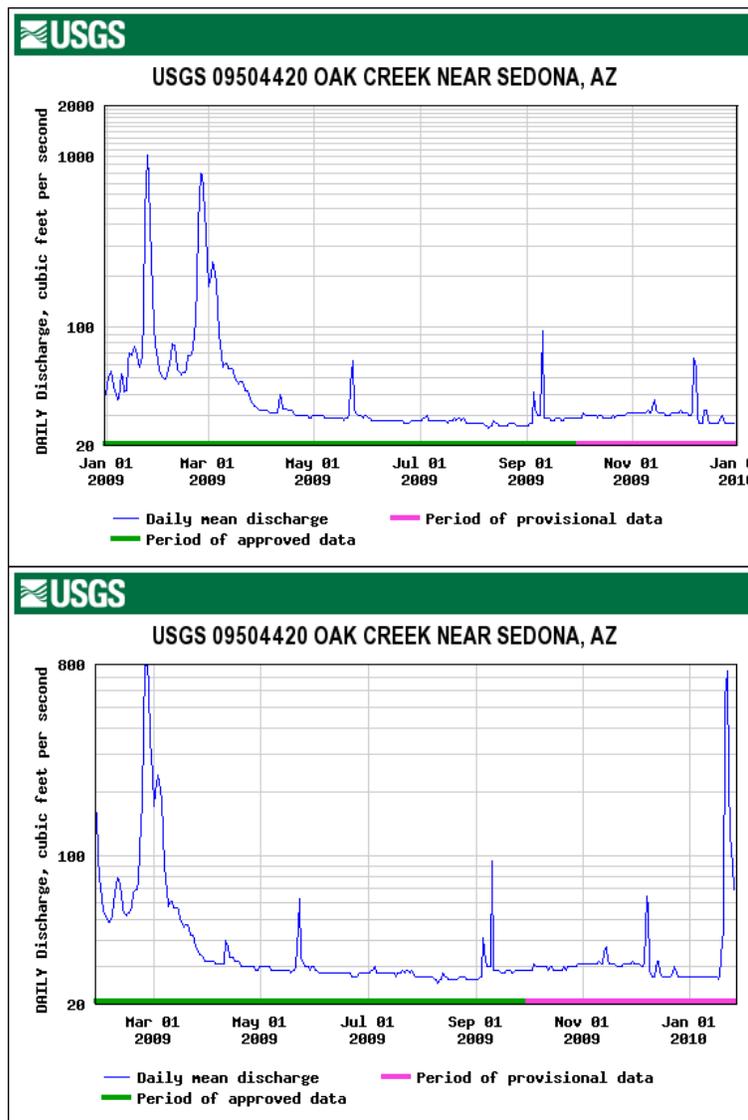


Figure 21. Oak Creek Hydrographs. Source, U.S. Geological Survey.

Model results are intended to be used for developing a quantitative index of sediment yield to provide a basis for the relative comparison of sediment inputs from different alternatives within a watershed.

Model runs consisting of different buffer lengths, road geometry, and road surface material were completed to test parameter sensitivity of the model. Test runs with buffer lengths of 1,000 feet or more masked all other variables.

For all model runs, design features include the mitigation of insloped road surface with rocked or vegetated ditch and cross drains, and are incorporated in the model to achieve an 80 % reduction in sediment leaving the buffer as calculated by the model, and displayed by the model output. The initial application of BMPs like erosion control netting of a color that blends with the landscape on cut and fill slopes, the installation of silt fences, and cross drains (culverts) during the temporary road construction phase would be approximately 60% effective in reducing sediment leaving the buffer because the road surface would be native material. That is, 40% of the displayed model output sediment would leave the buffer during high precipitation events. Sediment leaving the buffer is reduced by 90% (Burroughs, E.R., Jr.; 1985) from the model output (10% of the displayed model output would leave the buffer) by the application of additional best management practices (FSH 2509.22 Chapter 40) such as final application of cut and fill slope erosion control netting of a color that blends with the landscape, maintenance of silt fences until cut and fill slopes have stabilized, revegetation where possible, and paving the road surface when construction is completed.

Forest Plan Direction

Maintain or, where needed, enhance soil productivity and watershed condition. Maintain a high quality sustained water yield for Forest users and others. Identify and protect wetlands and floodplains. (Pages 23 and 24).

Scope Of The Analysis

The Tobias-Flynn Access Proposal analysis area includes the rights-of-way of each proposed route (Alternatives B, C, and D), the small drainages those routes cross, and Oak Creek from the Alternative C bridge location to a point approximately 6,800 feet (1.3 miles) downstream. Most soil disturbance would be confined within the 50-foot right-of-way. Temporary grading slopes would be needed in certain areas during construction for abutment construction and slope stabilization. Some would be outside the 50-foot right of way, but would be reclaimed when not needed.

Desired Condition

The desired condition for the water quality of Oak Creek would be to maintain State Water Quality Standards and to provide for the assigned designated beneficial uses. Water quality is maintained or enhanced to conform to the creek's classification as an Outstanding Arizona Water.

Existing Conditions and Evaluations

Affected Environment

The Oak Creek watershed drains a portion of the Verde River Basin beginning in the Colorado Plateau and into the transition zone between the Colorado Plateau and Sonora desert in north central Arizona. Oak Creek is located within the Oak Creek 5th Hydrologic Unit Code (HUC) watershed # 150602020. The Arizona Department of Environmental Quality (ADEQ) prepares a biennial Arizona Water Quality Assessment. This report fulfills requirements under the Federal Clean Water Act of 1987, section 305(b). In fulfilling these requirements, the 305(b) report includes such elements as water quality condition, water pollutants, and designated uses. The information provided in the report is based on accepted numeric and narrative standards, and assessment criteria.

As designated by the ADEQ pursuant to A.C.C. R18-11-112, Arizona Surface Water Quality Standards, Oak Creek has exceptional recreational or ecological significance and/or provides habitat for threatened or endangered species. They are designated Tier III Outstanding Arizona Waters (OAW), which are subject to special protection and standards. As an OAW, Oak Creek is under the antidegradation language included in the Water Quality Standards (A.A.C. R18-11-106 and 107), which calls for maintaining and protecting the existing water quality and no new or expanded point source discharge directly to an OAW.

The beneficial uses for Oak Creek include Aquatic & Wildlife, warm water; Fish Consumption, Domestic Water Source, Full Body Contact, Agricultural Irrigation, and Agricultural Livestock.

Since 1973, *Escherichia coli* (*E. coli*) bacteria in the water of Oak Creek have been a concern. Oak Creek is not attaining water quality standards for *E. coli* and has repeatedly exceeded the state water quality standard for full body contact. The water quality standards for *Escherichia coli* (*E. coli*) are expressed in colony forming units per 100 milliliters of water (cfu/100ml) or as a Most Probable Number for Full Body Contact. The geometric mean (minimum of four samples in 30 days) should not exceed 126 and a single sample should be under the maximum of 235. The presence of *E. coli* in stream water is a concern because it is an indicator of the likely presence of fecal contamination. When surface waters contain fecal contaminants, people can come in contact with pathogens such as *Cryptosporidium spp.*, *Giardia spp.*, *Shigella spp.*, norovirus and *E. coli* 0517:H7 when recreating in the stream, which may cause human health problems that include skin, ear, eye, gastrointestinal, urinary tract, respiratory, neurologic and wound infections.

A Total Maximum Daily Load (TMDL) is defined by the EPA as “a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards” (EPA 2011). Since a TMDL determination for Oak Creek and Spring Creek has been completed and approved, both ADEQ and EPA consider the Oak Creek and Spring Creek segments to be “not attaining”, rather than “impaired”, and were removed from the 303(d) impaired waters list (ADEQ 2010). This means a TMDL has been completed but water quality standards are still not being attained. Prior to TMDL completion, a water may be considered “impaired” that does not meet water quality standards. The Slide Rock State Park segment was first designated as impaired in 1999, whereas the other segments were designated in 2006. In the 1999 TMDL, probable *E. coli* pollution sources causing impairment in the Slide Rock State Park (SRSP) segment of Oak Creek were previously listed as sediment, wildlife, recreational uses and rangeland grazing. Data on Oak Creek existing sediment loads is lacking.

Direct and Indirect Environmental Effects

Temporary increases in sedimentation would occur with any action alternative implementation, and would vary by alternative. Increases would be small because of the development and application of an erosion control plan developed using direction in Forest Service Handbook 2509.22 Chapter 40 specifying the use of road and bridge construction best management practices (BMP) as well as requirements from ADEQ and Army Corps of Engineers. A 401 certification and a 404 permit would be required as part of compliance with State and federal water policies. Soils and water quality best management practices (BMP) mitigation measures like erosion control nets, silt fences, and catchment basins would be installed and maintained from the start of construction to the finish. See Appendix D for

more details on BMPs. BMPs for bridge construction include diversion of flows around construction sites, a temporary bridge across Oak Creek, controlling in-channel excavation, specifying riprap composition, and control of side cast material.

The reader should keep in mind the limitations of predicting actual sediment production with a model. Comparison of alternatives is the objective.

Alternative A.

Taking no action would not increase sediment input to Oak Creek over current conditions because no road construction would occur. Under this alternative state water quality standards would be maintained and no activity would be adding to a water quality impairment. Because this alternative would not result in direct or indirect effects, there would be no cumulative effects.

Alternative B

With mitigation planned, WEPP predicts that approximately 60 cubic feet of sediment initially would be expected to reach Oak Creek annually during the 18 month construction period with initial BMP application, and reduce to approximately 15 cubic feet of sediment annually with full BMP application above current sediment recruitment after two years. State water quality standards would be maintained, and while the proposed activity may result in short-term additional sedimentation, this effect would not be adding to a water quality impairment.

Alternative C National Forest Lands

With mitigation planned, WEPP predicts that approximately 10 cubic feet of sediment initially would be expected to reach Oak Creek annually during the 18 month construction period with initial BMP application, and reduce to approximately 3 cubic feet of sediment annually with full BMP application above current sediment recruitment after two years from the section of road on national forest land. State water quality standards would be maintained, and no activity would be adding to a water quality impairment.

Alternative D

With mitigation planned, WEPP predicts that approximately 13 cubic feet of sediment initially would be expected to reach Oak Creek annually during the 18 month construction period with initial BMP application, and reduce to approximately of 3 cubic feet sediment annually with full BMP application above current sediment recruitment after two years. State water quality standards would be maintained and no activity would be adding to a water quality impairment.

In summary, implementing BMPs at the time of construction with final application when construction is complete would produce limited amounts of sediment with natural disturbances accounting for much larger amounts. Because of the nature of flows in Oak Creek, large infrequent peaks separated by longer periods of low steady flows, sediment entering Oak Creek is expected to remain near the point of introduction until the next peak flow. That flow would move sediment through the system much like the natural sediment inputs. Natural drainage patterns are not expected to change because culverts in roads would be placed near existing drainages. For all action alternatives water quality standards would be maintained, and no activity would be adding to a water quality impairment.

Cumulative Effects

Cumulative effects boundary is the 6th code Middle Oak Creek Watershed. Evaluation of the cumulative effects on the water resource include assessing all past, present, and reasonably foreseeable future actions that could affect water quality within and adjacent to the analysis area. The area contains a number of paved roads in subdivisions and State Route 179. Chavez Group Campground reconstruction may reduce existing sediment loading as well as the development of a travel management plan that could close and/or relocate some routes. Implementing the action alternatives described in this analysis, the reconstruction of State Route 179, and potential additional subdivisions outside national forest lands would not adversely affect water quality because of the inclusion of BMPs on national forest lands, and compliance with City of Sedona and Yavapai County subdivision construction standards. In general, more paved surfaces have the potential to increase sediment production from high intensity storms because of reduced infiltration in the soil, and such storms overwhelm some erosion control methods.

Forest Plan Consistency

Alternative A, taking no action, meets forest plan standards for water quality because there would be no change to existing conditions. For all other alternatives, a high quality sustained water yield for Forest users and others would be maintained because of the application of soil erosion control measures specified with the development and implementation of an erosion control plan specified by the action alternatives. The Oak Creek floodplain has been identified as an important resource, and would be protected by implementing bridge construction BMPs, and reestablishing disturbed riparian vegetation. The intent of forest plan direction to locate new roads out of stream courses and water-collecting features is to insure roads are not located in and parallel to stream courses. The action alternatives comply with this intent.

The site specific amendment associated with alternatives B and D would allow for alternative-specific changes to the current plan direction related to recreation experience, and would not result in additional impacts to water quality beyond those discussed for each action alternative.

Irreversible and Irretrievable Commitments

None of the alternatives are expected to result in irreversible or irretrievable commitments of the water resource because water would not be diverted or consumed, and Oak Creek appears to successfully move delivered sediment to minimize deposition.

Wetlands And Floodplains

No wetlands or floodplains would be permanently filled under any alternative. Protection of floodplains and wetlands would be provided through permit requirements and the application of best management practices (BMP) listed in Chapter 2. The action alternatives include a variety of design features to limit impacts.

The Clean Water Act, as amended in 1977 and 1982

The primary objective of this Act is to restore and maintain the integrity of the nation's waters. This objective translates into two fundamental national goals: 1. Eliminate the discharge of pollutants into the nation's waters, and 2. Achieve water quality levels that are fishable and swimmable. This Act establishes a non-degradation policy for all federally

proposed projects. All proposed alternatives have been evaluated for consistency with the Clean Water Act and associated State of Arizona Anti-degradation policy and determined to be fully consistent.

Riparian Vegetation

Issue

Access corridor construction could require removal of riparian and large vegetation along the creek that could affect water quality because of a loss of the sediment filter action of runoff from upslope lands.

Indicator

- Acres of riparian habitat permanently removed, and acres of riparian forest temporarily removed.

Introduction

Riparian vegetation is an important habitat for a number of wildlife and aquatic species. It also provides enhanced water quality by moderating peak flows and sediment filter action of runoff from adjacent uplands. Loss of riparian vegetation by construction, channel alteration, and vegetation removal can diminish its beneficial effects.

Forest Plan Direction

Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. (Page 65-5).

Riparian communities have adequate in-stream flows and adequate plant cover to protect stream banks and dissipate energy during high flows. Channel characteristics and water support natural biodiversity. (Page 206-9).

Scope Of The Analysis

The scope includes the Oak Creek channel and the areas of proposed bridge construction included in Alternatives B and C, and the areas needed temporarily for abutment construction and access.

Existing Conditions and Evaluations

Affected Environment

A linear strip of riparian habitat characterized by a forested cottonwood-willow (*Populus-Salix*) and sycamore (*Platanus*) vegetative community is located in the analysis area adjacent to Oak Creek and its floodplain. The Coconino National Forest Riparian Condition Inventory lists the section of Oak Creek within the analysis area as in a “Proper Functioning Condition” (personal communication, Rory Steinke, Forest Soil Scientist. 2008). This community is dominated by various stand and age structures of cottonwood, willow, sycamore, and alder. For this analysis, the area of potential effect for riparian vegetation is defined as the two bridge locations proposed to cross Oak Creek. The riparian acres indicator is derived from preliminary engineering data for temporary disturbed acres and permanent structures in the Oak Creek channel. The Middle Oak Creek watershed contains 1,121 acres of riparian area. See Figure 22.



Figure 22.

Direct and Indirect Environmental Effects

Alternative A

Taking no action would not change the number of acres or location of riparian vegetation in Oak Creek within the analysis area. Because this alternative would not result in direct or indirect effects, there would be no cumulative effects.

Alternative B

This alternative contains riparian vegetation in a proper functioning condition. Bridge construction is expected to disturb or remove some of this vegetation. Alternative B would result in 0.025 acre riparian habitat permanently lost because of the bridge supports. Temporary loss of riparian forest would be 0.78 acre because of the bridge construction footprint. Riparian vegetation would be replanted under the bridge with native cottonwood, willow, sycamore, and alder except in those areas occupied by bridge supports. The riparian vegetation lost under the bridge is expected to recover, but mature growth would never be restored as long as the bridge is in place because of maintenance needs.

Alternative C

This alternative contains riparian vegetation in a proper functioning condition. Bridge construction is expected to disturb or remove some of this vegetation. Alternative C would result in 0.001 acre of riparian habitat permanently lost on national forest lands because of the bridge supports. Temporary loss of riparian forest would be 0.23 acre on national forest lands because of the bridge construction footprint. Removed riparian vegetation would be replanted with native cottonwood, willow, sycamore, and alder except in those areas occupied by bridge supports. The riparian vegetation lost under the bridge is expected to

recover, but mature growth would never be restored as long as the bridge is in place because of maintenance needs.

Alternative D

This alternative does not cross Oak Creek, and would not affect riparian vegetation. There would be no change in riparian acres.

Cumulative Effects

Cumulative effects boundary is the 6th code Middle Oak Creek Watershed. Riparian vegetation in Arizona was in decline for many years according to the Arizona Department of Environmental Quality due to dropping water levels, development, and invasive species. A renewed appreciation of the importance of riparian vegetation, its ability to filter sediment from adjacent higher lands, and importance to wildlife has prompted efforts to replant and maintain riparian vegetation. The section of bridge on private land would result in 0.002 acre of riparian habitat permanently lost because of the bridge supports. Riparian habitat temporarily lost on private land would be 0.48 acres because of the bridge construction footprint. Alternatives B and C provide for reestablishment of riparian vegetation although the riparian vegetation lost under the bridge is expected to recover, but mature growth would never be restored as long as the bridge is in place.

Forest Plan Consistency

Alternatives A and D would not affect Oak Creek riparian vegetation. Alternatives B and C are in conformance with forest plan riparian standards and guidelines because of the requirement of replanting native riparian vegetation. Riparian communities would have adequate in-stream flows and adequate plant cover to protect stream banks and dissipate energy during high flows. Channel characteristics and water would continue to support natural biodiversity.

The site specific amendment associated with the alternatives B and D would allow for project-specific changes to the current plan direction related to recreation experience, and would not result in additional impacts to riparian habitat beyond those discussed for each action alternative.

Irreversible and Irrecoverable Commitments

A short term loss of the use of riparian vegetation acres is expected to be irretrievable, but would be reversible because of the requirement for replanting native riparian vegetation. Long term use of large riparian vegetation would be irretrievable as long as a bridge was in place.

Channel Stability And Flooding

Issue

Bridges across Oak Creek could result in increased channel scour from narrowing the channel by abutments, increased scour from bridge support piers, and a potential increase in water levels resulting in additional flooding both upstream and downstream.

Indicators

- Predicted increased channel scour from channel contraction, bridge abutments, and support piers.

- Predicted increase in water levels and potential flooding.

Introduction

Oak Creek has an average base flow of 32 cubic feet per second (cfs) as determined using USGS Gauge Station 09504420 identified as Oak Creek near Sedona which contains approved discharge data from 1982 to present. This station is located approximately 2 miles upstream from the analysis area, and is managed by the USGS Arizona Water Science Center Flagstaff Field Office. Peak discharges for Oak Creek published in the Flood Insurance Study (FIS) for Yavapai County, Arizona dated June 6, 2001 were used for this analysis. The 10-year, 50-year, 100-year and 500-year flows listed in the FEMA FIS at the Yavapai/Coconino County boundary are 9,450, 20,300, 26,900 and 45,650 cubic feet per second respectively as measured by USGS Gauge Station 09504420. High flow events of 1996, 2005, and 2010 caused substantial flooding and damage in the Sedona area.

Figure 23 below shows median monthly discharge from 1940 to 2012, for a total of 73 years of stream flow data at the Oak Creek stream gaging station near Cornville. Continuous streamflow data for Oak Creek is available from USGS gauge station # 09504500. The median monthly flows were calculated from the median of the mean daily values. Monthly median values in both cubic feet per second (CFS) and acre-feet are presented in Figure 2 below. The flow rates in cubic feet per second clearly depict months of peak flows. The headwaters of Oak Creek are located in high elevations where snowmelt runoff peak discharge occurs in February and March.

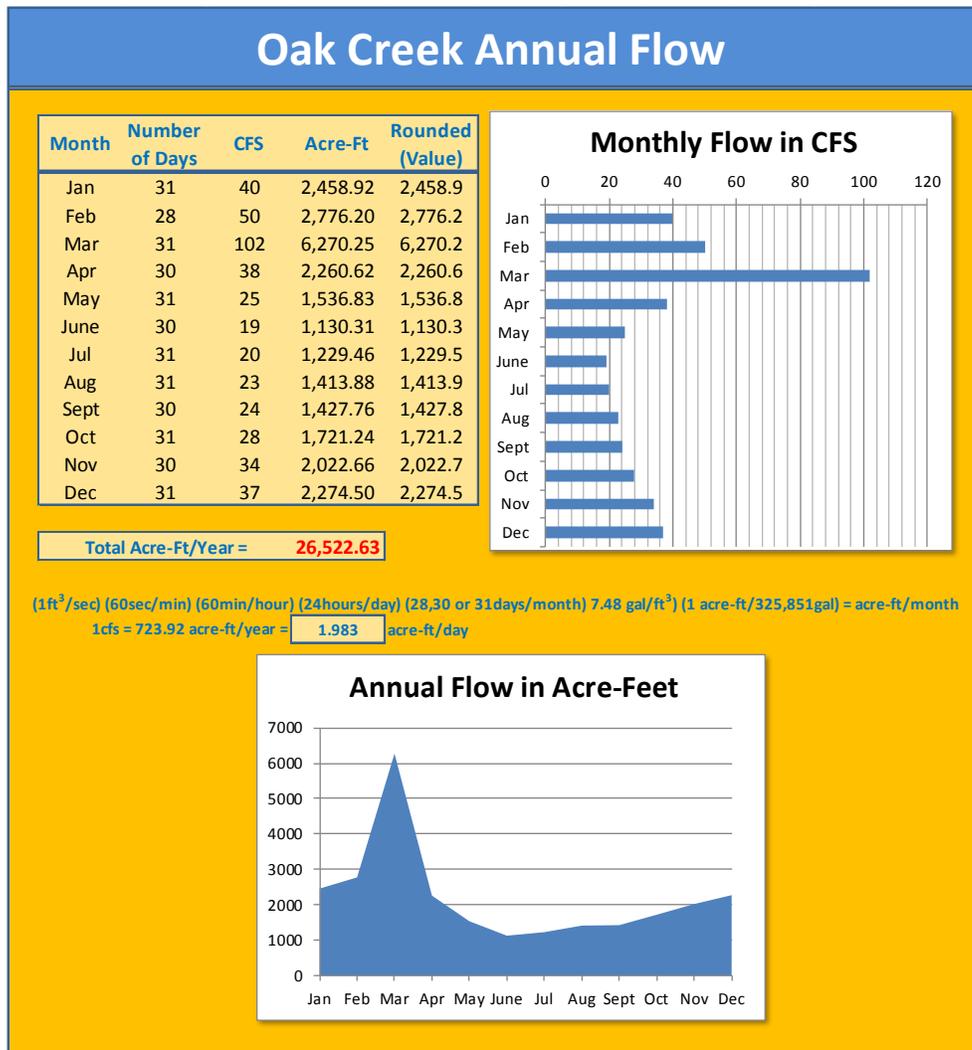


Figure 23.

Scope Of The Analysis

The Tobias-Flynn Access Proposal analysis area includes the channel approximately 600 feet above the proposed Alternative C bridge, and approximately 1,200 feet below the proposed Alternative B bridge for a total channel distance of approximately 2,600 feet including the distance between both proposed bridges.

Existing Conditions and Evaluations

Affected Environment

The portion of Oak Creek analyzed for this analysis is a well contained perennial stream surrounded by steep cliff walls within a rural portion of Sedona, Arizona. The profile of the creek is overall mildly sloped but portions of the creek especially near the proposed bridge locations have deep pools.

The base flow channel, which typically carries a discharge of 32 cubic feet per second, primarily consists of gravel and cobble material with some areas containing medium to large boulders. The toe of the bank consists of deep rooted perennial grasses which provide stability to the stream banks which include, but not limited to, deer grass. The

floodplain overbanks are dominated by dense brush and mature riparian trees. In addition the overbanks have considerable medium sized bedrock and exposed rock outcrops near the main channel.

Periodic high flow events from high intensity thunder storms and rain on snow events as shown in the Figure 21 hydrographs and Figure 23 produce large increases in channel scour and flooding.

Direct and Indirect Environmental Effects

Temporary increases in sedimentation would occur with any action alternative implementation, and would vary by alternative. The proposed bridges were modeled in HEC-RAS 4.1 (U.S. Army Corps of Engineers, 2010) to determine and compare the effects on the water surface elevations for the various peak discharges, and to provide hydraulic design information for the structural design of the proposed bridges and for computing maximum scour depths. The summary report and model run data are in the project record.

The hydraulic modeling approach for the proposed bridges is essentially the same as discussed for the existing conditions except for inclusion of the proposed bridge locations and layout.

Three types of scour (channel instability) were analyzed; contraction scour, pier scour and abutment scour. Contraction scour is the general lowering of the streambed within the bridge opening waterway, and is the result of constrictions in the floodplain flow area caused by the bridge structure. Pier scour is localized, deep erosion that occurs at bridge piers. High velocity flow against a pier causes an intense, horseshoe-shaped, horizontal vortex at the upstream end of the pier and along both sides. A vertical vortex forms just downstream in the wake of the pier. The horseshoe vortex and wake vortex exert erosive power on the stream bottom at the base of the pier. Abutment scour is localized, deep erosion that occurs at bridge abutments. It is caused by the redirection of flow that is exerted by road embankments and the abutment itself.

Alternative A.

Taking no action would not affect the Oak Creek channel over current conditions because no bridge construction would occur. Because this alternative would not result in direct or indirect effects, there would be no cumulative effects.

Alternative B.

For contraction scour, the 100-year flow velocities do not exceed the critical velocity for entraining sediment across the entire flow width in the analysis reach. The computed contraction scour depth for the proposed Alternative B bridge is zero for the 100-year flood. For pier scour, Bridge Alternative B would experience pier scour along all four piers at depths of approximately six to eight feet. Along the right abutment a scour depth of 0.55 feet would occur with the 100-year flow velocities. Scour countermeasures including rip rap placement would be employed to reduce these effects. Flooding is considered an indirect effect of placing bridges across Oak Creek. For Alternative B, HEC RAS modeling showed that for a 100 year event there was a modeled rise in surface water profile of 0.3 feet. This rise in surface water elevation would be minimal in comparison to the natural rise in elevation during these high flow events.

Alternative C.

For Bridge Alternative C, no contraction scour is expected because both right and left overbank abutments are located outside the 100-year flood area. Bridge Alternative C would have 3 piers subject to flooding and potentially experience pier scour. In addition, the Alternative C pier located on the left-overbank may be scour resistant considering the amount of exposed bedrock located within the area, therefore only two piers may experience localized scour. For pier scour, Bridge Alternative C would experience pier scour along two piers at depths of approximately six to eight feet. Scour countermeasures including rip rap placement would be employed to reduce these effects. Flooding is considered an indirect effect of placing bridges across Oak Creek. For Alternative C, HEC RAS modeling showed that for a 100 year event there was a modeled rise in surface water profile of 0.1 feet. This rise in surface water elevation would be minimal in comparison to the natural rise in elevation during these high flow events.

Alternative D.

Implementing this alternative would not affect the Oak Creek channel over current conditions because no bridge construction would occur.

Cumulative effects from development on adjacent private lands containing impermeable cover such as pavement may slightly increase peak flows after storms resulting in a small rise in water surface during storm flows.

Air Quality Attainment

Issue

Access corridor construction activities could potentially result in changes to air quality. Particulate matter 10 microns in size and smaller can penetrate the lungs of human beings and animals and is subject to a National Ambient Air Quality Standard (NAAQS) to protect public health and welfare. Particulate matter 2.5 microns in size and smaller is difficult for lungs to expel and has been linked to increases in death rates; heart attacks by disturbing heart rhythms and increasing plaque and clotting; respiratory infections; asthma attacks and cardiopulmonary obstructive disease (COPD) aggravation. It is also subject to a NAAQS.

Indicators

- Attainment of air quality standards and changes to air quality.

Introduction

Compliance with the Clean Air Act, as amended in 1990 is intended to protect and enhance the quality of the Nation's air resources in order to promote the public health and welfare and the productive capacity of its population. This section evaluates and discloses the potential environmental consequences on air quality of implementing the proposed action and other alternatives.

Relevant Laws, Regulations, and Policy That Apply

The Clean Air Act requires the Environmental Protection Agency to set up National Air Ambient Air Quality Standards (NAAQS) to protect public health. There are six criteria

pollutants for which these standards have been set: (1) carbon monoxide (CO), (2) lead, (3) nitrogen dioxide (NO₂),¹ (4) particulate matter smaller than 10 micrometers in diameter (PM₁₀) and particulate matter larger than 2.5 micrometers in diameter (PM_{2.5}), (5) ozone, and (6) sulfur dioxide (SO₂). These standards set the maximum average volume of the pollutant that is acceptable for sensitive populations, such as people with asthma and children and the elderly, over a given period of time. This measure is known as the concentration level of the primary standards. Secondary standards may also be set for protection of general welfare, which particularly shows the concentration that affects visibility, and damage to buildings, plants, and animals.

All alternatives are designed to guide the Coconino NF's management activities in meeting all applicable air quality related Federal and State laws, regulations, and policies.

- Clean Air Act, as amended 1977 and 1990 (42 U.S.C. 7401, 7418, 7470, 7472, 7474, 7475, 7491, 7506, 7602)
- Executive Order 11514: Protection and enhancement of environmental quality (35 FR 4247, March 7, 1970).
- Regional Haze Regulations 40 CFR Part 51
- Arizona Regional Haze Implementation Plan available online at: <http://www.azdeq.gov/function/forms/docs.html#sip>
- Arizona Revised Statute 49-501 Unlawful open burning; exceptions; civil penalty; definition
- Arizona Administrative Code Title 18 Chapter 2 Article 15 Forest and Range Management Burns <http://www.azdeq.gov/environ/air/smoke/download/prules.pdf>
- Forest Plan Direction: Protect the current status of air quality resource values in the Sycamore Canyon Wilderness Class I Airshed. Treat other wildernesses in the same manner as Class I Airsheds. Air Quality (Page 111)

Air Quality Background Information

“Atmospheric visibility is affected by scattering and absorption of light by particles and gases. Particles and gases in the air can obscure the clarity, color, texture, and form of what we see. Fine particles most responsible for visibility impairment are sulfates, nitrates, organic compounds, elemental carbon (or soot), and soil dust. Sulfates, nitrates, organic carbon, and soil tend to scatter light, whereas elemental carbon tends to absorb light. Fine particles (PM_{2.5}) are more efficient per unit mass than coarse particles (PM₁₀ and larger) at causing visibility impairment” (USDA Forest Service 2002). A Class I area, designated by the Clean Air Act, is a classification that requires the highest level of protection under the act. Projects which may potentially impact Class I areas must address efforts to minimize smoke impacts on visibility.

“Regional haze is visibility impairment produced by a multitude of sources and activities that emit fine particles and their precursors and are located across a broad geographic area. This contrasts with visibility impairment that can be traced largely to a single, large pollution source. Until recently, the only regulations for visibility protection addressed impairment that

is reasonably attributable to a permanent, large emissions source or small group of large sources” (USDA Forest Service 2002).

“In 1999, EPA issued regional haze regulations to manage and mitigate visibility impairment to Class I areas from the multitude of diverse regional haze sources (40 CFR Part 51)” (USDA Forest Service 2002). Fugitive dust from human-caused disturbances (e.g., roads and construction sites) are considered sources of emissions that affect visibility, which can be managed to maintain as natural a level of visibility as possible (ADEQ 2011).

Fugitive dust is particulate matter which detaches from the soil and becomes airborne. Like other particulate matter, fugitive dust has the potential to adversely affect human health and visibility. It can be caused by driving on dirt roads, uncovered haul trucks, or soil detaching and becoming airborne under dry, windy conditions with bare soil. Fugitive dust is the detachment of soil particles as a result of human-caused or wind driven disturbance of bare soil. It is termed “fugitive” because it does not come out of a pipe, duct, smoke stack, etc. Two human activities increase the generation of fugitive dust above natural levels: (1) the creation of bare soil through road building, tillage, construction activities, etc. and (2) the disturbance of bare soil by wheels, blades, etc. (EPA 2009). Fugitive dust is not a regulated form of particulate matter in Arizona, but it does contribute to PM10.

Finally, there is currently no regulation of fugitive dust by the State or local government in or around the Coconino National Forest, but dust is a source of PM10 when measuring air quality. This analysis uses the NAAQS standard for PM10 as an evaluation criteria for fugitive dust.

Forest Plan Direction

Forest plan direction concentrates on wilderness Class I airshed air quality. It is considered in this analysis because of the potential for action alternative implementation to affect Class I airshed air quality.

In the Class I airsheds, maintain high quality visual conditions. The form, line, texture, and color of characteristic landscapes is clearly distinguishable when viewed as middleground. (Page 111).

Cultural resources and ecosystems remain unmodified by air pollutants. (Page 111).

Determine baseline information and the background condition of the air quality values (AQRVs), and specify limits of acceptable change that would affirmatively protect these values in Class I airsheds. (Page 111).

Scope Of The Analysis

The Tobias-Flynn Access Proposal analysis area includes the greater Sedona area, the Red Rock Secret Mountain Wilderness Area to the north and the Munds Mountain Wilderness to the east. Both Wilderness areas are Class I airsheds.

Existing Conditions and Evaluations

Affected Environment

The Federal Clean Air Act of 1970 required EPA to assist states and localities in establishing ambient air quality monitoring networks to characterize human health exposure and public welfare effects of criteria pollutants. The criteria pollutants are presently defined as carbon

monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), ozone (O₃), suspended particulate matter (PM), and total particulate lead (Pb). These pollutants are monitored with federal reference or equivalent methods that EPA has certified. The 2008 Annual Air Quality Report presents the results of air quality monitoring conducted throughout Arizona in the 2007 calendar year.

Data from the 2008 Annual Air Quality Report, the last specific to Sedona, is used in this analysis. The PM₁₀ standard is the only air quality criteria pollutant measured in Sedona. The National Ambient Air Quality Standard (NAAQS) 24-hour average PM₁₀ (particulate matter 10 microns and smaller in diameter) of 150 micro grams / meter³ is the maximum to stay in attainment of NAAQS. Twenty four-hour values over that denote an exceedence of standards. Monitoring data from the ADEQ site at the Sedona Post Office show an annual average of 12.2, 13.3, and 13.7 micro grams / meter³ for 2005, 2006, and 2007. Therefore, the Sedona area has been and is well within NAAQS standards for PM₁₀ according to 2005, 2006, and 2007 data. Compliance is measured over a three-year period. The current condition of the airshed overlapping the analysis area is below the national standards for all criteria pollutants. In particular PM₁₀ levels are so far below the threshold. The project is not located in a maintenance or nonattainment area for any regulated pollutants.

Direct and Indirect Environmental Effects

Alternative A

With no action, there would be no temporary increase in dust because there would be no construction. Because this alternative would not result in direct or indirect effects, there would be no cumulative effects.

Alternative B, Alternative C, and Alternative D

Road construction associated with alternative implementation is expected to generate small amounts of dust temporarily directly within the vicinity of the analysis area. The inclusion of road construction BMPs, primarily dust control, is expected to maintain PM₁₀ values well within standards because existing measured PM₁₀ levels are so far below the threshold. Exhaust from construction equipment, and subsequent vehicle traffic from a possible subdivision according to current City of Sedona zoning would be small contributors because of the temporary nature of construction equipment use, a paved road, and the small number of vehicles associated with a possible subdivision. As a result, Class I air quality is expected to be maintained in the Red Rock Secret Mountain and Munds Mountain wilderness areas. Essentially these alternatives have a de minimis impact on air quality.

Cumulative Effects

The City of Sedona and the surrounding area currently has a large amount of tourist, residential, and business traffic. Tourist and business traffic is expected to increase with expected future improving economic conditions. Implementing the action alternatives with the stated BMPs in addition to the expected increases in future traffic in the foreseeable future are not expected to violate NAAQS PM₁₀ standards in the Sedona area and in the Red Rock Secret Mountain and Munds Mountain wilderness areas.

Based on the analysis, the proposals will have no permanent adverse effect on the air quality. Dust generated from construction activities, will be controlled and minimized using BMP's.

In summary, there will be no permanent impact on air quality either directly, indirectly or cumulatively through this proposed action and all alternatives analyzed.

Forest Plan Consistency

Alternative A, taking no action, meets forest plan standards for air quality because there would be no change to existing conditions. All of the action alternatives, B, C, and D meet forest plan standards and guidelines because of the application of road and bridge construction best management practices (BMP's) included in Forest Service Handbook 2509.22, Chapter 40. These BMP's include dust control during construction, and a paved road surface as outlined above. All of the action alternatives as well as the no action alternative meet forest plan standards and guidelines in regards to air quality because of the application of best management practices (BMP's).

The site specific amendment associated with alternatives B and D would allow for project-specific changes to the current plan direction related to recreation experience, and would not result in additional impacts beyond those discussed for each action alternative.

Irreversible and Irrecoverable Commitments

There are no irreversible or irretrievable commitments of air resources with any of the alternatives.

Other Disclosures

Conflicts with Other Agency Goals & Objectives

Public involvement and consultation with other federal, tribal, and state agencies indicate there are no conflicts between the proposed activities in the Tobias-Flynn access proposal and the goals and objectives developed for other governmental entities.

Legal and Regulatory Requirements

This EA adheres to the following applicable legal and regulatory requirements and coordination, and contains disclosures of effects that are required by federal law, regulation, policy, or precedent.

The National Environmental Policy Act (NEPA) of 1969, as amended

The purposes of this Act are "To declare a national policy which will encourage productive and enjoyable harmony between man and his environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality" (42 U.S.C. Sec. 4321). The law further states "...it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans" [42 U.S.C. Sec 4331(a)]. NEPA establishes the format and content requirements of

environmental analysis and documentation, such as this Tobias-Flynn Access Environmental Assessment. The process used in developing this analysis, public involvement efforts and subsequent preparation of this environmental document fully complies with NEPA.

The Clean Water Act, as amended in 1977 and 1982

The primary objective of this Act is to restore and maintain the integrity of the nation's waters. This objective translates into two fundamental national goals: 1. Eliminate the discharge of pollutants into the nation's waters; and 2. Achieve water quality levels that are fishable and swimmable. This Act establishes a non-degradation policy for all federally proposed projects. Proposed activities have been evaluated for consistency with the Clean Water Act and associated State of Arizona standards and determined to be fully consistent as disclosed in Chapter 3 of this environmental assessment.

The Clean Air Act, as amended in 1990

The purposes of this Act are "...to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population; to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution; to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and to encourage and assist the development and operation of regional air pollution prevention and control programs." Disclosure of compliance with the Clean Air Act is addressed in Chapter 3 of this environmental assessment.

Executive Order 12875

Executive Order 12875 clarifies government-to-government relations with American Indian governments. In accordance with this order, existing tribal involvement processes with tribal entities were followed.

Executive Order 12898 – Environmental Justice

Executive Order 12898 directs each federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. On March 24, 1995, the Department of Agriculture completed an implementation strategy for the executive order. Forest Service proposals with the potential to adversely affect minority or low-income populations disproportionately, must consider and disclose (and mitigated to the degree possible) these effects through NEPA analysis and documentation.

None of the Tobias-Flynn alternative proposals are expected to disproportionately affect minority or low income populations.

Executive Order 12962 - Recreational Fishing

Effects to fish habitat from the project are expected to be so small that direct effects on fish productivity and the quality of the recreational fishery would be negligible.

Energy Requirements and Conservation Potential

Alternatives with the greatest roadwork and use of heavy equipment would have the least energy conservation potential. In this sense the no action alternative has the greatest energy conservation potential followed by Alternative C, B, and D respectively. In terms of petroleum products, the energy required to implement any of the action alternatives is considered negligible when compared to national or global use and production.

Natural or Depletable Minerals

The Tobias-Flynn Access proposal and connected activities would not affect natural or depletable minerals within or adjacent to the analysis area since no development or extraction of any natural or depletable minerals is proposed.

Prime Farm Land, Rangeland, and Forest Land

All alternatives are in accordance with the Secretary of Agriculture Memorandum 1827 for prime farmland, rangeland, and forest land. The project area does not contain prime farmland or rangeland. “Prime” forest land is a term used only for non-federal land, which would not be affected by proposed activities. Whichever alternative is selected for implementation, National Forest System lands would be managed with sensitivity to adjacent private and public lands.

LIST OF PREPARERS

ID TEAM MEMBERS:

Ray Wrobley, Principal – In – Charge, SEC, Inc.

Dick Thompson, ID Team Leader, NEPA Coordinator, Writer / Editor, Soils, Water Quality, Riparian Vegetation, Air Quality, SEC, Inc.

Luke Sefton, Civil Engineer, SEC, Inc.

Neil “Wil” Wilson, GIS Specialist, SEC, Inc.

Tom Silvia, Biologist, SWCA, Inc.

Geoffrey Soroka, Biologist, SWCA, Inc.

Saul Hedquist, Archaeologist, SWCA, Inc.

Chris North, Archaeologist, Logan Simpson Design, Inc.

Mark Meyer, Landscape Architect, Logan Simpson Design, Inc.

Chris Bockey, Landscape Architect, Logan Simpson Design, Inc.

FOREST SERVICE PERSONNEL GUIDING THE ANALYSIS

Coconino National Forest:

Judy Adams, Lands Team Leader, Coconino National Forest
Janie Agyagos, Biologist, Red Rock Ranger District
Sarah Belcher, Landscape Architect, Red Rock Ranger District
Travis Bone, Archeologist, Red Rock Ranger District
Ted Neff, Archeologist, Red Rock Ranger District
Mike Childs, Fisheries Biologist, Red Rock Ranger District
Matthew Oneill, Fisheries Biologist, Red Rock Ranger District
Amina Sena, Hydrologist, Red Rock Ranger District
Rory Steinke, Forest Soil Scientist, Coconino National Forest
Mike Dechter, NEPA Coordinator, Coconino National Forest

CONSULTATION AND COORDINATION

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

FEDERAL, STATE, AND LOCAL AGENCIES:

Arizona Department of Environmental Quality

Trevor Baggiore, Water Quality Division

Yavapai County

Tim Stotler, Assistant County Engineer

Arizona Game and Fish Department

Sabra Schwartz, Biologist

U.S. Fish and Wildlife Service:

Shaula Headwall, Biologist

CONSULTATION:

Hopi Tribe

Navajo Nation

APPENDIXES

Appendix A, References

Appendix B, Visual Simulations

Appendix C, Comment Analysis Summary

Appendix D, Mitigation

Appendix E, Forest Plan Direction

December 14, 2011

Ms. Judy Adams
Red Rock Ranger District
P.O. Box 20429
Sedona, AZ 86341

RE: TOBIAS/FLYNN EASEMENT – NEPA PROCESS COMMENTS

Dear Ms. Adams,

The Sedona City Council met on Tuesday, December 13, 2011 to discuss the proposed easement for the construction of an access road to private property owned by Bruce Tobias, Carol Flynn and Robert Flynn under the National Environmental Policy Act (NEPA). The Council expressed numerous concerns regarding the environmental impact of the three proposed easement routes.

The Council strongly believes that the best solution is for the property owners to work with the Oak Creek Cliffs neighborhood to reach an access agreement along the Oak Creek Cliffs Drive alignment. However, if this is not possible, the Council's consensus is that Alternative D should be selected as the access route to the property. The Council had major concerns regarding Alternatives B and C because of the construction of a bridge over Oak Creek and resultant negative impact to the creek and sensitive riparian area.

Please feel free to contact me at 928-204-7191 or Community Development Director, John O'Brien, at 928-204-7123 if you have any questions.

Sincerely,

Rob Adams, Mayor,
City of Sedona

cc: City Council
Tim Ernster
John O'Brien
Susan Irvine

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102 Roadrunner Drive
Sedona, Arizona 86336
TDD (928) 204-7102
www.SedonaAZ.gov

April 11, 2007

Ms. Judy Adams
Lands Staff
Red Rock Ranger District
P.O. Box 20429
Sedona, AZ 86341-0429

RE: TOBIAS/FLYNN EASEMENT – NEPA PROCESS COMMENTS

Dear Ms. Adams,

The Sedona City Council met on Tuesday, April 10, 2007 to discuss the proposed easement for the construction of an access road to private property owned by Bruce Tobias and Robert Flynn under the National Environmental Policy Act (NEPA). The Council expressed concerns regarding the environmental impact of the proposed easement route, which would only be for the benefit of a small subdivision that may be developed on the property. The Council strongly believes there is an alternative route that could be used if the Oak Creek Cliffs neighborhood and the applicants can reach an agreement.

After further discussion, the City Council approved the following motion:

“The Council voted to provide the following comments to the Coconino National Forest regarding the proposal to issue a permit/easement for the construction of an access road to private property (Assessor’s Parcel Numbers 408-27-003C, 003E & 003F) under the National Environmental Policy Act (NEPA). We as a City Council make our comments to the Coconino National Forest Service with an understanding that there is a court judgment requiring the Coconino National Forest Service to provide access to the subject parcel; the City Council with the above understanding encourages the property owners to exhaust any remaining efforts to work with the owners of Oak Creek Cliffs to utilize the private crossing and private road. In addition the City Council requests to see any and all other documents referring to judgment and arbitration with conditions of the sale that has been referred to during the April 10th meeting prior to further public comment during the NEPA evaluation due to conflicting public comments.”

Ms. Judy Adams
April 11, 2007
Page 2

If you have any questions, please contact Community Development Director, John O'Brien, at 928-204-7123.

Sincerely,

A handwritten signature in cursive script that reads "Pud Colquitt".

Pud Colquitt, Mayor,
City of Sedona

cc: City Council
Eric Levitt
John O'Brien
Cherry Lawson



**CITY COUNCIL
AGENDA BILL**

**AB 1338
December 13, 2011
Regular Business**

Agenda Item: 9b

Proposed Action & Subject: Discussion/possible action regarding comments to the Coconino National Forest, Red Rock Ranger District, pertaining to a proposal to construct a road (under the National Environmental Policy Act (NEPA)), to private property located across Oak Creek from Poco Diablo Resort and Chavez Crossing Group Campground in Sedona. The proposal is the result of litigation requiring the Forest Service to provide an easement.

Department Community Development

Time to Present 20 minutes

Total Time for Item 60 minutes

Other Council Meetings April 5, 2007
April 10, 2007
October 23, 2007
January 8, 2008
February 12, 2008

Exhibits A. April 11, 2007 letter to USFS

City Attorney Approval	[reviewed 12/5/11 RCR]	Expenditure Required
		\$ 0
City Manager's Recommendation	Review and discuss the alternatives and take action or provide staff direction regarding the City Council's comments on the alternatives.	Amount Budgeted
		\$ 0
		Account No. (Description)
		Finance Approval <input checked="" type="checkbox"/>

SUMMARY STATEMENT

Background: The City Council discussed the above noted issue at five meetings held between April of 2007 and February of 2008 and submitted a comment letter to the Coconino National Forest on April 11, 2007 (attached).

Staff is seeking direction/comment from City Council, as the Coconino National Forest is again seeking public comment on this proposal. The City of Sedona will have to provide written comment by December 29, 2011 to be eligible as appellants as any comments provided after that date will not constitute standing for appeal purposes.

The Forest Service conducted a public open house on November 30, 2011 and the property owners and Forest Service representatives will be in attendance at the December 13, 2011 City Council meeting.

The Coconino National Forest is considering a proposed permit/easement for the construction, operation and maintenance of an access road to the 27-acre Tobias-Flynn private land parcel under the National Environmental Policy Act. The proposed action would provide an easement across Coconino National Forest land to private land in accordance with a judgment rendered by the United States District Court for the District of Arizona in September of 2002 that the Forest Service provide an easement by necessity to this private property.

The analysis area is located in the City of Sedona and is bordered on the east by Oak Creek Cliffs, Doodle Bug, and Poco Diablo Villa subdivisions. Coconino National Forest lands border the private parcel on all other sides. The 27-acre subject property is zoned RS-35 (Single Family Residential), which would allow a maximum of 27 lots on the property, although less lots are likely due to the subject property's difficult/steep topography. The access road would be designed and constructed to City of Sedona standards and the road is proposed to be private and gated. The property owners would be required to process a subdivision through the City of Sedona.

The Forest Service recently released a Preliminary Environmental Assessment (EA) regarding this issue. The City Council can review the EA at www.fs.fed.us/nepa/fs-usda-pop.php/?project=15870.

The Forest Service evaluated the following alternatives and the maps of each alternative are located at the end of this Agenda Bill:

- Alternative A. This alternative does not allow road access on National Forest as a baseline (No Action). No Action will be used as a baseline with which to compare the expected effects of implementing the proposed access.
- Alternative B. This alternative crosses Oak Creek at the head of an identified informal water play area or "swimming hole" and starts from Oak Creek Cliffs Drive. This alternative would include a road approximately 4,000 feet long (0.8 miles) from Oak Creek Cliffs Drive to the subject property. The route would include a 24-foot wide bridge of approximately 450 feet in length that would cross Oak Creek just above the upper end of the "swimming hole". The bridge would be approximately 50 feet above the surface of Oak Creek. The access road would be constructed to City of Sedona standards. The design speed would be 25 MPH. The road would be private and a gate would be installed at the entrance of the road.
- Alternative C. This alternative crosses Oak Creek upstream from Alternative B and the "swimming hole" and starts from SR 179 approximately 1,000 feet south of Oak Creek Cliffs Drive. This alternative would include a road approximately 2,850 feet long (.54 miles), with about 2,000 feet of this road on National Forest land and 850 feet on private land. The route would include a 24-foot wide bridge of approximately 650 feet in length that would cross Oak Creek upstream from the "swimming hole". The bridge would be approximately 90 feet above the surface of Oak Creek. The access road

would be constructed to City of Sedona standards. The design speed would be 25 MPH. The road would be private and a gate would be installed at the entrance of the road.

- Alternative D. This alternative provides access from the west and Chavez Ranch Road and does not cross Oak Creek. This alternative would include a road approximately 7,450 feet long (1.4 miles) and would cross a total of approximately nine small drainages and washes that are tributaries to Oak Creek. The proposed access route would start from Red Rock Loop Road and Chavez Ranch Road and then access above the Rancho Chavez subdivision and along the side of Airport Mesa north to the subject property. An approximate one-half mile portion of Chavez Ranch Road would need to be widened and paved to Yavapai County standards to connect with the proposed new road. The new road would be constructed to City of Sedona standards. The design speed would be 25 MPH. The road would be private and a gate would be installed at the entrance of the road.

Other alternatives in addition to previous mediation and condemnation attempts were considered, but found to be infeasible. Over ten years ago, the property owners (Tobias-Flynn) attempted to negotiate for access through non-federal land to the subject property using Oak Creek Cliffs Drive. Negotiations failed. The property owners then initiated a suit in Coconino County Superior Court to condemn a private way of necessity that would use Oak Creek Cliffs Drive. The court denied the property owners' motion.

During one of their previous meetings, the City Council requested that staff attempt to have the Oak Creek Cliffs Homeowners Association and Tobias-Flynn reach agreement on use of the low water crossing or an improved bridge. No agreement could be reached between the property owners. Additionally, City Council also discussed an option of condemnation of the low water crossing at Oak Creek Cliffs to provide access to the subject property, but decided not to pursue condemnation.

The USFS also considered other possible access routes. An alternative providing access from Airport Mesa was considered. That route would meet City of Sedona design standards. Access would be through the Sedona Airport. An easement was requested, but could not be obtained because of airport security needs.

Two alternatives using access from Brewer Road were considered. They were found to be infeasible because one access at the end of Brewer Road through private land was not available because the landowner was unwilling, and the other on National Forest land would not meet City of Sedona design standards.

Another alternative using access through Red Rock Estates was considered. Road rights of way in that subdivision do not meet current standards. Subdivision restrictions do not allow for road use on single-family residential lots.

Another alternative crossing Oak Creek below the "swimming hole" was considered. It was not analyzed in detail because it did not address the concern about the swimming hole, and it would have a larger affect on the riparian area with an 850-foot long bridge.

Community Plan Compliant: Yes - No - Not Applicable

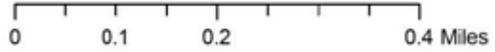
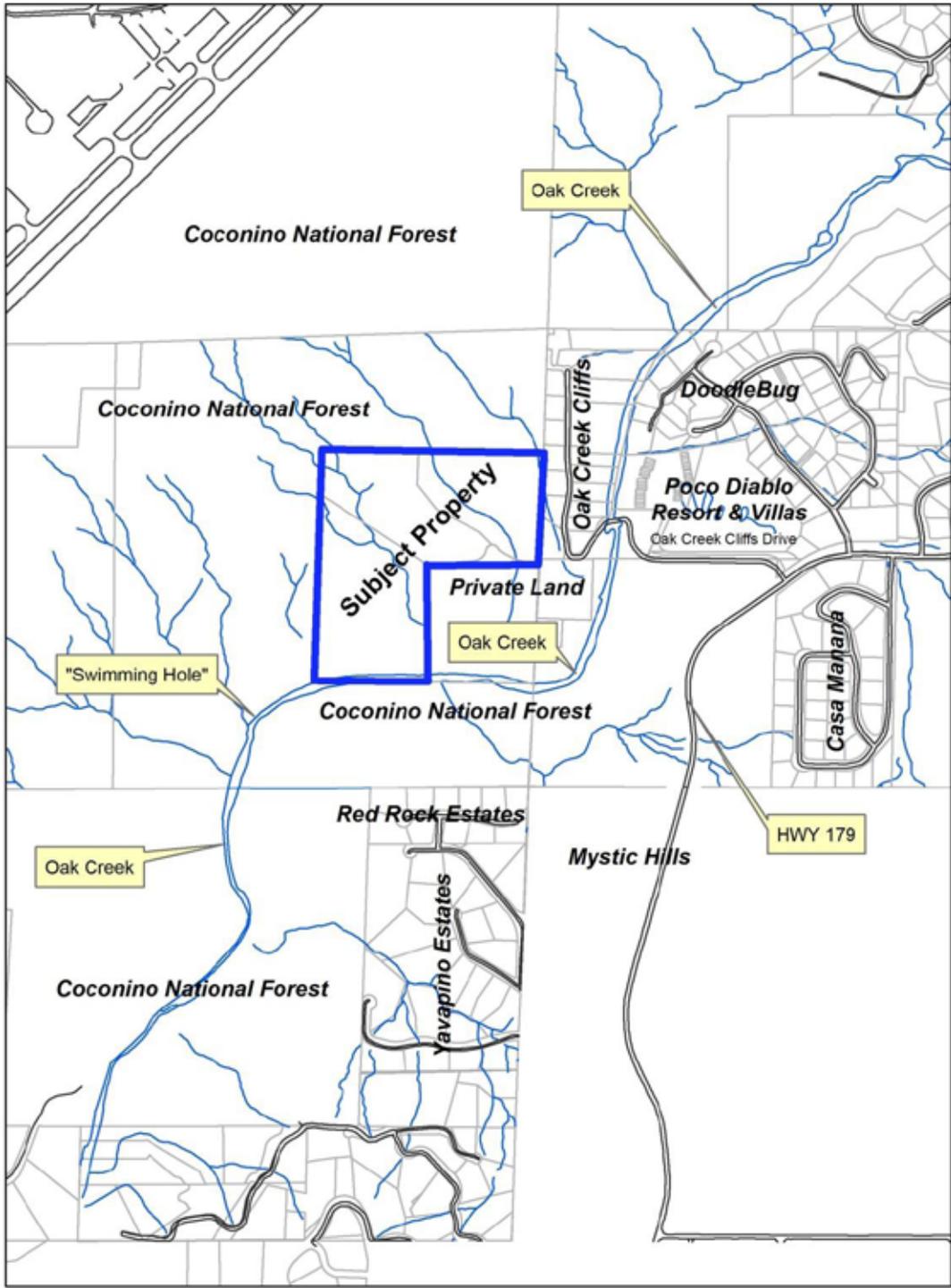
One of the goals of the Community Plan is to work with the US Forest Service to ensure the preservation and stewardship of National Forest lands within the City and the greater Sedona area.

Board/Commission Recommendation: Applicable – Not Applicable

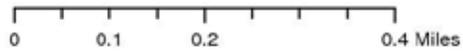
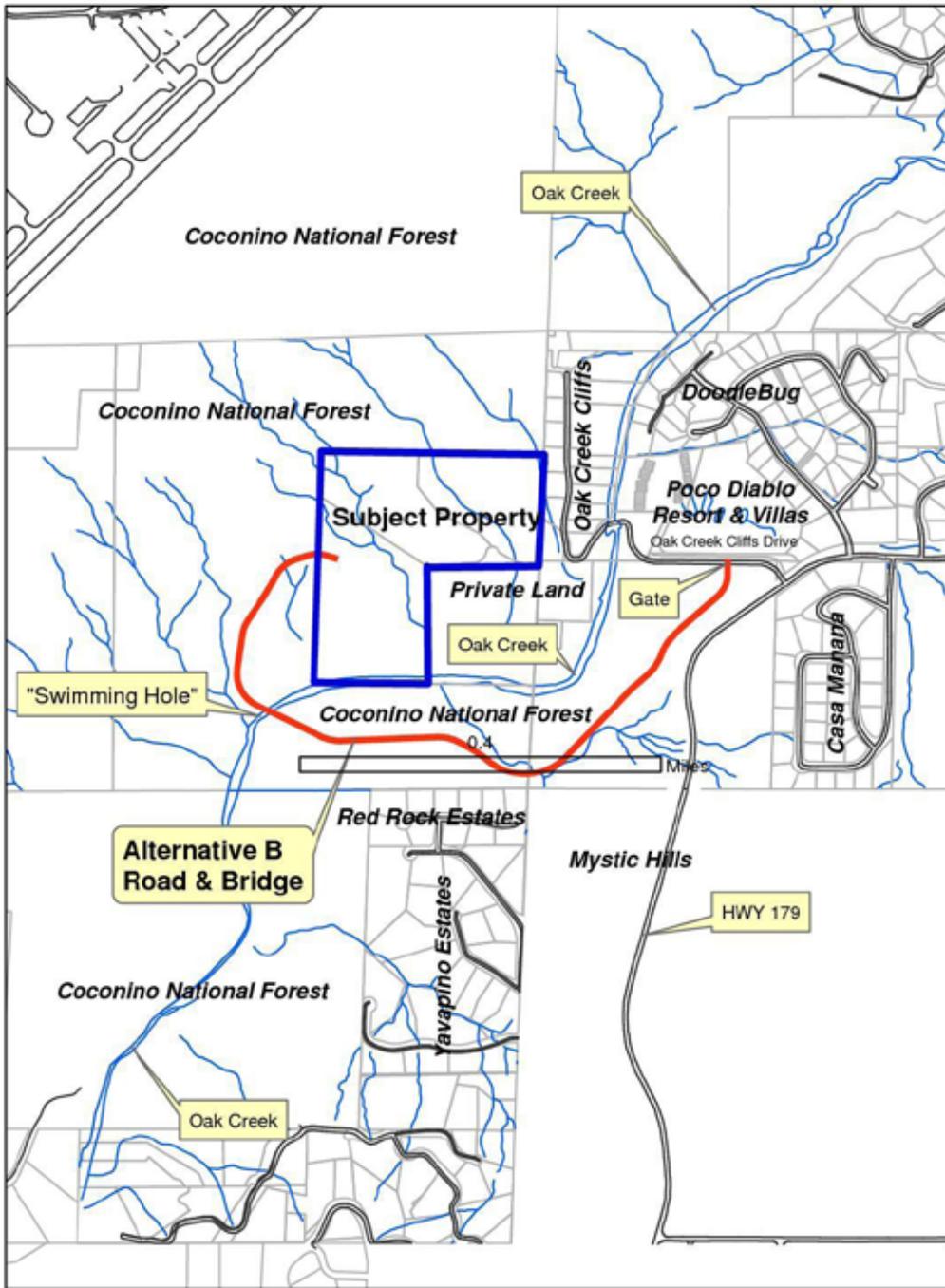
Alternative(s):

MOTION

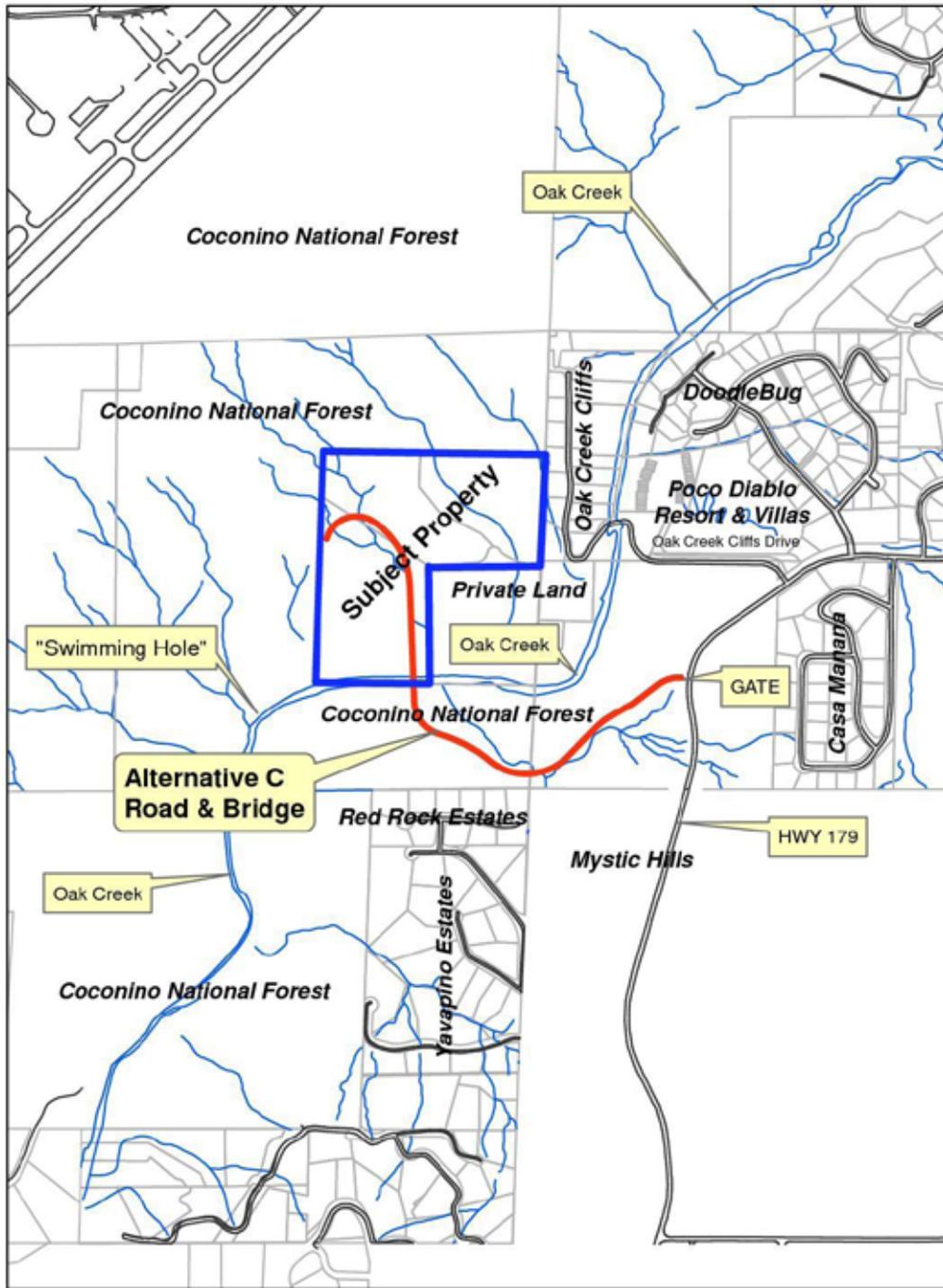
I move to: I move to provide the following comments to the Coconino National Forest regarding the proposal to issue a permit/easement for the construction of an access road to the Tobias-Flynn private property under the National Environmental Policy Act (NEPA). (State the specific comments)



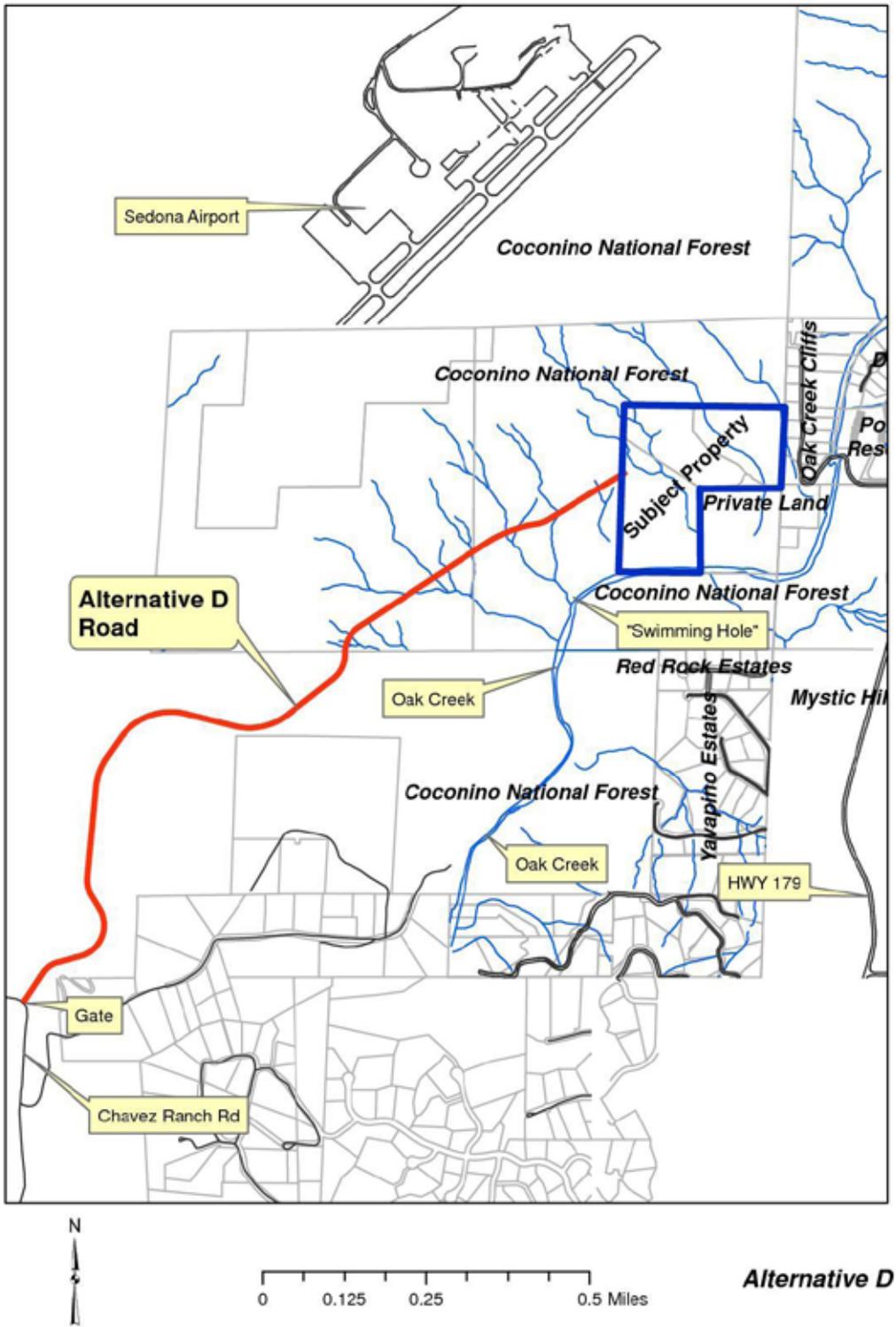
Alternative A



Alternative B



Alternative C





File Code: 1950
Date: August 15, 2017

Dear friends and neighbors

The Coconino National Forest (CNF) is asking for your comments on an Environmental Assessment (EA) for the Tobias Flynn Private Land Access project. The project proposes issuance of an easement or permit that would allow construction, operation and maintenance of an access road on Coconino National Forest land to provide access to a 27-acre parcel of private land near Sedona, Arizona. The EA considers several alternatives in the analysis area, located in the City of Sedona and bordered on the east by Oak Creek Cliffs, Doodle Bug, and Poco Diablo Villa subdivisions.

This project includes a one-time project specific amendment to the Coconino National Forest Plan to allow project activities that do not meet forest Recreation Opportunity Spectrum designations in the project area. The project-specific amendment included in this project may affect substantive requirements of the 2012 planning rule at 36 CFR 219.10; which requires Forest Plans to provide for aesthetic values and recreation settings and opportunities. It is our determination that this will not affect the plan's inherent capability to meet substantive requirements for recreation opportunities on the National Forest. We would like to hear your comments on the project, including the potential effects of the project-specific amendments on the Multiple Use Substantive Requirement identified at 36 CFR 219.10.

This legal notice begins a 30-day comment period on the preliminary Environmental Assessment (EA) prepared for the proposed road. The preliminary EA is available online at: <https://www.fs.usda.gov/project/?project=15870>. Hard copies of the EA are available upon request from the Red Rock Ranger District, 8375 State Route 179, Sedona, AZ, 86351. Office hours are Monday through Friday 8:00 a.m. to 4:30 p.m. Please contact Judy Adams, Lands Team Leader, at (928) 203-7506 to request a copy. The comment period ends 30 days following the date of publication of this legal notice in the *Arizona Daily Sun*. The legal notice is anticipated for publication in the *Arizona Daily Sun* on Thursday, August 17, 2017. The publication date is the exclusive means for calculating the time to submit comments on the EA. Those wishing to comment on this proposal should not rely upon dates or timeframes provided by any other source.

This proposal is an activity implementing a land management plan and not authorized under the Healthy Forests Restoration Act (HFRA) and is subject to the project level pre-decisional administrative review process at 36 CFR 218 Subparts A and B. Only individuals or entities (as defined by 36 CFR 218.2) who submit timely and specific written comments (as defined by 36 CFR 218.2) regarding this proposal during this or other public comment periods established by the Responsible Official will be eligible to file an objection. Individuals and organizations wishing to be eligible to file an objection must meet the requirements of 36 CFR 218.5 and must



meet the requirements at 36 CFR 218.25(a)(3). A timely submission will be determined as outlined in 36 CFR 218.25(a)(4).

A public meeting will be held on Tuesday, August 29, 2017 at Yavapai College Sedona Center in the Community Room (Room 34) from 6 p.m. to 8 p.m. The purpose of this meeting is to share information and answers questions about the Environmental Assessment, which includes a number of alternatives and a preliminary assessment of the effects of each alternative. Yavapai College is located at 4215 Arts Village Dr., Sedona, AZ, 86336.

Comments may be submitted by email in word (.doc or .docx), rich text format (.rtf), text (.txt), and hypertext markup language (.html) to comments-southwestern-coconino@fs.fed.us. Upon receipt of an electronically-mailed comment, the sender should normally receive an automated electronic acknowledgement from the agency as confirmation of receipt.

Comments may also be hand delivered during the aforementioned public meeting, or at the Red Rock Ranger District office on weekdays 8:00 a.m. - 4:30 p.m. or mailed by post to PO Box 20429, 8375 State Route 179, Sedona, AZ 86341, fax (928) 203-7539. To be eligible for appeal, each individual or representative from each organization submitting comments must either sign the comments or verify identity upon request. Names, addresses, and other submitted materials by commenters will become part of the public record and available for public inspection.

Thank you for your interest in your National Forests.

Sincerely,



FOR
LAURA JO WEST
Forest Supervisor

cc: Judy Adams, Nicole Branton

Tobias Flynn Road Access Project Public Meeting

Tonight's Agenda:

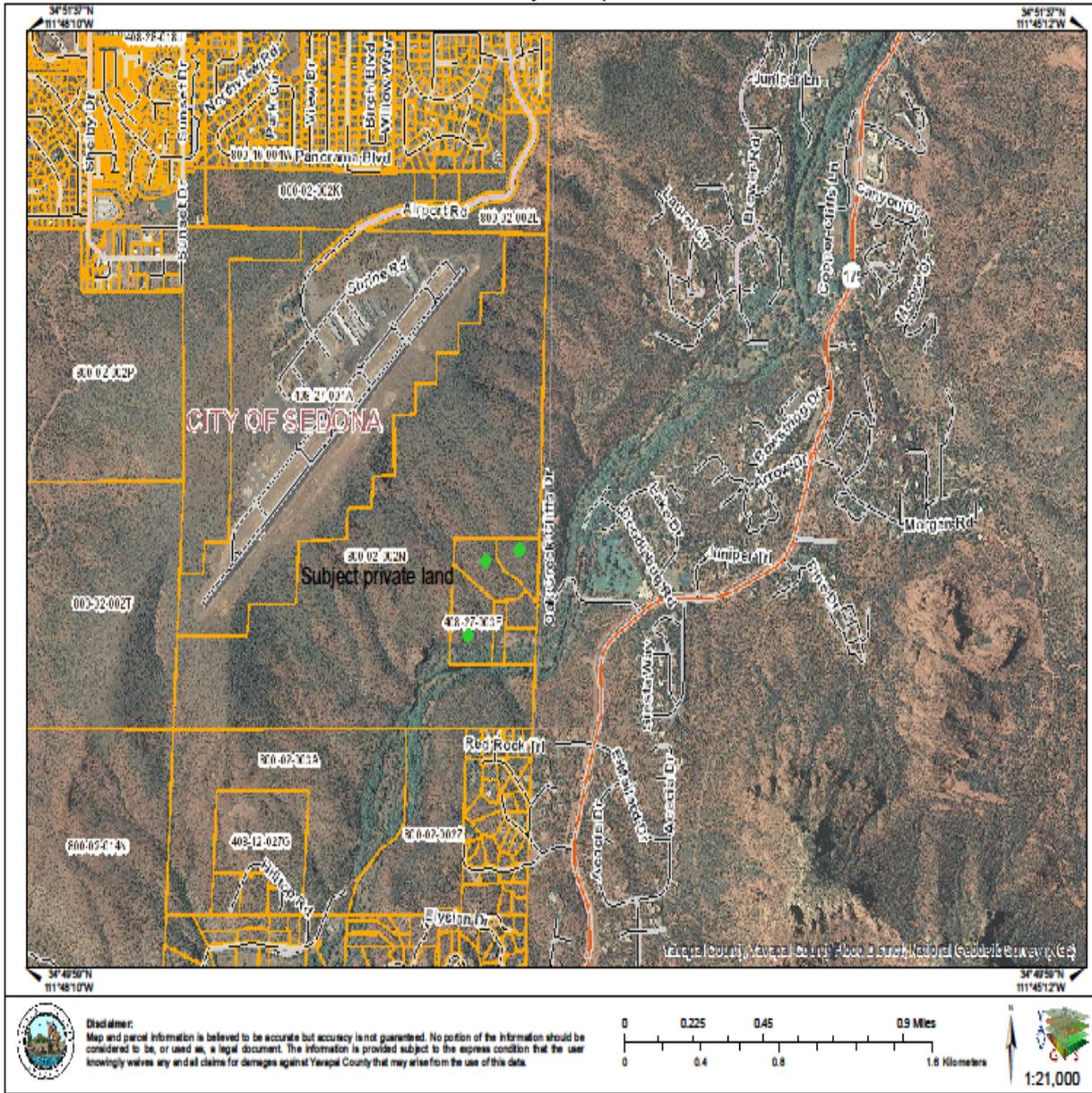
- Introduction of staff
- Brief Background on Project
- Description of Alternatives
- Questions and Answers (written comments from cards)
- Informal discussion with staff and specialists

Tobias-Flynn Access

Tobias-Flynn Access

Background Information

Tobias Flynn Properties



Background

- **1968** – Parcel exchanged from forest to CO Bar Livestock Co.
- **1993** – Tobias and Flynn acquired 27 acre private parcel.
- **2000** - Tobias/Flynn unsuccessfully pursued access on non-federal land (negotiation/court action).
- **2002** - Order against the United States found an easement by necessity exists from the Forest Service.
- Alternative locations were initially explored.
- **2007** Application for access from Oak Creek Cliffs Drive and bridge across Oak Creek and public comment on proposal.
- Comments included recreation near creek, riparian, wildlife, archeological resources, and water and air quality and used to create alternatives.

Background continued:

- Three action alternatives developed and fully evaluated with preliminary, not detailed designs.
- **2011** Preliminary Environmental Assessment (EA) released for 30 day public comment period resulted in concerns including recreation, scenery and flooding.
- Additional analysis and updating of EA document.
- **August 2017** Second 30 day comment period starting with legal notice publication in the Arizona Daily Sun (printed August 17).

Background continued:

- Now accepting comments on EA.
- No alternative preference at this time.
- Comments should be:
 - Specific
 - Directly related to the proposal
 - Include supporting reasons to be considered.
- Comments will assist in the alternative choice and decision.
- Not a voting process.
- Comment on alternatives and the analysis.

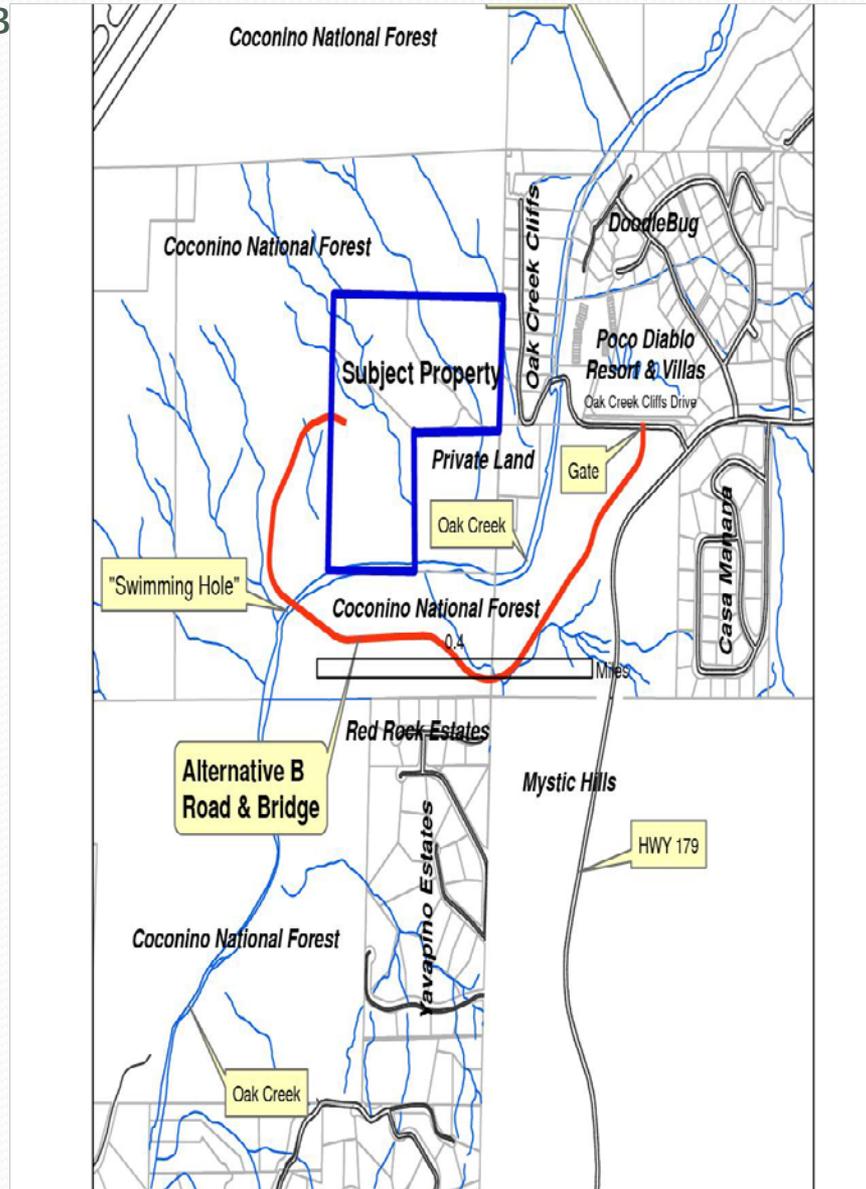
Common For All Action Alternatives B, C and D:

- Constructed to City of Sedona residential collector standards
- 50-foot wide right-of-way for construction and vegetation management
- 28-foot wide pavement and a 5-foot wide shoulder on each side
- Army Corps of Engineers Section 401 Certification - Section 404 permit , ADEQ permit
- Onsite Storm Water Pollution Prevention Program Manager
- Erosion control best management practices such as seeding, silt fences and catchment basins
- Fueling of equipment away from water - Steam cleaning of construction equipment
- Practices to reduce introduction and spread of invasive weeds.
- Construction timing limitations to protect wildlife.

Alternative A:

- No Action.
- No road construction on National Forest.
- Alternative which is used for comparison between the existing situation and other alternatives.
- Would not be consistent with the court order. Therefore not an alternative the forest could select. Used as environmental baseline.

Alternative B



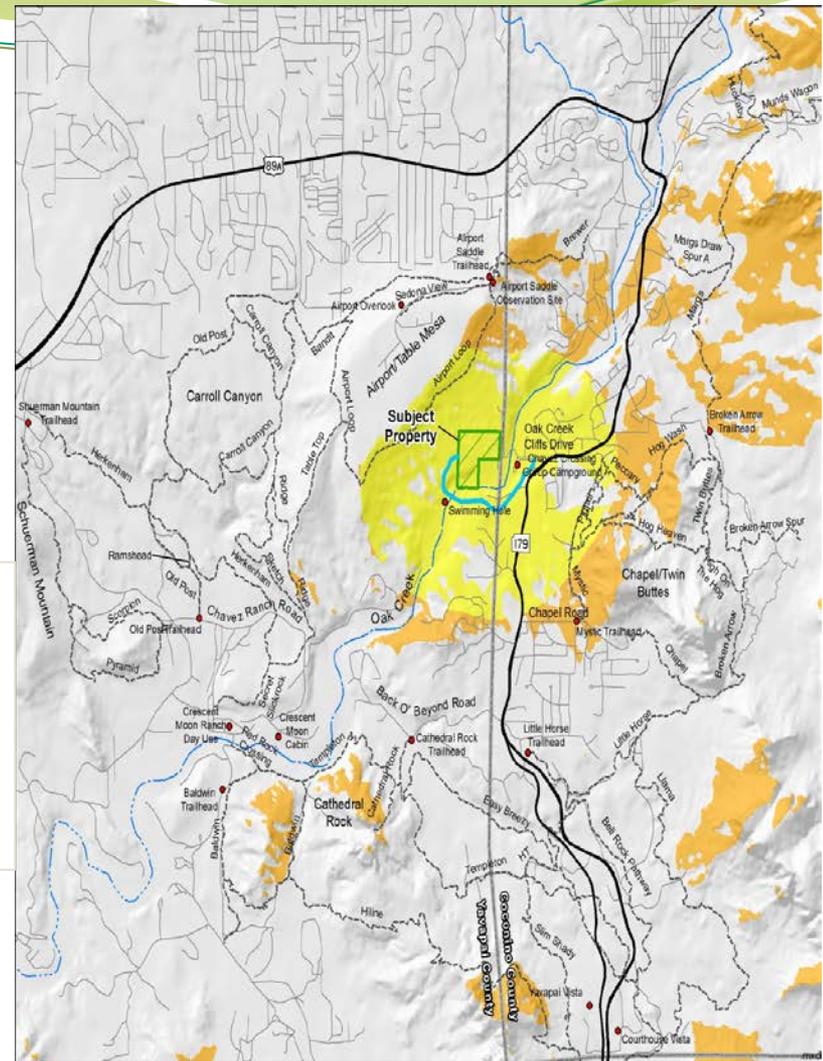
Alternative B

- Initial route proposed to public in 2007
- Road approximately 4,500 feet long (0.85 miles) gated from Oak Creek Cliffs Drive
- 24-foot wide bridge of approximately 450 feet in length and 60 feet tall
- Four 8-foot diameter columns in the Oak Creek flood plain but outside base flow
- Loss 0.78 acres of riparian vegetation during construction/0.025 acres permanent riparian loss to bridge supports
- Inconsistent with ROS objective for 790 feet, thus includes Forest Plan Amendment

Alternative B

Lt yellow : Areas where new road would be seen in foreground (410 acres)

Orange: Areas where new road would be seen in middleground (2369 acres)



Key

-  Alternative B
-  Recreation Site
-  Recreation Trail
-  Subject Property
-  Alternative B Foreground Seen Areas
-  Alternative B Middleground Seen Areas



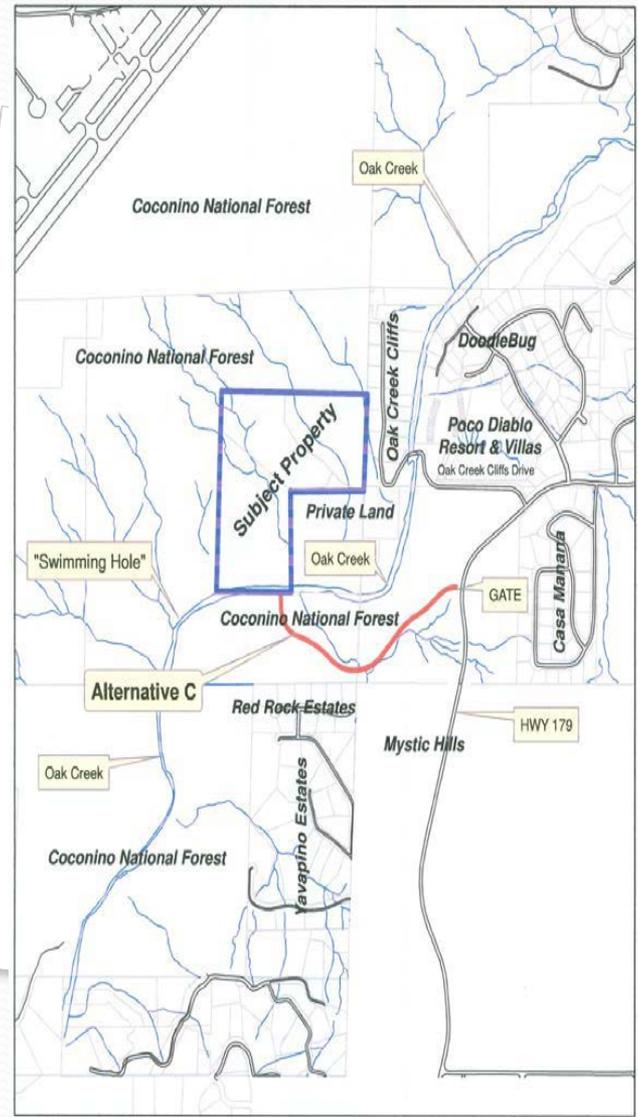


Alternative B From Oak Creek Cliffs
After



Alternative B From Red Rock Trail
After

Alternative C



Alternative C

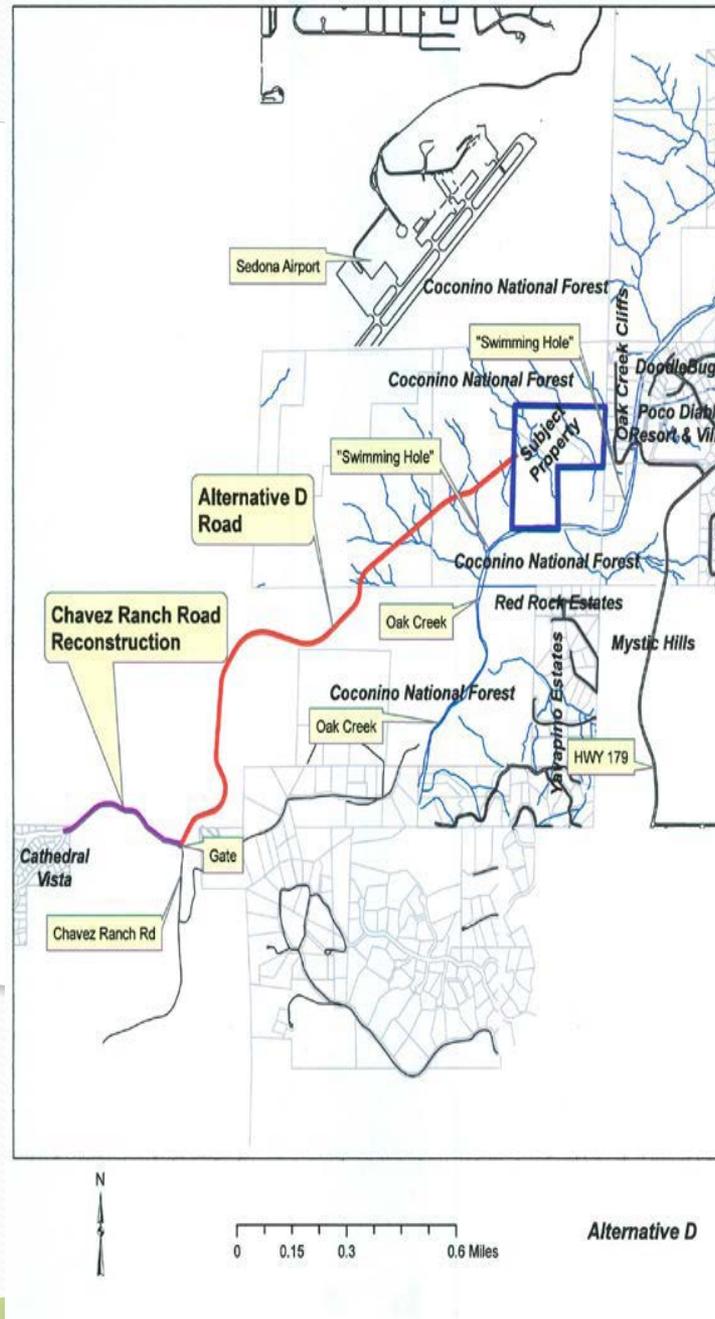
Alternative C

- Upstream from Alternative B
- Gated road approximately 2,600 feet long (0.49 miles) from the Hwy 179 pullout south of Oak Creek Cliffs Drive
- 24-foot wide bridge of approximately 650 feet in length and 80 feet in height; 82 feet on National Forest
- Six 8-foot diameter columns in the Oak Creek flood plain
- Loss of 0.23 acres of riparian forest during construction and loss of 0.0001 acres on forest from bridge supports.
- Consistent with ROS objectives



Alternative C From State Route 179
After

Alternative D



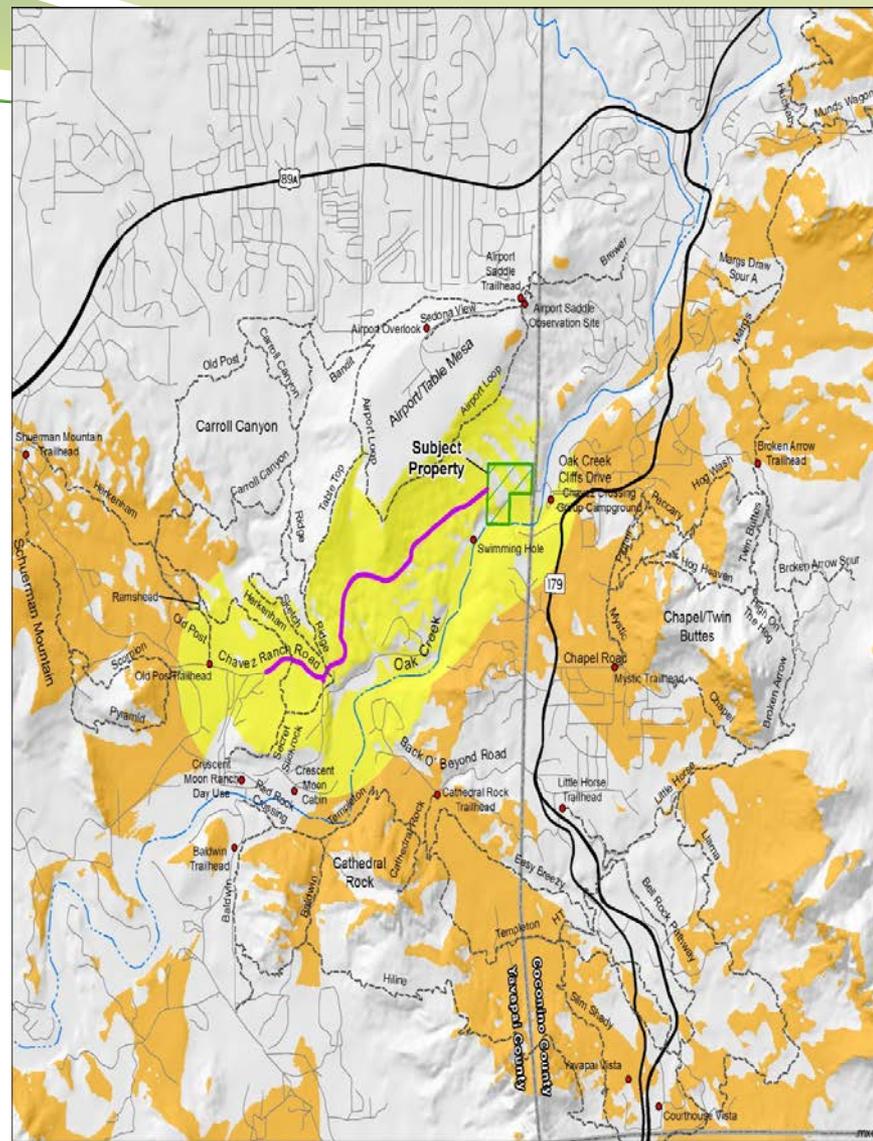
Alternative D

- Gated road, 7,500 feet (1.4 miles) long from Chavez Ranch Road to private property along the side of Airport Mesa.
- 1850 feet (0.35 miles) of improvements to Chavez Ranch Road in area currently under construction for other private access.
- On slope above Oak Creek, 68 feet wide right of way to meet Yavapai County standards.
- No bridge or crossing of Oak Creek.
- Inconsistent with ROS objectives for 5400 feet.
- To address route with no bridge crossing Oak Creek.

Alternative D

Lt yellow : Areas where new road would be seen in foreground (737 acres)

Orange: Areas where new road would be seen in middleground (5660 acres)



Key

- Alternative D
- Alternative D Foreground Seen Areas
- Recreation Site
- Alternative D Middleground Seen Areas
- Recreation Trail
- Subject Property





Alternative D From Elysian Drive
After

Tobias-Flynn Access

Next Steps

NEPA Process Steps -

- Initial scoping with public
- Use comments to create alternatives and analysis
- Prepare draft environmental document

- Draft environmental assessment document for 30 day public review and comment
- Comment period ends 30 days from legal notice printed August 17

We are here in process now.

- Review comments on draft EA
- Finalize EA
- Prepare and release Draft Decision subject to Objection process
- Response to objections and final decision and findings.

Next Steps in Process:

- Comments due 30 days from legal notice to have standing
- Review comments at end of comment period
- Finalize EA document
- Prepare the draft decision document
- Objection process for draft decision
- Issue decision after completion of objection process (36 CFR 218)

Comment email:

comments-southwestern-coconino@fs.fed.us

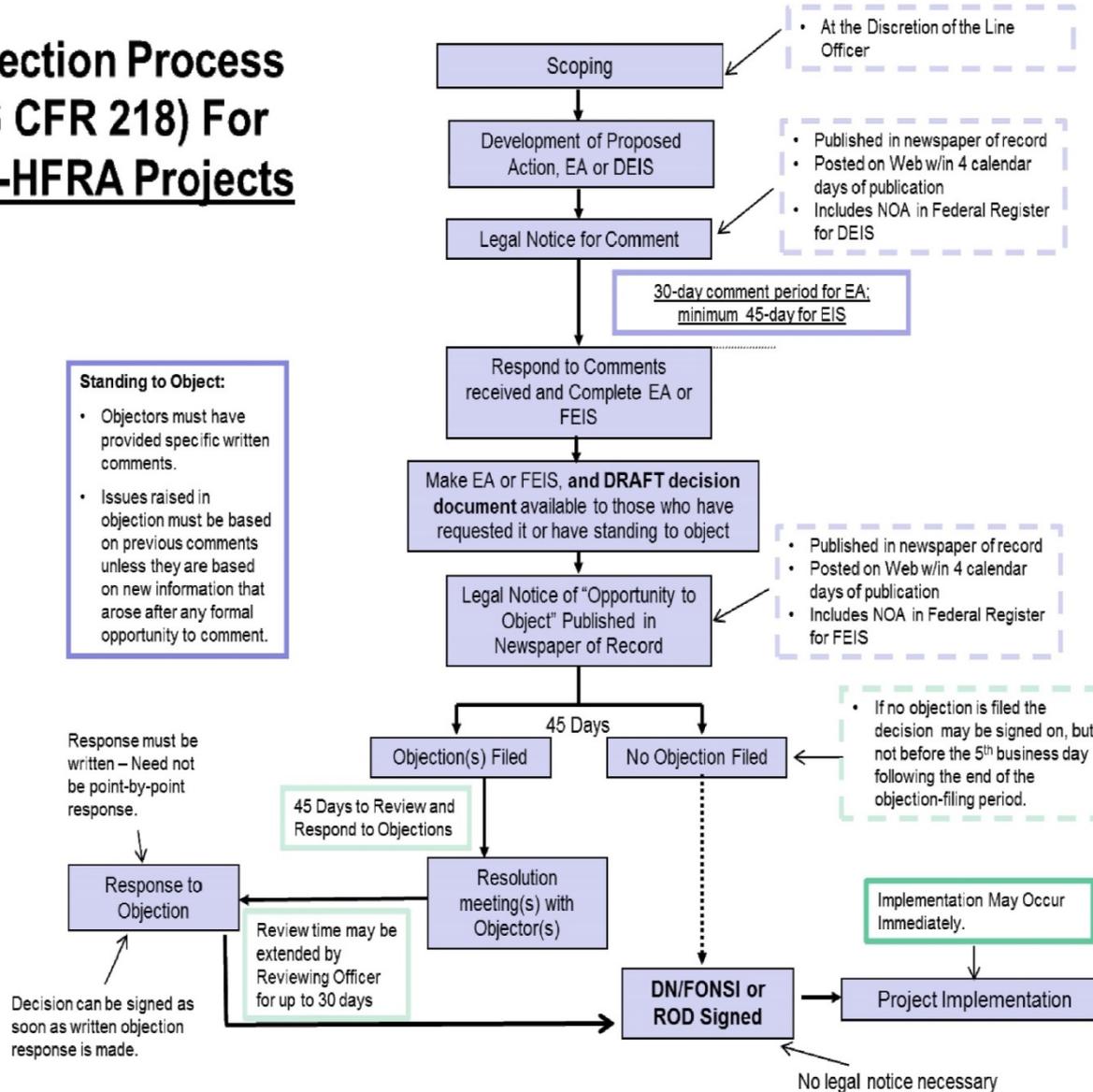
Project website:

<http://www.fs.fed.us/nepa/fs-usda-pop.php/?project=15870>



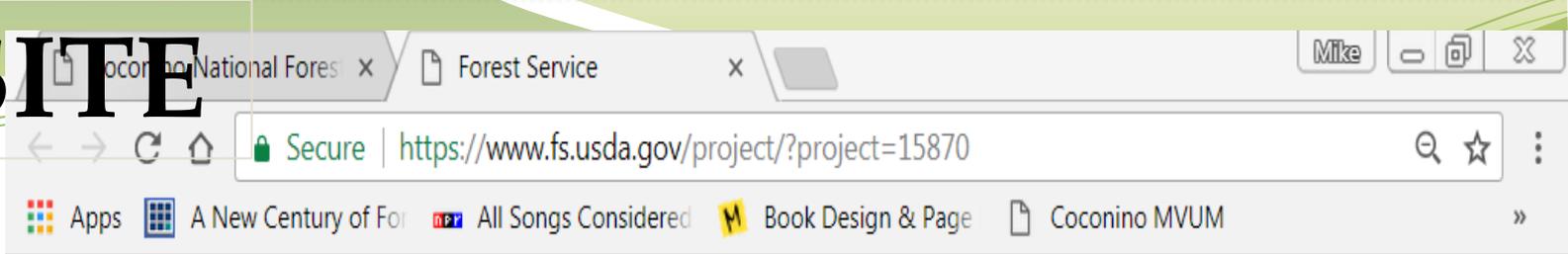
QUESTIONS?

Objection Process (36 CFR 218) For Non-HFRA Projects



Legal Background

- Property acquired by owners in 1993
 - Forest Service denied access because adjacent private land
- Owners attempted negotiations for access from adjacent private
 - Negotiations failed
- Owners sued to condemn access in Coconino County Superior Court
 - Court denied the owners motion because potential National Forest access
 - This decision was appealed and the original decision affirmed
- September 23, 2002 Court issued Order No. C1v00-1107-PHX-MHM
 - An easement of necessity over Federal land does exist
- Planning process for access on National Forest land began



Tobias-Flynn Private Land Access

Subscribe to this feed

Proposal to construct a road from SR179 to private property across Oak Creek from Poco Diablo and Chavez Crossing Group Campground in Sedona. Proposal is the result of litigation requiring the Forest Service to provide an easement.

Location Summary

Area near Chavez Crossing Group Campground in Sedona
District: Red Rock Ranger District

Project Documents

Assessment	Analysis	Supporting
▶ Assessment		<i>Date Published</i>
● Summary of Public Comments - Preliminary Draft EA 2011 (PDF 140kb)		07-24-2017

Project Navigation

- [Project Overview](#)
- [Project Detail](#)
- [Project Location](#)

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- [Comment/Object on Project](#)
- [Subscribe to Email Updates](#)

Forest Links

- [SOPA Reports](#)
- [Appeal Responses](#)
- [Objection Responses](#)

NEPA Resources

- [FS NEPA Procedures and Guidance](#)
- [NEPA Links](#)
- [CEQ's NEPA.net](#)
- [CEQ's Guide to NEPA](#)

Tobias-Flynn Private Land Access

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Proposal to construct a road from SR179 to private property across Oak Creek from Poco Diablo and Chavez Crossing Group Campground in Sedona. Proposal is the result of litigation requiring the Forest Service to provide an easement.

Location Summary

Area near Chavez Crossing Group Campground in Sedona

District: Red Rock Ranger District

Project Documents

Assessment	Analysis	Supporting
<ul style="list-style-type: none"> Analysis 		<i>Date Published</i>
	<ul style="list-style-type: none"> July 2017 Update Letter (PDF 134kb) 	07-24-2017
	<ul style="list-style-type: none"> Draft Environmental Assessment (PDF 7366kb) August 2017 	08-15-2017
	<ul style="list-style-type: none"> Appendix A, Draft EA References (PDF 42kb) August 2017 	08-15-2017
	<ul style="list-style-type: none"> Appendix B, Visual Simulations (PDF 2864kb) August 2017 	08-15-2017
	<ul style="list-style-type: none"> Appendix C, 2011 Comment Analysis Summary (PDF 213kb) August 2017 	08-15-2017
	<ul style="list-style-type: none"> Appendix D, Mitigations (PDF 163kb) August 2017 	08-15-2017
	<ul style="list-style-type: none"> Appendix E, Forest Plan Direction (PDF 115kb) August 2017 	08-15-2017
	<ul style="list-style-type: none"> Legal Notice for 30-day Comment Period (PDF 574kb) August 17, 2017 	08-17-2017

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Tobias-Flynn Private Land Access

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Proposal to construct a road from SR179 to private property across Oak Creek from Poco Diablo and Chavez Crossing Group Campground in Sedona. Proposal is the result of litigation requiring the Forest Service to provide an easement.

Location Summary

Area near Chavez Crossing Group Campground in Sedona

District: Red Rock Ranger District

Project Documents

Assessment	Analysis	Supporting
<p>► Supporting Date Published</p> <ul style="list-style-type: none"> ● Air Quality Attainment Specialist Report (PDF 592kb) 07-21-2017 ● Final Bridge Hydraulic Study (PDF 4030kb) 07-21-2017 ● Supplemental Aquatic Specialist Report (PDF 173kb) 07-21-2017 ● Soils, Water Quality, Riparian Vegetation, Channel Stability, and Flooding Potential Specialist Report (PDF 3664kb) 07-21-2017 ● Supplemental Wildlife Specialist Report (PDF 182kb) 07-24-2017 		

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**CITY COUNCIL
AGENDA BILL**

**AB 2229
September 12, 2017
Regular Business**

Agenda Item: 8b
Proposed Action & Subject: Discussion/possible direction regarding the Draft Revised Sign Code (DRSC), of Sedona Land Development Code Article 11, Sign Regulations.

Department	Community Development
Time to Present	15 minutes
Total Time for Item	1 hour
Other Council Meetings	May 24, 2017 (Work Session) June 14, 2017 (Work Session) July 12, 2017 (Work Session) July 26, 2017 (Work Session)
Exhibits	A. Draft Revised Sign Code, incorporating Council direction B. Draft Revised Sign Code, as recommended by Planning and Zoning

City Attorney Approval	Reviewed 9/5/17 RLP	Expenditure Required
		\$ 0
City Manager's Recommendation	For discussion and possible direction only.	Amount Budgeted
		\$ 0
		Account No. N/A (Description)
		Finance Approval <input checked="" type="checkbox"/>

SUMMARY STATEMENT

This discussion is a continuation from Council work sessions held between May 24, 2017 and July 26, 2017 regarding the Draft Revised Sign Code. The materials provided as part of this packet include:

- *Draft Revised Sign Code, Tracked Changes Version (Exhibit A): This version reflects proposed changes based on feedback received from the Council to date. Changes made to the draft presented to Council at the July 26, 2017 work session are reflected as "tracked changes."*
- *Draft Revised Sign Code as recommended by the Planning and Zoning Commission (Exhibit B)*

Previous Agenda Bill packets contain more detailed information on the background of this project.

The purpose of this work session is to continue the discussion related to the update of the Draft Revised Sign Code (DRSC). At previous Council work sessions, consensus was reached on all aspects of the draft code with the exception of the following items:

- Temporary off-premises signs
- Potential Incentives for Sign Relief and Landscaping

Based on Council direction staff has incorporated changes in the Draft Revised Sign Code that address these items. It is believed that these proposed changes will satisfy Council concerns. The following is a summary of the proposed changes in response to Council direction.

Temporary Off-Premises Signs

Temporary off-premises signs have been a significant point of discussion during Council work sessions regarding the draft sign code. Discussion has ranged from prohibition, to allowance with a sunset, to allowance with criteria and conditions, providing some regulation. Based on Council direction to look for a “compromise” or “middle ground” approach, staff drafted language for current consideration based on the following:

- Incorporating language in the current Sign Code pertaining to open house and garage sale provisions.
- Incorporating concepts presented by Council members.
- Incorporating concepts presented in a model sign code draft prepared by attorneys across the country in response to the US Supreme Court’s Opinion.

Staff’s proposed language allows for temporary off-premises signs in residential districts only, allowing for the placement of wayfinding signs, for uses such as open houses, garage sales, and open studio. These signs would be managed through a sign permitting system and could be issued over-the-counter, similar to the current process for on-site temporary (banner) signs. In those cases, the temporary (banner) signs, upon approval, are issued a “temporary sign permit” sticker that must be placed on the approved sign and aids in the enforcement of temporary signs.

1114. Temporary Signs

1114.02 The following regulations shall apply to the specific temporary signs as indicated and subject to the issuance of a temporary sign permit.

A. Temporary Signs, Residential Districts.

- 1. Up to four (4) temporary signs may be placed either on the owner’s property or offsite for the purpose of directing the public when the property owner is opening the property to the public for a residential activity (e.g. real estate open house, garage/yard sale, estate sale), subject to the following:*
 - a. Maximum of one (1) sign may be located on-site*
 - b. Maximum of three (3) signs may be located off-site, with no more than one (1) sign per turning movement*

- c. Signs may be displayed a maximum of twelve (12) times per year.*
- 2. Signs may be displayed between the hours of 7:00 am and 8:00 pm.*
- 3. Signs shall not exceed 3 square feet in area and 3 feet in height.*
- 4. Signs shall not be illuminated.*
- 5. Signs shall not be placed so as to create a traffic hazard, as determined by city staff. Signs shall not be placed in A.D.O.T. right-of-way, traffic medians, public sidewalks, or bicycle paths.*
- 6. Signs may be placed in City of Sedona right-of-way in residential districts, but shall not be attached to any trees, fences, utility poles, light posts, street signs, or any other public facility located within city right-of-way.*
- 7. Signs may be placed on privately owned property in residential districts with the written permission of the property owner.*
- 8. Accepting payment or any form of compensation for the placement of off-premise signs is prohibited.*
- 9. Temporary Signs in Residential Districts shall be used only for wayfinding purposes.*

Potential Incentives for Sign Relief and Landscaping

At previous Council work sessions, Council directed staff to provide an incentive based approach rather than a regulatory one for the following sign elements:

- Signs with relief (3-dimensional signs)
- Inclusion of landscaping around the base of a freestanding sign.

In response to this direction, Staff evaluated possible incentive options. In light of the goals and the primary purposes of the Sign Code Update, specifically addressing concerns about the quality of signage in Sedona, Staff believes the options for an incentive based approach are limited but possible. Based on this, Staff developed the following incentives that provide meaningful incentives to encourage signs to incorporate 3-D relief and enhanced landscaping.

Goal: Incentivize signs to incorporate 3-dimensional (3D) relief

- a. Signs with relief are encouraged but not required.
- b. Signs that incorporate relief on a minimum of 50% of the copy area may increase the total base sign area by 20%.

Goal: Incentivize planting in the landscaping around the base of a freestanding sign over gravel/rock groundcover.

- a. A landscaped area equivalent to the area of each sign face of a freestanding sign shall be maintained.
- b. On properties that install a freestanding sign in an area landscaped in accordance with the Street Frontage Landscape Standards of LDC 910, one of the following may be applied:

- i. Base sign area may be increased by 20%; or
- ii. Sign height may be increased by 25%

These proposals are incorporated in the revised draft sign code, Exhibit A. In addition, there are a number of minor changes and clarifications that have been made as a result of Council or public comments. All changes made to the draft presented to Council at the July 26, 2017 work session are reflected in Exhibit A as “tracked changes.”

Staff believes that these changes address all of Council's outstanding concerns. The next step will be a public hearing for the proposed Draft Revised Sign Code, currently scheduled for September 26, 2017.

Community Plan Consistent: Yes - No - Not Applicable

The following statements from the Community Plan were instrumental in drafting the DRSC:

- Our Vision: Sense of Place (page 15) states that the City will have design standards to limit signage.
- The introduction to the Land Use, Housing, and Growth Element (page 18) states that the built environment should encourage uniqueness, typical franchise architecture should not be found in Sedona, and signs should be understated.
- Land Use Policy #8 (page 53) states that the city will “require design standards that reflect Sedona’s unique historic and cultural heritage and sign standards that provide diversity and prevent “franchise/monoculture” (corporate signature) signs.
- The Community Character section of the Community Plan (page 99) states that “one of the most obvious character features that a new arrival sees is a harmony in buildings and signage that have minimum visual impact.”

Board/Commission Recommendation: Applicable - Not Applicable

At the March 30, 2017 meeting, the Planning and Zoning Commission recommended approval of the Draft Revised Sign Code by a 4-2 vote (Commissioners Klein and Mayer opposed, Commissioner Cohen excused). Both Commissioners Klein and Mayer stated their reason for opposition as being due to the prohibition of off-premises signs. For more information about the Commission’s discussion, please see meeting material and minutes at:

<http://www.sedonaaz.gov/your-government/departments/community-development/land-development-code/sign-code-update>

Alternative(s):

MOTION

I move to: for discussion and direction only.

1101. Title

This article shall be known as the Sedona Sign Ordinance

1102. Purpose

1102.01. The Council finds that the natural surroundings, climate, history, and people of the City provide the Sedona community with its unique charm and beauty. This Article has been adopted to ensure that all signs installed in the City are compatible with the unique character and environment of the community, and in compliance with the Community Plan.

1102.02. The purpose of this Article is to promote public health, safety, and welfare through a comprehensive system of reasonable, effective, consistent, content-neutral, and nondiscriminatory sign standards and requirements, including the following specific purposes:

- A. To promote and accomplish the goals, policies, and objectives of the Community Plan;
- B. To balance public and private objectives by allowing adequate avenues for both commercial and noncommercial messages;
- C. To recognize free speech rights by regulating signs in a content-neutral manner;
- D. To improve pedestrian and traffic safety by promoting the free flow of traffic and the protection of pedestrians and motorists from injury and property damage caused by, or which may be fully or partially attributable to, cluttered, distracting, and/or illegible signage;
- E. To protect the aesthetic beauty of the City's natural and built environment for the citizens of and visitors to the City, and to protect prominent viewsheds within the community;
- F. To prevent property damage, personal injury, and litter from signs which are improperly constructed, poorly maintained, or made of unstable materials;
- G. To protect property values, the local economy, and the quality of life by preserving and enhancing the appearance of the streetscape; and
- H. To provide consistent sign design standards that enables the fair and consistent enforcement of these sign regulations.

1102.03. This Article is not intended to, and does not restrict speech on the basis of its content, viewpoint, or message. No part of this Article shall be construed to favor commercial speech over non-commercial speech. A non-commercial message may be substituted for another non-commercial message displayed on a sign, or the content of any non-commercial message displayed on a sign may be changed to a different non-commercial message, without the need for any approval or permit, provided that the size of the sign is not altered. To the extent any provision of this Article is ambiguous, the term shall be interpreted not to regulate on the basis of the content of the message.

1103. Definitions

Sign Definitions are included in Sedona Land Development Code Article 2: Definitions.

1104. Administration

1104.01. Permit Required. Except as provided in this Article, no person shall erect, construct, enlarge, alter, repair, display, maintain, or use a sign, whether temporary or permanent, until a permit for the same has been issued by the Director. Each sign shall require a separate sign permit.

1104.02. Permit Process. An application for a sign permit shall be made in writing on forms furnished by the Department and comply with the sign permit process set by the Director.

1104.03. Inspections for Permit.

- A. All signs for which a permit is required shall be subject to inspection by and approval of the

Director.

- B. Footing inspections may be required for all signs having footings, subject to review and approval by the Director.
- C. All signs containing electrical wiring shall be subject to the provisions of the International Building Code as adopted, and the electrical components used shall bear the label of an approved testing agency.

1104.04. Master Sign Plans.

For some developments, alternative standards and flexibility in the established standards may enhance the aesthetic qualities of the development and the community. Approval of a Master Sign Plan allows for unified presentation of signage throughout a development site, flexibility to provide for unique environments, and pre-approval of designs and design elements to make sign review more efficient.

A. Approval Required

- 1. New construction or redevelopment projects shall obtain approval of a Master Sign Plan as part of the development review process as set forth in LDC 401, prior to any signs being erected.
- 2. All signs erected or maintained shall conform at all times to the approved Master Sign Plan. Any deviations from an approved Master Sign Plan shall be unlawful unless and until a revised Master Sign Plan is approved.
- 3. For developments covering multiple properties, the property owner(s) may elect to have the entire development considered a unified development site for the purposes of the Master Sign Plan.

B. Master Sign Plan Requirements

- 1. Contents. A Master Sign Plan shall set forth a master plan for all signage for an entire parcel or development site and include the following information:
 - a. Sign dimensions and approximate locations;
 - b. Materials and colors;
 - c. Proposed illumination, including illumination levels;
 - d. Maximum numbers of items of information per sign face;
 - e. A design theme with illustrative examples of each sign type and the proposed general locations of each sign type; and
 - f. A demonstration that the Master Sign Plan will improve the aesthetics of the development and will not have an adverse impact on the use, enjoyment, or value of property in adjacent or nearby residential districts.
 - g. Any other maps, drawings or materials as required by the Director (including a colored rendering of the sign) to adequately describe the sign proposal. The application and any exhibits shall become the property of the city.
- 2. Prohibited Signs and Sign Elements. Prohibited signs and sign elements are not eligible for inclusion in a Master Sign Plan unless specifically indicated in this Article.
- 3. Architectural Theme. All signs shall be architecturally integrated into or complimentary to the design of the building(s) and character of the site, and shall use similar and coordinated design features, materials, and colors. The Master Sign Plan shall establish an integrated architectural vocabulary and cohesive theme for the development site.

4. Community Character. The signage proposed in a Master Sign Plan shall not have an adverse impact on the community character of the district in which the development site is located, or of the City of Sedona.
5. Nonconforming Signs. If there are existing signs on-site, they shall be treated in accordance with LDC 1203 (Nonconforming signs) upon adoption of the Master Sign Plan.

C. Master Sign Plan - Flexibility Criteria

1. Generally. Signage which is proposed as part of a Master Sign Plan may deviate from the standards of this Article as outlined below.
2. Height, Area, Number, and Location of signs.
 - a. The height, area, number, and location of signs permitted through the Master Sign Plan shall be determined based on the following criteria:
 - i. The overall size of the development site and the scale of the use or uses located or anticipated to be located there (larger land areas and scales of use tend to favor larger signs and / or more signs);
 - ii. Relationship between the building setback and sign location (additional signage may be appropriate for buildings with less visibility, particularly where buffering is providing an aesthetic and / or environmental benefit to the City);
 - iii. Length of Frontage on a Public Right-of-Way (larger frontages may justify more or larger signs, particularly if the size of the frontage tends to prevent sign clutter from multiple adjacent parcels);
 - iv. Classification of Street the Development Site fronts on (frontage along an arterial or collector street may justify more or larger signs than frontage along a local street);
 - v. Access and visibility to the site;
 - vi. Intended traffic circulation pattern and the need for wayfinding;
 - vii. Hierarchy of signage;
 - viii. Relationship between the site and adjacent uses;
 - ix. The desired function of the site; and
 - x. Consistency with the objectives and design policies of the Community Plan and any applicable Community Focus Area plans.
3. Lighting. Lighting standards shall not deviate from the standards of this Article.

D. Master Sign Plan Review

1. Master Sign Plans for new construction or redevelopment shall be reviewed as part of the development review process as set forth in LDC 401.
2. Director Approval. Master Sign Plans that deviate from the standards of this Article, as allowed by this Section, by no more than 10% may be approved by the Director.
3. Planning and Zoning Commission Approval. Master Sign Plans that deviate by more than 10% require approval by the Planning and Zoning Commission, in accordance with the development review process as set forth in LDC 401.
4. Notwithstanding the provisions of this section, the Director may require any Master Sign Plan to be considered by the Commission at a public hearing on the basis of location, visually related impacts, or in conjunction with other aspects of overall site development or improvements.

- E. Individual Sign Permits. Individual sign permits are required for signs installed in compliance with an approved Master Sign Plan that conforms with the provisions of this Article.
- F. Amendments. A Master Sign Plan may be amended in the same manner in which the original Master Sign Plan was approved.

1105. General Standards Applicable to All Signs.

1105.01. General. Unless specifically exempted, the standards contained in this section shall apply to all signs within the City of Sedona.

1105.02. Abandoned Signs. The property owner shall be responsible for removing abandoned signs within 5 days.

1105.03. Clearance to Utility Lines. Signs shall not be located with less than 5 feet 6 inches horizontal or 10 feet vertical clearance from overhead electric conductors which are energized not more than 750 volts. Signs shall not be located with less than 8 feet 6 inches horizontal or 11 feet vertical clearance from overhead electric conductors which are energized in excess of 750 volts.

1105.04. Clearance over Pedestrian Walkways or Vehicular Drives. Signs which project over a pedestrian walkway shall maintain a minimum clearance of 8 feet above grade. Signs which project over a vehicular drive shall maintain a minimum clearance of 13 feet, 6 inches above grade, or the clearance required by all applicable codes.

1105.05. Component Painting. All light fixtures, conduit, and shielding shall be painted to match either the building or the supporting structure that serves as the background of the sign.

1105.06. Historic Preservation. Where signage is to be placed on or associated with a designated historic landmark, the design, graphics and materials of such signage shall be consistent with the historic character and context of the structure or site and be in compliance with the landmark approval.

1105.07. Location.

- A. No signs shall be placed on or about public property or within any public right-of-way, **unless otherwise permitted**. Such signs may be deemed refuse and subject to removal by the Director.
- B. No sign or sign structure shall be erected in such a manner that any portion of its surface or supports will interfere with free use of all fire appliances, including hydrants, standpipes, automatic fire sprinkler connections, and the like. Fire lanes shall not be obstructed by the placement of any sign or sign structure.
- C. No sign shall obstruct any window to such an extent that any light or ventilation is reduced to a point below that required by any law or ordinance.

1105.08. Maintenance.

- A. All signs shall be structurally sound and maintained in good repair. The display surfaces of all signs shall be kept neatly painted or posted at all times.
- B. Any sign determined **by the Director** to be a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, or electrical shall be remedied immediately.

1105.09. Landscaping . When landscaping is required in conjunction with a sign, the landscape area shall be maintained by the property owner and shall be kept in a neat and clean condition, free of weeds and rubbish.

1105.10. Traffic Visibility Triangle. For traffic safety, signs located within the triangular area on a corner lot formed by measuring 30 feet along both street side property lines from their intersection or 10 feet from the intersection of a property line adjacent and parallel to a public street and a private street or driveway shall maintain a 3-foot maximum top height. (See Illustration 11-5.) The City Engineer may

approve a sign within the Traffic Visibility Triangle if it can be demonstrated that it does not impact traffic safety.

1106. Sign Measurements and Calculations

1106.01. Sign Area.

- A. Sign area is calculated as the area within a continuous perimeter with up to eight straight sides that encloses the limits of text and graphics of a sign, together with any frame or other material or color forming an integral part of the display or used to differentiate the sign's message from the background against which it is placed. The area excludes the structure upon which the sign is placed (unless the structure is an integral part of the display or used to differentiate it), but includes any open space contained within the outer limits of the display face of a sign, or between any component, panel, strip, or figure of any kind composing the display face, whether this open space is enclosed by a frame or border or not. See Figure XXXX
- B. Support structures will not be counted against total sign area as long as such elements are appropriately scaled to the size of the copy as determined by the Director.

1106.02. Sign Height.

- A. Sign height is measured as the vertical distance from the average elevation of the finish grade within a 6-foot radius at the base of the sign to the top of the sign, including all backgrounds and support structures, exclusive of any filling, berming, mounding, or landscaping, solely done for the purpose of locating the sign.
- B. If natural grade at the base of a sign is lower than the grade of an adjacent road, the height of the sign may be measured from the top of curb elevation.

1106.03. Items of Information. An item of information is a word, logo, abbreviation, symbol, geometric shape, image, or number with 10 or fewer digits (punctuation of numbers does not increase the number of items of information). See Figure XXXX, Items of Information.

1107. Design Standards Applicable to All Signs.

This section provides minimum design guidance for all signs, regardless of specific type or location. These guidelines address issues related to sign legibility, placement, color, materials, and illumination. These guidelines are intended to ensure business owners install quality signs that add to and support the character and unique beauty of Sedona. Following these standards from the onset of a project will help to ensure that the signs are designed as an integral element of the building design architecture and not as an afterthought.

1107.01. Sign Legibility.

In the interest of public safety, the following standards are meant to ensure that signs have adequate visibility and legibility. Deviations may be permitted through approval of a Master Sign Plan if it can be shown that the proposed deviation will not have a negative impact on visibility and legibility of the sign.

- A. Signs 15 square feet or less
 - 1. Maximum of 7 Items of Information
 - 2. Maximum of 2 Font Styles
- B. Signs over 15 square feet
 - 1. Maximum of 12 Items of Information
 - 2. Maximum of 3 Font Styles

Items of Information (See Section 1107, Measurements and Calculations): A brief message should be used whenever possible. A sign with a brief, succinct message is simpler and faster to read,

looks cleaner, and is generally more attractive.

Font Styles: An effective sign should do more than attract attention; it should communicate its message clearly. This is directly related to the readability of words and phrases. The most significant influence on legibility is lettering style and spacing. Typefaces that are difficult to read reduce the sign's ability to communicate. Crowding letters, words, or lines will make any sign more difficult to read. Conversely, over-spacing these elements causes the viewer to read each item individually, again obscuring the message.

- C. Signs should use letters on a contrasting background.

There should be an adequate amount of contrast between the colors to increase legibility. If there is little contrast between the brightness or hue of the message of a sign and its background, it will be difficult to read.

1107.02. Sign Placement

In order to assist in wayfinding, signs throughout a development site should be placed in a strategic manner, in similar locations and in a similar fashion throughout the center so that customers can easily identify business locations.

- A. ~~Signs shall be placed to relate to the architectural features of the building on which they are located.~~
- B. Wayfinding signs for businesses shall be placed at or near the public entrance or main parking area to indicate the most direct access to the business.
- C. Signs shall be placed consistent with the proportions of the building's facade.
For example, a particular sign may fit well on an upper, more basic wall, but would overpower and obstruct the finer detail of a lower storefront area.
- D. Signs shall not be located so that they cover or interrupt the architectural details or ornamentation of a building's facade.
- E. ~~Signs shall not project above the edge of the eaves or rooflines and shall not obstruct windows and/or doorways.~~ Signs shall not be mounted higher than the eave line or top of the parapet wall of the building and no portions of the sign shall extend beyond the ends of the wall to which it is attached.
- F. The location and extent of signs and advertising should not obstruct scenic views.
- G. Repetitious signage information on the same building frontage should be avoided.

1107.03. Sign Color

The City of Sedona has long placed a strong emphasis on building design and aesthetics, including regulations of color to ensure the built environment blends into the surrounding natural environment. In order to ensure the signs adhere to this same standard, sign colors are regulated in a similar way to building colors.

- A. Sign colors shall provide sufficient contrast to be legible, yet be subdued enough to blend with the natural landscape and/or surrounding structures.
- B. Background colors shall be limited to no more than three on a single sign.
Too many colors overwhelm the viewer's ability to process fast what the sign is communicating. Limit use of accent colors to increase legibility.
- C. The background area of a sign, exclusive of any letters, words, or symbols, shall comply with the

exterior color requirements of LDC 904.01 (Exterior Color Requirements)¹, except as noted below.

1. Not more than 10% of the sign background area shall exceed these color requirements.
 2. Natural materials including, but not limited to, rock, natural wood, tile, and brick, which do not comply with these color requirements, may be considered on a case-by-case basis by the Director.
- D. Text colors are not subject to the same color restrictions as background colors, but should provide sufficient contrast. Bright and glossy or fluorescent colors and reflective surfaces are prohibited.
- E. Sign colors shall relate to and complement the materials or color scheme of the buildings, including accent and trim colors.
- F. Signs may be painted directly on building facades. The Director shall review such requests on a case-by-case basis and make a determination based on a review of whether the proposed sign interferes with the architectural integrity of the building.

1107.04. Sign Materials

- A. Materials shall be selected with consideration for the architectural design of the building's facade. Sign materials shall complement the architecture and materials of the structure.
- B. Acceptable sign materials include:
1. Wood (carved, sandblasted, etched, ~~properly~~ sealed and painted or stained)
 2. Red rock and river rock
 3. Tile (painted, sealed, inlaid tiles)
 4. Metal, including rusted metal (formed, etched, cast, engraved, ~~and properly~~ primed or factory coated ~~to protect against erosion~~).
 5. Stucco, when used to match an existing building onsite.
 6. High density sign foam, when designed to successfully imitate another acceptable sign material
 7. Decorative iron or wood brackets are preferred for sign hardware support
 8. Requests to use alternative materials may be approved on a case-by-case basis by the Director
- C. Signs with Relief.
1. Signs with relief are encouraged but not required.
 2. Signs that incorporate relief on a minimum of 50% of the copy area may increase the total

1 LDC 904.01 Exterior Color Requirements.

A. The color contrast of structures with the natural dark green of the vegetation, and rust reds of the red rocks and soils, is a concern with respect to reducing visual impacts of the built environment and trying to blend it with the natural environment. Structures, walls, garage doors, roofs (including flat roofs) and fences shall blend with the surrounding natural environment without calling undue attention to the development, and materials or colors used shall have a light reflectance value (LRV) not exceeding 38% (Munsell value 7).

B. Exterior paint and material colors shall not exceed values and chromas as set forth below, and as indicated in the Munsell Book of Color on file in the Community Development Department. (The Munsell Book of Color is a system that describes color in terms of 3 standardized attributes: hue, value (lightness/darkness) and chroma (intensity). Numerical values define each color attribute, and the colors are arranged in the book in equal visual steps for each attribute.) Bright and glossy or fluorescent colors are prohibited. To determine if a particular color is acceptable, the applicant may take the desired color chip (available at paint stores) to the Department for comparison with the Munsell Book of Color.

1. In Munsell hues BG (Blue-Green), B (Blue), PB (Purple-Blue), P (Purple), and RP (Red-Purple); the maximum chroma allowed is "2," unless values of "5" (LRV 20%) or less are proposed, in which case the maximum chroma may be increased to "4."

2. In all other Munsell hues, the maximum chroma allowed is "2," unless a value of "6" (LRV 28%) or less is proposed, in which case the maximum chroma allowed is "4." Further, when a value of "5" (LRV 20%) or less is proposed, the maximum chroma may be increased to "6."

base sign area by 20%.

3. ~~Where signs with relief are proposed, only 85% of the area of the sign that incorporates relief shall count against the allowable sign area.~~

1107.05. Sign Illumination

Sign illumination is necessary to ensure businesses can be found when open after dark. However, as a Dark Sky Community, Sedona seeks to limit outdoor lighting to only what is necessary and to minimize light pollution. The following illumination standards seek to achieve a balance between providing sufficient sign lighting while ensuring maintenance of the dark skies.

- A. Illumination is only permitted on permanent signs in Commercial districts. Temporary signs and signs in Residential districts cannot be illuminated, unless approved as a part of a Master Sign Plan.
- B. The intensity of sign lighting shall not exceed that necessary to illuminate and make legible a sign from the adjacent travel way or closest right-of-way; and the illumination of a sign shall not be obtrusive to the surrounding area as determined by the Director.
- C. Signs should only be illuminated if the existing ambient light (such as from street lights or from interior lighting from a building) is not sufficient to light the sign.
- D. When illumination is used, the light shall be contained to the sign and no light shall spill over.
- E. Illumination for signs shall conform to all provisions of LDC 911, Outdoor lighting. Sign lighting shall be treated as Class 1 lighting and shall conform to the lamp, shielding, and time restrictions and shall count towards the lumen cap for the property.
- F. Sign illumination shall be limited to a maximum of two (2) different colors.
- G. External Illumination
 1. Fixtures chosen for external illumination shall be architecturally compatible with the building to which they are attached.
 2. Externally lit signs shall be illuminated only with steady, stationary, shielded light sources directed solely onto the sign without causing glare.
 3. External lighting fixtures shall be fully shielded and directed down.
 4. Ground mounted uplighting may be used when it can be demonstrated that no light will spill off of the sign face.
- H. Internal Illumination
 1. Internally illuminated signs are prohibited except as permitted below:
 - a. Individual halo-lit letters with solid opaque faces that do not permit any light to come through the face, which are silhouetted against a softly illuminated wall (see Illustration 11-1);
 - b. Metal-faced box signs with cut-out letters and soft-glow lighting sources (see Illustration 11-3).
- I. Prohibited Illumination Methods
 1. Light bulbs or lighting tubes used for illuminating a sign shall not be visible from adjacent public rights-of-way or residential properties
 2. The fixtures used to illuminate signs shall not be directed toward nearby residential properties.
 3. Other than one sign per business, with a maximum of 2 square feet, digital or electronically lit

messages of any kind, or signs having the same effect, are prohibited.

4. Blinking, rotating, flashing, hanging, or reflecting lights are prohibited.
5. Visible raceways and transformers for individual letters are prohibited.

1108. Exempt Signs

Subject to the conditions and limitations specified below, the following signs or sign devices are exempted from the permit process; provided, that they are not prohibited by LDC 1115, Prohibited signs:

1108.01. Bumper Stickers. Bumper stickers affixed to motor vehicles.

1108.02. Event Posters and Announcements. Posters, flyers and announcements promoting events may be displayed, but shall not contain advertisements for products or services not associated with the event. Displays of event announcements shall not exceed 1 poster, a maximum size of 11 inches by 17 inches, per business, and shall not be placed on the exterior of a building or structure.

1108.03. Cornerstones. Cornerstones and the like, when carved into stone, concrete, bronze or other permanent material and made an integral part of a building or structure. Cornerstones are not to exceed 4 square feet.

1108.04. Flags. The flag, pennant or insignia of any nation, organization of nations, state, province, county, city, any religious, civic or fraternal organization, or educational institution. A temporary sign permit shall be required when such are used in connection with a commercial promotion or as an advertising device (LDC 1114.02.B.6, Temporary Business Signs).

1108.05. Governmental signs. Any sign, posting, notice or similar signs placed, installed or required by law by a city, county, or a federal or state governmental agency in carrying out its responsibility to protect the public health, safety, and welfare, including, but not limited to, the following:

- A. Emergency and warning signs necessary for public safety or civil defense;
- B. Traffic signs erected and maintained by an authorized public agency;
- C. Signs required to be displayed by law;
- D. Signs directing the public to points of interest; and
- E. Signs showing the location of public facilities.

1108.06. Historic Plaques. Historic plaques erected or provided by the city designating an area of historical significance.

1108.07. Information Signs. Information signs on commercial properties are limited to a maximum of 2 square feet per business entrance.

1108.08. Display Boxes. Display boxes of up to 2 square feet are allowed for restaurants, bars and lounges. Display Boxes may be illuminated with fully shielded fixtures. A permit shall be obtained for display boxes larger than 2 square feet, and the area in excess of the permitted 2 square feet shall be counted against the total allowable sign area for the business.

1108.09. Official Notices. Official government notices and notices posted by government officers or employees in the performance of their official duties; and government signs to control traffic, provide information, identify streets, warn of danger, or perform other regulatory purposes.

1108.10. On-Site Directional Signs. One (1) directional signs per property or development site, no more than 3 feet in height and 4 square feet in area, located outside of the front and street side yard setbacks, to aid in traffic circulation and wayfinding within a developed site. Additional on-site directional signs may be permitted through the approval of a Master Sign Plan.

1108.11. Outline Lighting. Outline lighting and decorative strings of lights are authorized without a

permit only from Thanksgiving to the following January 15. After January 15, lighting in residential areas must be turned off, and in commercial areas, it must be turned off and removed from buildings and structures. Such lighting shall be installed in a way that does not create a public nuisance or hazard.

1108.12. Political Signs.

- A. The City encourages political signs to be placed in a way that limits the negative aesthetic affects of numerous large political signs throughout the city and serves to fulfill the City's vision of enhancing its natural beauty.
- B. Political Signs are permitted in compliance with ARS §16-1019.

1108.13. Residential Nameplates, Street Address or Combination. One nameplate sign showing the name of the occupant of a residence; the occupant's profession, occupation, and/or title; and/or the address of the dwelling is allowed. The sign shall contain no advertising copy and shall not exceed 2 square feet in area.

1108.14. Seasonal Decorations. Temporary, noncommercial decorations or displays, when such are clearly incidental to, and are customarily or commonly associated with, any national, local or religious celebration; provided, that such decorations or displays are maintained in an attractive condition and do not constitute a fire hazard.

1108.15. Signs Authorized by Law. Signs required or specifically authorized for a public purpose by any law, statute or ordinance; provided, however, that no such sign shall be placed in a public right-of-way unless specifically required or authorized by law, statute or ordinance, and, except for warning signs or barricades of a temporary nature, such signs shall be permanently affixed to the ground, a building or other structure. Such signs shall not exceed the minimum number required to accomplish the purpose.

1108.16. Signs not Readable from the Public Right-of-Way

- A. Signs or displays located entirely inside of a building and not visible from the building's exterior;
- B. ~~Signs intended to be readable from within a parking area but not readable beyond the boundaries of the lot or parcel upon which they are located or from any public right-of-way; and~~
- C. Official signs located within City recreation facilities and placed by City of Sedona officials in the performance of their duties to provide information related to ~~and located within~~ City Recreation Facilities and programs.

1108.17. Signs on Vehicles. Signs displayed on motor vehicles or trailers which are being operated or stored in the normal course of business, such as signs indicating the name of the owner or business which are located on delivery trucks, trailers and the like. Business vehicles shall be parked in an assigned parking space which is not immediately adjacent to a street frontage.

1108.18. Street Address Signs. Each property must display its legally assigned street number in accordance with SCC 12.20.070 and applicable Fire Code requirements. Legally assigned street address numbers must be incorporated into a property's freestanding sign. **If the property does not have a freestanding sign, the address number must be** clearly displayed on the building. ~~and~~ **The address number must** be of a contrasting color with the background to which they are attached. Letters or numbers shall have a maximum height of 150% of the required minimum height, as set forth in the City Code and the Fire Code.

1108.19. Symbols. Nonverbal symbols attached to a place of religious worship.

- A. Symbols must be stationary and unlighted.
- B. One symbol shall be permitted per street frontage per lot.
- C. Symbols shall not exceed 16 square feet in area and 6 feet in height.

1108.20. Temporary signs on properties offered for sale, lease, or rent, are permitted on-site as follows:

A. All Residential Zones

1. One sign per property is permitted. Signs must be nonilluminated, constructed of durable materials, placed only on the property for sale, rent, or lease, be no more than six feet in height, and be no larger than six square feet in area.
2. ~~One sign not to exceed 3 feet in height and 6 square feet may be located on each lot while an open house is occurring and manned by the real estate agent or an authorized representative;~~

B. All Commercial and Nonresidential Zones.

1. One sign per street frontage is permitted. Signs must be nonilluminated, constructed of durable materials, placed only on the property for sale, rent, or lease, be no more than six feet in height, and be no larger than 12 square feet in area

C. All signs shall be removed within 15 days from the date of sale, lease or rental.

1108.21. Warning Signs. Temporary or permanent signs erected by the city, public utility companies or construction companies to warn of danger or hazardous conditions, including signs indicating the presence of underground cables, gas lines or similar devices.

1108.22. Window Display. Merchandise or models of products or services which are incorporated as an integral part of an indoor window display.

1108.23. Window Signs. Window signs covering no more than 10% of a window.

1108.24. Works of art, including murals, which do not advertise a product or business and which have been approved by the Director;

1109. Permanent Signs (Commercial Districts)

The following regulations apply to signs within Commercial Zoning Districts within the City of Sedona. These include the following zones: CN (Neighborhood Commercial), OP (Office Professional), C-1 (General Commercial), C-2 (General Commercial), C-3 (Heavy Commercial/Light Manufacturing), RC (Resort Commercial), and L (Lodging). In addition, properties within the PD (Planned Development) District with commercial uses would be included in this category.

For new and remodeled shopping centers, a comprehensive sign program for all signs in the center shall be developed. If a property has an approved Master Sign Plan or a sign plan approved in compliance with this Article, that plan shall take precedence over these regulations.

For sign computation purposes, the following shall be considered a single property or development site: (1) A commercial condominium building or complex (2) Businesses associated by a common agreement or ownership with common parking facilities or housed in 1 structure.

When 2 or more tenants occupy 1 building space with a common entrance, they shall be considered 1 tenant for sign computation purposes.

1109.01. Business Tenant Signs

Business tenant signs are permitted per business and sign area accumulates for each separate business on a property.

For properties or development sites with a single tenant, tenant signage with a maximum area of 25 square feet is permitted. On properties exceeding a 60-foot lot frontage on a single street, this area may be increased in area by 1 square foot for each 3 lineal feet of building frontage in excess of 60 feet, up to a maximum of 50 square feet.

For properties or development sites with 2 or more tenants, tenant signage with a maximum area of 15 square feet is permitted for each tenant with a primary entrance on a street, parking lot, courtyard or mall. For tenants exceeding a 36-foot building frontage, the sign area may be increased in area by 1 square foot for each 3 lineal feet of building frontage in excess of 36 feet, up to a maximum of 50 square feet.

Business tenant signs shall be located on a wall of the building which contains the business. Business tenant signs are prohibited within the front and street side yard setbacks.

The following signs are considered business tenant signs. The cumulative area of all signs used by the business may not exceed the limits as set forth above.

A. Building Signs

1. Building signs shall not project from the surface upon which they are attached more than that is required for construction purposes and in no case more than 12 inches.
2. New building signs for individual businesses in a shopping center shall be placed consistent with the location of signs for other businesses in the center. This will establish visual continuity among storefronts and create a unified appearance for the center.

B. Projecting and Suspended Signs

1. Hanging signs should be simple in design and not used to compete with existing signage at the site, such as building signs.
2. On a multi-storied building, the sign shall be suspended between the bottom of the second story windowsills and the top of the doors or windows of the first story. On a one-story building, the top of the sign should be in line with the lowest point of the roof.
3. The 2 sides of a projecting or suspended sign must be parallel back to back, and shall not exceed 10 inches in thickness.
4. A projecting sign shall be hung at right angles to the building and shall not extend more than 4 feet from a building wall.
5. The top of the sign should be in line with whichever is the most successful application of scale, linear continuity or visibility as determined by the Director.
6. No sign shall overhang any public right-of-way (including sidewalks) without approval from the relevant organization having jurisdiction over the right-of-way. Such signs shall be covered by a public liability insurance policy which names the city as the insured party.
7. Sign supports and brackets shall be compatible with the design and scale of the building. Decorative metal and wood brackets are encouraged.
8. To avoid damaging brick and stonework; brackets shall be designed to be bolted into masonry joints.
9. Internal illumination of projecting signs is prohibited.

C. Awning Signs

1. The text of awning signs shall be located only on the valance portion of the awning. Letter color shall be contrasting with the awning and the building color scheme.
2. The shape, design, and color of awnings should coordinate with, and not dominate, the architectural style of the building. Where multiple awnings are used on a building, the design and color of the sign awnings shall be consistent with all other awnings.
3. Backlit and internally illuminated awnings are prohibited.

4. Only permanent signs that are an integral part of the canopy or awning shall be used.

D. Window Signs

1. Interior signs 24 inches or less from the window are considered as exterior advertising signs.
2. Window signs (permanent or temporary) shall not cover more than 25% of the area of each window. Signs that cover 10% or less of the window do not count towards the total business sign allowance.
3. Window signs shall be primarily individual letters intended to be viewed from outside. Glass-mounted graphics may be applied as long as they comply with the 25% limitation.
4. ~~Window tinting is considered a window sign and is subject to the 25% limitation.~~
5. Electronic or LED Monitors (such as TV Screens) shall not be used as a window sign.

1109.02. Site signs

Site signs are permitted for each individual parcel or group of parcels that the owners have declared to be a development site for sign purposes. Sign area accumulates for the parcel or development site, regardless of the number of businesses on that parcel.

The following signs are considered site signs, are allotted per property, and shall not count against the total allowable signage for any one business. These signs are permitted at the discretion of the property owner and/or property management company.

A. Monument (Freestanding) Signs

1. There shall be no more than 1 monument sign per street frontage per site and a maximum of 2 monument signs per site.
2. **A landscaped area equivalent to the area of each sign face of a freestanding sign shall be maintained.** ~~A landscaped area is required around the base of all monument signs. The landscape area must be a minimum of 1 square foot for each 1 square foot of sign area. Landscaping should be designed to ensure the long-term readability of the sign.~~
 - a. **On properties that install a freestanding sign in an area landscaped in accordance with the Street Frontage Landscape Standards of LDC 910, one of the following may be applied:**
 - i. **Base sign area may be increased by 20%; or**
 - ii. **Sign height may be increased by 25%**
3. Monument signs are permitted a maximum area of 25 square feet and maximum height of 8 feet. On properties which exceed a 300-foot lot frontage on a single street, one of the following two options may be applied:
 - a. The maximum sign area may be increased to 35 square feet.
 - b. A second monument sign on a single frontage may be permitted provided there is a minimum of 250 feet separation between the two signs. If this option is used, the maximum of 2 monument signs per property does not change.
4. The sign base shall have a minimum aggregate width of 75% of the width of the sign cabinet or face.
5. Monument signs shall be placed perpendicular to the street.
6. Monument signs shall incorporate architectural elements, details, and articulation consistent with the primary building on the site.
7. Each monument sign shall incorporate the legally assigned address number.

8. For properties where a monument sign is not used, the Director may allow additional building signage for center identification in lieu of a monument sign, subject to the same maximum area as the monument sign.

B. Directional Signs.

1. Directional signs shall be placed at the driveway entrance to a lot, parcel or multiple use lot or parcel. There shall be no more than one (1) directional sign per driveway.
2. No directional sign shall be greater than 6 square feet in area or have height greater than 3 feet above grade.
3. No more than 25% of the area of a directional sign may be devoted to business identification.
4. Directional signs shall not be permitted at a driveway entrance where there is a separate freestanding sign, but directional signage may be incorporated into the freestanding sign. Directional information incorporated into a freestanding sign shall not count towards the total allowable sign area for the freestanding sign.

C. Directory Signs.

1. Directory signs may be provided for individual businesses or occupants of the same building or building complex, in accordance with the following:
2. The display board shall be of an integrated and uniform design;
3. One (1) directory sign is permitted at each pedestrian entrance to the building complex, with a maximum of 2 per development site.
4. Directory signs may be wall-mounted or freestanding signs.
5. Such signs shall not exceed 6 feet in height.
6. Each tenant business is permitted a maximum of 0.5 square feet on a directory sign and the building identification shall not exceed 2 square feet. The total area of any directory sign shall not exceed 15 square feet.
7. Directory signs shall not be subject to items of information restrictions (see 1107.01, Sign Legibility)

D. Service (Gas) Station Signs.

1. Each service station or other business selling automotive fuel is permitted 1 price sign for each street frontage not to exceed 8 square feet in area and 8 feet in height.
2. Service Station signs shall be incorporated into the main freestanding sign but shall not count towards the maximum allowable square footage when used solely for gas pricing.
3. "Self/full serve" signs not to exceed 3 square feet in area each are permitted on each end of each pump island.
4. Any other signs may be considered through approval of a Master Sign Plan, including but not limited to, signs affixed to the top or sides of an operable fuel dispensing pump or trash containers.

E. Drive-Thru Board Signs

1. Board Signs shall maintain a minimum setback of 25 feet from front and street side property lines
2. Maximum of 30 square feet and 6 feet in height.
3. Internal illumination of board signs is permitted.

4. Shall be designed with a solid base. The design, materials, and finish of the base shall match the building.
 5. Screening of board signs from the public right-of-way is required through use of the building, walls, fences, or landscaping, subject to review and approval by the Director.
 6. A maximum of 1 sign per drive thru restaurant is permitted.
 7. If speakers are used, they shall be subject to the City of Sedona's noise ordinance ([Sedona City Code Chapter 8.25](#)).
- F. Signs for vacation timeshare solicitors, vacation club solicitors, timeshare sellers and vacation club membership sellers.
1. Within the city of Sedona, all signage at all locations engaged in the commercial solicitation of vacation club membership plans, timeshares or timeshare plans, including, but not limited to, off-premises canvassing (OPC) locations, kiosks, or podiums located adjacent to public rights-of-way, shall comply with the requirements of Sedona City Code Chapter 8.15.023.

1110. Permanent Signs (State Route 89A Character District)

As Uptown Sedona is characterized as a predominately pedestrian area, it is recognized that different sign standards are needed. For properties that have been identified in the Sedona Main Street and Character Districts Design Manual as being part of the State Route 89A Character District, the design standards applicable to Commercial signs will apply with the following exceptions:

1110.01. Business Tenant Signs

For properties or development sites with a single tenant, tenant signage with a maximum area of 12.5 square feet is permitted. On properties exceeding a 30-foot lot frontage on a single street, this area may be increased in area by 1 square foot for each 3 lineal feet of building frontage in excess of 30 feet, up to a maximum of 25 square feet.

For properties or development sites with 2 or more tenants, tenant signage with a maximum area of 9 square feet is permitted for each tenant with a primary entrance on a street, parking lot, courtyard or mall. For tenants exceeding a 18-foot building frontage, the sign area may be increased in area by 1 square foot for each 3 lineal feet of building frontage in excess of 18 feet, up to a maximum of 25 square feet.

A. Under Canopy Signs.

1. Where a building sign is not visible to pedestrian traffic in a covered walkway, an under-canopy identification sign of up to 3 square feet is allowed. Square footage for an under canopy sign does not count towards the maximum area for the business sign.
2. Where the building design does not permit an under canopy sign with an 8 foot clearance, the Director may approve a minimum clearance of 7 feet.

1110.02. Site Signs

A. Monument (Freestanding) Signs

1. On properties with less than 100 feet of street frontage, monument signs are permitted a maximum area of 18 square feet and maximum height of 5 feet.

1111. Permanent Signs (Residential Districts)

The following regulations shall apply to the specific permanent signs as indicated for residential districts and subject to the issuance of a sign permit.

A. Directional Signs.

1. Directional signs are prohibited for single-family residential uses.
2. There shall be no more than 1 directional sign per driveway entrance to a lot, parcel or multiple use lot or parcel.
3. No directional sign shall be greater than 6 square feet in area and have height greater than 3 feet above grade.
4. Directional signs shall not be permitted at a driveway entrance where there is an identification sign, but directional signage may be incorporated into the identification sign. Directional information incorporated into a identification sign shall not count towards the total allowable sign area for the identification sign.

B. Identification Signs.

1. Identification signs are prohibited for single-family residential uses.
2. One identification sign per property is permitted. However, if the property exceeds 2 acres in area and has frontage along more than 1 public right-of-way, a maximum of 2 signs are permitted, with no more than 1 sign adjacent to each street frontage.
3. Each sign shall not exceed 12 square feet in area per face and may be double-faced.
4. An identification sign may be wall-mounted or freestanding. When placed against a wall, the sign shall not extend more than 6 feet above grade at the base of the wall. The height of a freestanding sign shall not exceed 3 feet above grade.

C. Subdivision Entrance Signs.

1. Not more than ~~1~~ 2 permanent subdivision identification signs is ~~is~~ **are** permitted for each primary entrance to a recorded subdivision.
2. Each sign shall not exceed 12 square feet in area per face and may be double-faced.
3. A subdivision entrance sign may be wall-mounted or freestanding. When placed against a wall, the sign shall not extend more than 6 feet above grade at the base of the wall. The height of a freestanding sign shall not exceed 3 feet above grade.
4. Each subdivision entrance sign shall be located in a landscaped area of at least 2.5 square feet for each 1 square foot of sign area. The landscaped area consisting of shrubs and/or perennial ground cover plants with a maximum spacing of 3 feet on center is required around the base of subdivision entrance signs. Landscaping should be designed to ensure the long-term readability of the sign.
5. Subdivisions with entrances off of a Major Arterial Roadway may apply for a Master Sign Plan to allow additional or larger signs to ensure readability from the adjacent roadway.

1112. Permanent Signs (Special Use, Community Facilities, Transitional Districts)

1112.01. Nonresidential Uses. Signage for nonresidential uses within Special Use, Community Facilities, Transitional districts is subject to the provisions of LDC 1109, with the following exceptions:

- A. Directional Signs. Directional signs are limited to a maximum area of 4 square feet. All other provisions apply.
- B. Directory Signs. Directory signs are limited to a maximum area of 10 square feet. All other provisions apply.
- C. Monument (Freestanding) Signs. Monument signs are limited to a maximum area of 12 square feet and a maximum height of 5 feet. No more than one monument sign is permitted per property. All other provisions apply.

1112.02. Residential Uses. Signage for residential uses within Transitional and Special Use districts is subject to the provisions of LDC 1110.

1112.03. Master Sign Plan. The above requirements may be modified through approval of a Master Sign Plan.

1113. Permanent Signs (Parks and Recreation Uses)

The following regulations shall apply to the specific permanent signs as indicated public parks and recreation uses and subject to the issuance of a sign permit.

1113.01. Signage necessary for the safe and orderly operation of the parks and recreation facilities is permitted. This could include, but is not limited to, facility identification, posting of park rules, directional signs, and hours of operation. Signs over 3 feet in height or signs visible from off-site require a permit.

1113.02. Master Sign Plan. A master sign plan may be approved for public parks and recreation facilities.

1114. Temporary Signs

1114.01. Standards for Temporary Signs

- A. Design standards related to color, font styles, and items of information are not applicable for temporary signs.
- B. Sign Area. Sign Area shall include the entire sign, including background and text.
- C. Sign Location. Signs shall be located so as not to create a hazard for pedestrian or vehicular traffic.
- D. Sign Installation. Temporary signs shall be installed in such a way that ensures they do not create a safety hazard.
- E. Sign Illumination. Illumination of temporary signs is prohibited.

1114.02. The following regulations shall apply to the specific temporary signs as indicated and subject to the issuance of a temporary sign permit.

A. ~~Temporary Directional Signs~~. **Temporary Signs, Residential Districts.**

1. Up to four (4) temporary, signs may be placed either on the owner's property or offsite for the purpose of directing the public when the property owner is opening the property to the public for a residential activity (e.g. real estate open house, garage/yard sale, estate sale), subject to the following:
 - a. Maximum of one (1) sign may be located on-site
 - b. Maximum of three (3) signs may be located off-site, with no more than one (1) sign per turning movement
 - c. Signs may be displayed a maximum of twelve (12) times per year.
2. Signs may be displayed between the hours of 7:00 am and 8:00 pm.
3. Signs shall not exceed 3 square feet in area and 3 feet in height.
4. Signs shall not be illuminated.
5. Signs shall not be placed so as to create a traffic hazard, as determined by city staff. Signs shall not be placed in A.D.O.T. right-of-way, traffic medians, public sidewalks, or bicycle paths.
6. Signs may be placed in City of Sedona right-of-way in residential districts, but shall not be attached to any trees, fences, utility poles, light posts, street signs, or any other public facility located within city right-of-way.

7. Signs may be placed on privately owned property within residential districts with the written permission of the property owner.
 8. Accepting payment or any form of compensation for the placement of off-premises signs is prohibited.
 9. Temporary Signs in Residential Districts shall be used only for wayfinding purposes.
 10. ~~Temporary, nonilluminated directional signs may be permitted for special events in accordance with LDC 407, Temporary uses.~~
 11. ~~Signs may be placed 1 day prior to the event and must be removed 1 day after the event.~~
 12. ~~The maximum area of a temporary directional sign shall not exceed 6 square feet and maximum height shall not exceed 3 feet.~~
 13. ~~Temporary Directional Signs shall be used for wayfinding purposes.~~
- B. Temporary Business Signs, Commercial Districts.
1. Temporary business signs are allowed only in commercial districts **subject to the limitations of this section.**
 2. **Temporary Signs in Commercial Districts may be displayed on-site 5 times per year for a maximum of 5 consecutive days each time.** ~~All businesses shall be permitted to display a temporary sign 5 times a year for a maximum of 5 consecutive days.~~
 3. New businesses shall be permitted to display one (1) temporary sign for a maximum of 30 days. This 30 day period shall not start prior to issuance of a Tenant Occupancy permit and shall not extend beyond installation of the permanent sign for the business or 30 days after issuance of a Certificate of Occupancy, whichever is sooner.
 4. Temporary business signs shall not exceed 20 square feet in area.
 5. Temporary signs shall be attached to the building of the business of which they are advertising.
 - a. **Temporary signs** ~~or~~ may be freestanding if the overall height does not exceed 8 feet.
 - b. **When attached to the building, temporary signs shall not be mounted higher than the eave line or top of the parapet wall of the building and no portion of the sign shall extend beyond the ends of the wall to which it is attached.**
 6. **Temporary off-premises signs in commercial districts are prohibited.**
 7. The following signs may be permitted through a Temporary Sign Permit:
 - a. Flag-mounted signs;
 - b. Banners;
 - c. Pennants;
 - d. Streamers;
 - e. Balloons;
 - f. Inflatable signs;
 - g. Costumed characters;
 - h. Sandwich board or A-frame signs.
- C. Site Development Signs.
1. One **on-premises** site development sign may be allowed for each development project.

2. A site development sign may be displayed upon the issuance of a building permit for the project and shall be removed prior to the issuance of a Certificate of Occupancy or the abandonment of the project, whichever shall first occur.
3. Any site development sign shall not exceed ~~32~~ 20 square feet in area and shall not exceed 8 feet in height.

1115. Prohibited Signs

1115.01. Signs that are not specifically authorized are expressly prohibited. Prohibited signs include, but are not limited to, the following:

- A. Pole Signs;
- B. Internally Illuminated Cabinet Signs;
- C. Plastic signs are prohibited except as otherwise provided;
- D. Flag-mounted signs, except as otherwise provided;
- E. Signs having intermittent or flashing illumination, animated or moving parts, rotating or simulating movement by any means of fluttering, spinning or reflection devices or that emit sound, except as otherwise permitted;
- F. Electronic message signs;
- G. Freestanding changeable copy signs, except as otherwise provided;
- H. Banners, pennants, streamers, balloons, flags, search lights, strobe lights, beacons, inflatable signs, and costumed characters, except as otherwise provided;
- I. Service or bay entrance sign banners or advertising;
- J. Signs imitating an official traffic control sign;
- K. Signs that in any way obstruct the view of, be susceptible to, or be confused with an official traffic sign, signal or device or any other official sign, as defined by the Director;
- L. Signs that in any way imitate any official sign, including, but not limited to, color and font style, as defined by the Director;
- M. Signs that use words, phrases, symbols, or characters implying the existence of danger or the need for stopping or maneuvering of a motor vehicle, or create in any way an unsafe distraction for motor vehicle operators;
- N. Signs that obstruct the view of motor vehicle operators, bicyclists and pedestrians entering a public roadway from any parking area, service drive, private driveway, alley or other thoroughfare;
- O. Signs that obstruct free ingress to or egress from required door, window, fire escape or other required exit;
- P. Any sign placed on city-owned property, except as otherwise provided;
- Q. Any sign placed on private property without the property owner's written approval;
- R. Off-premises signs, except as otherwise provided;
- S. Signs attached to any fences, utility poles, trees, shrubs, rocks or other natural objects, unless specifically included in the design and are approved by the Director;
- T. Signs constituting a hazard to safety, health or public welfare;
- U. Neon signs where the light source is visible from the public right-of-way, except as otherwise provided;

- V. Roof-mounted signs;
- W. Signs painted on or attached to vehicles or fleet of vehicles which are parked conspicuously on the public right-of-way or on private premises for the purpose of circumventing the intention of these regulations;
- X. Sandwich board, A-frame, portable and other similar types of signs, except as otherwise provided;
- Y. Signs with reflective surfaces;
- Z. Temporary signs, except as otherwise provided;
- AA. Walking signs, including costumed characters used for commercial advertising purposes, which are visible from any public right-of-way, any adjacent building, or any public area, except as otherwise provided;
- AB. Signs with any statement, symbol or picture of an obscene nature;
- AC. Single support signs;
- AD. Signs in districts designated "Open Space and Recreation" are prohibited, except as otherwise provided;
- AE. Signs with exposed raceways and conduit.

1101. Title

This article shall be known as the Sedona Sign Ordinance

1102. Purpose

1102.01. The Council finds that the natural surroundings, climate, history, and people of the City provide the Sedona community with its unique charm and beauty. This Article has been adopted to ensure that all signs installed in the City are compatible with the unique character and environment of the community, and in compliance with the Community Plan.

1102.02. The purpose of this Article is to promote public health, safety, and welfare through a comprehensive system of reasonable, effective, consistent, content-neutral, and nondiscriminatory sign standards and requirements, including the following specific purposes:

- A. To promote and accomplish the goals, policies, and objectives of the Community Plan;
- B. To balance public and private objectives by allowing adequate avenues for both commercial and noncommercial messages;
- C. To recognize free speech rights by regulating signs in a content-neutral manner;
- D. To improve pedestrian and traffic safety by promoting the free flow of traffic and the protection of pedestrians and motorists from injury and property damage caused by, or which may be fully or partially attributable to, cluttered, distracting, and/or illegible signage;
- E. To protect the aesthetic beauty of the City's natural and built environment for the citizens of and visitors to the City, and to protect prominent viewsheds within the community;
- F. To prevent property damage, personal injury, and litter from signs which are improperly constructed, poorly maintained, or made of unstable materials;
- G. To protect property values, the local economy, and the quality of life by preserving and enhancing the appearance of the streetscape; and
- H. To provide consistent sign design standards that enables the fair and consistent enforcement of these sign regulations.

1102.03. This Division is not intended to, and does not restrict speech on the basis of its content, viewpoint, or message. No part of this Division shall be construed to favor commercial speech over non-commercial speech. A non-commercial message may be substituted for any commercial message displayed on a sign, or the content of any non-commercial message displayed on a sign may be changed to a different non-commercial message, without the need for any approval or permit, provided that the size of the sign is not altered. To the extent any provision of this Division is ambiguous, the term shall be interpreted not to regulate on the basis of the content of the message.

1103. Definitions

Sign Definitions are included in Sedona Land Development Code Article 2: Definitions

1104. Administration

1104.01. Permit Required. Except as provided in this Article, no person shall erect, construct, enlarge, alter, repair, display, maintain, or use a sign, whether temporary or permanent, until a permit for the same has been issued by the Director. Each sign shall require a separate sign permit.

1104.02. Permit Process.

- A. An application for a sign permit shall be made in writing on forms furnished by the Department and comply with the sign permit process set by the Director.

1104.03. Inspections for Permit.

- A. All signs for which a permit is required shall be subject to inspection by and approval of the Director.
- B. Footing inspections may be required for all signs having footings, subject to review and approval by the Director.
- C. All signs containing electrical wiring shall be subject to the provisions of the International Building Code as adopted, and the electrical components used shall bear the label of an approved testing agency.

1104.04. Master Sign Plans.

For some developments, alternative standards and flexibility in the established standards may enhance the aesthetic qualities of the development and the community. Approval of a Master Sign Plan allows for unified presentation of signage throughout a development site, flexibility to provide for unique environments, and pre-approval of designs and design elements to make sign review more efficient.

A. Approval Required

- 1. New construction or redevelopment projects shall obtain approval of a Master Sign Plan as part of the development review process as set forth in LDC 401, prior to any signs being erected.
- 2. All signs erected or maintained shall conform at all times to the approved Master Sign Plan. Any deviations from an approved Master Sign Plan shall be unlawful unless and until a revised Master Sign Plan is approved.
- 3. For developments covering multiple properties, the property owner(s) may elect to have the entire development considered a unified development site for the purposes of the Master Sign Plan.

B. Master Sign Plan Requirements

- 1. Contents. A Master Sign Plan shall set forth a master plan for all signage for an entire parcel or development site and include the following information:
 - a. Sign dimensions and approximate locations;
 - b. Materials and colors;
 - c. Proposed illumination, including illumination levels;
 - d. Maximum numbers of items of information per sign face;
 - e. A design theme with illustrative examples of each sign type and the proposed general locations of each sign type; and
 - f. A demonstration that the Master Sign Plan will improve the aesthetics of the development and will not have an adverse impact on the use, enjoyment, or value of property in adjacent or nearby residential districts.
 - g. Any other maps, drawings or materials as required by the Director (including a colored rendering of the sign) to adequately describe the sign proposal. The application and any exhibits shall become the property of the city.
- 2. Prohibited Signs and Sign Elements. Prohibited signs and sign elements are not eligible for inclusion in a Master Sign Plan unless specifically indicated in this Article.
- 3. Architectural Theme. All signs shall be architecturally integrated into or complimentary to the design of the building(s) and character of the site, and shall use similar and coordinated design features, materials, and colors. The Master Sign Plan shall establish an integrated

architectural vocabulary and cohesive theme for the development site.

4. Community Character. The signage proposed in a Master Sign Plan shall not have an adverse impact on the community character of the district in which the development site is located, or of the City of Sedona.
5. Nonconforming Signs. If there are existing signs on-site, they shall be treated in accordance with LDC 1203 (Nonconforming signs) upon adoption of the Master Sign Plan.

C. Master Sign Plan - Flexibility Criteria

1. Generally. Signage which is proposed as part of a Master Sign Plan may deviate from the standards of this Article as outlined below.
2. Height, Area, Number, and Location of signs.
 - a. The height, area, number, and location of signs permitted through the Master Sign Plan shall be determined based on the following criteria:
 - i. The overall size of the development site and the scale of the use or uses located or anticipated to be located there (larger land areas and scales of use tend to favor larger signs and / or more signs);
 - ii. Relationship between the building setback and sign location (additional signage may be appropriate for buildings with less visibility, particularly where buffering is providing an aesthetic and / or environmental benefit to the City);
 - iii. Length of Frontage on a Public Right-of-Way (larger frontages may justify more or larger signs, particularly if the size of the frontage tends to prevent sign clutter from multiple adjacent parcels);
 - iv. Classification of Street the Development Site fronts on (frontage along an arterial or collector street may justify more or larger signs than frontage along a local street);
 - v. Access and visibility to the site;
 - vi. Intended traffic circulation pattern and the need for wayfinding;
 - vii. Hierarchy of signage;
 - viii. Relationship between the site and adjacent uses;
 - ix. The desired function of the site; and
 - x. Consistency with the objectives and design policies of the Community Plan and any applicable Community Focus Area plans.
3. Lighting. Lighting standards shall not deviate from the standards of this Article.

D. Master Sign Plan Review

1. Master Sign Plans for new construction or redevelopment shall be reviewed as part of the development review process as set forth in LDC 401.
2. Director Approval. Master Sign Plans that deviate from the standards of this Article, as allowed by this Section, by no more than 10% may be approved by the Director.
3. Planning and Zoning Commission Approval. Master Sign Plans that deviate by more than 10% require approval by the Planning and Zoning Commission, in accordance with the development review process as set forth in LDC 401.
4. Notwithstanding the provisions of this section, the Director may require any Master Sign Plan to be considered by the Commission at a public hearing on the basis of location, visually related

impacts, or in conjunction with other aspects of overall site development or improvements.

- E. Individual Sign Permits. Individual sign permits are required for signs installed in compliance with an approved Master Sign Plan that conforms with the provisions of this Article.
- F. Amendments. A Master Sign Plan may be amended in the same manner in which the original Master Sign Plan was approved.

1105. General Standards Applicable to All Signs.

1105.01. General. Unless specifically exempted, the standards contained in this section shall apply to all signs within the City of Sedona.

1105.02. Abandoned Signs. The property owner shall be responsible for ensuring that signs be removed after the activity, product, business, service or other use which is being advertised has ceased or vacated the premises.

1105.03. Clearance to Utility Lines. Signs shall not be located with less than 5 feet 6 inches horizontal or 10 feet vertical clearance from overhead electric conductors which are energized under 750 volts. Signs shall not be located with less than 8 feet 6 inches horizontal or 11 feet vertical clearance from overhead electric conductors which are energized in excess of 750 volts.

1105.04. Clearance over Pedestrian Walkways or Vehicular Drives. Signs which project over a pedestrian walkway shall maintain a minimum clearance of 8 feet above grade. Signs which project over a vehicular drive shall maintain a minimum clearance of 13 feet, 6 inches above grade, or the clearance required by all applicable codes.

1105.05. Component Painting. All light fixtures, conduit, and shielding shall be painted to match either the building or the supporting structure that serves as the background of the sign.

1105.06. Historic Preservation. Where signage is to be placed on or associated with a designated historic landmark, the design, graphics and materials of such signage shall be consistent with the historic character and context of the structure or site and be in compliance with the landmark approval.

1105.07. Location.

- A. No signs shall be placed on or about public property or within any public right-of-way. Such signs may be deemed refuse and subject to removal by the Director.
- B. No sign or sign structure shall be erected in such a manner that any portion of its surface or supports will interfere with free use of all fire appliances, including hydrants, standpipes, automatic fire sprinkler connections, and the like. Fire lanes shall not be obstructed by the placement of any sign or sign structure.
- C. No sign shall obstruct any window to such an extent that any light or ventilation is reduced to a point below that required by any law or ordinance.

1105.08. Maintenance.

- A. All signs shall be structurally sound and maintained in good repair. The display surfaces of all signs shall be kept neatly painted or posted at all times.
- B. Any sign determined to be a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, or electrical shall be remedied immediately.

1105.09. Landscaping . When landscaping is required in conjunction with a sign, the landscape area shall be maintained by the property owner and shall be kept in a neat and clean condition, free of weeds and rubbish.

1105.10. Traffic Visibility Triangle. For traffic safety, signs located within the triangular area on a

corner lot formed by measuring 30 feet along both street side property lines from their intersection or 10 feet from the intersection of a property line adjacent and parallel to a public street and a private street or driveway shall maintain a 3-foot maximum top height. (See Illustration 11-5.) The City Engineer may approve a sign within the Traffic Visibility Triangle if it can be demonstrated that it does not impact traffic safety.

1106. Sign Measurements and Calculations

1106.01. Sign Area.

- A. Sign area is calculated as the area within a continuous perimeter with up to eight straight sides that encloses the limits of text and graphics of a sign, together with any frame or other material or color forming an integral part of the display or used to differentiate the sign's message from the background against which it is placed. The area excludes the structure upon which the sign is placed (unless the structure is an integral part of the display or used to differentiate it), but includes any open space contained within the outer limits of the display face of a sign, or between any component, panel, strip, or figure of any kind composing the display face, whether this open space is enclosed by a frame or border or not. See Figure XXXX
- B. Support structures will not be counted against total sign area as long as such elements are appropriately scaled to the size of the copy as determined by the Director.
- C. In the case of illuminated signs, the area of the sign is measured as the entire illuminated area.

1106.02. Sign Height.

- A. Sign height is measured as the vertical distance from the average elevation of the finish grade within a 6-foot radius at the base of the sign to the top of the sign, including all backgrounds and support structures, exclusive of any filling, berming, mounding, or landscaping, solely done for the purpose of locating the sign.
- B. If natural grade at the base of a sign is lower than the grade of an adjacent road, the height of the sign may be measured from the top of curb elevation.

1106.03. Items of Information. An item of information is a word, logo, abbreviation, symbol, geometric shape, image, or number with 10 or fewer digits (punctuation of numbers does not increase the number of items of information). See Figure XXXX, Items of Information.

1107. Design Standards Applicable to All Signs.

This section provides minimum design guidance for all signs, regardless of specific type or location. These guidelines address issues related to sign legibility, placement, color, materials, and illumination. These guidelines are intended to ensure business owners install quality signs that add to and support the character and unique beauty of Sedona. Following these standards from the onset of a project will help to ensure that the signs are designed as an integral element of the building design architecture and not as an afterthought.

1107.01. Sign Legibility.

In the interest of public safety, the following standards are meant to ensure that signs have adequate visibility and legibility. Deviations may be permitted through approval of a Master Sign Plan if it can be shown that the proposed deviation will not have a negative impact on visibility and legibility of the sign.

- A. Signs 12 square feet or less
 - 1. Maximum of 7 Items of Information
 - 2. Maximum of 2 Font Styles
- B. Signs over 12 square feet

1. Maximum of 12 Items of Information
2. Maximum of 3 Font Styles

Items of Information (See Section 1107, Measurements and Calculations): A brief message should be used whenever possible. A sign with a brief, succinct message is simpler and faster to read, looks cleaner, and is generally more attractive.

Font Styles: An effective sign should do more than attract attention; it should communicate its message clearly. This is directly related to the readability of words and phrases. The most significant influence on legibility is lettering style and spacing. Typefaces that are difficult to read reduce the sign's ability to communicate. Crowding letters, words, or lines will make any sign more difficult to read. Conversely, over-spacing these elements causes the viewer to read each item individually, again obscuring the message.

- C. Signs should use letters on a contrasting background.

There should be an adequate amount of contrast between the colors to increase legibility. If there is little contrast between the brightness or hue of the message of a sign and its background, it will be difficult to read.

1107.02. Sign Placement

In order to assist in wayfinding, signs throughout a development site should be placed in a strategic manner, in similar locations and in a similar fashion throughout the center so that customers can easily identify business locations.

- A. Signs shall be placed to relate to the architectural features of the building on which they are located.
- B. Wayfinding signs for businesses shall be placed at or near the public entrance or main parking area to indicate the most direct access to the business.
- C. Signs shall be placed consistent with the proportions of the building's facade.

For example, a particular sign may fit well on an upper, more basic wall, but would overpower and obstruct the finer detail of a lower storefront area.

- D. Signs shall not be located so that they cover or interrupt the architectural details or ornamentation of a building's facade.
- E. Signs shall not project above the edge of the eaves or rooflines and shall not obstruct windows and/or doorways.
- F. The location and extent of signs and advertising should not obstruct scenic views.
- G. Repetitious signage information on the same building frontage should be avoided.

1107.03. Sign Color

The City of Sedona has long placed a strong emphasis on building design and aesthetics, including regulations of color to ensure the built environment blends into the surrounding natural environment. In order to ensure the signs adhere to this same standard, sign colors are regulated in a similar way to building colors.

- A. Sign colors shall provide sufficient contrast to be legible, yet be subdued enough to blend with the natural landscape and/or surrounding structures.
- B. Background colors shall be limited to no more than three on a single sign.

Too many colors overwhelm the viewer's ability to process fast what the sign is communicating. Limit use of accent colors to increase legibility.

- C. The background area of a sign, exclusive of any letters, words, or symbols, shall comply with the exterior color requirements of LDC 904.01 (Exterior Color Requirements)¹, except as noted below.
 - 1. Not more than 10% of the sign background area shall exceed these color requirements.
 - 2. Natural materials including, but not limited to, rock, natural wood, tile, and brick, which do not comply with these color requirements, may be considered on a case-by-case basis by the Director.
- D. Text colors are not subject to the same color restrictions as background colors, but should provide sufficient contrast. Bright and glossy or fluorescent colors and reflective surfaces are prohibited.
- E. Sign colors shall relate to and complement the materials or color scheme of the buildings, including accent and trim colors.
- F. Signs may be painted directly on building facades. The Director shall review such requests on a case-by-case basis and make a determination based on a review of whether the proposed sign interferes with the architectural integrity of the building.

1107.04. Sign Materials

- A. Materials shall be selected with consideration for the architectural design of the building's facade. Sign materials shall complement the architecture and materials of the structure.
- B. Acceptable sign materials include:
 - 1. Wood (carved, sandblasted, etched, properly sealed and painted or stained)
 - 2. Red rock and river rock
 - 3. Tile (painted, sealed, inlaid tiles)
 - 4. Metal, including rusted metal (formed, etched, cast, engraved, and properly primed or factory coated to protect against erosion).
 - 5. Stucco, when used to match an existing building onsite.
 - 6. High density sign foam, when designed to successfully imitate another acceptable sign material
 - 7. Decorative iron or wood brackets are preferred for sign hardware support
 - 8. Requests to use alternative materials may be approved on a case-by-case basis by the Director
- C. Signs with Relief.
 - 1. Where signs with relief are proposed, only 85% of the area of the sign that incorporates relief shall count against the allowable sign area.

¹ LDC 904.01 Exterior Color Requirements.

A. The color contrast of structures with the natural dark green of the vegetation, and rust reds of the red rocks and soils, is a concern with respect to reducing visual impacts of the built environment and trying to blend it with the natural environment. Structures, walls, garage doors, roofs (including flat roofs) and fences shall blend with the surrounding natural environment without calling undue attention to the development, and materials or colors used shall have a light reflectance value (LRV) not exceeding 38% (Munsell value 7).

B. Exterior paint and material colors shall not exceed values and chromas as set forth below, and as indicated in the Munsell Book of Color on file in the Community Development Department. (The Munsell Book of Color is a system that describes color in terms of 3 standardized attributes: hue, value (lightness/darkness) and chroma (intensity). Numerical values define each color attribute, and the colors are arranged in the book in equal visual steps for each attribute.) Bright and glossy or fluorescent colors are prohibited. To determine if a particular color is acceptable, the applicant may take the desired color chip (available at paint stores) to the Department for comparison with the Munsell Book of Color.

1. In Munsell hues BG (Blue-Green), B (Blue), PB (Purple-Blue), P (Purple), and RP (Red-Purple); the maximum chroma allowed is "2," unless values of "5" (LRV 20%) or less are proposed, in which case the maximum chroma may be increased to "4."

2. In all other Munsell hues, the maximum chroma allowed is "2," unless a value of "6" (LRV 28%) or less is proposed, in which case the maximum chroma allowed is "4." Further, when a value of "5" (LRV 20%) or less is proposed, the maximum chroma may be increased to "6."

1107.05. Sign Illumination

Sign illumination is necessary to ensure businesses can be found when open after dark. However, as a Dark Sky Community, Sedona seeks to limit outdoor lighting to only what is necessary and to minimize light pollution. The following illumination standards seek to achieve a balance between providing sufficient sign lighting while ensuring maintenance of the dark skies.

- A. Illumination is only permitted on permanent signs in Commercial districts. Temporary signs and signs in Residential districts cannot be illuminated, unless approved as a part of a Master Sign Plan.
- B. The intensity of sign lighting shall not exceed that necessary to illuminate and make legible a sign from the adjacent travel way or closest right-of-way; and the illumination of a sign shall not be obtrusive to the surrounding area as determined by the Director.
- C. Signs should only be illuminated if the existing ambient light (such as from street lights or from interior lighting from a building) is not sufficient to light the sign.
- D. When illumination is used, the light shall be contained to the sign and no light shall spill over.
- E. Illumination for signs shall conform to all provisions of LDC 911, Outdoor lighting. Sign lighting shall be treated as Class 1 lighting and shall conform to the lamp, shielding, and time restrictions and shall count towards the lumen cap for the property.
- F. Sign illumination shall be limited to a maximum of two (2) different colors.
- G. External Illumination
 1. Fixtures chosen for external illumination shall be architecturally compatible with the building to which they are attached.
 2. Externally lit signs shall be illuminated only with steady, stationary, shielded light sources directed solely onto the sign without causing glare.
 3. External lighting fixtures shall be fully shielded and directed down.
 4. Ground mounted uplighting may be used when it can be demonstrated that no light will spill off of the sign face.
- H. Internal Illumination
 1. Internally illuminated signs are prohibited except as permitted below:
 - a. Individual halo-lit letters with solid opaque faces that do not permit any light to come through the face, which are silhouetted against a softly illuminated wall (see Illustration 11-1);
 - b. Metal-faced box signs with cut-out letters and soft-glow lighting sources (see Illustration 11-3).
- I. Prohibited Illumination Methods
 1. Light bulbs or lighting tubes used for illuminating a sign shall not be visible from adjacent public rights-of-way or residential properties
 2. The fixtures used to illuminate signs shall not be directed toward nearby residential properties.
 3. Other than one sign per business, with a maximum of 2 square feet, digital or electronically lit messages of any kind, or signs having the same effect, are prohibited.
 4. Blinking, rotating, flashing, hanging, or reflecting lights are prohibited.
 5. Visible raceways and transformers for individual letters are prohibited.

1108. Exempt Signs

Subject to the conditions and limitations specified below, the following signs or sign devices are exempted from the permit process; provided, that they are not prohibited by LDC 1114, Prohibited signs:

1108.01. Bumper Stickers. Bumper stickers or similar expressions of noncommercial speech affixed to motor vehicles.

1108.02. Event Posters and Announcements. Posters, flyers and announcements promoting events may be displayed, but shall not contain advertisements for products or services not associated with the event. Displays of event announcements shall not exceed 1 poster, a maximum size of 11 inches by 17 inches, per business, and shall not be placed on the exterior of a building or structure.

1108.03. Cornerstones. Cornerstones and the like, when carved into stone, concrete, bronze or other permanent material and made an integral part of a building or structure. Cornerstones are not to exceed 4 square feet.

1108.04. Flags. The flag, pennant or insignia of any nation, organization of nations, state, province, county, city, any religious, civic or fraternal organization, or educational institution. A temporary sign permit shall be required when such are used in connection with a commercial promotion or as an advertising device (LDC 1111(D), Promotional Signs). Flagpoles shall not exceed maximum height regulations as set forth in LDC 903.10.

1108.05. Governmental signs. Any sign, posting, notice or similar signs placed, installed or required by law by a city, county, or a federal or state governmental agency in carrying out its responsibility to protect the public health, safety, and welfare, including, but not limited to, the following:

- A. Emergency and warning signs necessary for public safety or civil defense;
- B. Traffic signs erected and maintained by an authorized public agency;
- C. Signs required to be displayed by law;
- D. Signs directing the public to points of interest; and
- E. Signs showing the location of public facilities.

1108.06. Historic Plaques. Historic plaques erected or provided by the city designating an area of historical significance.

1108.07. Information Signs. Signs on commercial properties containing no advertising or business identification; limited to a maximum of 2 square feet per business entrance.

1108.08. Display Boxes. Display boxes of up to 2 square feet are allowed for restaurants, bars and lounges. Display Boxes may be illuminated with fully shielded fixtures. A permit shall be obtained for display boxes larger than 2 square feet, and the area in excess of the permitted 2 square feet shall be counted against the total allowable sign area for the business.

1108.09. Official Notices. Official government notices and notices posted by government officers or employees in the performance of their official duties; and government signs to control traffic, provide information, identify streets, warn of danger, or perform other regulatory purposes.

1108.10. On-Site Directional Signs. One (1) directional signs per property or development site, no more than 3 feet in height and 4 square feet in area, located outside of the front and street side yard setbacks, to aid in traffic circulation and wayfinding within a developed site. Additional on-site directional signs may be permitted through the approval of a Master Sign Plan.

1108.11. Outline Lighting. Outline lighting and decorative strings of lights are authorized without a permit only from Thanksgiving to the following January 15. After January 15, lighting in residential areas must be turned off, and in commercial areas, it must be turned off and removed from buildings and

structures. Such lighting shall be installed in a way that does not create a public nuisance or hazard.

1108.12. Political Signs.

- A. The City encourages political signs to be placed in a way that limits the negative aesthetic affects of numerous large political signs throughout the city and serves to fulfill the City's vision of enhancing its natural beauty.
- B. Political Signs are permitted in compliance with ARS §16-1019.

1108.13. Residential Nameplates, Street Address or Combination. One nameplate sign showing the name of the occupant of a residence; the occupant's profession, occupation, or title; or the address of the dwelling is allowed. The sign shall contain no advertising copy and shall not exceed 2 square feet in area.

1108.14. Seasonal Decorations. Temporary, noncommercial decorations or displays, when such are clearly incidental to, and are customarily or commonly associated with, any national, local or religious celebration; provided, that such decorations or displays are maintained in an attractive condition and do not constitute a fire hazard.

1108.15. Signs Authorized by Law. Signs required or specifically authorized for a public purpose by any law, statute or ordinance; provided, however, that no such sign shall be placed in a public right-of-way unless specifically required or authorized by law, statute or ordinance, and, except for warning signs or barricades of a temporary nature, such signs shall be permanently affixed to the ground, a building or other structure. Such signs shall not exceed the minimum number required to accomplish the purpose.

1108.16. Signs not Readable from the Public Right-of-Way

- A. Signs or displays located entirely inside of a building and not visible from the building's exterior;
- B. Signs intended to be readable from within a parking area but not readable beyond the boundaries of the lot or parcel upon which they are located or from any public right-of-way; and
- C. Signs located within City Recreation Facilities.

1108.17. Signs on Vehicles. Signs displayed on motor vehicles or trailers which are being operated or stored in the normal course of business, such as signs indicating the name of the owner or business which are located on delivery trucks, trailers and the like. Business vehicles shall be parked in an assigned parking space which is not immediately adjacent to a street frontage.

1108.18. Street Address Signs. Each property must display its legally assigned street number in accordance with SCC 12.20.070 and applicable Fire Code requirements. Legally assigned street address numbers must be incorporated into a property's freestanding sign, clearly displayed on the building, and be of a contrasting color with the background to which they are attached. Letters or numbers shall have a maximum height of 150% of the required minimum height, as set forth in the City Code and the Fire Code.

1108.19. Symbols. Nonverbal symbols attached to a place of religious worship.

- A. Symbols must be stationary and unlighted.
- B. One symbol shall be permitted per street frontage per lot.
- C. Symbols shall not exceed 16 square feet in area and 6 feet in height.

1108.20. Temporary signs on properties offered for sale are permitted on-site as follows:

- A. All Residential Zones
 - 1. One sign per property is permitted. Signs must be nonilluminated, constructed of durable materials, placed only on the property for sale, rent, or lease, be no more than six feet in

height, and be no larger than six square feet in area.

2. One sign not to exceed 3 feet in height and 6 square feet may be located on each lot while the open house is occurring and manned by the real estate agent or an authorized representative;

B. All Commercial and Nonresidential Zones.

1. One sign per street frontage is permitted. Signs must be nonilluminated, constructed of durable materials, placed only on the property for sale, rent, or lease, be no more than six feet in height, and be no larger than 12 square feet in area

C. All signs shall be removed within 15 days from the date of sale, lease or rental.

1108.21. Warning Signs. Temporary or permanent signs erected by the city, public utility companies or construction companies to warn of danger or hazardous conditions, including signs indicating the presence of underground cables, gas lines or similar devices.

1108.22. Window Display. Merchandise or models of products or services which are incorporated as an integral part of an indoor window display.

1108.23. Window Signs. Window signs covering no more than 10% of a window.

1108.24. Works of art, including murals, which do not advertise a product or business and which have been approved by the Director;

1109. Permanent Signs (Commercial Districts)

The following regulations apply to signs within Commercial Zoning Districts within the City of Sedona. These include the following zones: CN (Neighborhood Commercial), OP (Office Professional), C-1 (General Commercial), C-2 (General Commercial), C-3 (Heavy Commercial/Light Manufacturing), RC (Resort Commercial), and L (Lodging). In addition, properties within the PD (Planned Development) District with commercial uses would be included in this category.

For new and remodeled shopping centers, a comprehensive sign program for all signs in the center shall be developed. If a property has an approved Master Sign Plan or a sign plan approved in compliance with this Article, that plan shall take precedence over these regulations.

For sign computation purposes, the following shall be considered a single property or development site: (1) A commercial condominium building or complex (2) Businesses associated by a common agreement or ownership with common parking facilities or housed in 1 structure.

When 2 or more tenant occupy 1 building space with a common entrance, they shall be considered 1 tenant for sign computation purposes.

1109.01. Business Tenant Signs

Business tenant signs are permitted per business and sign area accumulates for each separate business on a property.

For properties or development sites with a single tenant, tenant signage with a maximum area of 25 square feet is permitted. On properties exceeding a 60-foot lot frontage on a single street, this area may be increased in area by 1 square foot for each 3 lineal feet of building frontage in excess of 60 feet, up to a maximum of 50 square feet.

For properties or development sites with 2 or more tenants, tenant signage with a maximum area of 15 square feet is permitted for each tenant with a primary entrance on a street, parking lot, courtyard or mall. For tenants exceeding a 36-foot building frontage, the sign area may be increased in area by 1 square foot for each 3 lineal feet of building frontage in excess of 36 feet, up to a maximum of 50 square feet.

Business tenant signs shall be located on a wall of the building which contains the business. Business tenant signs are prohibited within the front and street side yard setbacks.

The following signs are considered business tenant signs. The cumulative area of all signs used by the business may not exceed the limits as set forth above.

A. Building Signs

1. Building signs shall not project from the surface upon which they are attached more than that is required for construction purposes and in no case more than 12 inches.
2. New building signs for individual businesses in a shopping center shall be placed consistent with the location of signs for other businesses in the center. This will establish visual continuity among storefronts and create a unified appearance for the center.

B. Projecting and Suspended Signs

1. Hanging signs should be simple in design and not used to compete with existing signage at the site, such as building signs.
2. On a multi-storied building, the sign shall be suspended between the bottom of the second story windowsills and the top of the doors or windows of the first story. On a one-story building, the top of the sign should be in line with the lowest point of the roof.
3. The 2 sides of a projecting or suspended sign must be parallel back to back, and shall not exceed 10 inches in thickness.
4. A projecting sign shall be hung at right angles to the building and shall not extend more than 4 feet from a building wall.
5. The top of the sign should be in line with whichever is the most successful application of scale, linear continuity or visibility as determined by the Director.
6. No sign shall overhang any public right-of-way (including sidewalks) without approval from the relevant organization having jurisdiction over the right-of-way. Such signs shall be covered by a public liability insurance policy which names the city as the insured party.
7. Sign supports and brackets shall be compatible with the design and scale of the building. Decorative metal and wood brackets are encouraged.
8. To avoid damaging brick and stonework; brackets shall be designed to be bolted into masonry joints.
9. Internal illumination of projecting signs is prohibited.

C. Awning Signs

1. The text of awning signs shall be located only on the valance portion of the awning. Letter color shall be contrasting with the awning and the building color scheme.
2. The shape, design, and color of awnings should coordinate with, and not dominate, the architectural style of the building. Where multiple awnings are used on a building, the design and color of the sign awnings shall be consistent with all other awnings.
3. Backlit and internally illuminated awnings are prohibited.
4. Only permanent signs that are an integral part of the canopy or awning shall be used.

D. Window Signs

1. Interior signs 24 inches or less from the window are considered as exterior advertising signs.
2. Window signs (permanent or temporary) shall not cover more than 25% of the area of each

window. Signs that cover 10% or less of the window do not count towards the total business sign allowance.

3. Window signs shall be primarily individual letters intended to be viewed from outside. Glass-mounted graphics may be applied as long as they comply with the 25% limitation.
4. Window tinting is considered a window sign and is subject to the 25% limitation.
5. Electronic or LED Monitors (such as TV Screens) shall not be used as a window sign.

1109.02. Site signs

Site signs are permitted for each individual parcel or group of parcels that the owners have declared to be a development site for sign purposes. Sign area accumulates for the parcel or development site, regardless of the number of businesses on that parcel.

The following signs are considered site signs, are allotted per property, and shall not count against the total allowable signage for any one business. These signs are permitted at the discretion of the property owner and/or property management company.

A. Monument (Freestanding) Signs

1. There shall be no more than 1 monument sign per street frontage per site and a maximum of 2 monument signs per site.
2. A landscaped area is required around the base of all monument signs. The landscape area must be a minimum of 1 square foot for each 1 square foot of sign area. Landscaping should be designed to ensure the long-term readability of the sign.
3. Monument signs are permitted a maximum area of 25 square feet and maximum height of 8 feet. On properties which exceed a 300-foot lot frontage on a single street, one of the following two options may be applied:
 - a. The maximum sign area may be increased to 35 square feet.
 - b. A second monument sign on a single frontage may be permitted provided there is a minimum of 250 feet separation between the two signs. If this option is used, the maximum of 2 monument signs per property does not change.
4. The sign base shall have a minimum aggregate width of 75% of the width of the sign cabinet or face.
5. Monument signs shall be placed perpendicular to the street.
6. Monument signs shall incorporate architectural elements, details, and articulation consistent with the primary building on the site.
7. Each monument sign shall incorporate the legally assigned address number.
8. For properties where a monument sign is not used, the Director may allow additional building signage for center identification in lieu of a monument sign, subject to the same maximum area as the monument sign.

B. Directional Signs.

1. There shall be no more than 1 directional sign per driveway entrance to a lot, parcel or multiple use lot or parcel.
2. No directional sign shall be greater than 6 square feet in area or have height greater than 3 feet above grade.
3. No more than 25% of the area of a directional sign may be devoted to business identification.

4. Directional signs shall not be permitted at a driveway entrance where there is a separate freestanding sign, but directional signage may be incorporated into the freestanding sign. Directional information incorporated into a freestanding sign shall not count towards the total allowable sign area for the freestanding sign.

C. Directory Signs.

1. Directory signs may be provided for individual businesses or occupants of the same building or building complex, in accordance with the following:
2. The display board shall be of an integrated and uniform design;
3. One (1) directory sign is permitted at each pedestrian entrance to the building complex, with a maximum of 2 per development site.
4. Directory signs may be wall-mounted or freestanding signs.
5. Such signs shall not exceed 6 feet in height;
6. Each tenant business is permitted a maximum of 0.5 square feet on a directory sign and the building identification shall not to exceed 2 square feet. The total area of any directory sign shall not exceed 15 square feet;

D. Service (Gas) Station Signs.

1. Each service station or other business selling automotive fuel is permitted 1 price sign for each street frontage not to exceed 8 square feet in area and 8 feet in height.
2. Service Station signs shall be incorporated into the main freestanding sign but shall not count towards the maximum allowable square footage when used solely for gas pricing.
3. "Self/full serve" signs not to exceed 3 square feet in area each are permitted on each end of each pump island.
4. All other signs are prohibited, including but not limited to, signs affixed to the top or sides of an operable fuel dispensing pump or trash containers.

E. Drive-Thru Board Signs

1. Board Signs shall maintain a minimum setback of 25 feet from front and street side property lines
2. Maximum of 30 square feet and 6 feet in height.
3. Internal illumination of board signs is permitted.
4. Shall be designed with a solid base. The design, materials, and finish of the base shall match the building.
5. Screening of board signs from the public right-of-way is required through use of the building, walls, fences, or landscaping, subject to review and approval by the Director.
6. A maximum of 1 sign per drive thru restaurant is permitted.
7. If speakers are used, they shall be subject to the City of Sedona's noise ordinance.

F. Signs for vacation timeshare solicitors, vacation club solicitors, timeshare sellers and vacation club membership sellers.

1. Within the city of Sedona, all signage at all locations engaged in the commercial solicitation of vacation club membership plans, timeshares or timeshare plans, including, but not limited to, off-premises canvassing (OPC) locations, kiosks, or podiums located adjacent to public rights-of-way, shall comply with the requirements of Sedona City Code Chapter 8.15.023.

1110. Permanent Signs (State Route 89A Character District)

As Uptown Sedona is characterized as a predominately pedestrian area, it is recognized that different sign standards are needed. For properties that have been identified in the Sedona Main Street and Character Districts Design Manual as being part of the State Route 89A Character District, the design standards applicable to Commercial signs will apply with the following exceptions:

1110.01. Business Tenant Signs

For properties or development sites with a single tenant, tenant signage with a maximum area of 12.5 square feet is permitted. On properties exceeding a 30-foot lot frontage on a single street, this area may be increased in area by 1 square foot for each 3 lineal feet of building frontage in excess of 30 feet, up to a maximum of 25 square feet.

For properties or development sites with 2 or more tenants, tenant signage with a maximum area of 9 square feet is permitted for each tenant with a primary entrance on a street, parking lot, courtyard or mall. For tenants exceeding a 18-foot building frontage, the sign area may be increased in area by 1 square foot for each 3 lineal feet of building frontage in excess of 18 feet, up to a maximum of 25 square feet.

A. Under Canopy Signs.

1. Where a building sign is not visible to pedestrian traffic in a covered walkway, an under-canopy identification sign of up to 3 square feet is allowed. Square footage for an under canopy sign does not count towards the maximum area for the business sign.
2. Where the building design does not permit an under canopy sign with an 8 foot clearance, the Director may approve a minimum clearance of 7 feet.

1110.02. Site Signs

A. Monument (Freestanding) Signs

1. On properties with less than 100 feet of street frontage, monument signs are permitted a maximum area of 18 square feet and maximum height of 5 feet.

1111. Permanent Signs (Residential Districts)

The following regulations shall apply to the specific permanent signs as indicated for residential districts and subject to the issuance of a sign permit.

A. Directional Signs.

1. Directional signs are prohibited for single-family residential uses.
2. There shall be no more than 1 directional sign per driveway entrance to a lot, parcel or multiple use lot or parcel.
3. No directional sign shall be greater than 6 square feet in area and have height greater than 3 feet above grade.
4. Directional signs shall not be permitted at a driveway entrance where there is an identification sign, but directional signage may be incorporated into the identification sign. Directional information incorporated into a identification sign shall not count towards the total allowable sign area for the identification sign.

B. Identification Signs.

1. Identification signs are prohibited for single-family residential uses.
2. One identification sign per property is permitted. However, if the property exceeds 2 acres in area and has frontage along more than 1 public right-of-way, a maximum of 2 signs are

permitted, with no more than 1 sign adjacent to each street frontage.

3. Each sign shall not exceed 12 square feet in area per face and may be double-faced.
4. An identification sign may be wall-mounted or freestanding. When placed against a wall, the sign shall not extend more than 6 feet above grade at the base of the wall. The height of a freestanding sign shall not exceed 3 feet above grade.

C. Subdivision Entrance Signs.

1. Not more than 1 permanent subdivision identification signs is permitted for each primary entrance to a recorded subdivision.
2. Each sign shall not exceed 12 square feet in area per face and may be double-faced.
3. A subdivision entrance sign may be wall-mounted or freestanding. When placed against a wall, the sign shall not extend more than 6 feet above grade at the base of the wall. The height of a freestanding sign shall not exceed 3 feet above grade.
4. Each subdivision entrance sign shall be located in a landscaped area of at least 2.5 square feet for each 1 square foot of sign area. The landscaped area consisting of shrubs and/or perennial ground cover plants with a maximum spacing of 3 feet on center is required around the base of subdivision entrance signs. Landscaping should be designed to ensure the long-term readability of the sign.
5. Subdivisions with entrances off of a Major Arterial Roadway may apply for a Master Sign Plan to allow additional or larger signs to ensure readability from the adjacent roadway.

1112. Permanent Signs (Special Use, Community Facilities, Transitional Districts)

1112.01. Nonresidential Uses. Signage for nonresidential uses within Special Use, Community Facilities, Transitional districts is subject to the provisions of LDC 1109, with the following exceptions:

- A. Directional Signs. Directional signs are limited to a maximum area of 4 square feet. All other provisions apply.
- B. Directory Signs. Directory signs are limited to a maximum area of 10 square feet. All other provisions apply.
- C. Monument (Freestanding) Signs. Monument signs are limited to a maximum area of 12 square feet and a maximum height of 5 feet. No more than one monument sign is permitted per property. All other provisions apply.

1112.02. Residential Uses. Signage for residential uses within Transitional and Special Use districts is subject to the provisions of LDC 1110.

1112.03. Master Sign Plan. The above requirements may be modified through approval of a Master Sign Plan.

1113. Permanent Signs (Parks and Recreation Uses)

The following regulations shall apply to the specific permanent signs as indicated public parks and recreation uses and subject to the issuance of a sign permit.

1113.01. Signage necessary for the safe and orderly operation of the parks and recreation facilities is permitted. This could include, but is not limited to, facility identification, posting of park rules, directional signs, and hours of operation. Signs over 3 feet in height or signs visible from off-site require a permit.

1113.02. Master Sign Plan. A master sign plan may be approved for public parks and recreation facilities.

1114. Temporary Signs

1114.01. Standards for Temporary Signs

- A. Design standards related to color, font styles, and items of information are not applicable for temporary signs.
- B. Sign Area. Sign Area shall include the entire sign, including background and text.
- C. Sign Location. Signs shall be located so as not to create a hazard for pedestrian or vehicular traffic.
- D. Sign Installation. Temporary signs shall be installed in such a way that ensures they do not create a safety hazard.
- E. Sign Illumination. Illumination of temporary signs is prohibited.

1114.02. The following regulations shall apply to the specific temporary signs as indicated and subject to the issuance of a temporary sign permit.

A. Temporary Directional Signs.

- 1. Temporary, nonilluminated directional signs may be permitted for special events in accordance with LDC 407, Temporary uses.
- 2. Signs may be placed 1 day prior to the event and must be removed 1 day after the event.
- 3. The maximum area of a temporary directional sign shall not exceed 6 square feet and maximum height shall not exceed 3 feet.
- 4. Temporary Directional Signs shall be used for wayfinding purposes. No advertising is permitted.

B. Temporary Business Signs.

- 1. Temporary business signs are allowed only in commercial districts.
- 2. All businesses shall be permitted to display temporary signs for a maximum of 25 days per year for a minimum of 5 consecutive days at a time.
- 3. New businesses shall be permitted to display one (1) temporary sign for a maximum of 30 days. This 30 day period shall not start prior to issuance of a Tenant Occupancy permit and shall not extend beyond installation of the permanent sign for the business or 30 days after issuance of a Certificate of Occupancy, whichever is sooner.
- 4. Temporary business signs shall not exceed 20 square feet in area.
- 5. Temporary signs shall be attached to the building of the business of which they are advertising or may be freestanding if the overall height does not exceed 8 feet.
- 6. The following signs may be permitted through a Temporary Sign Permit:
 - a. Flag-mounted signs;
 - b. Banners;
 - c. Pennants;
 - d. Streamers;
 - e. Balloons;
 - f. Inflatable signs;
 - g. Costumed characters;
 - h. Sandwich board or A-frame signs.

C. Site Development Signs.

1. One site development sign may be allowed for each development project.
2. A site development sign may be displayed upon the issuance of a building permit for the project and shall be removed prior to the issuance of a Certificate of Occupancy or the abandonment of the project, whichever shall first occur.
3. Any site development sign shall not exceed 32 square feet in area and shall not exceed 8 feet in height.

1115. Prohibited Signs

1115.01. Signs that are not specifically authorized are expressly prohibited. Prohibited signs include, but are not limited to, the following:

- A. Pole Signs;
- B. Internally Illuminated Cabinet Signs;
- C. Plastic signs are prohibited except as otherwise provided;
- D. Flag-mounted signs, except as otherwise provided;
- E. Signs having intermittent or flashing illumination, animated or moving parts, rotating or simulating movement by any means of fluttering, spinning or reflection devices or that emit sound, except as otherwise permitted;
- F. Electronic message signs;
- G. Freestanding changeable copy signs, except as otherwise provided;
- H. Banners, pennants, streamers, balloons, flags, search lights, strobe lights, beacons, inflatable signs, and costumed characters, except as otherwise provided;
- I. Service or bay entrance sign banners or advertising;
- J. Sign imitating an official traffic control sign;
- K. Signs that in any way obstruct the view of, be susceptible to, or be confused with an official traffic sign, signal or device or any other official sign, as defined by the Director;
- L. Signs that in any way imitate any official sign, including, but not limited to, color and font style, as defined by the Director;
- M. Signs that use words, phrases, symbols, or characters implying the existence of danger or the need for stopping or maneuvering of a motor vehicle, or create in any way an unsafe distraction for motor vehicle operators;
- N. Signs that obstruct the view of motor vehicle operators, bicyclists and pedestrians entering a public roadway from any parking area, service drive, private driveway, alley or other thoroughfare;
- O. Signs that obstruct free ingress to or egress from required door, window, fire escape or other required exit;
- P. Any sign placed on city-owned property, except as otherwise provided;
- Q. Off-premises signs;
- R. Signs attached to any fences, utility poles, trees, shrubs, rocks or other natural objects, unless specifically included in the design and are approved by the Director;
- S. Signs constituting a hazard to safety, health or public welfare;
- T. Neon signs where the light source is visible from the public right-of-way, except as otherwise provided

- U. Roof-mounted signs;
- V. Signs painted on or attached to vehicles or fleet of vehicles which are parked conspicuously on the public right-of-way or on private premises for the purpose of circumventing the intention of these regulations;
- W. Sandwich board, A-frame, portable and other similar types of signs, except as otherwise provided;
- X. Signs with reflective surfaces;
- Y. Temporary signs, except as otherwise provided;
- Z. Walking signs, including costumed characters used for commercial advertising purposes, which are visible from any public right-of-way, any adjacent building, or any public area, except as otherwise provided;
- AA. Signs with any statement, symbol or picture of an obscene nature;
- AB. Single support signs;
- AC. Signs in districts designated "Open Space and Recreation" are prohibited, except as otherwise provided;
- AD. Exposed raceways and conduit.