

March 2, 2020

Mr. Ron McMaster, Jr., P.E.  
McMaster & Associates, Inc.  
212 Waterford Square, Suite 300  
Madison, MS 39110

Re: Traffic Analysis for the Proposed Single Family Homes in Madison County, MS

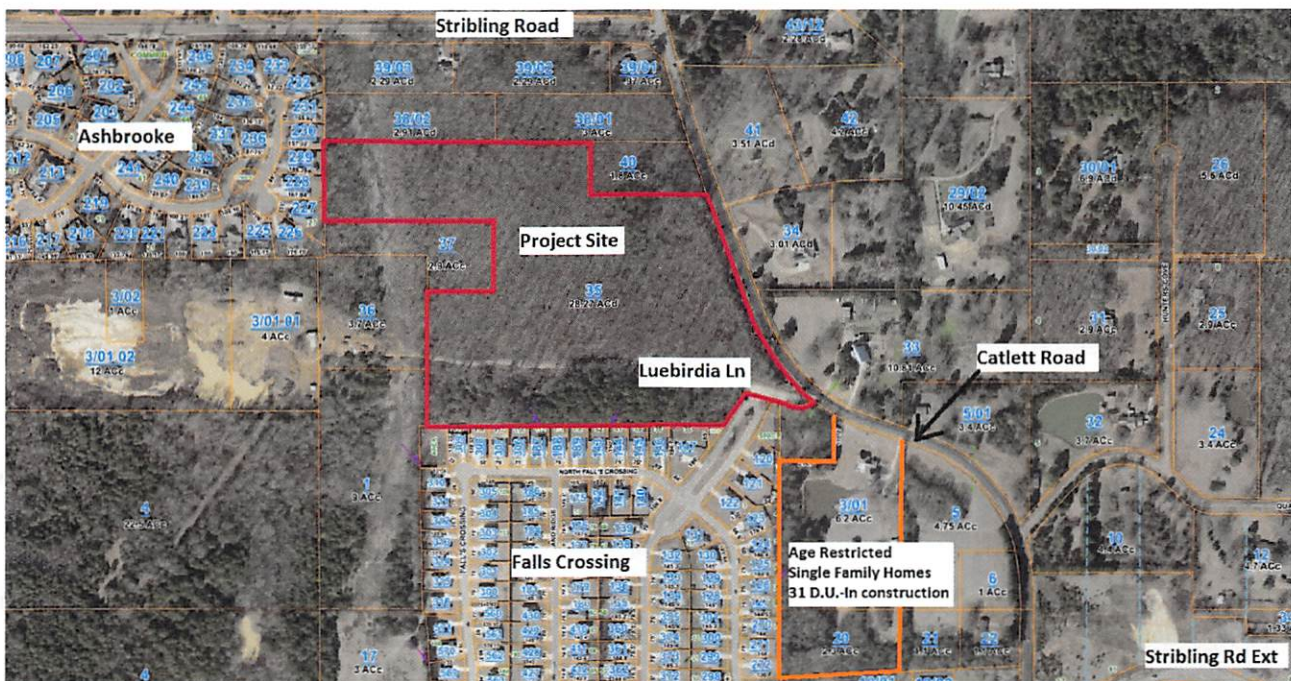
Dear Mr. McMaster:

Per your request, Neel-Schaffer has conducted an analysis of the proposed residential development on Catlett Road in Madison County, MS. This letter is intended to provide traffic analysis information regarding the development of the property north of Falls Crossing on the west side of Catlett Road. Development of the  $\pm 28$  acre project site is planned to include 60 single family homes. Access to the site is proposed to use the existing access of Falls Crossing – Luebirdia Lane to access Catlett Road. The existing cross section of Catlett Road adjacent to the site includes a 2-lane roadway with 24 ft of asphalt. The project site plan is provided in **Figure 1-Site Plan**. The graphics referenced in this letter are provided as attachments.

### Existing Conditions

A field inventory of the project site was conducted to document the existing conditions of the site and traffic control within the project limits. The posted speed limit on Catlett Road is 45 mph adjacent to the site, while northbound traffic has a curve warning sign with an advisory speed of 30 mph.

The project site is currently undeveloped land that borders Falls Crossing to the south and a portion of Ashbrooke to the west.



Source: Neel-Schaffer, TSC Maps, 2020.

Falls Crossing subdivision is adjacent to the site to the south, with approximately 218 residential single family lots. The other land adjacent to the site is either large acre/low density development, or undeveloped property. Higher density developments exist along Stribling Road to the north/west and along Stribling Road Extension, east of the site.

There are significant traffic peaks in the AM and PM peak hours, as most traffic travels southbound in the AM peak and northbound in the PM peak, adjacent to the project site. A peak hour turning movement count was conducted on 1/22/20 at the adjacent intersection of Luebirdia Lane/Catlett Road.

The year 2020 peak hour traffic volumes adjacent to the site are shown in **Figure 2**. The traffic at Falls Crossing is reflective of the fact that some of the newer homes are vacant or under construction. Peak hour volumes in/out for Falls Crossing totaled 140 vph AM/146 vph PM for 218 dwelling units/lots. Peak hour volumes would typically be approximately 1 vehicle per dwelling unit.

**Trip Generation/Assignment**

The trip generation characteristics of the proposed residential development were calculated using the Institute of Transportation Engineers (ITE), Trip Generation, 9<sup>th</sup> Edition. The results of the trip generation calculations are shown in **Table 1**.

Table 1  
Trip Generation

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Single Family Homes	60 D.U.	666	52	13	39	67	42	25
Daily Traffic Generation								
	Single Family Homes	[ITE 210]	=	$\ln(T) = 0.92 * \ln(\# \text{ D.U.}) + 2.72$				
AM Peak Hour Traffic Generation								
	Single Family Homes	[ITE 210]	=	$T = 0.70 * \# \text{ D.U.} + 9.74 ; (25\% \text{ in} / 75\% \text{ out})$				
PM Peak Hour Traffic Generation								
	Single Family Homes	[ITE 210]	=	$\ln(T) = 0.90 * \ln(X) + 0.51 ; (63\% \text{ in} / 37\% \text{ out})$				

Source: ITE Trip Generation, 9th Edition, Neel-Schaffer, 2020. X = # Dwelling Units

Non-site traffic volumes were evaluated based on a review of MDOT historical daily traffic volumes, local traffic counts and census data. The volumes on Catlett Road south of Stribling Road Extension (count station #451162) showed an increase in daily traffic from 7,000 vpd in 2013 to 7,600 vpd in 2018, a 1.66% compound annual growth rate. When comparing the daily traffic to the turning movement count at Luebirdia/Catlett Road, the volume of traffic on Catlett Road between Stribling Road Extension and Luebirdia Lane was 7,586 vehicles in 9 hours of the day counted for this study, identifying that the AADT counts are much lower than the existing counts.

The US census data for Madison County revealed a growth in population from 1990-54,271 to 2018-105,630, a 2.41% compound annual growth rate. Local traffic counts from Catlett Road in 2016 at Stribling Rd Extension and 2018/2020 at Luebirdia Lane/Catlett Road were compared. The growth comparison from local turning movement counts is shown in **Table 2**.

Table 2  
Catlett Road Peak Hour Volumes

Year	AM			PM			Notes: Peak Hour
	NB	SB	Total	NB	SB	Total	
2016	241	781	1,022	632	296	928	7:00 AM, 5:00 PM
2018	293	794	1,087	638	372	1,010	6:30 AM, 4:30 PM
2020	309	949	1,258	765	359	1,124	6:45 AM, 5:00 PM
Annual %	6.41%	4.99%	5.33%	4.89%	4.94%	4.91%	

Source: Neel-Schaffer, 2020.

The existing volumes revealed a 5% compound annual growth on Catlett Road. An average of the Census, ADT and peak hour volume yielded a growth rate of +3% (compounded annually).

The vacant land adjacent to the project site to the west is landlocked between Ashbrooke and Falls Crossing. The FEMA Flood Maps identify Streams Q and R that bisect this property with flood way and flood zone from these streams/drainage channels. These streams from Ashbrooke and Reunion Lake 1 flow south/southeast. The floodway, flood zone and vacant land-locked property are shown in **Figure 3** along with the property parcels in the area. Excluding the flood way and 100 year flood zone property from development, approximately 125 acres of undeveloped land exists west of the site that would use Luebirdia Lane as an access point to Catlett Road. A secondary access to this future development would be south of Falls Crossing, extending east to Catlett Road. Using 2 homes per acre density, the landlocked property would develop with approximately 250 dwelling units that would access Catlett Road in the future.

Table 3  
Trip Generation-Adjacent Development

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour			
			Total	In	Out	Total	In	Out	
SFH-Falls Crossing	40 D.U.	452	38	10	28	46	29	17	
SFH-Adjacent 125 Acres	250 D.U.	2440	185	46	139	240	151	89	
	Total	2,892	223	56	167	286	180	106	
Daily Traffic Generation									
	Single Family Homes	[ITE 210]	=	$\ln(T) = 0.92 * \ln(\# \text{ D.U.}) + 2.72$					
AM Peak Hour Traffic Generation									
	Single Family Homes	[ITE 210]	=	$T = 0.70 * \# \text{ D.U.} + 9.74 ; (25\% \text{ in} / 75\% \text{ out})$					
PM Peak Hour Traffic Generation									
	Single Family Homes	[ITE 210]	=	$\ln(T) = 0.90 * \ln(X) + 0.51 ; (63\% \text{ in} / 37\% \text{ out})$					

Source: ITE Trip Generation, 9th Edition, Neel-Schaffer, 2020. X = # Dwelling Units

The calculated project site traffic with Falls Crossing additional homes and the development of the adjacent 125 acres is shown graphically in **Figure 4**. The assignment of the traffic that is planned to share Luebirdia Lane was calculated to have 40% access via Luebirdia Lane and 60% access via a new access roadway south of Falls Crossing.

Non-site traffic was forecast to the horizon year/ buildout 2026 using a 3% compound annual growth rate with the addition of the adjacent property development potential. The project site traffic was then added to the non-site traffic to evaluate the impacts to the roadway adjacent to the site for buildout (2026) total traffic. The projected 2026 Total Traffic is shown in **Figure 5**. Volume calculation sheets are attached to this letter (sheets A6-A7).

**Traffic Impacts**

The intersection delays were evaluated using the information provided in the *Highway Capacity Manual* to evaluate the levels-of-service (LOS) for the study intersections. The LOS analysis included the existing and future traffic (2026-Non-Site & Total traffic at buildout). The intersections identified in this analysis include the adjacent unsignalized intersection of Luebirdia Ln/Catlett Road, and Luebirdia Ln/Falls Crossing. The capacity analysis sheets are provided as an attachment to this letter/report. The capacity analysis results are summarized in **Table 4**.

**Table 4**  
Capacity Analysis Summary

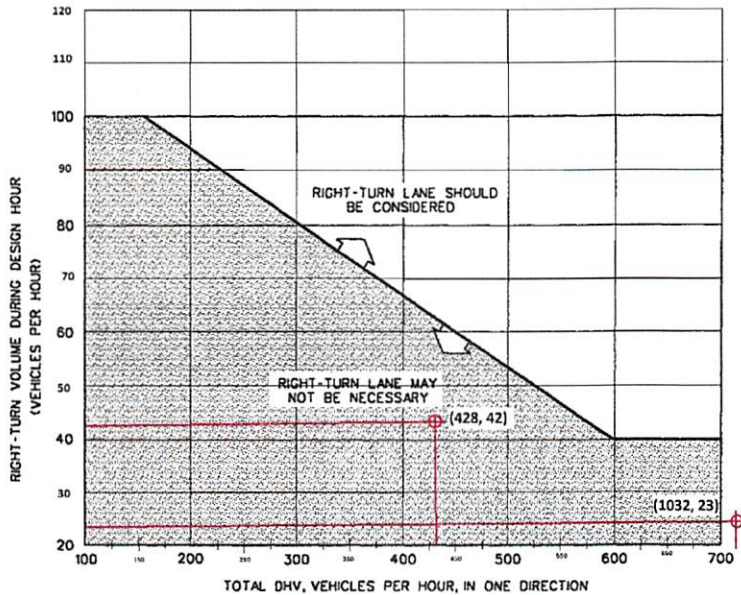
Unsignalized Intersections	Time Period	Critical Movement Level of Service											
		Eastbound			Westbound			Northbound			Southbound		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
<i>Existing Traffic</i>													
Catlett Road/ Luebirdia Ln	AM Peak	D	-	D	-	-	-	A	A	-	-	-	-
	PM Peak	B	-	B	-	-	-	A	A	-	-	-	-
Falls Crossing/ Luebirdia Ln	AM Peak	-	-	-	A	-	-	A	-	A	-	-	-
	PM Peak	-	-	-	A	-	-	A	-	A	-	-	-
<i>Non-Site Traffic</i>													
Catlett Road/ Luebirdia Ln	AM Peak	F	-	F	-	-	-	B	A	-	-	-	-
	PM Peak	D	-	D	-	-	-	A	A	-	-	-	-
Falls Crossing/ Luebirdia Ln	AM Peak	-	-	-	A	-	-	A	-	A	-	-	-
	PM Peak	-	-	-	A	-	-	A	-	A	-	-	-
<i>2026 Total Traffic</i>													
Catlett Road/ Luebirdia Ln	AM Peak	F	-	F	-	-	-	B	A	-	-	-	-
	PM Peak	F	-	F	-	-	-	A	A	-	-	-	-
Falls Crossing / Luebirdia Ln	AM Peak	-	-	-	A	-	-	A	-	A	-	-	-
	PM Peak	-	-	-	A	-	-	A	-	A	-	-	-
<i>2026 Total w/ Left</i>													
Catlett Road/ Luebirdia Ln	AM Peak	D	-	F	-	-	-	B	A	-	-	-	-
	PM Peak	F	-	B	-	-	-	A	A	-	-	-	-

Source: Neel-Schaffer, 2020, HCM 2010.

Luebirdia Lane at Catlett Road is forecast to operate with significant delays (from a capacity perspective) with the development of the adjacent property (125 acres), without the development of the project site. The non-site traffic analysis and total traffic analysis reveals that the adjacent intersection of Catlett Road with Luebirdia Lane is near capacity with existing traffic (LOS D for the minor street movement). Without the development of the project site, this adjacent intersection is shown to be over capacity with minimal background growth. A center Two-Way-Left-Turn-Lane (TWLTL) is planned to be constructed by the County to help address the turning traffic demand in this section of Catlett Road. A dedicated eastbound left turn lane on Luebirdia Lane would help to reduce the minor street delays.

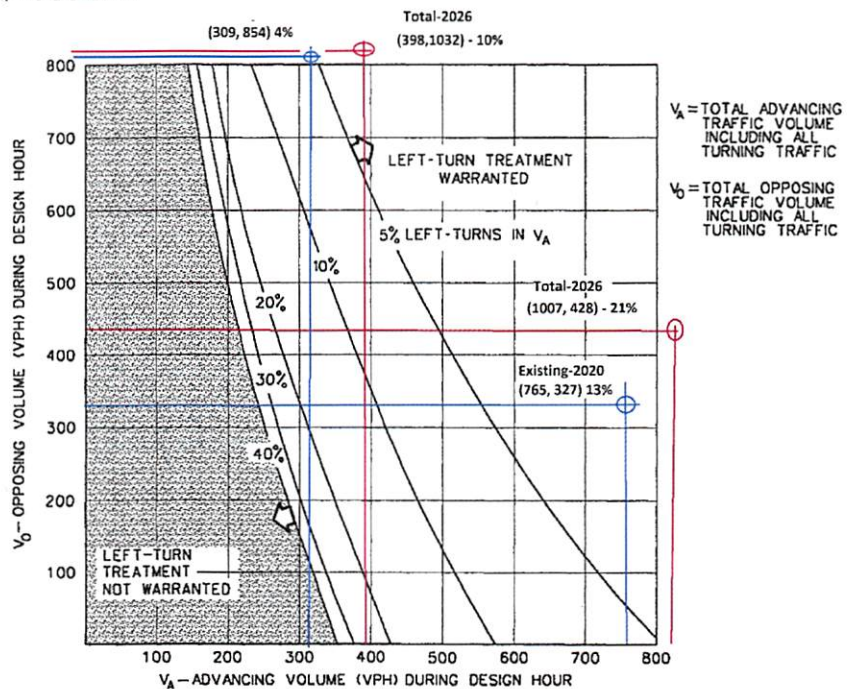
**Auxiliary Turn Lane Warrants**

The need for auxiliary turn lanes at the site driveway was evaluated to determine if left turn or right turn ingress lanes were warranted. The MDOT auxiliary turn lane graphs were used to evaluate Luebirdia Lane at Catlett Road to see if the existing and forecast volumes would meet the turn lane warrants. The right turn lane warrant is based on the number of right turning vehicles and total volume of traffic in the same direction as the right turning volume.



The graph for right turning traffic (total 2026 volumes) does not meet the threshold volumes to warrant construction of a southbound right turn ingress lane on Catlett Road at Luebirdia Lane.

The left turn lane warrant is based on the volume of traffic on the major street advancing ( $V_A$ ) and volume of traffic opposing ( $V_O$ ) the advancing traffic on the adjacent roadway, along with the percentage of left turns in the volume advancing. The volumes were plotted on the graph, and if the plotted point is to the right of the percentage of left turn line on the graph, then a left turn lane is warranted.



Source: Neel-Schaffer, MDOT 2020.

The plotted points for Luebirdia Lane at Catlett Road both (AM & PM peaks 2026 and PM peak existing) meet the left turn lane warrant, although no left turn lane is currently provided. The construction of a center turn lane on Catlett Road would help to improve traffic circulation. A center turn lane would allow left turns out of the subdivisions to make the movements as two stage movements, requiring a gap in major street traffic in only one direction at a time. A center turn lane would help to keep northbound traffic flowing more freely and left turning traffic would have less impact on Catlett Road. A left turn lane is anticipated to be constructed by Madison County.

**Luebirdia Lane Geometry**

The alignment of Luebirdia Lane at the intersection with Catlett Road is at a skewed angle. The most desirable angle for intersections is at 90 degrees from a safety perspective. Benefits of 90 degree intersections include minimizing head rotation for older drivers. The current angle encourages left turning traffic from Catlett Road to drive across the egress lane for eastbound traffic. Reconfiguration of the Luebirdia Lane/Falls Crossing access would improve the turning radius for southbound right turning traffic, have the primary internal movement at Falls Crossing be a through movement rather than a left turn, reduce the skewed angle for eastbound traffic, improve spacing between Cornerstone development left turns and Luebirdia Lane left turning vehicles from Catlett Road, and reduce speeds on Luebirdia Lane at the Falls Crossing intersection.

**Recommendations**

Capacity related issues were identified with the background/non-site traffic at the unsignalized intersection of Luebirdia Lane/Catlett Road based on the traffic count and proposed trip generation of the existing and proposed adjacent residential developments. The construction of a center two-way left turn lane (TWLTL) on Catlett Road is recommended to accommodate the existing and background traffic growth and is a necessary improvement (without the development of the project site). Traffic volumes on Luebirdia Lane are forecast to have delays during peak hours; however signal warrants are not anticipated to be met at this intersection. Minor street delays on arterial streets are not uncommon. Street lighting is recommended to help drivers leaving the site to better gauge travel speeds of approaching traffic at night. Realignment of Luebirdia Lane to the north would improve the intersection geometrics and provide better spacing between the new Cornerstone development to the south and Luebirdia Lane. If the intersection is not realigned to the north, construction of a left turn lane on Luebirdia Lane is recommended, along with striping travel lanes/turn lanes on Luebirdia Lane from the Falls Crossing intersection to Catlett Road. Signalization of Stribling Road Extension/Catlett Road (or construction of a roundabout) is planned by Madison County south of the project site, along with construction of a center turn lane on Catlett Road adjacent to the project site. The existing alignment concept with left turn lane construction, and realignment of the site access concepts are presented in **Figures 6A-B**. If you have any questions or comments regarding this analysis, please call me at (601) 948-3071.

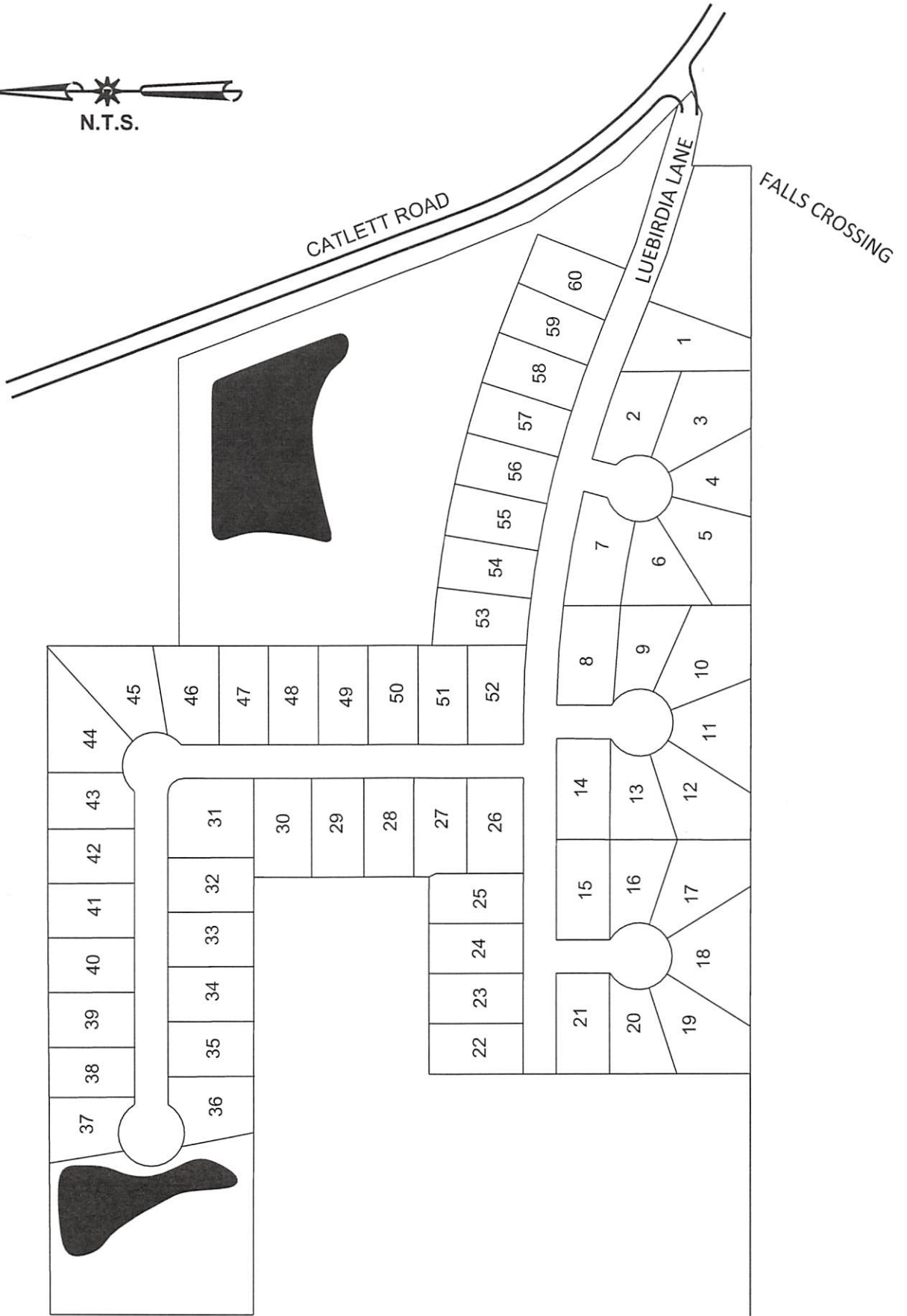
Sincerely,

NEEL-SCHAFFER, INC.

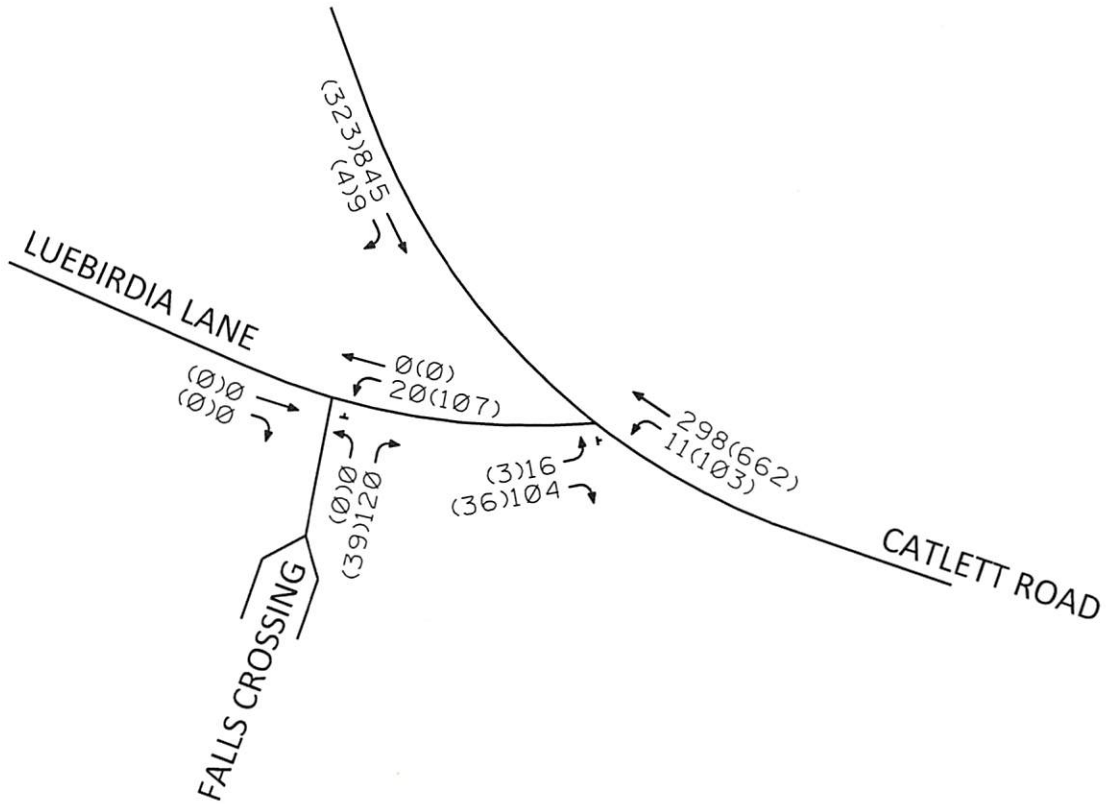


Jonathan A. Kiser, P.E., PTOE, PTP  
Professional Traffic Engineer &  
Transportation Planner

Attachments: Figure 1 – Site Plan  
Figure 2 – Year 2020 Existing Traffic  
Figure 3 – Parcel Map  
Figure 4 – New Residential Site Traffic  
Figure 5 – Year 2026 Total Traffic  
Figure 6A/B – Recommended Improvements  
Project Photographs (A1-A5)  
Volume Calculation Sheets (A6-A7)  
Traffic count – Catlett Road/Luebirdia Lane (A8-A12)  
HCM Capacity Analysis Sheets (A13-A26)



S:\Projects\15592-Catlett-SFH\cadd\FIGURE1 SITEPLAN.dgn



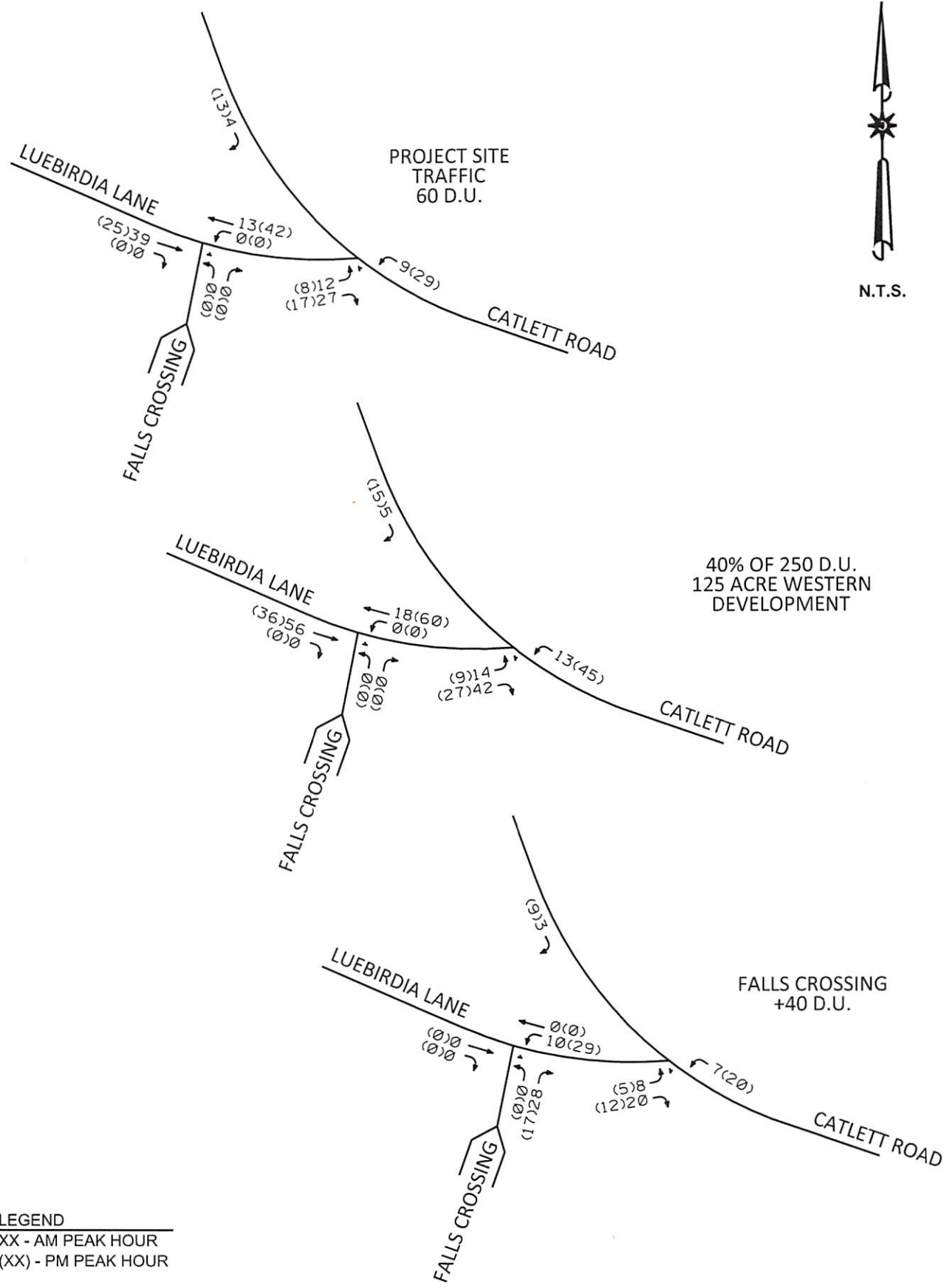
LEGEND  
XX - AM PEAK HOUR  
(XX) - PM PEAK HOUR  
COUNT DATE: 1/22/20  
SOURCE: NEEL-SCHAFFER, 2020







N.T.S.

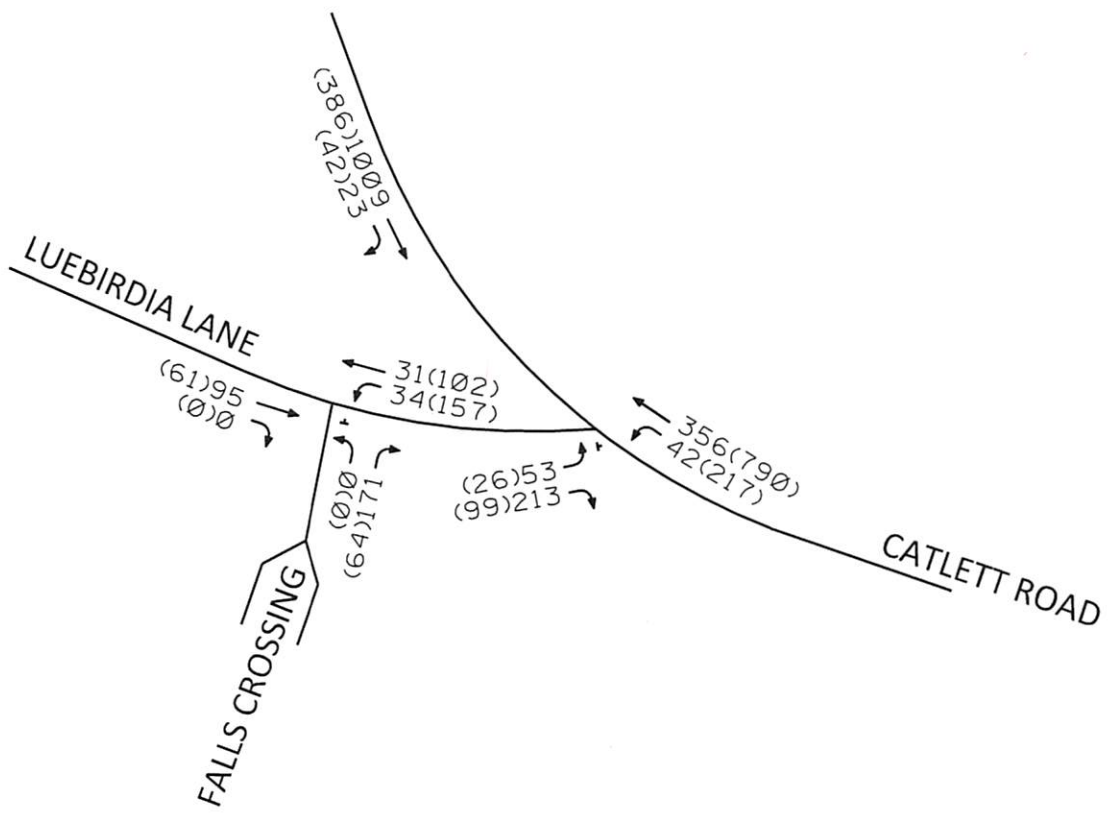


**LEGEND**  
 XX - AM PEAK HOUR  
 (XX) - PM PEAK HOUR

S:\Projects\15592-Catlett-SFH\cadd\figure4 - site\traffic.dgn



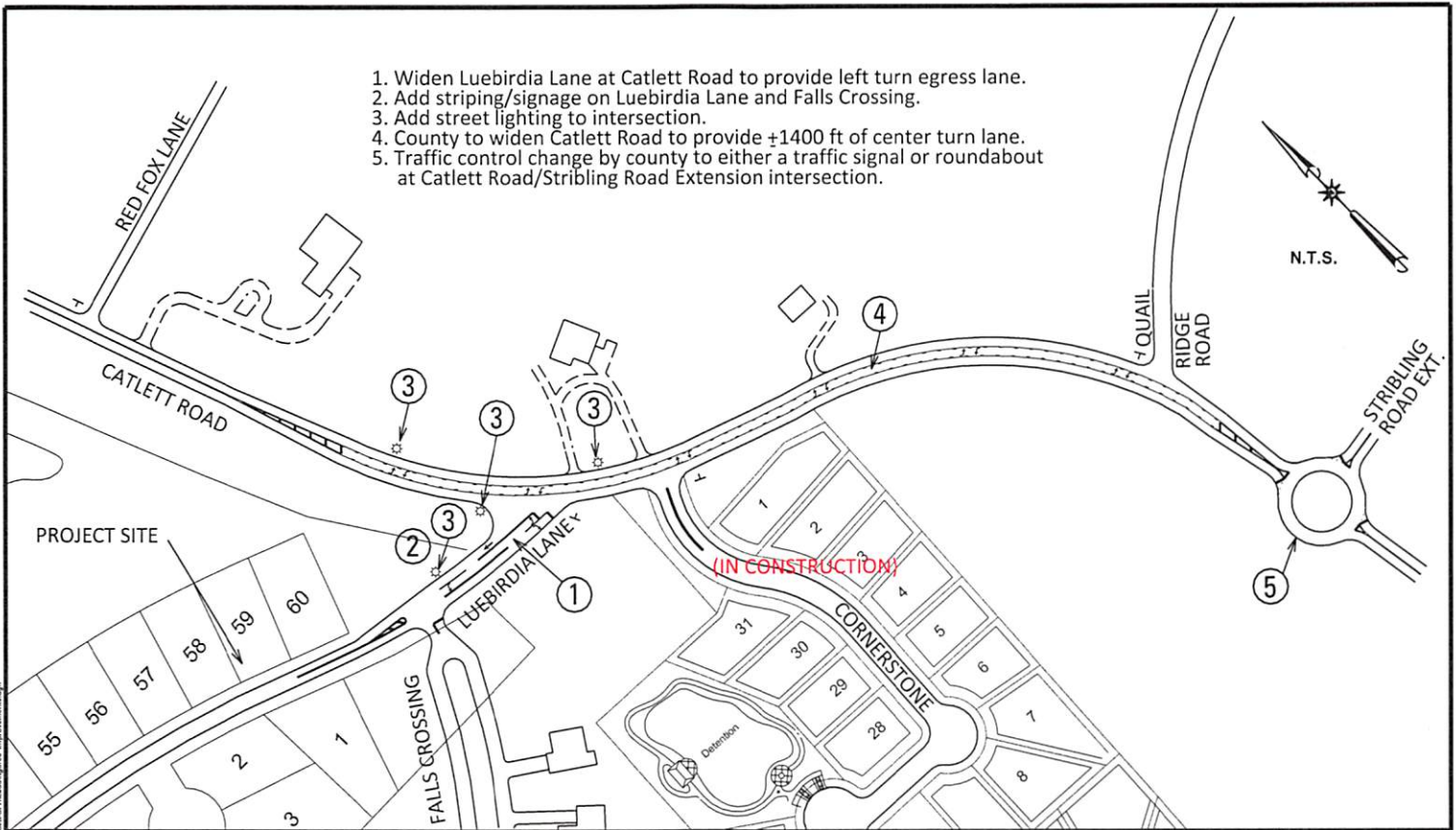
N.T.S.



LEGEND  
XX - AM PEAK HOUR  
(XX) - PM PEAK HOUR

S:\Projects\15592-Catlett-SFHcadd\figure5 totaltraffic.dgn

1. Widen Luebirdia Lane at Catlett Road to provide left turn egress lane.
2. Add striping/signage on Luebirdia Lane and Falls Crossing.
3. Add street lighting to intersection.
4. County to widen Catlett Road to provide ±1400 ft of center turn lane.
5. Traffic control change by county to either a traffic signal or roundabout at Catlett Road/Stribling Road Extension intersection.



S:\Projects\15592-Catlett-SFHicadd\ENTRANCE.dgn





Above: Looking northwest at Luebirdia Lane on Catlett Road.  
Below: Looking west on Luebirdia Lane at Falls Crossing entrance.





Above: Looking south at Falls Crossing from Luebirdia Lane.  
Below: Looking east on Luebirdia Lane at Catlett Road.





Above: Looking east on Luebirdia Lane at Catlett Road.

Below: Looking north on Catlett Road from Luebirdia Lane and at broken pavement in radius.







Above: Luebirdia Lane pavement condition between Falls Crossing and Catlett Road.



Above: Looking southeast at Luebirdia Lane/Catlett Road intersection with truck turning right off the pavement.

**Luebirdia Ln/Catlett Road**

Seasonal Adjustment Factor           1  
 Annual Growth Factor                3.0%  
 Base Year                                2020  
 Horizon Year 1                         2026

Start Time	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
<b>AM Peak Hour</b>													
2020 Existing Traffic	11	298	0	0	845	9	16	0	104	0	0	0	1,283
Falls Crossing Buildout	7	0	0	0	0	3	8	0	20	0	0	0	38
125 Ac West Development	13	0	0	0	0	5	14	0	42	0	0	0	74
2026 Non-Site Traffic	33	356	0	0	1009	19	41	0	186	0	0	0	1,644
Site Traffic	9	0	0	0	0	4	12	0	27	0	0	0	52
2026 Total Traffic	42	356	0	0	1,009	23	53	0	213	0	0	0	1,696
<b>PM Peak Hour</b>													
2020 Existing Traffic	103	662	0	0	323	4	3	0	36	0	0	0	1,131
Falls Crossing Buildout	20	0	0	0	0	9	5	0	12	0	0	0	46
125 Ac West Development	45	0	0	0	0	15	9	0	27	0	0	0	96
2026 Non-Site Traffic	188	790	0	0	386	29	18	0	82	0	0	0	1,493
Site Traffic	29	0	0	0	0	13	8	0	17	0	0	0	67
2026 Total Traffic	217	790	0	0	386	42	26	0	99	0	0	0	1,560

Source: Neel-Schaffer, 2020.

**Luebirdia Lane/Falls Crossing**

Seasonal Adjustment Factor 1  
 Annual Growth Factor 3.0%  
 Base Year 2020  
 Horizon Year 1 2026

Start Time	Northbound			Southbound			Eastbound			Westbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
<b>AM Peak Hour</b>													
2020 Existing Traffic	0	0	120	0	0	0	0	0	0	20	0	0	140
Falls Crossing Buildout	0	0	28	0	0	0	0	0	0	10	0	0	38
125 Ac West Development	0	0	0	0	0	0	0	56	0	0	18	0	74
2026 Non-Site Traffic	0	0	171	0	0	0	0	56	0	34	18	0	279
Site Traffic	0	0	0	0	0	0	0	39	0	0	13	0	52
2026 Total Traffic	0	0	171	0	0	0	0	95	0	34	31	0	331
<b>PM Peak Hour</b>													
2020 Existing Traffic	0	0	39	0	0	0	0	0	0	107	0	0	146
Falls Crossing Buildout	0	0	17	0	0	0	0	0	0	29	0	0	46
125 Ac West Development	0	0	0	0	0	0	0	36	0	0	60	0	96
2026 Non-Site Traffic	0	0	64	0	0	0	0	36	0	157	60	0	317
Site Traffic	0	0	0	0	0	0	0	25	0	0	42	0	67
2026 Total Traffic	0	0	64	0	0	0	0	61	0	157	102	0	384

Source: Neel-Schaffer, 2020.

Neel-Schaffer  
P.O. Box 22625  
Jackson, MS 39225

A8

Intersection: Catlett Rd/Luebirdia Ln  
Counter: T. Kiser (Video)  
County/State: Madison/MS  
Weather: Cloudy/Dry

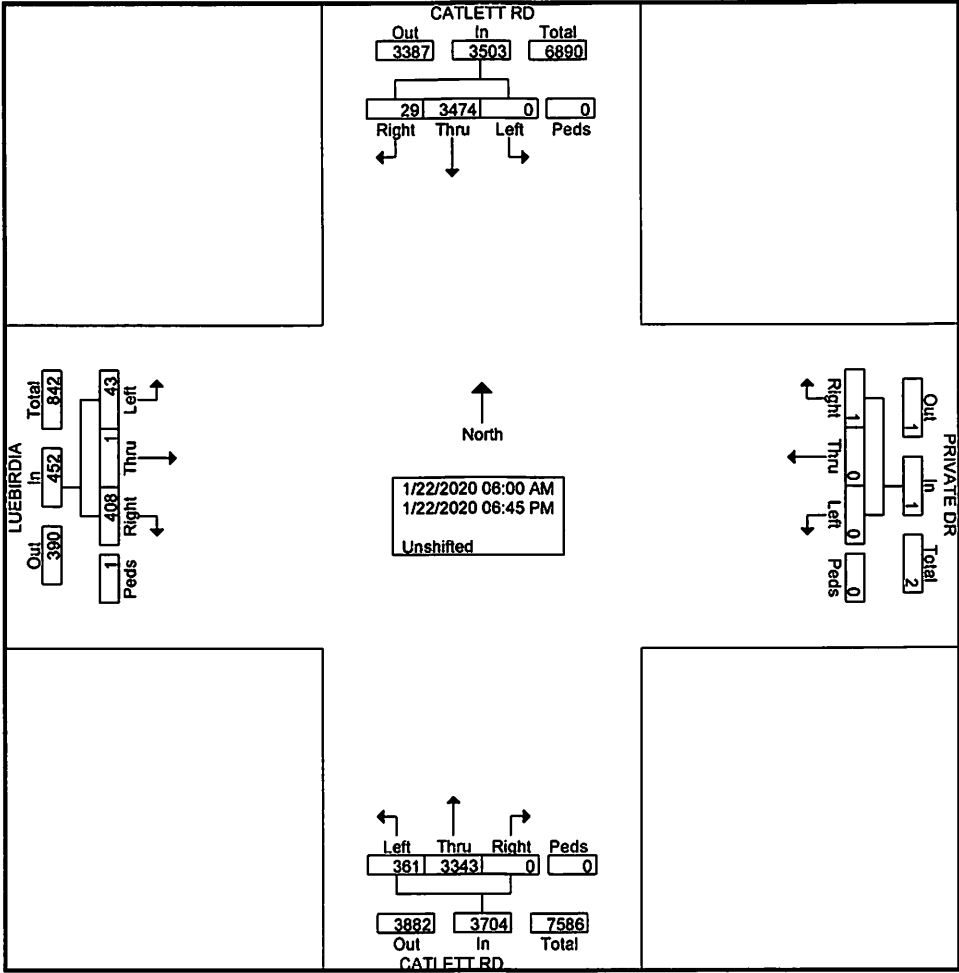
File Name : Luebirdia-Catlett  
Site Code : 00000000  
Start Date : 1/22/2020  
Page No : 1

Groups Printed- Unshifted

Start Time	CATLETT RD Southbound					PRIVATE DR Westbound					CATLETT RD Northbound					LUEBIRDIA Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:00 AM	0	57	0	0	57	0	0	0	0	0	1	13	0	0	14	0	0	12	0	12	83
06:15 AM	0	83	0	0	83	0	0	0	0	0	0	16	0	0	16	1	0	18	0	19	118
06:30 AM	0	146	1	0	147	0	0	0	0	0	2	40	0	0	42	5	0	30	0	35	224
06:45 AM	0	177	0	0	177	0	0	0	0	0	1	83	0	0	84	7	0	29	0	36	297
<b>Total</b>	<b>0</b>	<b>463</b>	<b>1</b>	<b>0</b>	<b>464</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>152</b>	<b>0</b>	<b>0</b>	<b>156</b>	<b>13</b>	<b>0</b>	<b>89</b>	<b>0</b>	<b>102</b>	<b>722</b>
07:00 AM	0	220	2	0	222	0	0	0	0	0	4	101	0	0	105	5	0	35	0	40	367
07:15 AM	0	229	4	0	233	0	0	0	0	0	4	70	0	0	74	4	0	25	0	29	336
07:30 AM	0	219	3	0	222	0	0	0	0	0	2	44	0	0	46	0	0	15	0	15	283
07:45 AM	0	183	2	0	185	0	0	1	0	1	2	63	0	0	65	1	0	20	0	21	272
<b>Total</b>	<b>0</b>	<b>851</b>	<b>11</b>	<b>0</b>	<b>862</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>12</b>	<b>278</b>	<b>0</b>	<b>0</b>	<b>290</b>	<b>10</b>	<b>0</b>	<b>95</b>	<b>0</b>	<b>105</b>	<b>1258</b>
08:00 AM	0	188	0	0	188	0	0	0	0	0	1	83	0	0	84	1	0	14	0	15	287
08:15 AM	0	102	1	0	103	0	0	0	0	0	4	67	0	0	71	0	0	16	0	16	190
08:30 AM	0	102	0	0	102	0	0	0	0	0	8	52	0	0	60	3	0	14	0	17	179
08:45 AM	0	86	1	0	87	0	0	0	0	0	3	51	0	0	54	0	0	8	0	8	149
<b>Total</b>	<b>0</b>	<b>478</b>	<b>2</b>	<b>0</b>	<b>480</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>253</b>	<b>0</b>	<b>0</b>	<b>269</b>	<b>4</b>	<b>0</b>	<b>52</b>	<b>0</b>	<b>56</b>	<b>805</b>
*** BREAK ***																					
11:00 AM	0	63	0	0	63	0	0	0	0	0	9	43	0	0	52	1	0	6	0	7	122
11:15 AM	0	73	0	0	73	0	0	0	0	0	5	47	0	0	52	0	0	8	0	8	133
11:30 AM	0	76	0	0	76	0	0	0	0	0	4	57	0	0	61	0	0	2	0	2	139
11:45 AM	0	75	0	0	75	0	0	0	0	0	6	54	0	0	60	0	0	8	0	8	143
<b>Total</b>	<b>0</b>	<b>287</b>	<b>0</b>	<b>0</b>	<b>287</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>201</b>	<b>0</b>	<b>0</b>	<b>225</b>	<b>1</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>25</b>	<b>537</b>
12:00 PM	0	58	0	0	58	0	0	0	0	0	6	92	0	0	98	0	0	10	0	10	166
12:15 PM	0	71	0	0	71	0	0	0	0	0	7	70	0	0	77	0	0	6	0	6	154
12:30 PM	0	67	0	0	67	0	0	0	0	0	5	72	0	0	77	1	0	4	0	5	149
12:45 PM	0	63	1	0	64	0	0	0	0	0	7	63	0	0	70	0	0	13	0	13	147
<b>Total</b>	<b>0</b>	<b>259</b>	<b>1</b>	<b>0</b>	<b>260</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>297</b>	<b>0</b>	<b>0</b>	<b>322</b>	<b>1</b>	<b>0</b>	<b>33</b>	<b>0</b>	<b>34</b>	<b>616</b>
*** BREAK ***																					
03:00 PM	0	80	2	0	82	0	0	0	0	0	8	83	0	0	91	0	0	6	0	6	179
03:15 PM	0	94	2	0	96	0	0	0	0	0	6	93	0	0	99	1	0	11	0	12	207
03:30 PM	0	78	1	0	79	0	0	0	0	0	8	122	0	0	130	0	0	7	0	7	216
03:45 PM	0	69	0	0	69	0	0	0	0	0	16	184	0	0	200	0	0	7	0	7	276
<b>Total</b>	<b>0</b>	<b>321</b>	<b>5</b>	<b>0</b>	<b>326</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>482</b>	<b>0</b>	<b>0</b>	<b>520</b>	<b>1</b>	<b>0</b>	<b>31</b>	<b>0</b>	<b>32</b>	<b>878</b>
04:00 PM	0	85	1	0	86	0	0	0	0	0	14	145	0	0	159	3	0	8	0	11	256
04:15 PM	0	73	1	0	74	0	0	0	0	0	19	142	0	0	161	0	0	2	0	2	237
04:30 PM	0	76	0	0	76	0	0	0	0	0	22	136	0	0	158	0	1	11	0	12	246
04:45 PM	0	59	0	0	59	0	0	0	0	0	22	162	0	0	184	4	0	5	0	9	252
<b>Total</b>	<b>0</b>	<b>293</b>	<b>2</b>	<b>0</b>	<b>295</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>77</b>	<b>585</b>	<b>0</b>	<b>0</b>	<b>662</b>	<b>7</b>	<b>1</b>	<b>26</b>	<b>0</b>	<b>34</b>	<b>991</b>
05:00 PM	0	78	0	0	78	0	0	0	0	0	21	166	0	0	187	1	0	8	1	10	275
05:15 PM	0	84	2	0	86	0	0	0	0	0	32	155	0	0	187	2	0	6	0	8	281
05:30 PM	0	82	1	0	83	0	0	0	0	0	21	174	0	0	195	0	0	17	0	17	295
05:45 PM	0	79	1	0	80	0	0	0	0	0	29	167	0	0	196	0	0	5	0	5	281
<b>Total</b>	<b>0</b>	<b>323</b>	<b>4</b>	<b>0</b>	<b>327</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>103</b>	<b>662</b>	<b>0</b>	<b>0</b>	<b>765</b>	<b>3</b>	<b>0</b>	<b>36</b>	<b>1</b>	<b>40</b>	<b>1132</b>
06:00 PM	0	76	0	0	76	0	0	0	0	0	18	126	0	0	144	2	0	9	0	11	231
06:15 PM	0	55	2	0	57	0	0	0	0	0	22	122	0	0	144	0	0	4	0	4	205
06:30 PM	0	47	1	0	48	0	0	0	0	0	17	118	0	0	135	1	0	5	0	6	189
06:45 PM	0	21	0	0	21	0	0	0	0	0	5	67	0	0	72	0	0	4	0	4	97
<b>Total</b>	<b>0</b>	<b>199</b>	<b>3</b>	<b>0</b>	<b>202</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>62</b>	<b>433</b>	<b>0</b>	<b>0</b>	<b>495</b>	<b>3</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>25</b>	<b>722</b>
<b>Grand Total</b>	<b>0</b>	<b>3474</b>	<b>29</b>	<b>0</b>	<b>3503</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>361</b>	<b>3343</b>	<b>0</b>	<b>0</b>	<b>3704</b>	<b>43</b>	<b>1</b>	<b>408</b>	<b>1</b>	<b>453</b>	<b>7661</b>
<b>Apprch %</b>	<b>0</b>	<b>99.2</b>	<b>0.8</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>100</b>	<b>0</b>		<b>9.7</b>	<b>90.3</b>	<b>0</b>	<b>0</b>		<b>9.5</b>	<b>0.2</b>	<b>90.1</b>	<b>0.2</b>		
<b>Total %</b>	<b>0</b>	<b>45.3</b>	<b>0.4</b>	<b>0</b>	<b>45.7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4.7</b>	<b>43.6</b>	<b>0</b>	<b>0</b>	<b>48.3</b>	<b>0.6</b>	<b>0</b>	<b>5.3</b>	<b>0</b>	<b>5.9</b>	

Neel-Schaffer  
 P.O. Box 22625  
 Jackson, MS 39225

A9



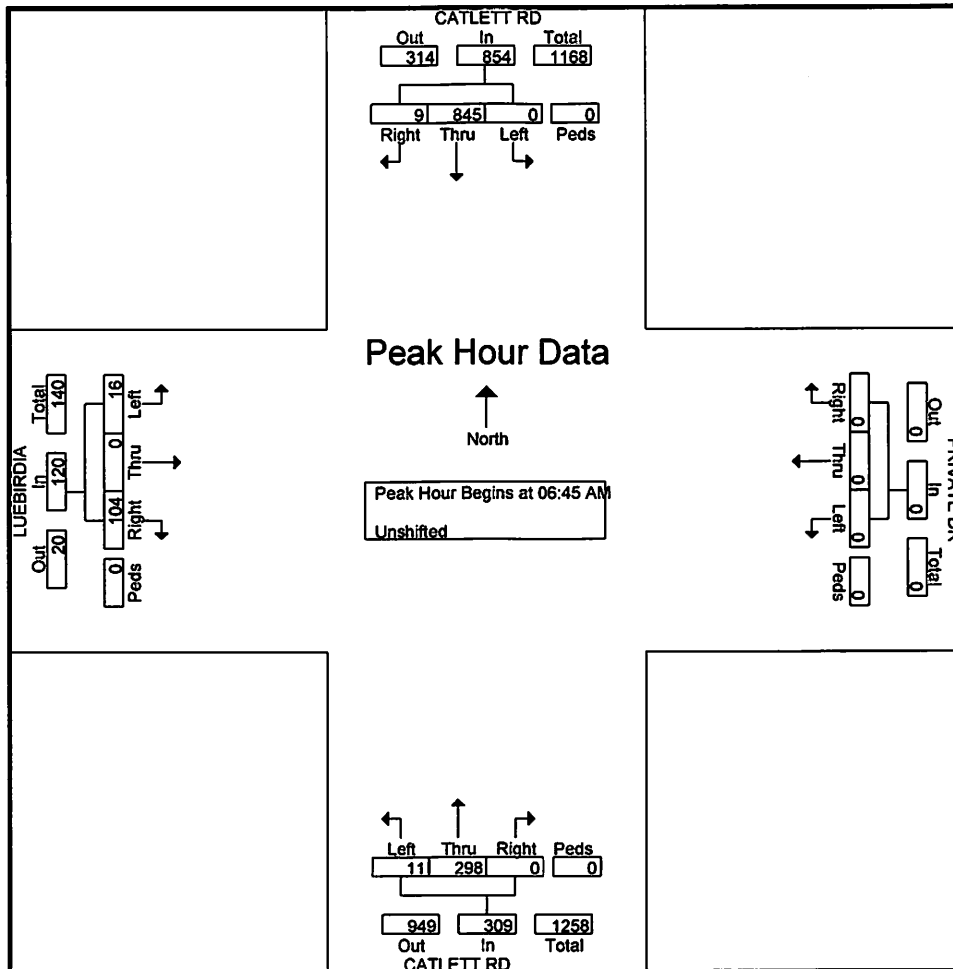
Neel-Schaffer  
P.O. Box 22625  
Jackson, MS 39225

A10

Intersection: Catlett Rd/Luebirdia Ln  
Counter: T. Kiser (Video)  
County/State: Madison/MS  
Weather: Cloudy/Dry

File Name : Luebirdia-Catlett  
Site Code : 00000000  
Start Date : 1/22/2020  
Page No : 3

Start Time	CATLETT RD Southbound					PRIVATE DR Westbound					CATLETT RD Northbound					LUEBIRDIA Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	0	177	0	0	177	0	0	0	0	0	1	83	0	0	84	7	0	29	0	36	297
07:00 AM	0	220	2	0	222	0	0	0	0	0	4	101	0	0	105	5	0	35	0	40	367
07:15 AM	0	229	4	0	233	0	0	0	0	0	4	70	0	0	74	4	0	25	0	29	336
07:30 AM	0	219	3	0	222	0	0	0	0	0	2	44	0	0	46	0	0	15	0	15	283
Total Volume	0	845	9	0	854	0	0	0	0	0	11	298	0	0	309	16	0	104	0	120	1283
% App. Total	0	98.9	1.1	0		0	0	0	0	0	3.6	96.4	0	0		13.3	0	86.7	0		
PHF	.000	.922	.563	.000	.916	.000	.000	.000	.000	.000	.688	.738	.000	.000	.736	.571	.000	.743	.000	.750	.874



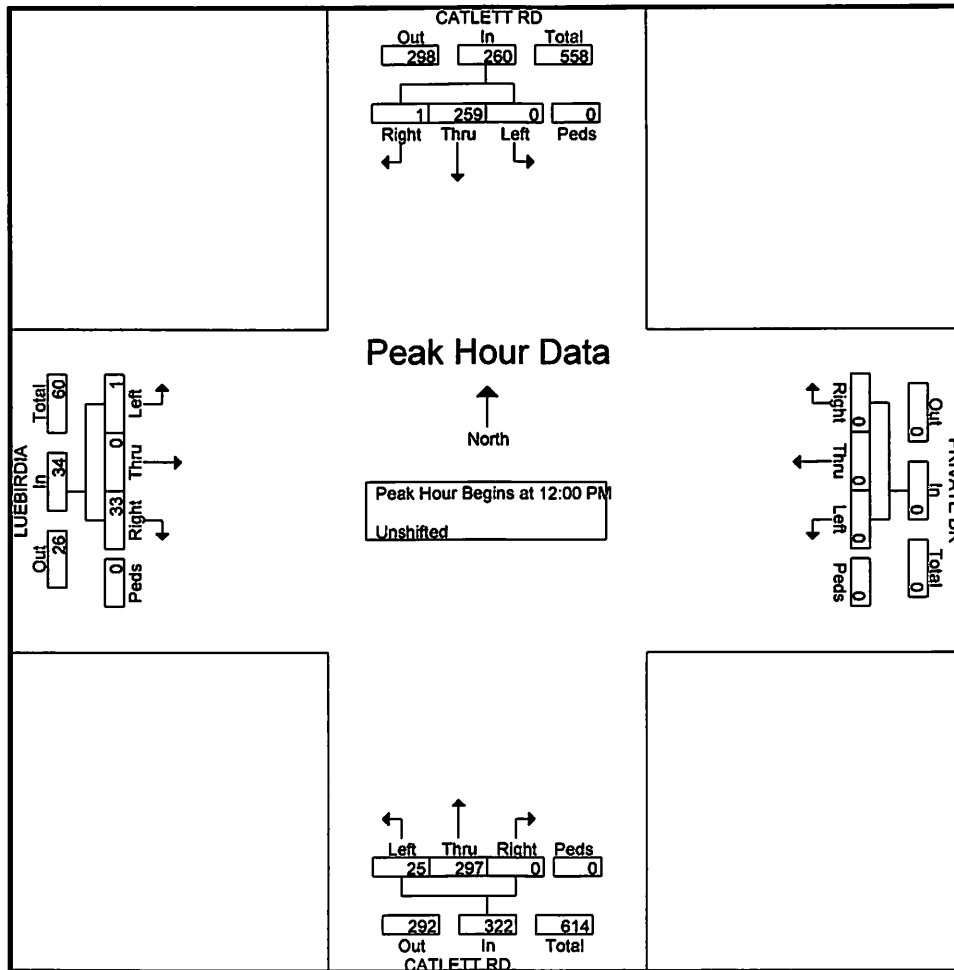
Neel-Schaffer  
P.O. Box 22625  
Jackson, MS 39225

A11

Intersection: Catlett Rd/Luebirdia Ln  
Counter: T. Kiser (Video)  
County/State: Madison/MS  
Weather: Cloudy/Dry

File Name : Luebirdia-Catlett  
Site Code : 00000000  
Start Date : 1/22/2020  
Page No : 4

Start Time	CATLETT RD Southbound					PRIVATE DR Westbound					CATLETT RD Northbound					LUEBIRDIA Eastbound					Int. Total
	Left	Thru	Right	Peds	App Total	Left	Thru	Right	Peds	App Total	Left	Thru	Right	Peds	App Total	Left	Thru	Right	Peds	App Total	
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	0	58	0	0	58	0	0	0	0	0	6	92	0	0	98	0	0	10	0	10	166
12:15 PM	0	71	0	0	71	0	0	0	0	0	7	70	0	0	77	0	0	6	0	6	154
12:30 PM	0	67	0	0	67	0	0	0	0	0	5	72	0	0	77	1	0	4	0	5	149
12:45 PM	0	63	1	0	64	0	0	0	0	0	7	63	0	0	70	0	0	13	0	13	147
Total Volume	0	259	1	0	260	0	0	0	0	0	25	297	0	0	322	1	0	33	0	34	616
% App. Total	0	99.6	0.4	0		0	0	0	0		7.8	92.2	0	0		2.9	0	97.1	0		
PHF	.000	.912	.250	.000	.915	.000	.000	.000	.000	.000	.893	.807	.000	.000	.821	.250	.000	.635	.000	.654	.928





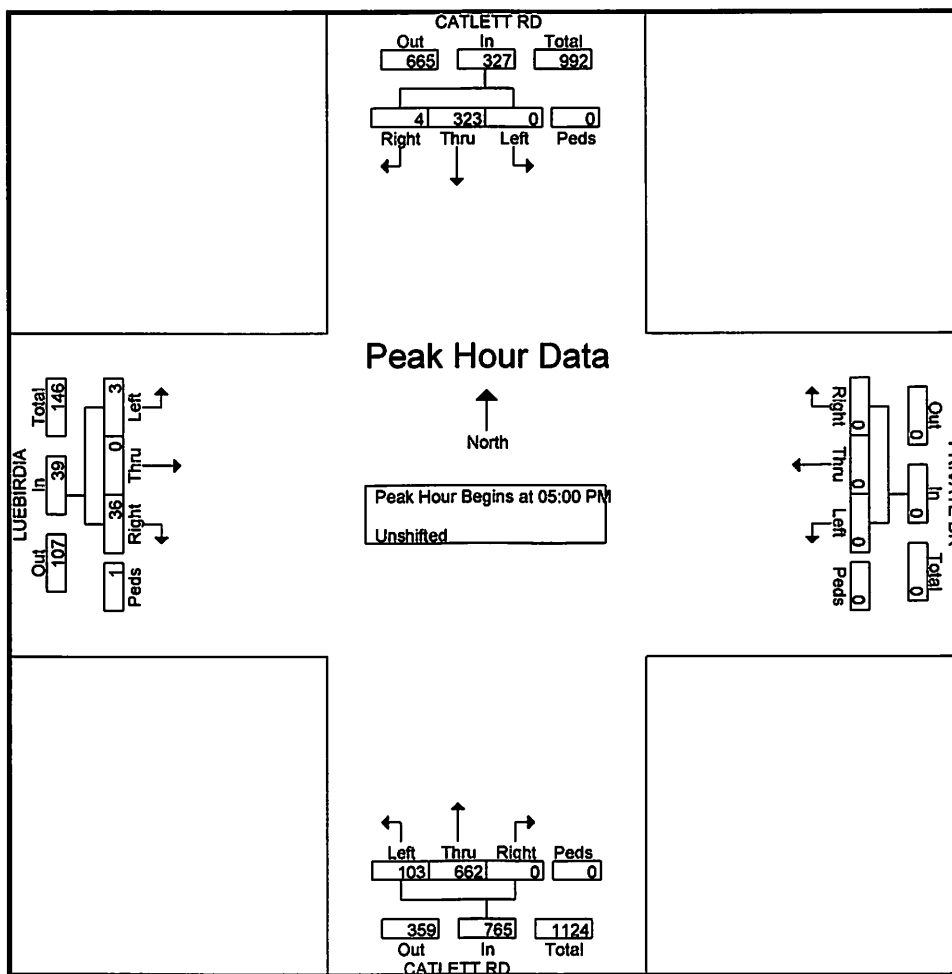
Neel-Schaffer  
P.O. Box 22625  
Jackson, MS 39225

A12

Intersection: Catlett Rd/Luebirdia Ln  
Counter: T. Kiser (Video)  
County/State: Madison/MS  
Weather: Cloudy/Dry

File Name : Luebirdia-Catlett  
Site Code : 00000000  
Start Date : 1/22/2020  
Page No : 5

Start Time	CATLETT RD Southbound					PRIVATE DR Westbound					CATLETT RD Northbound					LUEBIRDIA Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	78	0	0	78	0	0	0	0	0	21	166	0	0	187	1	0	8	1	10	275
05:15 PM	0	84	2	0	86	0	0	0	0	0	32	155	0	0	187	2	0	6	0	8	281
05:30 PM	0	82	1	0	83	0	0	0	0	0	21	174	0	0	195	0	0	17	0	17	295
05:45 PM	0	79	1	0	80	0	0	0	0	0	29	167	0	0	196	0	0	5	0	5	281
Total Volume	0	323	4	0	327	0	0	0	0	0	103	662	0	0	765	3	0	36	1	40	1132
% App. Total	0	98.8	1.2	0		0	0	0	0	0	13.5	86.5	0	0		7.5	0	90	2.5		
PHF	.000	.961	.500	.000	.951	.000	.000	.000	.000	.000	.805	.951	.000	.000	.976	.375	.000	.529	.250	.588	.959



**Intersection**

Int Delay, s/veh 8.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	0	0	20	0	0	120
Future Vol, veh/h	0	0	20	0	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	22	0	0	130

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1	0	45
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	44
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1622	-	965
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	978
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1622	-	951
Mov Cap-2 Maneuver	-	-	-	-	951
Stage 1	-	-	-	-	1008
Stage 2	-	-	-	-	978

Approach	EB	WB	NB
HCM Control Delay, s	0	7.3	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	1622	-
HCM Lane V/C Ratio	0.12	-	-	0.013	-
HCM Control Delay (s)	8.8	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	16	104	11	298	845	9
Future Vol, veh/h	16	104	11	298	845	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	113	12	324	918	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1271	923	928	0	-	0
Stage 1	923	-	-	-	-	-
Stage 2	348	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	185	327	737	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	715	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	181	327	737	-	-	-
Mov Cap-2 Maneuver	181	-	-	-	-	-
Stage 1	379	-	-	-	-	-
Stage 2	715	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.5	0.4	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	737	-	295	-	-
HCM Lane V/C Ratio	0.016	-	0.442	-	-
HCM Control Delay (s)	10	0	26.5	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	2.2	-	-

Intersection						
Int Delay, s/veh	7.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	107	0	0	39
Future Vol, veh/h	0	0	107	0	0	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	116	0	0	42

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1	0	233
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	232
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1622	-	755
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	807
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1622	-	701
Mov Cap-2 Maneuver	-	-	-	-	701
Stage 1	-	-	-	-	948
Stage 2	-	-	-	-	807

Approach	EB	WB	NB
HCM Control Delay, s	0	7.4	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	1622	-
HCM Lane V/C Ratio	0.039	-	-	0.072	-
HCM Control Delay (s)	8.5	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	36	103	662	323	4
Future Vol, veh/h	3	36	103	662	323	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	39	112	720	351	4

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1297	353	355	0	-	0
Stage 1	353	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	179	691	1204	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	378	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	151	691	1204	-	-	-
Mov Cap-2 Maneuver	151	-	-	-	-	-
Stage 1	601	-	-	-	-	-
Stage 2	378	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1204	-	542	-	-
HCM Lane V/C Ratio	0.093	-	0.078	-	-
HCM Control Delay (s)	8.3	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	-	-

---

**Intersection**

Int Delay, s/veh 6.7

---

**Movement**

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	56	0	34	18	0	171
Future Vol, veh/h	56	0	34	18	0	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	0	37	20	0	186

---

**Major/Minor**

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	61	0	155
Stage 1	-	-	-	-	61
Stage 2	-	-	-	-	94
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1542	-	836
Stage 1	-	-	-	-	962
Stage 2	-	-	-	-	930
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1542	-	816
Mov Cap-2 Maneuver	-	-	-	-	816
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	930

---

**Approach**

Approach	EB	WB	NB
HCM Control Delay, s	0	4.8	9.4
HCM LOS			A

---

**Minor Lane/Major Mvmt**

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1004	-	-	1542	-
HCM Lane V/C Ratio	0.185	-	-	0.024	-
HCM Control Delay (s)	9.4	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection						
Int Delay, s/veh	23.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		A		B	
Traffic Vol, veh/h	41	186	33	356	1009	19
Future Vol, veh/h	41	186	33	356	1009	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	202	36	387	1097	21

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1567	1108	1118	0	-	0
Stage 1	1108	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	122	255	625	-	-	-
Stage 1	316	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	113	255	625	-	-	-
Mov Cap-2 Maneuver	113	-	-	-	-	-
Stage 1	293	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	169.1	0.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	625	-	208	-	-
HCM Lane V/C Ratio	0.057	-	1.186	-	-
HCM Control Delay (s)	11.1	0	169.1	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.2	-	12.3	-	-

HCM 6th TWSC  
101: Falls Xing & Luebirdia Ln

Intersection

Int Delay, s/veh 5.5

Movement EBT EBR WBL WBT NBL NBR

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↙
Traffic Vol, veh/h	36	0	157	60	0	64
Future Vol, veh/h	36	0	157	60	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	0	171	65	0	70

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	39	0	446	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1571	-	570	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	672	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1571	-	506	1033
Mov Cap-2 Maneuver	-	-	-	-	506	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	672	-

Approach EB WB NB

HCM Control Delay, s	0	5.5	8.7
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	1033	-	-	1571	-
HCM Lane V/C Ratio	0.067	-	-	0.109	-
HCM Control Delay (s)	8.7	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.4	-



Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	18	82	188	790	386	29
Future Vol, veh/h	18	82	188	790	386	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	89	204	859	420	32

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1703	436	452	0	-	0
Stage 1	436	-	-	-	-	-
Stage 2	1267	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	101	620	1109	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	65	620	1109	-	-	-
Mov Cap-2 Maneuver	65	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	265	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.1	1.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1109	-	244	-	-
HCM Lane V/C Ratio	0.184	-	0.445	-	-
HCM Control Delay (s)	9	0	31.1	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.7	-	2.1	-	-

HCM 6th TWSC  
101: Falls Xing & Luebirdia Ln

Intersection						
Int Delay, s/veh	5.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	95	0	34	31	0	171
Future Vol, veh/h	95	0	34	31	0	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	103	0	37	34	0	186

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	103	0	211	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	108	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1489	-	777	952
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1489	-	758	952
Mov Cap-2 Maneuver	-	-	-	-	758	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	916	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	952	-	-	1489	-
HCM Lane V/C Ratio	0.195	-	-	0.025	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

HCM 6th TWSC  
102: Catlett Road & Luebirdia Ln

Intersection						
Int Delay, s/veh	42.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	53	213	42	356	1009	23
Future Vol, veh/h	53	213	42	356	1009	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	232	46	387	1097	25

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1589	1110	1122	0	-	0
Stage 1	1110	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	119	255	623	-	-	-
Stage 1	315	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	108	255	623	-	-	-
Mov Cap-2 Maneuver	108	-	-	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	267.6	1.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	623	-	201	-	-
HCM Lane V/C Ratio	0.073	-	1.438	-	-
HCM Control Delay (s)	11.2	0	267.6	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.2	-	17.3	-	-

HCM 6th TWSC  
101: Falls Xing & Luebirdia Ln

Intersection

Int Delay, s/veh 4.6

Movement EBT EBR WBL WBT NBL NBR

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	61	0	157	102	0	64
Future Vol, veh/h	61	0	157	102	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	0	171	111	0	70

Major/Minor Major1 Major2 Minor1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	66	0	519 66
Stage 1	-	-	-	-	66 -
Stage 2	-	-	-	-	453 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1536	-	517 998
Stage 1	-	-	-	-	957 -
Stage 2	-	-	-	-	640 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1536	-	455 998
Mov Cap-2 Maneuver	-	-	-	-	455 -
Stage 1	-	-	-	-	843 -
Stage 2	-	-	-	-	640 -

Approach EB WB NB

HCM Control Delay, s	0	4.6	8.9
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	998	-	-	1536	-
HCM Lane V/C Ratio	0.07	-	-	0.111	-
HCM Control Delay (s)	8.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.4	-

HCM 6th TWSC  
102: Catlett Road & Luebirdia Ln

---

**Intersection**

Int Delay, s/veh 5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
----------	-----	-----	-----	-----	-----	-----

Lane Configurations	Y			Y	Y	
---------------------	---	--	--	---	---	--

Traffic Vol, veh/h	26	99	217	790	386	42
--------------------	----	----	-----	-----	-----	----

Future Vol, veh/h	26	99	217	790	386	42
-------------------	----	----	-----	-----	-----	----

Conflicting Peds, #/hr	0	0	0	0	0	0
------------------------	---	---	---	---	---	---

Sign Control	Stop	Stop	Free	Free	Free	Free
--------------	------	------	------	------	------	------

RT Channelized	-	None	-	None	-	None
----------------	---	------	---	------	---	------

Storage Length	0	-	-	-	-	-
----------------	---	---	---	---	---	---

Veh in Median Storage, #	0	-	-	0	0	-
--------------------------	---	---	---	---	---	---

Grade, %	0	-	-	0	0	-
----------	---	---	---	---	---	---

Peak Hour Factor	92	92	92	92	92	92
------------------	----	----	----	----	----	----

Heavy Vehicles, %	2	2	2	2	2	2
-------------------	---	---	---	---	---	---

Mvmt Flow	28	108	236	859	420	46
-----------	----	-----	-----	-----	-----	----

Major/Minor	Minor2	Major1	Major2
-------------	--------	--------	--------

Conflicting Flow All	1774	443	466	0	-	0
----------------------	------	-----	-----	---	---	---

Stage 1	443	-	-	-	-	-
---------	-----	---	---	---	---	---

Stage 2	1331	-	-	-	-	-
---------	------	---	---	---	---	---

Critical Hdwy	6.42	6.22	4.12	-	-	-
---------------	------	------	------	---	---	---

Critical Hdwy Stg 1	5.42	-	-	-	-	-
---------------------	------	---	---	---	---	---

Critical Hdwy Stg 2	5.42	-	-	-	-	-
---------------------	------	---	---	---	---	---

Follow-up Hdwy	3.518	3.318	2.218	-	-	-
----------------	-------	-------	-------	---	---	---

Pot Cap-1 Maneuver	91	615	1095	-	-	-
--------------------	----	-----	------	---	---	---

Stage 1	647	-	-	-	-	-
---------	-----	---	---	---	---	---

Stage 2	247	-	-	-	-	-
---------	-----	---	---	---	---	---

Platoon blocked, %				-	-	-
--------------------	--	--	--	---	---	---

Mov Cap-1 Maneuver	54	615	1095	-	-	-
--------------------	----	-----	------	---	---	---

Mov Cap-2 Maneuver	54	-	-	-	-	-
--------------------	----	---	---	---	---	---

Stage 1	380	-	-	-	-	-
---------	-----	---	---	---	---	---

Stage 2	247	-	-	-	-	-
---------	-----	---	---	---	---	---

Approach	EB	NB	SB
----------	----	----	----

HCM Control Delay, s	57.4	2	0
----------------------	------	---	---

HCM LOS	F		
---------	---	--	--

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
-----------------------	-----	-----	-------	-----	-----

Capacity (veh/h)	1095	-	195	-	-
------------------	------	---	-----	---	---

HCM Lane V/C Ratio	0.215	-	0.697	-	-
--------------------	-------	---	-------	---	---

HCM Control Delay (s)	9.2	0	57.4	-	-
-----------------------	-----	---	------	---	---

HCM Lane LOS	A	A	F	-	-
--------------	---	---	---	---	---

HCM 95th %tile Q(veh)	0.8	-	4.3	-	-
-----------------------	-----	---	-----	---	---

HCM 6th TWSC  
102: Catlett Road & Luebirdia Ln

Intersection						
Int Delay, s/veh	10.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↖	↙	↑	↗	
Traffic Vol, veh/h	53	213	42	356	1009	23
Future Vol, veh/h	53	213	42	356	1009	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	75	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	232	46	387	1097	25

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1589	1110	1122	0	-	0
Stage 1	1110	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	119	255	623	-	-	-
Stage 1	315	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	110	255	623	-	-	-
Mov Cap-2 Maneuver	220	-	-	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	67.1	1.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	623	-	220	255	-	-
HCM Lane V/C Ratio	0.073	-	0.262	0.908	-	-
HCM Control Delay (s)	11.2	-	27.1	77.1	-	-
HCM Lane LOS	B	-	D	F	-	-
HCM 95th %tile Q(veh)	0.2	-	1	8	-	-

Intersection

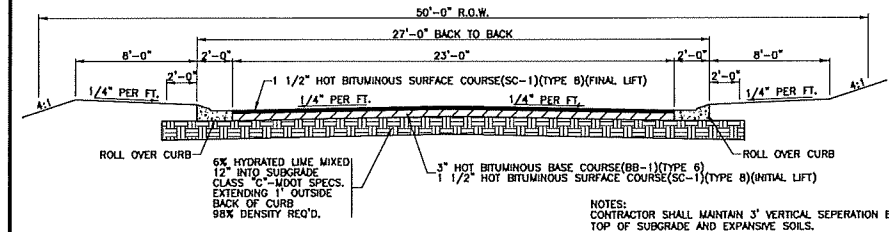
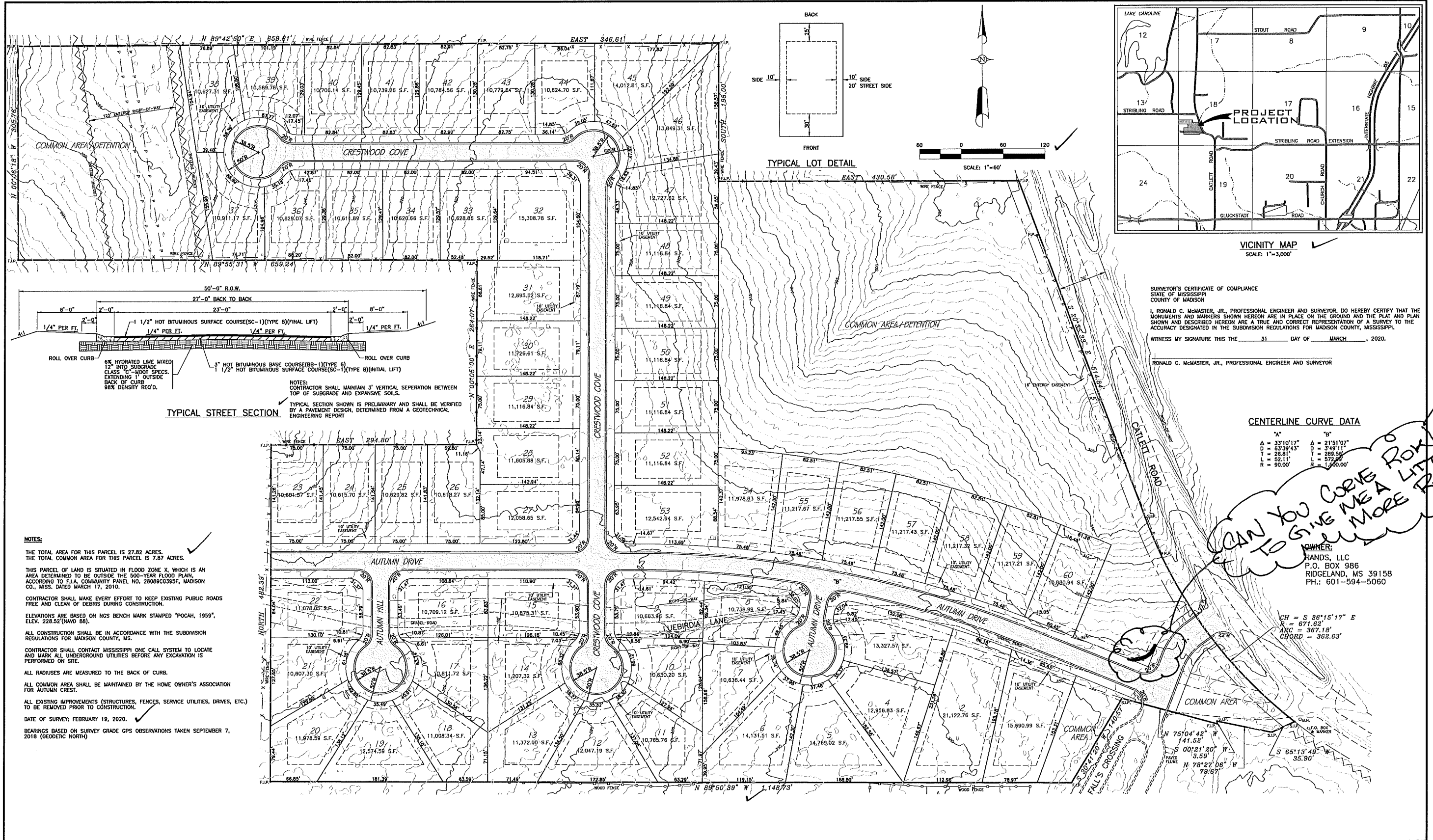
Int Delay, s/veh 3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑	↗	
Traffic Vol, veh/h	26	99	217	790	386	42
Future Vol, veh/h	26	99	217	790	386	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	75	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	108	236	859	420	46

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1774	443	466	0	-	0
Stage 1	443	-	-	-	-	-
Stage 2	1331	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	91	615	1095	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	71	615	1095	-	-	-
Mov Cap-2 Maneuver	71	-	-	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	247	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.5	2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1095	-	71	615	-	-
HCM Lane V/C Ratio	0.215	-	0.398	0.175	-	-
HCM Control Delay (s)	9.2	-	85.9	12.1	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	0.8	-	1.5	0.6	-	-



TYPICAL STREET SECTION

**NOTES:**

THE TOTAL AREA FOR THIS PARCEL IS 27.82 ACRES.  
THE TOTAL COMMON AREA FOR THIS PARCEL IS 7.87 ACRES.

THIS PARCEL OF LAND IS SITUATED IN FLOOD ZONE X, WHICH IS AN AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAN, ACCORDING TO F.I.A. COMMUNITY PANEL NO. 28089C0395F, MADISON CO., MISS. DATED MARCH 17, 2010.

CONTRACTOR SHALL MAKE EVERY EFFORT TO KEEP EXISTING PUBLIC ROADS FREE AND CLEAN OF DEBRIS DURING CONSTRUCTION.

ELEVATIONS ARE BASED ON NOS BENCH MARK STAMPED "POCAH, 1959", ELEV. 228.52 (HARD 88).

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS FOR MADISON COUNTY, MS.

CONTRACTOR SHALL CONTACT MISSISSIPPI ONE CALL SYSTEM TO LOCATE AND MARK ALL UNDERGROUND UTILITIES BEFORE ANY EXCAVATION IS PERFORMED ON SITE.

ALL RADIIUSES ARE MEASURED TO THE BACK OF CURB.

ALL COMMON AREA SHALL BE MAINTAINED BY THE HOME OWNER'S ASSOCIATION FOR AUTUMN CREST.

ALL EXISTING IMPROVEMENTS (STRUCTURES, FENCES, SERVICE UTILITIES, DRIVES, ETC.) TO BE REMOVED PRIOR TO CONSTRUCTION.

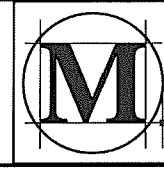
DATE OF SURVEY: FEBRUARY 19, 2020.

BEARINGS BASED ON SURVEY GRADE GPS OBSERVATIONS TAKEN SEPTEMBER 7, 2018 (GEODETIC NORTH)

Revisions				
#	Date	Initialed	By	App'd.

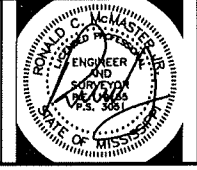
Project No.	M-2729	Designed By	R.C.M.
Date	3-31-20	Drawn By	D.P.
Scale	SEE ABOVE	Checked By	R.C.M.

**AUTUMN CREST** ✓  
MADISON COUNTY, MISSISSIPPI

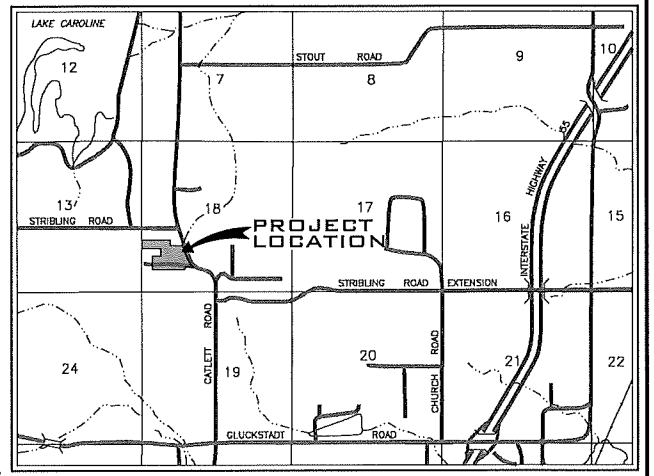


**MCMaster & Associates, Inc.**  
CIVIL ENGINEERS & LAND SURVEYORS

212 WATERFORD SQUARE  
SUITE 300  
MADISON, MS 39110  
601.605.1090



PRELIMINARY PLAT



VICINITY MAP  
SCALE: 1"=3,000'

**SURVEYOR'S CERTIFICATE OF COMPLIANCE**  
STATE OF MISSISSIPPI  
COUNTY OF MADISON

I, RONALD C. McMASTER, JR., PROFESSIONAL ENGINEER AND SURVEYOR, DO HEREBY CERTIFY THAT THE MONUMENTS AND MARKERS SHOWN HEREON ARE IN PLACE ON THE GROUND AND THE PLAT AND PLAN SHOWN AND DESCRIBED HEREON ARE A TRUE AND CORRECT REPRESENTATION OF A SURVEY TO THE ACCURACY DESIGNATED IN THE SUBDIVISION REGULATIONS FOR MADISON COUNTY, MISSISSIPPI.

WITNESS MY SIGNATURE THIS THE 31 DAY OF MARCH, 2020.

RONALD C. McMASTER, JR., PROFESSIONAL ENGINEER AND SURVEYOR

**CENTERLINE CURVE DATA**

"A"	"B"
Δ = 33°10'17"	Δ = 21°51'07"
D = 63°39'43"	D = 34°01'11"
L = 28.61'	L = 289.56'
R = 90.00'	R = 1,500.00'

*CAN YOU CURVE ROW HERE TO GIVE ME A LITTLE MORE ROOM?*

OWNER:  
RANDS, LLC  
P.O. BOX 986  
RIDGELAND, MS 39158  
PH.: 601-594-5060

CH = S 36°15'17" E  
R = 671.62'  
ARC = 367.18'  
CHORD = 362.63'