

**Amendment to
Master Development Drainage Plan
for Hill Properties
[Penrose-St. Francis New Campus]
Colorado Springs, Colorado**

Prepared for:
Penrose-St. Francis Health Services
2222 North Nevada Avenue
Colorado Springs, Colorado 80907



1804 South 21st Street
Colorado Springs, Colorado 80904
(719) 830-7342

Kiowa Project No. 16062
March 16, 2017

**Conceptual Drainage Letter
Penrose-St. Francis
New Campus
(Unplatted)
Colorado Springs, Colorado**

Prepared for:
Penrose-St. Francis Health Services
2222 North Nevada Avenue
Colorado Springs, CO 80907



1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Kiowa Project No. 15021
July 13, 2015



July 13, 2015

Ms. Lydia Maring
City of Colorado Springs
Engineering Development Review Division
30 South Nevada Avenue, Suite 401
Colorado Springs, Colorado 80903

RE: Penrose-St. Francis New Campus – Conceptual Drainage Letter
(Kiowa Project No. 15021)

Dear Lydia:

The following is the Drainage Letter for the proposed Penrose-St. Francis New Campus. This letter is being submitted in support of the Concept Plan submittal for the site located on the northeast corner of Fillmore Street and Centennial Boulevard. This letter has been prepared according to City/County drainage criteria and is being submitted for approval.

If you have any questions or if we may be of further assistance, please feel free to contact us.

Sincerely,

Kiowa Engineering Corporation

A handwritten signature in green ink, appearing to read "Andrew W. McCord".

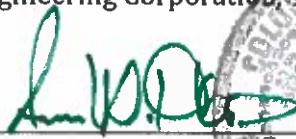
Andrew W. McCord, P.E.
Associate

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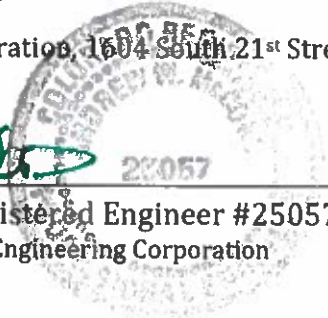
ENGINEER'S STATEMENT:


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 City/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



Andrew W. McCord Registered Engineer #25057
For and on Behalf of Kiowa Engineering Corporation





Date

DEVELOPER'S STATEMENT:

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



By Title Date

Chief Administrative Officer

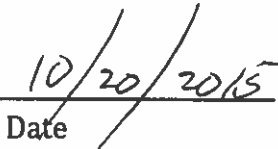
ADDRESS: Penrose-St. Francis Health Services
2222 North Nevada Avenue
Colorado Springs, CO 80907

CITY OF COLORADO SPRINGS:

Filed in accordance with Section 7.7.906 of the code of the City of Colorado Springs, 2001, as amended.



For City Engineer Date


Date

Conditions:

I. Location and Description

The project site is located on the northeast corner of Fillmore Street and Centennial Boulevard. Figure 1 depicts the general location of the site. While the site currently does not have a proposed layout, the ultimate build out of the project is expected to include a 775,000 sf hospital, two 100,000 sf medical office buildings, a central utility plant, a parking garage and associated access drives and parking.

II. Floodplain Statement

The site is located outside the 100-year flood plain as shown on the Flood Insurance Rate Map numbers 08041C0513 F and 08041C0514 F.

III. Site Drainage

The proposed Penrose-St. Francis New Campus site is located within the Mesa Drainage Basin. The site is situated along the northern basin boundary. The Drainage Basin Planning Study (DBPS) for the Mesa Drainage entitled *Master Plan for Mesa Drainage Basin* was prepared by Gilbert, Meyer, and Sams, Inc. and was adopted on March 31, 1986. The site was included within a Master Development Drainage Plan (MDDP) entitled *Master Development Drainage Plan for Hill Properties*, prepared by Rockwell-Minchow Consults, Inc. This MDDP was prepared for Hill Properties in 1995. The MDDP generally encompassed the Hill Properties and some areas outside of their properties. The plan does address the project site, but does not address the asphalt plant.

Master Development Drainage Plan (MDDP)

As this proposed development moves forward through the entitlement process, it is anticipated that either the existing MDDP for the Hill Properties will be updated or more likely an entirely new MDDP will be prepared for this site. While the Hill Properties MDDP will be used as a reference, the development of the site has changed enough since the preparation of the Hill Properties MDDP and Master Plan that this document should be prepared as a separate document.

It is anticipated that this MDDP will become the 'master plan' for the development of this site. This future MDDP will address water quality and how site runoff will be safely conveyed downhill to the east to the existing drainage facilities. It is expected that detention will be required in order to reduce the runoff peak flows in order to allow the existing downstream facilities to remain. Water quality facilities will be incorporated into the proposed detention facilities. The detention facilities will be located 'downstream' of the proposed development and outside of backfill areas associated with any structures. Conveyance of the site runoff down the slope on the east end of the site will need to be engineered in order to prevent erosion. It is anticipated that a drainage system consisting of pipes and drains will be used to convey site runoff to existing drainage facilities located east of the site. The size and scope of this system will be determined with the preparation of the MDDP and refined further with

the preparation of Preliminary and Final Drainage Reports and the final drainage facilities construction documents.

Preliminary and Final Drainage Reports

As a part of the regular development process for this site, Preliminary and Final Drainage Reports will be required. Preliminary Drainage Reports will be required with the submittal of a Development Plan and a Final Drainage Report will be required with a plat submittal. It is possible, depending upon how the development application is packaged and submitted, that the Preliminary and Final Drainage Reports can be combined into one report. It is also possible, depending upon how the application is processed, that the MDDP and Preliminary Drainage Report can be combined into a single report.

IV. Drainage Fees and Costs

The Mesa Drainage is a relatively developed basin, with most of the undeveloped land in the area near the Centennial Boulevard and Fillmore Street intersection and along the Mesa Drainage channel. It also appears that there is some undeveloped land on the east side of the Kissing Camels development.

The City of Colorado Springs has a Drainage Fee system where developers pay into a fund based upon a per acre fee for every platted acre. The fee is based upon the anticipated cost of public improvements in each major drainage basin. The current drainage fee for the Mesa Drainage Basin is \$8,745 per acre. The Mesa Drainage does not have other fees typically determined with the DBPS, such as Bridge Fees (used for bridge construction) and Land Fees (used to offset land costs for detention).

V. Conclusion

As the regular development process continues with this development, further refinement of the site layout and phasing of the project will be determined. Along with this process will come further refinement of the required drainage facilities and water quality requirements. These requirements will come in the form of an updated or more likely new Master Development Drainage Plan of the overall site. This will be followed by Preliminary and Final Drainage Reports that will address ultimate and phased construction of drainage facilities.

VICINITY MAP:



Figure 1



March 16, 2017

Ms. Erin Powers
City of Colorado Springs
Engineering Development Review Division
30 South Nevada Avenue, Suite 401
Colorado Springs, Colorado 80903

RE: Amendment to Master Development Drainage Plan for Hill Properties [Penrose-St. Francis New Campus] (Kiowa Project No. 16062)

Dear Erin:

The following is an Amendment to the *Master Drainage Development Plan for Hill Properties* necessary due to the Minor Amendment to Master Plan (CPC MPA 04-00043-A3MN17) for the proposed Penrose-St. Francis Campus as a part of the overall Hill Properties Amended Master Plan. This amendment is being submitted in support of the Minor Amendment to the Hill Properties Amended Master Plan for the proposed new of Penrose-St, Francis campus to be located on the northeast corner of Fillmore Street and Centennial Boulevard. The Amended Master Plan is being updated to include the property that currently contains the existing asphalt plant. As the asphalt plant was not included in the *Master Drainage Development Plan for Hill Properties*, the amendment is required. Further detail on the drainage system and specific requirements for the proposed development will be developed and presented as the project continues to progress through the development process. This will be accomplished with the submittal of the required Master Development Drainage Plan, Preliminary Drainage Reports, and Final Drainage Reports. This amendment has been prepared according to City/County drainage criteria and is being submitted for approval.

If you have any questions or if we may be of further assistance, please feel free to contact us.

Sincerely,

Kiowa Engineering Corporation

A handwritten signature in green ink, appearing to read "Andrew W. McCord", is written over the printed name.

Andrew W. McCord, P.E.
Associate

\\16062MDDP-DR.docx

STATEMENTS AND APPROVALS

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 City/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



3/27/2017

Andrew W. McCord Registered Engineer #25057
For and on Behalf of Kiowa Engineering Corporation

Date

DEVELOPER'S STATEMENT:

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

A. J. Wardwell DIR. FAC MAN

3/30/2017

By

Title

Date

ADDRESS: Penrose-St. Francis Health Services
2222 North Nevada Avenue
Colorado Springs, CO 80907

CITY OF COLORADO SPRINGS:

Filed in accordance with Section 7.7.906 of the code of the City of Colorado Springs, 2001, as amended.



4/7/2017

For City Engineer

Date

Conditions:

Amendment to the Master Drainage Development Plan for Hill Properties (Penrose-St. Francis New Campus)

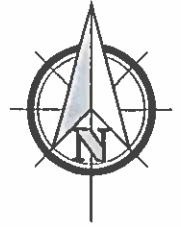
The project site is in the City of Colorado Springs on the northeast corner of Fillmore Street and Centennial Boulevard. A vicinity map of the project site is included as Figure 1. The site is located within the Mesa Drainage Basin, which was studied in a Drainage Basin Planning Study (DBPS) by Gilbert, Meyer & Sams, Inc., entitled *Master Plan for Mesa Drainage Basin*, adopted March 31, 1986. A portion of the project site (51.05 acres) was included in a Master Development Drainage Plan (MDDP) for the Hill Properties. The MDDP was entitled *Master Development Drainage Plan for Hill Properties*, prepared by Rockwell-Minchow Consults, Inc. This MDDP was prepared for the Hill Properties in 1995. The MDDP generally encompassed the Hill Properties and some areas outside of their properties. The plan does address a portion of the project site, but excludes the asphalt plant.

The Master Plan for the proposed Penrose-St. Francis New Campus now includes the additional 27.79 acres of the existing asphalt plant. The existing asphalt plant was not included in the Hill Properties MDDP. The intent of this amendment is to include the additional 27.79 acres into the MDDP. The existing drainage patterns on the existing asphalt plant are consistent with the Hill Properties MDDP and these patterns are expected to remain essentially the same.

The proposed development of the Penrose-St. Francis New Campus will be a phased project and is over ten acres in size. Per current drainage criteria, a new or updated Master Drainage Development Plan will be required.

As this proposed development moves through the entitlement process with the City of Colorado Springs, it is anticipated that a new MDDP will be prepared for the site as the proposed site layout is developed. While the Hill Properties MDDP could be updated, the development of the site has changed enough since the preparation of the Hill Properties MDDP and Master Plan that this document should be prepared as a separate document. The Hill Properties MDDP would be used as a reference as the MDDP is prepared.

The proposed MDDP will become the 'master plan' for the development of drainage facilities on this site. This future MDDP will address water quality and how site runoff will be safely conveyed to the drainage facilities located downhill to the east generally in the location of Fillmore Ridge Heights. It is expected that full spectrum detention will be necessary, not only as it is a requirement for sites such as this, but also to reduce the runoff peak flows to allow the existing downstream facilities to remain. Water quality facilities will be incorporated into the proposed detention facilities. The detention facilities will be located 'downstream' of the proposed development and outside of backfill areas associated with any structures.



Scale: 1"=1,000'



Figure 1

Figure 1.dwg/Mar 16, 2017

Amendment to Hill Properties MDDP
 Penrose-St. Francis New Campus
 Vicinity Map
 Colorado Springs, Colorado

Date: 3/16/2017
 Project No. 16062

Celebrating 30 years
Kiowa
 Engineering Corporation
 1604 South 21st Street
 Colorado Springs, Colorado 80904
 (719) 630-7342