

PUBLIC WORKS
& UTILITIES

DESIGN EXCEPTION #DE 6-04

To: Mark Relph, Director of Public Works & Utilities

From: Tim Moore, Public Works Manager

Copy to: Rick Dorris, Development Engineer
Pat Cecil, Development Services Supervisor

Date: June 11, 2004

RE: Maximum Grade through a Local Intersection – Pinnacle Ridge (Ridges)

DESCRIPTION OF THE SITUATION

The applicant is proposing to develop a residential subdivision with approximately 100 homes near the Ridges area of Grand Junction. The property is approximately 50 acres in size and is currently located in Mesa County. The applicant is proposing to annex and develop the property in the City. The site is currently vacant and has areas of steep terrain. The applicant is requesting a design exception to allow a 6% grade through a local street intersection. TEDS requires a maximum slope through intersections of 4%.

This request was also accompanied by a TEDS exception request for the maximum cul-de-sac length. This request was tabled while the applicant developed an amendment to the maximum cul-de-sac length exception request.

EXCEPTION CONSIDERATIONS

The steep terrain has created site constraints, not unlike developed areas within the Ridges. The applicant is requesting an exception to section 5.2.4 of the TEDS manual that states “. . . the maximum allowable grade in the intersection is 4% and extends 50 feet in each direction from the outside edge of the traveled way of the intersecting street. TEDS also states “Grades above 4% will only be allowed on local and collector streets in areas with steep topography or other unusual circumstances that prevent a flatter grade, and must be documented as a design exception”.

1. Will the exception compromise safety?

The safety issue has been reviewed by Public Works staff. A grade difference of 2% will likely not compromise safety. Speeds at this intersection are anticipated to be quite slow due to the curving alignment of both Spur Drives directly before the intersection.

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

The applicant considered and sketched other conceptual layouts for this development. In order to accommodate the maximum 12% slope requirement in TEDS, the road alignment must follow the existing terrain as much as possible. Other alignments considered did not meet the maximum requirement of 4%.

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

There are other areas within the Ridges that exceed the maximum intersection grades including Ridge Circle Drive and Rana Road, Hill View Drive and Sand Cliff Ct. & Ridgeway Drive and Stoneridge Ct. To date, there have been no recorded problems with these intersections related to the slope through the intersection.

4. Will the exception require CDOT or FHWA coordination?

No.

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

This would be a one-time exception.

Staff Recommendation

Staff recommends approval of this request provided annexation occurs and all other aspects of the design meet current City standards.

Recommended by: *Timi Mow*

Approved as Requested:

Denied:

Dated: 6/15/04

[Signature]

Kathie Blanchard

Fight for Pick Beaty

VE# 6-04 Pinnacle Ridge 4-14-04



Vortex Engineering, Inc.

255 Vista Valley Drive
Fruita, CO 81521

Voice: 970-858-4888
Cell: 970-260-9082
Fax: 970-858-7373
Email: rwjhj@bresnan.net

March 17, 2004

Via: Hand Delivery

City of Grand Junction
Engineering Division
Department of Public works
250 N. 5th street
Grand Junction, CO 81501
Attn: Rick Dorris, P.E.

Re: Pinnacle Ridge Development
Grand Junction, Colorado
VEI # F04-006

Dear Mr. Dorris:

As you are aware, the above referenced project is in the initial phases of development application with the City of Grand Junction. Vortex Engineering, Inc. represents Two R&D, LLC, the developer for the Pinnacle Ridge project. This project is proposing to develop a residential subdivision with approximately 100 homes. The property is approximately 50.0 acres in size, and is currently located in Mesa County, Colorado. Pursuant to this development is the need of a T.E.D.S. exception approval. In regard to this, the following documents are enclosed for your review and approval:

- One (1) copy of the T.E.D.S. Exception Narrative, prepared by Vortex Engineering, Inc. dated March 11, 2004.
- One (1) copy of the T.E.D.S. Exception Site Plan Exhibit, prepared by Rhino Engineering, Inc. dated March 15, 2004.

Upon reviewing the enclosed information, should you have any questions or require additional information, please do not hesitate to contact me at 970-858-4888 or 970-260-9082.

Sincerely,

Vortex Engineering, Inc.


Robert W. Jones II, P.E.

C: Darren Davidson, w/ encl.
Robert Jones, w/ encl.
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RECEIVED

MAR 18 2004

**COMMUNITY DEVELOPMENT
DEPT.**



Vortex Engineering, Inc.

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T.E.D.S. Exception for the Site Plan of Pinnacle Ridge Subdivision

Date: March 11, 2004

Prepared by: Robert W. Jones II, P.E.
Vortex Engineering, Inc.
255 Vista Valley Drive
Fruita, CO 81521
970-260-9082
VEI # F04-006

Type of Design: New Residential

Owner: Two R & D, LLC
1880 K Rd.
Fruita, CO 81521

Property address: T.B.D.

Introduction

Two R & D, LLC is proposing to develop a residential subdivision with approximately 100 homes near the Ridges area of Grand Junction. The property is approximately 50.0 acres in size, and is currently located in Mesa County. Two R & D, LLC is proposing to annex the property into the City of Grand Junction, Colorado. The site is currently vacant and has areas of steep terrain. The property is presently zoned RSF-2 and is zoned in alignment with the current Master Plan for this area.

Site Plan

The Site Plan for the Pinnacle Ridge development includes approximately 100 homes to be constructed in three phases; one (1) upper lot phase and two (2) lower lot phases. Phase 1 of this development includes 20 upper lots owned by the developer, and 10 lots, which are not part of this Site Plan application, owned by others. Phase two (2) and three (3) of this development include 70 lots owned by the developer. Due to the steep terrain, and the site constraints associated with the first phase of this development, a cul-de-sac length greater than the 750' maximum has been proposed. The cul-de-sac length proposed for Phase 1 of the development is 1800± linear feet. This distance measures from the intersection of Spur Drive with the main road of the subdivision to the end of the cul-de-sac.

Additionally, the steep terrain presents a design difficulty in maintaining a maximum intersection grade of 4%. The intersection grade proposed is approximately 6%. Pursuant to these development issues, is the need of a T.E.D.S. exception.

Exception #1-Cul-de-Sac length

The Site Plan submitted to Community Development does not meet the maximum 750' cul-de-sac length requirement per the TEDS manual. The cul-de-sac length requirement is per Section 5.1.3, which, states "No cul-de-sac shall be more than 750 feet long, measured from the center of the intersection to the center of the cul-de-sac." This requirement is very difficult to meet in light of the existing terrain and the distance to Mariposa Drive. In order to accommodate the maximum 12% slope requirement in the TEDS manual, the road alignment must follow the existing terrain as much as possible to minimize surface disturbance. In addition, the only way to eliminate the cul-de-sac length is to create a second access from the top. This is certainly not preferred and would significantly increase surface disturbance. Please reference the Site Plan attached with this application for a further depiction of the proposed cul-de-sac.

Exception Considerations

1. Will the exception compromise safety?
 1. The current road sections are designed to T.E.D.S. Manual requirements in all other aspects besides those listed.
 2. Adequate area has been provided at the end of the cul-de-sac for emergency and the general public's vehicles to turn around, should the situation arise.
2. Have other Alternatives been considered that would meet the standard?
 - The applicant considered and designed the only other option available in this circumstance. A direct access to Bella Pago Drive was designed and reviewed by the City of Grand Junction and Mesa County staff. While Mesa County staff approved this design and signed the construction documents, the City of Grand Junction's staff was vehemently against it. In fact, the City of Grand Junction

staff recommended that the applicant propose access off of Mariposa Drive, which the applicant is now requesting.

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

- Cul-de-sac lengths in excess of the maximum 750 foot length have been approved and constructed for various subdivisions throughout the Grand Valley. Specifically, the Saddle Rock subdivision, located at 13 Road, has a cul-de-sac length of approximately 2,640 feet. No known safety problems or complaints are known at the time of this application.

4. Will the exception require CDOT or FHWA coordination?

- No.

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

- The cul-de-sac length exception would be a one-time exception.

Exception #2-Maximum Grades Through Local Street Intersections

The Site Plan submitted to Community Development does not meet the maximum 4% grade through a local street intersection requirement per the TEDS manual for the intersection of Spur Drive and Spur Drive. The Maximum Grades through Local Street Intersections requirement is per Section 5.2.4, which, states, "...the maximum allowable grade in the intersection is 4% and extends a minimum of 50 feet in each direction from the outside edge of the traveled way of the intersecting street." This requirement is very difficult to meet in light of the existing terrain. It also states, "Grades above 4% will only be allowed on local and collector streets in areas with steep topography or other unusual circumstances that prevent a flatter grade, and must be documented as a design exception." Which the present site design certainly meets.

In order to accommodate the maximum 12% slope requirement in the TEDS manual, the road alignment must follow the existing terrain as much as possible to minimize surface disturbance. In addition, the only way to eliminate the steeper grades is to create an access from the top and connect to Bella Pago Drive. This is certainly not preferred, as this would significantly increase surface disturbance and was not previously recommended by City Staff. The grades proposed through the intersection are approximately 6±%. Please reference the Site Plan attached with this application for a further depiction of the proposed road alignment.

Exception Considerations

1. Will the exception compromise safety?

- The applicant considered and sketched other Conceptual layouts for this development. In order to access from Mariposa Drive, the proposed alignment and thus grades were required. The grade difference will probably be perceived by only a few drivers and given the slope exposure to the sun, there should be no real appreciable amount of icing. Furthermore, speeds at this intersection are anticipated to be quite slow due to the curving alignment of both Spur Drives directly before the intersection.

- The current road sections are designed to T.E.D.S. Manual requirements in all other aspects besides those listed.

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

- The applicant considered and designed the only other option available in this circumstance. A direct access to Bella Pago Drive was designed and reviewed by the City of Grand Junction and Mesa County staff. While Mesa County staff approved this design and signed the construction documents, the City of Grand Junction's staff was vehemently against it. In fact, the City of Grand Junction staff recommended that the applicant propose access off of Mariposa Drive, which the applicant is now requesting.

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

- There are other areas of the City, particularly in the Redlands and around 28 1/4 Road that have steeper slopes through local intersections.

4. Will the exception require CDOT or FHWA coordination?

- No.

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

- The intersection grade exception would be a one-time exception.

Conclusion

The streets in this development have been designed to accommodate and abide by all other design requirements in the T.E.D.S. manual. Furthermore, given the alternative of accessing off of Bella Pago Drive, the above exceptions are necessary. City staff has already determined the alternative of accessing onto Bella Pago Drive to be unfavorable and opposable. Two R&D, LLC agrees with staff, that the most sensible access for this subdivision is onto Mariposa Drive. No known public safety elements have been compromised with this design. This development appears to be an excellent opportunity and should serve an important community service in this area.



Vortex Engineering, Inc.

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April 29, 2004

Via: Hand Delivery

City of Grand Junction
Engineering Division
Department of Public works
250 N. 5th street
Grand Junction, CO 81501
Attn: Rick Dorris, P.E.

Re: Pinnacle Ridge Development
Grand Junction, Colorado
VEI # F04-006

Dear Mr. Dorris:

Pursuant to our latest meeting and at the request of the TEDS Exception review committee, the following documents are enclosed for your review and approval:

- One (1) copy of the T.E.D.S. Exception Narrative, prepared by Vortex Engineering, Inc. dated March 11, 2004, last revised April 27, 2004.
- One (1) copy of the T.E.D.S. Exception Site Plan Exhibits, prepared by Rhino Engineering, Inc. dated April 29, 2004.

Upon reviewing the enclosed information, should you have any questions or require additional information, please do not hesitate to contact me at 970-858-4888 or 970-260-9082.

Sincerely,

Vortex Engineering, Inc.

Robert W. Jones II, P.E.

CC: ~~██████████~~ w/ encl.
Darren Davidson, w/ encl.
Robert Jones, w/ encl.
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