

T3-02 HR0300

SLOPE = 0.70%

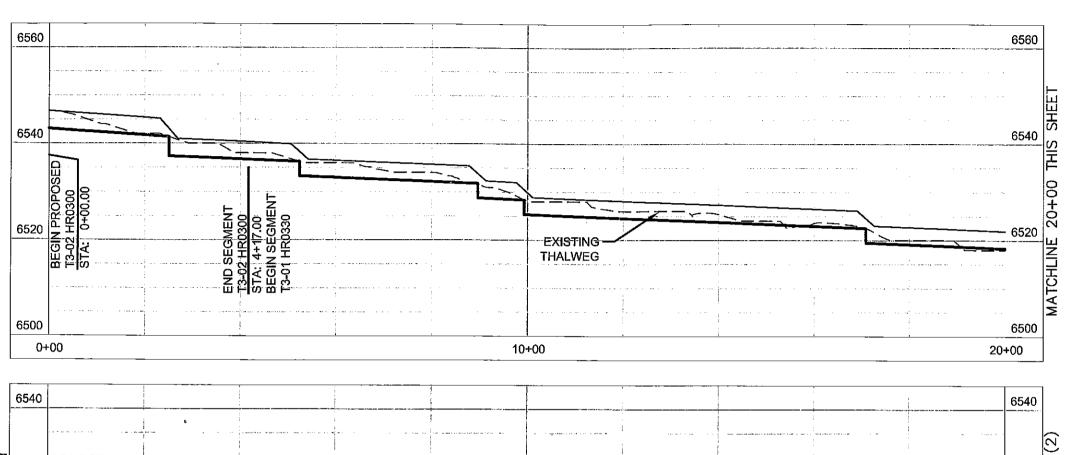
(2) 4' DROPS

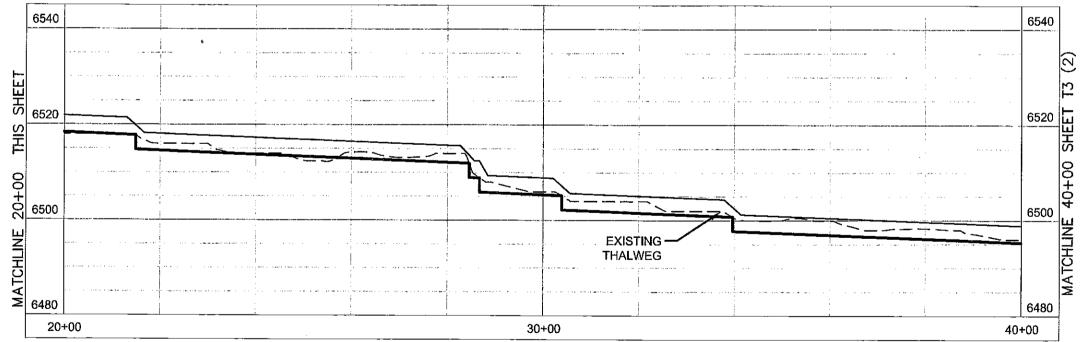
T3-01 HR0330

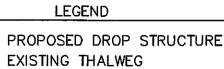
SLOPE = 0.40%

(8) 4' DROPS

## PROFILE TRIBUTARY 3 (T3)







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URS 9960 Federal Drive, Suite 300 Calerade Springs, CO. 80921 (719) 531-0007 For (719) 531-0007

Designed by: KAP Detailed by: DRM Checked by:

HAEGLER RANCH SUB-REGIONAL DETENTION ALTERNATIVE CONCEPTUAL PROFILES

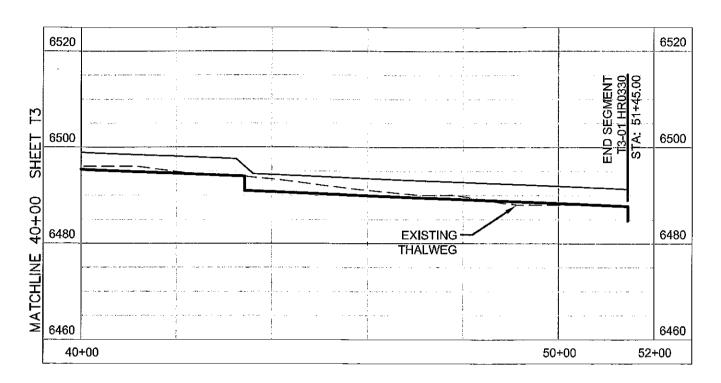
HYDRAULIC GRADE LINE

T3-01 HR0330

SLOPE = 0.40%

(8) 4' DROPS

## PROFILE TRIBUTARY 3 (T3)



LEGEND

PROPOSED DROP STRUCTURE

---- EXISTING THALWEG

- HYDRAULIC GRADE LINE

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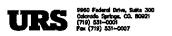
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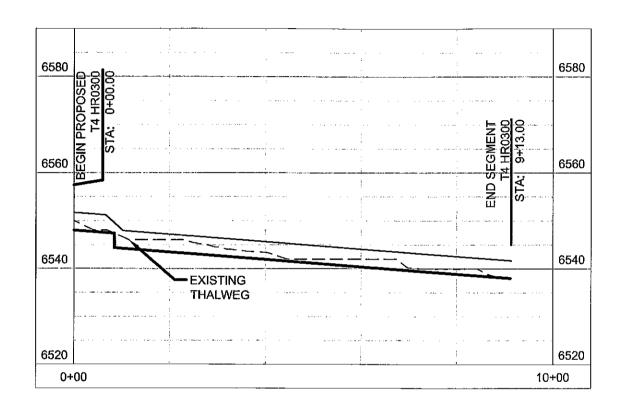
Sheet Number T3 (2)

T4 HR0300

SLOPE = 0.70%

(2) 3' DROPS

## PROFILE TRIBUTARY 4 (T4)



#### LEGEND

PROPOSED DROP STRUCTURE

-- EXISTING THALWEG

- HYDRAULIC GRADE LINE

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BI PARTMENT OF TRANSPORTATION

URS 9900 Federal Drive, Suite 300 Colorado Springa, CO. 80921 (719) 531-0001 Fax (719) 531-0007

Designed by: KAP

Detailed by: DRM

Checked by:

**Profiles** 

HAEGLER RANCH SUB-REGIONAL DETENTION ALTERNATIVE CONCEPTUAL PROFILES

Sheet Number

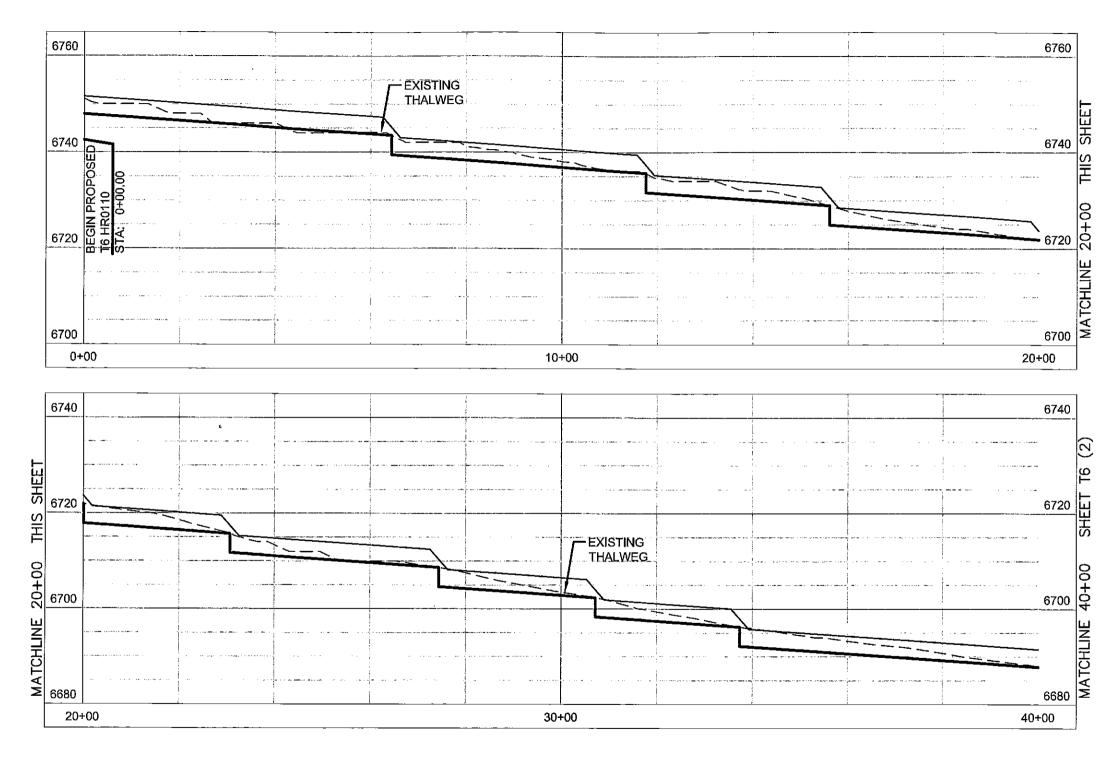
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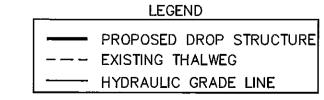
T6 HR0110

SLOPE = 0.70%

(9) 4' DROPS

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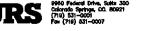




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HAEGLER RANCH SUB-REGIONAL DETENTION ALTERNATIVE CONCEPTUAL PROFILES Sheet Number T6

T6 HR0110 PROFILE TRIBUTARY 6 (T6) SLOPE = 0.70%(9) 4' DROPS 6700 6700 T6 HR0120 SLOPE = 0.90%EXISTING (6) 4' DROPS 6680 6680 THALWEG SHEET 00+04 6660 MATCHLINE 6640 MATCHLINE 40+00 50+00 60+00 6680 6680 SHEET THIS EXISTING THALWEG 00+09 6640 6640 WATCHLINE 6620 6620 60+00 70+00 LEGEND PROPOSED DROP STRUCTURE EXISTING THALWEG HYDRAULIC GRADE LINE Computer File Information Index of Revisions **Profiles** Full Path: P:\21711039\CAD\PLANSHTS HAEGLER RANCH SUB-REGIONAL DETENTION ALTERNATIVE CONCEPTUAL PROFILES Designed by: KAP URS 9960 Federal Drive, Suite 30 Colorado Saring, CO. 20921 (719) 231-0007 Fox (719) 231-0007 Drawing File Name:T PROFILE SHEETS 6\_PROPOSED.DWG Detailed by: DRM T6 (2) Acad. Ver. 2006 Scale: 1"=20' Units: Feet Checked by:

### **Appendix E CONTACTS**

The following is a mailing list of those involved in the preparation and review of the Haegler Ranch DBPS

U. S. Army Corps of Engineers Van Truan 200 South Santa Fe Ave. #301 Pueblo, CO 81003 719-543-6915

John Valentine Soils Conservation District 1826 E. Platte Avenue Suite 114 Colorado Springs, CO 80909 719-473-7104

Colorado Department of Transportation 16 E. Arvada Street Colorado Springs, CO 80906 719-634-2323

Colorado Division of Wildlife 2126 N. Weber Street Colorado Springs, CO 80907 719-227-5283

Colorado Division of Wildlife Shaun Deeney 4255 Sinton Road Colorado Springs, CO 80307 719-227-5200

Regional Floodplain Administrator 101 W. Costilla Colorado Springs, CO 80903 719-327-2906 Andre Brackin El Paso Department of Transportation 3460 N. Marksheffel Road Colorado Springs, CO 80922 719-520-6845

Falcon Homeowners' Association 7685 Mustang Rd Colorado Springs, CO 80908 719-495-4213 This page intentionally left blank.

Appendix F HAEGLER DOW COMMENTS

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#### STATE OF COLORADO

Bill Ritter, Jr., Governor **DEPARTMENT OF NATURAL RESOURCES** 

### **DIVISION OF WILDLIFE**

AN EQUAL OPPORTUNITY EMPLOYER

Thomas E. Remington, Director Southeast Region 4255 Sinton Road Colorado Springs, Colorado 80907

Telephone: (719)227-5200

December 11th, 2008

Joel Jones **URS** Corporation 8181 East Tufts Avenue Denver, CO 80237

Re: Haegler Ranch Drainage Basin Planning Study Job Number: 21711039

Dear Mr. Jones:

The Division of Wildlife (DOW) has reviewed the preliminary plans for Haegler Ranch Drainage Basin generally located near Judge Orr Road and Eastonville Road to Peyton Highway and McDaniels Road in El Paso County. DOW staff offers the following comments for your consideration.

The local vegetative community is considered rangeland and is comprised of short grass prairie species and deciduous trees with wetland areas. This habitat type will sustain numerous wildlife species including deer, pronghorn, elk, coyote, red fox, swift fox, raptors, ground nesting birds, migratory waterfowl and numerous small mammals.

Haegler Ranch and Gieck Ranch Basin are important corridors and habitat for fish and wildlife. The environmental analysis portion of your basin planning study states that on-site wetlands are not a significant habitat resource within the basin. While we agree those wetlands may not be in their original state, these riparian areas still remain important for local and migratory wildlife use. At this time, it is unclear how the water detention ponds, channel design and culverts will be established in relation to the Haegler Ranch Drainage basin and future development. The DOW is concerned about the quantity and quality of runoff from the development into the Black Squirrel Creek, which is a tributary to Chico Creek prior to it flowing into the Arkansas River. The native fish community within the basin primarily consists of small bodied fishes. We would be interested in sampling for native fish on the project site within the Basin prior to work being done. We would also like to meet with the developer to discuss water flows within the Basin and evaluate potential impacts to native fishes and amphibian species. Native fish, including the Arkansas Darter (a state threatened species), are known to exist in Black Squirrel Creek and Chico Creek downstream of the proposed development. Increased flows upstream could impact Arkansas Darter populations downstream.

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DEPARTMENT OF NATURAL RESOURCES, Harris D. Sherman, Executive Director WILDLIFE COMMISSION, Robert Bray, Chair • Brad Coors, Vice Chair • Tim Glenn, Secretary Members, Dennis Buechler • Jeffrey Crawford • Dorothea Farris • Roy McAnally • Richard Ray • Robert Streeter Ex Officio Members, Harris Sherman and John Stulp



December 11, 2008 Page 2.

The DOW suggests keeping the channel width and stream sinuosity similar to the width and natural sinuosity of the existing stream. If changes to the channel are necessary to accommodate for any flow increase, DOW recommends maximizing the use of natural stream sinuosity, wetland improvements and soft engineering techniques. DOW recommends off channel detention or retention of water as much as possible to reduce water flows thus minimizing the need for channel and culvert improvements. Wildlife will likely be attracted to ponds. Ponds should not be fenced and have shallow slopes to promote aquatic and wetland vegetation growth. A gradual slope will also allow wildlife access to water regardless of water levels in the pond, and will decrease chances of entrapment.

The DOW is concerned about possible channel stabilization along the sides of the creek. DOW suggests maintaining the natural floodplain to promote riparian vegetation growth, channel stability, and natural stream sinuosity. If materials are used to make flat, steep, tall banks then pronghorn, deer and other animals can get trapped in the creek while retrieving water. We recommend leaving the stream in its natural state when possible. This not only benefits wildlife but makes the construction more aesthetically pleasing and less invasive.

The DOW recommends utilizing natural vegetation to control the grade. Should rip-rap be utilized we recommend non-grouted rip-rap. Vegetation and tree roots are more stable in non-grouted rip-rap. Small body fish have a difficult time moving up through large drop structures. We recommend using several drop structures with minimal drop height over fewer drop structures with a maximum drop height. We also recommend incorporating a low flow channel that would allow small bodied fishes to move through each drop structure.

The DOW is concerned about possible sedimentation in the stream during project construction and post construction. The sediment in the stream could have detrimental impacts on avian, fish and terrestrial species. We recommend placing sediment traps in areas of high sediment accumulation. This trap should be designed to allow fish species to move upstream and downstream without allowing the sediment to seep and compile downstream. The DOW recommends monitoring the sediment level in the stream for 3-5 years after the project is completed to ensure appropriate function of the sediment traps.

In reference to the roadway culverts, the DOW recommends bridges over drainages capable of seasonal flow that are likely to support native fishes and amphibians. This allows for native fish and amphibian passage, helps to maintain stream integrity, and promotes healthy wildlife permeability at road ways. Bridges will reduce wildlife mortality from vehicles by providing alternative roadway crossings. In places where culverts are used, we recommend a three sided concrete box culvert (CBC) with a natural bottom.

The DOW recommends using on-site clean fill material but if off-site fill material will be used, the DOW recommends using a clean fill material that would be conducive to growing native vegetation. Nonnative vegetation can outcompete native vegetation and become problematic. Coyote Willow is a native willow that is great at bank stabilization and in reducing erosion. A seed mixture of native grasses is also recommended to provide a good support system in the soil. The DOW also recommends adoption of a noxious weed management plan and active control of noxious weeds in disturbed areas until reclaimed vegetation has become appropriately established.

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December 11, 2008 Page 3.

The DOW is aware of the wetland areas on Haegler Ranch and we recommend leaving as many wetland areas in their natural state as possible. The DOW recommends contacting the United States Army Corps of Engineers to verify if a 404 permit is needed for the project. Should mitigation be required, DOW recommends a 1:1 mitigation on-site to replace the wetlands altered, damaged or destroyed by the project. The DOW recommends monitoring the wetland mitigation area for 3-5 years after the project is completed to ensure appropriate hydrology and adequate wetland mitigation acreage to replace those acres impacted.

Trails throughout Haegler Ranch would provide excellent opportunities for wildlife viewing. However, if trails are placed too close to areas utilized by wildlife it creates disturbances resulting in reduced wildlife viewing opportunities. The DOW recommends constructing trails on the outer edges of open space areas. This minimizes wildlife disturbance and creates increased wildlife viewing opportunities. Trails near creeks and drainage areas should cross perpendicular rather than run parallel to these critical wildlife habitat areas. Crossings should occur in areas that have the least usage by wildlife in order to have minimal impacts on wildlife.

Care should be taken to avoid the destruction of active dens and nests while constructing structures, ponds, and trails. Possible dens or nests should be monitored for species activity. The DOW is concerned about the number of trees and snags that will be removed for the development. The DOW would like to see similar tree densities on the new development. The main concern with removal of trees is that these trees may be currently occupied or historic nest sites. Please take care to avoid removal of trees with occupied nests. An active nest is any nest that is frequented or occupied by a raptor during the breeding season or which has been active in any of the five previous breeding seasons. Many raptors use alternate nests in various years; therefore, a nest may be active even if it is not occupied in a given year. We would request leaving as many native healthy trees on site as possible and replacing trees that are removed with comparable native species on a 3:1 basis. The following site recommendations from the DOW should be followed regarding raptors:

#### **DEFINITIONS**

Surface occupancy: Any physical object that is intended to remain on the landscape permanently or for a significant amount of time. Examples include houses, oil and gas wells, tanks, wind turbines, roads, tracks, etc.

Human encroachment: Any activity that brings humans in the area. Examples include facilities maintenance, boating, trail access (e.g., hiking, biking), etc.

#### **FERRUGINOUS HAWK**

Nest site: No surface occupancy (beyond what has occurred historically) within ½ mile of active nest sites. Seasonal restriction to human encroachment within ½ mile of active nest sites between February 1 and July 15. This species is especially prone to nest abandonment during incubation if disturbed.

#### PRAIRIE FALCON

Nest Site: No surface occupancy (beyond what has occurred historically) within ½ mile of active nest sites. Seasonal restriction to human encroachment within ½ mile of active nest sites between March 15 and July 15.

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#### **RED-TAILED HAWK**

**Nest Site:** No surface occupancy (beyond what has occurred historically) within 1/3 mile of active nest sites. Seasonal restriction to human encroachment within 1/3 mile of active nest sites between February 15 and July 15. Some birds have adapted to urbanization and will tolerate human habitation to within 200 yards of a nest. Development that encroaches in rural areas is likely to cause abandonment.

#### SWAINSON'S HAWK

**Nest Site:** No surface occupancy (beyond what has occurred historically) within 1/4 mile of active nest sites. Seasonal restriction to human encroachment within 1/4 mile of active nest sites between April 1 and July 15. Some birds have adapted to urbanization and will tolerate human habitation to within 100 yards of a nest.

If Black Tail Prairie Dogs are found on the site we recommend surveying for Burrowing Owls. The following site recommendations from the DOW should be followed regarding Burrowing Owls:

#### **BURROWING OWL**

Nest Site: No human encroachment within 150 feet of the nest site from March 15 through October 31. Although Burrowing Owls may not be actively nesting during this entire period, they may be present at burrows up to a month before egg laying and several months after the young have fledged. Therefore, it is recommended that efforts to eradicate prairie dogs or destroy abandoned towns not occur between March 15 and October 31 when owls may be present. The DOW would be involved with any prairie dog relocation effort through our permitting process. Since burrowing owls (a federally protected species) can occupy prairie dog towns during the spring and summer and may not be easily visible, we recommend their presence be determined with a target survey. If discovered, dirt moving should only be done from November 1 through February 28, after these birds have migrated. More detailed recommendations are available in a document entitled "Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls" which is available from the DOW

(http://wildlife.state.co.us/wildlifespecies/profiles/birds/burrowingowl.htm).

Wildlife species may utilize the streambed as a water source and/or habitat. This habitat falls within potential Preble's Meadow Jumping Mouse (PMJM) range, which is currently on both the Federal and State threatened species list. Temporary and permanent construction impacts in this area may permanently impact resident wildlife. The DOW recommends contacting the United States Fish and Wildlife Service for information regarding developing in potential PMJM habitat.

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Thank you for the opportunity to comment on this preliminary plan approval. In an effort to assist with planning with wildlife in mind, we hope that we can meet with you and the project proponent prior to any earthmoving. If you have any questions or require additional information please contact District Wildlife Manager Jeromy Huntington at 719-227-5283 or via e-mail Jeromy. Huntington@state.co.us.

Sincerely,

Shaun Deeney Area Wildlife Manager

SE Regional Office Jeromy Huntington

Appendix G FALCON SMALL AREA MASTER PLAN MEMO

Haegler Ranch Drainage Basin Planning Study

### **URS**

### Memorandum

To:

Mike Cartmell El Paso County From: Date: John Griffith April 21, 2009

Subject:

Haegler Ranch DBPS Land Use Considerations

This memo addresses the consideration given to the new Falcon/Peyton Small Area Master Plan (SAP) recommendations and compatibility with respect to the land use assumptions used in the Haegler Ranch Drainage Basin Planning Study (DBPS).

The new Falcon/Peyton Small Area Master Plan (Attachment 1) was approved on August 5, 2008. To address the question raised by the El Paso County Planning Commission on February 3, 2009, we overlaid the Haegler Ranch Drainage Basin boundary on the Falcon/Peyton Small Area Master Plan (Attachment 2). Proposed land use types are identified in the legend. The SAP encompasses most of the area in the upper portion of the basin, which is proposed for development within the 2030 planning horizon.

As of July 2005, when work on the Haegler Ranch DBPS hydrologic analysis began, approximately 14 percent of the Haegler Ranch drainage basin was developed. Much of the existing development consists of 2- to 5-acre lots and larger agricultural parcels south of US Hwy 24. Higher density residential developments such as Meridian Ranch, Santa Fe Springs, and Four Way Ranch were underway in the northwestern portions of the Haegler Ranch Basin.

The land use data for the Haegler DBPS was completed sometime during 2006. Future, fully developed conditions hydrology for the DBPS was modeled using proposed 2030 land uses obtained from El Paso County, which were based on Land Use Coverages from Colorado Springs Utilities (CSU 2005). The future land uses used in the Haegler DBPS are shown in Figure 3-3 in the report (Attachment 3). We modified this figure such that the color codes for land use types are similar to the color codes used for the SAP to make visual comparison easier (Attachment 4).

Meridian Ranch is in the north and Santa Fe Springs is in the central portion of the watershed. The area of Meridian Ranch within Haegler Ranch has high-density land uses of commercial and business, residential lots of 0.25 acres, and new paved roads with curb and gutter. Santa Fe Springs has a larger area in Haegler Ranch and a wider range of land uses including high density development such as commercial and business, residential lots of 0.125 acres, residential lots of 0.25 acres, schools, and new paved roads with curb and gutter as well as low density development such as residential large lots with 2% imperviousness, parks, and open space. The Sketch Plan for Sante Fe Springs (Attachment 5) shows these various types of proposed land use.

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### URS

Haegler Ranch DBPS Land Use Considerations April 21, 2009 Page 2

In addition to the more general land use plans received from El Paso County, URS used approved land uses in the Sketch plans of Meridian Ranch and Sante Fe Springs in the development of the DBPS hydrologic study.

The land use types used in the Haegler Ranch DBPS include more discreet categories, such as: open space, 3 categories of residential less than 2.5 acres per site, and 3 categories of residential larger than 5 acres per dwelling. The areas identified in the SAP are broader, and do not include open space. This can be seen by comparing the area being developed by Santa Fe Springs with the Haegler Ranch DBPS future land use map (Attachment 4) and the SAP (Attachment 2)

There are some differences in proposed future land uses between the 2005 plan and the current SAP, however, the DBPS is not meant to be used as a zoning document. This information is used in the DBPS for the hydrologic analysis to predict runoff rates and volumes for the purposes of stormwater facility evaluation. The identification of land uses abutting the drainageways is also useful in the identification of feasible plans for stabilization and aesthetic treatment of the basin's drainageways. It is used to assess drainage/bridge fees and to provide a guideline for drainage structures as development occurs. These land use figures are not intended to reflect the future zoning or land use policies of the County, but to document assumptions used in the engineering analysis.

In order to answer the question of whether or not the preferred alternative and conceptual design recommendations still make sense with the newer land use plan, we have overlaid the proposed subregional detention pond locations on the future land use map, using the SAP data (Attachment 2). Several types of channel improvements are also recommended within the basin by this plan. In most cases, two alternatives have been called out on the preliminary design sheets. The cost estimate was prepared for the selected sub-regional detention alternative. The plan provides optional channel treatments to be considered during final engineering depending upon the specific land uses, while still providing similar protection. In a few cases channelization is recommended to define and contain the flow where it is currently overland flow in poorly defined, broad, dry-grass swales.

The Falcon/Peyton SAP land use data is two years fresher and a more credible data source from a planning perspective, but the SAP does not identify the location of the drainage channels in the Haegler Ranch Basin. Our conclusion is that there do not appear to be any significant inconsistencies with the location of proposed improvements and the proposed future land uses. The actual size and location of the proposed facilities will be based on actual development plans, which will have a variety of land uses not shown specifically on the SAP including open space.

The land use plan shown in the DBPS is the basis for the engineering analysis and should remain in the report. We can mention the SAP in the document and include it in the

## **URS**

Haegler Ranch DBPS Land Use Considerations April 21, 2009 Page 3

Appendix for reference, but we do not believe it is necessary to revise the hydrologic analysis or study recommendations based on this information. The Haegler Ranch DBPS can be used as intended by El Paso County as presented.

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# EL PASO COUNTY

## FALCON/PEYTON SMALL AREA MASTER PLAN

