Eagleview MDDP and DPBS Amendment Letter of Intent

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PCD File No.: MDP232

REQUEST

PT Eagleview LLC (Applicant) requests a MDDP and DBPS Amendment ("Amendment") to the previously approved Falcon Drainage Basin Planning Study completed by Matrix Design Group, September 2015 (DBPS). Changes to the DBPS include the removal of the small drop structures for the entire length of reaches RWT054, RWT080, and RWT092, to be replaced with natural channel design measures in appropriate locations. Additionally, this DBPS Amendment defers the construction of Sub-Regional Pond 1 (SR1) to the County for construction at a later date. Lastly, this Amendment changes some of the costs for drainage improvements from County costs to developer costs in support of the proposed Eagleview development ("Project") and thus amending the Falcon Drainage Basin, drainage fee.

LOCATION

The Project is located approximately 4 miles northwest of Falcon, Colorado within Section 26, Township 12 South, Range 65 West of the 6th Principal Meridian, County of El Paso, State of Colorado ("the Site"). The Site comprises two parcels of land which are bound by Stapleton Estates Filing No. 1 on the west and south, Paint Brush Hills Filing No. 14 (PCD File No. SF2024) to the east, and the Rodgwick Subdivision and MFY Farm Subdivision to the north. The Site is currently owned by PT Eagleview LLC and will be developed by PT Eagleview LLC.

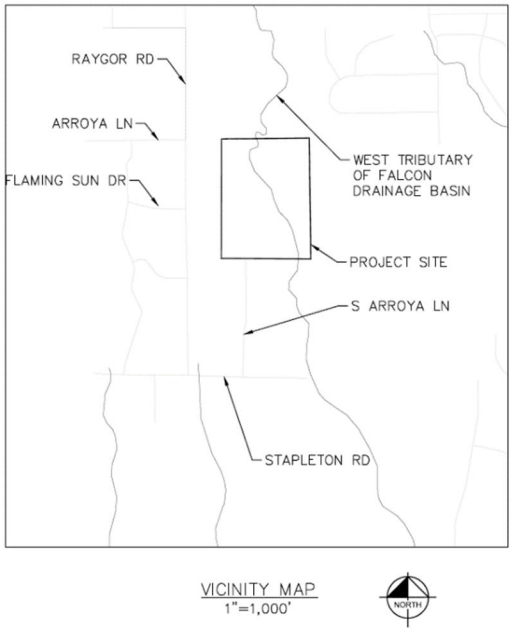

Figure 1. Vicinity Map

CRITERIA FOR APPROVAL

The proposed storm facilities are designed to be in compliance with the El Paso County "Engineering Criteria Manual", as revised in November 1991 and October 1994 with County adopted Chapter 6 and Section 3.2.1 of Chapter 13 of the City of Colorado Springs May 2014 Drainage Criteria Manual, Volume 1, ("the DCM").

Applicable design methods were used to analyze the identified reaches which include the use of HEC-HMS and HEC-RAS models. Proposed amendments to the identified drainage features have been analyzed using the following hydraulic design parameters, in Table 3, consistent with the Mile High Flood Districts, Urban Drainage and Flood Control District Drainage Criteria Manuals (UDFCDCM), (Volumes 1, 2 and 3), prepared by Wright-McLaughlin Engineers, June 2001, with latest revisions.

Table 4: Hydraulic Design Parameters for Natural Channels

Design Parameter	Design Value
Maximum 100-year depth outside of bankfull channel	5 ft
Roughness values	Per Table 8-5
Maximum 5-year velocity, main channel (within bankfull channel width) (ft/s)	5 ft/s
Maximum 100-year velocity, main channel (within bankfull channel width) (ft/s)	7 ft/s
Froude No., 5-year, main channel (within bankfull channel width)	0.7
Froude No., 100-year, main channel (within bankfull channel width)	0.8
Maximum shear stress, 100-year, main channel (within bankfull channel width)	1.2 lb/sf
Minimum bankfull capacity of bankfull channel (based on future development conditions)	70% of 2-year discharge or 10% of 100-yr discharge, whichever is greater[1]
Minimum bankfull channel geometry	Per Table 8-2
Minimum bankfull channel width/depth ratio (Equation 8-3)	9
Minimum entrenchment ratio (Equation 8-4)	3
Maximum longitudinal slope of low flow channel (assuming unlined, unvegetated low flow channel)	0.2 percent →
Bankfull channel sinuosity (Equation 8-5)	1.1 to 1.3
Maximum overbank side slope	4(H):1(V)
Maximum bankfull side slope	2.5(H):1(V)
Minimum radius of curvature	2.5 times top width

[1]Roughly equivalent to a 1.5-year event based on extrapolation of regional data.

Revised to 0.4% based on Falcon DBPS recommendations.

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DBPS DRAINAGE RECOMMENDATIONS

The DBPS made recommendations for channels (RWT054), (RWT092), (RWT080), and (RWT094). The DBPS also identified a sub-regional dentition pond (SR1) to be constructed onsite to provide water quality and flood attenuation.

The following is a description of the improvements identified within the DBPS for each reach or feature:

RWT094:

- Natural Channel Design- Five (5) drops identified between SR1 and Property Line

SR1 (Sub Regional Pond 1):

- 11.03 AC-FT (100 YR) Sub Regional Pond
- Assumed as Non-Jurisdictional Dam
- Sized for the WQCV + 100 YR Detention Volume
- Four (4) drops identified within SR1

RWT080:

- Small Drop Structures- Twenty-six (26) drops identified, eleven (11) within the Eagleview project limits

RWT092:

- Small Drop Structures- Two (2) drops identified between SR1 and Reach RWT054

RWT054:

- Small Drop Structures- Sixteen (16) drops identified

PROPOSED AMENDMENTS TO RECOMMENDATIONS

Based on engineering judgements, assumptions and analysis this Amendment proposes to modify the improvements from the DBPS. A summary of the proposed changes are included below.

RWT094:

- This channel will remain unchanged from the DBPS designation of a natural reach.

- A combination of natural riprap riffle drops, coir matting and channel grading will be shown south of the proposed road (South Arroya Lane) due to the width of the channel in this section, approximately DBPS stations 37+600 to 38+800.
- Concrete check structures north of South Arroya Lane to the confluence of RWT094 with RWT080 and RWT092, approximately DBPS stations 38+800 to 39+600. Check structures are proposed to be installed at grade in the existing channel to minimize disturbance and protect the channel by maintaining a three-foot maximum drop and a 0% longitudinal slope between structures. Refer to Appendix A for concrete check structure typical detail.

SR1 (Sub Regional Pond 1):

- Defer the construction of the 11.03 AC-FT (100 YR) sub regional pond SR1 to the County, as it is considered a County cost. A proposed drainage easement will be provided to cover the needed area for a future regional pond.
- The Site will be required to adhere to standard County drainage criteria and provide a separate full spectrum detention facility to release less than historic rates downstream of the property. This full spectrum detention facility design will be provided in the Final Drainage Report for the Site.

RWT080:

- No previous analysis for this reach was completed in the Falcon DBPS.
- A full spectrum detention facility is proposed along this reach. Design details will be provided in the Final Drainage Report for the Site.
- Remove small grouted boulder drop structures and replace with willow plantings.

RWT092:

- Remove small grouted boulder drop structures and replace with concrete check structures. Check structures are proposed to be installed at grade in the existing channel to minimize disturbance and protect the channel by maintaining a three-foot maximum drop and a 0% longitudinal slope between structures. Refer to Appendix A for concrete check structure typical detail.

RWT054:

- Remove small grouted boulder drop structures and replace with a concrete check structures at approximately DBPS station 40+300. Check structures are proposed to be installed at grade in the existing channel to minimize disturbance and protect the channel by maintaining a three-foot maximum drop and a 0% longitudinal slope between structures. Refer to Appendix A for concrete check structure typical detail.

JUSTIFICATION

Consistency with Approval Criteria

The proposed storm facilities are in compliance with the El Paso County "Engineering Criteria Manual", as revised in November 1991 and October 1994 with County adopted Chapter 6 and Section 3.2.1 of Chapter 13 of the City of Colorado Springs May 2014 Drainage Criteria Manual, Volume 1, ("the DCM").

This MDDP and DBPS Amendment to the previously approved Falcon Drainage Basin Planning Study completed by Matrix Design Group, September 2015 (DBPS) removes the small drop structures for the entire length of reaches RWT054, RWT080, and RWT092, to be replaced with natural channel design measures in appropriate locations. Additionally, this DBPS Amendment defers the construction of Sub-Regional Pond 1 (SR1) to the County for construction at a later date. Lastly, this Amendment changes some of the costs for drainage improvements from County costs to developer costs in support of the proposed Eagleview development ("Project") and thus amending the Falcon Drainage Basin, drainage fee.

The proposed modifications and improvements would cause a change in the Drainage Basin Fee. The difference in actual proposed cost for RWT-094 (Developer Cost) and the inflated DBPS do not result in an increase of Drainage Basin Fees. Should RWT080, RWT092, RWT054, and Sub Regional Pond SR1 be amended as Developer Costs, the estimated improvements of $1,353,443.00 would cause an increase of at least $3,238.00 per impervious acre.