

Johnson Stockpile West Diversion

Designed using a 10-year, 24-hour rainfall event

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General Information

Storm Information:

Storm Type:	NRCS Type II
Design Storm:	10 yr - 24 hr
Rainfall Depth:	1.400 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Channel	#1	==>	End	0.000	0.000	Johnson Stockpile West Diversion

#1 Chan'

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	13.200	13.200	5.17	0.49

Structure Detail:

Structure #1 (Erodible Channel)

Johnson Stockpile West Diversion

Triangular Erodible Channel Inputs:

Material: Graded silts to cobbles when colloidal

Left Sideslope Ratio	Right Sideslope Ratio	Slope (%)	Manning's n	Freeboard Depth (ft)	Freeboard % of Depth	Freeboard Mult. x (VxD)	Limiting Velocity (fps)
3.0:1	3.0:1	2.6	0.0300	1.00			5.5

Erodible Channel Results:

	w/o Freeboard	w/ Freeboard
Design Discharge:	5.17 cfs	
Depth:	0.68 ft	1.68 ft
Top Width:	4.07 ft	10.07 ft
Velocity:	3.76 fps	
X-Section Area:	1.38 sq ft	
Hydraulic Radius:	0.321 ft	
Froude Number:	1.14	

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	13.200	0.242	0.000	0.000	87.000	F	5.17	0.489
Σ		13.200						5.17	0.489

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.87	25.00	870.01	1.690	0.142
		7. Paved area and small upland gullies	2.57	30.00	1,166.04	3.220	0.100
#1	1	Time of Concentration:					0.242