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colorado springs, co 80909
719.635.5736

Drainage Memo

Forest Heights Estates

MVE Project No. 61197

June 23, 2025

Drainage Memo

for

Forest Heights Estates

Project No. 61197

June 23, 2025

prepared for:

Phyllis Didleau

8250 Forest Heights Drive
Colorado Springs, CO 80908

prepared by:

MVE, Inc.

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Colorado Springs, CO 80909
719.635.5736

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61197-Drainage Memo.odt

Statements and Acknowledgments

Engineer's Statement

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the County for drainage reports and said report is in conformity with the applicable master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

David R. Gorman, P.E.
Colorado No. 31672
For and on Behalf of MVE, Inc.

Developer's Statement

I, the owner/developer have read and will comply with all of the requirements specified in this drainage report and plan.

Phyllis Didleau
8250 Forest Heights Drive
Colorado Springs, CO 80908

Date

El Paso County

Filed in accordance with the requirements of the Drainage Criteria Manual, Volumes 1 and 2, El Paso County Engineering Criteria Manual and Land Development Code as amended.

Joshua Palmer, P.E.,
County Engineer / ECM Administrator

Date

Drainage Memo

The purpose of this Drainage Memo is to satisfy the Drainage Submittal Requirement for a field adjustment to the cul-de-sac location for 'Forest Heights Estates'. The site has an approved Drainage Report prepared by KCH Engineering Solutions, LLC under the name of "Final Drainage Report for Forest Heights Estates prepared January 15, 2024. The site is situated east of Herring Road along the existing private Forest Heights Circle. The owner is requesting to relocate the location of the approved cul-de-sac approximately 200 feet west to avoid existing saturated soils. This Drainage Memo is prepared in accordance with the provisions of the City of Colorado Springs Stormwater Enterprise and DCM Volume 1 and 2 and the Engineering Criteria Manual.

'Forest Heights Estates' is in the Southwest 1/4 of Section 9, Township 12 South, Range 65 West of the 6th Principal Meridian in the City of Colorado Springs, El Paso County, Colorado. The site consists of the currently existing Forest Heights Circle undergoing construction per the approved plans of Forest Heights Estates, EPC PCD File No. MS206. 'Forest Heights Estates' is located in Zone X (Area of Minimal Flood Hazard) as denoted on the Flood Insurance Rate Map (FIRM), map number 08041 C0320G, for El Paso County and Incorporated Areas effective December 7, 2018. This parcel lies in the Kettle Creek Drainage Basin. A Vicinity Map and the Drainage Map from the original report serving as the Site Map are attached to this memo.

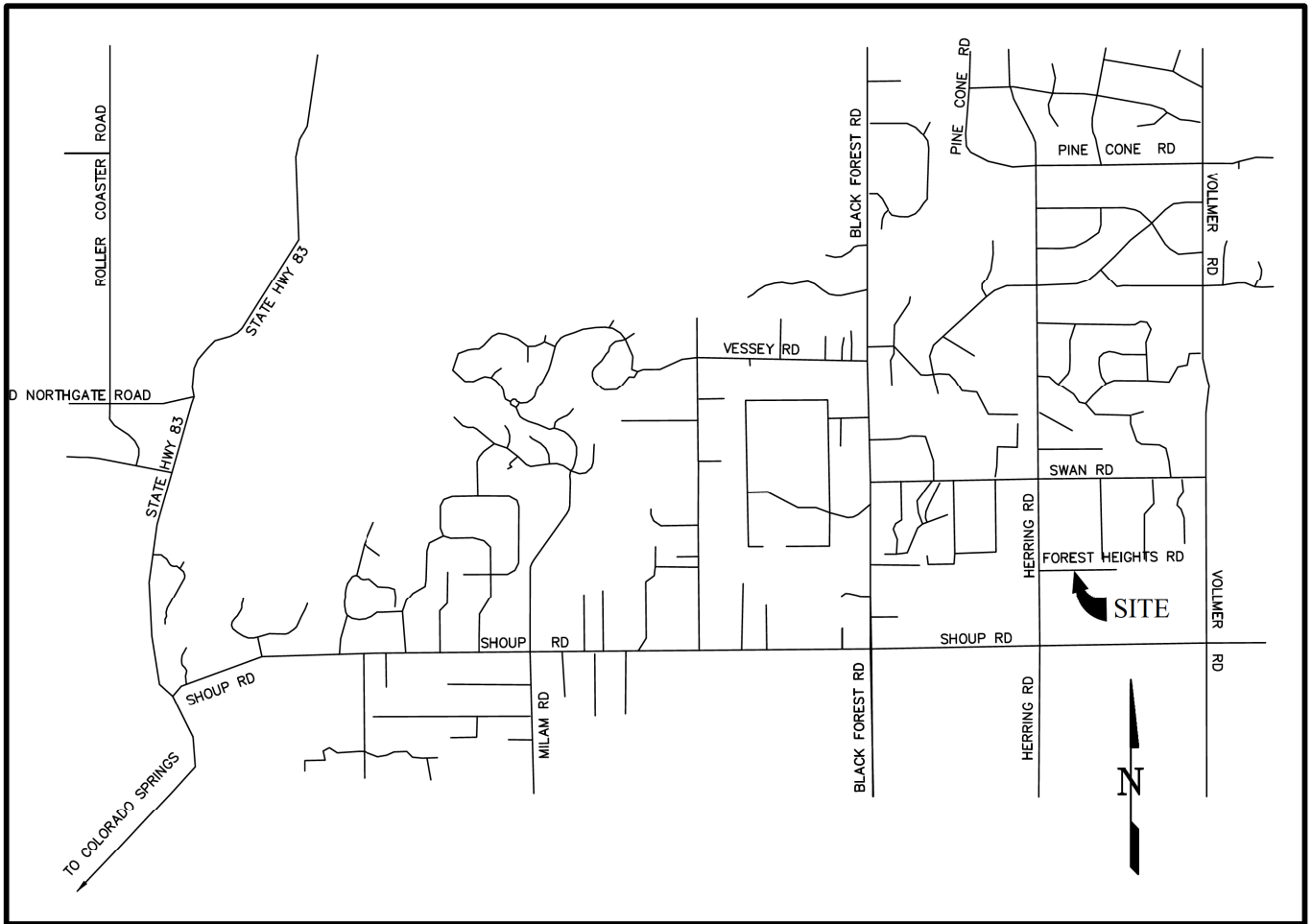
The site is currently under a construction permit and current Road Plans and Profiles, Grading and Erosion Control Plans and Drainage Report were approved 5/7/2024.

The relocation of the previously approved cul-de-sac approximately 200 feet west will not change the drainage patterns from the previously approved report. The shortening of the proposed private drive and keeping the existing driveways at the east end of the property will have a negligible reduction in the proposed gravel surface and proposed runoff. Flows from the north will continue to be intercepted and directed to the previously designed (and already installed) Culvert 1 at Design Point 1. No revised calculations are necessary or included with this Drainage Memo.

The previously approved Final Drainage Report for Forest Heights Estates remains unchanged except for the revised location of the cul-de-sac as shown in the annotated Drainage Map from the original report attached to this memo.

This Drainage Memo is suitable to satisfy Drainage Report requirements for the cul-de-sac relocation because 1.) A Final Drainage Report has been approved for the project; 2.) No significant changes, additions, or site disturbance are proposed to the project and; 3.) Drainage / Bridge Fees have been previously paid with a prior plat action.

| Attachments



VICINITY MAP
NOT TO SCALE

EXISTING DESIGN POINT SUMMARY

DESIGN POINT	CONTRIB SUB BASINS	AREA	Q5	Q100
		(acres)	(cfs)	(cfs)
1	A	16.1	3.0	16.1
2	B	20.4	3.9	22.4
3	C,D,E	13.1	4.5	21.5
4	C,D,E,I	18.4	6.2	29.4
5	B,C,D,E,H,I	62.8	10.4	57.7
6	A,F,G	42.8	10.4	59.1
7	J	4.4	1.1	8.0

PROPOSED DESIGN POINT SUMMARY

DESIGN POINT	CONTRIB SUB BASINS	AREA	Q5	Q100
		(acres)	(cfs)	(cfs)
1	A	16.1	3.1	16.3
2	B	20.4	4.2	22.8
3	C,D,E	13.1	4.3	21.2
4	C,D,E,I	18.4	6.3	29.3
5	B,C,D,E,H,I	62.8	11.3	58.9
6	A,F,G	42.8	11.0	59.8
7	J	4.4	1.1	8.0

SWALE SUMMARY

SWALE #	CONTRIBUTING SUBBASINS	SLOPE %	DESIGN FLOW		DEPTH OF FLOW		VELOCITY		FROUDE #		
			Q5	Q100	Q5	Q100	V5	V100			
			cfs	cfs	ft	ft	fps	fps	5 year	100 year	
1	A	4.5	3.1	16.3	0.0	0.1	1.1	2.3	0.87	1.11	
2	A,G	3.1	4.8	24.3	0.1	0.2	1.4	2.5	0.82	0.98	
3	B	4.6	4.2	22.8	0.1	0.3	1.7	3.3	1.02	1.22	
4	B,C,H	3.3	8.1	44.5	0.1	0.2	1.3	2.9	0.83	0.99	
5	C	5.5	1.8	8.4	0.1	0.1	1.3	2.4	1.00	1.20	
6	D	6.0	2.5	12.2	0.1	0.2	1.5	2.8	1.08	1.28	
8	C,D,E,I	3.3	6.3	29.3	0.1	0.3	1.6	2.7	0.92	1.02	
10	F	5.3	4.2	25.4	0.1	0.3	2.0	3.6	1.15	1.31	
11	J	3.1	1.1	8.0	0.0	0.1	0.6	1.4	0.64	0.82	
12	A,G,F	6.1	11.0	59.8	0.1	0.3	2.3	4.4	1.25	1.48	
13 RD DITCH	PORTION OF SUBBASIN B	6.7	0.1	0.6	0.1	0.2	1.5	2.1	1.01	1.19	
14 RD DITCH	PORTION OF SUBBASIN B	1.0	0.1	0.1	0.1	0.2	0.8	0.8	0.44	0.44	
15 RD DITCH	PORTION OF SUBBASIN C	4.5	2.2	10.7	0.5	0.8	3.1	4.7	1.15	1.28	
16 RD DITCH	PORTION OF SUBBASIN D	2.0	3.2	15.7	0.6	1.1	2.5	3.8	0.82	0.92	

EXIST & PROP BASIN SUMMARY

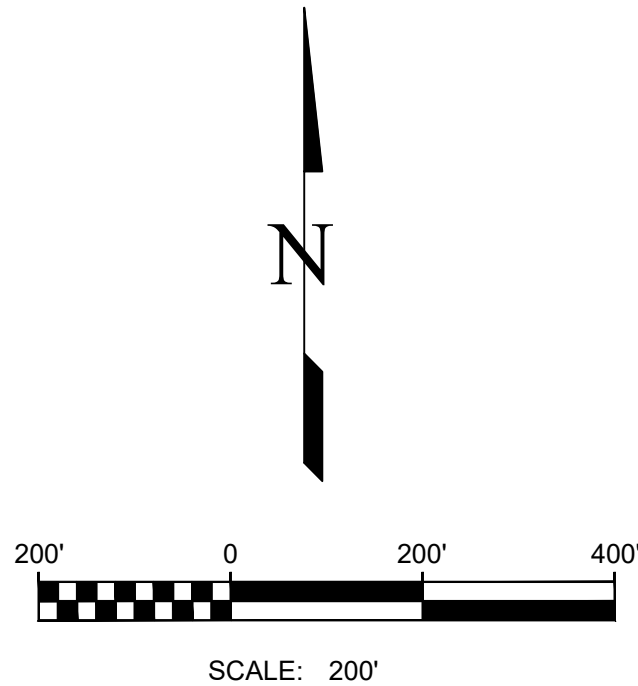
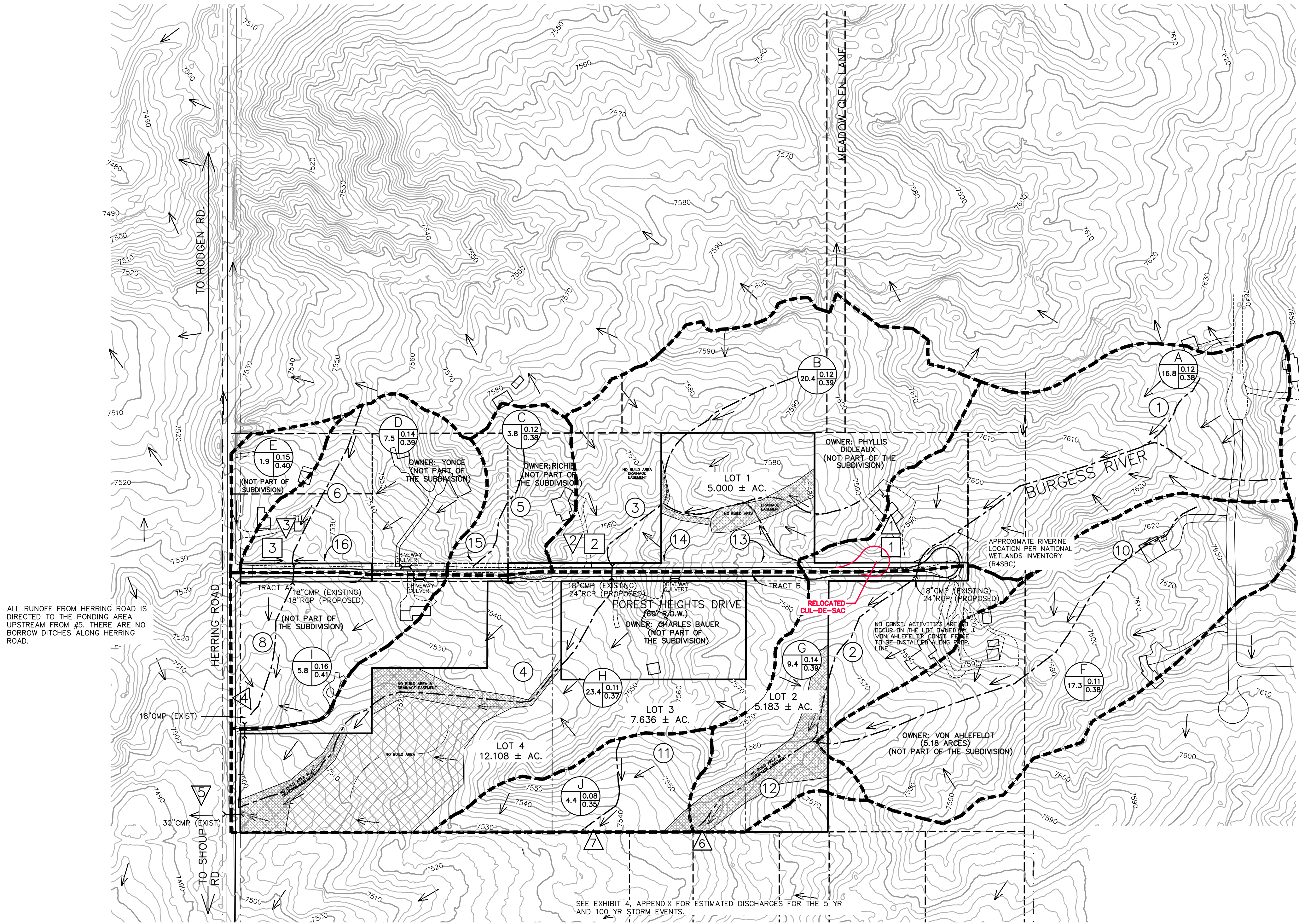
BASIN I.D.	AREA (acres)	RUNOFF COEFFICIENTS (existing)		RUNOFF COEFFICIENTS (developed)		EXSITING RUNOFF		DEVELOPED RUNOFF	
		C5	C100	C5	C100	Q5	Q100	Q5	Q100
		cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs
A	17.4	0.09	0.35	0.09	0.36	3.4	23.6	3.7	24
B	20.8	0.09	0.36	0.10	0.36	4.4	29.1	4.6	29.5
C	3.9	0.11	0.37	0.14	0.39	1.4	7.9	1.8	8.4
D	7.5	0.1	0.36	0.12	0.38	2.3	14.3	2.7	14.8
E	2.3	0.12	0.38	0.18	0.42	1	4.9	1.4	5.5
F	18.7	0.08	0.35	0.09	0.35	2	20.7	3.1	21.1
G	9.9	0.09	0.36	0.10	0.37	2.7	17.8	3	18.2
H	23.3	0.09	0.36	0.10	0.36	5.3	34.3	5.6	34.7
I	5.7	0.11	0.37	0.13	0.38	2.4	13.7	2.8	14.3
J	3.4	0.08	0.35	0.08	0.35	1	7.1	1	7.1

EXISTING CULVERT SUMMARY

CULVERT #	SIZE	MATERIAL	CONTRIBUTING SUBBASINS	5 YEAR		100 YEAR		CONDITION
				Q	HEADWATER REQUIRED	Q	HEADWATER REQUIRED	
1	18"	CMP	A	3.1	12.8"	16.3	> 7.5 FT	75% SILTED, ROADWAY OVERTOPPING WITH 100 YR
2	18"	CMP	B	4.2	15.3"	22.8	> 9 FT	75% SILTED, ROADWAY OVERTOPPING WITH 100 YR
3	18"	CMP	C, D, E	4.3	16.7"	21.2	> 9 FT	75% SILTED, ROADWAY OVERTOPPING WITH 100 YR

PROPOSED CULVERT SUMMARY

CULVERT #	SIZE	MATERIAL	CONTRIBUTING SUBBASINS	5 YEAR			100 YEAR		
				Q5	QPIPE	QOVERFLOW	Q100	QPIPE	QOVERFLOW
1	24"	RCP	A	3.1	3.1	N/A	16.3	16.3	0.0
2	24"	RCP	B	4.2	4.2	N/A	22.8	22.8	0.0
3	18"	RCP	C, D, E	4.3	4.3	N/A	21.2	13.1	8.1



LEGEND:

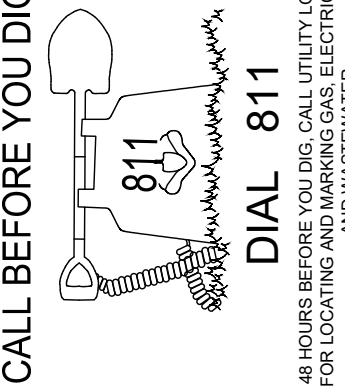
- ← - DIRECTION OF FLOW
- - - - - PROJECT BOUNDARY
- - - - - FLOWLINE NATURAL SWALE
- - - - - SUBBASIN BOUNDARY
- △ - DESIGN POINT
- ⊗ - SWALE NUMBER
- ⊗ XX ⊗ - SUBDIVISION I.D.
5 YR. RUNOFF COEFFICIENT
100 YR. RUNOFF COEFFICIENT
- X—X— - CULVERT
- ⊗ - CULVERT NUMBER
- - - - - INDEX CONTOURS
- - - - - INTERMEDIATE CONTOURS
- - EXISTING RESIDENCE (APPROX.)
- - PROPOSED RESIDENCE
- ▨ - NO BUILD AREA
- ▨ - DRAINAGE EASEMENT
- - - - - EXISTING LOT LINES
- - - - - PROPOSED LOT LINE
- - - - - SUBDIVISION BOUNDARY
- - - - - EXISTING ROAD (GRAVEL)
- - - - - EXISTING ROAD (ASPHALT)
- - - - - PROPOSED ROAD (GRAVEL)
- - - - - ROADSIDE DITCHES

NOTES:

- NO NEW CONSTRUCTION; BUILDINGS, BARNs, FENCES, DRIVEWAYS, AND/OR LANDSCAPING, SHALL BE INSTALLED IN ANY EXISTING DRAINAGEWAY AND/OR SWALE SO AS TO IMPEDE THE FLOW OF STORM WATER RUNOFF.
- PROPOSED TOPOGRAPHIC DATA IS NOT SHOWN DUE TO MINIMAL CHANGES TO EXISTING GRADE. NO OVERLOT GRADING IS PROPOSED.
- RUNOFF COEFFICIENTS FOR BOTH THE 5 YR & 100 YR CONDITIONS ARE INDICATED IN THE ABOVE BASIN SUMMARY TABLES.
- SEE THE "GRADING & EROSION CONTROL PLAN" FOR RECOMMENDED CONTROL MEASURES.
- ALL DRIVEWAY CULVERTS ARE TO BE REMOVED AND REPLACED AS DEEMED NECESSARY DURING CONSTRUCTION. EXISTING DRIVEWAY CULVERTS ARE SHOWN AT APPROPRIATE LOCATIONS. FINAL LOCATION WILL BE DETERMINED DURING CONSTRUCTION.
- ONLY ONE DRAINAGE MAP HAS BEEN INCLUDED IN THIS REPORT SINCE ANY AND ALL IMPROVEMENTS DO NOT NEGATIVELY IMPACT THE FLOW RATE, FLOW REGIME, FLOW VELOCITY, EROSION CONDITIONS, ETC.
- ALL PROPOSED DRIVEWAY CULVERTS ARE TO INCLUDE 18" CMP FLARED END SECTIONS.

NOT FOR CONSTRUCTION

CALL BEFORE YOU DIG ...



No.	Description	By	Date
1	REV PER COUNTY COMMENTS	DAS	10/15/21
2	LOT REVISIONS	DAS	02/16/22
3	ROAD REVISIONS	DAS	04/12/22
4	MAP REVISIONS	MVE	10/2/23

H Scale: 1" = 200'	Designed By: KH	TLC	KH
V Scale:	Drawn By:		
	Checked By:		
	Date:		07/16/221



DRAINAGE MAP

DIDLEAU SUBDIVISION

FOREST HEIGHT ESTATES

Project Number:	18070
Sheet:	1 of 1