

PUBLIC WORKS  
& UTILITIES

## DESIGN EXCEPTION #DE 5-04

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: Cul-de-Sac Length Pinnacle Ridge Development (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's initial request was for a design exception to allow a cul-de-sac length of approximately 1800 feet.

After feedback from the TEDS review committee on May 19, 2004, that request has been modified to include a maximum length of approximately 1400 feet as shown on the attached drawing. Additionally, the last four lots would be served by a shared driveway also shown on the attached drawing,

### EXCEPTION CONSIDERATIONS

The steep terrain has created site constraints, not unlike developed areas within the Ridges. The applicant is requesting an exception to section 5.1.3 of the TEDS manual that states "No cul-de-sac shall be more than 750 feet long, measured from the center of the intersection of the center of the cul-de-sac." It should be noted that there are currently a number of cul-de-sac's in the immediate area that are 1600 to 1900 feet in length.

The current plan shows 30 lots on the proposed cul-de-sac (including Spur Drive). The Fire Code limits the number of lots to 30 lots unless they installed fire sprinklers in all houses, so the adjacent property owner to the east could not create lots that would access the shared driveway.

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

The safety issue has been reviewed by Public Works and Fire staff.. Adequate area has been provided at the end of the cul-de-sac for emergency and service delivery vehicles to turn

around and the road design will meet all other aspects of the TEDS manual. As a result, staff believes allowing this exception will not compromise safety.

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

The applicant has considered and completed a design for a connection to Bella Pago Drive. This design was rejected by staff due to the steep topography. Additionally, a number of other alternatives were depicted in the amended request dated April 27, 2004 that were also determined to be inadequate.

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

There are a number of cul-de-sac's in this area that exceed 750 feet in length including Bella Pago at approximately 1975 feet, Country Club Park Road at approximately 2000 feet and Meridian Ct. at approximately 1,000 feet.

**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 the revised request provided the total number of lots accessing both Spur Drives (including potential lots to the east of this site) do not exceed 30. Additionally, annexation occurs and all other aspects of TEDS and the Land Use Code are met.

Recommended by:                     *Tom Mow*                    

Approved as Requested:                     

Denied:                     

Dated:           6/15/04          

                    *[Signature]*                    

                    *Kalvin Stansford*                    

                    *Fight for Rick Beatty*                    

\\DE#5-04 Pinnacle Ridge 4-14-04



255 Vista Valley Drive  
Fruita, CO 81521

Voice: 970-858-4888  
Cell: 970-260-9082  
Fax: 970-858-7373  
Email: rjones@vortexeng.com

## **T.E.D.S. Exception for the Site Plan of Pinnacle Ridge Subdivision, Amendment #1**

Date: March 11, 2004  
Revised: April 27, 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. The property was previously platted in the 1950's. 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. A T.E.D.S. exception prepared by Vortex Engineering, Inc., dated March 17, 2004 was previously submitted for this development on March 17, 2004. A review by the City of Grand Junction determined a request for additional information. The documentation, which follows, was prepared for this reason.

## 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 4.4%. Pursuant to these development issues, is the need of a T.E.D.S. exception.

## Exception #1-Cul-de-Sac length & Exception #2-Maximum Grades Through Local Street Intersections

As requested by the City of Grand Junction, a further detailed analysis of the transportation options for this project has been provided. The developer and his engineer have reviewed this project for approximately three years now. At this point, every option for development has been considered and exhausted. In order to further justify the current design as it was submitted, we offer the following.

Alternate location #1- This alternate of accessing the ridge from Bella Pago Drive (to the east) was discussed in great detail with the previous T.E.D.S. exception submittal. The City of Grand Junction has admitted that this option is not a favorable one. The main reasons sited to the developer for not wanting access from Bella Pago Drive were the current road standards of Bella Pago Drive. Bella Pago Drive was stated as being too narrow, too steep in sections with blind corners, and inadequate fire truck access. These facts coupled with the negative attitudes displayed by the Country Club Park HOA seemed to influence the City's decision regarding this alternate location. The above facts were stated in a previous meeting with Dan Wilson, John Shaver, and Bob Blanchard. A copy of the previously approved Construction documents from Mesa County showing this alternate has been attached for your review. For further information regarding this option, please reference the T.E.D.S. exception narrative prepared by Vortex Engineering, dated March 17, 2004.

Alternate location #2- Accessing the ridge from the south. Given the need to service the rest of the property from Mariposa Drive, and the unlikely approval from the City of Grand Junction for two (2) access points onto Mariposa Drive, this alternate is not feasible. Furthermore, given a top elevation of the ridgeline of approximately 4890 and a road elevation of approximately 4750 in Mariposa Drive, a cul-de-sac length in excess of 1,200 L.F. would be required in order to maintain the maximum 12% road slope. Given the close proximity of Mariposa Drive and the near vertical slopes on the southern face of the ridge, this is not possible.

LARGELY DISTURBED AREA

This alternate would only serve to disturb more surface area on the property and a T.E.D.S. exception would still be required. Please reference the attached pictures and the alternate layout that was previously reviewed.

Alternate location #3- Accessing the ridge from the north. To the north of the ridge is a very deep draw, which serves as the natural drainage way for a large portion of this property. The bottom of the draw has an elevation of approximately 4740. Thus, an elevation increase for this road of approximately 150 feet would have to be surmised. Once again, in order to maintain a maximum road elevation of 12%, a cul-de-sac length of 1,250 L.F. would be required. Constructing a road from this side of the ridge would mean building on some of the steepest slopes on the entire property. Furthermore, given the additional property of Mr. Foster's, which is located on the north side of the ridge, the area for a proper road alignment is not adequate. The minimum radius for a local road could not be maintained. This alternate is not a logical choice, and cannot be considered as one. Please reference the attached pictures and the alternate layout that was previously reviewed.

### **Conclusion**

The street alignments and locations in this development have been thoroughly reviewed and designed to be the most efficient and safe. The original planners and developers of this project clearly intended for this development to access from Bella Pago Drive. This is evidenced by the Plat that was designed and recorded in 1955 for this development, which depicts just that. Given the City of Grand Junction's negative response to this access location and the change in traffic patterns for this area over the years, the presently designed road alignment as depicted on the Site Plan is the most logical and safe choice.

A review of the alternate locations for Spur Drive has been provided and discussed in a meeting with Tim Moore and Rick Dorris. Further plans and information regarding the road alignments and profiles, currently designed for this development, have been attached for your review and use. It is our sincere belief and hope that after this additional information has been reviewed by City staff and Committee, an approval of the two requested T.E.D.S. Manual exceptions will be granted.



# Vortex Engineering, Inc.

255 Vista Valley Drive  
Fruita, CO 81521

Voice: 970-858-4888  
Cell: 970-260-9082  
Fax: 970-858-7373  
Email: rjones@vortexeng.com

June 2, 2004

Via: Hand Delivery

City of Grand Junction  
Engineering Division  
Department of Public works  
250 N. 5<sup>th</sup> street  
Grand Junction, CO 81501  
Attn: Tim Moore

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

Dear Mr. Moore:

Pursuant to our latest meeting and at your request, the following documents are enclosed for your use in issuing the T.E.D.S. exception approval for the above referenced project:

- Two (2) copies of the Preliminary Site Plan Exhibit for the T.E.D.S. Exception, prepared by Rhino Engineering, Inc. dated May 15, 2004.

The Site Plan has been revised to accommodate the TEDS committee comments. The cul-de-sac has been pulled back and a shared access drive has been depicted to service the four remaining lots. A turnaround has been provided at the end of the access drive to help alleviate any large truck vehicular circulation.

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: Darren Davidson, w/ encl.  
Robert Jones, w/ encl.  
File

## Appendix 'A'- Site Photographs



**1. Standing on Mariposa Drive, looking north up onto the site. Note the truck in the picture, which provides a scaled reference. Alternate road location # 2. A natural drainage way in this area would be compromised. Significant rock shelves can also be seen in this picture. Steep slopes exceeding 30% present.**



**2. Standing on the upper ridge line, looking south down to Mariposa Drive. Note the truck in the picture, which provides a scaled reference. Steep slopes exceeding 30% present. Alternate road location # 2.**





**3. Standing on a rock shelf along the upper ridge line, approximately 35 feet lower than the picture depicted in number 2. Taken looking south-west, down to Mariposa Drive. Note the truck in the picture, which provides a scaled reference. Steep slopes exceeding 30% present. Alternate road location # 2.**



4. Standing on a rock shelf along the upper ridge line, approximately 35 feet lower than the picture depicted in number 2. Taken looking <sup>west</sup>~~east~~, across to an adjacent ridge. Note the large rock ledge, which continues around the slope. Steep slopes exceeding 30% present. Alternate road location # 2.



**5. Standing on top of the upper ridge line, looking north down to the property boundary. Note the homes, which provide a scaled reference. A primary drainage way for property would be adversely impacted along with significant earth disturbance. Steep slopes exceeding 30% present. Alternate road location # 3.**



**6. Standing near the middle of the northern primary drainage ravine, looking south up toward the middle ridge line. Please note, the ridge line viewed in the picture above is not the upper ridge line, which a road would have to be constructed to. Steep slopes exceeding 30% present. Alternate road location # 3.**



**7. Standing near the middle of the northern primary drainage ravine, looking southeast up toward the middle ridge line. Please note, the ridge line viewed in the picture above is not the upper ridge line, which a road would have to be constructed to. Steep slopes exceeding 30% present. Alternate road location # 3.**



8. Standing near the middle of the northern primary drainage ravine, looking <sup>WEST</sup> ~~east~~ up toward the middle ridge line. Please note, the partially exposed rock shelf, which a road would have to be constructed through. Steep slopes exceeding 30% present. Alternate road location # 3.

ROTATED ON POINT # 7



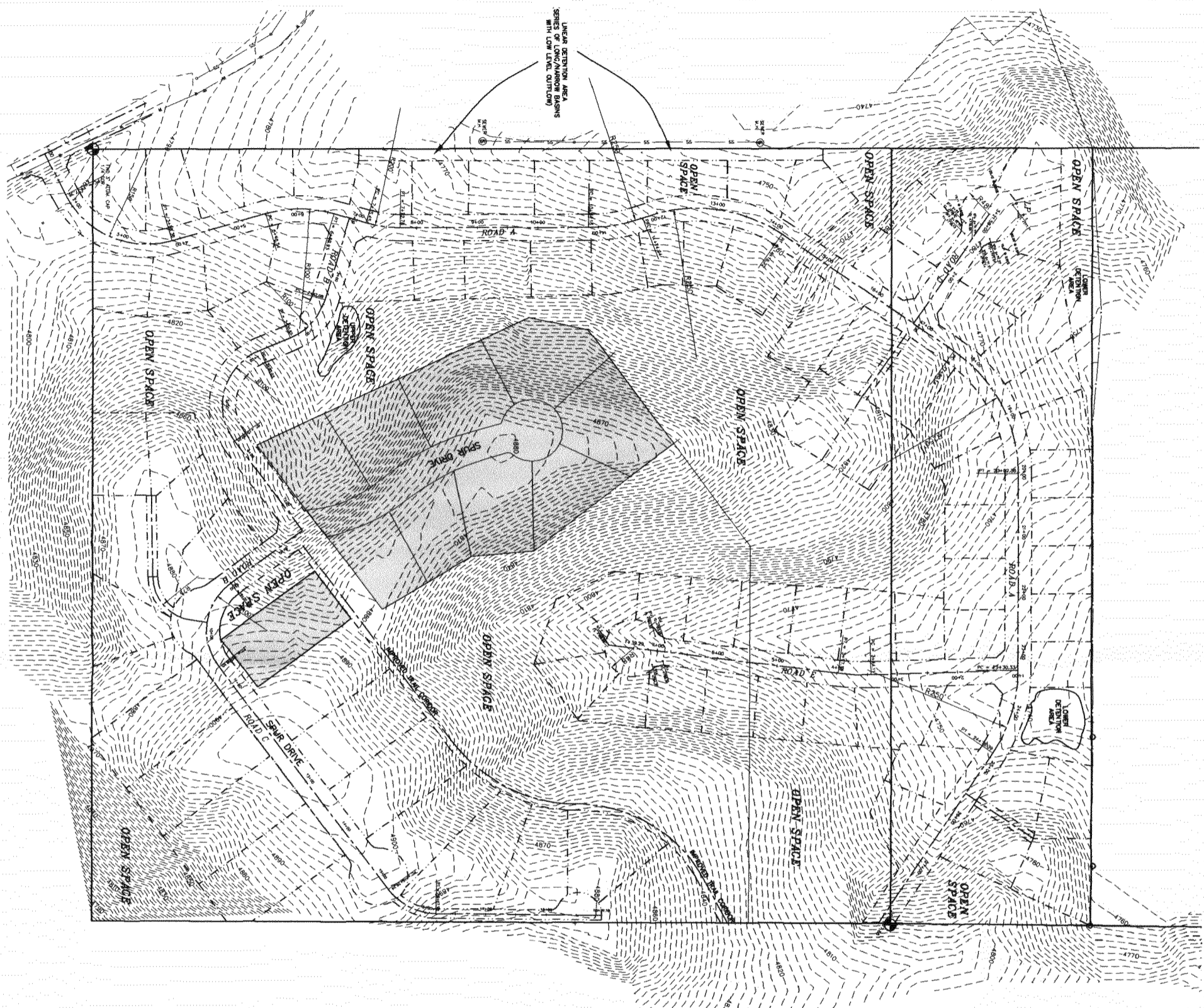
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**9. Standing near the bottom of the northern primary drainage ravine, looking south up toward the middle ridge line. Steep slopes exceeding 30% present. Alternate road location # 3.**



**10. Standing near the top of the first ridge, looking southwest down to Mariposa Drive. The western most dirt road entering the site represents the approximate location of the planned entrance into the subdivision. The road wraps around the hill to the north. Note the wide area of relatively flat slopes, a necessary element in order to properly build up the planned road. Planned road location.**



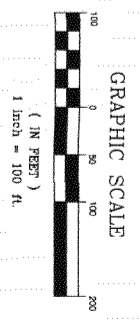


**SITE PLAN COMPOSITION**

SITE ACREAGE 49.14 ACRES  
 LOTS 23.47 ACRES  
 OPEN AREA 15.16 ACRES  
 ROADWAY ROW 5.88 ACRES  
 PLATTED LOT AREAS 4.63 ACRES

(ABOVE ACREAGES ARE APPROXIMATE)

102 LOTS @ 23.47 ACRES  
 (AVE 10,021 SF/LOT)  
 30.8% OPEN AREA WITHIN PROJECT



REVISION	DATE	DESCRIPTION	BY	CK

DATE 3/15/04  
 SCALE 1" = 100'  
 PROJECT NO 21070.01  
 SHEET NO 1

**RHINO ENGINEERING, INC.**  
 1334 UTE AVENUE  
 GRAND JUNCTION, CO 81501  
 970.241.6027 fax 970.256.7992

PRELIMINARY SITE PLAN  
 PINNACLE RIDGE DEVELOPMENT  
 SPUR DRIVE & BELLA PAGO DRIVE  
 GRAND JUNCTION, COLORADO

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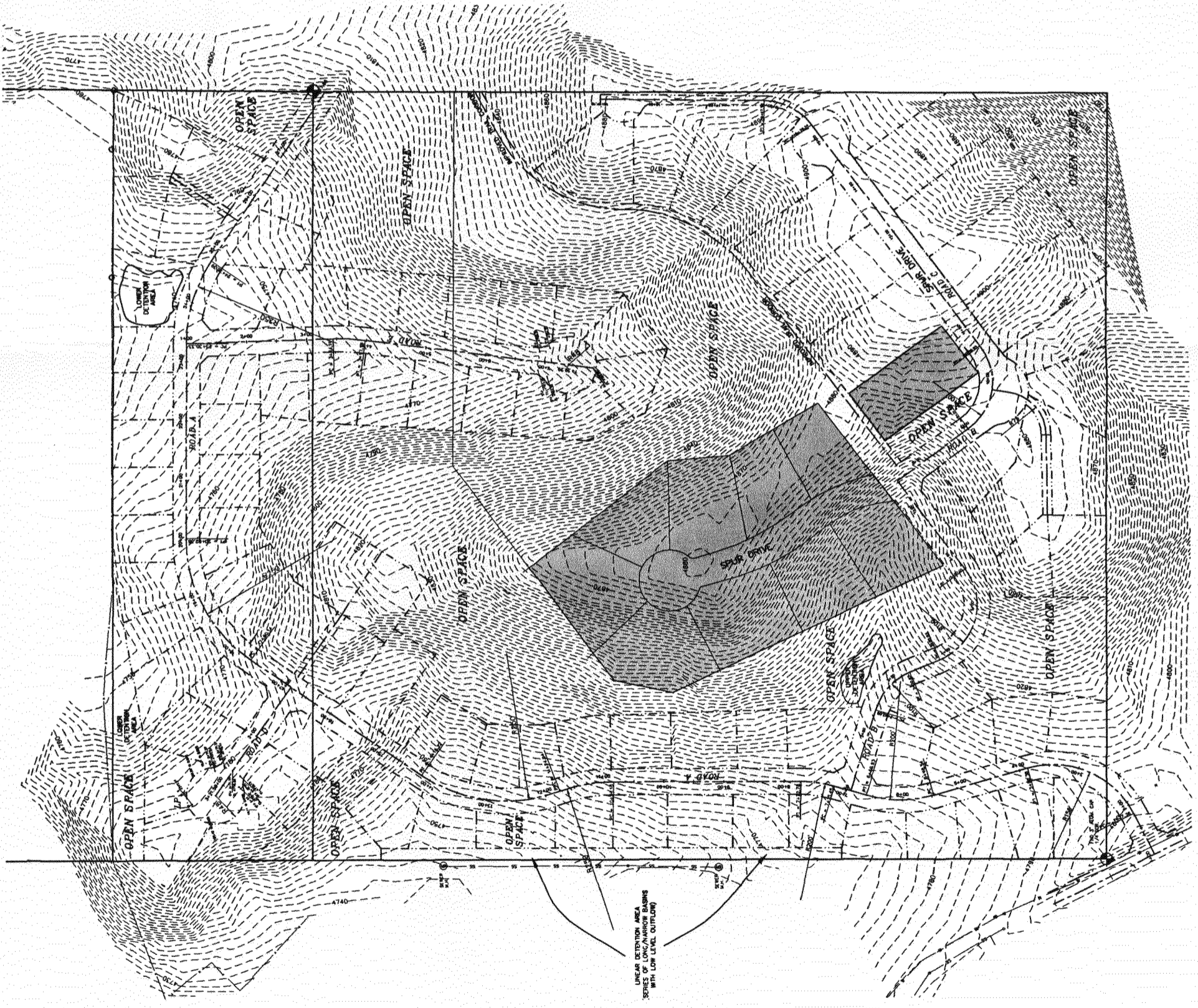
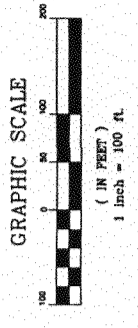
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 SERIES OF LONG/NARROW BASINS  
 WITH LOW LEVEL OUTFLOW

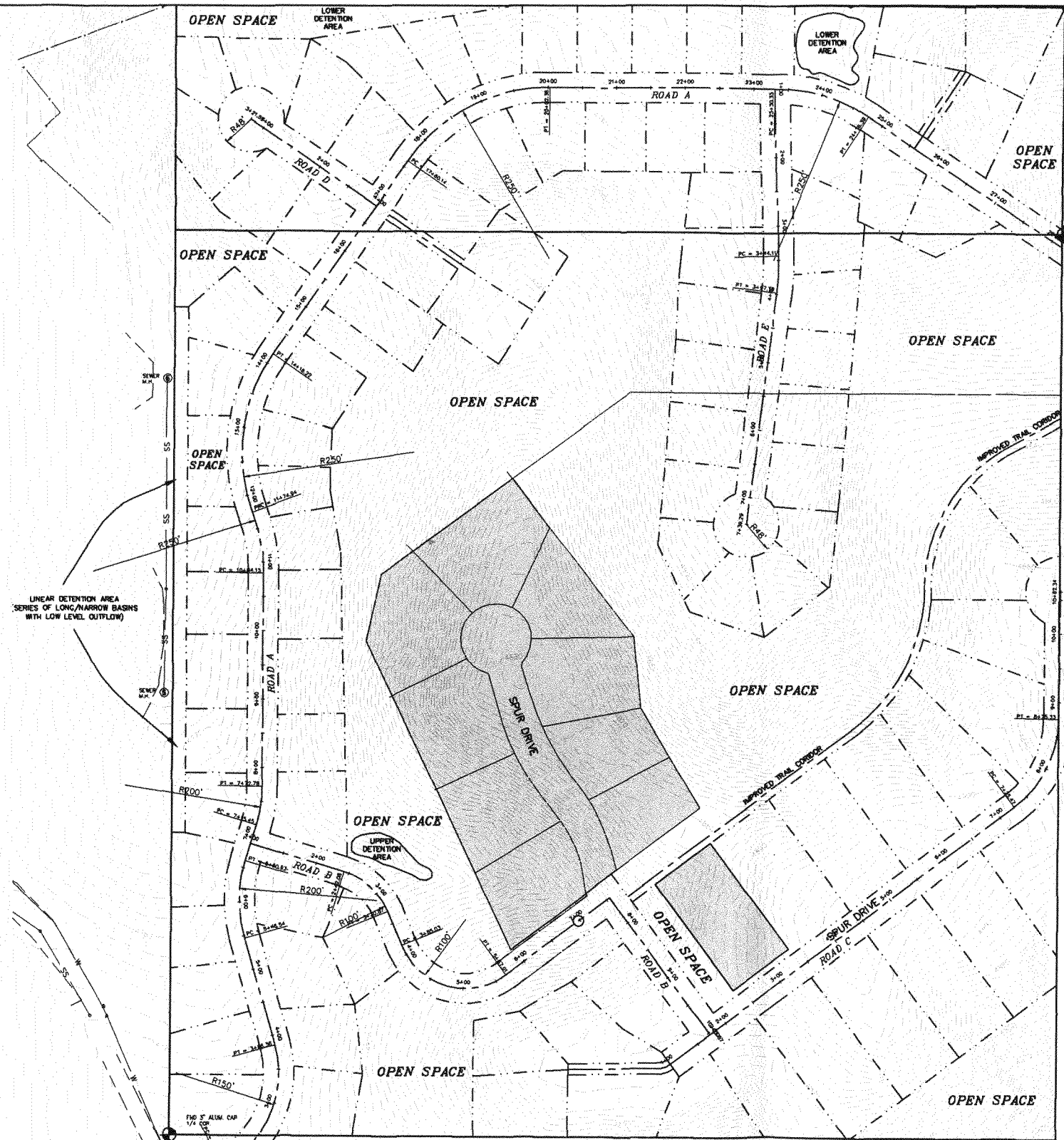
Jim,

I recommend approval of these  
TEDS exceptions for the old Energy  
Center.

~~There are 6~~

There is one assumption here and  
that is that the new TEDS ~~exception~~  
manual is adopted with the new lead  
and ~~strength~~ street standards.

Red.



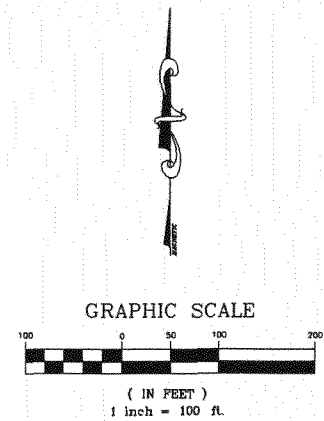
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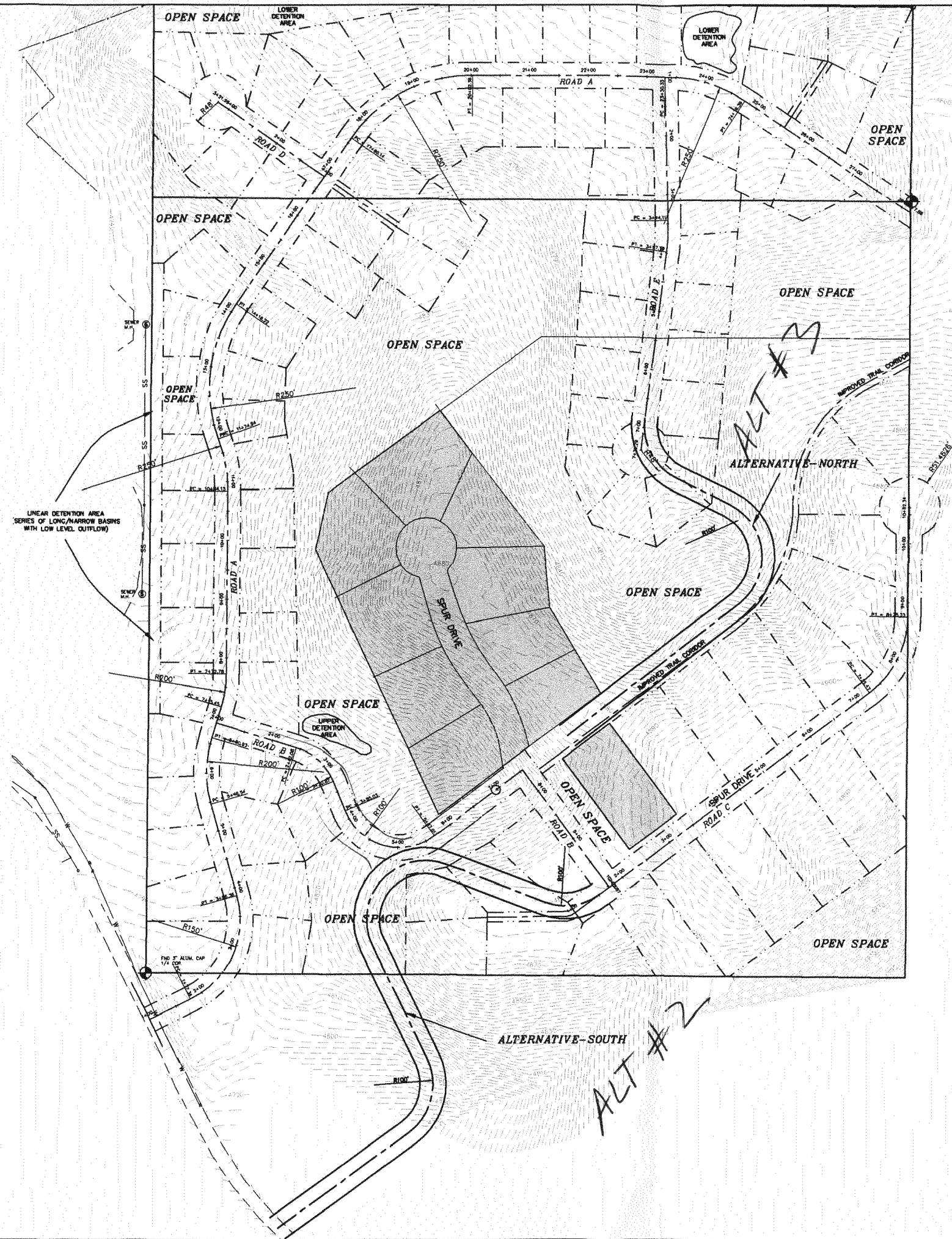


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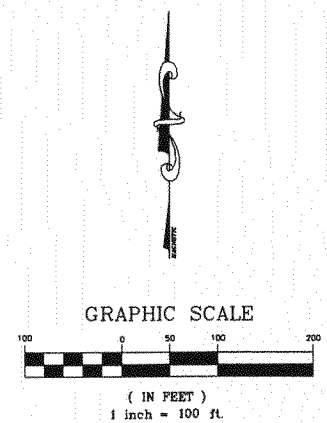
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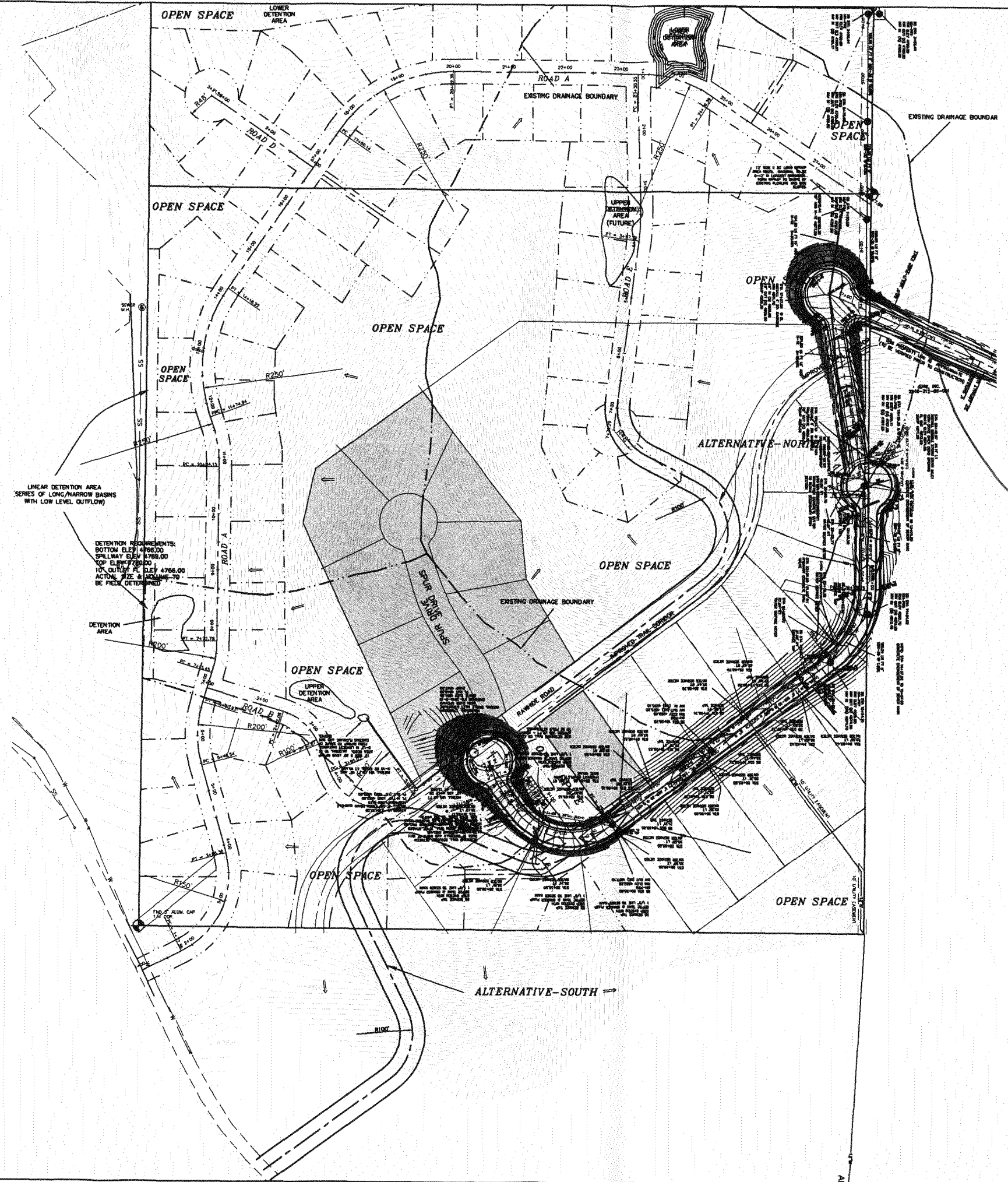


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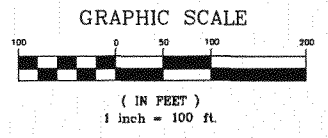
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DETENTION REQUIREMENTS:  
 BOTTOM ELEV 4766.00  
 SPILLWAY ELEV 4768.00  
 TOP ELEV 4770.00  
 10" OUTLET P.E. ELEV 4766.00  
 ACTUAL SIZE & PLACEMENT TO  
 BE FIELD DETERMINED

ACT #1

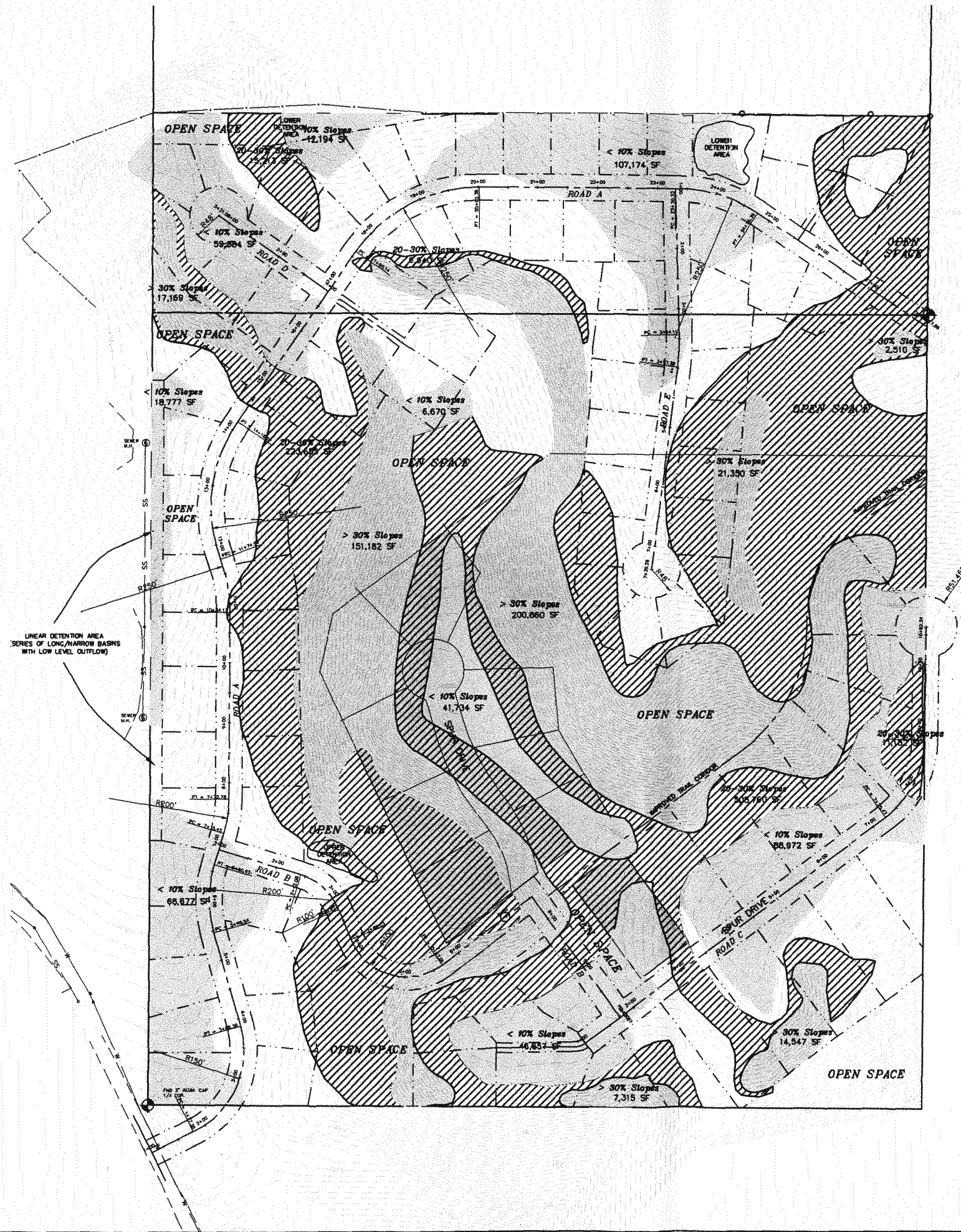


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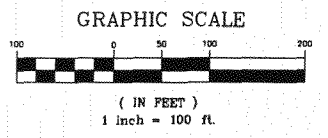
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