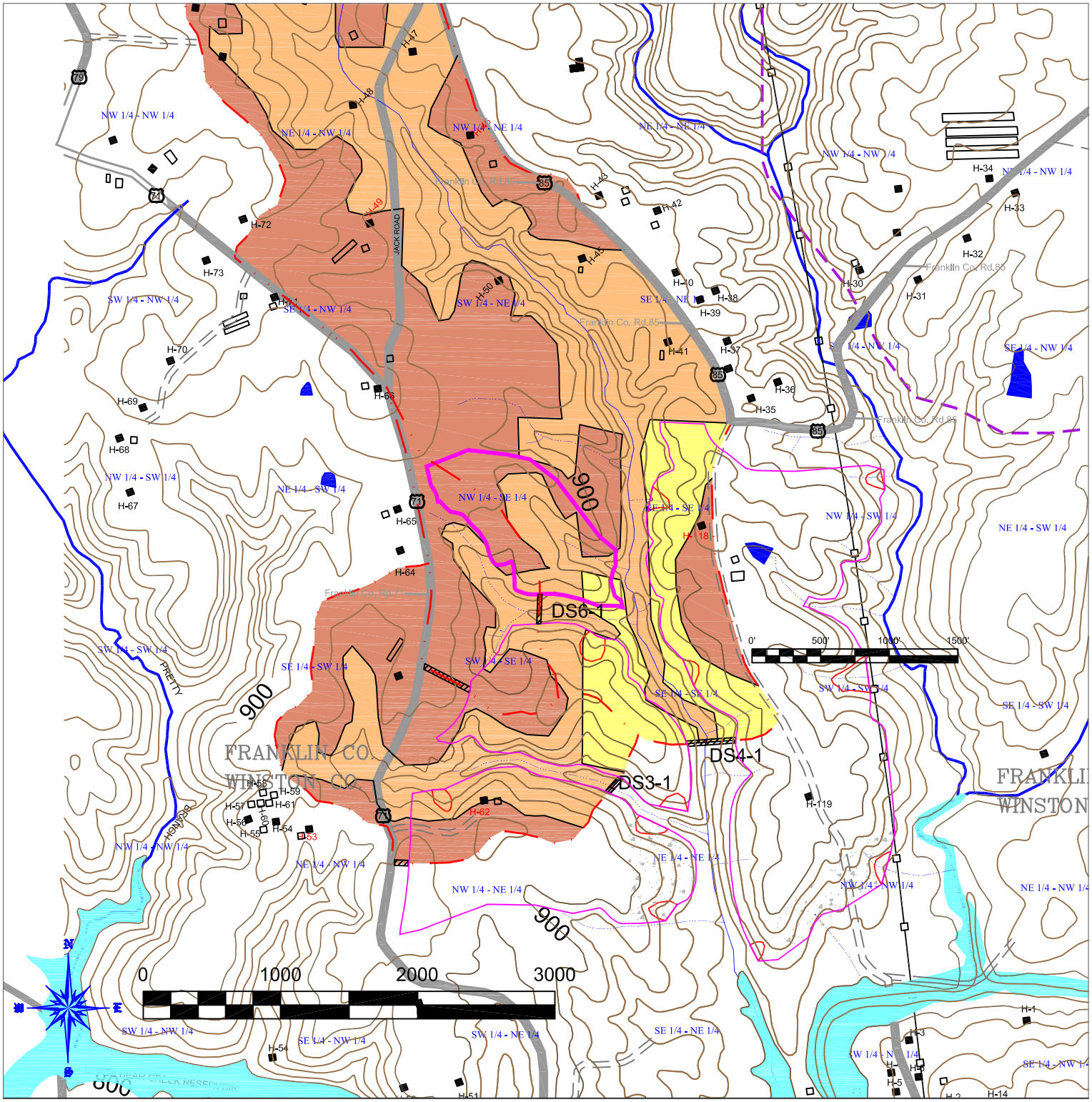

DRAWN BY: J.R.W. 5/14/2015	BIRMINGHAM COAL & COKE CO., INC. KNIGHT MINE, P-3970 PRIMARY ROAD NO. 6 (DS6-1)
APPROVED BY: J.R.W. 5/14/2015	
SCALE: 1" = 1,000'	WATERSHED MAP DRAINAGE STRUCTURE DRAIN STREAM PERMIT BOUNDARY DRAINAGE DIVIDE GRADED & BARE, CN 81 MOSTLY FOREST, CN 55 PASTURE, G.C., CN 61 CLEAR CUT, CN 67
SHEET: 1 OF 1	

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Birmingham Coal & Coke Company, Inc.
Knight Mine, P-3970, R-4
Primary Road #6
Culvert C-1

10 Year 6 Hour Event

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Lynn, Alabama 35575

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General Information

Storm Information:

Storm Type:	SCS 6 Hour
Design Storm:	10 yr - 6 hr
Rainfall Depth:	4.250 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Culvert	#1	==>	End	0.000	0.000	Culvert C-1

#1
Culvert

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	29.700	29.700	12.69	1.79

Structure Detail:

Structure #1 (Culvert)

Culvert C-1

Culvert Inputs:

Length (ft)	Slope (%)	Manning's n	Max. Headwater (ft)	Tailwater (ft)	Entrance Loss Coef. (Ke)
75.00	3.00	0.0240	3.00	0.00	0.90

Culvert Results:

Design Discharge = 12.69 cfs

Minimum pipe diameter: 1 - 21 inch pipe(s) required

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	21.900	0.234	0.000	0.000	61.000	M	11.11	1.384
	2	7.800	0.047	0.000	0.000	55.000	S	4.99	0.407
	Σ	**29.700**						**12.69**	**1.791**

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	3. Short grass pasture	3.10	30.00	967.00	1.400	0.191
		8. Large gullies, diversions, and low flowing streams	5.92	67.00	1,131.01	7.300	0.043
#1	**1**	**Time of Concentration:**					**0.234**
#1	2	1. Forest with heavy ground litter	9.80	5.00	51.00	0.790	0.017
		8. Large gullies, diversions, and low flowing streams	7.28	65.00	893.00	8.090	0.030
#1	**2**	**Time of Concentration:**					**0.047**