

# **TRANSPORTATION ENGINEERING DESIGN STANDARDS EXCEPTION REQUEST**

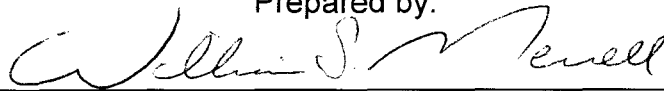
FOR  
**Red Rocks Valley**  
South Camp Road, ½ mile west of Monument Road

**January 17, 2007**

**Submitted By:**

**Redlands Valley Cache LLC  
244 N. 7<sup>th</sup> Street  
Grand Junction CO 81501  
970-241-2909**

Prepared by:



**William S. Merrell, P.E.**

**LANDesign Consulting Engineers  
326 Main St. Suite 100  
Grand Junction, CO 81501  
970-245-4099**

# **TEDS Exception Request for Red Rocks Valley**

## **Introduction**

This document outlines a request for an exception to “cul-de-sacs and Dead end streets” defined in Section 5.1.3, for a proposed residential subdivision located on the east side of South Camp Road slightly a half mile north and east of the intersection with Monument Road.

## **Background**

Redlands Valley Cache, LLC, has submitted a preliminary plan application to the City of Grand Junction for single family residential subdivision. The property is presently vacant.

## **Proposed Exception**

The TEDS Manual requires a 750 ft. maximum length of a cul-de-sac from the nearest intersection. The existing plan has proposes a cul-de-sac, Red Point Court, that is approximately 1117.68 feet from the centerline of the nearest intersection to the center of the cul-de-sac.

Red Point Court crosses the Red Canyon drainage channel which is under the jurisdiction of the U.S. Army Corps of Engineers. The channel will also carry a fairly large volume of runoff in a 100-year storm. There are several criteria that have to be taken into consideration when crossing a drainage channel like this, and one of those is to cause the least amount of disruption to the channel. With that consideration in mind, a double crossing of the channel was not considered as an option.

The current layout has a total of eleven lots of one half acre or more.

## **Alternatives Considered**

There is one alternate given with this request.

Alternate 1 crosses the channel at a different place and then there is a “T” intersection that goes to two cul-de-sacs. This would meet TEDS standards, however it should be noted that there are approximately the same number of lots that essentially are off of one egress. The only difference is that there is an “intersection” beyond that egress. One problem that we had with this layout is getting sanitary sewer to this part of the project. Gravity sewer has to come in from east to west, from the Red Canyon Channel. The sewer is required to be in a tract and there would be some difficulties with the roughness of the terrain over that tract. Another difficulty was with getting the storm drainage from this area to the Red Canyon channel.



**Approximate Location of Crossing**

The elevation of South Camp Road is approximately six feet above the adjacent ground at a point where a potential intersection could be. It would appear as though South Camp Road has been raised so that it is above the elevation of the existing ground at that point. Thus, there are no alternates given that would include a connection to South Camp Road.

### **Proposed Design**

The proposed design, of a dead end street that is approximately 1118 feet long, works well with the Red Canyon Drainage channel. The proposed design also works well with the necessary sanitary sewer utility installation, as much of it would be under the road. The storm drainage system also seems to be more coordinated with the roads and lots with this layout.

Of course there are no reasons given as to why a specific standard is given. In this case, however, it would seem to be partially, at least, to limit the number of lots on a cul-de-sac. We have a minimum half-acre lot size in this area, and a total of eleven lots. If number of lots, and traffic generated by those lots, are a reason for this standard, it would seem as though an exception could be made for this street.



**Approximate Location - Proposed Crossing**

There are two unusual circumstances that put us in the position of requesting a TEDS Exception for this street. One is that we have a major drainage channel running parallel to the street which is under the jurisdiction of the Corps of Engineers. The other is that South Camp Road appears to be built up on a berm in the area where we would need to construct an access if we tried to connect the street into South Camp Road.

#### **TEDS Manual:**

##### **5.1.3 Cul-de-Sacs and Dead End Streets**

**No cul-de-sac shall be more than 750 feet long, measured from the center of the intersection to the center of the turnaround.**

**No more than 30 lots shall be located on a cul-de-sac street. All cul-de-sacs shall have a turnaround at the terminus point.**

**Surface drainage of a cul-de-sac shall be conveyed toward the intersecting street, if possible, and if not possible a drainage easement shall be provided leading out of the cul-de-sac.**





**South Camp Road**



**South Camp Road from North**



SHEET 1  
DATE:

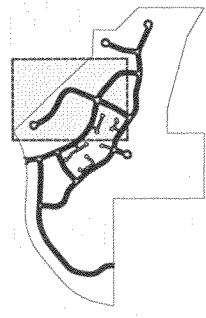
**TEDS Exception Request  
Desired Plan**

DATE: 1/16/07  
DRAWN: WSM  
CHK'D:

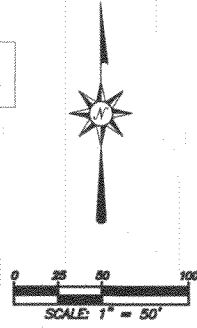
**RED ROCKS VALLEY**

PRJ # 205095  
FILE NAME:

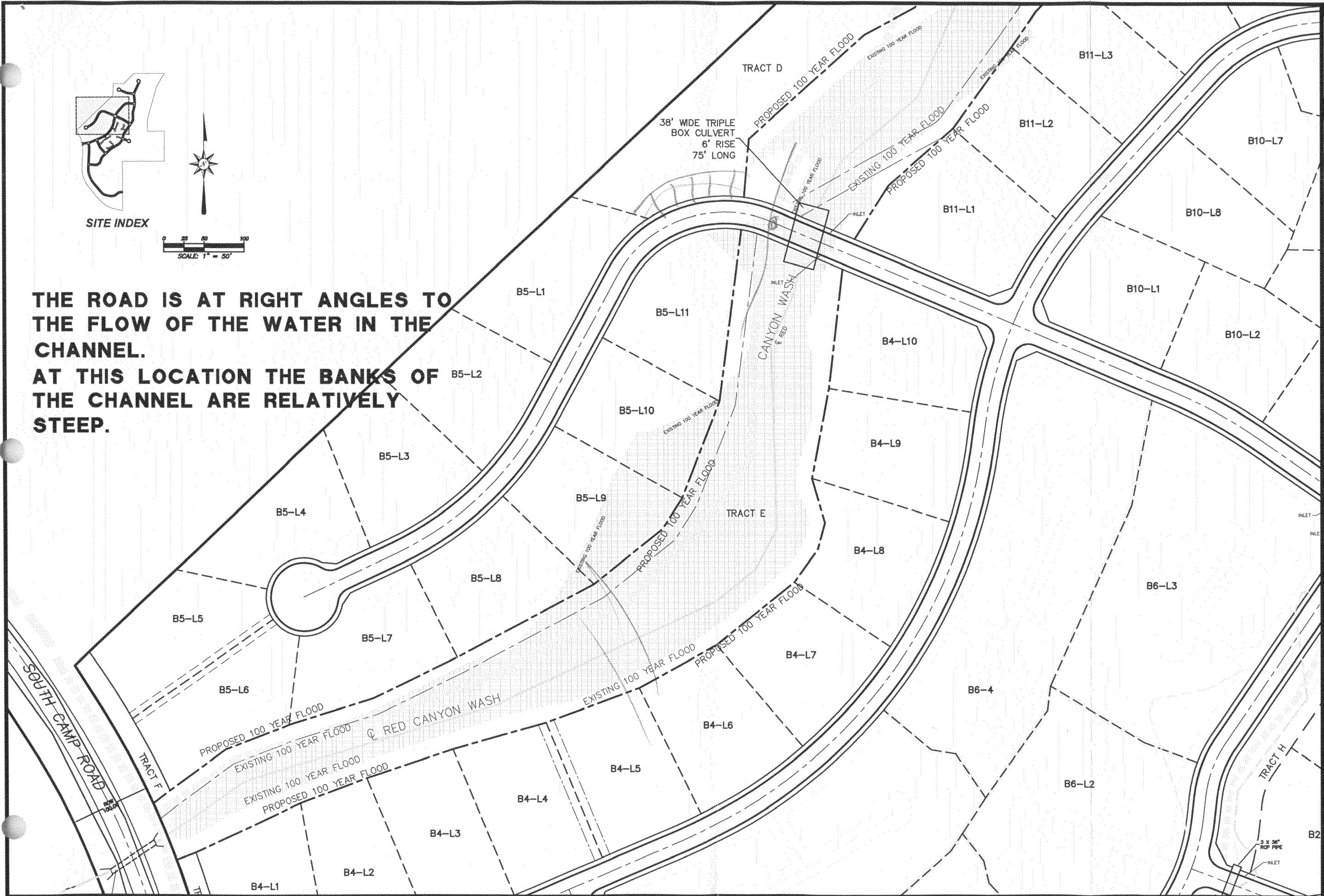
**JDesign**  
SURVEYORS • PLANNERS  
326 MAIN STREET, SUITE 100  
GLENWOOD SPRING, COLORADO 81501 (970) 245-4099



SITE INDEX



**THE ROAD IS AT RIGHT ANGLES TO THE FLOW OF THE WATER IN THE CHANNEL.  
AT THIS LOCATION THE BANKS OF THE CHANNEL ARE RELATIVELY STEEP.**



SHEET OF  
1 1

TEDS Exception Request  
Desired Plan

RED ROCKS VALLEY

**LANDesign**  
ENGINEERS • SURVEYORS • PLANNERS  
326 MAIN STREET, SUITE 100  
GRAND JUNCTION, COLORADO 81501 (970) 245-4099

DRAWN: WSM/CHK'D:

DATE: 1/16/07

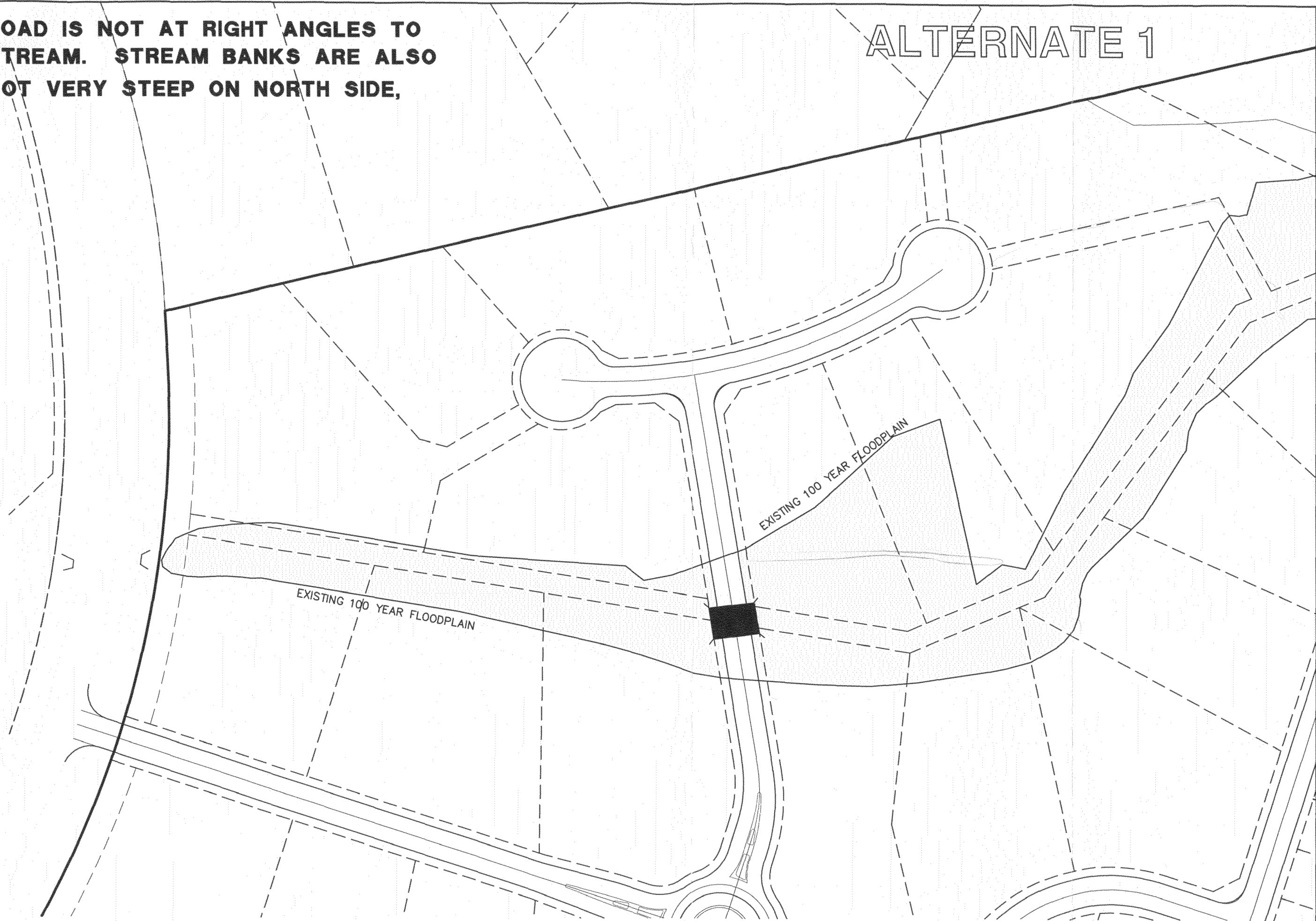
PRJ # 205095 FILE NAME:

DATE	NO.	BY



ROAD IS NOT AT RIGHT ANGLES TO  
STREAM. STREAM BANKS ARE ALSO  
NOT VERY STEEP ON NORTH SIDE,

# ALTERNATE 1



SHEET	OF
1	1
DATE	NO. BY

ALTERNATE 1  
TEDS EXCEPTION  
DATE: 7/11/06  
DRAWN:   
CHK'D:   
DATE:   
DRAWN:   
CHK'D:

RED ROCKS VALLEY  
SOUTH CAMP ROAD  
PRJ # 205095 FILE NAME:   
DATE:   
DRAWN:   
CHK'D:

**LANDesign**  
ENGINEERS • SURVEYORS • PLANNERS  
326 MAIN STREET, SUITE 100  
GRAND JUNCTION, COLORADO 81501 (970) 245-4099



# **TRANSPORTATION ENGINEERING DESIGN STANDARDS EXCEPTION REQUEST**

FOR  
**Red Rocks Valley**  
South Camp Road, ½ mile west of Monument Road

**January 18, 2007**

**Submitted By:**

**Redlands Valley Cache LLC  
244 N. 7<sup>th</sup> Street  
Grand Junction CO 81501  
970-241-2909**

Prepared by:



**William S. Merrell, P.E.**

**LANDesign Consulting Engineers  
326 Main St. Suite 100  
Grand Junction, CO 81501  
970-245-4099**

# **TEDS Exception Request for Red Rocks Valley**

## **Introduction**

This document outlines a request for an exception to "Street Lighting" defined in Section 8.1, for a proposed residential subdivision located on the east side of South Camp Road slightly a half mile north and east of the intersection with Monument Road.

## **Background**

Redlands Valley Cache, LLC, has submitted a preliminary plan application to the City of Grand Junction for single family residential subdivision. The property is presently vacant.

## **Proposed Exception**

The TEDS Manual reads: *On local residential streets, a standard light shall be located at each street intersection, at or near the throat of each cul-de-sac, and at a maximum spacing of 250 feet measured along the centerline of the roadway. Additional lights may be required on horizontal curves at other locations.* The Redlands Neighborhood Plan has several sections indicating the desirability of restricting outdoor lighting. This was also brought up and discussed at the Neighborhood Meeting. What we propose is to place street lights only at intersections, and to use street lights that are designed to minimize or eliminate excess light towards the sky.

## **Alternatives Considered**

There were no alternates considered. Neither the "Light it up like a circus" or the "No Street Lights at all" alternates are reasonable compromises between the TEDS Manual and the Redlands Neighborhood Plan. Certainly if the City would also like a street light at each of the cul-de-sacs, for example, that compromise could be reached within the parameters of what we are trying to do.

## **Proposed Design**

We propose is to place street lights only at intersections, and to use street lights that are designed to minimize or eliminate excess light towards the sky.

## TEDS Manual:

### 8.1 Street Lighting

Street lighting shall be installed on all new and existing public streets at the expense of the developer. Streetlights shall be designed, furnished and installed by the utility company responsible for supplying electrical power to the development or area. The location of all streetlights shall be shown on the traffic plan or street plan, or other design drawings as required by the City or County.

#### 8.1.1 Luminance Requirements

Street lighting shall provide average illuminance in accordance with Table 8-1.

Table 8-1

#### Average Maintained Illuminance (Foot Candles) on Public Streets

STREET CLASSIFICATION	AREA CLASSIFICATION		
	COMMERCIAL	INTERMEDIATE	RESIDENTIAL
Arterial	1.7	1.3	0.9
Collector	1.2	0.9	0.6
Local	0.9	0.7	*

\*On local residential streets, a standard light shall be located at each street intersection, at or near the throat of each cul-de-sac, and at a maximum spacing of 250 feet measured along the centerline of the roadway. Additional lights may be required on horizontal curves at other locations.

### **Colorado National Monument**

The Colorado National Monument is a major tourist attraction of the Western Slope and the Grand Junction area. Each year approximately 300,000 people visit the Monument to see its spectacular scenery. Besides being an economic asset to the area, it contains a wealth of vegetation, and wildlife resources. Development contiguous or adjacent to the Monument has a direct negative impact to its aesthetics and natural resources. Habitat loss, night lighting, domestic pets, non-native non-desirable plants, fencing, and subdivision development detrimentally affect the resources of the Monument. Each new development adds to the cumulative impact of previous change. For example, cliff nesting raptors depend on canyon walls of the Monument for perching, roosting, and nest sites. Raptors forage for insects, rodents, and small birds that depend on agricultural fields and upland grasslands in the planning area. As the fields and open lands are converted to urban uses reductions of available food occurs throughout the entire food chain.

The following broad principles (landscape scale) are applicable as new development(s) occurs contiguous or adjacent to the Monument:

- Maintain buffers between areas dominated by human activities and core areas of wildlife habitat in the Monument.
- Facilitate wildlife movement across areas dominated by human activities.
- Control domestic pets associated with human dominated areas.
- Mimic features of the natural landscape in developed areas.

In addition to the broad principles stated above, specific (site scale), efforts are necessary to avoid, minimize and mitigate impacts to the Monument. Such efforts include maintaining/mimicking natural landscape features, maintaining/enhancing movement corridors for wildlife, minimizing contact with domestic pets, avoiding night time light pollution, minimizing ridgeline/backdrop

visual impacts from development. Area residents and developers have expressed interest in promoting/implementing architectural designs that compliment the natural features of the area, including color, texture, materials, scale, and lighting.

### **Implementation**

- Develop night lighting (floodlight) standards within the City and County's Development Codes for the planning area, to apply to existing and new lighting.



From the REDLANDS NEIGHBORHOOD PLAN [June 2002] (page 19):

### **Outdoor Lighting**

The enjoyment of the night-sky is also a high priority for residents of the Redlands. Specific standards should be developed to address light pollution concerns. The varying topography and proximity to the Colorado National Monument makes it that much more important that the amount of lighting in certain areas of the Redlands be kept to a minimum. Generally, that area south of Highway 340 should have reduced requirements for street lighting and other public space lighting, allowing the lighting to be low level and spaced to provide the minimum light necessary to meet safety needs. (See also Land Use/Growth Management Action Plan, Page 21)

### **GOALS, POLICIES, IMPLEMENTATION**

#### **Goals**

- Enhance and maintain, to the greatest extent possible, the darkness of the night sky.

#### **Policies**

- Minimize the number and intensity of street lighting and public space lighting.
- Encourage homeowners to minimize outdoor lighting.

#### **Implementation**

- Establish street lighting standards for the Redlands, especially that area south of Highway 340 that minimizes the number and location of street lights and uses fixtures that reduce the upward glow of lighting.
- Strengthen the standards in the City's and County's Codes to minimize light spillage outward and upward.
- Create informational materials for homeowners to minimize outdoor lighting while still maintaining needed security for their homes.

And starting on Page 45 we have these elements regarding lighting:

# Grand Junction

February 23, 2007

William S. Merrell, P.E.  
LANDesign Consulting Engineers  
326 Main Street, Suite 100  
Grand Junction CO 81501

RE: *Design Exception #06-07, Red Rocks Valley Subdivision, PP-2006-2007  
TEDS Exceptions for Limited Street Lighting and Cul de Sac Length*

Dear Bill,

Please find attached the committee's decision for the above referenced request. This design exception was approved as modified.

If you have any questions concerning the modifications please feel free to contact the Development Engineer in charge of your project or Tim Moore, Public Works and Planning Director at 970.244.1557.

Sincerely,



Sue Mueller  
Sr. Administrative Assistant

cc: Rick Dorris, Development Engineer  
Redlands Valley Cache LLC  
File

## DESIGN EXCEPTION #06-07

To: Tim Moore, Public Works and Planning Director  
Sheryl Trent, Assistant to the City Manager  
Jim Bright, Acting Fire Chief

From: Tim Moore, Public Works and Planning Director

Copy to: Rick Dorris

Date: January 25, 2007

RE: Red Rocks Valley Subdivision, PP-2006-217  
TEDS Exceptions for Limited Street Lighting and Cul de Sac Length.

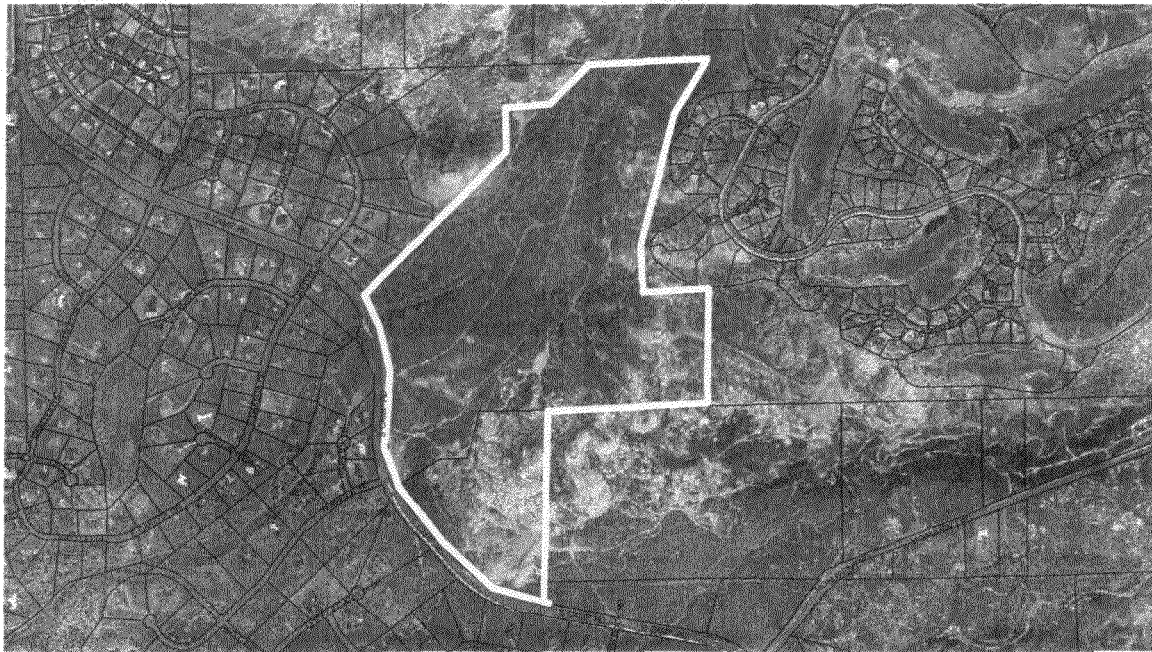
### DESCRIPTION OF THE SITUATION

The applicant desires to obtain a PD zone and develop a 155 lot subdivision in the Redlands. They want to obtain TEDS exceptions for a longer cul de sac and reduced street lighting.

#### Site Description:

The site is in the Redlands bounded on the southwest by South Camp Road, the northwest by the last filing of Monument Valley Subdivision, the north and east by Redlands Mesa Subdivision, and the south by private property. The Azcarragga property is currently in the development process but not as far along as Red Rocks Valley.

The topography on part of the site is steep with approximately 160' of relief. Red Canyon Wash and another minor wash run through the parcel from southwest to northeast.



### **Requested Exceptions:**

**#1 Maximum Cul de Sac Length:** The proposed cul de sac length is 1118' where the TEDS maximum is 750'.

### **EXCEPTION CONSIDERATIONS**

**1. Will the exception compromise safety?**

Staff does not believe the exception will compromise safety.

**2. Have other alternatives been considered that would meet the standard?**

Yes, there is another alternative that would create two shorter cul de sacs that would meet TEDS. They included this in their request. It makes street drainage and sanitary sewer alignment more complicated. The channel is more impacted by the street crossing in this location since the existing banks aren't as steep.

**3. Has the proposed design been used in other areas?**

The Redlands has several long cul de sacs.

**4. Will the exception require CDOT or FHWA coordination?**

No.

**5. Is this a one-time exception or a manual revision?**

This is a one time exception.

**#2 Reduced Street Lighting:** Section 8.1.1 of TEDS requires street lights at all intersections, near the throat of cul de sacs, and every 250' in between for residential areas. There have been several subdivisions approved (in the last 10 years) in the



