

**(Amendment Letter)**  
**To the**  
**MASTER DEVELOPMENT DRAINAGE**  
**REPORT for THE RIDGE AT CUMBRE**  
**VISTA MASTER PLAN and FINAL**  
**DRAINAGE REPORT**  
**for THE RIDGE AT CUMBRE VISTA**  
**FILING NO. 1**

March 2016

Prepared for:

**Rivers Cumbre Vista, LLC**  
13530 Northgate Estates  
Drive, Suite 200  
Colorado Springs, CO 80921  
Brian Bahr

Prepared by:



20 Boulder Crescent, Suite 110  
Colorado Springs, CO  
80903 (719) 955-5485

Project #08-024

(Amendment Letter)


To the

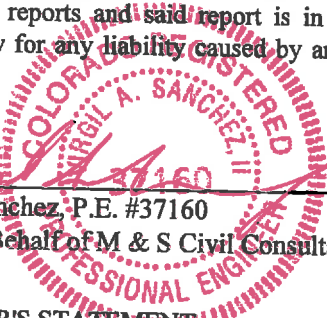
**MASTER DEVELOPMENT DRAINAGE REPORT for THE RIDGE  
AT CUMBRE VISTA MASTER PLAN and FINAL DRAINAGE  
REPORT for THE RIDGE AT CUMBRE VISTA FILING NO. 1**

**DRAINAGE PLAN STATEMENTS**

ENGINEER'S STATEMENT

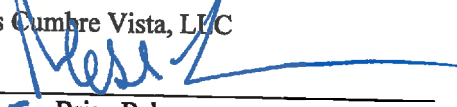
The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the established criteria for drainage reports and said report is in conformity with the master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

  
\_\_\_\_\_  
Virgil A. Sanchez, P.E. #37160  
For and on Behalf of M & S Civil Consultants, Inc.



DEVELOPER'S STATEMENT

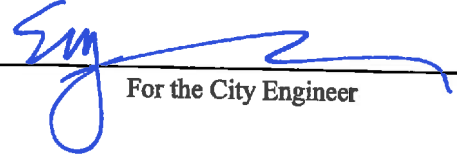
I, the developer, have read and will comply with all the requirements specified in this drainage report and plan.

Rivers Cumbre Vista, LLC  
BY:   
\_\_\_\_\_  
For Brian Bahr DATE: 3/18/16

TITLE:  
ADDRESS: Rivers Cumbre Vista, LLC  
13530 Northgate Estates Drive, Suite 200  
Colorado Springs, CO 80921

CITY OF COLORADO SPRINGS

Filed in accordance with Section 7-7-906 of the Code of the City of Colorado Springs, 2001, as amended.

BY:   
\_\_\_\_\_  
For the City Engineer DATE: 3/22/16

CONDITIONS:

(Amendment Letter)


To the

**MASTER DEVELOPMENT DRAINAGE REPORT for THE RIDGE  
AT CUMBRE VISTA MASTER PLAN and FINAL DRAINAGE  
REPORT for THE RIDGE AT CUMBRE VISTA FILING NO. 1**

CERTIFICATION STATEMENT

"This report and plan for the final drainage design of The Ridge at Cumbre Vista Filing No.1 was prepared by me (or under my direct supervision) in accordance with the provisions of City of Colorado Springs Drainage Criteria Manual Volumes 1 and 2, Drainage Design and Technical Criteria for the owners thereof. I understand that the City of Colorado Springs does not and will not assume liability for drainage facilities designed by others."

SIGNATURE: \_\_\_\_\_

  
Virgil A. Sanchez, P.E. #37160  
For and on Behalf of M & S Civil Consultants, Inc.

" Rivers Cumbre Vista, LLC hereby certifies that the drainage facilities for the Master Development Drainage Report for the Ridge at Cumbre Vista and the Final Drainage Report for the Ridge at Cumbre Vista Filing No. 1 shall be constructed according to the design presented in this report. Rivers Cumbre Vista, LLC understand that the City of Colorado Springs does not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that the City of Colorado Springs reviews drainage plans pursuant to Colorado Revised Statutes, Title 30, Article 28 (verify reference to CRS); but cannot, on behalf of the Master Development Drainage Report for the Ridge at Cumbre Vista and the Final Drainage Report for the Ridge at Cumbre Vista Filing No. 1, guarantee that final drainage design review will absolve Rivers Cumbre Vista, LLC and/or their successors and /or assigns of future liability for improper design. Rivers Cumbre Vista, LLC further understand that approval of the final plat does not imply approval of my engineer's drainage design."

Rivers Cumbre Vista, LLC

BY: \_\_\_\_\_

  
For Brian Bahr

DATE: \_\_\_\_\_

3/18/16





March 18, 2016

City of Colorado Springs  
Subdivision Engineering Review Team  
30 South Nevada Avenue, Suite 401  
Colorado Springs, Colorado 80903  
Attn: Elizabeth Nijkamp

RE: Amendment Letter to the Master Development Drainage Report for the Ridge at Cumbre Vista and the Final Drainage Report for the Ridge at Cumbre Vista Filing No. 1.

Dear Elizabeth,

The following is the Final Drainage Letter to amend the Master Development Drainage Report for the Ridge at Cumbre Vista and the Final Drainage Report for the Ridge at Cumbre Vista Filing No. 1, prepared by M&S Civil Consultants dated October 2014.

This letter is being prepared to accompany the proposed Development Plan amendment for the Ridge at Cumbre Vista Filing No. 1 (3.666 acres) and the for the Ridge at Cumbre Vista Filing No. 2 (10.079 acres). The amendments to the Development Plan consist of the removal of a retaining wall (see Exhibit 2-approved grading plan GR02) along the east property boundary and the subsequent grading to tie into existing grades along the east boundary. Specifically, this grading change affects lots 24 through 37 (see Exhibit 1 for lot designation and drainage basin information).

Grading changes will result in an increase of acreage and runoff from the previous report to the back yards of these lots in Basin A and a decrease of acreage and runoff in Basin B (see Exhibit 1). Basin A (in Exhibit 1) contains 1.04 acres of single family residential rear yard drainage and has proposed design flows of  $Q_5=1.2$  cfs and  $Q_{100}=3.1$  cfs. Rear yard/grass drainage runoff from Basin A will sheet flow offsite onto Kit Carson Riding Club property. These flows are less than the historic design flows (see Exhibit 3-Historic Drainage Plan) in Basin B,  $Q_5=4.4$  cfs and  $Q_{100}=11.0$  cfs, hence it is anticipated to not adversely affect adjacent or downstream property. As revised, Basin B (in Exhibit 1) contains 1.51 acres of single family residential and residential streets and has proposed design flows of  $Q_5=2.9$  cfs and  $Q_{100}=6.0$  cfs. These flows are less than the previously calculated design flows and will include all roof drains from the single family homes along the east side of Glory drive (see Exhibit 4-Final Drainage Plan) in Basin B,  $Q_5=3.2$  cfs and  $Q_{100}=6.6$  cfs, hence it will not adversely affect downstream inlets, storm sewer and detention facility infrastructure. In general, no impacts to drainage patterns and/or quantities to storm facilities is anticipated.

It is our understanding that drainage/bridge/pond fees have been paid on the site.

The amendment drainage letter and development of the Ridge at Cumbre Vista Filing No. 1 & 2 shall not adversely affect adjacent or downstream property and is in accordance with the Master Development Drainage Report for the Ridge at Cumbre Vista and the Final Drainage Report for the Ridge at Cumbre Vista Filing No. 1.

Respectfully,

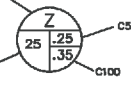














A handwritten signature in blue ink that reads "Virgil A. Sanchez". The signature is fluid and cursive, with the first name being the most prominent.

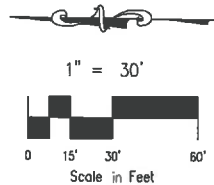
Virgil A. Sanchez, P.E.  
M&S Civil Consultants, Inc.

**Attachments:**

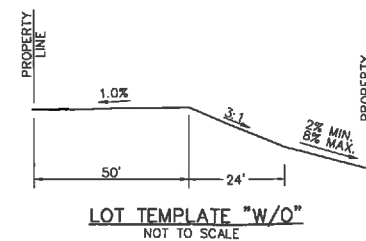
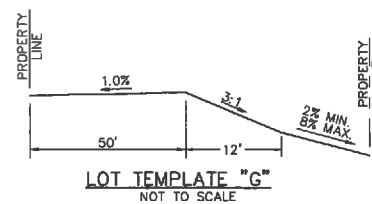
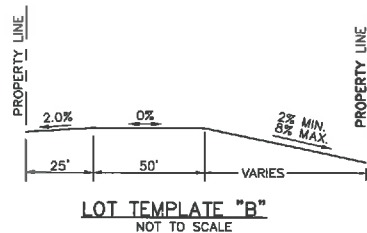
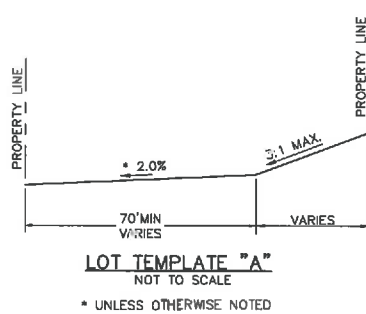
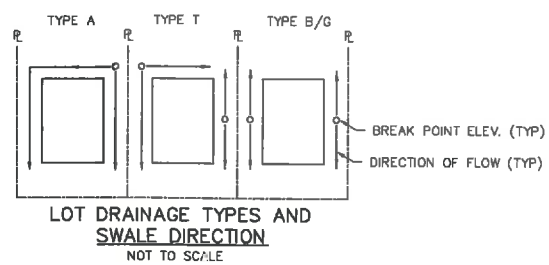
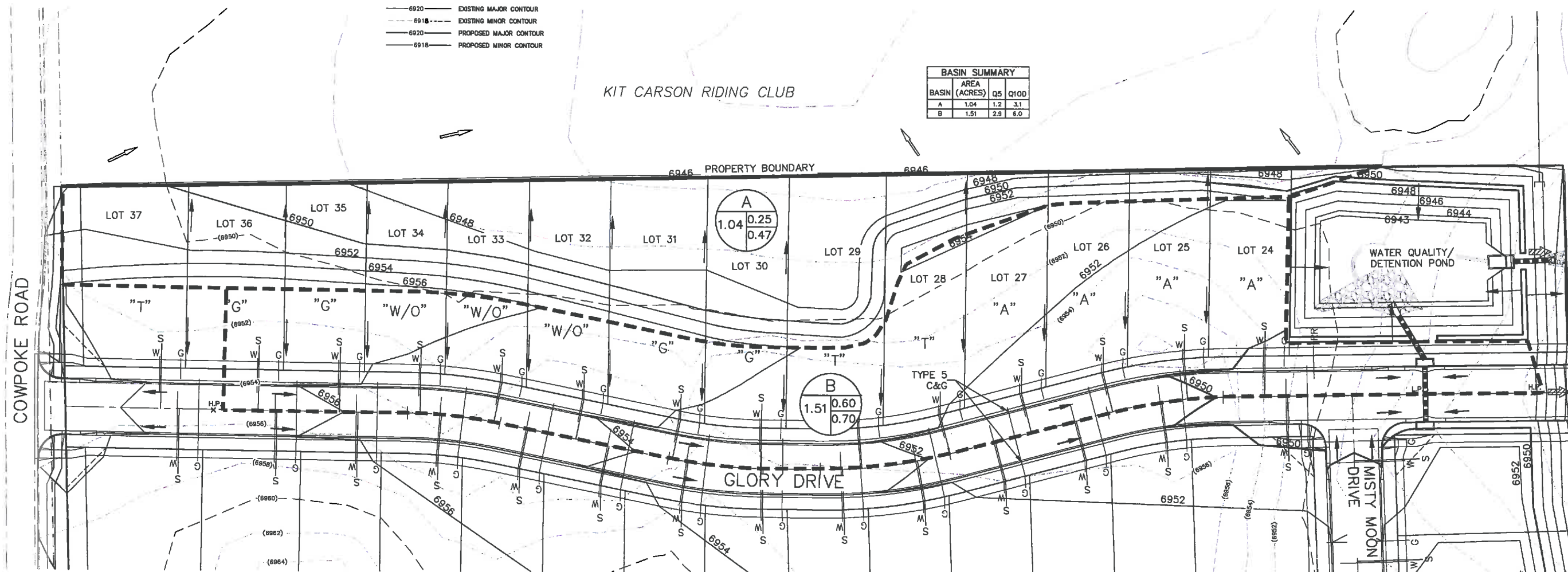
- Exhibit 1- Revised Grading and Drainage Basins
- Exhibit 2-Approved Grading & Erosion Control Plan GR02
- Exhibit 3-Historic Drainage Plan
- Exhibit 4-Final Drainage Plan

**LEGEND**

- BASIN DESIGNATION  

- PROPOSED LOT DRAINAGE FLOW  

- PROPOSED FLOW DIRECTION ARROW  

- EXISTING FLOW DIRECTION ARROW  

- EMERGENCY OVERFLOW DIRECTION  

- LOT 11  

- H.P.  

- L.P.  

- BASIN BOUNDARY  

- STORM SEWER PIPE  

- INLET  

- 6920  

- 6918  

- 6920  

- 6918  




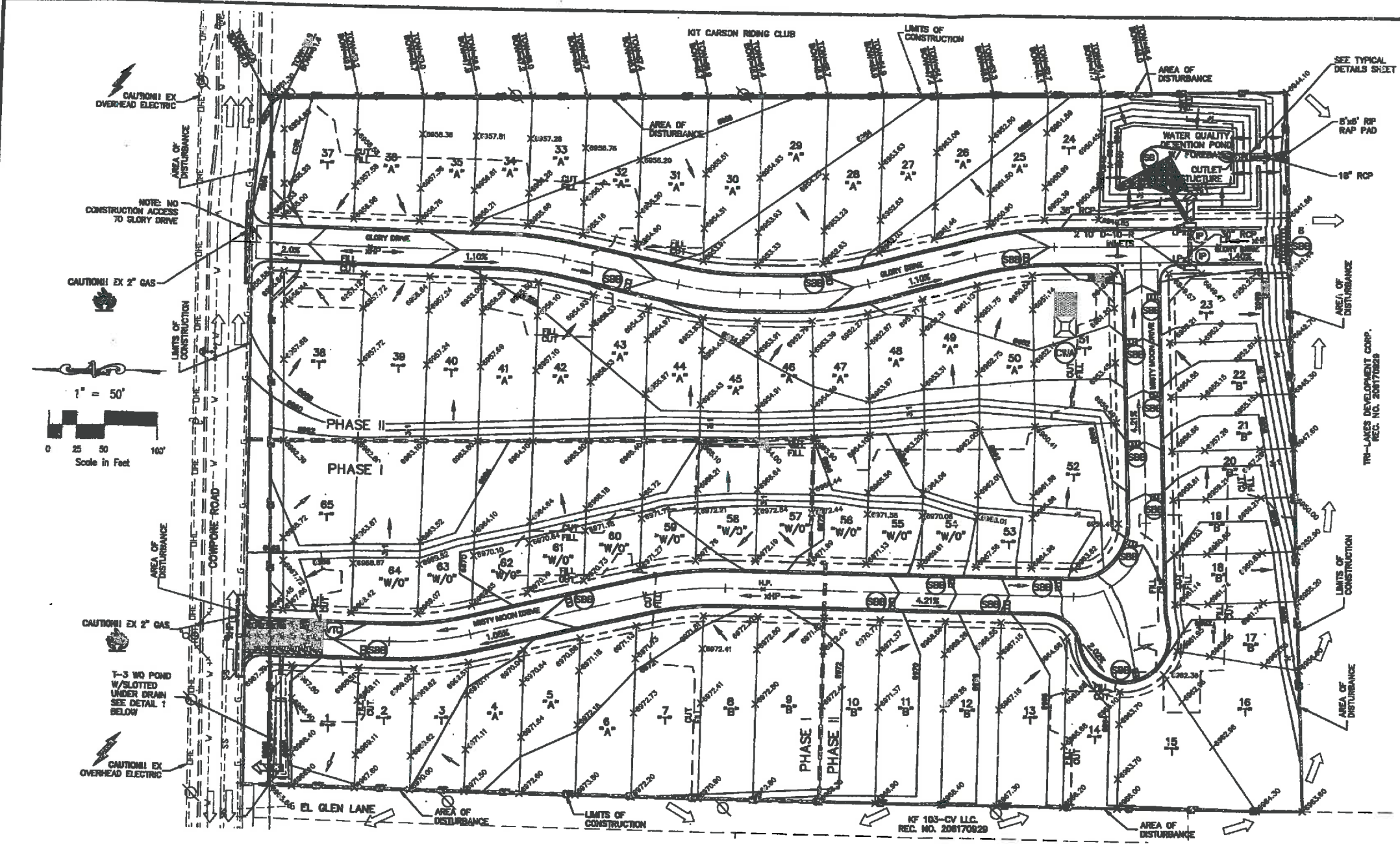
BASIN SUMMARY			
BASIN	AREA (ACRES)	Q5	Q100
A	1.04	1.2	3.1
B	1.51	2.9	8.0



AMENDMENT LETTER TO THE RIDGE  
 AT CUMBRE VISTA FILING NO. 1 & 2  
 EXHIBIT 1

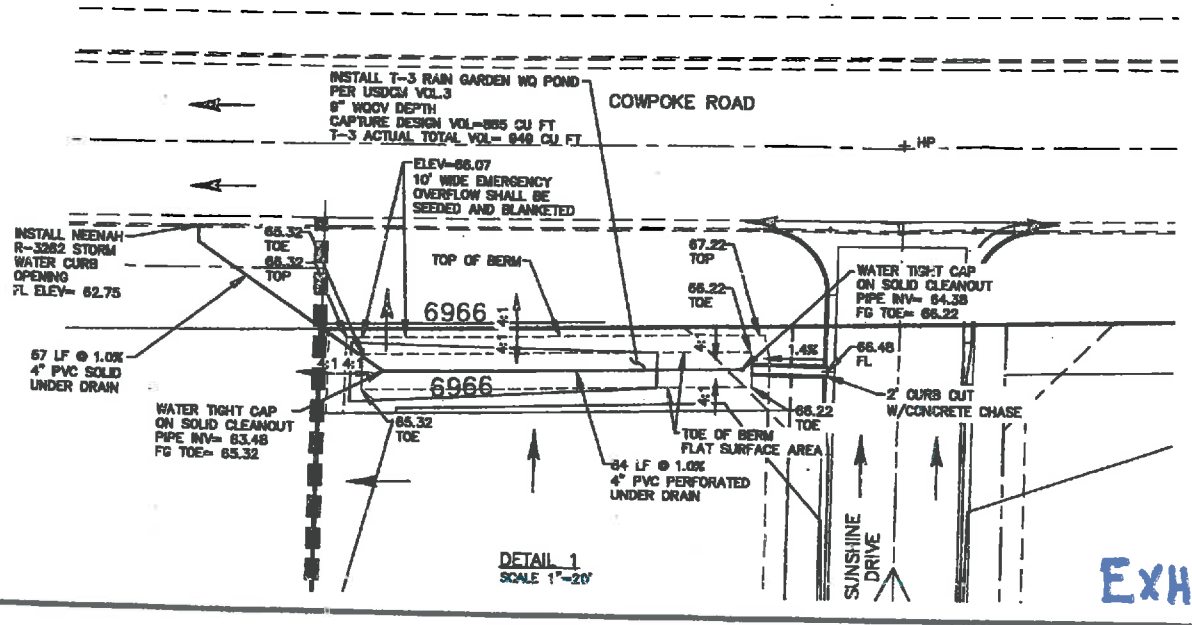
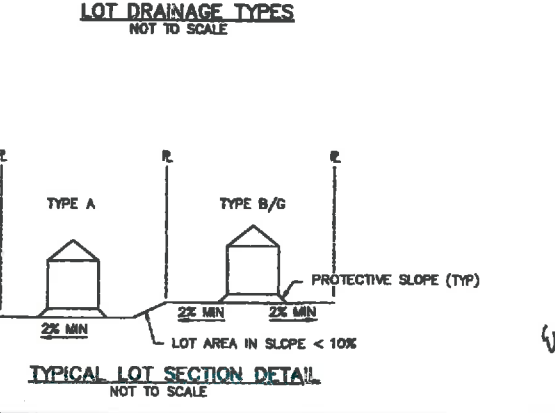
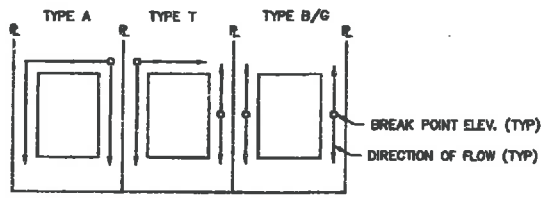
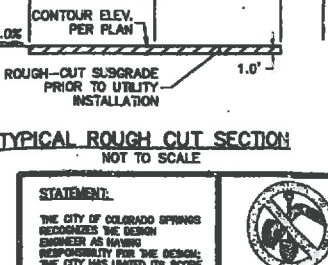
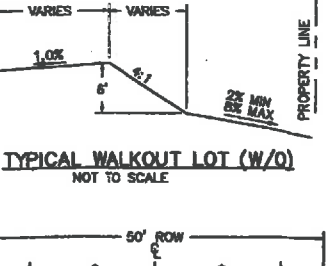
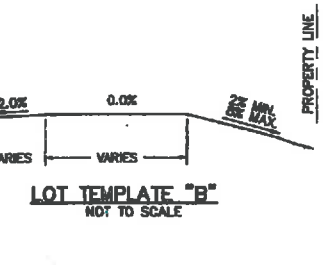
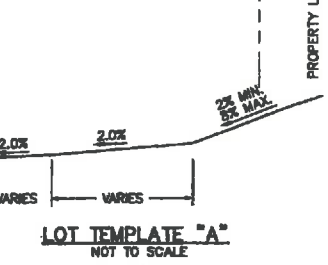
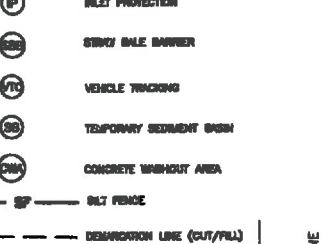






**LEGEND**

A	A LOT
B	B LOT
W/O	WALK-OUT LOT
T	TRANSITION LOT
L.P./H.P.	LOW POINT/HIGH POINT
PROPOSED	PROPOSED MAJOR CONTOUR
EXISTING	EXISTING MAJOR CONTOUR
PROPOSED	PROPOSED MINOR CONTOUR
EXISTING	EXISTING MINOR CONTOUR
---	PROPOSED PROPERTY LINE
---	EXISTING PROPERTY LINE
---	RIGHT-OF-WAY LINE
---	FIELD BOUNDARY LINE
---	CURB & GUTTER FLOW LINE
---	PROPOSED STORM DRAIN
---	EXISTING STORM DRAIN
---	INLET
---	FLOW DIRECTION
---	OVERFLOW DIRECTION
---	EXISTING FLOW
---	INLET PROTECTION
---	STUDY SALE BARRIER
---	VEHICLE TRACKING
---	TEMPORARY SEDIMENT BARRIERS
---	CONCRETE WALKOUT AREA
---	RAIL FENCE
---	DEMARCATION LINE (CUT/FILL)
---	PROPERTY LINE



**EXHIBIT 2**

**THE RIDGE AT CUMBRE VISTA FILING NO. 1**

**GRADING AND EROSION CONTROL PLAN**

PROJECT NO. 08-024 P.L.E. Vary/Chen/James/Valdez/Chen/Valdez/Chen  
SCALE 10-28-16 DATE 10-28-16 SHEET 2 OF 4  
DESIGNED BY: VMS SCALE: VMS  
DRAWN BY: VMS HORIZ: 1"=50'  
CHECKED BY: VMS VERT: N/A

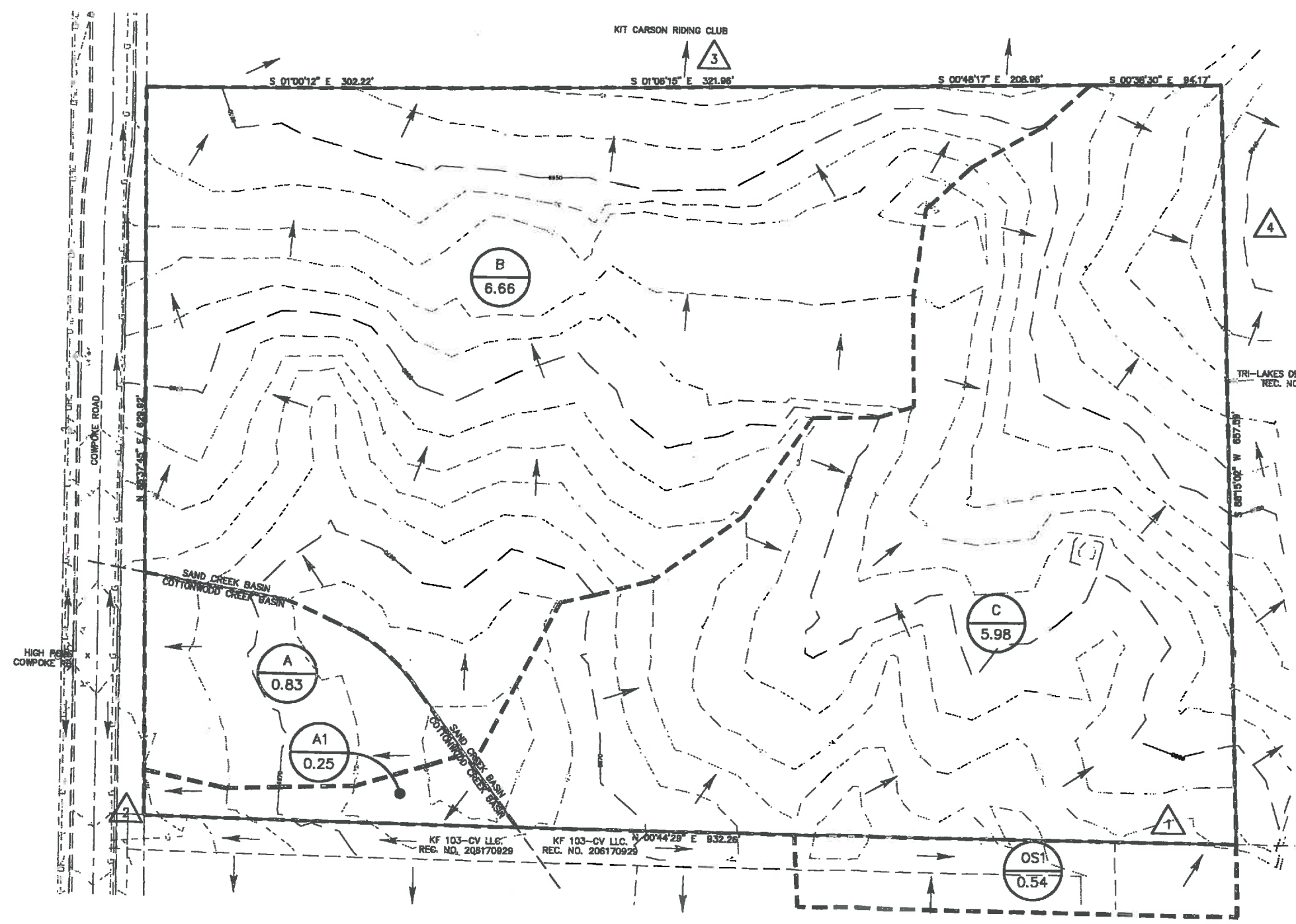
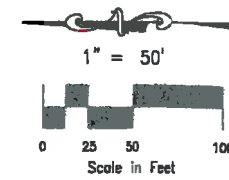
TR-LAKES DEVELOPMENT CORP.  
REC. NO. 208170829

FOR AND ON BEHALF OF  
M&B CIVIL CONSULTANTS, INC.

FOR LOCATING & MARKING OF  
ELECTRIC, WATER & TELEPHONE LINES  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

CAUTION!

# THE RIDGE AT CUMBRE VISTA FILING NO. 1 HISTORIC DRAINAGE FLOWS



### LEGEND

- EX MAJ CONT
- EX MIN CONT
- BASIN DESCRIPTION  
BASIN AREA, ACRES
- FLOW DIRECTION
- SURFACE ROUTING POINT

DESIGN POINT TABLE		
DESIGN PT.	FLOW CFS	FLOW CFS @ 100
1	0.5	1.2
2	0.8	2.2
3	4.4	11.9
4	4.4	11.9

EXHIBIT 3

THE RIDGE AT CUMBRE VISTA FILING NO. 1  
HISTORIC DRAINAGE PLAN  
JOB NO. 08-024  
DATE PREPARED: JANUARY 8, 2014  
DATE REVISED: SEPTEMBER 4, 2014



100 E. PINE PENN AVE., STE 306  
COLORADO SPRINGS,  
COLORADO 80903

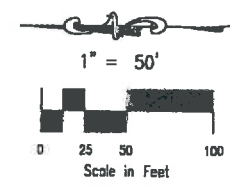
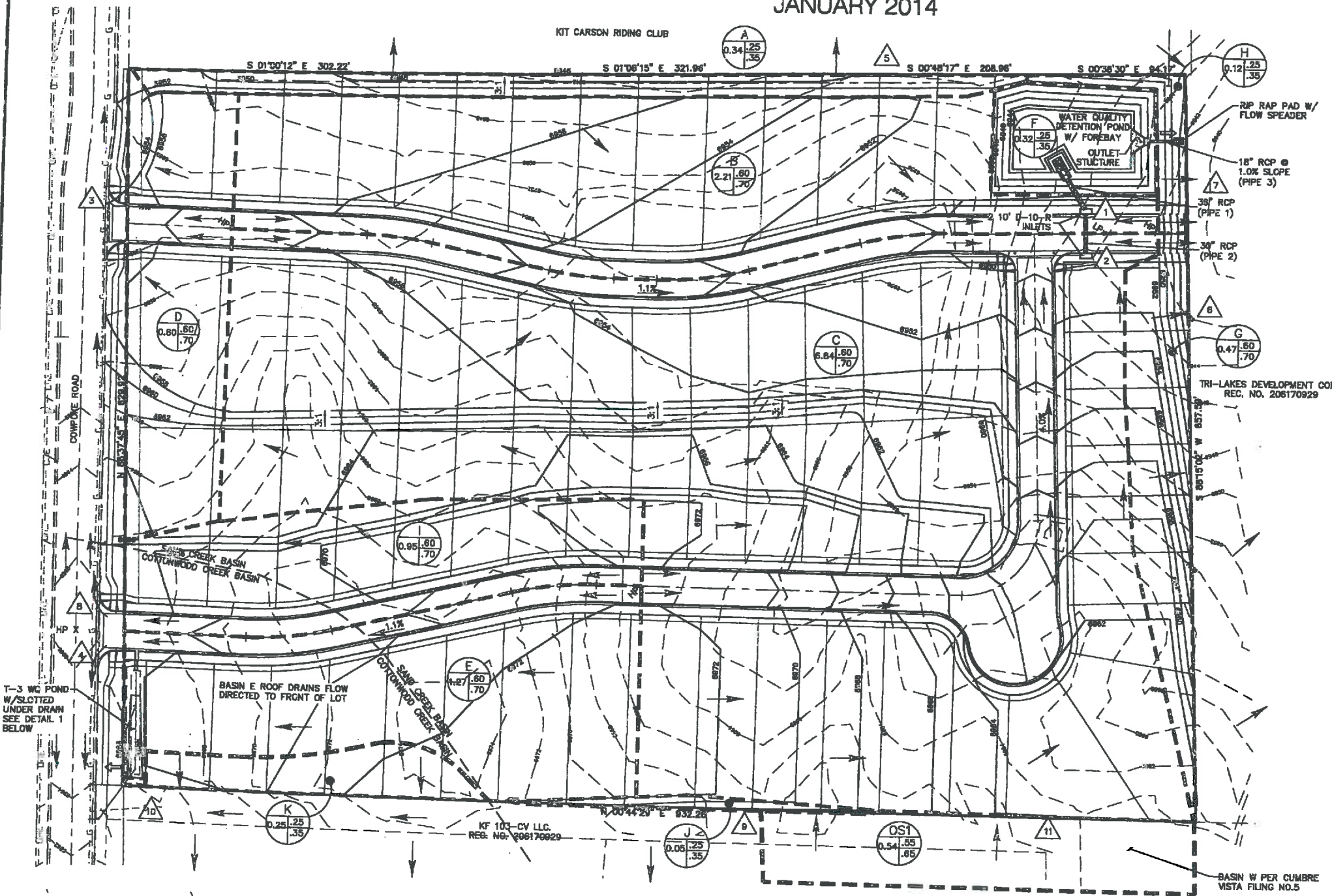
719.235.5249  
1.719.444.0407



# THE RIDGE AT CUMBRE VISTA FILING NO. 1

## FINAL DRAINAGE PLAN

### JANUARY 2014



#### LEGEND

- DESIGN POINT
- FLOW DIRECTION
- EMERGENCY OVERFLOW
- HIGH POINT
- TOP OF BERM
- TOE OF BERM
- FLOW LINE
- FINISH GRADE
- BASIN DESIGNATION
- ACRES
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- BASIN BOUNDARY

#### PIPE TABLE

PIPE	SIZE	FLOW Q80	FLOW Q100
1	36" RCP	13.7	28.5
2	30" RCP	13.6	28.3
3	18" RCP		9.2

#### DESIGN POINT TABLE

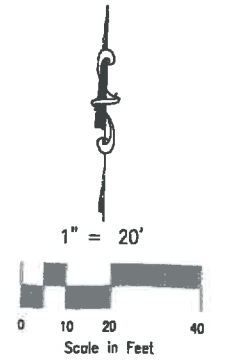
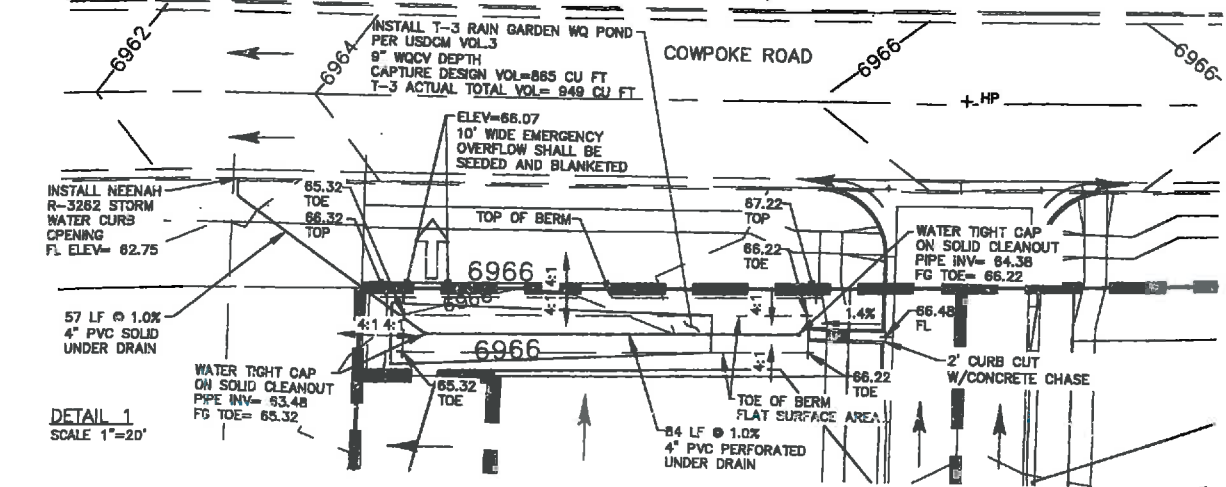
DESIGN PT.	FLOW Q80	FLOW Q100
1	3.2	6.8
2	13.5	28.3
3	3.7	7.8
4	2.0	4.1
5	0.4	1.1
6	1.4	3.0
7	0.2	0.4
8	1.8	3.8
9	0.1	0.2
10	0.3	0.7
11	1.1	2.2
POND	13.9	29.0

#### DETENTION POND INFORMATION

VOLUME REQUIRED	1.74 AC.-FT.
VOLUME PROVIDED	2.25 AC.-FT.
RELEASE RATE	9.21 CFS
100-YEAR WSEL	6949.30
WSEL	6948.00
BOTTOM OF POND	6943.00

#### T-3 WQCV INFORMATION

VOLUME REQUIRED	885 CU. FT.
VOLUME PROVIDED	949 CU. FT.
VOLUME TO DRAIN	12 HOUR
WQCV DEPTH	8 INCHES
WSEL	6366.07
BOTTOM OF POND	6365.32



## EXHIBIT 4

THE RIDGE AT CUMBRE VISTA FILING NO. 1  
FINAL DRAINAGE PLAN  
JOB NO. 06-024  
DATE PREPARED: JANUARY 8, 2014  
DATE REVISED: SEPTEMBER 12, 2014



102 E. PEAK AVE., STE 306  
COLORADO SPRINGS,  
COLORADO 80901

1 719.235.940  
1 719.444.827