Kiowa
Engineering Corporation

November 4, 2019

Mr. Jeff Rice
El Paso County Planning and Community Development
2810 International Circle
Colorado Springs, Colorado 80910

RE: Rock Island Trail, Sand Creek to Constitution Avenue, Drainage Letter Colorado Springs, Colorado (Kiowa Project No. 16028)

Dear Jeff:

On behalf of the City of Colorado Springs Parks, Recreation and Cultural Services Department I am providing you with a drainage letter for the above referenced project. The Rock Island Trail is a continuation of the Rock Island Trail within the City of Colorado Springs and is part of the overall City and County master trail plan. The City owns the former Rock Island Trail right-of-way within which the trail is situated. The trail and associated grading when completed will lie within the City's property. This segment of the Rock Island Trail begins at its connection point with the Sand Creek Trail and the proceeds east and north to Constitution Avenue. Total distance is 9,600 lineal feet. At Peterson Road and at grade pedestrian crossing is proposed. The vicinity and site map are shown on Figure 1 that is attached to this letter.

The typical trail section will be a 12-foot wide concrete section and a 4-foot gravel shoulder. Grading will be limited as the trail is to follow existing contours to the greatest extent possible. The project will also include the installation of a six-foot wide breeze trail section that will provide access to the Rock Island trail from the residential areas that lie to the north of the historic railroad grade.

The soils within the project site are Blakeland Loamy sands having a hydrologic soils classification of A. Vegetative cover within the project site is naïve grasses with fair to good cover except where informal trails exist where there is very little to no vegetative cover. The design of the trail allows runoff from the impervious surface to sheet flow onto the adjacent ground. There are no concentrations of runoff that will be created by the grading. The trail will cross two existing drainage flow paths. The first is at station 53+25 where an existing grass swale crosses the City's property et from north to south. The second is at station 85+55 where and existing grass swale that parallels the west side of the historic railroad grade and which eventually discharges to the Northcrest Detention basin. At both locations the runoff that reaches the trail will be collected by Type C inlet with an 18-inch HDPE under the trail. Riprap outlet protection will be provided at these crossings.

There are two major drainageway facilities that are adjacent to the City's property. The Constitution Hills channel begins at Peterson Road and outfalls to Sand Creek just west of the Rock Island's connection Sand Creek Trail. This drainageway collect runoff from the industrial and residential developments north of the City property. The portion of the City's property that lies north of the historic railroad grade sheet flows to the drainageway. Installation of the trail as proposed will not adversely impact the function of the drainageway. The second facility is the Northcrest Detention basin. This facility collects and stores runoff from the Northcrest subdivision(s). A portion of the City's property that lies west of the historic railroad grade and south of Constitution Avenue now

1604 South 21st Street, Colorado Springs, Colorado 80904
Ph: (719) 630-7342 Fax: (719) 630-0406 www.kiowaengineering.com

sheet flows into the detention basin. As the trail will be is aligned along the east side of the historic grade, runoff from the trail will not enter the Northcrest detention basin and will not adversely impact the function of the detention basin.

The impact upon the imperviousness of the City's property because of the trail construction was evaluated. Total area of the property is estimated at 37.5 acres. For the existing condition within the corridor, an imperviousness value of 8.1 percent was estimated. This accounts for the present percent imperviousness for the informal trails and the top of the existing railroad berm that have percent impervious values of 80 and 45 percent, respectively. For the proposed condition an imperviousness value of 10.6 percent was estimated. This accounts for the proposed 12-foot wide concrete trail and 4-foot gravel shoulder, and the reclamation of the informal trails and the top of railroad berm. While there is a slight increase in the percent imperviousness of the corridor, the linear nature of the project will allow for runoff from the trail and shoulder to sheet flow into the adjacent native grassed areas where the runoff can infiltrate. The elimination of the informal trails will significantly reduce the sediment that is available for transport there by enhance the overall water quality aspects of the corridor.

Construction of the Rock Island Trail will not cause an increase in runoff discharging to Sand Creek. The construction will not impact the routing of storm runoff through and out of the City's property. Elimination of the existing informal gravel trail surface will significantly reduce the imperviousness of the property and will reduce the amount of sediment available for transport to the Constitution Hills channel, the Northcrest detention basin and to land that abuts the City's property.

If you have any questions, please do not hesitate to contact me.

Sincerely,
KIOWA ENGINEERING CORPORATION

Richard N. Wray, P.E.
Principal

16028 rock island drainage letter

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 criteria established by the County 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.

Kiowa Engineering Corporation, 1604 South 21st Street, Colorado Springs, Colorado 80904

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Richard N. Wray Date

Registered Engineer #19310

For and on Behalf of Kiowa Engineering Corporation

Applicant's Statement:

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

BY: _____ Date _____

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Printed

ADDRESS: City of Colorado Springs
1401 Recreation Way
Colorado Springs, Colorado 80907

El Paso County:

Filed in accordance with the requirements of the Drainage Criteria Manual Volumes 1 and 2, El Paso County Engineering Criteria Manual and Land Development Code, as amended.

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Jennifer Irvine, P.E. Date

County Engineer/ECM Administrator