



# PAINT BRUSH HILLS METRO DISTRICT EQUIPMENT STORAGE FACILITY

## Site Development Plan for the Equipment Storage Facility Drainage Letter

The Paint Brush Hills Metropolitan District (PBHMD) is located in Peyton, Colorado in unincorporated El Paso County. PBHMD is submitting a site development plan for the Equipment Storage Facility located at 10028 Jaggar Way. The site is located in the Southwest quarter (1/4) of the Northwest quarter (1/4) of Section 25, Township 12 South, Range 65 West of the Sixth Principal Meridian. It is southeast of the Londonderry Drive and Devoncove Drive Intersection. The site falls within the Paint Brush Hills Filing No. 13.

The Final Drainage Report for Paint Brush Hills – Phase 2 (Filing No. 13) was prepared in October 2005 and revised most recently in June 2008. The project site includes a small area in the northern portion of the Paint Brush Hills Filing 13C, Tract A, and crosses Parcel B of the Paint Brush Hills Metropolitan Exemption Plat both of which were included in the Final Drainage Report. The site is within sub basins “U” and “N” of the Filing No. 13 Final Drainage Report. Relevant pages from the Final Drainage Report are included at the end of this letter.

Table 1 lists the proposed improvements to the site and their respective areas.

*Table 1: Areas of Proposed Development*

<b>Proposed Improvement</b>	<b>Area (square feet)</b>
Equipment Storage	2,520
Gravel Drive	9,027
Paved Sidewalk	60
Grading Disturbance	3,271

As shown in Table 1, the Site Disturbance for the project is less than 1-acre. As such, no water quality or stormwater detention is required.

Kimley-Horn used Table 6-6 in Volume 1 Chapter 6 Section 3.1 of the El Paso County Drainage Criteria Manual to determine the runoff coefficients of the proposed development to compare the proposed conditions to the conditions specified in the Final Drainage Report for Paint Brush Hills. The calculated runoff coefficients were used to compare final flows from sub basin “U.” Calculation results and comparisons are shown in Table 2.

Table 2: Rational Method Calculations and Comparisons

	Drainage Report Values	Values with Proposed Development	% Change
C(5)	0.25	0.256	2.4%
C(100)	0.35	0.356	1.7%
Weighted CA(5)	4.53	4.636	2.3%
Weighted CA(100)	6.34	6.448	1.7%
Overland Tc (min)	18.5	18.5	0.0%
Channel Flow Tc (min)	11.1	11.1	0.0%
Total Tc (min)	29.6	29.6	0.0%
I(5) (in/hr)	2.44	2.44	0.0%
I(100) (in/hr)	4.34	4.34	0.0%
Q(5) (cfs)	11.05	11.31	2.3%
Q(100) (cfs)	27.52	27.98	1.7%

The highest percent change across drainage values is 2.4%. In a 5-year flood event, the flow increases by 0.27 CFS which corresponds to a 2.3% increase in flow. In a 100-year floor event, the flow increases by 0.48 CFS which corresponds to a 1.7% increase in flow.

These increases are minimal and do not have a significant impact on the receiving waters. Due to the minimal amount of imperviousness created by the proposed garage addition and associated access drive, the proposed development is within the parameters which were planned for with the development of Paint Brush Hills, Filing 13. Development of the proposed garage will not have adverse drainage effects on any of the adjacent properties, will result in less than 1-acre of disturbance, and will not require any additional stormwater detention or water quality facilities.

If you have any questions or concerns with drainage concepts associated with this proposed construction, please contact Adam Monchak at 720-943-9961 or at [adam.monchack@kimley-horn.com](mailto:adam.monchack@kimley-horn.com).

Sincerely,

Adam Monchak