Colliers
Engineering
& Design

Appendix B – Hydrologic Maps and Data

N

Low Spot / Potential Culvert — Culvert

Killearn Road Drainage Areas 1:24,000 Scale	
Date: 9/2/2022	Sheet: 1
0 2,000 4,000 Feet	

N

Low Spot / Potential Culvert Culvert Flowlines

Killearn Road Drainage Areas
1:6,000 Scale

Date: 9/2/2022 Sheet: 1

0 500 1,000 Feet

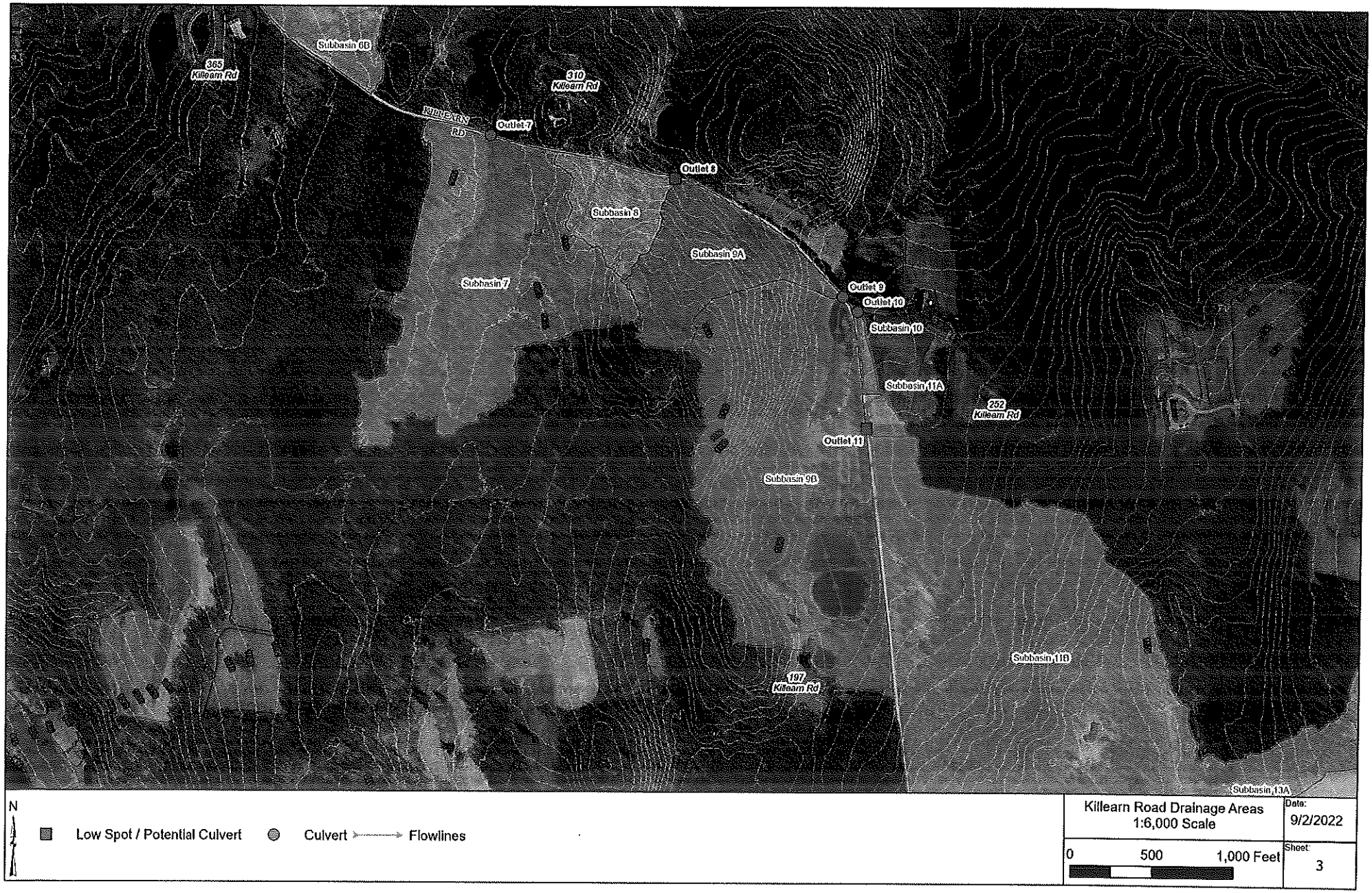
N

Low Spot / Potential Culvert Culvert Flowlines

Killearn Road Drainage Areas
1:6,000 Scale

Date:	Sheet:
9/2/2022	2

0 500 1,000 Feet


Subbasin 6B
365 Killearn Rd
310 Killearn Rd
KILLEARN RD
Outlet 7
Outlet 8
Subbasin 8
Subbasin 9A
Subbasin 7
Outlet 9
Outlet 10
Subbasin 10
Subbasin 11A
252 Killearn Rd
Outlet 11
Subbasin 9B
Subbasin 11B
197 Killearn Rd
Subbasin 13A
N
Low Spot / Potential Culvert
Culvert
Flowlines
Killearn Road Drainage Areas
1:6,000 Scale
Date:
9/2/2022
0
500
1,000 Feet
Sheet:
3


Subbasin 8
Subbasin 9A
Outlet 9
Outlet 10
Subbasin 7
Subbasin 10
Subbasin 11A
Outlet 11
252 Killearn Rd
Subbasin 9B
HAMMOND HILL RD
Subbasin 14A
197 Killearn Rd
Subbasin 11B
22 Killearn Rd
Outlet 12
Subbasin 14B
Subbasin 13A
Outlet 15
Outlet 14
CHESTNUT RIDGE RD
Subbasin 12
132 Killearn Rd
Subbasin 13B
Outlet 13
Subbasin 15
KILLEARN RD
23
45 Killearn Rd
N
Low Spot / Potential Culvert
Culvert
Flowlines
Killearn Road Drainage Areas
1:6,000 Scale
Date:
9/2/2022
0
500
1,000 Feet
Sheet:
4

Project:	Killearn Road		By:	NHH	Date:	8/26/22	Pg. 1 of 3
Project No.:			Checked By:	MRH	Date:	9/1/22	

Site: DA1A

Drainage Area (sf) = 472,415
Drainage Area (ac) = 10.8

Rational Method Appropriate? YES

Time of Concentration (hr) = 0.28 17 min

Average C Value = 0.25

Return Interval	10-yr	25-yr	50-yr	100-yr	1-yr	5-yr
Intensity (in/hr)	3.71	4.53	5.29	6.21	2.16	3.2
Discharge (cfs)	10.00	12.0	14.0	16.0	6.0	8.00

Increase due to Climate Change

Return Interval	10-yr	25-yr	50-yr	100-yr	1-yr	5-yr
Discharge (cfs)	12.0	14.4	16.8	19.2	7.2	9.6
20% per Region						

Table 15–3 Equations and assumptions developed from figure 15–4

Flow type	Depth (ft)	Manning's *n*	Velocity equation (ft/s)
Pavement and small upland gullies	0.2	0.025	$V = 20.328(s)^{0.5}$
Grassed waterways	0.4	0.050	$V = 16.135(s)^{0.5}$
Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions	0.2	0.051	$V = 9.965(s)^{0.5}$
Cultivated straight row crops	0.2	0.058	$V = 8.762(s)^{0.5}$
Short-grass pasture	0.2	0.073	$V = 6.962(s)^{0.5}$
Minimum tillage cultivation, contour or strip-cropped, and woodlands	0.2	0.101	$V = 5.032(s)^{0.5}$
Forest with heavy ground litter and hay meadows	0.2	0.202	$V = 2.516(s)^{0.5}$