Heard Road Extension

Bluffs Parkway to Cherokee County Airport

PREPARED FOR

Cherokee County Government
Public Works
1130 Bluffs Parkway
Canton, GA 30114

PREPARED BY

235 East Robinson Street
Orlando, FL 32801

May 16, 2018

Table of Contents

Appendix A - Corridor Roll Concept Plans....3
Appendix B - Typical Section....4
Appendix C – Right-of-Way Requirements....5
Appendix D – Cross Sections....6
Appendix E – Estimate of Probable Project Costs....7

Appendix A - Corridor Roll Concept Plans

HEARD ROAD EXTENSION

ALTERNATIVE NO. 1 - CENTRAL ALIGNMENT
2-LANE UNDIVIDED SECTION

0 200 400 Feet

NORTH

Southern Gas 12" Gas main

Pond 1

PROPOSED ROUNDABOUT

PHASE 1

Pond 2

PROPOSED ROUNDABOUT

AEMC OVERHEAD ELECTRIC

CULVERT #1
140 LF - 18" RCP
Culvert

CULVERT #2
200 LF - 36" RCP
Culvert

PHASE 2

CULVERT #3
275 LF - 36" RCP
Culvert

CULVERT #4
170 LF - 24" RCP
Culvert

CULVERT #5
300 LF - TWO 48" RCP
Culverts

Pond 1A

Pond 1B

PROPOSED ROUNDABOUT

CULVERT #6
200 LF - 18" RCP
Culvert

CULVERT #7
225 LF - 24" RCP
Culvert

PHASE 3

CULVERT #8
450 LF - FOUR 42" RCP
Culverts

Pond 4A

Pond 4B

PHASE 4

PHASE 5

U.S. 19 AT HEARD ROAD

LEGEND

- R/W LINE
- PARCEL LINE
- STREAM
- LIMITS OF CONSTRUCTION
- TEMPORARY EASEMENT
- POND EASEMENT

Appendix B - Typical Section

TYPICAL SECTION

N.T.S.

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

Mark F. Bertoncini, P.E.
PE # 63437

CHEROKEE COUNTY
GEORGIA

TYPICAL SECTION

SHEET NO.
1

Appendix C – Right-of-Way Requirements

Computations

Engineers | Scientists | Planners | Designers

Project	Heard Rd. Ext	Project #	62880.00
Location	Cherokee County, GA	Sheet	
Calculated By	BOM	Date	5/11/2018
Checked By		Date	
Title	Alignment 01 RW Takes and Easements		

	Parcel ID	Name	R/W Acquisition SF	Temporary Easement SF	Pond Easement SF	R/W Acquisition AC	Temporary Easement AC	Pond Easement AC
1	14-0223-0023	HICKORY LOG BLUFF, LLC	59,444	5,877		1.36	0.13	
2	14-0223-0024	HICKORY LOG BLUFF, LLC	9,457		40,000	0.22		0.92
3	14-0223-0024	HICKORY LOG BLUFF, LLC	1,775			0.04		
4	14-0223-0026	STATE OF GEORGIA DEPT OF TECHNICAL & ADULT EDUCATION	3,801			0.09		
5	14-0224-0002	TECH PARK, LLC	30,534	8,305		0.70	0.19	
6	14-0245-0003	CATO, DENNIS &	14,469	723		0.33	0.02	
7	14-0245-0004	OLSEN, SUSAN L.	15,888			0.36		
8	14-0245-0142	CHEROKEE COUNTY GOVERNMENT	95,779	91,913	44,000	2.20	2.11	1.01
9	14-0245-0145	PARK VILLAGE VDL LLC	6,121	3,058		0.14	0.07	
10	14-0246-0003	APEX PROPERTY ADVISORS LLC	7,071			0.16		
11	14-0246-0004	APEX PROPERTY ADVISORS LLC	2,594			0.06		
12	14-0246-0010	APEX PROPERTY ADVISORS LLC	9,527			0.22		
13	14-0246-0011	MOSS, JAMES DAVID ET AL	1,239			0.03		
14	14-0246-0012	APEX PROPERTY ADVISORS LLC	8,675	4,504		0.20	0.10	
15	14-0246-0017	4H PROPERTY HOLDINGS LLC	28,064	18,084		0.64	0.42	
16	14-0246-0020	ADAMS, JEFFREY &	3,151	7,506		0.07	0.17	
17	14-0246-0020	ADAMS, JEFFREY &	38,300			0.88		
18	14-0259-0002	MCLAUGHLIN, MARY EVELYN	13,400	23,423		0.31	0.54	
19	14-0259-0003	WALDRON, JIMMY RAY &	14,411	14,911		0.33	0.34	
20	14-0259-0004	ADAMS, JEFFREY &	47,031	60,931		1.08	1.40	
21	14-0259-0007	DAVIS, LISA R.	12,085	22,848		0.28	0.52	
22	14-0259-0009	PAGE, STEVE & LESLIE	746	9,591		0.02	0.22	
23	14-0259-0013	BEERSDORF, PAUL &	16,143	23,564		0.37	0.54	
24	14-0259-0017	LITTLE, TONY MARVIN	77,300	166,171	95,000	1.77	3.81	2.18
25	14-0282-0006	BARTON, GEORGE R.	3,106			0.07		
26	14-0282-0012	BYERS, MAEBELLE	8,455	12,151	67,000	0.19	0.28	1.54
27	14-0282-0013	BYERS, POLLY W.	75,389	134,084	77,000	1.73	3.08	1.77
28	14-0282-0022	SISK, CHRISTI &	21,266	21,837		0.49	0.50	
29	14-0283-0002	BYESS, TIMOTHY J. & LORA K.	985			0.02		
30	14-0283-0004	STALLMAN, JAY B. &	45,398	74,713		1.04	1.72	
31	14-0283-0005	BYERS, DONALD G.	37,943	34,509		0.87	0.79	
32	14-0283-0010	WEBBER, ASHLEY &	21,466	18,469		0.49	0.42	
33	14-0293-0007	CHEROKEE COUNTY GOVERNMENT	221,987	201,738	58,000	5.10	4.63	1.33
34	14-0294-0003	BAGWELL, JAMES R. &	97,118	265,709		2.23	6.10	
35	14-0319-0011	LUSK, LARRY	25,317	16,810		0.58	0.39	
36	14-0319-0017	HIGHLAND NORTH LAND	849	3,650		0.02	0.08	
		Total:	1,076,282	1,245,077	381,000	25	29	9

Appendix D – Cross Sections

1003+50.00

1003+00.00

1002+50.00

1002+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 1

SHEET NO.
1

1005+50.00

1005+00.00

1004+50.00

1004+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 2

SHEET NO.
2

1007+00.00

1006+50.00

1006+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 3

SHEET NO.
3

1008+50.00

1008+00.00

1007+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1 SHEET 4

SHEET NO. 4

1010+00.00

1009+50.00

1009+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 5

SHEET NO.
5

1012+00.00

1011+50.00

1011+00.00

1010+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 6

SHEET NO.
6

1014+00.00

1013+50.00

1013+00.00

1012+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 7

SHEET NO.
7

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 8

SHEET NO.
8

1017+50.00

1017+00.00

1016+50.00

1016+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1 SHEET 9

SHEET NO. 9

1019+00.00

1018+50.00

1018+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 10

SHEET NO.
10

1021+00.00

1020+50.00

1020+00.00

1019+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 11

SHEET NO.
11

1023+00.00

1022+50.00

1022+00.00

1021+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 12

SHEET NO.
12

1025+00.00

1024+50.00

1024+00.00

1023+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 13

SHEET NO.
13

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 14

SHEET NO.
14

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 15

SHEET NO.
15

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 16

SHEET NO.
16

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 17

SHEET NO.
17

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 18

SHEET NO.
18

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 19

SHEET NO.
19

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 20

SHEET NO.
20

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 21

SHEET NO.
21

1039+50.00

1039+00.00

1038+50.00

1038+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 22

SHEET NO.
22

1041+50.00

1041+00.00

1040+50.00

1040+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 23

SHEET NO.
23

1043+50.00

1043+00.00

1042+50.00

1042+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 24

SHEET NO.
24

1045+00.00

1044+50.00

1044+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 25

SHEET NO.
25

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 26

SHEET NO.
26

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 27

SHEET NO.
27

1051+00.00

1050+50.00

1050+00.00

1049+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 28

SHEET NO.
28

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 29

SHEET NO.
29

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 30

SHEET NO.
30

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 31

SHEET NO.
31

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 32

SHEET NO.
32

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 33

SHEET NO.
33

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 34

SHEET NO.
34

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 35

SHEET NO.
35

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1 SHEET 36

SHEET NO. 36

1063+00.00

1062+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 37

SHEET NO.
37

1064+00.00

1063+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 38

SHEET NO.
38

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 39

SHEET NO.
39

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 40

SHEET NO.
40

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 41

SHEET NO.
41

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 42

SHEET NO.
42

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 43

SHEET NO.
43

1069+50.00

1069+00.00

1068+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 44

SHEET NO.
44

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 45

SHEET NO.
45

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 46

SHEET NO.
46

1074+00.00

1073+50.00

1073+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 47

SHEET NO.
47

1075+50.00

1075+00.00

1074+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 48

SHEET NO.
48

1077+50.00

1077+00.00

1076+50.00

1076+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 49

SHEET NO.
49

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1 SHEET 50

SHEET NO. 50

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 51

SHEET NO.
51

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 52

SHEET NO.
52

1084+50.00

1084+00.00

1083+50.00

1083+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 53

SHEET NO.
53

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 54

SHEET NO.
54

1088+50.00

1088+00.00

1087+50.00

1087+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 55

SHEET NO.
55

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 56

SHEET NO.
56

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 57

SHEET NO.
57

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 58

SHEET NO.
58

1095+00.00

1094+50.00

1094+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 59

SHEET NO.
59

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 60

SHEET NO.
60

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 61

SHEET NO.
61

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 62

SHEET NO.
62

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 63

SHEET NO.
63

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 64

SHEET NO.
64

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 65

SHEET NO.
65

1103+50.00

1103+00.00

1102+50.00

1102+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY GEORGIA A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 66

SHEET NO.
66

1105+50.00

1105+00.00

1104+50.00

1104+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 67

SHEET NO.
67

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 68

SHEET NO.
68

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 69

SHEET NO.
69

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 70

SHEET NO.
70

1110+00.00

1109+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 71

SHEET NO.
71

1111+00.00

1110+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 72

SHEET NO.
72

1112+00.00

1111+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 73

SHEET NO.
73

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 74

SHEET NO.
74

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 75

SHEET NO.
75

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 76

SHEET NO.
76

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 77

SHEET NO.
77

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 78

SHEET NO.
78

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY GEORGIA

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 79

SHEET NO.
79

Martinez, Bryce 5/14/2018 8:58:17 AM \\fl-orl\checkin\62880.00 bluffs blvd ext\cad\te\62880.00 bluffs blvd\Roadway\CORRRD01.dwg

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 80

SHEET NO.
80

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 81

SHEET NO.
81

1118+50.00

1118+00.00

1117+50.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 82

SHEET NO.
82

1120+50.00

1120+00.00

1119+50.00

1119+00.00

1" = 40' Horizontal
1" = 20' Vertical

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

vhb
Engineers | Scientists
Planners | Designers
225 E. Robinson Street, Suite 300
Orlando, FL 32801 (407)839-4006
Certificate of Authorization # 3932

First Middle Initial Last, P.E.
PE # 00000

CHEROKEE COUNTY
A GREAT PLACE TO LIVE, WORK AND PLAY

CHEROKEE COUNTY
GEORGIA

ALIGNMENT ALTERNATIVE NO. 1
SHEET 83

SHEET NO.
83

Appendix E – Estimate of Probable Project Costs

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 1**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

CONSTRUCTION									
CONSTRUCTION									
Traffic Control								**$**	**25,000**
Mobilization								**$**	**250,000**
Temporary Erosion Control & Grassing								**$**	**20,000**
Grading Complete								**$**	**769,000**
Clearing & Grubbing	11	acre	$	15,000	per acre	$	164,850		
Unclassified Excavation	30,627	cu yds	$	7	per cu yd	$	199,076		
Rock Excavation	25,772	cu yds	$	15.00	per cu yd	$	386,580		
Borrow Excavation	2,646	cu yds	$	7.00	per cu yd	$	18,522		
Pond Grading		Lump Sum							
Roadway Base & Paving								**$**	**1,300,000**
Full Depth: Surface - 12.5 mm Asphalt	1.5 in.	$	90	2123	tons	$	191,070		
Full Depth: Binder - 19 mm Asphalt	2 in.	$	75	2830	tons	$	212,250		
Full Depth: Base - 25 mm Asphalt	5 in.	$	70	7075	tons	$	495,250		
Full Depth: Graded Aggregate Base	12 in.	$	23	16979	tons	$	390,517		
Full Depth: Tack Coat		$	3.00	3506	gal	$	10,518		
Overlay: Milling		$	4.00	0	sq yd	$	-		
Overlay: Asphalt Leveling		$	90	0	tons	$	-		
Overlay: Surface - 12.5 mm Asphalt	0 in.	$	100	0	tons	$	-		
Overlay: Tack Coat		$	3.00	-	gal	$	-		
Sidewalk, Curb & Gutter, Median								**$**	**353,000**
6' Concrete Sidewalk	3,802	lin ft	$	20	per lin ft	$	76,046		
12' Concrete Multi-Use Trail	3,802	lin ft	$	40	per lin ft	$	152,092		
Concrete Curb & Gutter	10,422	lin ft	$	12	per lin ft	$	125,068		
Raised Grassed Median	0	lin ft	$	0.42	per sq ft	$	-		
Driveways								**$**	**-**
Concrete Valley Gutter	0	sq ft	$	5.00	per sq ft	$	-		
Commercial Asphalt Driveway	0	sq ft	$	3.50	per sq ft	$	-		
Commercial Concrete Driveway	0	sq ft	$	5.00	per sq ft	$	-		
Concrete Curb & Gutter	0	lin ft	$	16	per lin ft	$	-		
Retaining Walls								**$**	**31,000**
Gravity Wall (5' H)	100	lin ft	$	312.50	lin ft	$	31,250		
Cantilever Wall	0	sq ft	$	110.00	per sq ft	$	-		
MSE Wall	0	sq ft	$	45.00	per sq ft	$	-		
Drainage								**$**	**284,000**
18-24" Storm Drain Pipe	800	lin ft	$	50	per lin ft	$	40,000		
30" Storm Drain Pipe	800	lin ft	$	60	per lin ft	$	48,000		
36" Storm Drain Pipe	800	lin ft	$	75	per lin ft	$	60,000		
42" Storm Drain Pipe	800	lin ft	$	95	per lin ft	$	76,000		
48" Storm Drain Pipe	0	lin ft	$	120	per lin ft	$	-		
54" Storm Drain Pipe	0	lin ft	$	170	per lin ft	$	-		
Headwall or Flared End Section	0	each	$	2,500	per each	$	-		
Catch Basin	20	each	$	3,000	per each	$	60,000		
Culverts (0 Locations)	0	lin ft			per lump sum	$	-		
Permanent Erosion Control & Grassing								**$**	**20,000**
Signing & Marking								**$**	**20,000**
Roadside Signs						$	5,000		
Pavement Markings						$	15,000		
						$	-		
Traffic Signals	0	each	$	-	per each			**$**	**-**

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 1**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

ATMS							**$**	**-**	
Communications		lin ft		per lin ft	$ -				
Components									
Lighting							**$**	**167,000**	
Landscaping							**$**	**50,000**	
						Subtotal	**$**	**3,289,000**	
Construction Contingency:					20%		**$**	**658,000**	
Inflation: @	3%	PER YEAR			0 Years		**$**	**-**	
						SUBTOTAL:	**Construction**	**$**	**3,950,000**
RIGHT-OF-WAY, UTILITIES, MITIGATION, DESIGN, & CEI									
RIGHT OF WAY									
Right of Way								**$666,000.00**	
Permanent Easements (Drainage)								**$7,000.00**	
Temporary Easements								**$72,000.00**	
Consequential Damages									
Other Costs (Administration, Appraisals, Legal, Aqusition, etc.)						30%		**$223,500.00**	
						SUBTOTAL:	**Right of Way**		**$968,500.00**
UTILITIES									
Electrical							**$**	**-**	
Communications							**$**	**-**	
Gas							**$**	**-**	
Water							**$**	**-**	
Sewer							**$**	**-**	
						SUBTOTAL:	**Utilites**	**$**	**-**
MITIGATION									
Wetlands	0.00	acre	$	70,000	per acre		**$**	**-**	
Streams	0.00	lin ft	$	400	per lin ft		**$**	**-**	
Stream Buffer	0.00	acre	$	70,000	per acre		**$**	**-**	
						SUBTOTAL:	**Mitigation**	**$**	**-**
DESIGN SERVICES									
Design:						10%	**$**	**330,000**	
						SUBTOTAL:	**Design Fee**	**$**	**330,000**
CONSTRUCTION ENGINEERING & INSPECTION (CEI)									
Engineering & Inspection:						10%	**$**	**330,000**	
						SUBTOTAL:	**Eng & Insp**	**$**	**330,000**
						TOTAL PROJECT COST:		**$**	**5,578,500**

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 2** PI No.:
Cherokee County County: **Cherokee**
Element: Date: **11-May-2018**

CONSTRUCTION									
CONSTRUCTION									
Traffic Control								**$**	**25,000**
Mobilization								**$**	**250,000**
Temporary Erosion Control & Grassing								**$**	**20,000**
Grading Complete								**$**	**2,649,000**
Clearing & Grubbing	20	acre	$	15,000	per acre	$	295,619		
Unclassified Excavation	50,502	cu yds	$	7	per cu yd	$	328,263		
Rock Excavation	77,674	cu yds	$	15.00	per cu yd	$	1,165,110		
Borrow Excavation	122,800	cu yds	$	7.00	per cu yd	$	859,600		
Pond Grading		Lump Sum							
Roadway Base & Paving								**$**	**904,000**
Full Depth: Surface - 12.5 mm Asphalt	1.5 in.	$	90	1476	tons	$	132,840		
Full Depth: Binder - 19 mm Asphalt	2 in.	$	75	1968	tons	$	147,600		
Full Depth: Base - 25 mm Asphalt	5 in.	$	70	4920	tons	$	344,400		
Full Depth: Graded Aggregate Base	12 in.	$	23	11808	tons	$	271,584		
Full Depth: Tack Coat		$	3.00	2438	gal	$	7,314		
Overlay: Milling		$	4.00	0	sq yd	$	-		
Overlay: Asphalt Leveling		$	90	0	tons	$	-		
Overlay: Surface - 12.5 mm Asphalt	0 in.	$	100	0	tons	$	-		
Overlay: Tack Coat		$	3.00	-	gal	$	-		
Sidewalk, Curb & Gutter, Median								**$**	**459,000**
6' Concrete Sidewalk	5,411	lin ft	$	20	per lin ft	$	108,223		
12' Concrete Multi-Use Trail	5,411	lin ft	$	40	per lin ft	$	216,446		
Concrete Curb & Gutter	11,171	lin ft	$	12	per lin ft	$	134,054		
Raised Grassed Median	0	lin ft	$	0.42	per sq ft	$	-		
Driveways								**$**	**-**
Concrete Valley Gutter	0	sq ft	$	5.00	per sq ft	$	-		
Commercial Asphalt Driveway	0	sq ft	$	3.50	per sq ft	$	-		
Commercial Concrete Driveway	0	sq ft	$	5.00	per sq ft	$	-		
Concrete Curb & Gutter	0	lin ft	$	16	per lin ft	$	-		
Retaining Walls								**$**	**129,000**
Gravity Wall (5' H)	125	lin ft	$	312.50	lin ft	$	39,063		
Cantilever Wall	0	sq ft	$	110.00	per sq ft	$	-		
MSE Wall	2,000	sq ft	$	45.00	per sq ft	$	90,000		
Drainage								**$**	**483,000**
18-24" Storm Drain Pipe	800	lin ft	$	50	per lin ft	$	40,000		
30" Storm Drain Pipe	800	lin ft	$	60	per lin ft	$	48,000		
36" Storm Drain Pipe	800	lin ft	$	75	per lin ft	$	60,000		
42" Storm Drain Pipe	800	lin ft	$	95	per lin ft	$	76,000		
48" Storm Drain Pipe	0	lin ft	$	120	per lin ft	$	-		
54" Storm Drain Pipe	0	lin ft	$	170	per lin ft	$	-		
Headwall or Flared End Section	12	each	$	2,500	per each	$	30,000		
Catch Basin	35	each	$	3,000	per each	$	105,000		
Culverts (5 Locations)	1,385	lin ft			per lump sum	$	124,000		
Permanent Erosion Control & Grassing								**$**	**20,000**
Signing & Marking								**$**	**80,000**
Roadside Signs						$	20,000		
Pavement Markings						$	60,000		
						$	-		
Traffic Signals	0	each	$	-	per each			**$**	**-**

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 2**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

ATMS							$ -	
Communications Components		lin ft		per lin ft	$ -			
Lighting							$ 285,000	
Landscaping							$ 100,000	
						Subtotal	$ 5,404,000	
Construction Contingency:					20%		$ 1,081,000	
Inflation: @	3%	PER YEAR			0 Years		$ -	
						SUBTOTAL:	**Construction**	$ 6,490,000
RIGHT-OF-WAY, UTILITIES, MITIGATION, DESIGN, & CEI								
RIGHT OF WAY								
Right of Way							$933,000.00	
Permanent Easements (Drainage)							$0.00	
Temporary Easements							$326,000.00	
Consequential Damages								
Other Costs (Administration, Appraisals, Legal, Aqusition, etc.)					30%		$377,700.00	
						SUBTOTAL:	**Right of Way**	$1,636,700.00
UTILITIES								
Electrical							$ -	
Communications							$ -	
Gas							$ -	
Water							$ -	
Sewer							$ -	
						SUBTOTAL:	**Utilites**	$ -
MITIGATION								
Wetlands	0.00	acre	$	70,000	per acre		$ -	
Streams	750.00	lin ft	$	400	per lin ft		$ 300,000	
Stream Buffer	0.30	acre	$	70,000	per acre		$ 20,000	
						SUBTOTAL:	**Mitigation**	$ 320,000
DESIGN SERVICES								
Design:					10%		$ 550,000	
						SUBTOTAL:	**Design Fee**	$ 550,000
CONSTRUCTION ENGINEERING & INSPECTION (CEI)								
Engineering & Inspection:					10%		$ 550,000	
						SUBTOTAL:	**Eng & Insp**	$ 550,000
						TOTAL PROJECT COST:		$ 9,546,700

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 3**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

CONSTRUCTION									
CONSTRUCTION									
Traffic Control								**$**	**25,000**
Mobilization								**$**	**250,000**
Temporary Erosion Control & Grassing								**$**	**20,000**
Grading Complete								**$**	**2,384,000**
Clearing & Grubbing	18	acre	$	15,000	per acre	$	265,614		
Unclassified Excavation	16,902	cu yds	$	7	per cu yd	$	109,863		
Rock Excavation	15,240	cu yds	$	15.00	per cu yd	$	228,600		
Borrow Excavation	254,211	cu yds	$	7.00	per cu yd	$	1,779,477		
Pond Grading		Lump Sum							
Roadway Base & Paving								**$**	**473,000**
Full Depth: Surface - 12.5 mm Asphalt	1.5 in.	$	90	772	tons	$	69,480		
Full Depth: Binder - 19 mm Asphalt	2 in.	$	75	1030	tons	$	77,250		
Full Depth: Base - 25 mm Asphalt	5 in.	$	70	2573	tons	$	180,110		
Full Depth: Graded Aggregate Base	12 in.	$	23	6176	tons	$	142,048		
Full Depth: Tack Coat		$	3.00	1275	gal	$	3,825		
Overlay: Milling		$	4.00	0	sq yd	$	-		
Overlay: Asphalt Leveling		$	90	0	tons	$	-		
Overlay: Surface - 12.5 mm Asphalt	0 in.	$	100	0	tons	$	-		
Overlay: Tack Coat		$	3.00	-	gal	$	-		
Sidewalk, Curb & Gutter, Median								**$**	**279,000**
6' Concrete Sidewalk	3,320	lin ft	$	20	per lin ft	$	66,400		
12' Concrete Multi-Use Trail	3,320	lin ft	$	40	per lin ft	$	132,800		
Concrete Curb & Gutter	6,640	lin ft	$	12	per lin ft	$	79,680		
Raised Grassed Median	0	lin ft	$	0.42	per sq ft	$	-		
Driveways								**$**	**-**
Concrete Valley Gutter	0	sq ft	$	5.00	per sq ft	$	-		
Commercial Asphalt Driveway	0	sq ft	$	3.50	per sq ft	$	-		
Commercial Concrete Driveway	0	sq ft	$	5.00	per sq ft	$	-		
Concrete Curb & Gutter	0	lin ft	$	16	per lin ft	$	-		
Retaining Walls								**$**	**121,000**
Gravity Wall (5' H)	100	lin ft	$	312.50	lin ft	$	31,250		
Cantilever Wall	0	sq ft	$	110.00	per sq ft	$	-		
MSE Wall	2,000	sq ft	$	45.00	per sq ft	$	90,000		
Drainage								**$**	**567,000**
18-24" Storm Drain Pipe	800	lin ft	$	50	per lin ft	$	40,000		
30" Storm Drain Pipe	800	lin ft	$	60	per lin ft	$	48,000		
36" Storm Drain Pipe	800	lin ft	$	75	per lin ft	$	60,000		
42" Storm Drain Pipe	800	lin ft	$	95	per lin ft	$	76,000		
48" Storm Drain Pipe	0	lin ft	$	120	per lin ft	$	-		
54" Storm Drain Pipe	0	lin ft	$	170	per lin ft	$	-		
Headwall or Flared End Section	12	each	$	2,500	per each	$	30,000		
Catch Basin	40	each	$	3,000	per each	$	120,000		
Culverts (3 Locations)	2,225	lin ft			per lump sum	$	193,000		
Permanent Erosion Control & Grassing								**$**	**100,000**
Signing & Marking								**$**	**80,000**
Roadside Signs						$	20,000		
Pavement Markings						$	60,000		
						$	-		
Traffic Signals	0	each	$	-	per each			**$**	**-**

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 3**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

ATMS							**$ -**	
Communications		lin ft		per lin ft	$ -			
Components								
Lighting							**$ 170,000**	
Landscaping							**$ 50,000**	
						Subtotal	**$ 4,519,000**	
Construction Contingency:					20%		**$ 904,000**	
Inflation: @	3%	PER YEAR			0 Years		**$ -**	
						SUBTOTAL:	**Construction**	**$ 5,430,000**
RIGHT-OF-WAY, UTILITIES, MITIGATION, DESIGN, & CEI								
RIGHT OF WAY								
Right of Way							**$717,000.00**	
Permanent Easements (Drainage)							**$0.00**	
Temporary Easements							**$340,000.00**	
Consequential Damages								
Other Costs (Administration, Appraisals, Legal, Aqusition, etc.)						30%	**$317,100.00**	
						SUBTOTAL:	**Right of Way**	**$1,374,100.00**
UTILITIES								
Electrical							**$ -**	
Communications							**$ -**	
Gas							**$ -**	
Water							**$ -**	
Sewer							**$ -**	
						SUBTOTAL:	**Utilites**	**$ -**
MITIGATION								
Wetlands	0.00	acre	$ 70,000	per acre			**$ -**	
Streams	450.00	lin ft	$ 400	per lin ft			**$ 180,000**	
Stream Buffer	0.20	acre	$ 70,000	per acre			**$ 10,000**	
						SUBTOTAL:	**Mitigation**	**$ 190,000**
DESIGN SERVICES								
Design:						10%	**$ 460,000**	
						SUBTOTAL:	**Design Fee**	**$ 460,000**
CONSTRUCTION ENGINEERING & INSPECTION (CEI)								
Engineering & Inspection:						10%	**$ 460,000**	
						SUBTOTAL:	**Eng & Insp**	**$ 460,000**
						TOTAL PROJECT COST:		**$ 7,914,100**

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 4**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

CONSTRUCTION									
CONSTRUCTION									
Traffic Control								**$**	**25,000**
Mobilization								**$**	**250,000**
Temporary Erosion Control & Grassing								**$**	**20,000**
Grading Complete								**$**	**690,000**
Clearing & Grubbing	8	acre	$	15,000	per acre	$	124,807		
Unclassified Excavation	9,496	cu yds	$	7	per cu yd	$	61,724		
Rock Excavation	7,345	cu yds	$	15.00	per cu yd	$	110,175		
Borrow Excavation	56,164	cu yds	$	7.00	per cu yd	$	393,148		
Pond Grading		Lump Sum							
Roadway Base & Paving								**$**	**222,000**
Full Depth: Surface - 12.5 mm Asphalt	1.5 in.	$	90	363	tons	$	32,670		
Full Depth: Binder - 19 mm Asphalt	2 in.	$	75	484	tons	$	36,300		
Full Depth: Base - 25 mm Asphalt	5 in.	$	70	1209	tons	$	84,630		
Full Depth: Graded Aggregate Base	12 in.	$	23	2902	tons	$	66,746		
Full Depth: Tack Coat		$	3.00	600	gal	$	1,800		
Overlay: Milling		$	4.00	0	sq yd	$	-		
Overlay: Asphalt Leveling		$	90	0	tons	$	-		
Overlay: Surface - 12.5 mm Asphalt	0 in.	$	100	0	tons	$	-		
Overlay: Tack Coat		$	3.00	-	gal	$	-		
Sidewalk, Curb & Gutter, Median								**$**	**131,000**
6' Concrete Sidewalk	1,560	lin ft	$	20	per lin ft	$	31,200		
12' Concrete Multi-Use Trail	1,560	lin ft	$	40	per lin ft	$	62,400		
Concrete Curb & Gutter	3,120	lin ft	$	12	per lin ft	$	37,440		
Raised Grassed Median	0	lin ft	$	0.42	per sq ft	$	-		
Driveways								**$**	**-**
Concrete Valley Gutter	0	sq ft	$	5.00	per sq ft	$	-		
Commercial Asphalt Driveway	0	sq ft	$	3.50	per sq ft	$	-		
Commercial Concrete Driveway	0	sq ft	$	5.00	per sq ft	$	-		
Concrete Curb & Gutter	0	lin ft	$	16	per lin ft	$	-		
Retaining Walls								**$**	**121,000**
Gravity Wall (5' H)	100	lin ft	$	312.50	lin ft	$	31,250		
Cantilever Wall	0	sq ft	$	110.00	per sq ft	$	-		
MSE Wall	2,000	sq ft	$	45.00	per sq ft	$	90,000		
Drainage								**$**	**170,000**
18-24" Storm Drain Pipe	500	lin ft	$	50	per lin ft	$	25,000		
30" Storm Drain Pipe	500	lin ft	$	60	per lin ft	$	30,000		
36" Storm Drain Pipe	500	lin ft	$	75	per lin ft	$	37,500		
42" Storm Drain Pipe	500	lin ft	$	95	per lin ft	$	47,500		
48" Storm Drain Pipe	0	lin ft	$	120	per lin ft	$	-		
54" Storm Drain Pipe	0	lin ft	$	170	per lin ft	$	-		
Headwall or Flared End Section	0	each	$	2,500	per each	$	-		
Catch Basin	10	each	$	3,000	per each	$	30,000		
Culverts (0 Locations)	0	lin ft			per lump sum	$	-		
Permanent Erosion Control & Grassing								**$**	**100,000**
Signing & Marking								**$**	**80,000**
Roadside Signs						$	20,000		
Pavement Markings						$	60,000		
						$	-		
Traffic Signals	0	each	$	-	per each			**$**	**-**

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 4**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

ATMS							**$**	**-**	
Communications		lin ft		per lin ft	$ -				
Components									
Lighting							**$**	**75,000**	
Landscaping							**$**	**25,000**	
						Subtotal	**$**	**1,909,000**	
Construction Contingency:					20%		**$**	**382,000**	
Inflation: @	3%	PER YEAR			0 Years		**$**	**-**	
						SUBTOTAL:	**Construction**	**$**	**2,300,000**
RIGHT-OF-WAY, UTILITIES, MITIGATION, DESIGN, & CEI									
RIGHT OF WAY									
Right of Way								**$66,000.00**	
Permanent Easements (Drainage)								**$0.00**	
Temporary Easements								**$13,000.00**	
Consequential Damages									
Other Costs (Administration, Appraisals, Legal, Aqusition, etc.)						30%		**$23,700.00**	
						SUBTOTAL:	**Right of Way**		**$102,700.00**
UTILITIES									
Electrical							**$**	**-**	
Communications							**$**	**-**	
Gas							**$**	**-**	
Water							**$**	**-**	
Sewer							**$**	**-**	
						SUBTOTAL:	**Utilites**	**$**	**-**
MITIGATION									
Wetlands	0.00	acre	$	70,000	per acre		**$**	**-**	
Streams	0.00	lin ft	$	400	per lin ft		**$**	**-**	
Stream Buffer	0.00	acre	$	70,000	per acre		**$**	**-**	
						SUBTOTAL:	**Mitigation**	**$**	**-**
DESIGN SERVICES									
Design:						10%	**$**	**200,000**	
						SUBTOTAL:	**Design Fee**	**$**	**200,000**
CONSTRUCTION ENGINEERING & INSPECTION (CEI)									
Engineering & Inspection:						10%	**$**	**200,000**	
						SUBTOTAL:	**Eng & Insp**	**$**	**200,000**
						TOTAL PROJECT COST:		**$**	**2,802,700**

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 5**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

CONSTRUCTION									
CONSTRUCTION									
Traffic Control								**$**	**25,000**
Mobilization								**$**	**250,000**
Temporary Erosion Control & Grassing								**$**	**20,000**
Grading Complete								**$**	**1,065,000**
Clearing & Grubbing	7	acre	$	15,000	per acre	$	104,080		
Unclassified Excavation	0	cu yds	$	7	per cu yd	$	-		
Rock Excavation	0	cu yds	$	15.00	per cu yd	$	-		
Borrow Excavation	137,294	cu yds	$	7.00	per cu yd	$	961,058		
Pond Grading		Lump Sum							
Roadway Base & Paving								**$**	**662,000**
Full Depth: Surface - 12.5 mm Asphalt	1.5 in.	$	90	1082	tons	$	97,380		
Full Depth: Binder - 19 mm Asphalt	2 in.	$	75	1442	tons	$	108,150		
Full Depth: Base - 25 mm Asphalt	5 in.	$	70	3604	tons	$	252,280		
Full Depth: Graded Aggregate Base	12 in.	$	23	8649	tons	$	198,927		
Full Depth: Tack Coat		$	3.00	1786	gal	$	5,358		
Overlay: Milling		$	4.00	0	sq yd	$	-		
Overlay: Asphalt Leveling		$	90	0	tons	$	-		
Overlay: Surface - 12.5 mm Asphalt	0 in.	$	100	0	tons	$	-		
Overlay: Tack Coat		$	3.00	-	gal	$	-		
Sidewalk, Curb & Gutter, Median								**$**	**112,000**
6' Concrete Sidewalk	0	lin ft	$	20	per lin ft	$	-		
12' Concrete Multi-Use Trail	0	lin ft	$	40	per lin ft	$	-		
Concrete Curb & Gutter	9,300	lin ft	$	12	per lin ft	$	111,600		
Raised Grassed Median	0	lin ft	$	0.42	per sq ft	$	-		
Driveways								**$**	**-**
Concrete Valley Gutter	0	sq ft	$	5.00	per sq ft	$	-		
Commercial Asphalt Driveway	0	sq ft	$	3.50	per sq ft	$	-		
Commercial Concrete Driveway	0	sq ft	$	5.00	per sq ft	$	-		
Concrete Curb & Gutter	0	lin ft	$	16	per lin ft	$	-		
Retaining Walls								**$**	**-**
Gravity Wall (5' H)	0	lin ft	$	312.50	lin ft	$	-		
Cantilever Wall	0	sq ft	$	110.00	per sq ft	$	-		
MSE Wall	0	sq ft	$	45.00	per sq ft	$	-		
Drainage								**$**	**327,000**
18-24" Storm Drain Pipe	900	lin ft	$	50	per lin ft	$	45,000		
30" Storm Drain Pipe	900	lin ft	$	60	per lin ft	$	54,000		
36" Storm Drain Pipe	900	lin ft	$	75	per lin ft	$	67,500		
42" Storm Drain Pipe	900	lin ft	$	95	per lin ft	$	85,500		
48" Storm Drain Pipe	0	lin ft	$	120	per lin ft	$	-		
54" Storm Drain Pipe	0	lin ft	$	170	per lin ft	$	-		
Headwall or Flared End Section	0	each	$	2,500	per each	$	-		
Catch Basin	25	each	$	3,000	per each	$	75,000		
Culverts (8 Locations)	0	lin ft			per lump sum	$	-		
Permanent Erosion Control & Grassing								**$**	**100,000**
Signing & Marking								**$**	**80,000**
Roadside Signs						$	20,000		
Pavement Markings						$	60,000		
						$	-		
Traffic Signals	0	each	$	-	per each			**$**	**-**

ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Project: **Heard Road Alternative No. 1 - Phase 5**
Cherokee County
Element:

PI No.:
County: **Cherokee**
Date: **11-May-2018**

ATMS							**$ -**	
Communications		lin ft		per lin ft	$ -			
Components								
Lighting							**$ 150,000**	
Landscaping							**$ -**	
						Subtotal	**$ 2,791,000**	
Construction Contingency:					20%		**$ 558,000**	
Inflation: @	3%	PER YEAR			0 Years		**$ -**	
						SUBTOTAL: Construction		**$ 3,350,000**
RIGHT-OF-WAY, UTILITIES, MITIGATION, DESIGN, & CEI								
RIGHT OF WAY								
Right of Way							**$0.00**	
Permanent Easements (Drainage)							**$0.00**	
Temporary Easements							**$0.00**	
Consequential Damages								
Other Costs (Administration, Appraisals, Legal, Aqusition, etc.)					30%		**$0.00**	
						SUBTOTAL: Right of Way		**$ -**
UTILITIES								
Electrical							**$ -**	
Communications							**$ -**	
Gas							**$ -**	
Water							**$ -**	
Sewer							**$ -**	
						SUBTOTAL: Utilites		**$ -**
MITIGATION								
Wetlands	0.00	acre	$ 70,000	per acre			**$ -**	
Streams	0.00	lin ft	$ 400	per lin ft			**$ -**	
Stream Buffer	0.00	acre	$ 70,000	per acre			**$ -**	
						SUBTOTAL: Mitigation		**$ -**
DESIGN SERVICES								
Design:					10%		**$ 280,000**	
						SUBTOTAL: Design Fee		**$ 280,000**
CONSTRUCTION ENGINEERING & INSPECTION (CEI)								
Engineering & Inspection:					10%		**$ 280,000**	
						SUBTOTAL: Eng & Insp		**$ 280,000**
						TOTAL PROJECT COST:		**$ 3,910,000**